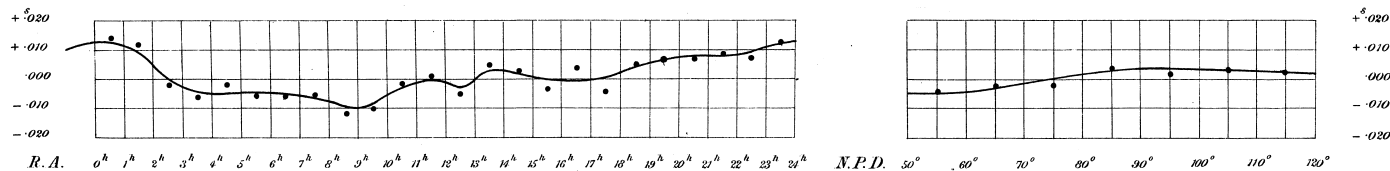


CORRECTIONS TO RIGHT ASCENSIONS OF NINE-YEAR CATALOGUE.

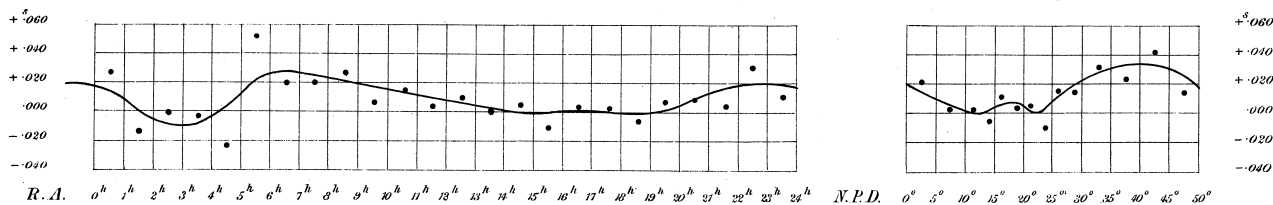
[Frontispiece.]

Curves showing Excess of R. A.'s of Clock Stars from 12-hour Groups above those of the Nine-Year Catalogue, arranged according to R.A. and N.P.D. respectively.



CIRCUMPOLAR STARS.

Curves showing Excess of R.A. above Pole over R.A. below Pole, reduced to Equatorial interval, and arranged according to R.A. and N.P.D. respectively.



The dots represent the Mean Excess from the observations in the respective groups. The means of every consecutive ^{pair} ~~group~~ have been taken and the means of these again, so as to smooth down the irregularities, and through these smoothed means the curves have been drawn.

Printed by the Harvard University Press

APPENDIX I.

NINE-YEAR CATALOGUE

OF

2263 STARS,

DEDUCED FROM

OBSERVATIONS

EXTENDING FROM 1868 TO 1876,

AT THE

ROYAL OBSERVATORY, GREENWICH, *Eng.* -

AND REDUCED TO THE EPOCH

1872.

GREENWICH NINE-YEAR CATALOGUE FOR 1872.

a

INTRODUCTION
 TO THE
GREENWICH NINE-YEAR CATALOGUE
 OF
2263 STARS,
 DEDUCED FROM OBSERVATIONS EXTENDING FROM 1868 TO 1876,
 AND REDUCED TO THE EPOCH
1872.

THE year 1872 has been adopted as the Epoch for this Catalogue, as being the mean year of the observations. The following is the process of formation of the star-places in this Catalogue.

I. The determinations of Right Ascension of each star, which are to be combined in order to form the Right Ascension in this Catalogue, are those given in the Annual Catalogues printed in the successive Volumes of Greenwich Observations from 1868 to 1876. The Right Ascensions of each Annual Catalogue depend essentially upon the Right Ascensions assumed for the Stars whose transits are employed, in each year, to ascertain the errors of the Transit-Clock; it is necessary, therefore, in the first place, to ascertain the amount of correction required for the assumed Right Ascensions of Clock Stars.

Now it appears from the discussion of the observations for the Position of the Ecliptic in the Greenwich Observations, 1868 to 1876, that the Right Ascensions of Clock Stars used in those years require the following corrections:—

1868.....	—	^s ·050	1873.....	+	^s ·058
1869.....	—	·001	1874.....	—	·049
1870.....	—	·012	1875.....	+	·038
1871.....	+	·044	1876.....	+	·055
1872.....	—	·019			

The mean of these is $+0^s\cdot007$, and this correction has been applied for every star to the Mean Right Ascension deduced from those given in the Greenwich Observations, 1868 to 1876.

The Mean Right Ascensions of Clock Stars used in 1868 and 1869 were taken from the First Seven-Year Catalogue (1860); those used in the years 1870 to 1876 from the Second Seven-Year Catalogue (1864). From the comparison given on pages 6 to 8 it appears that the Right Ascensions of Clock Stars deduced from the First Seven-Year Catalogue exceed those of the Second by $+0^s\cdot008$ on the

average, so that in strictness a correction of $+0^{\circ}.001$ should have been applied to the observations made in 1868 and 1869, and a correction of $+0^{\circ}.009$ to those made in the years 1870 to 1876. As, however, the observations of all the Fundamental Stars are very evenly distributed throughout the whole nine years, it has been considered sufficient in the Catalogue to apply the mean correction of $+0^{\circ}.007$ to the mean result for each star. In the case of the comparatively few stars which have been observed only in 1868 or 1869, a further correction of $-0^{\circ}.006$ should in strictness be applied to the Right Ascensions as printed in the Catalogue; but, remarking that the number of observations is in all such cases very small, the correction becomes quite insignificant in comparison with the probable error of the result. Stars which have been observed only in the years 1870 to 1876 would require a correction of only $+0^{\circ}.002$, a quantity which may safely be neglected.

A table of the corrections applicable to Clock Stars is given at the end of this Introduction.

The following is the process by which the Right Ascensions of this Catalogue were formed:—

The approximate R. A. and N. P. D. for 1872 having been obtained to 1° and $1''$, the Annual Variation was formed by combining the Geometrical Precession (computed from Peters' Elements) with the adopted Proper Motion (from Main, Stone, or the B. A. C.); and this Annual Variation was multiplied by 4, 3, 2, 1, 0, -1 , -2 , -3 , -4 , and the products applied to the mean places for Jan. 1 taken from the Annual Catalogues, 1868 to 1876, in which the effect of Proper Motion for the Fraction of the Year is incorporated with the Star Correction. Thus a series of mean places for 1872, Jan. 1, was obtained. These were combined with weights proportional to the number of observations in each year, and the mean was taken. This mean was corrected for the effect of Secular Variation whenever the correction exceeded $0^{\circ}.0005$, by application of the quantity $-\frac{\sum (\frac{1}{2} n t^2)}{\sum (n)} \cdot \frac{s}{100}$, where n denotes the number of observations in any year $1872 + t$, and s the secular variation, the summation indicated by the sign Σ being taken for the several years of observation.

A correction of $+0^{\circ}.007$ for error of assumed Equinox was then applied to the Mean R. A., as explained above, and thus the Adopted Result given in the Catalogue was obtained.

But as there is a possibility that systematic error may have been introduced through the Assumed Right Ascensions of the Clock-Stars used, a separate determination of the Right Ascensions of Clock-Stars was made, in which only those observations were included where the group of clock-stars extended over 12 hours at least. These results would presumably be independent of the assumed places of the clock-stars, and may be considered as the best Standard places of Fundamental stars which can be obtained from the Greenwich Observations in the years 1868 to 1876. Although every effort is made to secure long groups of

clock-stars on each day of observation, it is not found practicable to obtain sufficient observations of individual clock-stars if groups of less than 12 hours are excluded, though of late years it has been made a rule not to include groups of less than 6^h. There are, however, 111 stars, of which at least 10 observations have been obtained in the 12-hour groups, and the aggregate number of observations is 3,130, so that abundant material exists for the determination of the systematic corrections required to reduce the Right Ascensions of the Nine-Year Catalogue to those of the 12-hour groups, taken as Standard.

The process adopted was as follows:—New ledgers of R. A. were formed from the observations of the 12-hour groups for each year, and the Mean R. A. for 1872, Jan. 1, obtained in the same manner as for the Nine-Year Catalogue. The excess of the R. A. from the 12-hour groups above that of the Nine-Year Catalogue was then tabulated for each star, and the mean formed for each hour of Right Ascension by combining the individual excesses with weights proportional to the number of observations. Similarly, the corrections to the Right Ascensions of the Nine-Year Catalogue, as depending on the N. P. D. of the star, were formed for each 10° of N. P. D. Both sets of corrections are given in the following tables, the Resultant Correction applicable to the Right Ascension of the Nine-Year Catalogue being the algebraic sum of the two. The mean of all the corrections is $+0^{\circ}.0016$, representing the difference between the equinox of the Nine-Year Catalogue and of the 12-hour groups. As this quantity enters into both sets of corrections, the constant $+0^{\circ}.002$ has been subtracted from each one of the corrections tabulated according to N. P. D.

MEAN CORRECTIONS TO RIGHT ASCENSIONS OF NINE-YEAR CATALOGUE, DERIVED FROM A COMPARISON WITH R.A.'S OF 208 CLOCK STARS FROM 12-HOUR GROUPS.

Limits of R.A.	Correction.	Number of Obs.	Limits of R.A.	Correction.	Number of Obs.	Limits of R.A.	Correction.	Number of Obs.	Limits of N.P.D.	Correction.	Number of Obs.
h h	s		h h	s		h h	s		o o	s	
0—1	+ .014	163	8—9	— .012	65	16—17	+ .004	107	50—60	— .005	258
1—2	+ .012	186	9—10	— .010	95	17—18	— .004	217	60—70	— .003	615
2—3	— .002	67	10—11	— .002	101	18—19	+ .005	262	70—80	— .002	721
3—4	— .006	59	11—12	+ .002	89	19—20	+ .007	180	80—90	+ .003	751
4—5	— .001	98	12—13	— .005	91	20—21	+ .007	119	90—100	+ .001	379
5—6	— .006	174	13—14	+ .005	201	21—22	+ .008	127	100—110	+ .003	295
6—7	— .006	88	14—15	+ .003	110	22—23	+ .007	105	110—124	+ .002	111
7—8	— .005	256	15—16	— .003	118	23—24	+ .012	52			

These quantities have been laid down in the first two diagrams of the Plate (Frontispiece), and curves drawn which may be taken as representing the systematic corrections to the Right Ascensions of the Nine-Year Catalogue. These corrections have not been applied in forming the Right Ascensions as printed in the Catalogue.

The corrections applicable to the Right Ascensions of Clock-Stars are given in the following table for the Nine-Year and two Seven-Year Catalogues. The corrections to the Second Seven-Year Catalogue were obtained by comparing the Assumed Mean Right Ascensions of Clock-Stars for 1872, deduced from this Catalogue and printed in the Introduction to the Greenwich Observations, 1872, with the Right Ascensions of the Nine-Year Catalogue for the same epoch, corrected by the application of the corrections given in the second column of the table. In the case of the First Seven-Year Catalogue, the corrections were inferred from a comparison of the Assumed Right Ascensions of Clock-Stars for 1864, printed in the Introduction to the Greenwich Observations, 1864, with those of the Second Seven-Year Catalogue.

CORRECTIONS TO RIGHT ASCENSIONS OF CLOCK STARS IN THE NINE-YEAR AND TWO SEVEN-YEAR CATALOGUES TO REDUCE THEM TO THE STANDARD RIGHT ASCENSIONS FROM 12-HOUR GROUPS, 1868-1876.

Star's Name.	Correction to Nine-Year Catalogue.	Correction to Second Seven-Year Catalogue.	Correction to First Seven-Year Catalogue.	Star's Name.	Correction to Nine-Year Catalogue.	Correction to Second Seven-Year Catalogue.	Correction to First Seven-Year Catalogue.
	s	s	s		s	s	s
α Andromedæ	+ '009	+ '02	'00	f Tauri	- '003	'00	- '05
γ Pegasi	+ '012	+ '03	+ '01	ϵ Eridani	- '001	+ '01	- '02
δ Ceti	+ '015	+ '05	+ '07	η Tauri	- '007	+ '03	'00
44 Piscium	+ '015	+ '03		δ Eridani	- '001	+ '07	+ '06
12 Ceti	+ '015	+ '06	+ '03	η Tauri	- '007	+ '01	+ '01
ϵ Andromedæ	+ '009	'00	'00	γ^1 Eridani	- '002	+ '04	+ '04
β Ceti	+ '015	+ '02	+ '06	A^1 Tauri	- '006	- '02	
δ Piscium	+ '015	+ '06		ω^1 Tauri	- '006	+ '01	- '02
20 Ceti	+ '015	+ '05		ω^1 Eridani	- '001	+ '02	+ '05
μ Andromedæ	+ '007	+ '06	+ '07	γ Tauri	- '006	- '02	- '07
ϵ Piscium	+ '014	- '01	- '05	ϵ Tauri	- '007	+ '02	+ '01
β Andromedæ	+ '007	+ '01	'00	α Tauri	- '007	+ '01	- '01
ζ^1 Piscium	+ '013	'00		τ Tauri	- '007	+ '04	- '02
θ Ceti	+ '013	+ '04	+ '05	μ Eridani	- '002	'00	
η Piscium	+ '009	+ '02	+ '02	ϵ Aurigæ	- '009	- '02	- '02
ν Piscium	+ '010	+ '02	+ '04	ϵ Leporis	- '003	+ '03	+ '06
ϕ Piscium	+ '009	+ '02		β Orionis	- '003	+ '01	+ '01
β Arietis	+ '004	+ '04	+ '06	β Tauri	- '009	- '01	- '05
α Arietis	+ '001	- '01	- '02	δ Orionis	- '003	- '01	- '04
ξ^1 Ceti	+ '005	- '03		α Leporis	- '003	- '05	- '05
67 Ceti	+ '005	+ '03	+ '03	ϵ Orionis	- '003	+ '01	+ '02
ξ^2 Ceti	+ '003	+ '02	+ '03	α Columbæ	- '003	- '08	- '09
ν Ceti	+ '002	+ '06		κ Orionis	- '003	+ '03	+ '02
δ Ceti	+ '002	- '01	- '04	α Orionis	- '003	- '01	- '02
γ^2 Ceti	+ '001	- '01	- '02	1 Geminorum	- '008	+ '03	- '01
σ Arietis	- '001	+ '04	+ '04	ν Orionis	- '006	+ '01	'00
ϵ Arietis	- '004	- '05		η Geminorum	- '008	'00	- '03
α Ceti	'000	- '01	'00	μ Geminorum	- '008	'00	- '03
δ Arietis	- '005	'00	+ '01	β Canis Majoris	- '003	'00	- '10
τ^1 Arietis	- '005	- '01	+ '01	ν Geminorum	- '008	'00	
ϕ Tauri	- '002	- '02	- '06	γ Geminorum	- '007	+ '02	- '01

INTRODUCTION.

7

CORRECTIONS TO RIGHT ASCENSIONS OF CLOCK STARS—*continued*.

Star's Name.	Correction to Nine-Year Catalogue.	Correction to Second Seven-Year Catalogue.	Correction to First Seven-Year Catalogue.	Star's Name.	Correction to Nine-Year Catalogue.	Correction to Second Seven-Year Catalogue.	Correction to First Seven-Year Catalogue.
ξ Geminorum.....	s — '006	s + '01	s — '02	α Virginis.....	s + '006	s + '02	s + '02
θ Canis Majoris....	— '004	— '01	— '02	ζ Virginis.....	+ '005	+ '02	— '01
ϵ Canis Majoris....	— '004	+ '01	— '02	m Virginis.....	+ '006	+ '05	+ '07
ζ Geminorum.....	— '009	— '01	— '03	τ Boötis.....	+ '001	— '02	— '03
γ Canis Majoris....	— '004	+ '01	— '02	η Boötis.....	+ '001	'00	— '02
51 Geminorum.....	— '009	— '04	— '02	τ Virginis.....	+ '005	+ '03	+ '01
δ Geminorum.....	— '009	— '02	— '06	94 Virginis.....	+ '006	+ '02	
β Canis Minoris....	— '006	— '01	'00	κ Virginis.....	+ '006	+ '03	— '01
α^2 Geminorum.....	— '011	— '04	— '07	α Boötis.....	+ '001	'00	— '04
α Canis Minoris....	— '005	— '06	— '11	f Boötis.....	+ '001	— '03	— '04
β Geminorum.....	— '011	'00	— '02	ρ Boötis.....	— '002	— '02	— '05
ξ Navis.....	— '005	— '01	— '01	ϵ^2 Boötis.....	'000	— '01	— '02
6 Cancri.....	— '012	— '01	+ '02	α Libræ.....	+ '005	+ '01	+ '01
15 Argûs.....	— '007	+ '02	— '03	ξ^2 Libræ.....	+ '005	+ '02	+ '02
β Cancri.....	— '008	+ '01	— '03	ψ Boötis.....	— '002	— '01	— '04
d^1 Cancri.....	— '011	— '01	— '02	1 Libræ.....	+ '003	+ '02	
η Cancri.....	— '011	— '01	'00	β Libræ.....	+ '004	+ '04	+ '03
γ Cancri.....	— '012	+ '01	+ '02	σ^2 Libræ.....	+ '003	+ '04	+ '04
ϵ Hydræ.....	— '007	— '02	— '04	ζ^1 Libræ.....	+ '003	— '01	— '02
α Cancri.....	— '009	'00	— '01	α Coronæ.....	— '003	'00	— '03
κ Cancri.....	— '009	— '01	— '03	α Serpentis.....	+ '002	'00	— '01
83 Cancri.....	— '011	+ '01	+ '01	ϵ Serpentis.....	+ '002	+ '01	— '03
α Hydræ.....	— '006	+ '02	+ '01	γ Serpentis.....	— '002	+ '01	— '02
ξ Leonis.....	— '008	'00	+ '05	β^1 Scorpii.....	+ '002	+ '02	+ '01
σ Leonis.....	— '008	+ '01	+ '01	δ Ophiuchi.....	+ '002	+ '04	+ '03
ϵ Leonis.....	— '011	— '02	— '06	γ Herculis.....	— '002	+ '01	— '03
μ Leonis.....	— '011	+ '01	'00	α Scorpii.....	+ '002	+ '01	'00
π Leonis.....	— '005	'00	— '01	λ Ophiuchi.....	+ '002	— '01	— '05
α Leonis.....	— '006	+ '01	— '03	δ Ophiuchi.....	+ '002	+ '01	'00
γ^1 Leonis.....	— '006	'00	— '02	ζ Herculis.....	— '005	— '03	— '02
μ Hydræ.....	— '001	+ '03		κ Ophiuchi.....	+ '001	+ '02	+ '05
ρ Leonis.....	— '002	'00	— '03	ϵ Herculis.....	— '005	— '02	— '05
34 Sextantis.....	'000	'00	'00	η Ophiuchi.....	+ '002	+ '02	+ '01
l Leonis.....	— '001	'00	+ '02	α^1 Herculis.....	— '001	'00	— '02
d Leonis.....	+ '001	+ '04	+ '03	θ Ophiuchi.....	+ '002	+ '02	+ '02
χ Leonis.....	+ '001	+ '02	+ '01	σ Ophiuchi.....	+ '002	+ '01	'00
δ Leonis.....	— '002	— '01	— '05	α Ophiuchi.....	'000	+ '02	+ '02
δ Crateris.....	+ '002	+ '01	+ '01	β Ophiuchi.....	+ '002	+ '02	+ '03
τ Leonis.....	+ '002	+ '04	+ '04	μ Herculis.....	— '002	— '01	'00
ν Leonis.....	+ '003	+ '02	+ '03	89 Herculis.....	— '002	'00	— '04
β Leonis.....	— '001	+ '01	'00	72 Ophiuchi.....	+ '002	+ '02	+ '02
β Virginis.....	+ '003	+ '04		μ^1 Sagittarii.....	+ '004	+ '05	+ '06
π Virginis.....	+ '001	— '01	— '02	η Serpentis.....	+ '005	+ '02	+ '03
σ Virginis.....	'000	— '02		λ Sagittarii.....	+ '005	'00	— '03
ϵ Corvi.....	+ '001	— '01	— '03	α Lyræ.....	— '002	— '01	— '03
η Virginis.....	+ '001	+ '03	+ '03	2 Aquilæ.....	+ '006	+ '01	
δ^2 Corvi.....	'000	— '04	— '12	β^1 Lyræ.....	— '001	+ '01	— '01
β Corvi.....	'000	+ '05	+ '09	ϵ Aquilæ.....	+ '004	+ '04	+ '05
ρ Virginis.....	— '001	— '01		ζ Aquilæ.....	+ '004	+ '05	+ '06
35 Virginis.....	+ '001	+ '02	+ '04	ψ Sagittarii.....	+ '008	+ '06	+ '06
31 Comæ.....	— '005	— '02		ω Aquilæ.....	+ '007	+ '05	+ '04
δ Virginis.....	+ '003	— '01	— '06	δ Aquilæ.....	+ '009	+ '03	+ '04
ϵ Virginis.....	+ '001	+ '01	+ '02	α Vulpeculæ.....	+ '003	+ '01	'00
θ Virginis.....	+ '004	+ '04	+ '03	μ Aquilæ.....	+ '008	+ '02	'00

CORRECTIONS TO RIGHT ASCENSIONS OF CLOCK STARS—*concluded*.

Star's Name.	Correction to Nine-Year Catalogue.	Correction to Second Seven-Year Catalogue.	Correction to First Seven-Year Catalogue.	Star's Name.	Correction to Nine-Year Catalogue.	Correction to Second Seven-Year Catalogue.	Correction to First Seven-Year Catalogue.
	s	s	s		s	s	s
κ^2 Sagittarii	+ '009	+ '03	+ '04	ϵ Pegasi	+ '009	+ '02	— '01
ϵ^1 Sagittarii	+ '009	+ '01		δ Capricorni	+ '010	+ '04	+ '08
γ Aquilæ	+ '008	+ '02	— '02	16 Pegasi	+ '005	+ '01	'00
α Aquilæ	+ '008	+ '02	'00	α Aquarii	+ '010	+ '06	+ '06
β Aquilæ	+ '009	+ '03	+ '02	ι Pegasi	+ '005	+ '03	+ '05
ϵ Sagittarii	+ '009	+ '09	+ '10	θ Aquarii	+ '010	+ '03	+ '03
θ Aquilæ	+ '009	+ '02	+ '02	γ Aquarii	+ '010	+ '02	— '01
α^2 Capricorni	+ '010	+ '03	+ '05	σ Aquarii	+ '011	+ '02	+ '04
β Capricorni	+ '010	+ '04	+ '05	η Aquarii	+ '011	+ '04	+ '06
ρ Capricorni	+ '010	+ '05	+ '07	ζ Pegasi	+ '010	+ '06	+ '08
ϵ Delphini	+ '008	+ '03	+ '03	μ Pegasi	+ '006	+ '03	+ '03
α Delphini	+ '006	+ '01	— '03	λ Aquarii	+ '012	+ '05	+ '09
ϵ Aquarii	+ '010	+ '04	+ '06	α Piscis Australis ..	+ '011	+ '05	+ '06
μ Aquarii	+ '010	+ '03		α Pegasi	+ '009	+ '03	+ '03
32 Vulpeculæ	+ '004	+ '03	+ '02	γ Piscium	+ '013	+ '05	+ '04
θ Capricorni	+ '010	+ '01	+ '04	κ Piscium	+ '014	+ '03	+ '02
ζ Cygni	+ '004	+ '01	+ '01	ι Piscium	+ '013	+ '04	+ '03
α Equulei	+ '010	+ '03	+ '06	δ Sculptoris	+ '014	+ '03	+ '04
ι Capricorni	+ '010	+ '04	+ '06	ω Piscium	+ '014	+ '02	+ '02
β Aquarii	+ '010	+ '04	+ '05	2 Ceti	+ '015	+ '01	+ '04
ξ Aquarii	+ '010	+ '04	+ '04				

Taking the means of these corrections for the respective Catalogues, we obtain:—

Correction to Equinox.

Nine-Year Catalogue.

Second Seven-Year Catalogue.

First Seven-Year Catalogue.

+ 0^s.002+ 0^s.013+ 0^s.005

The following table exhibits the Mean Corrections to the several Catalogues for groups of 1^h in R.A. after the application of the above corrections for equinox:—

Group R.A.	Mean Corrections.			Group R.A.	Mean Corrections.		
	Nine-Year Catalogue, 1872.	Second Seven-Year Catalogue, 1864.	First Seven-Year Catalogue, 1860.		Nine-Year Catalogue, 1872.	Second Seven-Year Catalogue, 1864.	First Seven-Year Catalogue, 1860.
h h	s	s	s	h h	s	s	s
0—1	+ '011	+ '021	+ '019	12—13	— '002	— '011	— '009
1—2	+ '007	+ '008	+ '029	13—14	+ '002	+ '007	+ '005
2—3	— '001	— '010	— '002	14—15	'000	— '014	— '026
3—4	— '006	— '002	— '005	15—16	'000	+ '001	— '009
4—5	— '008	— '005	— '016	16—17	— '002	— '009	— '014
5—6	— '006	— '018	— '020	17—18	— '002	— '003	— '002
6—7	— '008	— '009	— '035	18—19	+ '001	+ '008	+ '014
7—8	— '011	— '037	— '044	19—20	+ '006	+ '021	+ '023
8—9	— '011	— '013	— '021	20—21	+ '007	+ '016	+ '029
9—10	— '011	— '010	— '008	21—22	+ '007	+ '019	+ '034
10—11	— '004	'000	— '008	22—23	+ '008	+ '023	+ '041
11—12	— '001	— '003	— '003	23—24	+ '012	+ '017	+ '027

INTRODUCTION.

9

The correspondence of the quantities in the three columns shows clearly how the errors of the assumed places of Clock-Stars, originally derived from Pond's Catalogue, have (as has been pointed out by Professor Rogers) been carried through the successive Catalogues, though gradually diminishing in amount.

A table of Standard Mean Right Ascensions of Clock Stars, corrected for error of adopted Equinox, and for discordance from 12-hour groups, is given at the end of this Introduction.

A comparison has also been made of the Right Ascensions of Circumpolar Stars from observations above and below the Pole respectively, the results having been kept separate in the computations for the Nine-Year Catalogue. There are 3064 observations above the Pole and 2187 below of 409 stars, ranging from N. P. D. $1^{\circ} 4'$ to N. P. D. $49^{\circ} 30'$, and the excess of R. A. above Pole $\times \sin$ N. P. D. (so as to reduce it to equatoreal interval) has been formed for each star, and the results tabulated according to R. A. and also according to N. P. D. The means of these with weights $= \frac{4mn}{m+n}$, where m and n are the numbers of observations above and below the Pole respectively, have been taken for groups of 1^h in R. A. and 5° or $2\frac{1}{2}^{\circ}$ in N. P. D., and are exhibited in the two following tables. The extreme weight for any one star has been limited to 20, which would correspond to 10 observations above and 10 below the Pole.

EXCESS OF R. A. ABOVE POLE, REDUCED TO EQUATOREAL INTERVAL, FROM
COMPARISON OF OBSERVATIONS OF 409 CIRCUMPOLAR STARS ABOVE AND
BELOW POLE.

Limits of R.A.	Mean Excess of R.A. above Pole $\times \sin$ N.P.D.	Weight.	Limits of R.A.	Mean Excess of R.A. above Pole $\times \sin$ N.P.D.	Weight.	Limits of N.P.D.	Mean Excess of R.A. above Pole $\times \sin$ N.P.D.	Weight.
h h	s		h h	s		o o	s	
0-1	+ .027	202	12-13	+ .009	180	0-5	+ .021	107
1-2	- .014	143	13-14	.000	95	5-10	+ .003	176
2-3	- .001	79	14-15	+ .005	85	10-12 $\frac{1}{2}$	+ .002	147
3-4	- .002	101	15-16	- .010	77	12 $\frac{1}{2}$ -15	- .007	185
4-5	- .022	52	16-17	+ .003	101	15-17 $\frac{1}{2}$	+ .010	209
5-6	+ .051	106	17-18	+ .002	86	17 $\frac{1}{2}$ -20	+ .004	248
6-7	+ .020	86	18-19	- .005	112	20-22 $\frac{1}{2}$	+ .005	255
7-8	+ .020	73	19-20	+ .007	152	22 $\frac{1}{2}$ -25	- .010	334
8-9	+ .027	170	20-21	+ .008	173	25-27 $\frac{1}{2}$	+ .014	241
9-10	+ .007	116	21-22	+ .005	183	27 $\frac{1}{2}$ -30	+ .013	361
10-11	+ .014	120	22-23	+ .030	128	30-35	+ .030	192
11-12	+ .004	115	23-24	+ .011	135	35-40	+ .022	136
General Mean.....			0-24	+ .0098	2870	40-45	+ .042	157
						45-50	+ .013	122

These quantities have been laid down in the last two diagrams of the Plate, and the corresponding curves drawn, representing the systematic discordance between the R. A.'s above and below the Pole, as depending on the R. A. and N. P. D. of the

GREENWICH NINE-YEAR CATALOGUE FOR 1872.

b

Star respectively. Some of the irregularities in the discordances seem to depend on the unequal distribution of the stars in N.P.D. in some of the hourly groups in R.A. In particular the large positive discordance for the group 5^h – 6^h is largely due to two stars, Capella and β Aurigæ, which have an N.P.D. of about 45° , and consequently introduce large positive discordances, each multiplied by the maximum weight of 20, these stars being very frequently observed.

II. The same statements apply generally to the formation of the Mean N. P. D. 1872, Jan. 1, omitting all that relates to correction of equinox and to systematic errors, and substituting a correction of $-0''.20$ to all N.P.D.'s observed above the pole, and of $+0''.20$ to all below, for error in the assumed Co-latitude, $38^\circ.31'.21''.60$. This correction is based on a discussion of all the observations of Circumpolar stars from 1868 to 1876. The resulting Co-latitude found from 5,976 observations of 395 Circumpolar stars above the Pole, and 2,685 observations below, is $38^\circ.31'.21''.40$. The following table exhibits the residuals (representing twice the error of assumed Co-latitude) from each star, with the number of observations above and below the Pole respectively, the assumed Co-latitude being $38^\circ.31'.21''.60$.

CORRECTION TO ASSUMED LATITUDE FROM OBSERVATIONS, 1868–1876.

Star's Name.	Number of Observations.		Excess of N.P.D. above Pole.	Star's Name.	Number of Observations.		Excess of N.P.D. above Pole.	Star's Name.	Number of Observations.		Excess of N.P.D. above Pole.
		S.P.				S.P.				S.P.	
Groombridge 1119 .	1	8	+0.33	Groombridge 1927 .	3	3	+0.97	Bradley 1634.....	28	3	+0.32
λ Ursæ Minoris....	199	94	-0.20	Bradley 1439.....	8	1	+0.57	Groombridge 931..	5	2	-0.26
α Ursæ Minoris....	625	714	+0.09	Piazzi VI. 334	8	3	+0.55	ζ Ursæ Minoris....	27	14	+0.06
Bradley 1672.....	2	1	+0.65	Carrington 479	1	1	+0.26	γ Cephei	8	2	-0.20
Groombridge 2283 .	3	2	-0.29	Bradley 1458.....	5	3	+0.62	Groombridge 1151 .	5	3	+0.06
Cephei 51.....	182	254	-0.64	Piazzi II. 60.....	6	2	-0.14	Piazzi IV. 317	10	1	+0.03
γ Ursæ Minoris....	6	1	-0.53	Carrington 484	1	1	+2.15	θ Ursæ Minoris....	18	1	+1.36
δ Ursæ Minoris....	314	143	-0.62	Bradley 2701.....	8	1	+0.31	Groombridge 2391 .	13	2	+0.85
Bradley 3147.....	11	5	-0.65	γ Draconis.....	9	1	-0.32	Piazzi XVI. 195....	3	3	+2.05
Bradley 95.....	3	1	-0.42	Groombridge 1909 .	2	3	+0.09	γ Draconis.....	24	4	+0.77
Groombridge 642 ..	4	4	+1.84	Groombridge 3887 .	7	1	+0.12	Bradley 230.....	3	4	+1.77
γ Ursæ Minoris....	2	1	-1.21	Piazzi VII. 132 ...	2	3	-0.37	Groombridge 2655 .	4	1	0.00
Groombridge 2213 .	4	1	-1.39	Groombridge 1463 .	12	3	+0.20	κ Cephei	15	12	-0.31
Groombridge 1923 .	3	3	+2.28	Piazzi III. 160....	9	1	+0.32	Bradley 246.....	3	3	+0.64
Groombridge 3212 .	3	1	-1.54	Bradley 2749.....	36	3	-0.66	Bradley 431.....	17	5	+0.88
Groombridge 1892 .	4	3	+1.27	γ Draconis.....	7	1	-0.42	γ Ursæ Minoris....	1	4	+0.15
Bradley 1730.....	11	5	+0.39	γ Ursæ Minoris....	9	1	-0.58	γ Cephei	42	25	+0.18
Bradley 1731.....	9	3	+0.59	Groombridge 3511 .	4	3	+0.02	Bradley 2440.....	32	3	-0.22
Groombridge 1879 .	6	4	+0.40	Piazzi VII. 187....	4	3	-1.25	Bradley 1446.....	21	3	+0.42
Piazzi XIII. 263...	5	3	+0.57	Groombridge 1562 .	2	3	+0.85	γ Ursæ Minoris....	5	3	-0.69
Groombridge 774 ..	7	2	+1.42	Groombridge 3667 .	4	2	-0.01	Oeltz.Arg.(N)19336	4	1	-0.36
Bradley 74.....	3	1	+1.11	Piazzi VI. 75	6	6	+0.02	γ Ursæ Minoris....	26	2	-0.69
Groombridge 1431 .	1	3	-0.38	Groombridge 2066 .	12	4	+0.04	Bradley 6.....	24	8	-0.26
Groombridge 2286 .	10	1	+0.17	Bradley 24.....	9	4	-0.58	γ Ursæ Minoris....	31	1	+1.75
Piazzi VI. 292	8	3	-0.54	Bradley 109.....	7	2	+0.52	Bradley 1147.....	9	3	+0.57
Bradley 3038.....	5	2	+1.04	Piazzi XIII. 133...	11	3	+0.39	Groombridge 1403 .	3	1	+1.00
ϵ Ursæ Minoris....	27	5	-0.55	Piazzi XVI. 182....	4	3	+0.40	η Ursæ Minoris....	17	3	+0.64
γ Draconis.....	14	1	-0.62	Piazzi IV. 269.....	9	4	-0.04	γ Ursæ Minoris....	7	3	+0.63
Piazzi IX. 37.....	6	3	+0.48	Bradley 117.....	1	1	-1.06	Bradley 1650.....	30	3	+1.27
Bradley 48.....	3	6	+0.66	Cephei 47.....	6	5	+0.47	Groombridge 3756 .	3	4	+0.34
Groombridge 1845 .	14	1	+1.01	Groombridge 2053 .	5	3	+0.53	Groombridge 3735 .	3	3	+0.33
Piazzi VI. 285	7	5	-0.14	Bradley 1508.....	9	3	-0.41	Groombridge 784 ..	2	2	+1.63

INTRODUCTION.

11

CORRECTION TO ASSUMED LATITUDE—*continued*.

Star's Name.	Number of Observations.		Excess of N.P.D. above Pole.	Star's Name.	Number of Observations.		Excess of N.P.D. above Pole.	Star's Name.	Number of Observations.		Excess of N.P.D. above Pole.
		S.P.				S.P.				S.P.	
Piazzi IV. 112	7	3	+0.83	γ Camelopardali ...	9	2	+1.95	ω Cassiopeiae	11	5	+0.95
Bradley 2421	3	3	+0.37	Groombridge 3409 .	47	4	+1.26	σ ¹ Ursae Majoris ...	21	4	+1.35
Groombridge 3834 .	3	1	+2.19	Groombridge 1863 .	4	2	+0.14	Piazzi XVIII. 93 . .	7	3	+0.81
Groombridge 2427 .	4	1	+0.09	Groombridge 1245 .	4	3	-2.07	9 Draconis	21	5	+1.59
Bradley 2748	4	5	-0.88	Bradley 2854	6	2	+0.72	Bradley 366	11	3	-0.02
50 Draconis	21	5	-0.03	6 Draconis	2	1	+0.80	Piazzi VIII. 137 . .	1	3	-1.19
3 Ursae Minoris ...	7	2	-0.45	11 Cephei	19	1	+0.52	Bradley 18	3	1	+1.34
Groombridge 966 . .	18	5	+0.30	κ Draconis	37	20	+0.45	Bradley 3166	20	4	+1.07
Groombridge 3426 .	3	3	+0.52	δ Ursae Majoris ...	14	3	+0.75	Piazzi V. 246	14	4	+0.34
π Cephei	14	2	+1.07	48 Cassiopeiae ...	2	3	-0.06	Bradley 332	39	8	+0.97
8 Ursae Minoris ...	105	23	+0.38	Groombridge 3503 .	3	3	+0.98	Piazzi III. 102	4	2	+1.02
73 Draconis	39	1	+0.29	Bradley 3086	3	3	+0.57	Groombridge 1299 .	6	3	+1.66
21 Cassiopeiae	9	3	+1.06	Groombridge 1400 .	5	3	+1.30	Groombridge 4005 .	3	2	+0.54
Groombridge 1374 .	9	4	+1.38	λ Draconis	41	3	+0.43	Bradley 3054	10	2	+1.32
23 Cassiopeiae ...	13	4	+0.80	2 Draconis	9	4	+0.86	Piazzi XIV. 260 . .	10	2	+0.40
Groombridge 1446 .	1	3	+0.46	Groombridge 2091 .	6	3	+0.56	Groombridge 3150 .	3	2	+0.61
Piazzi IV. 191	5	3	-0.45	β ² Cephei	70	17	+0.21	38 Ursae Majoris ...	3	3	+0.44
Groombridge 2719 .	9	5	+0.87	β ¹ Cephei	2	1	+0.56	35 Ursae Majoris ...	4	5	+0.19
Bradley 417	6	2	+0.72	Bradley 3121	8	2	-0.71	7 Cephei	3	1	+0.53
Radcliffe 1742	4	4	0.00	42 Cassiopeiae ...	7	6	-0.67	Bradley 1429	13	3	+0.33
Piazzi IV. 254	5	1	-0.87	ε Draconis	1	13	-0.03	8 Draconis	10	4	-0.67
Groombridge 2337 .	3	2	-0.08	4 Draconis	38	4	+0.80	α Camelopardali ...	14	3	+1.31
Groombridge 4163 .	8	5	+0.71	B. F. 1343	3	4	+1.24	Groombridge 3760 .	7	1	+0.89
Groombridge 215 . .	10	2	+0.80	Piazzi VIII. 52	3	5	+1.57	16 Cassiopeiae	10	5	+1.20
Piazzi IV. 204	1	3	+1.82	Piazzi X. 126	5	4	+2.07	Groombridge 2132 .	8	2	+0.76
Bradley 3085	15	3	+1.19	Bradley 3125	21	2	-0.10	55 Cassiopeiae	5	3	+1.30
Piazzi IX. 187	17	6	+0.71	Piazzi V. 337	2	3	+0.97	Bradley 442	1	1	-0.81
B. F. 1283	2	3	-0.39	A Cassiopeiae ...	6	4	+1.48	ζ Draconis	25	1	-1.88
Bradley 282	9	1	+0.11	Groombridge 3590 .	17	3	+1.15	13 Cassiopeiae	3	2	+0.42
Groombridge 2411 .	4	1	+0.60	σ Draconis	62	3	+1.20	55 Draconis	40	4	+0.65
τ Draconis	27	4	0.00	Piazzi X. 26	1	3	+0.93	51 Camelopardali . .	4	6	+0.17
79 Draconis	19	3	+0.60	Piazzi V. 335	10	1	-1.74	32 Ursae Majoris ...	4	9	+1.02
Piazzi XIII. 109 ..	12	3	+1.34	Bradley 193	2	1	+0.32	36 Camelopardali . .	3	1	+0.49
31 Cephei	14	2	+0.25	Piazzi XIII. 306 . .	11	1	+1.33	Groombridge 192 . .	5	5	+0.03
Bradley 471	7	4	+0.65	Groombridge 628 . .	1	4	+0.49	Radcliffe 1516	13	3	+0.66
27 Ursae Majoris ...	17	4	+1.05	Groombridge 1669 .	2	3	-0.23	A Ursae Majoris ...	26	3	+1.25
Bradley 1160	11	3	+0.43	A Draconis	21	4	+0.63	ι Cephei	11	1	+0.96
22 Ursae Majoris ...	1	3	+1.07	Groombridge 2952 .	39	1	-0.63	Groombridge 3739 .	10	1	+0.90
χ Draconis	7	3	+0.04	Radcliffe 2630	13	3	+0.80	42 Draconis	28	5	+0.01
16 Cephei	22	2	+0.29	55 Camelopardali .	16	4	+0.18	Piazzi XIII. 184 . .	7	5	-0.09
6 Ursae Minoris ...	5	2	+2.50	ω Draconis	35	1	+1.30	π Draconis	75	5	+0.06
Groombridge 3946 .	10	4	+1.16	Piazzi VII. 67	24	6	+0.19	3 Ursae Majoris ...	3	3	+1.14
40 Cassiopeiae	13	4	-0.23	37 Draconis	10	1	+1.75	Groombridge 120 . .	11	3	+0.73
γ ² Ursae Minoris ...	26	5	+1.42	Bradley 2636	22	2	+0.88	Oeltz, Arg. (N) 26322	2	3	+0.35
11 Ursae Minoris ...	15	2	-0.07	Radcliffe 1553	4	3	+0.25	Bradley 3202	2	4	-0.14
9 Ursae Minoris ...	4	4	+1.53	Bradley 382	8	5	+2.26	ι Draconis	30	3	+0.38
Bradley 348	5	4	+0.71	f Draconis	16	3	+0.68	h ¹ Draconis	9	4	+1.45
ψ ¹ Draconis (2d Star)	10	1	+0.13	Groombridge 2320 .	26	2	+1.05	h ² Draconis	2	3	+0.90
ψ ¹ Draconis (1st Star)	29	2	+0.59	ρ Ursae Majoris ...	21	3	+0.84	Bradley 448	15	3	+1.99
Bradley 2673	3	3	-0.09	31 Cassiopeiae ...	6	1	-0.54	6 Ursae Majoris ...	21	3	+0.72
ψ ² Draconis	1	3	+0.51	46 Cassiopeiae ...	5	3	+1.24	Piazzi XI. 43	20	3	+0.70
50 Cassiopeiae	23	2	+0.84	Oeltz, Arg. (N) 24748	1	1	-0.48	α Draconis	58	6	+0.55
78 Draconis	3	2	+1.66	Groombridge 3904 .	2	1	+2.16	γ Draconis	35	1	+0.27
24 Cephei	4	3	+0.36	Groombridge 2214 .	25	4	+0.61	Piazzi IV. 10	9	3	+0.17
Bradley 2934	15	3	+0.67	Piazzi I. 88	2	1	+2.10	π Ursae Majoris ...	19	4	+1.22
Groombridge 2917 .	19	1	-0.21	Piazzi VIII. 46 . .	11	5	+0.59	Groombridge 3594 .	2	2	+0.26
Bradley 3135	3	3	+0.32	σ ² Ursae Majoris ...	5	3	+1.25	Groombridge 3588 .	4	2	+0.07
φ Draconis	14	4	-0.25	ρ Draconis	12	4	+0.48	26 Cephei	3	1	+0.69
ν Draconis	7	3	-0.44	7 Draconis	19	3	+0.57	6 Cephei	2	2	+0.66
Bradley 353	1	1	+0.06	3 Draconis	12	3	+0.72	28 Ursae Majoris ...	11	8	+0.35
Groombridge 1228 .	14	6	+0.43	8 Draconis	59	7	+0.74	Piazzi III. 27	6	2	+1.09
54 Cassiopeiae	5	6	+0.46	σ Cephei	23	1	+1.75	19 Camelopardali . .	4	4	+1.80

b 2

CORRECTION TO ASSUMED LATITUDE—concluded.

Star's Name.	Number of Observations.		Excess of N.P.D. above Pole.	Star's Name.	Number of Observations.		Excess of N.P.D. above Pole.	Star's Name.	Number of Observations.		Excess of N.P.D. above Pole.
		S.P.				S.P.				S.P.	
τ Ursæ Majoris....	5	4	+1.46	c Ursæ Majoris....	11	3	-0.14	40 Camelopardali..	2	2	-0.17
ξ^1 Cephei.....	5	10	-0.50	Groombridge 2771..	4	3	+0.38	γ Cassiopeiæ.....	32	5	+0.92
ξ^2 Cephei.....	7	10	-0.96	Groombridge 2146..	6	2	+0.15	42 Ursæ Majoris....	14	3	-0.23
Piazzi XIII. 96....	4	1	+0.19	η Draconis.....	24	6	-0.71	Piazzi VI. 293....	4	3	-0.64
Bradley 1363.....	3	3	+0.12	B. F. 1620.....	5	4	+0.02	29 Lyncis.....	3	3	-0.11
53 Cassiopeiæ.....	3	1	+0.65	Lalande (F.) 3384..	3	2	+0.19	44 Cassiopeiæ.....	5	1	-0.23
Groombridge 2123..	7	2	-0.12	68 Draconis.....	20	5	+0.08	31 Camelopardali..	13	3	+0.09
Groombridge 1853..	12	1	+0.90	66 Draconis.....	3	2	+0.51	ν Ursæ Majoris....	9	3	+0.33
h Ursæ Majoris....	13	5	+0.86	8 Lyncis.....	1	3	+1.02	δ Cassiopeiæ.....	3	1	-0.71
Groombridge 3994..	4	2	+0.38	4 Cassiopeiæ.....	4	2	-0.55	ϵ Draconis.....	8	1	-1.27
10 Cassiopeiæ.....	7	3	+0.40	1 Lyncis.....	1	1	-1.12	β Cassiopeiæ.....	3	6	+0.72
Groombridge 1926..	2	3	+0.60	Piazzi III. 260....	6	1	+2.02	Piazzi III. 54.....	9	3	+0.40
76 Ursæ Majoris....	16	3	+0.94	9 Cephei.....	16	2	+0.17	68 Ursæ Majoris....	3	3	-0.10
Piazzi I. 159.....	6	3	+0.77	23 Camelopardali..	6	3	+0.86	δ Ursæ Majoris....	19	3	+0.35
Groombridge 2899..	4	2	+1.02	η Cephei.....	27	13	-0.01	37 Ursæ Majoris....	6	3	+0.67
49 Camelopardali..	22	2	+0.78	Groombridge 48....	6	2	-0.05	η Cassiopeiæ.....	7	6	0.00
ϵ Cassiopeiæ.....	25	4	+0.57	σ Ursæ Majoris....	24	3	+0.51	β Ursæ Majoris....	17	3	-0.02
Piazzi XVII. 61....	8	3	-0.29	12 Cassiopeiæ.....	9	4	+0.11	ϵ Ursæ Majoris....	4	3	+0.26
Piazzi XXI. 360....	15	2	+0.52	Piazzi XVI. 140....	3	3	+0.36	36 Ursæ Majoris....	7	2	+0.30
Piazzi XV. 198....	5	3	+0.69	Piazzi VIII. 30....	9	4	+1.22	Bradley 3077.....	4	1	+1.66
17 Camelopardali..	12	3	-0.03	Groombridge 1930..	1	2	+1.07	ϵ Cephei.....	8	8	-0.37
Groombridge 329..	2	1	+2.79	Bradley 3028.....	4	3	+0.19	α Cassiopeiæ.....	17	25	+0.28
Groombridge 1804..	3	3	+0.47	17 Lyncis.....	3	7	+0.19	ζ^1 Ursæ Majoris....	8	3	+0.97
57 Camelopardali..	8	4	+0.19	Groombridge 3621..	6	3	+0.49	ζ^2 Ursæ Majoris....	8	3	+0.99
Piazzi XII. 278....	2	1	-0.58	Bradley 2370.....	3	1	+0.46	η Persei.....	4	4	-0.79
Piazzi III. 177....	9	4	-0.20	56 Camelopardali..	4	3	+0.29	Piazzi III. 57.....	2	1	-1.52
Piazzi XXII. 115..	5	1	+1.92	Groombridge 4222..	3	3	-0.03	γ Ursæ Majoris....	37	19	+0.15
θ Cephei.....	31	14	-0.14	ν Cephei.....	25	11	+0.28	μ Cassiopeiæ.....	3	3	-0.02
18 Cephei.....	3	1	-0.78	Bradley 3195.....	20	4	+0.55	δ Aurigæ.....	7	3	+0.89
Piazzi XI. 74.....	10	3	+0.48	Groombridge 2992..	9	1	-0.13	ζ Cassiopeiæ.....	13	1	-0.99
α Ursæ Majoris....	77	26	+1.33	39 Camelopardali..	2	1	-0.32	κ Cygni.....	16	8	+1.17
b Ursæ Majoris....	11	3	+0.46	Piazzi IV. 22.....	6	3	+2.37	γ Persei.....	3	3	+2.17
Groombridge 1838..	10	3	+0.12	Bradley 90.....	5	3	+1.25	θ Boötis.....	15	3	+0.06
κ Cassiopeiæ.....	10	5	+1.18	Groombridge 219..	3	3	+0.58	β Draconis.....	31	7	-0.08
Groombridge 2742..	21	3	-0.13	β Camelopardali..	15	4	+1.70	θ Ursæ Majoris....	13	25	+0.76
Groombridge 2055..	5	3	-0.16	Bradley 2615.....	3	1	-1.17	γ Draconis.....	44	25	+0.53
Groombridge 234..	3	3	+0.77	Radeliffe 3714.....	14	1	-2.17	η Ursæ Majoris....	50	27	+0.74
α Cephei.....	94	24	+0.14	Groombridge 3274..	3	2	+0.47	α Lacertæ.....	13	1	+0.58
41 Camelopardali..	4	6	-1.75	47 Camelopardali..	3	3	-0.92	α Persei.....	21	16	+0.52
26 Draconis.....	4	1	+0.73	Groombridge 2332..	1	3	+2.11				

These residuals have been combined with weights determined by use of the "Probable Errors of Greenwich Observations in Zenith Distance," given by Mr. Stone in the *Monthly Notices of the Royal Astronomical Society* for 1869, June, page 324. Putting n for the number of observations of a star above the pole, e for the probable error of one observation, n_1, e_1 , the similar quantities for the observations below the pole; e_0 , the probable systematic error affecting all observations of the same star, and depending on outstanding division-error and uncertainty in the correction for refraction and for R-D; the formula employed to determine the weight to be given to that star is $\frac{n n_1}{n_1 e^2 + n e_1^2 + 2 n n_1 e_0^2}$; or, assuming $e_0^2 = \frac{1}{10} e^2$, which would make $e_0 = 0''.16$, the weight becomes $\frac{n n_1}{n_1 e^2 + n e_1^2 + \frac{1}{5} n n_1 e^2}$, which has been adopted for use in this investigation.

INTRODUCTION.

13

For convenience of computation the mean residuals have been taken for groups of about 11 stars, and are exhibited in the following table.

CORRECTION TO ASSUMED LATITUDE, 1868-1876.
MEANS OF GROUPS.

Limits of N.P.D.	Mean Excess of N.P.D. above Pole.	Weight.	Limits of N.P.D.	Mean Excess of N.P.D. above Pole.	Weight.	Limits of N.P.D.	Mean Excess of N.P.D. above Pole.	Weight.
° / ° /	"		° / ° /	"		° / ° /	"	
1. 0—3. 46	−0.21	90	17. 19—17. 47	+0.79	44	24. 55—25. 46	+0.53	39
4. 26—6. 59	+0.58	41	17. 54—18. 56	+0.29	34	25. 52—26. 31	+0.30	46
7. 19—8. 41	+0.13	43	19. 1—19. 37	+0.45	51	26. 35—27. 3	+0.50	30
8. 51—9. 25	+0.25	34	19. 43—20. 2	+0.31	48	27. 4—27. 34	+0.55	47
9. 40—10. 18	−0.18	45	20. 3—20. 37	+1.08	40	27. 44—28. 12	+0.03	44
10. 42—11. 52	+0.12	52	20. 38—21. 17	+0.28	35	28. 12—28. 35	+0.12	30
11. 55—12. 44	+0.65	49	21. 17—22. 7	+1.01	33	28. 39—29. 5	+0.34	41
13. 1—13. 52	+0.08	53	22. 10—22. 37	+0.87	47	29. 14—29. 45	+0.65	35
13. 57—14. 34	+0.59	41	22. 38—23. 27	+0.83	43	29. 51—30. 9	+0.06	28
14. 43—15. 56	+0.51	56	23. 29—24. 3	+0.57	40	30. 22—33. 21	+0.21	32
15. 56—16. 31	+0.54	46	24. 5—24. 31	+0.53	43	33. 22—35. 44	+0.20	46
16. 32—17. 14	+0.54	41	24. 31—24. 49	+0.55	45	36. 48—40. 36	+0.63	57

The resulting Mean Excess of N. P. D. above the Pole from all the observations, 1868-1876, is $+0''.407$, whence the Correction to Assumed Co-latitude is $-0''.203$, and the Deduced Co-latitude for the Nine-Year Catalogue, $38^{\circ}. 31'. 21''.40$.

The diminution in the Co-latitude below that found in former years (about $38^{\circ}. 31'. 21''.80$) appears to be due to a great extent to the diminution in the beginning of 1868 of the adopted tabular refraction. From that date the mean refractions used in the reductions of the daily observations are the mean refractions of Bessel's *Tabulæ Regiomontanæ*, diminished in the proportion of $1:0.99469$, or those of Bessel's *Fundamenta*, diminished in the proportion of $1:0.99797$, the alteration having been made on the authority of an investigation by Mr. Stone in the *Monthly Notices of the Royal Astronomical Society*, 1867, November 8. The refraction is computed for Zenith Distances not exceeding 85° from Bessel's Tables in the *Tabulæ Regiomontanæ*, which are given in an expanded form in the Appendix to the Greenwich Observations for 1836 and also in that for 1853, the mean refractions being diminished in the ratio $1:0.99469$. For Zenith Distances exceeding 85° , the refractions used are those of Bessel's *Fundamenta*, diminished in the proportion $1:0.99797$.

All the North Polar Distances for the years 1868 to 1873, as printed in the several volumes of Greenwich Observations, have been corrected for Error in the Micro-meter-Screws of the Six Ordinary Microscopes, determined by comparisons of their

readings with those of the Four Supplementary Micrometer-Microscopes (constructed for determination of the division-errors). The following tables give the corrections derived respectively from observations made between 1868, March 4 and December 3, and between 1875, June 15 and August 25, arranged according to the revolutions and tenths of Microscope A.

CORRECTIONS TO NORTH POLAR DISTANCES WITH THE ORDINARY MICROSCOPES,
DEPENDING ON ERROR OF MICROMETER-SCREWS.

1868.

Revolution and Tenth of Mic. A.	Correction.	Revolution and Tenth of Mic. A.	Correction.	Revolution and Tenth of Mic. A.	Correction.	Revolution and Tenth of Mic. A.	Correction.	Revolution and Tenth of Mic. A.	Correction.
r	"	r	"	r	"	r	"	r	"
9.6	-0.90	0.8	-0.16	1.9	+0.47	3.0	+0.31	4.1	-0.24
9.7	-0.81	0.9	-0.07	2.0	+0.47	3.1	+0.32	4.2	-0.36
9.8	-0.72	1.0	+0.08	2.1	+0.46	3.2	+0.33	4.3	-0.52
9.9	-0.63	1.1	+0.23	2.2	+0.38	3.3	+0.12	4.4	-0.57
0.0	-0.57	1.2	+0.44	2.3	+0.40	3.4	+0.08	4.5	-0.47
0.1	-0.44	1.3	+0.33	2.4	+0.45	3.5	+0.21	4.6	-0.62
0.2	-0.32	1.4	+0.01	2.5	+0.32	3.6	+0.08	4.7	-0.91
0.3	-0.33	1.5	+0.05	2.6	+0.20	3.7	-0.11	4.8	-0.98
0.4	-0.28	1.6	+0.34	2.7	+0.23	3.8	-0.02	4.9	-0.97
0.5	-0.19	1.7	+0.59	2.8	+0.21	3.9	+0.02	5.0	-1.03
0.6	-0.19	1.8	+0.50	2.9	+0.26	4.0	-0.15	5.1	-1.13
0.7	-0.20								

1875.

Revolution and Tenth of Mic. A.	Correction.	Revolution and Tenth of Mic. A.	Correction.	Revolution and Tenth of Mic. A.	Correction.	Revolution and Tenth of Mic. A.	Correction.	Revolution and Tenth of Mic. A.	Correction.
r	"	r	"	r	"	r	"	r	"
9.7	-1.38	0.8	+0.19	1.8	+0.05	2.8	+0.15	3.8	+0.22
9.8	-1.13	0.9	+0.22	1.9	+0.22	2.9	+0.16	3.9	+0.21
9.9	-1.17	1.0	+0.30	2.0	+0.47	3.0	+0.32	4.0	+0.19
0.0	-0.89	1.1	+0.23	2.1	+0.55	3.1	+0.38	4.1	-0.05
0.1	-0.51	1.2	+0.23	2.2	+0.66	3.2	+0.22	4.2	-0.19
0.2	-0.41	1.3	+0.23	2.3	+0.76	3.3	-0.06	4.3	-0.03
0.3	-0.42	1.4	+0.08	2.4	+0.52	3.4	+0.05	4.4	-0.17
0.4	-0.09	1.5	+0.08	2.5	+0.39	3.5	+0.31	4.5	-0.39
0.5	+0.28	1.6	+0.18	2.6	+0.52	3.6	+0.33	4.6	-0.51
0.6	+0.34	1.7	+0.12	2.7	+0.42	3.7	+0.27	4.7	-0.74
0.7	+0.28								

The corrections taken from the first table were applied to all observations of N. P. D. in 1868; and a mean of the corresponding quantities in the two tables, to

all observations from 1869 to 1873. The observations made in 1874 and 1875, as printed in the *Greenwich Observations*, 1874 and 1875, are corrected by the application of the quantities in the second Table (Introduction to *Greenwich Observations*, 1874 and 1875), and have, therefore, required no further correction for the Catalogue. At the beginning of 1876 new micrometer-screws were applied, and the observations are consequently free from this source of error, which appears to be the effect of wear in the screws. The difference between the two sets of corrections in 1868 and 1875, would seem to be due to the additional wear resulting from the practice (introduced in 1868) of taking the Nadir observation regularly at 0°.

The observations of North Polar Distance S. P. have also been corrected for a small error arising from the application of the R—D correction with a wrong sign to observations below the pole.

I now proceed to explain the separate columns of the printed Catalogue. The formulæ by which the various numbers have been prepared will be described under these explanations.

The “No.” is the ordinal number of this Catalogue, the stars being arranged in order of R. A., 1872.

The “Star’s Name” is taken from one of the following authorities, the order of preference being the order of mention of the authority below :

1. Flamsteed’s Constellation No. and Constellation, with Bayer’s letter, taken from Baily’s edition of Flamsteed. When the description thus found differs from that in the British Association Catalogue, the difference is mentioned in the Notes.
2. The No. in Bessel’s *Fundamenta*, &c., deduced from Bradley’s observations, referred to as “Bradley.”
3. The hour and No. in Piazzi’s Catalogue, edition 1814.
4. The No. in Groombridge’s Catalogue.
5. The No. in Baily’s edition of Flamsteed’s Catalogue, referred to as “B. F.”
6. The hour and No. in Weisse’s two Catalogues of the Stars in Bessel’s Zones, referred to as “W. B.” and “W. B. (2)” respectively.
7. The No. in Lalande’s Catalogue, published by the British Association, or in that edited by Fedorenko.
8. The No. in Lacaille’s Catalogue of Southern Stars, published by the British Association.
9. The No. in Oeltzen’s Catalogues of Argelander’s Zone Observations, referred to as “Oeltz. Arg. (N)” or “(S)” respectively.
10. The No. in the First Radcliffe Catalogue.
11. The No. in Carrington’s Red Hill Catalogue.
12. The Zone and No. in Argelander’s Zone Observations of 110,984 stars, *Bonner Sternverzeichnis* (Bonn Observations, 1859), referred to as “Arg. Zone.”
13. The No. in the Greenwich Catalogues; or in the British Association Catalogue, referred to as “B. A. C.”

The “Magnitude” is taken from the *Uranometria Nova* of Argelander or from Heis’s *Atlas Caelestis Novus*, in preference to all other authorities. The magnitudes derived from Argelander are marked with *, and those from Heis with †. When

the magnitudes are not to be found in either of those works, they are taken in order of preference from the British Association Catalogue; from Lalande's Catalogue published by the British Association; from the First Radcliffe Catalogue; from Piazzi's Catalogue (Ed. 1814); from Weisse's two Catalogues, *Positiones Medice Stellarum Fixarum in Zonis Regiomontanis*; from Argelander's *Bonner Sternverzeichniss*. For the variable stars the limits of magnitude are taken from Schönfeld's *Zweiter Catalog von veränderlichen Sternen*, 1875. The authorities for any remaining magnitudes are given in the notes on the left-hand page.

The formation of the "Mean Right Ascension, 1872, Jan. 1," has been fully described, as also of the "Mean Year and Fraction of Year." It may be proper here to remark that the Mean Right Ascensions and Annual Precessions in R. A. are each given to one decimal place more than in former Catalogues, the R. A.'s being given to 0^s.001 and the Precessions in R. A. to 0^s.0001. The Right Ascensions are thus made to correspond more nearly with the North Polar Distances as regards the degree of accuracy exhibited. The computations were made singly, and carefully examined.

The "Number of Observations" gives the aggregate number of all the observations in the different years, whether above or below the Pole, which are combined to form the Mean Right Ascension last mentioned.

The "Annual Precession in R. A." is computed by Peters' formula $3^s.0722 + [\text{number, log} = 0.12612] \times \sin \text{R. A.} \times \cotan \text{N. P. D.}$. The R. A. and N. P. D. are taken for 1872 to 1^s and 1" respectively. The computations were made in duplicate and compared.

The "Secular Variation of Precession in R. A." consists of two parts; one which is due to change in the Star's place; the other, which arises from the change in the numerical co-efficients, and which in the Twelve-Year and Six-Year Catalogues had been neglected as insignificant, but whose importance was indicated to me by Don F. de P. Marqua.

The formula for the first part, as exhibited in the Introduction to the Twelve-Year and Six-Year Catalogues, is $1500 n^2 \sin 1'' \times a b + 1500 n \sin 1'' \times c d$, where $a = \frac{1}{15} \cos \text{R. A.} \operatorname{cosec} \text{N. P. D.}$, $b = \frac{1}{15} \sin \text{R. A.} \operatorname{cosec} \text{N. P. D.}$, $d = \frac{1}{15} \cos \text{R. A.} \cotan \text{N. P. D.}$, $n = 20.0552$, $c =$ precession in R. A. in seconds of time, found above. The numerical expression is $[\text{number, log} = 0.4661] \times a b + [\text{number, log} = 9.1639] \times c d$. The unit of the result is one second of time.

For the second part, assuming the formula for precession in R. A. to be—

$$\frac{1}{15} \left\{ 46^s.0805 + 0^s.0002849 t \right\} \\ + \frac{1}{15} \left\{ 20^s.0552 - 0^s.0000863 t \right\} \times \sin \text{R. A.} \times \cot \text{N. P. D.},$$

where t is the number of years from 1872, the second part of the Secular Variation of precession in R. A. is—

$$\frac{1}{15} \left\{ 0.02849 - 0.00863 \times \frac{c - 3.072}{1.337} \right\} \\ = - [\text{number, log} = 6.6338] \times c + 0.00322,$$

in which also the unit is one second of time.

As the logarithms of a , b , c , and d are computed in the preparation of the Constants for Reduction, to be mentioned shortly, the calculation of the Secular Variations is sufficiently easy. The computations were made in duplicate and carefully compared.

The “Annual Proper Motion in R. A.” has been taken from Mr. Main’s three lists or Mr. Stone’s list in the *Memoirs of the Royal Astronomical Society*, Volumes XIX., XXVIII., and XXXIII., giving preference to the latest determination in the few cases where the star is found in more than one of the lists. When not given by Mr. Main or Mr. Stone, the Proper Motions have been taken from the British Association Catalogue. For a few stars with large proper motion, they have been taken from the *Bonn Observations*, Vol. VII., pp. 109–113; all such cases are mentioned in the Notes on the left-hand page.

The “Star-Constants” $\log e$, $\log f$, $\log g$, $\log h$, and l , are computed by the formulæ:—

$$e = 1.2 + \frac{1}{15} \cos \text{R. A. cosec N. P. D.},$$

$$f = 1.2 + \frac{1}{15} \sin \text{R. A.}, \text{ cosec N. P. D.},$$

$$g = 25 + 3.0722 + 1.3370 \sin \text{R. A. cot N. P. D.},$$

$$h = 1.2 + \frac{1}{15} \cos \text{R. A. cot N. P. D.},$$

$$l = 210.00 - 25 \times e - 25 \times f - 1.2 \times g - 25 \times h,$$

and when combined with the numbers E , F , G , H , L , now published in the Nautical Almanac, by the formula,

$$E e + F f + G g + H h + L + l - 300^s.00,$$

give the correction from Mean R. A. to Apparent R. A. in seconds of time. The numbers E , F , G , H , L , are in all cases positive. The numbers e , f , g , h , l , are positive, except for a very few stars within $3^{\circ}.10'$ of the pole; for these instances the constants are not printed in the columns, but are inserted in the notes below. The numbers were computed in duplicate and carefully compared.

The process for forming the “Mean North Polar Distance, 1872, Jan. 1,” has been explained. The numbers were computed singly and carefully examined.

The “Mean Year and Fraction of Year” has been explained.

The “Number of Observations” is the aggregate of all the numbers of observations combined to form the Mean N. P. D.

The "Annual Precession in N. P. D." is formed from the expression $-20''.0545 \times \cos R. A.$

The "Secular Variation of Precession in N. P. D.," like that in R. A., consists of two parts. One arises from change in the star's place; its value, as investigated in the Introduction to the Twelve-Year and Six-Year Catalogues, is—

$$1500 n \sin 1'' \times c d',$$

where $n = 20''.0545$, c = precession in R. A., expressed in seconds of time, and d' computed in the formation of h' (to be mentioned shortly) = $\sin R. A.$

The other part arises from the Secular Variation of the co-efficient. The entire formula for precession being—

$$(-20''.0545 + 0.0000863.t) \cos R. A.,$$

where t is the number of years after 1872; the secular variation from change of the co-efficient is—

$$+ 0''.00863 \times \cos R. A. = - \frac{0.00863}{20.0545} \times c'$$

(where it is to be remarked that c' is computed in the formation of g' , to be mentioned shortly). And the whole expression for Secular Variation of Precession in N. P. D. is, in seconds of arc,

$$\begin{aligned} & 1500 \times 20''.0545 \times \sin 1'' \times c d' - \frac{0.00863}{20.0545} \times c' \\ & = [\text{number, log} = 9.1639] \times c d' - [\text{number, log} = 6.6338] \times c'. \end{aligned}$$

These numbers have been calculated in duplicate and compared.

The "Star-Constants" $\log e'$, $\log f'$, $\log g'$, $\log h'$, and l' are computed by the formulæ:—

$$e' = 1.2 - \tan \text{obliquity} \cdot \sin N. P. D. + \sin R. A. \cdot \cos N. P. D.$$

$$f' = 1.2 - \cos R. A. \cdot \cos N. P. D.$$

$$g' = 25 - 20.0545 \cdot \cos R. A.$$

$$h' = 1.2 + \sin R. A.$$

$$l' = 210.00 - 25 \times e' - 25 \times f' - 1.2 \times g' - 25 \times h'.$$

By use of these numbers in the formula $E e' + F f' + G g' + H h' + L + l' - 300.00$, the correction from Mean N. P. D. to Apparent N. P. D. is found in seconds of arc. The numbers e' , f' , g' , h' , l' , are in all cases positive. The calculations have been made in duplicate and compared.

As a security against mistakes of large amount, the R. A. and N. P. D. of the Catalogue have been compared in the proof sheets, with the approximate R. A. and N. P. D. for 1872, computed from former Catalogues to 1^s and $1''$ respectively, for use in the calculation of the Precessions. A few errors were detected in this way. The proof-sheets have also been compared with the Radcliffe Observations, 1872.

The remaining columns contain references to other Catalogues of Stars. It is to be remarked that the date given in the heading refers to the Epoch of the Catalogue,

whilst that mentioned in the Notes is the year of publication. The titles and places of publication of the Catalogues adopted for reference are as follows:—

BESSEL'S BRADLEY.—*Fundamenta Astronomiæ pro anno MDCCLV., deducta ex Observationibus viri incomparabilis James Bradley in Speculâ Astronomicâ Grenovicensi per annos 1750–1762 institutis.* Auctore Friderico Wilhelmo Bessel. Regiomonti, 1818.

PIAZZI.—*Præcipuarum Stellarum inerrantium Positiones Mediæ ineunte Sæculo XIX., ex Observationibus habitis in Specula Panormitana, ab anno 1792 ad annum 1813.* Panormi, 1814.

GROOMBRIDGE.—*A Catalogue of Circumpolar Stars deduced from the Observations of Stephen Groombridge, Esq., F.R.S., S.R.A. Nap., F.R.A.S., &c., reduced to January 1, 1810.* Edited by George Biddell Airy, Esq., A.M., Astronomer Royal. London, 1838.

BRITISH ASSOCIATION CATALOGUE.—*The Catalogue of Stars of the British Association for the Advancement of Science, containing the Mean Right Ascensions and North Polar Distances of 8,377 Fixed Stars reduced to January 1, 1850, together with their Annual Precessions, Secular Variations, and Proper Motions, as well as the Logarithmic Constants for computing Precession, Aberration, and Nutation. With a Preface explanatory of their construction and application, by the late Francis Baily, Esq., D.C.L., &c.* London, 1845.

CORRECTIONS FOR ERROR IN THE ASSUMED EQUINOX OF THE NINE-YEAR CATALOGUE.

Star's Name.	Correction to Assumed Equinox.	Star's Name.	Correction to Assumed Equinox.	Star's Name.	Correction to Assumed Equinox.
	s		s		s
α Andromedæ	— '001	ϵ Orionis	'000	β Leonis	'000
γ Pegasi	— '001	α Columbæ	'000	β Virginis	+ '001
ι Ceti	— '001	κ Orionis	'000	π Virginis	'000
44 Piscium	+ '001	α Orionis	'000	$\circ$ Virginis	+ '002
12 Ceti	— '001	1 Geminorum	'000	ϵ Corvi	— '001
ϵ Andromedæ	+ '002	ν Orionis	'000	η Virginis	— '001
β Ceti	— '001	η Geminorum	'000	δ^2 Corvi	— '001
δ Piscium	+ '002	μ Geminorum	— '001	β Corvi	+ '001
20 Ceti	+ '001	β Canis Majoris	+ '001	ρ Virginis	— '001
μ Andromedæ	— '001	ν Geminorum	+ '002	35 Virginis	— '002
ϵ Piscium	'000	γ Geminorum	+ '001	31 Comæ	'000
β Andromedæ	'000	ξ Geminorum	+ '002	δ Virginis	— '001
ζ^1 Piscium	+ '001	θ Canis Majoris	'000	ϵ Virginis	— '001
θ Ceti	'000	ϵ Canis Majoris	+ '001	θ Virginis	— '001
η Piscium	+ '001	ζ Geminorum	+ '001	α Virginis	'000
ν Piscium	'000	γ Canis Majoris	— '001	ζ Virginis	— '001
$\circ$ Piscium	+ '001	51 Geminorum	— '001	m Virginis	'000
β Arietis	+ '001	δ Geminorum	'000	τ Boötis	'000
α Arietis	'000	β Canis Minoris	— '001	η Boötis	'000
ξ^1 Ceti	'000	α^2 Geminorum	'000	τ Virginis	'000
67 Ceti	— '002	α Canis Minoris	'000	94 Virginis	+ '001
ξ^2 Ceti	— '001	β Geminorum	'000	κ Virginis	'000
ν Ceti	— '002	ξ Navis	'000	α Boötis	'000
δ Ceti	'000	6 Cancri	'000	f Boötis	+ '001
γ^2 Ceti	+ '001	15 Argûs	+ '001	ρ Boötis	— '001
σ Arietis	+ '001	β Cancri	'000	ϵ^2 Boötis	'000
ϵ Arietis	+ '002	d^1 Cancri	— '001	α Libræ	+ '001
α Ceti	— '001	η Cancri	+ '001	ξ^2 Libræ	+ '002
δ Arietis	— '001	γ Cancri	'000	ψ Boötis	+ '001
τ^1 Arietis	+ '001	ϵ Hydræ	— '001	l^1 Libræ	+ '002
$\circ$ Tauri	— '001	α Cancri	'000	β Libræ	— '001
f Tauri	+ '001	κ Cancri	— '001	σ^2 Libræ	'000
ϵ Eridani	+ '001	83 Cancri	— '001	ζ^1 Libræ	'000
11 Tauri	— '002	α Hydræ	'000	α Coronæ	— '001
δ Eridani	+ '001	ξ Leonis	'000	α Serpentis	— '001
η Tauri	+ '001	$\circ$ Leonis	— '001	ϵ Serpentis	+ '001
γ^1 Eridani	— '002	ϵ Leonis	'000	γ Serpentis	'000
A^1 Tauri	+ '002	μ Leonis	— '001	β^1 Scorpii	+ '001
ω^1 Tauri	— '001	π Leonis	— '001	δ Ophiuchi	— '001
σ^1 Eridani	— '001	α Leonis	+ '001	γ Herculis	— '001
γ Tauri	'000	γ^1 Leonis	'000	α Scorpii	— '002
ϵ Tauri	'000	μ Hydræ	+ '002	λ Ophiuchi	'000
α Tauri	— '001	ρ Leonis	— '001	ζ Ophiuchi	— '001
τ Tauri	+ '002	34 Sextantis	'000	ζ Herculis	— '002
μ Eridani	'000	l Leonis	'000	κ Ophiuchi	— '001
ι Aurigæ	— '001	d Leonis	'000	ϵ Herculis	— '002
ϵ Leporis	— '001	χ Leonis	— '001	η Ophiuchi	— '001
β Orionis	'000	δ Leonis	'000	α^1 Herculis	— '001
β Tauri	'000	δ Crateris	+ '001	θ Ophiuchi	'000
δ Orionis	'000	τ Leonis	'000	σ Ophiuchi	'000
α Leporis	'000	ν Leonis	'000	α Ophiuchi	— '001

INTRODUCTION.

21

CORRECTIONS FOR ERROR IN THE ASSUMED EQUINOX—concluded.

Star's Name.	Correction to Assumed Equinox.	Star's Name.	Correction to Assumed Equinox.	Star's Name.	Correction to Assumed Equinox.
	s		s		s
β Ophiuchi	—'001	α Aquilæ	'000	δ Capricorni	'000
μ Herculis	—'001	β Aquilæ	—'003	16 Pegasi	'000
89 Herculis	—'001	c Sagittarii	+ '001	α Aquarii	'000
72 Ophiuchi	'000	θ Aquilæ	'000	ι Pegasi	—'001
μ^1 Sagittarii	'000	α^2 Capricorni	+ '001	θ Aquarii	—'001
η Serpentis	'000	β Capricorni	'000	γ Aquarii	'000
λ Sagittarii	+ '001	ρ Capricorni	'000	σ Aquarii	—'002
α Lyrae	+ '001	ϵ Delphini	—'001	η Aquarii	—'001
2 Aquilæ	'000	α Delphini	'000	ζ Pegasi	—'001
β^1 Lyrae	'000	ϵ Aquarii	—'001	μ Pegasi	'000
ϵ Aquilæ	'000	μ Aquarii	+ '002	λ Aquarii	—'001
ζ Aquilæ	'000	32 Vulpeculæ	—'001	α Piscis Australis	—'002
ψ Sagittarii	'000	θ Capricorni	—'001	α Pegasi	—'001
ω Aquilæ	'000	ζ Cygni	'000	γ Piscium	—'001
δ Aquilæ	—'001	α Equulei	—'001	κ Piscium	'000
α Vulpeculæ	'000	ι Capricorni	'000	ι Piscium	'000
μ Aquilæ	'000	β Aquarii	'000	δ Sculptoris	+ '001
h^2 Sagittarii	+ '001	ξ Aquarii	—'001	ω Piscium	'000
e^1 Sagittarii	+ '002	ϵ Pegasi	—'001	2 Ceti	'000
γ Aquilæ	—'001				

STANDARD MEAN RIGHT ASCENSIONS OF CLOCK-STARS FOR 1872, JAN. 1, BASED ON 12-HOUR GROUPS.

Star's Name.	Mean Right Ascension, 1872, Jan. 1.	Star's Name.	Mean Right Ascension, 1872, Jan. 1.	Star's Name.	Mean Right Ascension, 1872, Jan. 1.
	h m s		h m s		h m s
α Andromedæ ...	0. 1. 46.465	67 Ceti	2. 10. 35.962	γ Tauri	4. 12. 30.615
γ Pegasi	0. 6. 38.764	ξ^2 Ceti	2. 21. 21.310	ϵ Tauri	4. 21. 8.632
ι Ceti	0. 12. 54.330	ν Ceti	2. 29. 9.495	α Tauri	4. 28. 34.630
44 Piscium	0. 18. 50.488	δ Ceti	2. 32. 55.373	τ Tauri	4. 34. 33.848
12 Ceti	0. 23. 30.376	γ^2 Ceti	2. 36. 40.134	μ Eridani	4. 39. 6.169
ϵ Andromedæ	0. 31. 47.724	σ Arietis	2. 44. 25.682	ι Aurigæ	4. 48. 39.575
β Ceti	0. 37. 9.797	ϵ Arietis	2. 51. 53.744	ϵ Leporis	5. 0. 2.589
δ Piscium	0. 42. 2.552	α Ceti	2. 55. 35.360	β Orionis	5. 8. 23.200
20 Ceti	0. 46. 27.973	δ Arietis	3. 4. 18.746	β Tauri	5. 18. 12.075
μ Andromedæ ...	0. 49. 39.283	τ^1 Arietis	3. 13. 50.385	δ Orionis	5. 25. 28.035
ϵ Piscium	0. 56. 18.067	σ Tauri	3. 17. 55.600	α Leporis	5. 27. 5.053
β Andromedæ ...	1. 2. 34.246	f Tauri	3. 23. 48.494	ϵ Orionis	5. 29. 43.100
ζ^1 Piscium	1. 7. 2.684	ϵ Eridani	3. 26. 54.023	α Columbæ	5. 35. 0.851
θ Ceti	1. 17. 37.532	11 Tauri	3. 33. 7.766	κ Orionis	5. 41. 41.146
ν Piscium	1. 24. 38.176	δ Eridani	3. 37. 7.079	α Orionis	5. 48. 14.516
η Piscium	1. 34. 46.266	η Tauri	3. 39. 52.718	1 Geminorum	5. 56. 20.392
σ Piscium	1. 38. 38.148	γ^1 Eridani	3. 52. 3.470	ν Orionis	6. 0. 15.818
β Arietis	1. 47. 34.334	A^1 Tauri	3. 57. 7.796	η Geminorum	6. 7. 9.058
α Arietis	1. 59. 57.655	ω^1 Tauri	4. 1. 42.675	μ Geminorum	6. 15. 12.986
ξ^1 Ceti	2. 6. 13.020	σ^1 Eridani	4. 5. 37.079	β Canis Majoris ..	6. 17. 3.775

STANDARD MEAN RIGHT ASCENSIONS OF CLOCK-STARS—concluded.

Star's Name.	Mean Right Ascension, 1872, Jan. 1.	Star's Name.	Mean Right Ascension, 1872, Jan. 1.	Star's Name.	Mean Right Ascension, 1872, Jan. 1.
	h m s		h m s		h m s
ν Geminorum . . .	6. 21. 21.735	35 Virginis . . .	12. 41. 20.375	2 Aquilæ	18. 35. 15.856
γ Geminorum . . .	6. 30. 18.987	31 Comæ	12. 45. 27.742	β ¹ Lyræ	18. 45. 21.248
ξ Geminorum . . .	6. 38. 6.305	δ Virginis	12. 49. 9.367	ε Aquilæ	18. 53. 48.772
θ Canis Majoris . .	6. 48. 14.561	ε Virginis	12. 55. 48.304	ζ Aquilæ	18. 59. 31.614
ε Canis Majoris . .	6. 53. 35.719	θ Virginis	13. 3. 19.440	ψ Sagittarii	19. 7. 41.430
ζ Geminorum . . .	6. 56. 30.959	α Virginis	13. 18. 27.089	ω Aquilæ	19. 11. 48.496
γ Canis Majoris . .	6. 57. 58.073	ζ Virginis	13. 28. 10.316	δ Aquilæ	19. 19. 2.633
51 Geminorum . . .	7. 6. 1.183	m Virginis	13. 34. 53.749	α Vulpeculæ	19. 23. 22.755
δ Geminorum . . .	7. 12. 28.604	τ Boötis	13. 41. 10.760	μ Aquilæ	19. 27. 50.160
β Canis Minoris . .	7. 20. 12.498	η Boötis	13. 48. 35.397	h ² Sagittarii	19. 28. 54.981
α ² Geminorum . . .	7. 26. 25.763	τ Virginis	13. 55. 7.998	e ¹ Sagittarii	19. 33. 23.326
α Canis Minoris . .	7. 32. 35.965	94 Virginis	13. 59. 31.174	γ Aquilæ	19. 40. 10.430
β Geminorum . . .	7. 37. 28.817	κ Virginis	14. 6. 4.203	α Aquilæ	19. 44. 32.250
ξ Navis	7. 43. 54.660	α Boötis	14. 9. 49.391	β Aquilæ	19. 49. 1.528
6 Cancri	7. 55. 39.206	f Boötis	14. 20. 30.169	c Sagittarii	19. 54. 47.116
15 Argus	8. 2. 5.569	ρ Boötis	14. 26. 18.782	θ Aquilæ	20. 4. 41.969
β Cancri	8. 9. 34.327	ε ² Boötis	14. 39. 23.804	α ² Capricorni	20. 10. 57.071
d ¹ Cancri	8. 16. 1.921	α Libræ	14. 43. 48.012	β Capricorni	20. 13. 49.071
η Cancri	8. 25. 18.235	ξ ² Libræ	14. 49. 49.504	ρ Capricorni	20. 21. 33.447
γ Cancri	8. 35. 52.540	ψ Boötis	14. 58. 57.651	ε Delphini	20. 27. 5.853
ε Hydræ	8. 39. 59.739	ι ¹ Libræ	15. 4. 55.687	α Delphini	20. 33. 41.546
α Cancri	8. 51. 29.061	β Libræ	15. 10. 7.251	ε Aquarii	20. 40. 44.717
κ Cancri	9. 0. 48.737	ε ² Libræ	15. 15. 53.583	μ Aquarii	20. 45. 44.890
83 Cancri	9. 11. 50.057	ζ ¹ Libræ	15. 21. 2.435	32 Vulpeculæ	20. 49. 6.305
α Hydræ	9. 21. 17.821	α Coronæ	15. 29. 16.107	θ Capricorni	20. 58. 44.953
ξ Leonis	9. 25. 2.673	α Serpentis	15. 37. 57.832	ζ Cygni	21. 7. 29.334
o Leonis	9. 34. 19.040	ε Serpentis	15. 44. 26.173	α Equulei	21. 9. 25.484
ε Leonis	9. 38. 34.905	γ Serpentis	15. 50. 32.499	ι Capricorni	21. 15. 7.023
μ Leonis	9. 45. 28.787	β ¹ Scorpii	15. 57. 59.815	β Aquarii	21. 24. 49.138
π Leonis	9. 53. 26.871	δ Ophiuchi	16. 7. 38.329	ξ Aquarii	21. 30. 56.173
α Leonis	10. 1. 33.177	γ Herculis	16. 16. 16.433	ε Pegasi	21. 37. 53.954
γ ¹ Leonis	10. 12. 54.743	α Scorpii	16. 21. 33.699	δ Capricorni	21. 39. 58.424
μ Hydræ	10. 19. 54.053	λ Ophiuchi	16. 24. 27.493	16 Pegasi	21. 47. 14.327
ρ Leonis	10. 26. 4.187	ζ Ophiuchi	16. 30. 6.707	α Aquarii	21. 59. 12.526
34 Sextantis	10. 36. 0.834	ζ Herculis	16. 36. 27.685	ι Pegasi	22. 1. 3.205
ι Leonis	10. 42. 31.654	κ Ophiuchi	16. 51. 36.602	θ Aquarii	22. 10. 4.655
d Leonis	10. 53. 56.971	ε Herculis	16. 55. 23.557	γ Aquarii	22. 15. 2.641
χ Leonis	10. 58. 24.799	η Ophiuchi	17. 3. 2.288	σ Aquarii	22. 23. 52.280
δ Leonis	11. 7. 17.885	α ¹ Herculis	17. 8. 48.673	η Aquarii	22. 28. 46.696
δ Crateris	11. 12. 56.551	θ Ophiuchi	17. 14. 8.986	ζ Pegasi	22. 35. 4.714
τ Leonis	11. 21. 21.262	σ Ophiuchi	17. 20. 9.839	μ Pegasi	22. 43. 49.619
υ Leonis	11. 30. 23.695	α Ophiuchi	17. 28. 59.577	λ Aquarii	22. 45. 56.104
β Leonis	11. 42. 31.756	β Ophiuchi	17. 37. 8.956	α Piscis Australis . .	22. 50. 34.376
β Virginis	11. 44. 1.659	μ Herculis	17. 41. 26.970	α Pegasi	22. 58. 23.151
π Virginis	11. 54. 18.799	89 Herculis	17. 50. 15.369	γ Piscium	23. 10. 31.779
o Virginis	11. 58. 41.307	72 Ophiuchi	18. 1. 16.881	κ Piscium	23. 20. 22.229
ε Corvi	12. 3. 32.660	μ ¹ Sagittarii	18. 6. 6.513	ι Piscium	23. 33. 22.027
η Virginis	12. 13. 21.453	η Serpentis	18. 14. 41.204	δ Sculptoris	23. 42. 15.297
ξ ² Corvi	12. 23. 14.623	λ Sagittarii	18. 20. 4.243	ω Piscium	23. 52. 44.339
β Corvi	12. 27. 40.000	α Lyræ	18. 32. 36.250	2 Ceti	23. 57. 10.854
ρ Virginis	12. 35. 24.341				

E R R A T A.

NINE-YEAR CATALOGUE OF 2263 STARS FOR 1872.

- No. 49. Lalande 1046 should have been named W. B. (2) 0. 858, the latter Catalogue having the preference.
- No. 117. Lalande 2307 should have been named W. B. I. 135.
- No. 148. Groombridge 347 should have been named Piazzzi I. 121; in Column "No. in Piazzzi" insert I. 121.
- No. 186. 53 Cassiopeiae. Value of l , for $77^{\circ} 680$, read $76^{\circ} 680$.
- No. 267. Lalande 5346 should have been named W. B. II. 790.
- No. 281. Lalande 5655 should have been named W. B. II. 986.
- No. 406. Lalande 8202 should have been named W. B. (2) IV. 315-6.
- No. 506. 112 Tauri β . Mean North Polar Distance, 1872, January 1, for $61^{\circ} 30' 11'' 18$, read $61^{\circ} 30' 11'' 22$.
- No. 598. Lalande 11806 should have been named W. B. (2) VI. 132-3.
- No. 630. Star's name, for B. F. 897, read Groombridge 1178.
- No. 1018. Groombridge 1699 should have been named Piazzzi X. 170; in Column "No. in Piazzzi," insert X. 170.
- No. 1019. Groombridge 1700 should have been named Piazzzi X. 171; in Column "No. in Piazzzi," insert X. 171.
- No. 1038. Lalande 21272 should have been named W. B. (2) X. 1188.
- No. 1138. Bradley 1672. Mean North Polar Distance, 1872, January 1, for $1^{\circ} 35' 25'' 72$, read $1^{\circ} 35' 25'' 45$.
- No. 1329. 107 Virginis μ . Annual Precession in N. P. D., for $+16'' 568$, read $+15'' 568$.
- No. 1502. 15 Draconis A. Value of l , for $87^{\circ} 980$, read $97^{\circ} 980$.
- No. 1503. 32 Herculis. The characteristic of log. e' is defective; it should be 9.
- No. 1530. Lacaille 7015 is identical with Lalande 30599.
- No. 1633. Lacaille 7508 is identical with Lalande 32727.
- No. 1892. Lacaille 8433 is identical with Lalande 39173.

NEW SEVEN-YEAR CATALOGUE OF 2760 STARS FOR 1864.

The following is a complete list of all the Errata which have been discovered in this Catalogue. They have all been previously published, either with the Catalogue itself, or in one of the Annual Volumes of Greenwich Observations from 1869 to 1876.

- No. 45. 49 Piscium. Column "No. in Bessel's Bradley," for 33, read 39.
- No. 123. 26 Ceti. Column "No. in Bessel's Bradley," insert 116.
- No. 145. 43 Andromedæ β . Annual Precession in R.A., for $+3^{\circ} 222$, read $+3^{\circ} 322$.
- No. 153. 33 Ceti. Column "No. in Bessel's Bradley," insert 148.
- No. 185. Star's Name, for 64 Andromedæ ξ , read 46 Andromedæ ξ .
- No. 220. 102 Piscium π . Mean R.A., 1864, January 1, for $1^{\text{h}} 29^{\text{m}} 53^{\text{s}} 04$, read $1^{\text{h}} 29^{\text{m}} 53^{\text{s}} 54$.
- No. 245. γ^1 Arietis. Seconds of R.A., for $4^{\text{s}} 91$, read $4^{\text{s}} 61$.
- No. 246. γ^2 Arietis. Seconds of R.A., for $4^{\text{s}} 92$, read $4^{\text{s}} 62$.
- No. 288. 6 Persei. Mean N. P. D., 1864, January 1, for $39^{\circ} 34' 5'' 64$, read $39^{\circ} 34' 4'' 86$.
- No. 359. 37 Arietis α . Mean R.A., 1864, January 1, for $2^{\text{h}} 37^{\text{m}} 3^{\text{s}} 01$, read $2^{\text{h}} 37^{\text{m}} 3^{\text{s}} 51$.
- No. 375. For 47 Cephei, read Cephei 47 (Hev.).
- No. 430. Groombridge 642. Secular Variation of Precession in R.A., for $+18^{\circ} 8444$, read $3^{\circ} 1933$.
- No. 459. 14 Tauri. Mean R.A., 1864, January 1, for $3^{\text{h}} 33^{\text{m}} 55^{\text{s}} 61$, read $3^{\text{h}} 35^{\text{m}} 55^{\text{s}} 61$.
- No. 469. 24 Eridani. Mean R.A., 1864, January 1, for $3^{\text{h}} 36^{\text{m}} 36^{\text{s}} 02$, read $3^{\text{h}} 37^{\text{m}} 36^{\text{s}} 02$.
- No. 659. 13 Aurigæ α . Secular Variation of Precession in R.A., for $+0^{\circ} 0084$, read $+0^{\circ} 0175$.
- No. 668. 18 Aurigæ. Column "No. in Piazzzi," for V. 26, read V. 27.
- No. 675. 22 Aurigæ. Mean N. P. D., 1864, January 1, for $61^{\circ} 11' 37'' 91$, read $61^{\circ} 11' 47'' 91$.
- No. 725. Annual Proper Motion in N. P. D., for $+0'' 85$, read $+0'' 05$.
- No. 727. Piazzzi V. 146, for No. 227, read 727.
- No. 933. 5 Canis Minoris η . Column "No. in Bessel's Bradley," for 1081, read 1084.
- No. 1084. Star's Name, for 48 Cancri α , read 48 Cancri ι .
- No. 1145. W. B. IX. 234. Column "No. in Lalande," dele 18373 (B.A.).
- No. 1198. B. F. 1383. Column "No. in Lalande," dele 19157 (B.A.).
- No. 1217. Bradley 1393. Mean N. P. D., 1864, January 1, for $80^{\circ} 26' 26'' 53$, read $80^{\circ} 25' 26'' 53$.
- No. 1377. 82 Leonis. Annual Precession in N. P. D., for $+17'' 73$, read $+19'' 73$.
- No. 1423. Bradley 1610. For No. 2423, read 1423.
- No. 1448. 3 Comæ. Log. e' , for $8^{\circ} 89298$, read $9^{\circ} 89298$.
- No. 1457. 7 Comæ. Log. e' , for $8^{\circ} 89686$, read $9^{\circ} 89686$.
- No. 1503. 29 Virginis γ^2 . Annual Precession in N. P. D., for $+19'' 86$, read $+19'' 82$.
- No. 1519. 29 Comæ. Column "No. in Bessel's Bradley," insert 1710.
- No. 1541. 47 Virginis ϵ . Annual Variation in N. P. D., for $-19'' 47$, read $+19'' 47$. Secular Variation of Precession in N. P. D., for $+0'' 113$, read $-0'' 113$.
- No. 1562. 59 Virginis e . Mean N. P. D., 1864, January 1, for $79^{\circ} 52' 1'' 22$, read $79^{\circ} 51' 51'' 22$.
- No. 1584. Piazzzi XIII. 112. Column "No. in Lalande," insert 25010 (B.A.).
- No. 1743. Foot-note, for No. 1473, read No. 1743.
- No. 1874. 9 Ophiuchi ω . Mean N. P. D., 1864, January 1, for $110^{\circ} 10' 19'' 94$, read $111^{\circ} 10' 19'' 94$.
- No. 1974. Star's Name, for Oeltz. Arg. 17415, read Magnitude, for 9, read 10. Foot-note, for Oeltzen's Argelander, read Greenwich Observations.
- No. 2009. Foot-note, insert the word days after 165. 13.
- No. 2103. Column "Magnitude," insert 9; add foot-note, "The magnitude is taken from the Greenwich Observations."
- No. 2173. 48 Aquilæ ψ . Mean N. P. D., 1864, January 1, for $77^{\circ} 1' 17'' 48$, read $77^{\circ} 1' 16'' 73$.
- No. 2304. 43 Cygni ω^1 . Mean N. P. D., 1864, January 1, for $41^{\circ} 4' 59'' 12$, read $41^{\circ} 3' 59'' 12$.
- No. 2462. 7-yr. Cat. (1860), No. 1796. For No. 4262, read 2462.
- No. 2524. 17 Cephei ξ^1 . The corresponding numbers in Bradley, Piazzzi, Groombridge, and Pond belong to No. 2525.
- No. 2714. Bradley 3155. For No. 1714, read 2714.
- No. 2727. 21 Piscium. Mean N. P. D., 1864, January 1, for $89^{\circ} 39' 43'' 84$, read $89^{\circ} 40' 43'' 84$.

A D D E N D U M.

Before issuing this Catalogue to the public, it appeared desirable to compare it in N.P.D. with the two last preceding Greenwich Catalogues. The First Seven-Year Catalogue (1854–1860), and Second Seven-Year Catalogue (1861–1867), were first compared, and then the Second Seven-Year and the Nine-Year Catalogues. In the comparison all stars were included which had been observed at least twice in each of the two Catalogues, and the differences of N.P.D. were formed by reducing the places of the First Seven-Year (1860) or Nine-Year Catalogue (1872) to the Epoch of the Second Seven-Year Catalogue (1864), the proper motions given in the latter being used in the computation. The differences of N.P.D. were grouped for every 4° of N.P.D. and the means taken, equal weight being given to each star, irrespective of the number of observations. These means of groups were laid down on cross-ruled paper, and a curve drawn; the readings from which, together with the actual means of groups and the number of stars in each, are given in the table. In the case of the Nine-Year Catalogue the N.P.D.'s above and below Pole were separated, but this was not practicable for the other two Catalogues. Thus, for stars S.P., the differences given represent the Excess of the combined N.P.D. above and below the Pole, from the First or Second Seven-Year Catalogue, over the N.P.D. below the Pole only, from the Nine-Year Catalogue. The comparison of the First Seven-Year and the Nine-Year Catalogues has been made by simply adding together the curve-readings in the two preceding comparisons.

The differences between the Nine-Year and the other two Greenwich Catalogues are evidently systematic, and would appear to depend almost entirely on the change in the coefficient of Refraction, which was made at the beginning of 1868, on the authority of an investigation by Mr. Stone in the *Monthly Notices of the Royal Astronomical Society*, 1867, November 8. In this paper the Greenwich circumpolar observations for the period 1857–1865 were discussed, and in the case of southern stars a comparison was also made with the Melbourne Observations, 1863–1865. The result was that the refractions of Bessel's *Tabulæ Regiomontanæ*, which had been used up to that time unaltered as far as 82° Z.D., were diminished by the quantity $\cdot 00531 \times$ refraction throughout. On the authority of a discussion by Mr. Main in the *Memoirs of the Royal Astronomical Society*, vol. xxvi, of all observations of stars below Z.D. 70° made at Greenwich in the period 1836–1854, a diminution had already been made from the beginning of 1857 in the refractions below 82° Z.D. From Z.D. 82° to 85° the refractions of the *Tabulæ Regiomontanæ* were diminished by $\cdot 00230 \times$ refraction, and below Z.D. 85° those of the *Fundamenta*, diminished by $\cdot 00152 \times$ refraction, were used in lieu of Bessel's supplementary table. It will be remembered that the refractions of the *Fundamenta* are equivalent to those of the *Tabulæ* diminished by $\cdot 00327 \times$ refraction of the *Tabulæ*.

K 749. 800.—3/79. Wt. 16735. E. & S.

Some of the consequences of the change of refraction made in 1868 were not satisfactory; and in particular the results of the ecliptic investigation, which indicated that the mean of the observed N.P.D.'s of the Sun throughout the year was systematically too small. Better means for forming a decision have been presented by the publication of the Cape Catalogue for 1860 by Mr. Stone, and of the Melbourne Catalogue for 1870 by Mr. Ellery. These two Catalogues and the First Seven-Year have been recently compared together by Mr. Downing in the *Monthly Notices of the Royal Astronomical Society*, 1878 December, and 1879 January, and the result shows that the First Seven-Year Catalogue (1854–1860) formed with the old refractions of Bessel's *Tabulæ Regiomontanæ* (with Main's corrections below 82° Z.D. from the beginning of 1857) is in satisfactory accord with the Southern Catalogues. The comparison of these two Catalogues with the Nine-Year Catalogue, by the intermediary of the First Seven-Year Catalogue, is given in the table. It would seem from this that the new refractions do not represent the observations of southern stars, and it appears that the Latitude Investigation given in this Introduction for the period 1868–1876, whilst indicating the existence of considerable instrumental errors, does not lend any support to the diminution in the refractions adopted in 1868. Similar conclusions result from an examination of the observations of circumpolar stars for the periods 1840 to 1847 and 1851 to 1861.

It appears, therefore, that the N.P.D.'s of the present Nine-Year Catalogue ought to be modified by the corrections given in the last column but one of the table, in order to reduce them to the old refractions (Bessel's *Tabulæ Regiomontanæ* with Main's corrections below 82° Z.D.), and to the co-latitude $38^\circ. 31'. 21'' \cdot 90$ (which is the mean of those adopted in former Greenwich Catalogues). The systematic discordances, depending on causes other than the change in refraction and co-latitude, are not included in this table of corrections.

In the case of circumpolar stars the corrections above and below Pole should be combined with the weights which have been used in the formation of the result in the Nine-Year Catalogue. These weights may be inferred from the numbers of observations above and below Pole given in the Latitude Investigation, pp. 10–12 of this *Introduction*, remarking that for observations below Pole full weight is given as far as 15° N.P.D.; from 15° to 36° N.P.D., $\frac{2}{3}$ weight; from 36° to 41° N.P.D., $\frac{1}{2}$ weight; and below 41° N.P.D. the observations below Pole are not used.

The corrections in the table, as well as the readings from the curves, refer strictly to the N.P.D. given on the right-hand side. The mean N.P.D. of group is in some cases slightly different. The only cases in which this will have any appreciable effect are those of groups with large Z.D. The following are the mean N.P.D.'s of such groups:—

First and Second Seven-Year Catalogues— $111^\circ. 46'$, $115^\circ. 54'$, $119^\circ. 39'$, $122^\circ. 10'$, $124^\circ. 29'$; Second Seven-Year and Nine-Year Catalogues— $27^\circ. 47'$ S.P., $31^\circ. 58'$ S.P., $35^\circ. 55'$ S.P., $39^\circ. 34'$ S.P.; $111^\circ. 43'$, $115^\circ. 51'$, $119^\circ. 35'$, $121^\circ. 54'$, $124^\circ. 14'$.

DIFFERENCES in N.P.D. between the NINE-YEAR CATALOGUE and other CATALOGUES, and CORRECTIONS to the
N.P.D.'s of the NINE-YEAR CATALOGUE.

Group N.P.D.	No. of Stars.	First Seven-Year — { Second Seven-Year.		No. of Stars.	Second Seven-Year — { Nine-Year.		First Seven-Year — { Nine-Year.	Cape — { Nine-Year.	Mel- bourne — { Nine-Year.	Corrections. — Refraction and Co-latitude.	N.P.D.
		Means.	Curve.		Means.	Curve.					
0	0	"	"		"	"	"	"	"	"	0
41 — 38 S.P.				2	+1'09	+0'98	+ 1'06			+0'96	40 S.P.
38 — 34 S.P.				9	+0'18	+0'39	+ 0'75			+0'59	36 S.P.
34 — 30 S.P.				6	+0'25	+0'18	+ 0'63			+0'35	32 S.P.
30 — 26 S.P.				19	+0'06	+0'24	+ 0'69			+0'20	28 S.P.
26 — 22 S.P.				46	+0'47	+0'31	+ 0'73			+0'09	24 S.P.
22 — 18 S.P.				36	+0'21	+0'33	+ 0'69			0'00	20 S.P.
18 — 14 S.P.				31	+0'41	+0'30	+ 0'59			-0'07	16 S.P.
14 — 10 S.P.				26	+0'11	+0'10	+ 0'33			-0'13	12 S.P.
10 — 6 S.P.				14	-0'42	-0'20	- 0'08			-0'17	8 S.P.
6 — 2 S.P.				12	-0'03	-0'09	- 0'12			-0'21	3 ³ / ₄ S.P.
2 — 1 S.P.				2	+0'01	+0'11	+ 0'01			-0'24	1 ¹ / ₂ S.P.
1 — 2	3	-0'33	-0'10	3	+0'45	+0'33	+ 0'23			+0'26	1 ¹ / ₂
2 — 6	10	+0'07	-0'03	12	+0'43	+0'32	+ 0'29			+0'29	3 ³ / ₄
6 — 10	11	+0'19	+0'12	21	-0'05	+0'19	+ 0'31			+0'31	8
10 — 14	15	+0'50	+0'23	28	+0'30	+0'14	+ 0'37			+0'34	12
14 — 18	20	+0'05	+0'29	32	+0'15	+0'13	+ 0'42			+0'36	16
18 — 22	25	+0'27	+0'36	37	+0'10	+0'16	+ 0'52			+0'39	20
22 — 26	35	+0'22	+0'42	49	+0'22	+0'24	+ 0'66			+0'42	24
26 — 30	14	+0'45	+0'45	23	+0'36	+0'44	+ 0'89			+0'44	28
30 — 34	6	+0'48	+0'45	12	+0'89	+0'60	+ 1'c5			+0'47	32
34 — 38	6	+0'44	+0'36	13	+0'37	+0'67	+ 1'03			+0'49	36
38 — 42	11	+0'01	+0'08	9	+0'86	+0'66	+ 0'74			+0'51	40
42 — 46	8	-0'16	-0'16	19	+0'57	+0'62	+ 0'46			+0'52	44
46 — 50	19	-0'42	-0'25	28	+0'51	+0'52	+ 0'27	- 0'32	+ 0'93	+0'55	48
50 — 54	22	-0'07	-0'13	54	+0'48	+0'48	+ 0'35	- 0'22	+ 0'83	+0'57	52
54 — 58	21	+0'09	-0'01	45	+0'47	+0'50	+ 0'49	- 0'05	+ 0'65	+0'60	56
58 — 62	23	+0'01	+0'08	51	+0'60	+0'51	+ 0'59	+ 0'08	+ 0'43	+0'63	60
62 — 66	32	+0'12	+0'13	54	+0'45	+0'49	+ 0'62	+ 0'14	+ 0'19	+0'66	64
66 — 70	42	+0'25	+0'12	75	+0'47	+0'47	+ 0'59	+ 0'13	+ 0'03	+0'68	68
70 — 74	45	-0'04	+0'11	80	+0'42	+0'47	+ 0'58	+ 0'13	+ 0'01	+0'71	72
74 — 78	32	+0'03	+0'12	55	+0'57	+0'56	+ 0'68	+ 0'27	+ 0'21	+0'74	76
78 — 82	41	+0'37	+0'13	37	+0'71	+0'75	+ 0'88	+ 0'53	+ 0'56	+0'78	80
82 — 86	40	-0'02	+0'17	42	+1'05	+0'94	+ 1'11	+ 0'80	+ 0'84	+0'82	84
86 — 90	27	+0'21	+0'23	24	+1'01	+1'04	+ 1'27	+ 0'93	+ 0'76	+0'86	88
90 — 94	27	+0'20	+0'24	25	+1'08	+1'09	+ 1'33	+ 0'96	+ 0'82	+0'91	92
94 — 98	24	+0'34	+0'21	13	+1'15	+1'18	+ 1'39	+ 0'98	+ 0'81	+0'98	96
98 — 102	34	+0'12	+0'15	35	+1'44	+1'32	+ 1'47	+ 1'06	+ 0'84	+1'06	100
102 — 106	30	+0'04	+0'07	26	+1'37	+1'48	+ 1'55	+ 1'18	+ 0'91	+1'17	104
106 — 110	29	-0'10	+0'02	34	+1'72	+1'69	+ 1'71	+ 1'41	+ 1'15	+1'31	108
110 — 114	21	+0'03	+0'02	27	+1'89	+1'91	+ 1'93	+ 1'67	+ 1'37	+1'52	112
114 — 118	25	-0'19	+0'08	19	+2'33	+2'33	+ 2'41	+ 2'21	+ 1'78	+1'84	116
118 — 120 ¹ / ₂	30	+0'16	+0'21	21	+2'83	+2'92	+ 3'13	+ 3'00	+ 2'54	+2'45	120
120 ¹ / ₂ — 123 ¹ / ₂	14	+0'11	+0'27	19	+2'62	+2'62	+ 2'89	+ 2'76	+ 2'34	+1'90	122
123 ¹ / ₂ — 126	8	+0'55	+0'33	6	+0'59	+0'59	+ 0'92	+ 0'74	+ 0'37	+0'84	124

GREENWICH
NINE-YEAR CATALOGUE OF STARS,
FOR
1872;
FROM OBSERVATIONS
MADE AT THE
ROYAL OBSERVATORY, GREENWICH,
1868 to 1876.

GREENWICH NINE-YEAR CATALOGUE FOR 1872.

a

{ii}

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fra- tion of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
1	21 Andromedæ..... α	2*	h m s 0. 1.46.457	1871.7	62	+ 3.0778	+ 0.0182	+ 0.009	0.10577	0.07940	1.44836	0.09203	83.497
2	Piazzi XXIII. 282..	6-5†	0. 2. 9.545	1872.3	9	+ 3.0716	+ 0.0005	+ 0.006	0.10270	0.07941	1.44827	0.07795	84.714
3	Bradley 3217.....	7-8	0. 2. 18.560	1875.0	3	+ 3.1417	+ 0.1626	+ 0.057	0.19016	0.08045	1.44935	0.18835	68.833
4	11 Cassiopeiæ..... β	2-3*	0. 2.21.539	1873.1	9	+ 3.0947	+ 0.0514	+ 0.063	0.12301	0.07966	1.44862	0.11680	80.354
5	87 Pegasi	6*	0. 2.26.371	1875.9	2	+ 3.0767	+ 0.0115	+ 0.012	0.10377	0.07945	1.44835	0.08672	84.017
6	Piazzi 0. 1	6*	0. 3.45.671	1870.8	6	+ 3.0699	- 0.0010	+ 0.007	0.10278	0.07958	1.44824	0.07665	84.787
7	Bradley 3221.....	7	0. 3.52.072	1874.0	2	+ 3.1097	+ 0.0530	..	0.12362	0.07998	1.44886	0.11754	80.211
8	88 Pegasi γ	3-2*	0. 6.38.753	1871.4	64	+ 3.0822	+ 0.0100	0.000	0.10340	0.07990	1.44843	0.08536	84.102
9	89 Pegasi	5*	0. 7.58.895	1870.0	10	+ 3.0887	+ 0.0130	+ 0.008	0.10404	0.08007	1.44853	0.08764	83.876
10	Bradley 6	5-6	0. 9. 0.328	1872.4	12	+ 3.2865	+ 0.1411	..	0.17024	0.08314	1.45158	0.16788	71.985
11	Piazzi 0. 25	6†	0. 10. 5.374	1871.4	1	+ 3.1775	+ 0.0595	+ 0.019	0.12600	0.08136	1.44990	0.12033	79.640
12	24 Andromedæ θ	5-4*	0. 10.24.530	1873.1	4	+ 3.1195	+ 0.0265	- 0.008	0.10872	0.08055	1.44901	0.09760	82.751
13	Piazzi 0. 33	6-7	0. 11.13.302	1875.9	5	+ 3.0733	+ 0.0031	- 0.005	0.10265	0.08036	1.44829	0.07960	84.535
14	25 Andromedæ σ	4-5*	0. 11.38.695	1873.9	3	+ 3.1217	+ 0.0250	- 0.001	0.10802	0.08069	1.44904	0.09640	82.877
15	Radcliffe 56	8	0. 12.46.244	1868.8	1	+ 6.4461	+ 4.3223	..	‡..	..	..	..	..
16	8 Ceti..... ι	3-4*	0. 12.54.316	1871.6	41	+ 3.0596	- 0.0023	- 0.006	0.10295	0.08055	1.44808	0.07512	84.825
17	40 Piscium	6	0. 13.19.606	1872.9	4	+ 3.0938	+ 0.0111	0.000	0.10349	0.08064	1.44861	0.08583	83.997
18	Groombridge 48 ...	6	0. 13.46.470	1875.2	5	+ 3.2182	+ 0.0619	..	0.12646	0.08218	1.45053	0.12087	79.457
19	27 Andromedæ..... ρ	6*	0. 14.23.087	1870.0	6	+ 3.1360	+ 0.0263	+ 0.008	0.10843	0.08108	1.44926	0.09713	82.750
20	Bradley 18	7	0. 14.36.887	1874.2	4	+ 3.2740	+ 0.0826	..	0.13707	0.08311	1.45139	0.13278	77.579
21	12 Cassiopeiæ	6*	0. 17.44.760	1874.0	9	+ 3.2598	+ 0.0634	- 0.003	0.12633	0.08303	1.45117	0.12074	79.368
22	43 Piscium	6	0. 18. 0.674	1872.6	6	+ 3.0776	+ 0.0102	+ 0.002	0.10325	0.08112	1.44867	0.08496	84.038
23	44 Piscium	6†	0. 18.50.472	1872.7	19	+ 3.0746	+ 0.0036	- 0.002	0.10259	0.08115	1.44831	0.07970	84.478
24	Bradley 24	6	0. 18.58.517	1873.4	7	+ 3.6595	+ 0.2216	+ 0.014	0.19298	0.08984	1.45727	0.19126	67.044
25	Bradley 28	6-7†	0. 19.39.970	1868.7	5	+ 3.2417	+ 0.0518	..	0.12011	0.08286	1.45089	0.11335	80.434
26	10 Ceti	6-7†	0. 20. 3.508	1872.5	12	+ 3.0707	+ 0.0026	+ 0.005	0.10258	0.08129	1.44825	0.07886	84.531
27	Bradley 34	6-7	0. 22.44.921	1875.6	3	+ 3.6159	+ 0.1682	..	0.17039	0.08917	1.45661	0.16805	71.140
28	28 Andromedæ	6-5*	0. 23.22.340	1870.6	5	+ 3.1478	+ 0.0205	+ 0.003	0.10580	0.08198	1.44944	0.09231	83.212
29	12 Ceti	6†	0. 23.30.362	1871.2	38	+ 3.0611	+ 0.0008	- 0.002	0.10263	0.08166	1.44810	0.07722	84.626
30	13 Cassiopeiæ	6	0. 24. 4.597	1874.7	6	+ 3.3844	+ 0.0827	+ 0.037	0.13413	0.08531	1.45308	0.12957	77.776
31	Bradley 42	7	0. 25.42.763	1875.4	3	+ 3.4897	+ 0.1084	..	0.14495	0.08711	1.45469	0.14135	75.737
32	15 Cassiopeiæ..... κ	4-5*	0. 25.44.380	1873.4	9	+ 3.3566	+ 0.0701	- 0.001	0.12782	0.08495	1.45265	0.12249	78.871
33	51 Piscium	6*	0. 25.47.560	1876.5	2	+ 3.0886	+ 0.0066	+ 0.003	0.10266	0.08190	1.44853	0.08180	84.259
34	52 Piscium	6*	0. 25.52.961	1873.1	5	+ 3.1258	+ 0.0143	+ 0.012	0.10390	0.08206	1.44910	0.08762	83.704
35	Piazzi 0. 103	6-7	0. 26. 4.163	1874.9	3	+ 3.1514	+ 0.0196	..	0.10541	0.08226	1.44950	0.09151	83.273
36	Bradley 47	8	0. 26.57.905	1873.8	3	+ 3.1285	+ 0.0144	..	0.10392	0.08218	1.44915	0.08769	83.685
37	16 Cassiopeiæ	6-7†	0. 26.58.704	1872.2	8	+ 3.4257	+ 0.0854	- 0.001	0.13452	0.08611	1.45371	0.13002	77.604
38	13 Ceti	6-5*	0. 28.39.549	1870.1	14	+ 3.0597	+ 0.0013	+ 0.017	0.10255	0.08219	1.44808	0.07738	84.586
39	14 Ceti	6-7†	0. 28.58.617	1871.7	6	+ 3.0686	+ 0.0029	+ 0.009	0.10249	0.08222	1.44822	0.07867	84.488
40	17 Cassiopeiæ..... ζ	4*	0. 29.50.999	1871.1	15	+ 3.3042	+ 0.0491	+ 0.003	0.11739	0.08438	1.45185	0.11004	80.706

‡ For No. 15, log. e = 0.62509, log. f = 0.13617, log. g = 1.49757, log. h = 0.62501, l = - 72.815.

AT THE ROYAL OBSERVATORY, GREENWICH, FROM 1868 TO 1876.

{iii}

182860AMW. No.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fra- tion of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of l'	No. in Bessel's Bradley. 1755.	No. in Piazzi. 1800.	No. in Groom- bridge. 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
1	61. 36. 58.27	1872.2	64	-20.054	+0.012	+0.15	9.91487	9.86012	0.69426	0.08196	135.206	3215	XXIII. 281	..	4
2	92. 56. 5.21	1872.3	9	-20.054	+0.013	-0.01	9.88434	0.09732	0.69430	0.08256	123.395	..	XXIII. 282	..	5
3	10. 59. 47.93	1875.0	3	-20.054	+0.013	+0.08	0.05196	9.33927	0.69430	0.08283	140.173	3217	....	4241	6
4	31. 33. 22.03	1873.0	9	-20.054	+0.013	+0.19	9.99202	9.54140	0.69430	0.08290	140.565	3216	XXIII. 283	4240	7
5	72. 29. 58.07	1875.3	4	-20.053	+0.013	-0.02	9.89730	9.95392	0.69434	0.08300	131.581	3218	XXIII. 284	..	8
6	95. 57. 35.13	1870.8	6	-20.052	+0.016	+0.02	9.88463	0.11525	0.69446	0.08509	121.885	..	0. 1	..	17
7	31. 2. 19.48	1874.0	2	-20.052	+0.016	+0.03	9.99590	9.53561	0.69446	0.08519	140.298	3221	....	..	18
8	75. 31. 40.80	1870.5	37	-20.046	+0.022	+0.02	9.89603	9.97786	0.69495	0.08956	129.894	1	0. 9	..	26
9	70. 30. 18.33	1870.6	12	-20.042	+0.024	-0.02	9.90450	9.93771	0.69527	0.09161	131.455	3	0. 14	..	32
10	13. 45. 38.56	1873.4	32	-20.039	+0.027	+0.03	0.05492	9.36072	0.69555	0.09317	138.958	6	....	29	39
11	29. 10. 40.30	1871.4	1	-20.035	+0.029	+0.01	0.01149	9.51558	0.69592	0.09482	139.078	..	0. 25	31	46
12	52. 1. 44.44	1872.6	6	-20.034	+0.029	+0.03	9.94734	9.76747	0.69604	0.09530	136.125	9	0. 28	..	52
13	89. 1. 21.14	1875.9	5	-20.030	+0.031	+0.01	9.88480	0.07292	0.69632	0.09654	124.067	..	0. 33	..	57
14	53. 55. 27.17	1873.9	3	-20.029	+0.032	+0.04	9.94409	9.78660	0.69648	0.09720	135.488	12	0. 35	..	58
15	1. 15. 50.82	1868.8	1	-20.024	+0.061	..	0.09555	9.30491	0.69692	0.09888	136.438	..	....	..	..
16	99. 32. 0.04	1871.4	32	-20.023	+0.034	+0.06	9.88241	0.13525	0.69701	0.09908	119.416	14	0. 42	..	62
17	74. 27. 34.27	1873.6	6	-20.020	+0.035	+0.02	9.90173	9.96972	0.69721	0.09973	129.316	15	0. 43	..	63
18	28. 49. 51.74	1874.1	8	-20.018	+0.037	..	0.01845	9.51261	0.69737	0.10041	138.295	..	....	48	..
19	52. 44. 25.88	1871.4	15	-20.015	+0.037	+0.02	9.95071	9.77501	0.69769	0.10131	135.239	17	0. 46	..	67
20	22. 53. 14.22	1874.0	4	-20.014	+0.039	-0.02	0.03743	9.44804	0.69777	0.10166	138.159	18	....	..	68
21	28. 52. 42.17	1874.7	13	-19.994	+0.045	0.00	0.02453	9.51459	0.69949	0.10632	137.430	21	0. 58	60	80
22	76. 23. 38.54	1872.5	5	-19.993	+0.044	-0.02	9.90135	9.98479	0.69961	0.10671	127.968	22	0. 61	..	82
23	88. 46. 8.89	1873.4	14	-19.987	+0.045	+0.02	9.88536	0.07134	0.70013	0.10794	123.267	25	0. 64	..	87
24	10. 39. 24.92	1872.0	13	-19.986	+0.053	+0.03	0.07954	9.34361	0.70021	0.10811	136.376	24	....	..	86
25	34. 4. 4.33	1868.7	5	-19.981	+0.049	-0.02	0.01195	9.57364	0.70065	0.10914	136.769	28	....	..	92
26	90. 45. 30.43	1872.3	11	-19.977	+0.048	+0.03	9.88360	0.08398	0.70093	0.10973	122.331	29	0. 70	..	95
27	13. 41. 14.40	1874.8	13	-19.956	+0.061	+0.02	0.07678	9.36763	0.70279	0.11355	135.812	34	....	..	105
28	60. 57. 15.41	1872.4	21	-19.950	+0.055	+0.07	9.93957	9.85549	0.70327	0.11454	131.718	35	0. 86	..	109
29	94. 39. 52.20	1871.3	20	-19.949	+0.054	+0.01	9.88036	0.10753	0.70339	0.11475	120.375	38	0. 89	..	112
30	24. 11. 15.14	1874.5	5	-19.943	+0.060	0.00	0.04840	9.46659	0.70386	0.11557	136.042	37	0. 90	71	114
31	19. 43. 29.62	1875.4	3	-19.928	+0.066	-0.02	0.06404	9.42264	0.70516	0.11792	135.526	42	....	81	125
32	27. 46. 29.71	1874.1	15	-19.928	+0.064	-0.01	0.04021	9.50612	0.70516	0.11795	135.670	43	0. 99	85	126
33	83. 45. 5.47	1876.5	2	-19.928	+0.059	-0.07	9.89260	0.03815	0.70520	0.11802	124.289	44	0. 101	..	129
34	70. 24. 39.80	1872.7	7	-19.927	+0.060	+0.03	9.91855	9.93800	0.70527	0.11816	128.696	45	0. 102	..	130
35	62. 25. 36.94	1873.3	6	-19.925	+0.061	..	9.93847	9.86936	0.70547	0.11843	130.820	..	0. 103	..	..
36	70. 16. 21.77	1873.8	3	-19.916	+0.062	-0.08	9.91971	9.93685	0.70622	0.11971	128.568	47	....	..	133
37	23. 57. 21.49	1871.9	15	-19.915	+0.067	-0.01	0.05358	9.46602	0.70626	0.11974	135.367	46	0. 105	89	131
38	94. 17. 50.94	1870.1	14	-19.898	+0.064	+0.04	9.87961	0.10530	0.70778	0.12211	119.952	50	0. 117	..	145
39	91. 12. 32.15	1871.9	8	-19.894	+0.065	+0.14	9.88281	0.08674	0.70809	0.12258	121.105	51	0. 120	..	147
40	36. 48. 28.38	1870.6	14	-19.885	+0.071	+0.01	0.01874	9.60856	0.70886	0.12381	134.361	52	0. 123	102	153

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Celestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Media Stellarum Fixarum in Zonis Regionumantis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
41	29 Andromedæ π	4*	0.30. 2'956	1876.0	4	+ 3'1858	+ 0'0242	+ 0'004	0'10681	0'08293	1'45003	0'09446	82'872
42	53 Piscium.....	6*	0.30. 7'349	1873.3	5	+ 3'1176	+ 0'0115	- 0'002	0'10322	0'08243	1'44898	0'08534	83'899
43	Bradley 48	6	0.30. 12'440	1874.0	9	+ 4'2892	+ 0'3706	- 0'049	0'22075	0'10082	1'46670	0'21950	60'318
44	15 Ceti.....	6-7	0.31. 31'862	1875.4	2	+ 3'0683	+ 0'0031	- 0'004	0'10246	0'08248	1'44822	0'07868	84'472
45	30 Andromedæ ϵ	4*	0.31. 47'713	1873.4	27	+ 3'1731	+ 0'0208	- 0'018	0'10558	0'08296	1'44983	0'09203	83'150
46	Groombridge 113...	6†	0.32. 5'951	1868.8	4	+ 3'2843	+ 0'0419	..	0'11392	0'08426	1'45155	0'10552	81'332
47	31 Andromedæ δ	3-4*	0.32. 29'284	1874.9	3	+ 3'1819	+ 0'0221	+ 0'009	0'10596	0'08310	1'44997	0'09285	83'043
48	18 Cassiopeiæ α	Var.	0.33. 15'323	1870.9	44	+ 3'3570	+ 0'0553	+ 0'006	0'11974	0'08535	1'45266	0'11300	80'177
49	Lalande 1046.....	8	0.33. 44'037	1872.3	4	+ 3'1591	+ 0'0176	..	0'10453	0'08303	1'44962	0'08963	83'408
50	Groombridge 120...	6	0.34. 27'074	1873.5	6	+ 3'5104	+ 0'0868	..	0'13311	0'08779	1'45500	0'12850	77'614
51	Piazzi 0. 148	6-7†	0.34. 48'869	1871.9	5	+ 3'1620	+ 0'0177	+ 0'033	0'10452	0'08316	1'44966	0'08964	83'397
52	19 Cassiopeiæ ξ	6*	0.34. 56'105	1869.1	7	+ 3'3125	+ 0'0442	+ 0'004	0'11464	0'08483	1'45198	0'10653	81'130
53	Bradley 63	6-7†	0.35. 10'295	1875.1	3	+ 3'9999	+ 0'0612	..	0'12206	0'08609	1'45332	0'11582	79'685
54	Arg. Zone +40°. No. 149	9	0.36. 15'277	1868.8	4	+ 3'2508	+ 0'0318	..	0'10935	0'08414	1'45103	0'09893	82'200
55	20 Cassiopeiæ π	6*	0.36. 23'602	1869.7	7	+ 3'2937	+ 0'0392	- 0'001	0'11237	0'08468	1'45169	0'10344	81'561
56	16 Ceti..... β	2*	0.37. 9'783	1872.0	44	+ 2'9992	- 0'0055	+ 0'013	0'10362	0'08327	1'44715	0'07105	84'936
57	21 Cassiopeiæ	6*	0.37. 14'127	1876.2	6	+ 3'8409	+ 0'1608	- 0'009	0'15922	0'09336	1'46000	0'15648	72'481
58	22 Cassiopeiæ σ	5*	0.37. 36'011	1869.4	8	+ 3'3112	+ 0'0412	+ 0'002	0'11312	0'08498	1'45196	0'10449	81'386
59	23 Cassiopeiæ	6-5†	0.39. 15'866	1872.9	7	+ 3'8750	+ 0'1616	0'000	0'15853	0'09399	1'46052	0'15575	72'511
60	59 Piscium	6*	0.40. 27'947	1871.8	5	+ 3'1525	+ 0'0147	+ 0'007	0'10359	0'08364	1'44952	0'08723	83'612
61	34 Andromedæ ζ	4*	0.40. 33'407	1872.4	5	+ 3'1749	+ 0'0178	- 0'007	0'10435	0'08379	1'44986	0'08942	83'364
62	24 Cassiopeiæ..... η	4-3*	0.41. 22'156	1874.8	15	+ 3'4437	+ 0'0605	+ 0'132	0'12086	0'08709	1'45399	0'11445	79'756
63	Piazzi 0. 189	6*	0.41. 40'184	1873.9	5	+ 3'0917	+ 0'0066	+ 0'039	0'10236	0'08354	1'44858	0'08109	84'210
64	W.B. (2) 0. 1057 ..	7-8	0.41. 59'364	1873.6	3	+ 3'2798	+ 0'0326	..	0'10928	0'08492	1'45148	0'09894	82'116
65	63 Piscium..... δ	4-5*	0.42. 2'535	1873.0	28	+ 3'1017	+ 0'0078	+ 0'003	0'10245	0'08359	1'44873	0'08204	84'123
66	W.B. (2) 0. 1062 ..	7-8	0.42. 13'657	1872.9	4	+ 3'2806	+ 0'0325	..	0'10926	0'08495	1'45149	0'09890	82'117
67	35 Andromedæ ν	4-5*	0.42. 45'759	1873.9	3	+ 3'2832	+ 0'0326	- 0'003	0'10924	0'08502	1'45152	0'09889	82'112
68	Bradley 74	6	0.43. 3'446	1875.6	3	+ 5'1097	+ 0'5600	+ 0'037	0'24007	0'11471	1'47869	0'23906	54'510
69	Bradley 91	6-7†	0.44. 42'841	1873.4	3	+ 3'0844	+ 0'0058	0'000	0'10226	0'08384	1'44847	0'08029	84'260
70	W.B. 0. 775	8	0.45. 20'057	1876.9	1	+ 3'0876	+ 0'0061	..	0'10226	0'08390	1'44852	0'08057	84'234
71	Bradley 90	6*	0.45. 26'785	1873.9	7	+ 3'5363	+ 0'0714	- 0'011	0'12463	0'08871	1'45540	0'11897	78'903
72	20 Ceti.....	5-6*	0.46. 27'957	1873.3	25	+ 3'0636	+ 0'0035	- 0'004	0'10221	0'08402	1'44814	0'07842	84'407
73	Piazzi 0. 216	8	0.46. 44'052	1872.5	2	+ 3'0882	+ 0'0062	- 0'009	0'10223	0'08405	1'44852	0'08058	84'225
74	26 Cassiopeiæ ν^1	6-5*	0.47. 25'077	1875.5	3	+ 3'5165	+ 0'0653	- 0'011	0'12192	0'08851	1'45510	0'11580	79'388
75	66 Piscium	6*	0.47. 48'772	1872.0	5	+ 3'1648	+ 0'0149	+ 0'001	0'10338	0'08442	1'44971	0'08701	83'573
76	Groombridge 171...	5	0.47. 49'329	1869.1	9	+ 3'3795	+ 0'0433	..	0'11309	0'08659	1'45300	0'10462	81'183
77	36 Andromedæ.....	6	0.48. 7'048	1873.6	5	+ 3'1901	+ 0'0178	+ 0'011	0'10407	0'08461	1'45010	0'08905	83'336
78	27 Cassiopeiæ..... γ	2*	0.48. 59'941	1871.9	24	+ 3'5640	+ 0'0712	- 0'008	0'12398	0'08931	1'45582	0'11824	78'932
79	Bradley 65	6	0.49. 0'743	1875.5	3	+ 12'8412	+ 7'3963	+ 0'061	†..	..	..	..	..
80	28 Cassiopeiæ ν^2	6-5†	0.49. 3'370	1868.8	3	+ 3'5354	+ 0'0664	- 0'006	0'12209	0'08888	1'45538	0'11602	79'309

48. The limits of magnitude are 2.2 and 2.8; the period irregular.

† For No. 79, log. e = 0.53702, log. f = 0.22720, log. g = 1.57796, log. h = 0.53691, l = -49°.753.

1878 ADAMW. 386. 78A

	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of 1'	No. in Bessel's Bradley. 1755.	No. in Piazzi. 1800.	No. in Groom-bridge. 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
41	56. 59. 7.64	1875.6	10	-19.882	+0.069	0.00	9.95780	9.81941	0.70906	0.12409	131.411	53	0. 125	..	155
42	75. 28. 22.59	1873.2	6	-19.882	+0.068	+0.02	9.91004	9.97828	0.70913	0.12419	126.479	54	0. 126	..	156
43	8. 12. 48.63	1874.0	9	-19.881	+0.091	-0.08	0.10312	9.34012	0.70921	0.12431	133.401	48	....	100	154
44	91. 12. 26.24	1875.9	3	-19.865	+0.070	+0.02	9.88270	0.08663	0.71057	0.12618	120.807	55	0. 133	..	163
45	61. 23. 0.32	1872.6	10	-19.862	+0.073	+0.24	9.94709	9.86072	0.71080	0.12656	130.102	56	0. 134	..	164
46	41. 20. 56.61	1868.8	4	-19.858	+0.075	..	0.00779	9.65959	0.71111	0.12698	133.471	..	....	113	165
47	59. 50. 22.65	1874.3	13	-19.853	+0.074	+0.10	9.95226	9.84666	0.71154	0.12751	130.332	57	0. 136	..	166
48	34. 9. 53.74	1870.9	42	-19.844	+0.079	+0.04	0.03177	9.58126	0.71235	0.12858	133.768	59	0. 139	117	169
49	66. 5. 57.69	1872.3	4	-19.838	+0.076	..	9.93586	9.90267	0.71285	0.12925	128.590	..	....	..	..
50	24. 33. 17.66	1874.1	14	-19.829	+0.085	..	0.06292	9.47805	0.71362	0.13025	133.637	..	....	120	175
51	66. 4. 24.01	1871.9	7	-19.823	+0.078	-0.02	9.93692	9.90254	0.71404	0.13076	128.410	..	0. 148	..	178
52	40. 11. 23.26	1869.1	7	-19.822	+0.082	+0.05	0.01536	9.64824	0.71415	0.13092	132.969	62	0. 147	123	180
53	31. 56. 55.14	1875.1	3	-19.819	+0.084	-0.01	0.04143	9.55804	0.71443	0.13124	133.423	63	....	..	182
54	49. 41. 33.55	1868.8	4	-19.804	+0.083	..	9.98722	9.74920	0.71568	0.13274	131.519	..	....	..	..
55	43. 40. 33.70	1869.7	7	-19.802	+0.085	+0.03	0.00634	9.68657	0.71583	0.13295	132.293	67	0. 154	128	189
56	108. 41. 20.49	1870.7	20	-19.791	+0.079	-0.02	9.86764	0.18073	0.71675	0.13401	113.376	70	0. 159	..	196
57	15. 42. 42.88	1874.6	12	-19.790	+0.099	+0.07	0.09279	9.39808	0.71683	0.13410	132.497	66	0. 156	129	194
58	42. 24. 59.65	1869.4	8	-19.785	+0.087	-0.03	0.01195	9.67362	0.71724	0.13460	132.170	69	0. 160	132	198
59	15. 51. 7.36	1871.0	17	-19.761	+0.105	+0.04	0.09535	9.40158	0.71929	0.13687	132.010	72	0. 165	136	206
60	71. 7. 16.31	1872.4	7	-19.742	+0.089	-0.03	9.92758	9.94517	0.72079	0.13851	126.105	77	0. 180	..	214
61	66. 25. 46.48	1872.9	22	-19.741	+0.090	+0.11	9.94086	9.90657	0.72090	0.13862	127.310	78	0. 182	..	215
62	32. 51. 49.05	1874.8	13	-19.729	+0.099	+0.49	0.04739	9.57252	0.72192	0.13972	131.962	79	0. 185	146	218
63	85. 22. 39.82	1873.9	5	-19.724	+0.090	+1.18	9.89326	0.04955	0.72233	0.14013	121.574	..	0. 189	..	221
64	49. 33. 56.37	1873.6	3	-19.719	+0.096	..	9.99471	9.74997	0.72274	0.14058	130.350	..	....	..	..
65	83. 6. 42.70	1872.8	18	-19.718	+0.091	+0.05	9.89823	0.03429	0.72281	0.14065	122.268	85	0. 192	..	222
66	49. 36. 56.85	1872.9	4	-19.715	+0.096	..	9.99484	9.75055	0.72304	0.14089	130.297	..	....	..	..
67	49. 37. 6.42	1873.9	6	-19.706	+0.097	+0.01	9.99550	9.75077	0.72378	0.14161	130.183	87	0. 194	..	227
68	6. 59. 18.23	1873.9	4	-19.702	+0.148	+0.03	0.12470	9.35203	0.72416	0.14202	130.034	74	....	..	225
69	87. 18. 34.84	1873.4	3	-19.674	+0.096	+0.07	9.88969	0.06223	0.72642	0.14422	120.517	91	0. 207	..	237
70	86. 38. 8.18	1876.9	1	-19.663	+0.097	..	9.89115	0.05783	0.72726	0.14505	120.664	..	....	..	..
71	29. 34. 41.71	1874.2	8	-19.661	+0.110	-0.05	0.06337	9.54084	0.72744	0.14520	131.055	90	0. 209	158	239
72	91. 50. 22.20	1872.2	14	-19.644	+0.099	+0.01	9.88076	0.09039	0.72888	0.14655	118.756	93	0. 213	..	242
73	86. 36. 29.72	1872.5	2	-19.639	+0.100	+0.09	9.89148	0.05774	0.72924	0.14690	120.477	..	0. 216	..	243
74	31. 43. 13.56	1875.3	4	-19.627	+0.114	+0.09	0.05945	9.56524	0.73027	0.14781	130.560	94	0. 217	168	244
75	71. 30. 23.02	1872.6	7	-19.619	+0.104	-0.04	9.93156	9.94919	0.73082	0.14834	124.769	96	0. 221	..	247
76	42. 0. 56.50	1869.1	9	-19.620	+0.111	..	0.02669	9.67500	0.73082	0.14831	129.953	..	....	171	245
77	67. 3. 55.29	1873.4	7	-19.614	+0.105	+0.02	9.94527	9.91322	0.73125	0.14873	125.815	97	0. 223	..	250
78	29. 58. 36.69	1872.8	37	-19.598	+0.119	-0.02	0.06707	9.54845	0.73256	0.14989	130.199	99	0. 225	181	253
79	1. 39. 50.56	1875.5	3	-19.597	+0.406	+0.03	0.14600	9.34868	0.73260	0.14991	127.641	65	0. 177	144	240
80	31. 30. 39.19	1868.8	3	-19.597	+0.118	0.00	0.06232	9.56461	0.73264	0.14995	130.175	..	0. 226	183	254

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Celestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Medie Stellarum Fixarum in Zonis Regiomontanis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

{vi}

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
81	67 Piscium	6*	h m s 0.49. 5.640	1873.4	3	+ 3.2140	+ 0.0205	+ 0.007	0.10476	0.08488	1.45046	0.09079	83.115
82	37 Andromedæ	4*	0.49. 39.277	1871.6	35	+ 3.2952	+ 0.0304	+ 0.005	0.10802	0.08570	1.45171	0.09708	82.270
83	38 Andromedæ	5*	0.50. 22.461	1872.5	5	+ 3.1943	+ 0.0178	- 0.004	0.10399	0.08484	1.45016	0.08894	83.328
84	Groombridge 192....	6†	0.50. 26.382	1874.3	6	+ 3.7176	+ 0.0960	..	0.13287	0.09178	1.45815	0.12836	77.111
85	68 Piscium	6*	0.50. 54.791	1872.7	5	+ 3.2308	+ 0.0219	0.000	0.10512	0.08518	1.45072	0.09168	82.984
86	2 Ursæ Minoris	5	0.51. 40.005	1873.8	3	+ 6.9292	+ 1.3225	+ 0.066	0.30988	0.14392	1.50419	0.30934	34.867
87	Piazzi 0. 246	7	0.51. 41.142	1868.8	4	+ 3.1044	+ 0.0079	- 0.003	0.10222	0.08458	1.44877	0.08171	84.096
88	Bradley 107	6-7	0.53. 11.615	1872.5	5	+ 3.1034	+ 0.0078	+ 0.003	0.10217	0.08473	1.44876	0.08156	84.094
89	Bradley 95	6	0.55. 5.942	1875.3	3	+ 8.2213	+ 2.0450	- 0.171	0.35204	0.16353	1.52142	0.35167	21.287
90	70 Piscium	7-8	0.55. 27.594	1875.6	3	+ 3.1130	+ 0.0087	- 0.003	0.10218	0.08497	1.44891	0.08215	84.023
91	Groombridge 215....	6	0.55. 40.578	1874.3	7	+ 4.1707	+ 0.1743	..	0.15544	0.09936	1.46495	0.15261	72.283
92	Groombridge 219....	6-7†	0.55. 45.166	1874.7	6	+ 3.6386	+ 0.0745	..	0.12415	0.09078	1.45695	0.11854	78.703
93	69 Piscium	5*	0.55. 48.776	1873.3	6	+ 3.2668	+ 0.0246	- 0.002	0.10570	0.08593	1.45128	0.09309	82.745
94	71 Piscium	4*	0.56. 18.053	1872.2	108	+ 3.1133	+ 0.0087	- 0.002	0.10215	0.08506	1.44891	0.08212	84.022
95	26 Ceti	6-7†	0.57. 13.766	1874.7	4	+ 3.0761	+ 0.0054	+ 0.006	0.10196	0.08511	1.44834	0.07946	84.263
96	73 Piscium	6-7†	0.58. 14.789	1872.5	3	+ 3.1014	+ 0.0076	+ 0.006	0.10201	0.08523	1.44873	0.08120	84.098
97	Groombridge 234 ..	6-7†	0.58. 19.620	1876.1	6	+ 3.7072	+ 0.0819	..	0.12640	0.09197	1.45799	0.12116	78.164
98	72 Piscium	6*	0.58. 20.062	1872.3	5	+ 3.1577	+ 0.0128	+ 0.004	0.10264	0.08541	1.44960	0.08507	83.704
99	Bradley 109	6	0.58. 22.269	1874.9	6	+ 4.8595	+ 0.3364	..	0.18994	0.11084	1.47510	0.18823	64.620
100	76 Piscium	6-7	0.59. 9.060	1872.7	3	+ 3.2813	+ 0.0251	+ 0.007	0.10571	0.08634	1.45150	0.09325	82.685
101	77 Piscium	6*	0.59. 11.941	1872.7	6	+ 3.0974	+ 0.0073	+ 0.004	0.10196	0.08532	1.44867	0.08090	84.122
102	Bradley 125	8	0.59. 14.131	1871.4	4	+ 3.0975	+ 0.0073	+ 0.004	0.10196	0.08532	1.44867	0.08090	84.122
103	30 Cassiopeiæ	6*	0.59. 46.205	1873.4	6	+ 3.5518	+ 0.0576	+ 0.386	0.11740	0.08971	1.45564	0.11047	80.000
104	75 Piscium	6*	0.59. 49.712	1875.8	1	+ 3.1472	+ 0.0117	+ 0.004	0.10241	0.08551	1.44944	0.08422	83.785
105	Bradley 117	6	1. 1. 18.171	1874.6	2	+ 4.8886	+ 0.3274	+ 0.034	0.18653	0.11134	1.47549	0.18477	65.160
106	80 Piscium	6-5*	1. 1. 46.627	1873.1	3	+ 3.1032	+ 0.0078	- 0.021	0.10192	0.08559	1.44876	0.08120	84.077
107	31 Cassiopeiæ	6*	1. 2. 1.561	1873.3	3	+ 3.9611	+ 0.1179	+ 0.008	0.13742	0.09614	1.46182	0.13348	75.751
108	31 Ceti	3*	1. 2. 9.058	1871.9	3	+ 3.0035	0.0000	+ 0.017	0.10223	0.08572	1.44721	0.07470	84.614
109	43 Andromedæ	2-3*	1. 2. 34.239	1872.9	61	+ 3.3241	+ 0.0286	+ 0.015	0.10664	0.08705	1.45215	0.09511	82.384
110	81 Piscium	6*	1. 2. 58.725	1874.9	3	+ 3.1970	+ 0.0159	+ 0.009	0.10307	0.08605	1.45020	0.08709	83.439
111	33 Ceti	6-7†	1. 3. 58.367	1871.4	10	+ 3.0835	+ 0.0062	- 0.003	0.10179	0.08578	1.44845	0.07990	84.188
112	83 Piscium	4*	1. 4. 36.889	1875.6	3	+ 3.2819	+ 0.0237	+ 0.008	0.10500	0.08682	1.45151	0.09206	82.789
113	Bradley 137	6-7	1. 5. 16.957	1868.8	2	+ 5.0472	+ 0.3492	- 0.014	0.18822	0.11404	1.47782	0.18653	64.461
114	86 Piscium	5-4*	1. 7. 2.670	1873.0	17	+ 3.1188	+ 0.0090	+ 0.008	0.10185	0.08613	1.44900	0.08197	83.973
115	Piscium	5-4*	1. 7. 4.093	1870.1	3	+ 3.1189	+ 0.0090	+ 0.007	0.10185	0.08613	1.44900	0.08197	83.973
116	38 Ceti	6*	1. 8. 17.109	1871.0	3	+ 3.0608	+ 0.0047	- 0.006	0.10167	0.08621	1.44810	0.07851	84.290
117	Lalande 2307	9	1. 10. 30.416	1874.7	2	+ 3.1430	+ 0.0108	..	0.10192	0.08654	1.44937	0.08318	83.825
118	....	10	1. 10. 33.549	1868.9	1	+ 3.1307	+ 0.0099	..	0.10182	0.08651	1.44918	0.08249	83.898
119	89 Piscium	5-6*	1. 11. 11.824	1872.6	10	+ 3.0932	+ 0.0072	- 0.005	0.10160	0.08651	1.44860	0.08036	84.106
120	1 Ursæ Minoris ...	2*	1. 11. 57.360	1872.6	971	+ 20.2941	+ 14.4700	+ 0.065	† ..	..	..	..	..

118. The magnitude is taken from the Greenwich Observations, 1868.

† For No. 120, log. e = 0.58498, log. f = 0.31366, log. g = 1.65603, log. h = 0.58489, l = - 88.094.

1868 GOAMM. No.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fra- tion of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of l'	No. in Bessel's Bradley. 1755.	No. in Piazzi. 1800.	No. in Groom- bridge. 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
81	63. 29. 5'71	1873'4	3	-19'596	+0'108	-0'08	9'95742	9'88295	0'73271	0'15002	126'441	100	0. 228	..	256
82	52. 11. 43'24	1871'2	33	-19'586	+0'112	-0'05	9'99520	9'77918	0'73354	0'15074	128'368	101	0. 232	..	259
83	67. 16. 26'41	1872'9	7	-19'572	+0'110	+0'06	9'94645	9'91532	0'73462	0'15168	125'366	104	0. 238	..	264
84	24. 20. 25'31	1873'3	10	-19'570	+0'127	..	0'08643	9'49251	0'73476	0'15179	129'750	..	....	192	261
85	61. 42. 0'18	1872'7	5	-19'561	+0'112	+0'01	9'96497	9'86780	0'73548	0'15240	126'463	105	0. 241	..	267
86	4. 25. 50'67	1873'8	3	-19'547	+0'234	0'00	0'14282	9'35834	0'73663	0'15336	127'428	92	0. 220	177	262
87	83. 50. 51'54	1868'8	4	-19'547	+0'110	+0'12	9'89905	0'03964	0'73667	0'15339	120'662	..	0. 246	..	270
88	84. 12. 27'39	1872'5	5	-19'516	+0'113	+0'04	9'89845	0'04204	0'73907	0'15535	120'340	107	0. 252	..	274
89	3. 32. 16'13	1874'7	4	-19'477	+0'294	-0'02	0'14950	9'36291	0'74214	0'15779	126'381	95	0. 234	195	273
90	82. 45. 0'54	1875'6	3	-19'470	+0'117	-0'17	9'90298	0'03241	0'74271	0'15826	120'440	110	0. 260	..	281
91	16. 18. 57'49	1871'9	12	-19'466	+0'155	..	0'11691	9'42884	0'74306	0'15852	127'912	..	....	215	280
92	29. 36. 48'93	1875'0	6	-19'464	+0'136	..	0'07733	9'55173	0'74317	0'15860	128'558	..	....	219	282
93	58. 53. 0'32	1874'7	13	-19'463	+0'123	0'00	9'97900	9'84414	0'74331	0'15871	126'045	111	0. 261	..	285
94	82. 47. 57'81	1871'8	35	-19'453	+0'119	0'00	9'90309	0'03279	0'74406	0'15932	120'304	113	0. 264	..	288
95	89. 19. 10'31	1874'7	4	-19'433	+0'119	+0'07	9'88593	0'07498	0'74565	0'16051	118'205	116	0. 270	..	295
96	85. 1. 48'99	1872'5	3	-19'410	+0'122	+0'02	9'89735	0'04774	0'74739	0'16179	119'364	120	0. 273	..	303
97	27. 55. 26'04	1876'0	6	-19'409	+0'145	..	0'08611	9'53758	0'74750	0'16188	127'895	..	....	234	302
98	75. 44. 34'20	1872'3	5	-19'408	+0'124	-0'05	9'92500	9'98307	0'74754	0'16191	121'916	119	0. 274	..	305
99	10. 40. 19'83	1873'9	9	-19'408	+0'187	+0'08	0'13587	9'39618	0'74760	0'16194	126'583	109	....	230	300
100	58. 30. 13'79	1873'6	5	-19'390	+0'130	-0'01	9'98381	9'84187	0'74895	0'16293	125'432	123	0. 278	..	310
101	85. 46. 24'54	1872'7	6	-19'389	+0'124	+0'11	9'89553	0'05255	0'74905	0'16301	119'009	124	0. 280	..	311
102	85. 46. 20'31	1871'4	4	-19'388	+0'124	+0'13	9'89553	0'05255	0'74909	0'16304	119'005	125	0. 281	..	312
103	35. 42. 30'10	1873'7	6	-19'376	+0'142	+1'56	0'06303	9'61845	0'75002	0'16371	127'516	118	0. 277	237	314
104	77. 43. 49'51	1875'8	1	-19'375	+0'127	-0'08	9'91950	9'99771	0'75012	0'16379	121'158	127	0. 287	..	316
105	11. 0. 31'03	1874'6	2	-19'341	+0'197	+0'03	0'13878	9'40367	0'75270	0'16563	125'857	117	0. 283	242	320
106	85. 1. 39'99	1873'1	3	-19'330	+0'129	+0'19	9'89807	0'04788	0'75352	0'16621	118'857	136	0. 299	..	328
107	21. 54. 11'75	1872'7	7	-19'325	+0'163	+0'01	0'10931	9'48563	0'75400	0'16652	126'703	130	0. 293	248	327
108	100. 51. 39'96	1871'9	3	-19'321	+0'126	+0'12	9'85938	0'14040	0'75423	0'16669	113'863	141	0. 300	..	332
109	55. 3. 30'81	1872'3	30	-19'312	+0'139	+0'09	9'99944	9'81197	0'75498	0'16721	125'250	140	0. 301	..	334
110	71. 1. 29'65	1874'9	3	-19'302	+0'135	0'00	9'94345	9'94801	0'75573	0'16772	122'251	144	0. 308	..	336
111	88. 14. 9'61	1871'6	9	-19'278	+0'132	+0'02	9'88919	0'06832	0'75755	0'16894	117'617	148	I. 3	..	344
112	60. 35. 25'93	1875'6	3	-19'263	+0'142	+0'03	9'98168	9'86227	0'75869	0'16974	123'985	149	I. 5	..	349
113	10. 46. 15'50	1868'8	2	-19'246	+0'215	-0'03	0'14457	9'41023	0'75993	0'17056	124'767	137	0. 309	261	350
114	83. 6. 6'64	1873'8	13	-19'202	+0'140	+0'07	9'90520	0'03542	0'76326	0'17272	118'611	158	I. 16	..	368
115	83. 5. 56'31	1870'1	3	-19'202	+0'140	+0'07	9'90520	0'03542	0'76330	0'17274	118'603	159	I. 17	..	369
116	91. 39. 32'49	1871'0	3	-19'171	+0'139	-0'21	9'87955	0'08913	0'76561	0'17422	116'026	165	I. 25	..	374
117	80. 4. 44'13	1874'7	2	-19'113	+0'147	..	9'91635	0'01530	0'76989	0'17690	118'850	..	....	..	..
118	81. 47. 11'96	1868'9	1	-19'112	+0'147	..	9'91052	0'02686	0'76999	0'17696	118'419	..	....	..	..
119	87. 3. 36'02	1872'9	9	-19'095	+0'146	+0'02	9'89337	0'06118	0'77125	0'17774	116'930	171	I. 36	..	388
120	1. 22. 23'33	1872'5	1339	-19'074	+0'922	0'00	0'17560	9'39644	0'77273	0'17864	121'482	102	0. 263	235	360

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Coelestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weiss's two Catalogues, *Positiones Mediae Stellarum Fixarum in Zonis Regiomontanis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Frac- tion of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or R.A.C.	Logarithms of				Value of l
									e	f	g	h	
121	90 Piscium ν	4*	1. 12. 26 ^o 85	1870 ^o 6	3	+ 3 ^o 2802	+ 0 ^o 0218	+ 0 ^o 002	0 ^o 10409	0 ^o 08749	1 ^o 45148	0 ^o 09051	82 ^o 921
122	42 Ceti	6*	1. 13. 15 ^o 636	1869 ^o 1	6	+ 3 ^o 0635	+ 0 ^o 0052	0 ^o 000	0 ^o 10151	0 ^o 08670	1 ^o 44814	0 ^o 07871	84 ^o 250
123	46 Andromedæ ξ	5*	1. 14. 48 ^o 742	1870 ^o 9	4	+ 3 ^o 4987	+ 0 ^o 0416	+ 0 ^o 002	0 ^o 11028	0 ^o 08997	1 ^o 45482	0 ^o 10134	81 ^o 250
124	36 Cassiopeiæ ψ	5*	1. 16. 55 ^o 234	1876 ^o 9	1	+ 4 ^o 1332	+ 0 ^o 1204	+ 0 ^o 005	0 ^o 13489	0 ^o 09944	1 ^o 46439	0 ^o 13088	75 ^o 709
125	37 Cassiopeiæ δ	3*	1. 17. 27 ^o 581	1875 ^o 2	4	+ 3 ^o 8270	+ 0 ^o 0772	+ 0 ^o 042	0 ^o 12194	0 ^o 09470	1 ^o 45980	0 ^o 11630	78 ^o 536
126	45 Ceti θ	3*	1. 17. 37 ^o 519	1871 ^o 5	19	+ 3 ^o 0031	+ 0 ^o 0018	- 0 ^o 007	0 ^o 10163	0 ^o 08722	1 ^o 44720	0 ^o 07562	84 ^o 491
127	93 Piscium ρ	5*	1. 19. 21 ^o 456	1875 ^o 6	4	+ 3 ^o 2241	+ 0 ^o 0163	- 0 ^o 006	0 ^o 10248	0 ^o 08773	1 ^o 45062	0 ^o 08671	83 ^o 357
128	Bradley 187	7	1. 19. 27 ^o 909	1876 ^o 2	3	+ 3 ^o 2322	+ 0 ^o 0169	+ 0 ^o 009	0 ^o 10260	0 ^o 08779	1 ^o 45074	0 ^o 08710	83 ^o 307
129	94 Piscium	6-7†	1. 19. 47 ^o 071	1875 ^o 2	3	+ 3 ^o 2255	+ 0 ^o 0164	+ 0 ^o 001	0 ^o 10248	0 ^o 08778	1 ^o 45064	0 ^o 08674	83 ^o 350
130	38 Cassiopeiæ A	6*	1. 21. 44 ^o 326	1872 ^o 3	9	+ 4 ^o 3276	+ 0 ^o 1424	+ 0 ^o 027	0 ^o 13963	0 ^o 10270	1 ^o 46727	0 ^o 13608	74 ^o 460
131	Piazzi I. 90	6-7	1. 22. 20 ^o 525	1874 ^o 0	2	+ 3 ^o 2875	+ 0 ^o 0207	..	0 ^o 10334	0 ^o 08841	1 ^o 45160	0 ^o 08941	82 ^o 980
132	96 Piscium	6-7†	1. 22. 22 ^o 270	1874 ^o 1	7	+ 3 ^o 1269	+ 0 ^o 0095	+ 0 ^o 001	0 ^o 10135	0 ^o 08764	1 ^o 44912	0 ^o 08180	83 ^o 906
133	49 Andromedæ A	6*	1. 22. 26 ^o 093	1868 ^o 9	2	+ 3 ^o 5654	+ 0 ^o 0447	+ 0 ^o 002	0 ^o 11072	0 ^o 09131	1 ^o 45584	0 ^o 10224	80 ^o 976
134	Bradley 193	7	1. 23. 6 ^o 234	1874 ^o 6	3	+ 4 ^o 3311	+ 0 ^o 1407	+ 0 ^o 025	0 ^o 13890	0 ^o 10281	1 ^o 46734	0 ^o 13531	74 ^o 564
135	Piazzi I. 88	6	1. 23. 9 ^o 820	1871 ^o 3	1	+ 4 ^o 2322	+ 0 ^o 1255	+ 0 ^o 032	0 ^o 13500	0 ^o 10123	1 ^o 46586	0 ^o 13108	75 ^o 437
136	98 Piscium μ	5*	1. 23. 28 ^o 717	1871 ^o 3	19	+ 3 ^o 1179	+ 0 ^o 0090	+ 0 ^o 019	0 ^o 10126	0 ^o 08773	1 ^o 44898	0 ^o 08134	83 ^o 949
137	Groombridge 329	6	1. 24. 2 ^o 120	1875 ^o 0	3	+ 4 ^o 0102	+ 0 ^o 0937	..	0 ^o 12606	0 ^o 09778	1 ^o 46255	0 ^o 12116	77 ^o 410
138	99 Piscium η	4-3*	1. 24. 38 ^o 166	1872 ^o 6	80	+ 3 ^o 1987	+ 0 ^o 0141	0 ^o 000	0 ^o 10184	0 ^o 08810	1 ^o 45023	0 ^o 08504	83 ^o 526
139	Piazzi I. 107	6-7†	1. 26. 35 ^o 728	1876 ^o 9	4	+ 3 ^o 1376	+ 0 ^o 0102	- 0 ^o 008	0 ^o 10124	0 ^o 08807	1 ^o 44929	0 ^o 08215	83 ^o 846
140	Piazzi I. 104	6*	1. 26. 53 ^o 595	1872 ^o 7	5	+ 3 ^o 4395	+ 0 ^o 0317	+ 0 ^o 006	0 ^o 10623	0 ^o 09016	1 ^o 45392	0 ^o 09551	82 ^o 028
141	Piazzi I. 110	6-7†	1. 27. 53 ^o 615	1872 ^o 4	5	+ 3 ^o 2329	+ 0 ^o 0162	+ 0 ^o 017	0 ^o 10207	0 ^o 08857	1 ^o 45075	0 ^o 08630	83 ^o 345
142	Piazzi I. 114	7-5	1. 28. 9 ^o 929	1875 ^o 6	3	+ 3 ^o 1393	+ 0 ^o 0103	- 0 ^o 008	0 ^o 10118	0 ^o 08822	1 ^o 44931	0 ^o 08216	83 ^o 837
143	40 Cassiopeiæ	6*	1. 28. 19 ^o 920	1874 ^o 2	11	+ 4 ^o 6554	+ 0 ^o 1828	- 0 ^o 010	0 ^o 14741	0 ^o 10817	1 ^o 47210	0 ^o 14443	72 ^o 377
144	Bradley 207	6	1. 28. 38 ^o 373	1869 ^o 0	2	+ 3 ^o 6336	+ 0 ^o 0483	- 0 ^o 006	0 ^o 11139	0 ^o 09259	1 ^o 45687	0 ^o 10337	80 ^o 672
145	Bradley 205	7	1. 29. 4 ^o 613	1868 ^o 9	2	+ 5 ^o 3233	+ 0 ^o 3084	+ 0 ^o 007	0 ^o 17055	0 ^o 11894	1 ^o 48178	0 ^o 16853	66 ^o 858
146	50 Andromedæ	4-5*	1. 29. 17 ^o 491	1874 ^o 2	5	+ 3 ^o 5100	+ 0 ^o 0369	- 0 ^o 016	0 ^o 10770	0 ^o 09111	1 ^o 45500	0 ^o 09801	81 ^o 588
147	Piazzi I. 123	6-7	1. 29. 21 ^o 037	1870 ^o 6	6	+ 3 ^o 1345	+ 0 ^o 0100	+ 0 ^o 001	0 ^o 10110	0 ^o 08832	1 ^o 44924	0 ^o 08191	83 ^o 859
148	Groombridge 347	7	1. 29. 53 ^o 352	1869 ^o 8	10	+ 3 ^o 6349	+ 0 ^o 0478	..	0 ^o 11115	0 ^o 09269	1 ^o 45690	0 ^o 10307	80 ^o 702
149	51 Andromedæ	4-3*	1. 30. 8 ^o 742	1870 ^o 1	6	+ 3 ^o 6409	+ 0 ^o 0482	+ 0 ^o 006	0 ^o 11127	0 ^o 09278	1 ^o 45699	0 ^o 10324	80 ^o 667
150	102 Piscium π	6*	1. 30. 18 ^o 924	1875 ^o 7	3	+ 3 ^o 1765	+ 0 ^o 0124	- 0 ^o 007	0 ^o 10134	0 ^o 08853	1 ^o 44989	0 ^o 08368	83 ^o 653
151	104 Piscium	6-7	1. 32. 24 ^o 056	1876 ^o 8	1	+ 3 ^o 1995	+ 0 ^o 0138	+ 0 ^o 008	0 ^o 10144	0 ^o 08882	1 ^o 45024	0 ^o 08453	83 ^o 538
152	105 Piscium	6*	1. 32. 46 ^o 616	1872 ^o 3	5	+ 3 ^o 2208	+ 0 ^o 0150	+ 0 ^o 003	0 ^o 10164	0 ^o 08895	1 ^o 45057	0 ^o 08540	83 ^o 428
153	43 Cassiopeiæ ω	6*	1. 32. 53 ^o 429	1873 ^o 8	8	+ 4 ^o 3382	+ 0 ^o 1264	- 0 ^o 001	0 ^o 13336	0 ^o 10326	1 ^o 46744	0 ^o 12943	75 ^o 418
154	53 Andromedæ τ	5*	1. 33. 1 ^o 906	1870 ^o 4	5	+ 3 ^o 5141	+ 0 ^o 0360	+ 0 ^o 011	0 ^o 10716	0 ^o 09143	1 ^o 45506	0 ^o 09736	81 ^o 647
155	42 Cassiopeiæ	6*	1. 33. 2 ^o 334	1873 ^o 8	9	+ 4 ^o 5207	+ 0 ^o 1522	+ 0 ^o 022	0 ^o 13950	0 ^o 10614	1 ^o 47012	0 ^o 13608	73 ^o 985
156	Piazzi I. 139	7	1. 33. 58 ^o 934	1875 ^o 9	3	+ 3 ^o 9917	+ 0 ^o 0818	+ 0 ^o 028	0 ^o 12120	0 ^o 09795	1 ^o 46227	0 ^o 11577	78 ^o 200
157	Piazzi I. 142	6*	1. 33. 59 ^o 992	1869 ^o 7	5	+ 3 ^o 5517	+ 0 ^o 0388	+ 0 ^o 080	0 ^o 10796	0 ^o 09194	1 ^o 45563	0 ^o 09864	81 ^o 414
158	W.B. (2) I. 774	6†	1. 34. 39 ^o 952	1875 ^o 9	3	+ 3 ^o 4424	+ 0 ^o 0299	..	0 ^o 10523	0 ^o 09079	1 ^o 45397	0 ^o 09417	82 ^o 149
159	44 Cassiopeiæ	6*	1. 34. 40 ^o 989	1875 ^o 5	6	+ 3 ^o 9984	+ 0 ^o 0819	+ 0 ^o 027	0 ^o 12116	0 ^o 09807	1 ^o 46237	0 ^o 11573	78 ^o 189
160	106 Piscium ν	5-4*	1. 34. 46 ^o 256	1872 ^o 6	101	+ 3 ^o 1177	+ 0 ^o 0091	- 0 ^o 004	0 ^o 10081	0 ^o 08881	1 ^o 44898	0 ^o 08104	83 ^o 925

1876-1877: 386-78A

No.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of ι'	No. in Bessel's Bradley. 1755.	No. in Piazz. 1800.	No. in Groombridge. 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
121	63. 24. 34.93	1870.6	3	-19.061	+0.157	-0.05	9.97823	9.88911	0.77370	0.17921	121.959	173	I. 41	..	395
122	91. 10. 52.74	1869.1	6	-19.039	+0.149	+0.01	9.88064	0.08622	0.77533	0.18018	115.509	175	I. 47	..	400
123	45. 8. 33.90	1871.8	3	-18.996	+0.172	+0.01	0.04864	9.72588	0.77845	0.18202	123.518	177	I. 51	300	404
124	22. 32. 20.35	1872.9	3	-18.935	+0.207	-0.02	0.12643	9.51574	0.78282	0.18450	122.843	178	I. 53	303	412
125	30. 25. 50.47	1875.2	4	-18.920	+0.193	+0.05	0.10247	9.58723	0.78394	0.18515	123.096	180	I. 62	305	416
126	98. 50. 39.39	1871.2	9	-18.915	+0.154	+0.22	9.85745	0.12876	0.78428	0.18535	112.757	184	I. 67	..	420
127	71. 29. 40.31	1875.6	4	-18.864	+0.168	-0.02	9.95240	9.95498	0.78787	0.18734	119.210	185	I. 72	..	427
128	70. 35. 39.82	1876.2	3	-18.861	+0.168	+0.01	9.95607	9.94822	0.78811	0.18748	119.352	187	I. 73	..	430
129	71. 25. 25.13	1875.2	3	-18.852	+0.169	+0.05	9.95299	9.95445	0.78876	0.18784	119.148	189	I. 77	..	431
130	20. 23. 43.03	1871.4	10	-18.793	+0.229	+0.08	0.13862	9.50743	0.79290	0.19008	121.381	188	I. 80	318	438
131	65. 23. 17.36	1874.0	2	-18.774	+0.177	..	9.97859	9.90851	0.79420	0.19077	119.691	..	I. 90	..	..
132	83. 22. 2.58	1874.1	7	-18.773	+0.169	+0.04	9.90827	0.03817	0.79427	0.19081	116.198	197	I. 91	..	442
133	43. 39. 13.57	1868.9	2	-18.771	+0.191	+0.03	0.06266	9.71828	0.79442	0.19089	121.777	196	I. 89	324	441
134	20. 38. 27.40	1874.8	3	-18.750	+0.232	+0.02	0.13956	9.51188	0.79586	0.19165	121.032	193	I. 86	323	443
135	22. 15. 0.58	1871.0	3	-18.748	+0.227	+0.08	0.13519	9.52469	0.79601	0.19173	121.125	..	I. 88	325	444
136	84. 30. 59.42	1871.3	20	-18.738	+0.170	+0.18	9.90423	0.04560	0.79670	0.19208	115.759	199	I. 95	..	448
137	27. 3. 59.03	1875.3	3	-18.721	+0.218	..	0.12116	9.56669	0.79786	0.19271	121.240	..	....	329	450
138	75. 18. 53.18	1873.3	33	-18.703	+0.176	0.00	9.94042	9.98390	0.79917	0.19340	117.533	203	I. 98	..	453
139	82. 26. 54.46	1876.9	4	-18.640	+0.177	+0.04	9.91297	0.03257	0.80345	0.19559	115.739	..	I. 107	..	464
140	53. 25. 11.83	1873.9	9	-18.630	+0.194	-0.05	0.03027	9.81046	0.80415	0.19594	120.139	..	I. 104	..	465
141	72. 11. 38.28	1872.4	5	-18.597	+0.184	+0.12	9.95487	9.96214	0.80636	0.19706	117.516	..	I. 110	..	469
142	82. 22. 53.29	1874.9	2	-18.589	+0.180	+0.09	9.91360	0.03227	0.80694	0.19736	115.507	..	I. 114	..	471
143	17. 36. 49.28	1873.1	17	-18.583	+0.263	+0.05	0.15442	9.50081	0.80732	0.19754	119.306	206	I. 106	337	468
144	41. 55. 54.91	1869.0	1	-18.573	+0.208	+0.05	0.07577	9.70844	0.80799	0.19788	120.318	207	I. 113	343	474
145	12. 40. 57.65	1868.9	2	-18.559	+0.302	-0.03	0.16862	9.47296	0.80894	0.19836	118.509	205	I. 105	338	473
146	49. 14. 8.51	1874.1	9	-18.552	+0.202	+0.39	0.04899	9.77520	0.80943	0.19860	119.884	209	I. 119	..	480
147	83. 0. 36.92	1870.6	6	-18.550	+0.182	-0.03	9.91142	0.03645	0.80957	0.19863	115.181	..	I. 123	..	481
148	42. 14. 28.78	1869.8	10	-18.532	+0.211	..	0.07606	9.71249	0.81078	0.19926	120.003	..	....	347	..
149	42. 1. 15.96	1869.8	6	-18.523	+0.212	+0.14	0.07715	9.71079	0.81141	0.19957	119.939	212	I. 124	348	487
150	78. 30. 49.53	1875.7	3	-18.517	+0.186	-0.03	9.93003	0.00697	0.81178	0.19975	115.936	214	I. 126	..	488
151	76. 21. 54.91	1876.8	1	-18.446	+0.191	-0.01	9.93992	9.99265	0.81648	0.20204	115.977	220	I. 136	..	496
152	74. 14. 39.85	1872.3	5	-18.433	+0.193	+0.03	9.94905	9.97795	0.81739	0.20246	116.277	223	I. 138	..	500
153	22. 36. 20.37	1872.9	16	-18.430	+0.257	+0.01	0.14529	9.54602	0.81758	0.20256	118.537	216	I. 133	359	498
154	50. 4. 19.16	1871.1	10	-18.425	+0.210	+0.09	0.04953	9.78553	0.81792	0.20272	118.962	221	I. 137	..	502
155	20. 1. 31.91	1872.8	13	-18.425	+0.268	+0.02	0.15302	9.52745	0.81792	0.20272	118.257	215	I. 132	358	499
156	30. 5. 58.34	1875.9	3	-18.391	+0.240	+0.02	0.12297	9.60915	0.82010	0.20377	118.754	..	I. 139	362	509
157	48. 1. 46.59	1869.7	5	-18.391	+0.214	+0.06	0.05843	9.76847	0.82013	0.20378	118.831	..	I. 142	364	510
158	55. 24. 5.27	1875.7	8	-18.368	+0.210	..	0.02971	9.83245	0.82165	0.20451	118.237	..	....	..	516
159	30. 5. 42.95	1875.7	6	-18.367	+0.242	+0.04	0.12375	9.61026	0.82168	0.20453	118.569	224	I. 143	366	515
160	85. 9. 38.72	1871.2	41	-18.365	+0.191	+0.04	9.90390	0.05032	0.82188	0.20462	113.882	228	I. 150	..	518

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Celestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazz's Catalogue (1814); from Weisse's two Catalogues, *Positiones Medie Stellarum Fixarum in Zonis Regionum* (Weisse's Bessel); from Argelander's *Bömer Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

{x}

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Frac- tion of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
161	54 Andromedæ	4*	1. 35. 38.857	1869.9	10	+ 3.7190	+ 0.0528	- 0.001	0.11224	0.09415	1.45817	0.10475	80.293
162	Arg. Zone +8°. No. 268	8-9	1. 37. 20.467	1872.7	4	+ 3.1519	+ 0.0109	..	0.10084	0.08912	1.44951	0.08235	83.768
163	52 Ceti	3-4*	1. 38. 7.323	1875.0	26	+ 2.9066	- 0.0004	- 0.123	0.10151	0.08951	1.44571	0.07258	84.660
164	Piazzi I. 159	6-7†	1. 38. 30.757	1875.0	6	+ 4.1762	+ 0.0988	+ 0.088	0.12532	0.10094	1.46503	0.12060	77.083
165	110 Piscium	4*	1. 38. 38.138	1872.5	41	+ 3.1557	+ 0.0111	+ 0.006	0.10081	0.08924	1.44957	0.08245	83.751
166	Piazzi I. 170	6	1. 41. 6.029	1875.0	3	+ 3.5073	+ 0.0332	+ 0.010	0.10578	0.09195	1.45496	0.09550	81.852
167	4 Arietis	6*	1. 41. 14.549	1876.8	2	+ 3.2396	+ 0.0156	+ 0.006	0.10134	0.08980	1.45086	0.08552	83.358
168	Bradley 230	7	1. 42. 3.036	1873.4	7	+ 5.6832	+ 0.3360	+ 0.047	0.17010	0.12494	1.48691	0.16817	66.038
169	53 Ceti	5-4*	1. 43. 17.873	1869.2	5	+ 2.9556	+ 0.0021	- 0.017	0.10079	0.08977	1.44647	0.07481	84.483
170	54 Ceti	6*	1. 44. 4.550	1875.9	3	+ 3.1799	+ 0.0123	- 0.008	0.10069	0.08981	1.44994	0.08315	83.643
171	55 Ceti	3*	1. 45. 8.545	1872.3	5	+ 2.9574	+ 0.0023	- 0.002	0.10068	0.08994	1.44650	0.07497	84.466
172	45 Cassiopeia	3-4*	1. 45. 12.555	1871.4	17	+ 4.2367	+ 0.0991	+ 0.006	0.12444	0.10214	1.46592	0.11974	77.056
173	2 Trianguli	4-3*	1. 45. 47.352	1872.3	5	+ 3.4016	+ 0.0249	0.000	0.10319	0.09129	1.45334	0.09097	82.540
174	46 Cassiopeia	5*	1. 46. 5.446	1874.3	6	+ 4.5539	+ 0.1367	0.000	0.13341	0.10709	1.47061	0.12970	74.854
175	111 Piscium	4*	1. 46. 55.791	1869.1	5	+ 3.0990	+ 0.0083	- 0.002	0.10023	0.08992	1.44869	0.08014	83.974
176	6 Arietis!	3-2*	1. 47. 34.329	1873.0	49	+ 3.2945	+ 0.0183	+ 0.002	0.10153	0.09066	1.45170	0.08702	83.114
177	Bradley 253	5*	1. 48. 20.513	1873.4	4	+ 3.5251	+ 0.0326	+ 0.004	0.10517	0.09267	1.45523	0.09488	81.870
178	56 Andromedæ		1. 48. 33.513	1874.4	4	+ 3.5255	+ 0.0326	+ 0.016	0.10514	0.09269	1.45523	0.09485	81.872
179	Bradley 246	6	1. 50. 5.077	1873.6	6	+ 5.8120	+ 0.3333	..	0.16700	0.12714	1.48874	0.16505	66.239
180	8 Arietis	6*	1. 50. 21.642	1872.8	5	+ 3.2638	+ 0.0164	+ 0.002	0.10101	0.09072	1.45123	0.08575	83.273
181	56 Ceti	6-5*	1. 50. 40.503	1875.6	3	+ 2.8067	- 0.0020	+ 0.005	0.10182	0.09120	1.44415	0.06995	84.816
182	9 Arietis	5*	1. 50. 47.974	1874.3	5	+ 3.3356	+ 0.0203	- 0.005	0.10179	0.09119	1.45233	0.08814	82.929
183	48 Cassiopeia	5-4*	1. 51. 28.844	1874.2	5	+ 4.8163	+ 0.1639	- 0.003	0.13821	0.11139	1.47445	0.13495	73.433
184	50 Cassiopeia	4*	1. 52. 33.091	1872.2	10	+ 4.9899	+ 0.1866	- 0.009	0.14246	0.11416	1.47698	0.13950	72.320
185	Piazzi I. 223	6*	1. 52. 34.850	1872.8	12	+ 3.2025	+ 0.0132	- 0.001	0.10038	0.09065	1.45028	0.08355	83.551
186	53 Cassiopeia	6*	1. 53. 33.091	1875.7	4	+ 4.3626	+ 0.1049	+ 0.001	0.12473	0.10439	1.46779	0.12025	77.680
187	113 Piscium	3-4*	1. 55. 25.319	1875.3	3	+ 3.0964	+ 0.0084	+ 0.004	0.09983	0.09068	1.44865	0.07998	83.963
188	113 Piscium		1. 55. 25.497	1873.2	6	+ 3.0964	+ 0.0084	+ 0.004	0.09983	0.09068	1.44865	0.07998	83.963
189	3 Trianguli	5-6*	1. 55. 29.558	1874.3	3	+ 3.4861	+ 0.0285	+ 0.009	0.10358	0.09281	1.45463	0.09252	82.191
190	57 Andromedæ... γ ¹	2-3*	1. 56. 2.997	1871.2	28	+ 3.6502	+ 0.0392	+ 0.001	0.10657	0.09459	1.45713	0.09760	81.283
191	Andromedæ... γ ²	5	1. 56. 3.883	1871.2	16	+ 3.6502	+ 0.0392	+ 0.001	0.10657	0.09459	1.45713	0.09760	81.283
192	Piazzi I. 243	6-7†	1. 56. 41.603	1874.8	8	+ 3.2794	+ 0.0168	+ 0.007	0.10074	0.09135	1.45147	0.08583	83.223
193	54 Cassiopeia	6-7	1. 58. 7.847	1873.8	9	+ 4.9807	+ 0.1755	+ 0.067	0.13916	0.11417	1.47684	0.13608	72.863
194	12 Arietis	6-5*	1. 59. 24.374	1875.3	3	+ 3.3416	+ 0.0197	+ 0.005	0.10119	0.09196	1.45242	0.08756	82.952
195	13 Arietis	2*	1. 59. 57.654	1871.8	86	+ 3.3539	+ 0.0203	+ 0.012	0.10129	0.09208	1.45261	0.08790	82.897
196	Bradley 282	6-7†	2. 1. 36.989	1874.0	4	+ 5.3453	+ 0.2211	..	0.14658	0.11999	1.48208	0.14397	70.768
197	4 Trianguli	3*	2. 1. 55.963	1869.7	8	+ 3.5363	+ 0.0303	+ 0.013	0.10367	0.09377	1.45540	0.09319	82.008
198	15 Arietis	6*	2. 3. 32.078	1873.7	6	+ 3.3071	+ 0.0177	+ 0.006	0.10054	0.09208	1.45190	0.08621	83.126
199	55 Cassiopeia	6*	2. 4. 27.948	1873.5	4	+ 4.6184	+ 0.1218	- 0.003	0.12706	0.10871	1.47156	0.12310	75.657
200	64 Ceti	6*	2. 4. 35.736	1870.7	7	+ 3.1690	+ 0.0114	- 0.014	0.09955	0.09161	1.44977	0.08206	83.685

164. The adopted proper motion is taken from the Bonn Observations, Vol. VII., p. 109.

191. The magnitude is taken from Struve's *Mensura Micrometrica*.

1878 ADMM. 386. 78A

AT THE ROYAL OBSERVATORY, GREENWICH, FROM 1868 TO 1876.

{xi}

No.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of μ	No. in Bessel's Bradley. 1755.	No. in Piazz. 1800.	No. in Groombridge. 1810.	No. in B. A. C. 1850.
							e'	f'	g'	h'					
161	39. 57. 25.49	1869.9	10	-18.333	+0.228	+0.03	0.09065	9.69827	0.82394	0.20557	118.582	227	I. 151	372	522
162	81. 46. 0.21	1872.7	4	-18.273	+0.197	..	9.91887	0.02918	0.82781	0.20738	114.150	..	....	..	..
163	106. 36. 43.28	1875.1	29	-18.244	+0.184	-0.85	9.82315	0.16440	0.82966	0.20821	108.373	233	I. 163	..	536
164	26. 46. 49.91	1873.8	9	-18.230	+0.262	+0.26	0.13878	9.58938	0.83058	0.20864	117.333	..	I. 159	376	535
165	81. 29. 13.79	1871.8	22	-18.226	+0.200	-0.01	9.92049	0.02752	0.83085	0.20877	113.987	232	I. 164	..	537
166	52. 41. 7.61	1873.6	9	-18.135	+0.226	-0.01	0.04677	9.81412	0.83665	0.21138	116.950	..	I. 170	..	544
167	73. 40. 57.99	1876.8	2	-18.129	+0.210	-0.04	9.95602	9.97590	0.83700	0.21154	114.823	235	I. 172	..	546
168	12. 26. 11.75	1873.4	7	-18.099	+0.365	+0.01	0.18390	9.50335	0.83892	0.21238	114.804	230	I. 165	383	545
169	101. 19. 12.46	1869.2	5	-18.051	+0.196	+0.12	9.83822	0.13882	0.84189	0.21368	109.131	242	I. 183	..	559
170	79. 35. 28.87	1875.9	3	-18.022	+0.211	+0.07	9.93069	0.01599	0.84371	0.21448	113.410	243	I. 185	..	561
171	100. 58. 4.19	1872.3	5	-17.980	+0.199	+0.12	9.83866	0.13690	0.84631	0.21561	108.998	247	I. 192	..	565
172	26. 57. 42.02	1872.4	29	-17.978	+0.282	+0.02	0.14554	9.60314	0.84643	0.21566	115.519	239	I. 184	390	564
173	61. 2. 44.75	1873.0	13	-17.956	+0.229	+0.23	0.01532	9.88457	0.84781	0.21626	115.350	245	I. 193	..	569
174	21. 56. 41.39	1873.2	8	-17.944	+0.304	+0.03	0.16197	9.56831	0.84856	0.21657	114.818	241	I. 186	394	568
175	87. 26. 41.85	1869.1	5	-17.911	+0.211	+0.08	9.89570	0.06455	0.85061	0.21745	111.577	251	I. 201	..	574
176	69. 49. 7.17	1872.3	25	-17.886	+0.225	+0.11	9.97717	9.95050	0.85212	0.21809	114.128	252	I. 202	..	577
177	53. 21. 3.50	1873.4	4	-17.855	+0.242	-0.01	0.05065	9.82512	0.85397	0.21887	115.239	253	I. 203	..	579
178	53. 22. 37.35	1874.4	4	-17.846	+0.242	-0.04	0.05069	9.82557	0.85455	0.21912	115.183	255	I. 204	..	580
179	12. 42. 21.62	1873.6	6	-17.785	+0.399	+0.03	0.19184	9.52487	0.85824	0.22065	112.533	246	....	404	583
180	72. 48. 30.48	1872.6	7	-17.774	+0.228	+0.04	9.96487	9.97228	0.85891	0.22094	113.237	262	I. 214	..	592
181	113. 9. 7.67	1875.4	2	-17.761	+0.198	+0.05	9.79127	0.18982	0.85970	0.22126	105.539	267	I. 218	..	594
182	67. 1. 46.04	1873.0	8	-17.756	+0.234	0.00	9.99207	9.93174	0.85999	0.22137	113.774	263	I. 216	..	593
183	19. 42. 55.42	1874.4	5	-17.728	+0.336	0.00	0.17426	9.56563	0.86165	0.22206	113.049	258	I. 210	421	595
184	18. 11. 59.38	1872.4	25	-17.684	+0.351	-0.02	0.17967	9.55904	0.86425	0.22310	112.567	260	I. 215	427	600
185	78. 19. 37.46	1873.0	13	-17.683	+0.228	+0.07	9.93977	0.00932	0.86434	0.22317	112.120	..	I. 223	..	609
186	26. 13. 46.56	1875.7	4	-17.642	+0.310	0.00	0.15676	9.61369	0.86670	0.22413	113.147	266	I. 221	436	611
187	87. 51. 16.28	1874.7	4	-17.565	+0.226	+0.02	9.89459	0.06712	0.87130	0.22597	110.223	277	I. 238	..	625
188	87. 51. 19.66	1873.2	7	-17.565	+0.226	+0.02	9.89459	0.06712	0.87130	0.22597	110.223	..	....	..	..
189	57. 20. 2.01	1874.1	5	-17.561	+0.253	0.00	0.03953	9.86175	0.87151	0.22606	113.433	275	I. 233	..	624
190	48. 17. 7.78	1871.5	27	-17.538	+0.266	+0.06	0.07875	9.79103	0.87286	0.22660	113.500	276	I. 236	447	628
191	48. 17. 3.07	1871.4	14	-17.538	+0.266	+0.06	0.07875	9.79103	0.87286	0.22660	113.500	..	I. 237	..	..
192	72. 21. 46.67	1874.8	7	-17.510	+0.241	-0.04	9.97044	9.97105	0.87447	0.22724	112.082	..	I. 243	..	632
193	19. 3. 4.20	1873.4	11	-17.449	+0.366	+0.24	0.18307	9.57700	0.87800	0.22864	111.069	274	I. 239	448	640
194	67. 57. 46.71	1873.9	7	-17.394	+0.250	-0.04	9.99322	9.94181	0.88116	0.22987	111.952	285	I. 250	..	644
195	67. 8. 38.20	1871.5	59	-17.369	+0.252	+0.15	9.99747	9.93635	0.88257	0.23042	111.899	287	I. 253	..	648
196	16. 34. 34.66	1873.4	10	-17.297	+0.402	-0.02	0.19346	9.57217	0.88668	0.23200	109.739	282	....	454	651
197	55. 37. 9.33	1873.8	18	-17.283	+0.269	+0.05	0.05246	9.85329	0.88747	0.23231	112.013	290	I. 260	..	656
198	71. 6. 17.08	1873.3	9	-17.211	+0.255	+0.05	9.98037	9.96474	0.89149	0.23383	110.876	296	I. 267	..	665
199	24. 4. 38.92	1872.4	8	-17.169	+0.356	0.00	0.17455	9.62160	0.89383	0.23471	109.856	292	I. 264	464	668
200	82. 1. 49.37	1870.7	7	-17.163	+0.247	+0.14	9.92531	0.03398	0.89416	0.23484	109.578	302	II. 6	..	672

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Celestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazz's Catalogue (1814); from Weisse's two Catalogues, *Positiones Medie Stellarum Fixarum in Zonis Regiomontanis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fra- tion of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
201	6 Trianguli	6.5*	2. 4. 56.931	1874.9	3	+ 3.4677	+ 0.0258	- 0.002	0.10231	0.09336	1.45435	0.09079	82.389
202	6 Persei	6*	2. 5. 6.166	1868.7	5	+ 3.9133	+ 0.0552	+ 0.035	0.11042	0.09843	1.46110	0.10348	79.981
203	19 Arietis	6*	2. 6. 4.548	1874.5	9	+ 3.2553	+ 0.0151	+ 0.007	0.09993	0.09203	1.45110	0.08454	83.353
204	65 Ceti ξ^1	4.5*	2. 6. 13.015	1873.2	28	+ 3.1736	+ 0.0116	- 0.004	0.09948	0.09176	1.44984	0.08215	83.669
205	7-yr. Cat. (1860) No. 143	..	2. 8. 3.746	1872.5	2	+ 3.2386	+ 0.0143	..	0.09970	0.09213	1.45084	0.08395	83.424
206	7 Trianguli	5*	2. 8. 22.387	1873.9	3	+ 3.5293	+ 0.0287	+ 0.001	0.10283	0.09417	1.45529	0.09215	82.124
207	Arietis R	Var.	2. 8. 50.419	1869.4	2	+ 3.3964	+ 0.0216	..	0.10105	0.09309	1.45326	0.08837	82.758
208	8 Trianguli δ	6.5*	2. 9. 14.903	1872.6	3	+ 3.5477	+ 0.0296	+ 0.090	0.10301	0.09440	1.45557	0.09254	82.044
209	67 Ceti	6*	2. 10. 35.959	1871.9	29	+ 2.9835	+ 0.0049	+ 0.003	0.09918	0.09210	1.44690	0.07668	84.272
210	22 Arietis θ	6.5*	2. 11. 0.541	1874.6	6	+ 3.3256	+ 0.0180	- 0.002	0.10016	0.09280	1.45218	0.08623	83.077
211	10 Trianguli	6*	2. 11. 32.186	1872.9	4	+ 3.4590	+ 0.0244	+ 0.007	0.10156	0.09378	1.45422	0.08984	82.492
212	Piazzi II. 61	6*	2. 14. 52.821	1874.7	4	+ 3.7132	+ 0.0380	+ 0.003	0.10492	0.09653	1.45808	0.09618	81.291
213	Arg. Zone +1°. No. 417.	8-9	2. 15. 39.197	1873.9	3	+ 3.0965	+ 0.0087	..	0.09877	0.09244	1.44865	0.07984	83.924
214	B. F. 298	6-7	2. 16. 22.559	1873.6	5	+ 3.2078	+ 0.0127	..	0.09903	0.09272	1.45037	0.08278	83.548
215	Lalande 4458	6-7	2. 17. 40.707	1874.0	3	+ 2.6775	- 0.0014	- 0.007	0.10107	0.09430	1.44213	0.06867	84.890
216	24 Arietis ξ	5-6*	2. 17. 57.479	1873.2	6	+ 3.2061	+ 0.0536	0.000	0.09892	0.09284	1.45034	0.08268	83.556
217	Bradley 332	4*	2. 18. 33.038	1871.6	22	+ 4.8473	+ 0.1309	- 0.009	0.12688	0.11269	1.47489	0.12323	75.094
218	7-yr. Cat. (1860) No. 156	..	2. 18. 34.334	1870.0	1	+ 4.8475	+ 0.1309	..	0.12688	0.11270	1.47490	0.12323	75.092
219	Piazzi II. 60	6	2. 19. 17.703	1875.7	5	+ 7.9339	+ 0.6563	- 0.002	0.19110	0.15999	1.51764	0.18991	56.814
220	Piazzi II. 83	7	2. 19. 18.725	1874.4	2	+ 3.2078	+ 0.0127	+ 0.007	0.09885	0.09296	1.45037	0.08268	83.551
221	Bradley 341	6	2. 19. 53.821	1874.0	4	+ 3.2072	+ 0.0126	+ 0.002	0.09881	0.09301	1.45036	0.08264	83.553
222	Arg. Zone +1°. No. 428.	9	2. 20. 27.256	1873.9	4	+ 3.0978	+ 0.0088	..	0.09850	0.09285	1.44867	0.07984	83.913
223	12 Trianguli	6.5*	2. 20. 40.048	1873.3	3	+ 3.5007	+ 0.0252	- 0.004	0.10119	0.09481	1.45486	0.09003	82.382
224	73 Ceti ξ^2	4*	2. 21. 21.308	1871.9	28	+ 3.1793	+ 0.0116	+ 0.001	0.09861	0.09305	1.44993	0.08190	83.651
225	27 Arietis	6-7†	2. 23. 48.571	1875.1	11	+ 3.3142	+ 0.0166	0.000	0.09915	0.09376	1.45200	0.08516	83.171
226	14 Trianguli	6*	2. 24. 17.819	1875.0	3	+ 3.6354	+ 0.0315	+ 0.002	0.10252	0.09632	1.45690	0.09292	81.810
227	Radcliffe 713	8	2. 24. 32.922	1869.5	2	+ 15.9162	+ 3.6818	..	0.31782	0.26520	1.61189	0.31748	10.960
228	29 Arietis	6-7†	2. 25. 53.646	1870.8	5	+ 3.2772	+ 0.0151	- 0.007	0.09877	0.09375	1.45144	0.08416	83.318
229	Bradley 348	6.5*	2. 25. 54.896	1873.6	7	+ 5.5562	+ 0.2034	- 0.008	0.13856	0.12386	1.48509	0.13591	71.501
230	15 Trianguli	6.5*	2. 28. 1.023	1876.0	3	+ 3.6176	+ 0.0298	+ 0.006	0.10186	0.09639	1.45663	0.09205	81.936
231	Piazzi II. 115	6-7	2. 28. 1.341	1873.9	3	+ 4.0802	+ 0.0572	+ 0.016	0.10902	0.10186	1.46360	0.10268	79.694
232	Piazzi II. 117	8	2. 28. 4.561	1876.9	1	+ 3.6185	+ 0.0299	..	0.10186	0.09639	1.45665	0.09207	81.933
233	Arg. Zone +2°. No. 400.	8	2. 28. 12.972	1873.9	3	+ 3.1016	+ 0.0090	..	0.09803	0.09350	1.44871	0.07988	83.895
234	W. B. II. 453	9	2. 28. 24.506	1876.2	9	+ 3.1607	+ 0.0109	- 0.001	0.09812	0.09358	1.44965	0.08129	83.713
235	Piazzi II. 123	6*	2. 29. 3.818	1876.2	13	+ 3.1612	+ 0.0109	+ 0.120	0.09808	0.09364	1.44965	0.08129	83.711
236	78 Ceti	5*	2. 29. 9.495	1871.1	31	+ 3.1435	+ 0.0103	- 0.008	0.09803	0.09362	1.44938	0.08087	83.766
237	30 Arietis	6*	2. 29. (35.)	..	..	+ 3.4352	+ 0.0211	+ 0.008	0.09968	0.09495	1.45386	0.08767	82.727
238	31 Arietis	6*	2. 29. 39.152	1872.9	4	+ 3.2432	+ 0.0136	+ 0.017	0.09833	0.09391	1.45091	0.08319	83.444
239	Bradley 353	7	2. 30. 4.088	1870.2	2	+ 5.4464	+ 0.1830	- 0.010	0.13448	0.12226	1.48352	0.13167	72.410
240	32 Arietis	6.5*	2. 31. 33.061	1875.6	5	+ 3.3941	+ 0.0192	- 0.002	0.09917	0.09482	1.45323	0.08659	82.898

207. The limits of magnitude are 7.6 and 12.7; period 186 days.

234, 235. The adopted proper motions are taken from the Monthly Notices, R.A.S., Vol. XXXVI., p. 256.

No.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of ρ	No. in Bessel's Bradley, 1755.	No. in Piazzini, 1800.	No. in Groombridge, 1810.	No. in B.A.C. 1850.
							e	f	g	h					
201	60. 17. 52.29	1873.2	7	-17.147	+0.270	+0.05	0.03342	9.89007	0.89503	0.23518	111.202	301	II. 5	..	675
202	39. 31. 48.61	1868.7	5	-17.140	+0.304	+0.20	0.12196	9.73305	0.89541	0.23532	110.964	299	II. 3	467	673
203	75. 19. 16.03	1874.6	10	-17.095	+0.256	+0.02	9.96038	9.99297	0.89788	0.23624	110.024	305	II. 15	..	683
204	81. 45. 16.53	1871.1	15	-17.089	+0.250	+0.04	9.92722	0.03251	0.89823	0.23637	109.338	306	II. 16	..	684
205	76. 47. 32.02	1868.1	1	-17.004	+0.258	..	9.95361	0.00276	0.90287	0.23808	109.525	..	....	..	..
206	57. 14. 14.57	1873.9	3	-16.990	+0.281	+0.01	0.05022	9.87009	0.90362	0.23837	110.504	312	II. 30	..	691
207	65. 32. 17.80	1869.4	2	-16.968	+0.271	..	0.01111	9.92921	0.90484	0.23881	110.147	..	....	..	..
208	56. 21. 46.37	1871.9	22	-16.949	+0.284	+0.25	0.05492	9.86445	0.90586	0.23918	110.309	317	II. 34	..	697
209	97. 0. 46.00	1871.9	14	-16.885	+0.242	+0.14	9.84720	0.11490	0.90927	0.24043	106.617	321	II. 47	..	704
210	70. 41. 31.78	1874.7	10	-16.866	+0.270	+0.01	9.98646	9.96475	0.91031	0.24081	109.429	320	II. 49	..	707
211	61. 56. 57.89	1873.3	6	-16.841	+0.281	0.00	0.03035	9.90585	0.91161	0.24129	109.698	322	II. 51	..	710
212	49. 11. 8.75	1874.4	8	-16.681	+0.308	+0.09	0.09150	9.81712	0.92010	0.24431	108.867	..	II. 61	503	727
213	88. 7. 59.45	1873.9	3	-16.643	+0.259	..	9.89459	0.06928	0.92205	0.24500	107.087	..	....	..	..
214	79. 44. 52.66	1873.6	5	-16.607	+0.269	..	9.94086	0.02228	0.92392	0.24565	107.780	..	....	..	728
215	117. 34. 33.81	1874.0	3	-16.543	+0.228	-0.56	9.74335	0.19914	0.92721	0.24681	102.331	..	....	..	..
216	79. 58. 12.46	1873.2	6	-16.530	+0.272	+0.05	9.94022	0.02383	0.92789	0.24705	107.485	338	II. 76	..	745
217	23. 10. 29.92	1871.7	47	-16.500	+0.409	+0.02	0.19081	9.64708	0.92943	0.24757	105.706	332	II. 72	511	744
218	23. 10. 31.90	1870.0	1	-16.499	+0.409	..	0.19081	9.64711	0.92947	0.24758	105.703	..	....	..	..
219	8. 55. 31.24	1874.4	8	-16.463	+0.668	-0.07	0.22965	9.58999	0.93133	0.24824	103.329	..	II. 60	506	740
220	79. 55. 53.83	1874.4	2	-16.462	+0.274	+0.35	9.94082	0.02338	0.93137	0.24825	107.248	..	II. 83	..	750
221	80. 0. 43.16	1874.0	4	-16.433	+0.275	+0.13	9.94057	0.02446	0.93284	0.24877	107.137	341	II. 85	..	755
222	88. 5. 27.05	1873.9	4	-16.405	+0.267	..	9.89515	0.06917	0.93424	0.24924	106.353	..	....	..	..
223	60. 54. 11.96	1872.5	24	-16.394	+0.301	+0.09	0.04179	9.90440	0.93479	0.24944	107.688	342	II. 88	..	757
224	82. 6. 53.13	1870.7	20	-16.359	+0.275	+0.02	9.92916	0.03667	0.93654	0.25003	106.730	347	II. 94	..	760
225	72. 51. 48.87	1873.5	12	-16.234	+0.291	+0.09	9.98150	9.98296	0.94281	0.25216	106.805	351	II. 101	..	771
226	54. 25. 19.07	1874.7	6	-16.208	+0.319	+0.01	0.07548	9.86316	0.94409	0.25259	106.739	350	II. 102	..	772
227	3. 30. 45.62	1869.5	2	-16.197	+1.376	..	0.24601	9.59536	0.94464	0.25277	100.798	..	....	..	..
228	75. 31. 59.60	1870.8	5	-16.127	+0.291	+0.02	9.96774	9.99960	0.94807	0.25392	106.305	352	II. 109	..	780
229	17. 44. 38.40	1873.2	9	-16.125	+0.489	+0.01	0.21322	9.63769	0.94817	0.25395	102.784	348	II. 97	524	777
230	55. 52. 20.00	1876.0	3	-16.015	+0.324	+0.04	0.07133	9.87616	0.95350	0.25572	105.912	357	II. 116	..	786
231	38. 35. 57.63	1873.9	3	-16.015	+0.365	-0.08	0.14604	9.76033	0.95350	0.25572	104.782	..	II. 115	531	785
232	55. 50. 7.25	1876.9	1	-16.013	+0.325	..	0.07155	9.87598	0.95364	0.25576	105.896	..	II. 117	..	..
233	87. 54. 34.77	1873.9	3	-16.005	+0.280	..	9.89669	0.06856	0.95402	0.25589	105.159	..	....	..	..
234	83. 44. 8.05	1876.2	10	-15.995	+0.285	-0.09	9.92143	0.04647	0.95450	0.25605	105.427	..	....	..	..
235	83. 43. 31.02	1876.2	14	-15.960	+0.286	-1.50	9.92169	0.04646	0.95619	0.25660	105.315	..	II. 123	..	793
236	84. 57. 58.73	1869.8	17	-15.955	+0.285	+0.03	9.91434	0.05316	0.95641	0.25668	105.220	362	II. 125	..	794
237	65. 54. 40.97	1873.0	4	-15.932	+0.311	-0.17	0.02189	9.94241	0.95750	0.25704	105.747	360	II. 126	..	796
238	78. 6. 30.68	1872.9	4	-15.929	+0.294	+0.09	9.95448	0.01554	0.95767	0.25709	105.501	364	II. 129	..	798
239	18. 55. 37.32	1870.0	2	-15.907	+0.491	+0.07	0.21357	9.65294	0.95869	0.25742	101.743	353	....	532	795
240	68. 35. 36.11	1873.6	10	-15.827	+0.311	+0.02	0.00864	9.96001	0.96251	0.25867	105.335	367	II. 136	..	808

The magnitude of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Cælestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzini's Catalogue (1814); from Weiss's two Catalogues, *Positiones Medie Stellarum Fixarum in Zonis Regiomontanis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of ι
									e	f	g	h	
241	Arg. Zone +2°. No. 407.	9	2. 32. 16.899	1873.9	3	+ 3.1083	+ 0.0092	..	0.09779	0.09382	1.44883	0.08001	83.872
242	82 Ceti δ	4*	2. 32. 55.371	1872.3	20	+ 3.0690	+ 0.0081	+ 0.003	0.09773	0.09386	1.44822	0.07910	83.984
243	Arg. Zone +2°. No. 410.	8	2. 33. 30.187	1873.9	3	+ 3.1065	+ 0.0092	..	0.09771	0.09392	1.44881	0.07997	83.873
244	Bradley 366	6-7†	2. 33. 50.666	1873.4	10	+ 5.0581	+ 0.1355	- 0.001	0.12554	0.11640	1.47797	0.12211	74.749
245	Arg. Zone + 2°. No. 412.	8	2. 34. 8.551	1873.9	3	+ 3.1063	+ 0.0092	..	0.09767	0.09397	1.44880	0.07996	83.875
246	34 Arietis..... μ	6.5*	2. 35. 9.143	1875.5	9	+ 3.3682	+ 0.0179	- 0.001	0.09868	0.09492	1.45283	0.08578	83.014
247	13 Persei..... θ	4*	2. 35. 28.063	1874.4	5	+ 4.0267	+ 0.0507	+ 0.033	0.10674	0.10153	1.46280	0.10004	80.143
248	Bradley 381	6†	2. 35. 35.583	1869.6	3	+ 3.2232	+ 0.0128	- 0.001	0.09785	0.09431	1.45061	0.08254	83.518
249	35 Arietis.....	5*	2. 35. 56.659	1873.6	3	+ 3.5038	+ 0.0233	- 0.002	0.09976	0.09592	1.45490	0.08871	82.496
250	Ceti..... γ^1	7	2. 36. 40.024	1869.2	5	+ 3.1119	+ 0.0094	..	0.09751	0.09418	1.44889	0.08006	83.858
251	86 Ceti γ^2	3-4*	2. 36. 40.132	1873.4	18	+ 3.1119	+ 0.0094	- 0.011	0.09751	0.09418	1.44889	0.08006	83.858
252	37 Arietis σ	6*	2. 37. 29.902	1872.9	9	+ 3.2958	+ 0.0152	+ 0.003	0.09805	0.09473	1.45172	0.08407	83.279
253	38 Arietis	5*	2. 37. 59.207	1872.8	3	+ 3.2515	+ 0.0136	+ 0.008	0.09781	0.09459	1.45104	0.08309	83.428
254	87 Ceti μ	4*	2. 38. 1.423	1870.3	6	+ 3.2156	+ 0.0125	+ 0.017	0.09766	0.09448	1.45049	0.08231	83.544
255	W.B. (2) II. 927...	8	2. 39. 28.356	1874.1	3	+ 3.7240	+ 0.0329	..	0.10185	0.09818	1.45824	0.09305	81.610
256	39 Arietis	5*	2. 40. 17.524	1873.6	3	+ 3.5437	+ 0.0245	+ 0.009	0.09973	0.09655	1.45551	0.08918	82.371
257	Bradley 382	6-7†	2. 40. 35.372	1875.6	7	+ 5.2444	+ 0.1462	- 0.003	0.12650	0.11942	1.48064	0.12332	74.133
258	40 Arietis	6-7†	2. 41. 21.671	1876.6	3	+ 3.3492	+ 0.0168	+ 0.002	0.09807	0.09528	1.45254	0.08503	83.107
259	15 Persei..... η	4-3*	2. 41. 22.394	1875.5	6	+ 4.3251	+ 0.0676	+ 0.003	0.11039	0.10583	1.46724	0.10502	78.838
260	42 Arietis..... π	6.5*	2. 42. 9.148	1874.8	3	+ 3.3367	+ 0.0163	- 0.002	0.09794	0.09527	1.45235	0.08473	83.154
261	41 Arietis	4*	2. 42. 27.194	1873.2	4	+ 3.5105	+ 0.0228	+ 0.003	0.09922	0.09642	1.45500	0.08831	82.519
262	16 Persei.....	5-4*	2. 42. 30.593	1874.1	2	+ 3.7472	+ 0.0333	+ 0.017	0.10176	0.09862	1.45859	0.09316	81.549
263	17 Persei.....	5*	2. 43. 37.937	1875.6	3	+ 3.6747	+ 0.0297	+ 0.006	0.10077	0.09795	1.45750	0.09155	81.869
264	43 Arietis..... σ	6*	2. 44. 25.682	1873.1	23	+ 3.3004	+ 0.0150	- 0.002	0.09758	0.09527	1.45179	0.08387	83.284
265	18 Persei..... τ	4*	2. 45. 11.657	1870.9	11	+ 4.2113	+ 0.0583	- 0.004	0.10781	0.10443	1.46555	0.10197	79.491
266	20 Persei.....	6*	2. 45. 38.287	1874.1	2	+ 3.7585	+ 0.0332	+ 0.006	0.10151	0.09893	1.45877	0.09301	81.540
267	Lalande 5346.....	8	2. 46. 53.851	1869.2	4	+ 3.2101	+ 0.0121	..	0.09703	0.09513	1.45041	0.08196	83.574
268	45 Arietis..... ρ^2	6	2. 48. 37.101	1873.5	8	+ 3.3605	+ 0.0167	+ 0.002	0.09758	0.09587	1.45272	0.08489	83.097
269	Cephei 47. (Hev.) ..	6*	2. 49. 10.471	1875.1	4	+ 7.6621	+ 0.4563	- 0.022	0.16332	0.15636	1.51409	0.16189	62.260
270	46 Arietis ρ^3	6*	2. 49. 12.789	1871.1	7	+ 3.3561	+ 0.0165	+ 0.018	0.09750	0.09589	1.45265	0.08478	83.115
271	21 Persei.....	5*	2. 49. 31.403	1876.0	3	+ 3.6226	+ 0.0264	+ 0.004	0.09958	0.09783	1.45671	0.08994	82.143
272	Radcliffe 840	6	2. 49. 55.941	1874.1	2	+ 3.7802	+ 0.0333	..	0.10123	0.09941	1.45909	0.09292	81.508
273	3 Eridani η	3*	2. 50. 10.516	1872.8	5	+ 2.9224	+ 0.0051	+ 0.005	0.09684	0.09541	1.44595	0.07622	84.310
274	48 Arietis ϵ	4-5*	2. 51. 53.746	1874.4	12	+ 3.4189	+ 0.0184	- 0.001	0.09767	0.09643	1.45361	0.08586	82.912
275	6 Eridani.....	5-6	2. 52. 24.050	1876.0	3	+ 2.6631	+ 0.0014	+ 0.006	0.09806	0.09688	1.44190	0.07122	84.768
276	91 Ceti λ	5-4*	2. 52. 51.409	1870.0	4	+ 3.2073	+ 0.0118	+ 0.006	0.09661	0.09557	1.45036	0.08177	83.590
277	Groombridge 598...	7	2. 53. 44.277	1874.1	1	+ 3.7999	+ 0.0334	..	0.10098	0.09983	1.45939	0.09284	81.476
278	49 Arietis	6*	2. 54. (21.)	..	..	+ 3.5209	+ 0.0218	- 0.005	0.09819	0.09730	1.45516	0.08760	82.568
279	23 Persei..... γ	3*	2. 55. 32.261	1874.7	6	+ 4.3022	+ 0.0593	+ 0.001	0.10715	0.10612	1.46690	0.10167	79.327
280	92 Ceti α	2-3*	2. 55. 35.361	1871.5	45	+ 3.1303	+ 0.0098	- 0.002	0.09627	0.09563	1.44917	0.08027	83.807

250. The magnitude is taken from Smyth's *Celestial Cycle*. Struve gives 6.8 in the *Mensura Micrometrica*.

No.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of μ	No. in Bessel's Bradley. 1755.	No. in Piazzini. 1800.	No. in Groombridge. 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
241	87. 29. 38.28	1873.9	3	-15.788	+0.286	..	9.89949	0.06658	0.96435	0.25927	104.553	..	....	..	..
242	90. 13. 29.61	1871.7	6	-15.754	+0.284	+0.03	9.88287	0.08034	0.96597	0.25979	104.263	372	II. 144	..	811
243	87. 37. 51.06	1873.9	3	-15.722	+0.288	..	9.89878	0.06730	0.96744	0.26027	104.353	..	....	..	..
244	22. 43. 16.93	1871.8	14	-15.703	+0.466	+0.05	0.20580	9.67918	0.96834	0.26055	101.196	366	....	537	814
245	87. 39. 10.57	1873.9	3	-15.686	+0.289	..	9.89873	0.06742	0.96911	0.26079	104.251	..	....	..	..
246	70. 32. 6.98	1875.5	10	-15.632	+0.315	+0.05	9.99987	9.97323	0.97164	0.26161	104.599	377	II. 153	..	825
247	41. 18. 52.23	1875.4	2	-15.615	+0.375	+0.14	0.14139	9.78902	0.97247	0.26186	103.049	374	II. 150	545	827
248	79. 48. 18.75	1869.6	3	-15.607	+0.302	+0.05	9.94655	0.02620	0.97280	0.26197	104.370	381	II. 156	..	830
449	62. 50. 20.91	1872.7	11	-15.588	+0.328	+0.03	0.04191	9.92691	0.97368	0.26225	104.316	380	II. 157	..	831
250	87. 18. 15.81	1869.3	6	-15.549	+0.293	..	9.90113	0.06576	0.97550	0.26283	103.871	..	....	..	..
251	87. 18. 17.71	1872.4	8	-15.549	+0.293	+0.19	9.90113	0.06576	0.97550	0.26283	103.871	383	II. 161	..	837
252	75. 13. 53.02	1872.9	9	-15.502	+0.312	+0.07	9.97410	0.00129	0.97761	0.26349	104.116	385	II. 164	..	842
253	78. 5. 38.46	1872.8	3	-15.476	+0.308	+0.10	9.95737	0.01740	0.97883	0.26388	103.985	386	II. 166	..	844
254	80. 25. 38.44	1870.3	6	-15.474	+0.305	+0.07	9.94340	0.03010	0.97893	0.26391	103.925	387	II. 167	..	845
255	52. 44. 49.24	1874.1	3	-15.393	+0.355	..	0.09433	9.86652	0.98260	0.26505	102.996	..	....	..	..
256	61. 17. 9.60	1873.6	3	-15.345	+0.339	+0.11	0.05268	9.92030	0.98473	0.26570	103.293	389	II. 178	..	861
257	21. 38. 39.77	1874.5	13	-15.330	+0.500	+0.01	0.21463	9.68977	0.98544	0.26593	99.060	382	....	..	859
258	72. 15. 2.89	1876.6	3	-15.286	+0.323	+0.02	9.99308	9.98571	0.98742	0.26655	103.363	393	II. 182	..	867
259	34. 38. 15.36	1875.6	8	-15.284	+0.415	0.00	0.17205	9.75808	0.98747	0.26656	100.680	..	II. 179	559	863
260	73. 4. 10.02	1874.8	3	-15.241	+0.323	-0.02	9.98865	9.99063	0.98940	0.26716	103.219	397	II. 185	..	870
261	63. 16. 7.40	1873.4	14	-15.224	+0.340	+0.13	0.04348	9.93375	0.99018	0.26739	102.899	395	II. 186	..	872
262	52. 12. 36.06	1874.1	2	-15.220	+0.362	+0.07	0.09903	9.86630	0.99034	0.26745	102.205	394	II. 183	..	871
263	55. 28. 5.90	1875.6	3	-15.156	+0.358	+0.11	0.08418	9.88738	0.99317	0.26832	102.178	398	II. 188	..	877
264	75. 26. 48.32	1873.3	10	-15.110	+0.323	+0.05	9.97552	0.00463	0.99519	0.26893	102.796	400	II. 192	..	881
265	37. 45. 47.74	1870.9	11	-15.066	+0.412	+0.03	0.16316	9.78255	0.99712	0.26951	100.026	399	II. 190	573	885
266	52. 11. 8.16	1874.6	2	-15.041	+0.369	+0.07	0.10130	9.86931	0.99821	0.26984	101.443	401	II. 199	..	888
267	81. 11. 16.57	1869.2	4	-14.968	+0.318	..	9.94111	0.03567	1.00141	0.27080	102.353	..	....	..	..
268	72. 11. 18.72	1873.5	8	-14.867	+0.335	-0.01	9.99660	9.98819	1.00573	0.27210	101.929	406	II. 212	..	901
269	11. 5. 27.32	1873.6	11	-14.834	+0.758	-0.01	0.24969	9.67589	1.00717	0.27253	94.698	392	II. 191	577	896
270	72. 29. 19.15	1871.1	7	-14.832	+0.336	+0.20	9.99511	9.99007	1.00724	0.27255	101.817	408	II. 213	..	903
271	58. 34. 58.69	1875.9	3	-14.814	+0.362	-0.02	0.07225	9.91113	1.00800	0.27277	101.028	407	II. 214	..	904
272	51. 54. 5.17	1874.1	2	-14.790	+0.379	..	0.10558	9.87212	1.00904	0.27309	100.360	..	....	..	..
273	99. 24. 31.62	1872.8	5	-14.776	+0.295	+0.23	9.82040	0.12076	1.00963	0.27326	101.281	413	II. 219	..	910
274	69. 10. 22.73	1875.2	9	-14.673	+0.346	+0.02	0.01574	9.97303	1.01399	0.27455	101.147	415	II. 224	..	921
275	114. 7. 17.40	1876.0	3	-14.643	+0.272	-0.04	9.71999	0.17561	1.01523	0.27492	99.911	421	II. 229	..	926
276	81. 36. 14.44	1870.0	3	-14.616	+0.327	+0.03	9.93987	0.03883	1.01636	0.27524	101.316	419	II. 228	..	929
277	51. 37. 49.01	1874.1	2	-14.563	+0.387	..	0.10941	9.87464	1.01859	0.27589	99.392	..	....	598	..
278	64. 2. 45.01	1873.0	4	-14.525	+0.361	+0.01	0.04594	9.94600	1.02017	0.27636	100.324	424	II. 233	..	941
279	36. 59. 48.54	1874.9	6	-14.454	+0.441	+0.01	0.17392	9.79544	1.02307	0.27720	97.093	422	II. 234	600	947
280	86. 24. 49.49	1871.4	15	-14.452	+0.323	+0.11	9.90859	0.06256	1.02321	0.27723	100.878	428	II. 244	..	949

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Coelestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 3377 Stars; from the Catalogue of Lalande published by the British Association; from the Radeliffe Catalogue (1860); from Piazzini's Catalogue (1814); from Weisse's two Catalogues, *Positiones Mediae Stellarum Fixarum in Zonis Regionemantis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fra- tion of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Mean, Stone, or B.A.C.	Logarithms of				Value of l	
									e	f	g	h		
241	Arg. Zone +2°. No. 407.	9	2. 32. 16.899	1873.9	3	+ 3.1083	+0.0092	..	0.09779	0.09382	1.44883	0.08001	83.872	
242	82 Ceti	4*	2. 32. 55.371	1872.3	20	+ 3.0690	+0.0081	+ 0.003	0.09773	0.09386	1.44822	0.07910	83.984	
243	Arg. Zone +2°. No. 410.	8	2. 33. 30.187	1873.9	3	+ 3.1065	+0.0092	..	0.09771	0.09392	1.44881	0.07997	83.873	
244	Bradley 366	6-7†	2. 33. 50.666	1873.4	10	+ 5.0581	+0.1355	- 0.001	0.12554	0.11640	1.47797	0.12211	74.749	
245	Arg. Zone + 2°. No. 412.	8	2. 34. 8.551	1873.9	3	+ 3.1063	+0.0092	..	0.09767	0.09397	1.44880	0.07996	83.875	
246	34 Arietis.....	μ	6.5*	2. 35. 9.143	1875.5	9	+ 3.3682	+0.0179	- 0.001	0.09868	0.09492	1.45283	0.08578	83.014
247	13 Persei.....	θ	4*	2. 35. 28.063	1874.4	5	+ 4.0267	+0.0507	+ 0.033	0.10674	0.10153	1.46280	0.10004	80.143
248	Bradley 381.....	6†	2. 35. 35.583	1869.6	3	+ 3.2232	+0.0128	- 0.001	0.09785	0.09431	1.45061	0.08254	83.518	
249	35 Arietis.....	5*	2. 35. 56.659	1873.6	3	+ 3.5038	+0.0233	- 0.002	0.09976	0.09592	1.45490	0.08871	82.496	
250	Ceti.....	γ ¹	7	2. 36. 40.024	1869.2	5	+ 3.1119	+0.0094	..	0.09751	0.09418	1.44889	0.08006	83.858
251	86 Ceti.....	γ ²	3-4*	2. 36. 40.132	1873.4	18	+ 3.1119	+0.0094	- 0.011	0.09751	0.09418	1.44889	0.08006	83.858
252	37 Arietis.....	θ	6*	2. 37. 29.902	1872.9	9	+ 3.2958	+0.0152	+ 0.003	0.09805	0.09473	1.45172	0.08407	83.279
253	38 Arietis.....	5*	2. 37. 59.207	1872.8	3	+ 3.2515	+0.0136	+ 0.008	0.09781	0.09459	1.45104	0.08309	83.428	
254	87 Ceti.....	μ	4*	2. 38. 1.423	1870.3	6	+ 3.2156	+0.0125	+ 0.017	0.09766	0.09448	1.45049	0.08231	83.544
255	W.B. (2) II. 927...	8	2. 39. 28.356	1874.1	3	+ 3.7240	+0.0329	..	0.10185	0.09818	1.45824	0.09305	81.610	
256	39 Arietis.....	5*	2. 40. 17.524	1873.6	3	+ 3.5437	+0.0245	+ 0.009	0.09973	0.09655	1.45551	0.08918	82.371	
257	Bradley 382.....	6-7†	2. 40. 35.372	1875.6	7	+ 5.2444	+0.1462	- 0.003	0.12650	0.11942	1.48064	0.12332	74.133	
258	40 Arietis.....	6-7†	2. 41. 21.671	1876.6	3	+ 3.3492	+0.0168	+ 0.002	0.09807	0.09528	1.45254	0.08503	83.107	
259	15 Persei.....	η	4-3*	2. 41. 22.394	1875.5	6	+ 4.3251	+0.0676	+ 0.003	0.11039	0.10583	1.46724	0.10502	78.838
260	42 Arietis.....	π	6-5*	2. 42. 9.148	1874.8	3	+ 3.3367	+0.0163	- 0.002	0.09794	0.09527	1.45235	0.08473	83.154
261	41 Arietis.....	4*	2. 42. 27.194	1873.2	4	+ 3.5105	+0.0228	+ 0.003	0.09922	0.09642	1.45500	0.08831	82.519	
262	16 Persei.....	5-4*	2. 42. 30.593	1874.1	2	+ 3.7472	+0.0333	+ 0.017	0.10176	0.09862	1.45859	0.09316	81.549	
263	17 Persei.....	5*	2. 43. 37.937	1875.6	3	+ 3.6747	+0.0297	+ 0.006	0.10077	0.09795	1.45750	0.09155	81.869	
264	43 Arietis.....	σ	6*	2. 44. 25.682	1873.1	23	+ 3.3004	+0.0150	- 0.002	0.09758	0.09527	1.45179	0.08387	83.284
265	18 Persei.....	τ	4*	2. 45. 11.657	1870.9	11	+ 4.2113	+0.0583	- 0.004	0.10781	0.10443	1.46555	0.10197	79.491
266	20 Persei.....	6*	2. 45. 38.287	1874.1	2	+ 3.7585	+0.0332	+ 0.006	0.10151	0.09893	1.45877	0.09301	81.540	
267	Lalande 5346.....	8	2. 46. 53.851	1869.2	4	+ 3.2101	+0.0121	..	0.09703	0.09513	1.45041	0.08196	83.574	
268	45 Arietis.....	ρ ²	6	2. 48. 37.101	1873.5	8	+ 3.3605	+0.0167	+ 0.002	0.09758	0.09587	1.45272	0.08489	83.097
269	Cephei 47. (Hev.) ..	6*	2. 49. 10.471	1875.1	4	+ 7.6621	+0.4563	- 0.022	0.16332	0.15636	1.51409	0.16189	62.260	
270	46 Arietis.....	ρ ³	6*	2. 49. 12.789	1871.1	7	+ 3.3561	+0.0165	+ 0.018	0.09750	0.09589	1.45265	0.08478	83.115
271	21 Persei.....	5*	2. 49. 31.403	1876.0	3	+ 3.6226	+0.0264	+ 0.004	0.09958	0.09783	1.45671	0.08994	82.143	
272	Radcliffe 840	6	2. 49. 55.941	1874.1	2	+ 3.7802	+0.0333	..	0.10123	0.09941	1.45909	0.09292	81.508	
273	3 Eridani.....	η	3*	2. 50. 10.516	1872.8	5	+ 2.9224	+0.0051	+ 0.005	0.09684	0.09541	1.44595	0.07622	84.310
274	48 Arietis.....	ε	4-5*	2. 51. 53.746	1874.4	12	+ 3.4189	+0.0184	- 0.001	0.09767	0.09643	1.45361	0.08586	82.912
275	6 Eridani.....	5-6	2. 52. 24.050	1876.0	3	+ 2.6631	+0.0014	+ 0.006	0.09806	0.09688	1.44190	0.07122	84.768	
276	91 Ceti.....	λ	5-4*	2. 52. 51.409	1870.0	4	+ 3.2073	+0.0118	+ 0.006	0.09661	0.09557	1.45036	0.08177	83.590
277	Groombridge 598...	7	2. 53. 44.277	1874.1	1	+ 3.7999	+0.0334	..	0.10098	0.09983	1.45939	0.09284	81.476	
278	49 Arietis.....	6*	2. 54. (21.)	..	..	+ 3.5209	+0.0218	- 0.005	0.09819	0.09730	1.45516	0.08760	82.568	
279	23 Persei.....	γ	3*	2. 55. 32.261	1874.7	6	+ 4.3022	+0.0593	+ 0.001	0.10715	0.10612	1.46690	0.10167	79.327
280	92 Ceti.....	α	2-3*	2. 55. 35.361	1871.5	45	+ 3.1303	+0.0098	- 0.002	0.09627	0.09563	1.44917	0.08027	83.807

250. The magnitude is taken from Smyth's *Celestial Cycle*. Struve gives 6.8 in the *Mensura Micrometrica*.

No.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of μ	No. in Bessel's Bradley, 1755.	No. in Piazzi, 1800.	No. in Groombridge, 1810.	No. in B.A.C., 1850.
							e'	f'	g'	h'					
241	87. 29. 38.28	1873.9	3	-15.788	+0.286	..	9.89949	0.06658	0.96435	0.25927	104.553	..	....	..	..
242	90. 13. 29.61	1871.7	6	-15.754	+0.284	+0.03	9.88287	0.08034	0.96597	0.25979	104.263	372	II. 144	..	811
243	87. 37. 51.06	1873.9	3	-15.722	+0.288	..	9.89878	0.06730	0.96744	0.26027	104.353	..	....	..	..
244	22. 43. 16.93	1871.8	14	-15.703	+0.466	+0.05	0.20580	9.67918	0.96834	0.26055	101.196	366	....	537	814
245	87. 39. 10.57	1873.9	3	-15.686	+0.289	..	9.89873	0.06742	0.96911	0.26079	104.251	..	....	..	..
246	70. 32. 6.98	1875.5	10	-15.632	+0.315	+0.05	9.99987	9.97323	0.97164	0.26161	104.599	377	II. 153	..	825
247	41. 18. 52.23	1875.4	2	-15.615	+0.375	+0.14	0.14139	9.78902	0.97247	0.26186	103.049	374	II. 150	545	827
248	79. 48. 18.75	1869.6	3	-15.607	+0.302	+0.05	9.94655	0.02620	0.97280	0.26197	104.370	381	II. 156	..	830
449	62. 50. 20.91	1872.7	11	-15.588	+0.328	+0.03	0.04191	9.92691	0.97368	0.26225	104.316	380	II. 157	..	831
250	87. 18. 15.81	1869.3	6	-15.549	+0.293	..	9.90113	0.06576	0.97550	0.26283	103.871	..	....	..	..
251	87. 18. 17.71	1872.4	8	-15.549	+0.293	+0.19	9.90113	0.06576	0.97550	0.26283	103.871	383	II. 161	..	837
252	75. 13. 53.02	1872.9	9	-15.502	+0.312	+0.07	9.97410	0.00129	0.97761	0.26349	104.116	385	II. 164	..	842
253	78. 5. 38.46	1872.8	3	-15.476	+0.308	+0.10	9.95737	0.01740	0.97883	0.26388	103.985	386	II. 166	..	844
254	80. 25. 38.44	1870.3	6	-15.474	+0.305	+0.07	9.94340	0.03010	0.97893	0.26391	103.925	387	II. 167	..	845
255	52. 44. 49.24	1874.1	3	-15.393	+0.355	..	0.09433	9.86652	0.98260	0.26505	102.996	..	....	..	..
256	61. 17. 9.60	1873.6	3	-15.345	+0.339	+0.11	0.05268	9.92030	0.98473	0.26570	103.293	389	II. 178	..	861
257	21. 38. 39.77	1874.5	13	-15.330	+0.500	+0.01	0.21463	9.68977	0.98544	0.26593	99.060	382	....	..	859
258	72. 15. 2.89	1876.6	3	-15.286	+0.323	+0.02	9.99308	9.98571	0.98742	0.26655	103.363	393	II. 182	..	867
259	34. 38. 15.36	1875.6	8	-15.284	+0.415	0.00	0.17205	9.75808	0.98747	0.26656	100.680	..	II. 179	559	863
260	73. 4. 10.02	1874.8	3	-15.241	+0.323	-0.02	9.98865	9.99063	0.98940	0.26716	103.219	397	II. 185	..	870
261	63. 16. 7.40	1873.4	14	-15.224	+0.340	+0.13	0.04348	9.93375	0.99018	0.26739	102.899	395	II. 186	..	872
262	52. 12. 36.06	1874.1	2	-15.220	+0.362	+0.07	0.09903	9.86630	0.99034	0.26745	102.205	394	II. 183	..	871
263	55. 28. 5.90	1875.6	3	-15.156	+0.358	+0.11	0.08418	9.88738	0.99317	0.26832	102.178	398	II. 188	..	877
264	75. 26. 48.32	1873.3	10	-15.110	+0.323	+0.05	9.97552	0.00463	0.99519	0.26893	102.796	400	II. 192	..	881
265	37. 45. 47.74	1870.9	11	-15.066	+0.412	+0.03	0.16316	9.78255	0.99712	0.26951	100.026	399	II. 190	573	885
266	52. 11. 8.16	1874.6	2	-15.041	+0.369	+0.07	0.10130	9.86931	0.99821	0.26984	101.443	401	II. 199	..	888
267	81. 11. 16.57	1869.2	4	-14.968	+0.318	..	9.94111	0.03567	1.00141	0.27080	102.353	..	....	..	..
268	72. 11. 18.72	1873.5	8	-14.867	+0.335	-0.01	9.99660	9.98819	1.00573	0.27210	101.929	406	II. 212	..	901
269	11. 5. 27.32	1873.6	11	-14.834	+0.758	-0.01	0.24969	9.67589	1.00717	0.27253	94.698	392	II. 191	577	896
270	72. 29. 19.15	1871.1	7	-14.832	+0.336	+0.20	9.99511	9.99007	1.00724	0.27255	101.817	408	II. 213	..	903
271	58. 34. 58.69	1875.9	3	-14.814	+0.362	-0.02	0.07225	9.91113	1.00800	0.27277	101.028	407	II. 214	..	904
272	51. 54. 5.17	1874.1	2	-14.790	+0.379	..	0.10558	9.87212	1.00904	0.27309	100.360	..	....	..	..
273	99. 24. 31.62	1872.8	5	-14.776	+0.295	+0.23	9.82040	0.12076	1.00963	0.27326	101.281	413	II. 219	..	910
274	69. 10. 22.73	1875.2	9	-14.673	+0.346	+0.02	0.01574	9.97303	1.01399	0.27455	101.147	415	II. 224	..	921
275	114. 7. 17.40	1876.0	3	-14.643	+0.272	-0.04	9.71999	0.17561	1.01523	0.27492	99.911	421	II. 229	..	926
276	81. 36. 14.44	1870.0	3	-14.616	+0.327	+0.03	9.93987	0.03883	1.01636	0.27524	101.316	419	II. 228	..	929
277	51. 37. 49.01	1874.1	2	-14.563	+0.387	..	0.10941	9.87464	1.01859	0.27589	99.392	..	....	598	..
278	64. 2. 45.01	1873.0	4	-14.525	+0.361	+0.01	0.04594	9.94600	1.02017	0.27636	100.324	424	II. 233	..	941
279	36. 59. 48.54	1874.9	6	-14.454	+0.441	+0.01	0.17392	9.79544	1.02307	0.27720	97.093	422	II. 234	600	947
280	86. 24. 49.49	1871.4	15	-14.452	+0.323	+0.11	9.90859	0.06256	1.02321	0.27723	100.878	428	II. 244	..	949

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Coelestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Medie Stellarum Fixarum in Zonis Regionantibus* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Frac- tion of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
281	Lalande 5655	7	2. 56. 42.278	1868.9	3	+ 3.1656	+ 0.0106	..	0.09624	0.09576	1.44972	0.08091	83.712
282	25 Persei .....p	4*	2. 56. 58.837	1873.1	4	+ 3.8101	+ 0.0331	+ 0.010	0.10068	0.10013	1.45955	0.09265	81.478
283	Bradley 417	5-4*	2. 58. 7.148	1875.3	4	+ 6.3213	+ 0.2368	- 0.027	0.13716	0.13627	1.49583	0.13503	69.799
284	.....	8	2. 59. 20.257	1874.1	2	+ 3.8245	+ 0.0333	..	0.10054	0.10041	1.45976	0.09263	81.452
285	26 Persei .....β	Var.	2. 59. 50.819	1872.7	5	+ 3.8780	+ 0.0355	- 0.002	0.10106	0.10103	1.46057	0.09351	81.242
286	53 Arietis	6-7†	3. 0. 13.434	1870.5	3	+ 3.3685	+ 0.0162	- 0.005	0.09670	0.09672	1.45283	0.08449	83.118
287	Groombridge 612...	7	3. 1. 27.937	1876.9	1	+ 6.2604	+ 0.2233	..	0.13474	0.13542	1.49499	0.13257	70.322
288	55 Arietis	6*	3. 1. 54.987	1873.7	3	+ 3.5916	+ 0.0234	+ 0.005	0.09803	0.09834	1.45624	0.08830	82.369
289	Bradley 402	6	3. 2. 25.605	1876.1	3	+ 12.9062	+ 1.5960	..	0.22589	0.22855	1.57869	0.22530	38.145
290	28 Persei	5*	3. 3. 1.979	1873.8	4	+ 3.8512	+ 0.0336	+ 0.002	0.10035	0.10090	1.46016	0.09266	81.397
291	Bradley 431	5-6	3. 4. 9.897	1871.2	16	+ 7.3291	+ 0.3527	- 0.025	0.14921	0.15159	1.50961	0.14761	65.392
292	57 Arietis .....δ	4-5*	3. 4. 18.752	1871.9	38	+ 3.4083	+ 0.0171	+ 0.010	0.09656	0.09721	1.45344	0.08498	83.012
293	Bradley 442	6-7	3. 5. 4.882	1872.7	2	+ 5.2321	+ 0.1185	..	0.11822	0.11991	1.48047	0.11495	75.374
294	Bradley 437	8	3. 5. 27.334	1868.9	1	+ 6.6245	+ 0.2576	..	0.13834	0.14102	1.50003	0.13639	68.857
295	Bradley 445	7-8	3. 6. 20.572	1869.0	1	+ 5.1722	+ 0.1126	+ 0.001	0.11700	0.11905	1.47961	0.11364	75.702
296	12 Eridani	3-4*	3. 6. 37.954	1872.0	1	+ 2.5222	+ 0.0011	+ 0.025	0.09780	0.09889	1.43968	0.06967	84.917
297	58 Arietis .....ζ	4-5*	3. 7. 32.865	1873.4	7	+ 3.4384	+ 0.0177	- 0.006	0.09645	0.09760	1.45390	0.08531	82.931
298	Groombridge 628...	6	3. 7. 50.642	1875.0	4	+ 5.6527	+ 0.1516	..	0.12337	0.12634	1.48648	0.12064	73.557
299	Bradley 448	5*	3. 8. 45.222	1874.3	6	+ 5.1930	+ 0.1120	- 0.015	0.11659	0.11943	1.47991	0.11327	75.706
300	W.B. (2) III. 157...	7-8	3. 8. 49.927	1874.1	5	+ 3.8957	+ 0.0342	..	0.10008	0.10170	1.46083	0.09274	81.299
301	W.B. (2) III. 158...	8	3. 8. 50.045	1874.1	1	+ 3.8957	+ 0.0342	..	0.10008	0.10170	1.46083	0.09274	81.299
302	Groombridge 639...	6-7†	3. 9. 28.344	1872.5	2	+ 3.8634	+ 0.0327	..	0.09966	0.10139	1.46035	0.09214	81.432
303	29 Persei	5*	3. 9. 31.422	1869.6	5	+ 4.2344	+ 0.0499	+ 0.008	0.10376	0.10582	1.46589	0.09806	79.941
304	31 Persei		3. 10. 1.710	1869.6	6	+ 4.2316	+ 0.0495	+ 0.004	0.10363	0.10581	1.46585	0.09793	79.965
305	Piazzi III. 23		3. 10. 43.791	1874.0	2	+ 3.7328	+ 0.0273	+ 0.010	0.09829	0.10012	1.45838	0.08991	81.940
306	Bradley 449	6-7†	3. 12. 8.623	1876.1	3	+ 6.2738	+ 0.2054	..	0.13043	0.13582	1.49518	0.12825	70.948
307	Piazzi III. 38	6-7	3. 13. 30.205	1872.9	5	+ 3.4368	+ 0.0172	+ 0.008	0.09592	0.09797	1.45388	0.08499	82.967
308	Piazzi III. 27	6†	3. 13. 35.111	1876.2	4	+ 5.1334	+ 0.1033	+ 0.007	0.11443	0.11868	1.47906	0.11103	76.164
309	61 Arietis .....τ ¹	5*	3. 13. 50.389	1872.3	20	+ 3.4500	+ 0.0175	- 0.001	0.09596	0.09806	1.45408	0.08518	82.928
310	33 Persei	2*	3. 15. 11.634	1870.9	37	+ 4.2460	+ 0.0483	+ 0.002	0.10294	0.10621	1.46607	0.09734	80.011
311	63 Arietis .....τ ²	5-6*	3. 15. 23.380	1874.9	3	+ 3.4442	+ 0.0172	- 0.001	0.09579	0.09813	1.45399	0.08501	82.954
312	Carrington 479	10-9	3. 15. 34.417	1870.6	2	+ 9.5026	+ 0.6561	..	0.17123	0.18319	1.53789	0.17023	56.396
313	64 Arietis	6*	3. 16. 45.165	1875.3	3	+ 3.5284	+ 0.0196	- 0.003	0.09615	0.09876	1.45528	0.08623	82.697
314	Groombridge 660...	7-8	3. 16. 56.627	1876.3	1	+ 4.2491	+ 0.0479	..	0.10269	0.10633	1.46611	0.09711	80.033
315	65 Arietis	6*	3. 17. 3.425	1872.6	2	+ 3.4479	+ 0.0172	- 0.004	0.09566	0.09825	1.45405	0.08498	82.953
316	Carrington 484	10-9	3. 17. 25.322	1870.6	2	+ 9.5252	+ 0.6494	..	0.17015	0.18349	1.53815	0.16916	56.528
317	1 Tauri	4-3*	3. 17. 55.603	1871.2	20	+ 3.2255	+ 0.0115	0.000	0.09475	0.09735	1.45064	0.08154	83.590
318	Piazzi III. 54	5*	3. 19. 42.530	1871.3	13	+ 4.7374	+ 0.0728	+ 0.005	0.10788	0.11309	1.47330	0.10375	78.084
319	2 Tauri	4-3*	3. 20. 14.040	1869.7	11	+ 3.2398	+ 0.0117	+ 0.002	0.09461	0.09753	1.45086	0.08171	83.557
320	Piazzi III. 57	5*	3. 20. 15.255	1868.8	3	+ 4.5366	+ 0.0612	+ 0.001	0.10538	0.11030	1.47035	0.10076	78.936

284. The magnitude is taken from the Greenwich Observations, 1874.

285. The limits of magnitude are 2.2 and 3.7; the period 2.8673 days.

312, 316. The magnitude is taken from the Redhill Catalogue.

1878C²AMW...386...78A

No.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of μ	No. in Bessel's Bradley, 1755.	No. in Piazzini, 1800.	No. in Groombridge, 1810.	No. in B.A.C., 1850.
							e'	f'	g'	h'					
281	84. 16. 28.53	1868.9	3	-14.383	+0.328	..	9.92309	0.05252	1.02597	0.27803	100.683	..	....	..	..
282	51. 39. 27.22	1874.7	9	-14.366	+0.394	+0.11	0.11146	9.87825	1.02669	0.27824	98.592	429	II. 246	607	953
283	16. 5. 46.07	1873.2	8	-14.297	+0.653	+0.07	0.24391	9.71187	1.02952	0.27904	92.910	417	II. 237	602	955
284	51. 24. 31.35	1874.1	2	-14.222	+0.399	..	0.11411	9.87952	1.03255	0.27991	97.983	..	....	..	..
285	49. 32. 21.37	1873.7	10	-14.190	+0.406	-0.01	0.12336	9.86969	1.03383	0.28027	97.629	436	II. 254	615	963
286	72. 36. 56.33	1869.9	4	-14.167	+0.354	+0.01	9.99887	9.99517	1.03475	0.28053	99.646	439	II. 257	..	966
287	16. 36. 58.80	1875.0	5	-14.089	+0.656	..	0.24497	9.72163	1.03785	0.28140	92.002	..	....	612	..
288	61. 24. 49.14	1873.7	4	-14.061	+0.380	-0.02	0.06450	9.93678	1.03896	0.28172	98.432	441	II. 260	..	974
289	5. 32. 56.03	1876.1	3	-14.029	+1.351	+0.12	0.27166	9.70218	1.04023	0.28208	89.647	402	....	595	960
290	50. 52. 35.47	1873.8	5	-13.992	+0.408	-0.02	0.11906	9.88071	1.04173	0.28249	97.000	443	II. 265	620	981
291	12. 44. 23.06	1871.2	22	-13.920	+0.776	+0.08	0.25686	9.71845	1.04453	0.28327	90.469	431	II. 255	616	979
292	70. 45. 32.43	1872.3	18	-13.911	+0.364	0.00	0.01182	9.98744	1.04489	0.28337	98.708	446	III. 2	..	986
293	24. 5. 54.68	1873.5	2	-13.862	+0.557	+0.06	0.22593	9.75512	1.04679	0.28389	92.285	442	....	622	988
294	15. 14. 11.50	1868.9	1	-13.839	+0.705	-0.05	0.25147	9.72766	1.04768	0.28414	90.553	437	....	..	985
295	24. 49. 8.16	1869.0	1	-13.784	+0.554	+0.07	0.22458	9.76055	1.04986	0.28474	92.047	445	III. 1	..	990
296	119. 29. 32.16	1872.0	1	-13.764	+0.273	-0.62	9.66671	0.18695	1.05059	0.28495	98.281	454	III. 13	..	997
297	69. 25. 53.57	1874.0	14	-13.706	+0.372	+0.07	0.02127	9.98224	1.05285	0.28556	97.944	451	III. 11	..	999
298	20. 44. 26.40	1874.9	5	-13.687	+0.609	..	0.23805	9.74953	1.05359	0.28576	90.858	..	....	628	998
299	24. 49. 7.21	1872.0	18	-13.629	+0.562	+0.03	0.22626	9.76579	1.05580	0.28636	91.344	448	III. 7	634	1001
300	49. 59. 25.81	1874.1	4	-13.624	+0.423	..	0.12698	9.88263	1.05600	0.28642	95.433	..	....	..	..
301	49. 59. 21.67	1874.1	1	-13.624	+0.423	..	0.12698	9.88263	1.05600	0.28642	95.433	..	....	..	..
302	51. 11. 20.56	1874.5	2	-13.583	+0.420	..	0.12159	9.88955	1.05755	0.28684	95.443	..	....	639	1008
303	40. 14. 55.96	1869.6	5	-13.580	+0.460	+0.06	0.17062	9.83453	1.05768	0.28687	93.791	452	III. 15	637	1007
304	40. 22. 29.65	1869.6	6	-13.546	+0.461	+0.04	0.17044	9.83601	1.05897	0.28722	93.667	455	III. 16	640	1011
305	56. 14. 50.19	1874.0	2	-13.501	+0.408	+0.07	0.09691	9.91697	1.06066	0.28767	95.816	..	III. 23	..	1017
306	17. 15. 1.96	1876.1	3	-13.409	+0.686	+0.09	0.25076	9.74930	1.06411	0.28860	88.931	449	....	641	1018
307	69. 57. 16.12	1872.9	5	-13.321	+0.380	+0.10	0.02065	0.98779	1.06741	0.28948	96.772	..	III. 38	..	1032
308	25. 52. 26.17	1874.3	8	-13.316	+0.566	+0.09	0.22621	9.77999	1.06761	0.28953	90.134	..	III. 27	645	1030
309	69. 18. 58.09	1871.8	11	-13.299	+0.382	+0.03	0.02470	9.98488	1.06821	0.28970	96.639	465	III. 40	..	1034
310	40. 35. 47.36	1870.9	37	-13.210	+0.472	+0.05	0.17286	9.84502	1.07152	0.29057	92.322	464	III. 41	650	1043
311	69. 43. 1.83	1874.9	3	-13.197	+0.384	+0.02	0.02284	9.98760	1.07197	0.29069	96.367	470	III. 45	..	1045
312	8. 54. 14.10	1870.6	2	-13.184	+1.050	..	0.27353	9.74074	1.07245	0.29082	86.289	..	....	..	..
313	65. 43. 51.81	1874.0	11	-13.108	+0.395	+0.07	0.04747	9.96913	1.07529	0.29155	95.635	472	III. 49	..	1052
314	40. 42. 34.63	1876.3	1	-13.094	+0.475	..	0.17351	9.84826	1.07577	0.29169	91.871	..	....	660	..
315	69. 39. 9.24	1872.3	3	-13.087	+0.387	+0.02	0.02395	9.98814	1.07601	0.29175	96.017	474	III. 50	..	1053
316	8. 56. 5.39	1870.6	2	-13.062	+1.060	..	0.27467	9.74552	1.07693	0.29199	85.735	..	....	..	..
317	81. 25. 23.34	1870.5	6	-13.029	+0.363	+0.10	9.94670	0.04259	1.07814	0.29231	96.940	477	III. 55	..	1057
318	31. 34. 3.31	1871.1	12	-12.910	+0.534	-0.03	0.21082	9.81392	1.08244	0.29342	89.449	..	III. 54	671	1062
319	80. 42. 54.58	1869.7	11	-12.875	+0.368	+0.05	9.95207	0.03998	1.08367	0.29374	96.483	481	III. 63	..	1068
320	34. 59. 36.81	1868.9	3	-12.874	+0.513	+0.12	0.19844	9.82876	1.08372	0.29375	89.946	..	III. 57	678	1065

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heiss's *Atlas Celestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzini's Catalogue, (1814); from Weisse's two Catalogues, *Positiones Mediae Stellarum Fixarum in Zonis Regionum* (Weisse's Bessel); from Argelander's *Bömer Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

CATALOGUE OF THE MEAN PLACES OF STARS FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Frac- tion of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
321	66 Arietis.....	6-7	3. 20. 57.770	1872.4	5	+ 3.4950	+ 0.0181	- 0.001	0.09556	0.09879	1.45477	0.08549	82.828
322	Bradley 471.....	6	3. 21. 13.841	1876.2	6	+ 6.4183	+ 0.2042	..	0.12870	0.13818	1.49720	0.12664	70.845
323	4 Tauri.....	5*	3. 23. 24.805	1868.7	3	+ 3.2718	+ 0.0123	0.000	0.09442	0.09783	1.45136	0.08210	83.484
324	Groombridge 698 ..	7-8	3. 23. 32.542	1868.9	3	+ 4.0165	+ 0.0356	..	0.09930	0.10379	1.46265	0.09282	81.052
325	5 Tauri.....	4*	3. 23. 48.496	1872.4	17	+ 3.3023	+ 0.0130	+ 0.002	0.09448	0.09796	1.45182	0.08253	83.403
326	Groombridge 642...	6	3. 24. 47.621	1872.5	6	+ 18.9175	+ 3.2225	+ 0.136	0.26403	0.29925	1.64264	0.26370	15.704
327	6 Tauri.....	6*	3. 25. 40.520	1868.1	1	+ 3.2366	+ 0.0114	+ 0.002	0.09415	0.09786	1.45081	0.08154	83.583
328	Piazzi III. 87.....	6-7	3. 26. 51.034	1872.7	6	+ 3.4013	+ 0.0151	- 0.021	0.09458	0.09859	1.45334	0.08385	83.140
329	7 Tauri.....	6*	3. 26. 51.912	1874.8	6	+ 3.5402	+ 0.0188	0.000	0.09525	0.09944	1.45546	0.08581	82.727
330	18 Eridani.....	3*	3. 26. 54.023	1872.5	22	+ 2.8891	+ 0.0055	- 0.067	0.09409	0.09799	1.44543	0.07656	84.339
331	9 Tauri.....	6	3. 29. 26.549	1871.9	3	+ 3.5169	+ 0.0179	- 0.005	0.09488	0.09942	1.45510	0.08533	82.817
332	Piazzi III. 94.....	6*	3. 31. 4.056	1874.9	4	+ 5.1433	+ 0.0899	- 0.005	0.11000	0.11929	1.47919	0.10670	76.757
333	Piazzi III. 103.....	6*	3. 32. 11.524	1873.0	3	+ 3.3810	+ 0.0143	+ 0.009	0.09402	0.09881	1.45303	0.08336	83.223
334	Piazzi III. 104.....	6*	3. 32. 48.340	1868.1	2	+ 3.8837	+ 0.0285	+ 0.025	0.09695	0.10277	1.46065	0.09000	81.655
335	11 Tauri.....	6	3. 33. 7.775	1871.3	12	+ 3.5700	+ 0.0189	- 0.002	0.09481	0.10000	1.45591	0.08584	82.680
336	39 Persei.....	3*	3. 33. 49.136	1871.9	8	+ 4.2393	+ 0.0416	+ 0.001	0.09989	0.10690	1.46597	0.09453	80.392
337	Piazzi III. 102.....	6*	3. 33. 55.646	1872.7	4	+ 5.5788	+ 0.1162	+ 0.033	0.11417	0.12581	1.48543	0.11145	75.074
338	13 Tauri.....	6-5*	3. 34. 56.131	1873.7	6	+ 3.4495	+ 0.0156	+ 0.001	0.09404	0.09932	1.45407	0.08415	83.048
339	Radcliffe 1043	7-8	3. 35. 2.544	1876.9	1	+ 4.0501	+ 0.0339	..	0.09802	0.10469	1.46314	0.09193	81.102
340	38 Persei.....	4*	3. 36. 17.757	1871.3	9	+ 3.7456	+ 0.0235	- 0.006	0.09555	0.10161	1.45857	0.08790	82.155
341	41 Persei.....	4*	3. 36. 30.264	1872.5	2	+ 4.0535	+ 0.0336	- 0.006	0.09785	0.10479	1.46320	0.09180	81.112
342	Camelopardali... γ	4-5*	3. 36. 53.080	1872.7	8	+ 6.2105	+ 0.1605	- 0.035	0.12035	0.13532	1.49430	0.11819	72.606
343	Piazzi III. 128.....	6*	3. 37. 1.491	1871.0	7	+ 3.4784	+ 0.0161	- 0.002	0.09398	0.09960	1.45451	0.08443	82.977
344	23 Eridani.....	3*	3. 37. 7.079	1873.0	6	+ 2.8769	+ 0.0054	- 0.008	0.09326	0.09864	1.44524	0.07664	84.360
345	17 Tauri.....	4*	3. 37. 16.656	1875.5	7	+ 3.5491	+ 0.0179	0.000	0.09428	0.10008	1.45560	0.08532	82.774
346	Piazzi III. 138.....	6*	3. 37. 27.061	1868.1	2	+ 2.8631	+ 0.0053	+ 0.003	0.09327	0.09871	1.44503	0.07647	84.382
347	Piazzi III. 121.....	5*	3. 37. 49.422	1871.4	1	+ 5.4186	+ 0.1018	- 0.003	0.11132	0.12352	1.48315	0.10844	75.877
348	23 Tauri.....	5*	3. 38. 43.955	1875.0	2	+ 3.5476	+ 0.0177	+ 0.003	0.09414	0.10014	1.45557	0.08522	82.789
349	25 Tauri.....	3*	3. 39. 52.724	1871.8	27	+ 3.5529	+ 0.0177	- 0.001	0.09404	0.10024	1.45565	0.08522	82.782
350	30 Tauri.....	5*	3. 41. 15.215	1869.7	5	+ 3.2809	+ 0.0116	0.000	0.09294	0.09892	1.45149	0.08178	83.522
351	27 Tauri.....	4*	3. 41. 33.263	1875.1	11	+ 3.5543	+ 0.0175	- 0.001	0.09389	0.10034	1.45567	0.08515	82.789
352	28 Tauri.....	5-6	3. 41. 34.494	1874.5	2	+ 3.5562	+ 0.0176	- 0.002	0.09390	0.10035	1.45570	0.08517	82.783
353	Bradley 531.....	7	3. 42. 48.971	1875.4	2	+ 3.0366	+ 0.0074	..	0.09258	0.09872	1.44771	0.07875	84.066
354	Carrington 550	10	3. 45. 20.246	1870.4	1	+ 10.9768	+ 0.7270	..	0.16584	0.20355	1.55598	0.16507	53.699
355	44 Persei.....	3*	3. 46. 5.374	1873.8	10	+ 3.7556	+ 0.0222	+ 0.001	0.09452	0.10217	1.45872	0.08726	82.222
356	Piazzi III. 177.....	6-5*	3. 46. 8.784	1874.1	4	+ 5.2326	+ 0.0838	- 0.016	0.10726	0.12098	1.48048	0.10422	76.906
357	Piazzi III. 178.....	6*	3. 46. 14.304	1868.3	4	+ 5.0627	+ 0.0745	- 0.007	0.10556	0.11853	1.47803	0.10228	77.562
358	Piazzi III. 186.....	6-5*	3. 46. 45.549	1868.9	1	+ 4.2912	+ 0.0395	0.000	0.09837	0.10805	1.46674	0.09341	80.434
359	Piazzi III. 160.....	5-6	3. 48. 44.369	1874.2	4	+ 9.6740	+ 0.5089	+ 0.005	0.15086	0.18581	1.54001	0.14992	59.352
360	32 Tauri.....	6*	3. 49. 18.397	1868.1	2	+ 3.5293	+ 0.0161	+ 0.006	0.09302	0.10057	1.45529	0.08444	82.915

326. The adopted proper motion is taken from the Bonn Observations, Vol. VII., p. 109.

354. The magnitude is taken from the Redhill Catalogue.

AT THE ROYAL OBSERVATORY, GREENWICH, FROM 1868 TO 1876.

{xix}

No.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of μ	No. in Bessel's Bradley. 1755.	No. in Piazzi. 1800.	No. in Groombridge. 1810.	No. in B.A.C. 1850.
							e	f	g	h					
321	67. 38. 20.13	1873.5	11	-12.826	+0.397	+0.14	0.03790	9.98075	1.08543	0.29419	94.976	482	III. 65	..	1069
322	17. 5. 25.40	1874.4	11	-12.808	+0.726	+0.07	0.25720	9.77050	1.08608	0.29435	86.194	471	....	669	1067
323	79. 6. 15.23	1868.7	3	-12.660	+0.376	+0.05	9.96407	0.03368	1.09131	0.29568	95.773	485	III. 75	..	1084
324	47. 41. 21.51	1868.9	3	-12.651	+0.460	..	0.14663	9.88947	1.09163	0.29576	91.361	..	....	698	..
325	77. 30. 12.80	1871.5	15	-12.633	+0.379	+0.03	9.97520	0.02680	1.09226	0.29593	95.540	486	III. 77	..	1087
326	3. 45. 44.15	1872.8	8	-12.566	+2.156	+0.06	0.28985	9.75948	1.09461	0.29652	82.497	..	....	642	1061
327	81. 3. 39.83	1868.1	1	-12.507	+0.374	+0.07	9.95075	0.04263	1.09667	0.29704	95.567	489	III. 83	..	1092
328	72. 35. 19.62	1872.6	7	-12.426	+0.395	+0.38	0.00899	0.00627	1.09947	0.29774	94.401	..	III. 87	..	1096
329	65. 58. 0.83	1874.8	6	-12.425	+0.411	+0.07	0.05054	9.97666	1.09951	0.29775	93.509	491	III. 86	..	1095
330	99. 53. 33.73	1873.7	10	-12.423	+0.336	+0.04	9.80455	0.11611	1.09959	0.29777	96.678	493	III. 89	..	1100
331	67. 12. 51.43	1871.9	2	-12.246	+0.412	+0.05	0.04403	9.98386	1.10563	0.29926	93.143	494	....	..	1107
332	27. 12. 3.94	1874.9	4	-12.134	+0.602	-0.08	0.23295	9.82075	1.10944	0.30020	85.365	..	III. 94	716	1111
333	73. 52. 53.65	1873.0	3	-12.055	+0.399	+0.06	0.00212	0.01416	1.11210	0.30085	93.535	..	III. 103	..	1119
334	52. 50. 7.17	1868.1	2	-12.013	+0.459	-0.07	0.12643	9.92331	1.11351	0.30118	89.998	..	III. 104	..	1123
335	65. 5. 11.54	1872.0	20	-11.990	+0.423	+0.02	0.05851	9.97686	1.11428	0.30137	92.041	500	III. 107	..	1126
336	42. 37. 26.74	1870.8	5	-11.942	+0.502	+0.05	0.17534	9.88184	1.11590	0.30177	87.765	499	III. 106	722	1129
337	23. 12. 10.95	1872.7	6	-11.934	+0.659	-0.01	0.24743	9.81495	1.11616	0.30183	83.707	..	III. 102	721	1127
338	70. 42. 41.71	1873.7	6	-11.863	+0.411	+0.01	0.02395	0.00202	1.11849	0.30239	92.544	504	III. 118	..	1135
339	47. 47. 53.04	1876.9	1	-11.856	+0.482	..	0.15241	9.90465	1.11872	0.30245	88.482	..	....	..	..
340	58. 7. 9.53	1872.0	14	-11.767	+0.448	-0.03	0.10014	9.94944	1.12167	0.30315	90.139	..	III. 123	..	1138
341	47. 49. 41.08	1872.5	2	-11.752	+0.484	+0.03	0.15299	9.90667	1.12214	0.30326	88.122	506	III. 122	728	1139
342	19. 3. 57.16	1872.3	11	-11.725	+0.740	+0.03	0.26126	9.81117	1.12302	0.30347	81.979	..	III. 111	724	1137
343	69. 28. 38.30	1871.2	6	-11.716	+0.417	+0.12	0.03266	9.99794	1.12334	0.30354	91.934	..	III. 128	..	1143
344	100. 11. 52.18	1873.4	3	-11.708	+0.346	-0.73	9.79879	0.11508	1.12358	0.30361	95.437	515	III. 134	..	1148
345	66. 17. 27.54	1875.3	10	-11.697	+0.425	+0.04	0.05285	9.98472	1.12397	0.30369	91.358	509	III. 130	..	1147
346	100. 53. 31.72	1868.1	2	-11.685	+0.344	+0.05	9.79253	0.11733	1.12435	0.30379	95.444	..	III. 138	..	1152
347	24. 52. 22.93	1871.4	1	-11.659	+0.648	+0.01	0.24445	9.82772	1.12519	0.30399	82.942	..	III. 121	726	1144
348	66. 27. 8.70	1875.1	1	-11.593	+0.427	+0.05	0.05239	9.98634	1.12732	0.30449	91.081	516	III. 144	..	1161
349	66. 17. 33.25	1872.9	21	-11.511	+0.429	+0.06	0.05377	9.98646	1.12998	0.30510	90.814	521	III. 152	..	1166
350	79. 15. 8.22	1869.7	5	-11.413	+0.398	+0.05	9.96713	0.03896	1.13312	0.30583	92.616	529	III. 159	..	1174
351	66. 20. 23.79	1875.2	12	-11.391	+0.432	+0.07	0.05423	9.98766	1.13382	0.30600	90.469	527	III. 157	..	1176
352	66. 15. 22.70	1874.5	2	-11.390	+0.432	+0.06	0.05473	9.98733	1.13386	0.30601	90.452	528	III. 158	..	1177
353	91. 50. 43.58	1875.4	2	-11.300	+0.371	-0.02	9.86764	0.08569	1.13673	0.30667	94.020	531	....	..	1193
354	8. 0. 47.36	1870.4	1	-11.117	+1.337	..	0.29308	9.81362	1.14247	0.30798	77.165	..	....	..	..
355	58. 29. 54.82	1873.9	12	-11.063	+0.462	+0.05	0.10236	9.95988	1.14418	0.30837	87.984	534	III. 185	..	1207
356	27. 18. 22.29	1872.3	13	-11.058	+0.642	-0.05	0.24113	9.85128	1.14433	0.30840	81.104	..	III. 177	753	1203
357	29. 16. 8.26	1868.4	5	-11.052	+0.621	-0.06	0.23447	9.85689	1.14453	0.30844	81.525	..	III. 178	754	1204
358	42. 30. 24.99	1868.9	1	-11.014	+0.528	0.00	0.18270	9.90042	1.14570	0.30871	84.373	..	III. 186	759	1210
359	9. 39. 34.09	1871.2	10	-10.868	+1.191	-0.05	0.29130	9.82334	1.15023	0.30973	76.491	..	III. 160	746	1211
360	67. 53. 34.37	1868.1	3	-10.827	+0.438	+0.14	0.04716	9.99864	1.15147	0.31000	89.159	..	III. 197	..	1221

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Celestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 3377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Medice Stellarum Fixarum in Zonis Regiomontanis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichniss* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

{xx}

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
361	45 Persei	3-4*	3. 49. 16.118	1875.5	2	+ 4.0044	+ 0.0289	- 0.003	0.09578	0.10478	1.46246	0.08984	81.460
362	33 Tauri	6-7†	3. 49. 28.643	1873.9	6	+ 3.5455	+ 0.0165	+ 0.004	0.09307	0.10068	1.45554	0.08462	82.870
363	46 Persei	4*	3. 50. 39.809	1873.7	3	+ 3.8756	+ 0.0247	0.000	0.09474	0.10350	1.46053	0.08826	81.893
364	34 Eridani	3*	3. 52. 3.474	1871.5	11	+ 2.7921	+ 0.0047	+ 0.002	0.09215	0.09976	1.44392	0.07602	84.503
365	Carrington 567	10	3. 52. 18.497	1870.4	1	+ 10.6416	+ 0.6291	..	0.15770	0.19912	1.55197	0.15690	55.863
366	Piazzi III. 215	6*	3. 53. 26.418	1870.1	5	+ 3.4383	+ 0.0138	+ 0.007	0.09228	0.10024	1.45391	0.08323	83.183
367	35 Tauri	3-4*	3. 53. 35.431	1869.9	12	+ 3.3169	+ 0.0115	- 0.002	0.09193	0.09970	1.45205	0.08189	83.486
368	Bradley 547	6*	3. 53. 39.719	1874.6	3	+ 3.4831	+ 0.0147	+ 0.002	0.09241	0.10050	1.45459	0.08371	83.069
369	Groombridge 771 ...	7-6	3. 54. (31.)	..	..	+ 6.8574	+ 0.1847	..	0.12064	0.14524	1.50321	0.11895	70.960
370	36 Tauri	6*	3. 56. 42.486	1875.0	6	+ 3.5774	+ 0.0164	+ 0.002	0.09248	0.10125	1.45602	0.08459	82.834
371	47 Persei	4-5*	3. 57. 3.381	1869.0	7	+ 4.4419	+ 0.0414	- 0.002	0.09795	0.11031	1.46896	0.09364	80.100
372	Groombridge 750 ..	6	3. 57. 7.612	1872.9	2	+ 16.7987	+ 1.8129	+ 0.057	0.20635	0.27574	1.62116	0.20596	32.294
373	37 Tauri	5-4*	3. 57. 7.800	1873.7	23	+ 3.5303	+ 0.0153	+ 0.004	0.09226	0.10095	1.45531	0.08407	82.963
374	39 Tauri	6-7†	3. 57. 45.739	1871.7	7	+ 3.5295	+ 0.0152	+ 0.009	0.09219	0.10098	1.45530	0.08403	82.971
375	Piazzi III. 237	8-9	3. 57. 46.725	1874.5	2	+ 3.5305	+ 0.0152	..	0.09219	0.10099	1.45531	0.08404	82.968
376	Groombridge 766 ..	6	3. 58. 45.967	1873.1	3	+ 13.1836	+ 1.0054	+ 0.072	0.17517	0.23243	1.58194	0.17462	46.685
377	42 Tauri	6*	3. 59. 5.810	1871.2	5	+ 3.7034	+ 0.0189	+ 0.001	0.09281	0.10231	1.45793	0.08577	82.499
378	50 Persei	6*	4. 0. (5.)	..	..	+ 3.9673	+ 0.0254	+ 0.019	0.09416	0.10482	1.46191	0.08840	81.718
379	43 Tauri	6*	4. 1. 42.682	1873.1	19	+ 3.4787	+ 0.0138	+ 0.007	0.09162	0.10086	1.45452	0.08333	83.130
380	Groombridge 774 ..	6	4. 2. 4.142	1876.6	3	+ 12.5848	+ 0.8676	..	0.16736	0.22478	1.57501	0.16677	49.486
381	44 Tauri	6*	4. 3. 2.315	1873.5	4	+ 3.6448	+ 0.0170	+ 0.003	0.09212	0.10202	1.45705	0.08493	82.698
382	Groombridge 784 ..	6	4. 4. 35.698	1876.3	4	+ 7.6952	+ 0.2335	..	0.12417	0.15769	1.51447	0.12286	68.374
383	Groombridge 779 ..	6	4. 4. 53.110	1869.1	2	+ 10.0842	+ 0.4829	..	0.14445	0.19155	1.54508	0.14363	59.379
384	38 Eridani	4-5*	4. 5. 37.081	1871.5	14	+ 2.9245	+ 0.0058	- 0.002	0.09067	0.10002	1.44599	0.07773	84.311
385	Piazzi III. 260	6*	4. 5. 37.601	1873.8	4	+ 5.2366	+ 0.0700	- 0.018	0.10276	0.12149	1.48054	0.09996	77.502
386	52 Persei	5*	4. 6. (11.)	..	..	+ 4.0640	+ 0.0267	+ 0.002	0.09396	0.10608	1.46335	0.08878	81.499
387	39 Eridani	5*	4. 8. 18.335	1876.4	2	+ 2.8516	+ 0.0051	+ 0.002	0.09053	0.10034	1.44485	0.07706	84.431
388	48 Tauri	6*	4. 8. 30.440	1871.0	4	+ 3.3906	+ 0.0117	+ 0.008	0.09071	0.10074	1.45318	0.08221	83.387
389	Piazzi IV. 10	6†	4. 8. 39.038	1875.0	6	+ 5.5873	+ 0.0844	- 0.013	0.10489	0.12664	1.48553	0.10251	76.346
390	Groombridge 804 ..	6	4. 9. 16.782	1868.1	1	+ 4.1317	+ 0.0278	..	0.09397	0.10695	1.46436	0.08910	81.330
391	40 Eridani	5-4*	4. 9. 22.816	1874.4	4	+ 2.9088	+ 0.0056	- 0.148	0.09034	0.10024	1.44574	0.07764	84.344
392	50 Tauri	6-5*	4. 9. 45.738	1870.1	5	+ 3.5097	+ 0.0136	- 0.004	0.09092	0.10141	1.45500	0.08328	83.106
393	Piazzi IV. 22	6-5*	4. 10. 40.480	1873.7	3	+ 5.1653	+ 0.0634	+ 0.029	0.10112	0.12059	1.47951	0.09828	77.897
394	Piazzi IV. 31	6	4. 11. 24.240	1869.8	5	+ 4.1246	+ 0.0270	- 0.002	0.09364	0.10695	1.46426	0.08882	81.381
395	53 Tauri	6*	4. 11. 53.538	1873.6	5	+ 3.5253	+ 0.0136	+ 0.004	0.09076	0.10160	1.45523	0.08334	83.081
396	56 Tauri	6*	4. 12. 2.167	1876.0	2	+ 3.5406	+ 0.0139	+ 0.005	0.09079	0.10169	1.45546	0.08347	83.045
397	54 Persei	6*	4. 12. 6.227	1868.9	2	+ 3.8836	+ 0.0209	+ 0.002	0.09223	0.10445	1.46065	0.08657	82.113
398	52 Tauri	5-6*	4. 12. (29.)	..	..	+ 3.6809	+ 0.0165	- 0.006	0.09126	0.10270	1.45760	0.08472	82.682
399	54 Tauri	4*	4. 12. 30.621	1872.1	18	+ 3.3988	+ 0.0115	+ 0.009	0.09034	0.10094	1.45330	0.08216	83.394
400	57 Tauri	6*	4. 12. 45.344	1868.1	1	+ 3.3636	+ 0.0109	+ 0.011	0.09024	0.10080	1.45276	0.08183	83.475

365. The magnitude is taken from the Redhill Catalogue.

1878GOAMM. 386. . 78A

AT THE ROYAL OBSERVATORY, GREENWICH, FROM 1868 TO 1876.

{xxi}

No.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of μ	No. in Bessel's 1755.	No. in Piazzi's 1800.	No. in Groombridge. 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
361	50. 21. 43.81	1873.6	5	-10.829	+0.496	+0.04	0.14697	9.93225	1.15139	0.30999	85.496	539	III. 196	765	1219
362	67. 11. 53.28	1873.9	6	-10.813	+0.440	..	0.05169	9.99609	1.15188	0.31009	88.986	541	III. 199	..	1223
363	54. 34. 45.03	1873.8	5	-10.726	+0.482	+0.04	0.12584	9.94942	1.15454	0.31068	86.093	542	III. 201	..	1228
364	103. 52. 26.92	1872.8	4	-10.624	+0.350	+0.12	9.75997	0.12286	1.15765	0.31137	93.984	546	III. 210	..	1234
365	8. 31. 32.53	1870.4	1	-10.605	+1.322	..	0.29557	9.83061	1.15821	0.31149	75.206	..	....	..	..
366	72. 10. 8.19	1870.1	5	-10.521	+0.431	+0.03	0.02024	0.01677	1.16075	0.31204	89.164	..	III. 215	..	1240
367	77. 52. 23.67	1869.9	12	-10.509	+0.417	+0.02	9.97991	0.03737	1.16109	0.31211	90.203	548	III. 218	..	1241
368	70. 9. 40.67	1874.6	3	-10.503	+0.437	+0.07	0.03375	0.00960	1.16128	0.31215	88.728	547	III. 217	..	1242
369	16. 46. 55.48	1876.1	4	-10.440	+0.859	..	0.27697	9.84608	1.16316	0.31257	76.337	..	....	771	..
370	66. 14. 54.82	1875.0	6	-10.275	+0.453	-0.01	0.06021	9.99723	1.16805	0.31361	87.302	552	III. 227	..	1253
371	39. 59. 55.18	1869.0	7	-10.249	+0.561	+0.05	0.19855	9.90771	1.16887	0.31379	81.102	549	III. 224	777	1254
372	4. 47. 10.76	1872.9	2	-10.246	+2.111	-0.05	1.30544	9.83940	1.16891	0.31380	73.023	..	....	750	1235
373	68. 16. 11.67	1872.9	22	-10.244	+0.447	+0.09	0.04735	0.00469	1.16898	0.31381	87.646	554	III. 232	..	1257
374	68. 20. 18.67	1871.7	7	-10.196	+0.448	+0.14	0.04716	0.00531	1.17038	0.31411	87.530	556	III. 236	..	1260
375	68. 17. 32.90	1874.5	2	-10.195	+0.448	..	0.04735	0.00520	1.17042	0.31411	87.523	..	III. 237	..	..
376	6. 30. 43.86	1873.1	3	-10.121	+1.664	-0.02	0.30287	9.84422	1.17258	0.31457	72.883	..	....	766	1247
377	61. 20. 49.28	1871.2	7	-10.095	+0.471	-0.02	0.09114	9.98166	1.17332	0.31472	85.708	559	III. 245	..	1265
378	52. 17. 51.47	1874.7	3	-10.022	+0.506	+0.20	0.14189	9.95153	1.17545	0.31517	83.352	561	III. 248	..	1269
379	70. 43. 52.45	1870.2	5	-9.897	+0.446	+0.05	0.03238	0.01585	1.17907	0.31592	87.268	562	III. 252	..	1274
380	6. 58. 32.20	1875.3	9	-9.868	+1.602	..	0.30350	9.85220	1.17988	0.31609	72.003	..	....	774	1263
381	63. 51. 19.25	1873.7	6	-9.797	+0.468	0.00	0.07740	9.99330	1.18195	0.31651	85.446	563	III. 256	..	1279
382	14. 12. 50.50	1876.3	4	-9.677	+0.987	..	0.28836	9.86467	1.18536	0.31721	72.844	..	....	784	1280
383	9. 29. 15.42	1869.4	6	-9.655	+1.293	..	0.29953	9.86046	1.18600	0.31734	71.713	..	....	779	1276
384	97. 10. 21.74	1873.0	6	-9.598	+0.379	-0.07	9.81954	0.10027	1.18757	0.31765	91.574	568	IV. 11	..	1290
385	28. 28. 29.12	1872.5	7	-9.597	+0.675	+0.01	0.24677	9.89170	1.18760	0.31766	75.955	..	III. 260	792	1286
386	49. 50. 33.75	1874.0	4	-9.555	+0.525	+0.07	0.15691	9.95075	1.18879	0.31790	81.285	565	IV. 8	798	1291
387	100. 34. 32.86	1876.4	2	-9.392	+0.372	+0.18	9.78618	0.10925	1.19335	0.31881	91.749	574	IV. 26	..	1303
388	74. 55. 18.29	1872.0	6	-9.376	+0.441	+0.02	0.00475	0.03275	1.19378	0.31889	86.920	572	IV. 21	..	1302
389	25. 10. 32.06	1871.9	12	-9.365	+0.725	+0.03	0.25902	9.89065	1.19410	0.31895	74.306	..	IV. 10	800	1300
390	48. 10. 34.69	1868.1	1	-9.316	+0.538	..	0.16643	9.94953	1.19547	0.31923	80.107	..	....	804	1305
391	97. 51. 12.85	1874.4	3	-9.308	+0.380	+3.46	9.81238	0.10154	1.19568	0.31927	91.210	578	IV. 29	..	1309
392	69. 44. 18.41	1870.1	7	-9.278	+0.458	+0.05	0.04143	0.01693	1.19652	0.31943	85.472	575	IV. 27	..	1311
393	29. 34. 19.50	1873.9	9	-9.208	+0.673	+0.07	0.24517	9.90343	1.19842	0.31981	74.859	..	IV. 22	808	1313
394	48. 30. 12.97	1869.8	5	-9.151	+0.539	-0.04	0.16572	9.95310	1.19999	0.32011	79.680	..	IV. 31	814	1320
395	69. 10. 10.63	1873.6	5	-9.112	+0.462	+0.02	0.04583	0.01636	1.20105	0.32032	84.921	580	IV. 36	..	1321
396	68. 32. 16.53	1876.0	2	-9.102	+0.464	+0.01	0.05011	0.01448	1.20134	0.32037	84.740	581	IV. 37	..	1324
397	55. 44. 41.54	1868.1	2	-9.097	+0.509	+0.04	0.12804	9.97530	1.20148	0.32040	81.444	579	IV. 35	..	1322
398	62. 57. 27.51	1871.0	3	-9.067	+0.483	+0.07	0.08608	9.99756	1.20230	0.32056	83.240	582	IV. 38	..	1326
399	74. 41. 0.01	1871.8	6	-9.064	+0.446	+0.03	0.00736	0.03367	1.20237	0.32057	86.133	583	IV. 39	..	1328
400	76. 16. 31.76	1868.1	1	-9.046	+0.442	+0.01	9.99568	0.03864	1.20287	0.32066	86.464	585	IV. 41	..	1330

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Cælestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Medie Stellarum Fixarum in Zonis Regionum* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B. A. C.	Logarithms of				Value of μ
									e	f	g	h	
401	59 Tauri	χ^1	4. 14. 47.747	1873.0	6	+ 3.6394	+ 0.0154	+ 0.002	0.09085	0.10248	1.45696	0.08421	82.814
402	Tauri	χ^2	4. 14. 48.428	1874.1	1	+ 3.6395	+ 0.0154	..	0.09085	0.10248	1.45697	0.08422	82.812
403	61 Tauri	δ^1	4. 15. 33.300	1870.2	2	+ 3.4447	+ 0.0119	+ 0.004	0.09016	0.10130	1.45400	0.08246	83.305
404	63 Tauri	6	4. 16. 4.507	1868.8	5	+ 3.4277	+ 0.0116	+ 0.010	0.09007	0.10124	1.45374	0.08230	83.346
405	55 Persei	6*	4. 16. 11.032	1870.2	5	+ 3.8779	+ 0.0200	+ 0.003	0.09171	0.10454	1.46057	0.08620	82.175
406	Lalande 8202	9	4. 16. 14.856	1873.1	2	+ 3.6076	+ 0.0146	+ 0.004	0.09058	0.10231	1.45648	0.08385	82.908
407	62 Tauri	6*	4. 16. 16.900	1873.6	4	+ 3.6076	+ 0.0146	+ 0.004	0.09058	0.10231	1.45648	0.08385	82.908
408	56 Persei	6-7	4. 16. 19.757	1871.1	2	+ 3.8731	+ 0.0199	+ 0.007	0.09168	0.10450	1.46049	0.08615	82.191
409	64 Tauri	δ^2	4. 16. 43.156	1871.2	5	+ 3.4435	+ 0.0118	+ 0.007	0.09004	0.10134	1.45398	0.08241	83.314
410	W.B. (2) IV. 353 ..	9	4. 17. 28.132	1869.4	3	+ 3.5052	+ 0.0127	..	0.09013	0.10171	1.45493	0.08292	83.171
411	Groombridge 829 ..	8	4. 17. (40.)	..	..	+ 5.7621	+ 0.0849	..	0.10393	0.12935	1.48801	0.10182	76.038
412	65 Tauri	κ^1	4. 17. 44.563	1874.0	3	+ 3.5595	+ 0.0136	+ 0.003	0.09027	0.10204	1.45575	0.08337	83.041
413	68 Tauri	δ^3	4. 18. 5.105	1875.4	3	+ 3.4558	+ 0.0119	+ 0.008	0.08994	0.10146	1.45417	0.08247	83.293
414	69 Tauri	ν^1	4. 18. 39.020	1875.6	3	+ 3.5733	+ 0.0137	+ 0.007	0.09022	0.10217	1.45596	0.08344	83.013
415	71 Tauri	6*	4. 19. 3.290	1868.6	5	+ 3.4036	+ 0.0110	+ 0.005	0.08972	0.10124	1.45338	0.08199	83.420
416	72 Tauri	ν^2	4. 19. 38.274	1874.6	2	+ 3.5788	+ 0.0137	0.000	0.09013	0.10225	1.45604	0.08344	83.007
417	Piazzi IV. 82	6*	4. 20. 25.015	1874.6	4	+ 3.5458	+ 0.0131	+ 0.013	0.08996	0.10206	1.45554	0.08313	83.094
418	75 Tauri	6-7†	4. 21. 7.449	1869.0	5	+ 3.4221	+ 0.0111	0.000	0.08956	0.10141	1.45360	0.08208	83.396
419	74 Tauri	ϵ	4. 21. 8.639	1871.7	22	+ 3.4879	+ 0.0121	+ 0.005	0.08971	0.10176	1.45466	0.08262	83.240
420	77 Tauri	θ^1	4. 21. 15.801	1870.6	5	+ 3.4131	+ 0.0110	0.000	0.08952	0.10138	1.45352	0.08200	83.413
421	78 Tauri	θ^2	4. 21. 21.320	1872.7	5	+ 3.4111	+ 0.0109	+ 0.007	0.08951	0.10137	1.45349	0.08198	83.418
422	Bradley 619	5*	4. 23. 14.158	1869.6	5	+ 3.4199	+ 0.0109	+ 0.011	0.08934	0.10149	1.45362	0.08199	83.410
423	81 Tauri	6-7†	4. 23. 20.930	1869.1	3	+ 3.4085	+ 0.0107	+ 0.009	0.08931	0.10144	1.45345	0.08190	83.436
424	57 Persei	m	4. 24. 24.856	1874.5	2	+ 4.2036	+ 0.0257	- 0.001	0.09230	0.10824	1.46543	0.08814	81.335
425	85 Tauri	6	4. 24. 33.164	1868.6	5	+ 3.4130	+ 0.0107	+ 0.007	0.08919	0.10151	1.45351	0.08189	83.434
426	W.B. (2) IV. 523 ..	9	4. 25. 27.830	1876.9	1	+ 3.7416	+ 0.0158	..	0.09007	0.10367	1.45851	0.08444	82.643
427	Piazzi IV. 111	6*	4. 26. 37.526	1873.8	4	+ 3.7440	+ 0.0156	+ 0.011	0.08992	0.10373	1.45854	0.08438	82.651
428	58 Persei	5*	4. 27. 49.597	1870.6	5	+ 4.1416	+ 0.0234	- 0.003	0.09151	0.10764	1.46451	0.08731	81.567
429	87 Tauri	α	4. 28. 34.638	1871.6	106	+ 3.4313	+ 0.0106	+ 0.004	0.08884	0.10174	1.45380	0.08191	83.419
430	3 Camelopardali	6*	4. 29. 50.271	1869.1	2	+ 4.7003	+ 0.0369	- 0.005	0.09422	0.11457	1.47276	0.09121	79.913
431	52 Eridani	ν^7	4. 30. 34.465	1871.4	6	+ 2.3344	+ 0.0033	- 0.003	0.08974	0.10442	1.43670	0.07367	85.045
432	49 Eridani	6-5*	4. 30. 37.961	1872.5	2	+ 3.0881	+ 0.0066	+ 0.003	0.08826	0.10094	1.44852	0.07930	84.112
433	89 Tauri	7	4. 30. 49.884	1873.0	2	+ 3.4217	+ 0.0102	+ 0.012	0.08859	0.10178	1.45365	0.08176	83.456
434	90 Tauri	ϵ^1	4. 31. 0.247	1870.8	4	+ 3.3409	+ 0.0092	+ 0.012	0.08842	0.10146	1.45241	0.08116	83.630
435	51 Eridani	ϵ	4. 31. 9.533	1869.0	1	+ 3.0131	+ 0.0060	+ 0.009	0.08822	0.10099	1.44736	0.07875	84.238
436	Piazzi IV. 112	6	4. 31. 38.872	1873.7	4	+ 7.9335	+ 0.1879	+ 0.051	0.11445	0.16139	1.51762	0.11339	69.233
437	91 Tauri	σ^1	4. 31. 50.778	1868.1	1	+ 3.4169	+ 0.0101	+ 0.006	0.08848	0.10180	1.45358	0.08170	83.473
438	Piazzi IV. 151	6	4. 31. 52.943	1869.6	2	+ 2.3282	+ 0.0033	- 0.004	0.08962	0.10452	1.43661	0.07371	85.050
439	92 Tauri	σ^2	4. 31. 57.305	1868.5	2	+ 3.4197	+ 0.0101	+ 0.010	0.08847	0.10182	1.45362	0.08172	83.466
440	Piazzi IV. 148	6-5†	4. 33. 19.150	1875.6	5	+ 3.7430	+ 0.0146	+ 0.007	0.08919	0.10389	1.45851	0.08397	82.721

1860.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of μ	No. in Bessel's Bradley, 1755.	No. in Piazz.	No. in Groombridge, 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
401	64. 40. 29'44	1873'5	8	-8'886	+0'480	+0'04	0'07598	0'00455	1'20721	0'32150	83'207	588	IV. 51	..	1341
402	64. 40. 12'80	1874'1	1	-8'886	+0'480	..	0'07606	0'00450	1'20721	0'32150	83'205	..	....	..	..
403	72. 45. 34'87	1870'2	2	-8'827	+0'455	+0'03	0'02185	0'02921	1'20880	0'32179	85'114	594	IV. 57	..	1346
404	73. 31. 24'30	1868'8	5	-8'785	+0'453	-0'01	0'01662	0'03170	1'20993	0'32199	85'200	596	IV. 62	..	1350
405	56. 10. 5'30	1870'5	7	-8'777	+0'512	+0'05	0'12717	9'98061	1'21014	0'32204	80'640	591	IV. 58	..	1349
406	65. 59. 48'14	1873'1	2	-8'772	+0'477	+0'01	0'06796	0'00949	1'21028	0'32207	83'256	..	....	..	..
407	65. 59. 57'82	1873'6	4	-8'769	+0'477	+0'01	0'06796	0'00951	1'21035	0'32208	83'251	595	IV. 63	..	1353
408	56. 20. 14'73	1870'4	6	-8'765	+0'512	+0'08	0'12629	9'98124	1'21045	0'32211	80'650	593	IV. 60	..	1352
409	72. 51. 17'37	1871'2	5	-8'735	+0'456	+0'04	0'02152	0'03002	1'21127	0'32226	84'917	597	IV. 64	..	1356
410	70. 14. 26'38	1869'4	3	-8'676	+0'465	..	0'04005	0'02271	1'21283	0'32254	84'115	..	....	..	..
411	24. 8. 48'75	1874'1	2	-8'660	+0'762	..	0'26611	9'90632	1'21326	0'32263	71'555	..	....	829	..
412	68. 0. 4'36	1873'2	5	-8'655	+0'472	+0'07	0'05523	0'01634	1'21339	0'32265	83'484	599	IV. 70	..	1362
413	72. 22. 2'06	1875'4	3	-8'627	+0'459	-0'01	0'02531	0'02926	1'21412	0'32279	84'541	601	IV. 73	..	1365
414	67. 28. 43'42	1874'9	2	-8'582	+0'475	+0'05	0'05892	0'01540	1'21532	0'32300	83'168	604	IV. 75	..	1367
415	74. 40. 27'30	1868'6	5	-8'551	+0'453	+0'04	0'00890	0'03633	1'21615	0'32316	84'948	605	IV. 78	..	1369
416	67. 17. 41'10	1874'6	2	-8'504	+0'476	+0'02	0'06040	0'01551	1'21737	0'32338	82'925	606	IV. 80	..	1371
417	68. 40. 4'79	1874'6	4	-8'442	+0'473	-0'04	0'05154	0'01989	1'21900	0'32368	83'132	..	IV. 82	..	1373
418	73. 55. 42'47	1869'0	5	-8'387	+0'457	0'00	0'01469	0'03515	1'22048	0'32395	84'385	610	IV. 88	..	1377
419	71. 6. 20'26	1871'3	21	-8'384	+0'466	+0'03	0'03495	0'02718	1'22052	0'32396	83'640	609	IV. 87	..	1376
420	74. 19. 27'08	1870'6	5	-8'375	+0'456	+0'02	0'01195	0'03627	1'22076	0'32400	84'458	612	IV. 90	..	1380
421	74. 24. 55'43	1872'7	5	-8'368	+0'456	+0'02	0'01123	0'03659	1'22093	0'32403	84'469	613	IV. 91	..	1381
422	74. 5. 11'69	1869'6	5	-8'218	+0'459	+0'04	0'01406	0'03648	1'22484	0'32473	84'043	619	IV. 99	..	1391
423	74. 35. 18'33	1869'1	3	-8'209	+0'457	+0'01	0'01038	0'03790	1'22508	0'32478	84'155	620	IV. 100	..	1392
424	47. 12. 43'38	1874'6	2	-8'124	+0'564	+0'03	0'17681	9'96607	1'22728	0'32516	76'207	618	IV. 104	840	1398
425	74. 25. 30'07	1868'6	5	-8'113	+0'459	+0'03	0'01174	0'03800	1'22756	0'32522	83'900	623	IV. 108	..	1402
426	61. 20. 34'01	1876'9	1	-8'039	+0'504	..	0'09996	0'00333	1'22944	0'32554	80'082	..	....	..	..
427	61. 18. 31'61	1873'8	4	-7'946	+0'505	+0'09	0'10037	0'00424	1'23183	0'32595	79'837	..	IV. 111	..	1408
428	49. 0. 3'02	1871'0	6	-7'849	+0'559	+0'01	0'16915	9'97461	1'23428	0'32639	75'927	626	IV. 117	850	1414
429	73. 45. 0'46	1872'0	99	-7'789	+0'465	+0'17	0'01758	0'03795	1'23581	0'32665	82'992	630	IV. 125	..	1420
430	37. 10. 43'03	1869'1	2	-7'688	+0'636	+0'03	0'22365	9'95162	1'23835	0'32707	71'931	629	IV. 123	853	1425
431	120. 49. 31'94	1871'4	6	-7'629	+0'318	+0'02	9'54827	0'14457	1'23983	0'32732	92'324	645	IV. 144	..	1433
432	89. 15. 46'69	1872'5	2	-7'623	+0'420	+0'02	9'89092	0'07741	1'23997	0'32734	86'699	640	IV. 137	..	1431
433	74. 13. 31'58	1873'0	2	-7'607	+0'465	0'00	0'01444	0'04018	1'24037	0'32742	82'728	638	IV. 135	..	1432
434	77. 44. 53'24	1870'8	4	-7'594	+0'454	+0'01	9'98784	0'04909	1'24071	0'32747	83'671	639	IV. 138	..	1434
435	92. 43. 52'13	1869'0	1	-7'580	+0'410	+0'04	9'85884	0'08566	1'24105	0'32753	87'436	642	IV. 140	..	1435
436	14. 17. 49'54	1872'7	10	-7'541	+1'076	+0'10	0'29901	9'92201	1'24202	0'32769	65'224	..	IV. 112	848	1428
437	74. 27. 16'54	1868'1	1	-7'525	+0'465	+0'08	0'01305	0'04117	1'24242	0'32775	82'608	641	IV. 143	..	1436
438	120. 58. 37'53	1869'6	2	-7'522	+0'318	+0'08	9'54506	0'14398	1'24249	0'32776	92'255	..	IV. 151	..	1439
439	74. 20. 15'87	1868'5	2	-7'517	+0'466	+0'01	0'01393	0'04091	1'24263	0'32779	82'557	643	IV. 145	..	1437
440	61. 38. 7'13	1875'7	6	-7'406	+0'511	+0'04	0'10027	0'01053	1'24538	0'32824	78'546	..	IV. 148	..	1444

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Celestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazz's Catalogue (1814); from Weisse's two Catalogues, *Positiones Mediae Stellarum Fixarum in Zonis Regiomontanis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichniss* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Frac- tion of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of 1
									e	f	g	h	
441	94 Tauri	4-5*	4. 34. 33.853	1873.9	9	+ 3.5933	+ 0.0122	0.000	0.08861	0.10289	1.45627	0.08285	83.091
442	Groombridge 856...	6	4. 36. 29.362	1876.9	1	+ 10.9354	+ 0.4130	..	0.13080	0.20334	1.55554	0.13021	59.422
443	4 Camelopardali	6*	4. 37. 20.944	1868.9	7	+ 4.9642	+ 0.0410	+ 0.002	0.09435	0.11830	1.47661	0.09188	79.258
444	Groombridge 870...	6	4. 37. 58.250	1873.0	2	+ 6.1621	+ 0.0826	..	0.10112	0.13552	1.49362	0.09955	75.455
445	Piazzi IV. 179.....	6	4. 38. 48.525	1868.1	2	+ 3.4918	+ 0.0104	+ 0.003	0.08792	0.10242	1.45472	0.08197	83.358
446	57 Eridani	4-3*	4. 39. 6.171	1871.4	16	+ 2.9957	+ 0.0056	+ 0.002	0.08746	0.10129	1.44709	0.07867	84.296
447	1 Aurigæ	6*	4. 41. 17.841	1874.0	3	+ 4.0298	+ 0.0180	- 0.002	0.08927	0.10683	1.46286	0.08532	82.059
448	9 Camelopardali... α	4*	4. 41. 20.375	1873.5	5	+ 5.9161	+ 0.0695	+ 0.007	0.09879	0.13196	1.49018	0.09714	76.371
449	97 Tauri	5-6*	4. 43. 53.242	1872.4	6	+ 3.4980	+ 0.0099	+ 0.003	0.08740	0.10261	1.45481	0.08182	83.384
450	2 Aurigæ	5*	4. 44. 4.061	1870.5	5	+ 4.0071	+ 0.0171	0.000	0.08884	0.10667	1.46250	0.08495	82.156
451	Piazzi IV. 191.....	6	4. 46. 7.622	1874.0	6	+ 7.5139	+ 0.1329	- 0.025	0.10617	0.15544	1.51207	0.10516	71.452
452	7 Camelopardali	5*	4. 47. 2.036	1868.6	2	+ 4.7910	+ 0.0319	+ 0.002	0.09171	0.11614	1.47409	0.08928	80.001
453	Piazzi IV. 236.....	6*	4. 47. 52.557	1869.0	3	+ 3.2411	+ 0.0070	..	0.08665	0.10173	1.45087	0.08017	83.924
454	Piazzi IV. 204.....	6	4. 48. 17.854	1875.8	4	+ 7.3858	+ 0.1225	- 0.003	0.10467	0.15358	1.51034	0.10365	71.979
455	B. F. 625	6	4. 48. 27.906	1873.1	4	+ 3.6490	+ 0.0112	..	0.08724	0.10369	1.45711	0.08253	83.085
456	3 Aurigæ	3*	4. 48. 39.585	1871.4	18	+ 3.8975	+ 0.0145	- 0.003	0.08790	0.10573	1.46086	0.08394	82.493
457	9 Orionis	5*	4. 49. 10.490	1872.6	3	+ 3.3735	+ 0.0081	- 0.005	0.08666	0.10219	1.45292	0.08091	83.678
458	Bradley 671	6-7†	4. 49. 52.975	1868.1	1	+ 6.0238	+ 0.0652	+ 0.017	0.09713	0.13363	1.49168	0.09569	76.338
459	Bradley 686	6*	4. 49. 58.779	1875.2	5	+ 3.4608	+ 0.0089	0.000	0.08670	0.10259	1.45425	0.08139	83.509
460	98 Tauri	6-5*	4. 50. 19.479	1872.0	8	+ 3.6630	+ 0.0111	+ 0.001	0.08707	0.10384	1.45732	0.08251	83.071
461	6 Aurigæ	6-7	4. 51. 34.024	1869.0	1	+ 4.1240	+ 0.0173	+ 0.003	0.08828	0.10806	1.46425	0.08498	81.950
462	10 Camelopardali... β	4*	4. 52. 2.396	1871.9	14	+ 5.3095	+ 0.0421	+ 0.004	0.09317	0.12336	1.48158	0.09134	78.583
463	7 Aurigæ	3-4*	4. 52. 47.220	1868.6	7	+ 4.2924	+ 0.0197	0.000	0.08821	0.10398	1.46675	0.08578	81.520
464	8 Aurigæ	4*	4. 53. 32.017	1876.4	3	+ 1.815	+ 0.011	0.000	0.08821	0.10873	1.46510	0.08512	81.828
465	64 Eridani	6*	4. 53. 58.942	1868.1	1	+ 2.7827	+ 0.0040	+ 0.006	0.08615	0.10228	1.44377	0.07763	84.644
466	11 Camelopardali	5*	4. 55. 1.255	1872.2	4	+ 5.1908	+ 0.0373	+ 0.003	0.09201	0.12172	1.47987	0.09018	79.016
467	12 Camelopardali	6	4. 55. 4.470	1871.1	3	+ 5.1951	+ 0.0374	+ 0.004	0.09202	0.12178	1.47993	0.09019	79.005
468	102 Tauri	5*	4. 55. 26.777	1871.6	7	+ 3.5756	+ 0.0095	+ 0.005	0.08632	0.10339	1.45600	0.08180	83.311
469	Piazzi IV. 254.....	5-6*	4. 56. 15.051	1876.2	3	+ 7.4902	+ 0.1128	- 0.018	0.10228	0.15520	1.51178	0.10139	72.057
470	11 Orionis	5*	4. 57. 15.336	1868.9	2	+ 3.4225	+ 0.0078	0.000	0.08589	0.10261	1.45367	0.08095	83.640
471	10 Aurigæ	4-3*	4. 57. 32.486	1870.6	16	+ 4.1938	+ 0.0169	+ 0.003	0.08771	0.10895	1.46530	0.08480	81.853
472	104 Tauri	5-6*	4. 59. 53.068	1872.2	4	+ 3.5035	+ 0.0083	+ 0.040	0.08573	0.10308	1.45490	0.08127	83.498
473	2 Leporis	4-3*	5. 0. 2.593	1870.3	7	+ 2.5361	+ 0.0033	+ 0.001	0.08589	0.10371	1.43990	0.07658	84.926
474	106 Tauri	6-5*	5. 0. 13.946	1874.6	5	+ 3.5487	+ 0.0087	- 0.002	0.08577	0.10335	1.45559	0.08147	83.406
475	105 Tauri	6*	5. 0. 16.292	1869.1	4	+ 3.5819	+ 0.0090	+ 0.003	0.08582	0.10354	1.45609	0.08163	83.339
476	103 Tauri	6*	5. 0. (18.)	..	..	+ 3.6499	+ 0.0096	0.000	0.08594	0.10400	1.45713	0.08195	83.193
477	Piazzi IV. 269.....	5*	5. 1. 30.350	1875.4	4	+ 9.7760	+ 0.2120	- 0.054	0.11022	0.18770	1.54132	0.10967	65.344
478	67 Eridani	3*	5. 1. 33.387	1873.4	5	+ 2.9532	+ 0.0045	- 0.006	0.08525	0.10202	1.44642	0.07862	84.454
479	14 Camelopardali	6	5. 1. 36.972	1873.8	4	+ 5.5608	+ 0.0419	- 0.004	0.09217	0.12707	1.48517	0.09072	78.111
480	15 Orionis	5-6*	5. 2. 22.358	1873.0	2	+ 3.4296	+ 0.0074	- 0.001	0.08537	0.10277	1.45377	0.08083	83.666

1878G.D.A.M. 3. 36. 78A

No.	Mean North Polar Distance 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of l'	No. in Bessel's Bradley. 1755.	No. in Piazz. 1800.	No. in Groom-bridge. 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
441	67. 17. 27.20	1872.6	14	-7.304	+0.491	+0.02	0.06427	0.02505	1.24787	0.32865	80.009	648	IV. 159	..	1449
442	9. 1. 31.70	1876.9	1	-7.147	+1.493	..	0.31275	9.92841	1.25171	0.32926	62.650	..	....	856	1448
443	33. 28. 23.64	1868.9	8	-7.075	+0.680	+0.17	0.24087	9.95698	1.25346	0.32954	68.922	649	IV. 164	771	1456
444	22. 3. 41.96	1873.0	2	-7.026	+0.845	..	0.27990	9.94217	1.25465	0.32973	65.507	..	....	870	1457
445	71. 29. 56.66	1871.0	4	-6.958	+0.481	+0.10	0.03587	0.03740	1.25630	0.32999	80.500	..	IV. 179	..	1468
446	93. 29. 27.47	1872.2	6	-6.933	+0.413	+0.01	9.85120	0.08671	1.25689	0.33008	86.587	657	IV. 183	..	1469
447	52. 44. 25.40	1872.9	6	-6.752	+0.556	-0.06	0.15378	9.99832	1.26122	0.33075	74.035	658	IV. 187	..	1476
448	23. 52. 43.21	1871.8	17	-6.748	+0.815	-0.02	0.27540	9.95052	1.26132	0.33076	65.111	..	IV. 176	880	1474
449	71. 22. 48.66	1872.8	7	-6.539	+0.485	+0.07	0.03767	0.03977	1.26626	0.33150	79.550	666	IV. 208	..	1493
450	53. 30. 56.63	1871.2	11	-6.524	+0.555	-0.01	0.15027	0.00285	1.26662	0.33155	73.687	662	IV. 203	..	1492
451	15. 56. 1.73	1873.5	8	-6.352	+1.042	+0.02	0.29951	9.95202	1.27062	0.33213	61.701	..	IV. 191	886	1496
452	36. 27. 21.41	1868.6	2	-6.278	+0.666	0.00	0.23203	9.97690	1.27236	0.33239	67.429	669	IV. 217	897	1504
453	82. 25. 48.14	1869.0	3	-6.208	+0.452	..	9.95187	0.06416	1.27397	0.33261	82.320	..	IV. 236	..	..
454	16. 25. 51.57	1876.0	4	-6.172	+1.028	0.00	0.29883	9.95655	1.27480	0.33274	61.251	..	IV. 204	890	1509
455	65. 36. 52.59	1873.1	4	-6.158	+0.509	..	0.07835	0.03069	1.27512	0.33278	76.823	..	....	..	1518
456	57. 2. 20.31	1871.3	31	-6.142	+0.544	+0.02	0.13162	0.01425	1.27550	0.33283	73.887	677	IV. 235	..	1520
457	76. 41. 23.69	1872.7	4	-6.100	+0.471	+0.05	9.99878	0.05306	1.27646	0.33297	80.325	682	IV. 240	..	1525
458	23. 21. 38.10	1871.1	3	-6.040	+0.841	+0.52	0.27951	9.96552	1.27793	0.33317	62.727	671	....	..	1522
459	73. 2. 57.81	1875.0	5	-6.032	+0.484	+0.01	0.02649	0.04622	1.27802	0.33319	79.014	686	IV. 246	..	1526
460	65. 8. 58.72	1872.0	8	-6.003	+0.512	+0.06	0.08182	0.03110	1.27870	0.33328	76.309	685	IV. 247	..	1528
461	50. 32. 30.49	1869.0	1	-5.900	+0.577	+0.03	0.16797	0.00564	1.28104	0.33361	71.052	688	IV. 252	907	1535
462	29. 44. 54.30	1871.5	19	-5.861	+0.743	+0.01	0.25888	9.97603	1.28193	0.33372	64.091	681	IV. 244	905	1536
463	46. 22. 7.57	1868.6	6	-5.796	+0.602	0.00	0.18938	0.00024	1.28338	0.33391	69.344	690	IV. 256	910	1540
464	49. 6. 49.26	1874.0	7	-5.735	+0.587	+0.01	0.17583	0.00554	1.28477	0.33410	70.126	693	IV. 262	912	1541
465	102. 43. 39.96	1868.1	1	-5.697	+0.392	+0.03	9.75243	0.10128	1.28562	0.33421	87.163	699	IV. 272	..	1545
466	31. 12. 33.39	1874.0	3	-5.610	+0.729	+0.01	0.25435	9.98261	1.28757	0.33447	63.805	691	IV. 263	913	1546
467	31. 9. 37.21	1868.1	2	-5.606	+0.730	+0.03	0.25452	9.98263	1.28767	0.33448	63.780	692	IV. 264	914	1547
468	68. 35. 42.91	1871.6	7	-5.574	+0.503	+0.06	0.05937	0.04083	1.28838	0.33458	76.546	698	IV. 274	..	1551
469	16. 13. 25.52	1875.0	6	-5.507	+1.053	+0.03	0.30149	9.97171	1.28988	0.33477	59.092	..	IV. 254	911	1549
470	74. 46. 34.97	1868.9	2	-5.423	+0.483	+0.03	0.01452	0.05270	1.29176	0.33501	78.361	702	IV. 286	..	1557
471	48. 56. 28.67	1870.8	17	-5.397	+0.591	+0.09	0.17771	0.00996	1.29232	0.33507	69.180	700	IV. 283	925	1558
472	71. 31. 44.08	1872.4	6	-5.200	+0.496	-0.02	0.03914	0.04840	1.29666	0.33562	76.789	705	IV. 293	..	1568
473	112. 32. 39.27	1871.1	2	-5.186	+0.360	+0.08	9.63236	0.11367	1.29697	0.33566	88.869	713	IV. 303	..	1575
474	69. 45. 9.95	1874.6	5	-5.171	+0.502	+0.04	0.05204	0.04562	1.29730	0.33569	76.099	708	IV. 296	..	1570
475	68. 28. 1.08	1869.1	4	-5.168	+0.507	-0.04	0.06111	0.04353	1.29737	0.33570	75.631	707	IV. 297	..	1571
476	65. 54. 23.17	1874.1	1	-5.165	+0.517	-0.05	0.07860	0.03934	1.29743	0.33571	74.711	706	IV. 295	..	1572
477	10. 55. 21.62	1872.9	13	-5.062	+1.382	-0.05	0.31553	9.97871	1.29968	0.33599	56.381	..	IV. 269	919	1565
478	95. 15. 13.75	1873.7	4	-5.059	+0.419	+0.08	9.83213	0.08745	1.29974	0.33599	84.317	715	IV. 312	..	1588
479	27. 28. 12.93	1873.8	4	-5.054	+0.787	-0.01	0.26872	9.98963	1.29986	0.33600	61.047	703	IV. 292	930	1583
480	74. 34. 6.51	1873.0	2	-4.990	+0.487	-0.03	0.01678	0.05453	1.30125	0.33617	77.444	714	IV. 313	..	1591

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Coelestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazz's Catalogue (1814); from Weisse's two Catalogues, *Positiones Medie Stellarum Fixarum in Zonis Regiomontanis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

{xxvi}

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fra- tion of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
481	Groombridge 928..	6*	5. 2. 26.779	1876.0	2	+ 7.3391	+ 0.0956	..	0.09935	0.15300	1.50972	0.09850	72.845
482	11 Aurigæ	6.5*	5. 4. 40.277	1868.9	5	+ 4.0986	+ 0.0139	0.000	0.08648	0.10807	1.46388	0.08372	82.195
483	Groombridge 931..	6	5. 6. 2.749	1874.5	4	+ 9.3385	+ 0.1728	..	0.10605	0.18162	1.53581	0.10550	67.022
484	12 Aurigæ	6	5. 6. 58.586	1868.1	1	+ 4.4324	+ 0.0177	+ 0.010	0.08711	0.11189	1.46883	0.08492	81.382
485	14 Aurigæ	5-6*	5. 7. 4.387	1873.0	1	+ 3.9025	+ 0.0112	0.000	0.08569	0.10618	1.46093	0.08268	82.698
486	13 Aurigæ	1*	5. 7. 14.104	1871.3	68	+ 4.4138	+ 0.0174	+ 0.008	0.08702	0.11168	1.46855	0.08482	81.434
487	7-yr. Cat. (1864) No. 663	..	5. 8. 22.947	1872.1	1	+ 2.8808	+ 0.0040	..	0.08459	0.10232	1.44531	0.07838	84.580
488	19 Orionis	1*	5. 8. 23.203	1871.9	73	+ 2.8809	+ 0.0040	- 0.001	0.08459	0.10232	1.44531	0.07838	84.580
489	15 Camelopardali	6*	5. 8. 25.787	1868.2	1	+ 5.1559	+ 0.0290	- 0.008	0.08922	0.12142	1.47938	0.08771	79.451
490	Piazzi IV. 311	6	5. 8. 45.586	1874.8	3	+ 9.2998	+ 0.1620	+ 0.017	0.10453	0.18112	1.53534	0.10401	67.331
491	Piazzi IV. 317 ...	6-7†	5. 9. 45.032	1876.6	1	+ 9.1352	+ 0.1513	+ 0.008	0.10343	0.17874	1.53318	0.10290	67.904
492	15 Aurigæ	5*	5. 10. 8.367	1873.0	2	+ 4.1669	+ 0.0134	+ 0.043	0.08593	0.10889	1.46489	0.08353	82.104
493	18 Aurigæ	8	5. 10. 57.312	1868.6	2	+ 3.9484	+ 0.0109	- 0.002	0.08531	0.10669	1.46163	0.08260	82.637
494	19 Aurigæ	5-6*	5. 11. 34.807	1869.1	2	+ 3.9481	+ 0.0108	+ 0.004	0.08523	0.10669	1.46162	0.08255	82.645
495	109 Tauri	6*	5. 11. 35.234	1872.3	3	+ 3.5993	+ 0.0077	+ 0.001	0.08460	0.10391	1.45637	0.08122	83.404
496	Bradley 743	6-7†	5. 11. 47.559	1875.1	2	+ 2.7545	+ 0.0035	..	0.08435	0.10281	1.44333	0.07799	84.741
497	20 Aurigæ	6-5*	5. 12. 44.942	1868.1	2	+ 4.2371	+ 0.0136	+ 0.007	0.08575	0.10970	1.46593	0.08355	81.972
498	Piazzi V. 41	6-7	5. 12. 57.262	1874.6	5	+ 3.7630	+ 0.0089	+ 0.001	0.08471	0.10510	1.45883	0.08177	83.077
499	21 Aurigæ	6*	5. 15. 57.316	1872.5	2	+ 4.0706	+ 0.0111	+ 0.005	0.08493	0.10796	1.46346	0.08267	82.418
500	111 Tauri	6-5*	5. 16. 57.310	1871.0	3	+ 3.4803	+ 0.0063	+ 0.017	0.08387	0.10332	1.45455	0.08058	83.685
501	8 Leporis	6*	5. 17. 38.810	1868.2	1	+ 2.7433	+ 0.0033	0.000	0.08372	0.10297	1.44315	0.07807	84.782
502	29 Orionis	5-4*	5. 17. 46.839	1869.0	1	+ 2.8892	+ 0.0036	+ 0.008	0.08362	0.10250	1.44543	0.07857	84.613
503	27 Orionis	6*	5. 17. 58.447	1873.0	2	+ 3.0489	+ 0.0041	+ 0.005	0.08356	0.10228	1.44792	0.07910	84.404
504	17 Camelopardali	6*	5. 18. 5.186	1873.6	7	+ 5.6476	+ 0.0316	- 0.001	0.08873	0.12845	1.48639	0.08770	78.358
505	25 Orionis	5*	5. 18. 6.226	1868.1	1	+ 3.1118	+ 0.0044	+ 0.003	0.08355	0.10229	1.44889	0.07932	84.313
506	112 Tauri	2*	5. 18. 12.084	1872.0	63	+ 3.7860	+ 0.0082	+ 0.003	0.08414	0.10537	1.45918	0.08155	83.083
507	24 Orionis	2*	5. 18. 15.926	1873.1	4	+ 3.2158	+ 0.0048	+ 0.002	0.08355	0.10243	1.45049	0.07966	84.155
508	Bradley 755	6	5. 18. 20.198	1869.0	2	+ 3.9684	+ 0.0097	+ 0.007	0.08443	0.10700	1.46193	0.08215	82.682
509	113 Tauri	6	5. 18. 41.931	1868.2	2	+ 3.4639	+ 0.0060	+ 0.007	0.08367	0.10327	1.45429	0.08046	83.733
510	24 Aurigæ	5-6*	5. 19. 9.854	1868.6	2	+ 3.9719	+ 0.0095	0.000	0.08435	0.10704	1.46198	0.08209	82.686
511	114 Tauri	6*	5. 19. 56.857	1872.5	2	+ 3.5995	+ 0.0067	- 0.001	0.08367	0.10405	1.45636	0.08086	83.485
512	Bradley 769	8	5. 20. 8.381	1868.1	2	+ 3.4480	+ 0.0058	+ 0.003	0.08350	0.10322	1.45405	0.08037	83.774
513	116 Tauri	6*	5. 20. 24.403	1868.3	5	+ 3.4440	+ 0.0058	+ 0.005	0.08347	0.10321	1.45399	0.08035	83.781
514	Groombridge 944..	6	5. 21. 13.253	1874.5	3	+ 18.5205	+ 0.6495	..	0.12454	0.29516	1.63869	0.12438	41.854
515	18 Camelopardali	6-7†	5. 21. 36.183	1868.2	1	+ 5.1121	+ 0.0211	+ 0.020	0.08653	0.12094	1.47875	0.08537	79.894
516	Groombridge 966..	5	5. 22. 37.337	1871.3	17	+ 7.9796	+ 0.0776	+ 0.041	0.09401	0.16237	1.51823	0.09352	72.043
517	32 Orionis	5-6*	5. 23. 56.114	1876.2	3	+ 3.2075	+ 0.0044	- 0.001	0.08296	0.10250	1.45036	0.07957	84.207
518	25 Aurigæ	5*	5. 24. 23.865	1875.0	2	+ 3.9006	+ 0.0080	+ 0.003	0.08356	0.10644	1.46091	0.08152	82.910
519	119 Tauri	6-5*	5. 24. 42.563	1870.3	5	+ 3.5142	+ 0.0057	0.000	0.08307	0.10362	1.45506	0.08042	83.690
520	19 Camelopardali	6	5. 24. 51.993	1873.0	4	+ 5.7894	+ 0.0287	- 0.007	0.08752	0.13055	1.48840	0.08670	78.180

1878.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of μ	No. in Bessel's Bradley. 1755.	No. in Piazzi. 1800.	No. in Groom-bridge. 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
481	16. 53. 2.63	1876.0	2	-4.983	+1.039	..	0.30123	9.98328	1.30139	0.33618	57.685	..	....	928	1585
482	51. 40. 11.39	1872.3	17	-4.795	+0.583	+0.06	0.16492	0.02189	1.30546	0.33666	68.638	719	IV. 324	940	1602
483	11. 43. 16.55	1875.2	7	-4.677	+1.327	..	0.31473	9.98750	1.30798	0.33695	55.407	..	....	931	1598
484	43. 43. 58.79	1868.1	1	-4.598	+0.631	+0.03	0.20501	0.01466	1.30968	0.33714	65.240	721	V. 5	945	1609
485	57. 27. 46.21	1872.3	3	-4.591	+0.556	0.00	0.13280	0.03217	1.30982	0.33716	70.306	723	V. 9	..	1614
486	44. 8. 6.79	1871.2	45	-4.577	+0.629	+0.43	0.20322	0.01544	1.31013	0.33719	65.327	722	V. 6	946	1613
487	98. 21. 13.29	1872.1	1	-4.479	+0.411	..	9.79872	0.09077	1.31221	0.33742	84.463	..	....	..	..
488	98. 21. 4.16	1872.0	55	-4.479	+0.411	+0.02	9.79872	0.09077	1.31221	0.33742	84.463	736	V. 18	..	1623
489	32. 1. 27.05	1868.2	1	-4.474	+0.735	+0.03	0.25443	0.00468	1.31230	0.33742	60.814	..	V. 8	950	1622
490	11. 49. 27.00	1874.8	3	-4.445	+1.325	-0.06	0.31507	9.99259	1.31293	0.33750	54.732	..	IV. 311	937	1610
491	12. 8. 48.98	1871.4	11	-4.362	+1.302	+0.02	0.31448	9.99448	1.31466	0.33768	54.575	..	IV. 317	..	1619
492	50. 1. 4.02	1873.0	2	-4.328	+0.595	+0.70	0.17461	0.02585	1.31539	0.33775	66.875	731	V. 22	954	1631
493	56. 9. 8.43	1868.6	2	-4.259	+0.565	+0.02	0.14110	0.03411	1.31682	0.33790	69.039	738	V. 27	..	1635
494	56. 10. 41.99	1869.1	2	-4.205	+0.565	+0.01	0.14104	0.03475	1.31795	0.33802	68.925	739	V. 32	..	1636
495	68. 2. 18.90	1872.3	3	-4.205	+0.515	-0.03	0.06573	0.04983	1.31795	0.33802	73.476	741	V. 34	..	1637
496	103. 39. 29.77	1875.1	2	-4.187	+0.395	-0.02	9.73823	0.09668	1.31835	0.33806	85.598	743	....	..	1643
497	48. 19. 34.60	1868.1	2	-4.105	+0.607	+0.03	0.18373	0.02691	1.32003	0.33822	65.693	740	V. 39	959	1645
498	62. 10. 30.01	1873.7	6	-4.088	+0.539	+0.06	0.10483	0.04331	1.32039	0.33825	70.983	..	V. 41	..	1648
499	52. 44. 13.03	1874.4	8	-3.831	+0.584	0.00	0.16110	0.03517	1.32571	0.33877	66.720	747	V. 56	..	1663
500	72. 44. 15.88	1873.9	7	-3.745	+0.500	0.00	0.03234	0.05865	1.32746	0.33894	74.385	754	V. 66	..	1671
501	104. 2. 57.09	1868.2	1	-3.685	+0.395	-0.03	9.73280	0.09503	1.32869	0.33905	85.219	766	V. 77	..	1679
502	97. 55. 37.49	1869.0	1	-3.673	+0.416	0.00	9.80250	0.08823	1.32892	0.33907	83.333	764	V. 75	..	1680
503	91. 0. 57.76	1873.0	2	-3.658	+0.439	-0.10	9.87431	0.08035	1.32925	0.33910	81.009	762	V. 76	..	1682
504	27. 2. 37.19	1874.2	15	-3.647	+0.812	0.00	0.27381	0.01620	1.32945	0.33912	56.880	745	V. 57	961	1676
505	88. 16. 21.63	1868.1	1	-3.646	+0.448	0.00	9.90091	0.07719	1.32948	0.33912	80.028	763	V. 78	..	1685
506	61. 30. 11.18	1872.1	71	-3.638	+0.545	+0.20	0.10988	0.04667	1.32965	0.33913	69.746	756	V. 72	..	1681
507	83. 46. 6.19	1873.1	4	-3.632	+0.463	+0.04	9.94226	0.07200	1.32977	0.33914	78.376	761	V. 80	..	1687
508	55. 43. 24.21	1869.0	2	-3.626	+0.571	-0.02	0.14473	0.04067	1.32989	0.33915	67.420	755	V. 71	..	1683
509	73. 24. 57.51	1868.2	2	-3.594	+0.499	-0.01	0.02731	0.06026	1.33053	0.33921	74.374	760	....	..	1689
510	55. 38. 9.04	1868.6	2	-3.554	+0.572	+0.06	0.14532	0.04137	1.33134	0.33929	67.226	758	V. 79	..	1690
511	68. 10. 30.22	1872.5	2	-3.487	+0.518	+0.01	0.06565	0.05515	1.33271	0.33941	72.099	768	V. 88	..	1695
512	74. 4. 17.22	1868.1	2	-3.471	+0.497	0.00	0.02251	0.06163	1.33303	0.33943	74.400	769	V. 89	..	1699
513	74. 14. 11.02	1868.3	5	-3.448	+0.496	+0.02	0.02127	0.06194	1.33349	0.33947	74.421	771	V. 90	..	1701
514	4. 52. 34.30	1874.5	2	-3.378	+2.665	..	0.33149	0.01376	1.33490	0.33960	49.971	..	....	944	..
515	32. 52. 22.38	1868.2	1	-3.344	+0.737	+0.18	0.25351	0.02527	1.33557	0.33965	58.047	759	V. 85	973	1705
516	15. 2. 47.01	1871.9	23	-3.257	+1.150	0.00	0.30967	0.01836	1.33732	0.33980	52.154	..	....	966	1706
517	84. 9. 5.63	1876.2	4	-3.143	+0.464	+0.05	9.93907	0.07337	1.33959	0.33998	77.751	780	V. 116	..	1722
518	57. 54. 19.25	1875.0	2	-3.103	+0.563	-0.02	0.13271	0.04837	1.34040	0.34005	67.141	776	V. 114	..	1723
519	71. 30. 11.70	1870.3	5	-3.075	+0.508	+0.01	0.04222	0.06121	1.34093	0.34009	72.648	783	V. 119	..	1726
520	25. 55. 57.23	1874.8	8	-3.062	+0.836	+0.05	0.27855	0.02641	1.34120	0.34011	54.921	770	V. 103	982	1721

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Celestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Mediae Stellarum Fixarum in Zonis Regionum* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichniss* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

CATALOGUE OF THE MEAN PLACES OF STARS FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of 1
									e	f	g	h	
521	34 Orionis δ	2*	5. 25. 28.038	1871.5	42	+ 3.0631	+ 0.0038	+ 0.001	0.08279	0.10241	1.44813	0.07916	84.428
522	10 Leporis δ	6†	5. 25. 39.032	1868.1	1	+ 2.5658	+ 0.0029	+ 0.003	0.08302	0.10401	1.44037	0.07780	84.985
523	120 Tauri δ	6†	5. 26. 1.583	1868.8	6	+ 3.5133	+ 0.0055	+ 0.002	0.08292	0.10363	1.45505	0.08037	83.705
524	11 Leporis α	3*	5. 27. 5.056	1871.5	5	+ 2.6444	+ 0.0029	+ 0.001	0.08280	0.10358	1.44161	0.07806	84.919
525	121 Tauri δ	6*	5. 27. (38.)	..	..	+ 3.6602	+ 0.0060	+ 0.002	0.08288	0.10456	1.45728	0.08069	83.442
526	Piazzi V. 136.....	6-7	5. 27. 53.593	1875.7	5	+ 3.7636	+ 0.0066	- 0.001	0.08296	0.10534	1.45885	0.08093	83.237
527	Radcliffe 1516	6†	5. 29. 37.072	1871.5	5	+ 5.9969	+ 0.0276	..	0.08684	0.13356	1.49130	0.08616	77.783
528	122 Tauri δ	6*	5. 29. 38.054	1868.1	2	+ 3.4763	+ 0.0049	+ 0.008	0.08250	0.10349	1.45449	0.08015	83.804
529	46 Orionis ε	2*	5. 29. 43.103	1871.4	36	+ 3.0425	+ 0.0035	- 0.002	0.08235	0.10247	1.44782	0.07911	84.481
530	123 Tauri ζ	3-4*	5. 29. 59.753	1870.0	16	+ 3.5827	+ 0.0054	0.000	0.08253	0.10408	1.45610	0.08040	83.614
531	26 Aurigæ δ	6*	5. 30. 24.920	1876.9	1	+ 3.8505	+ 0.0066	- 0.004	0.08277	0.10608	1.46015	0.08100	83.088
532	Piazzi V. 146.....	6-7†	5. 30. 57.355	1868.2	1	+ 4.8597	+ 0.0138	0.000	0.08428	0.11760	1.47509	0.08327	80.755
533	B. F. 747 δ	6-7†	5. 31. 9.994	1875.7	4	+ 3.8116	+ 0.0063	..	0.08263	0.10575	1.45957	0.08086	83.178
534	125 Tauri δ	6*	5. 31. 48.252	1870.1	5	+ 3.7143	+ 0.0057	+ 0.003	0.08246	0.10500	1.45810	0.08061	83.379
535	23 Camelopardali	6	5. 32. 22.495	1875.3	5	+ 5.5075	+ 0.0195	- 0.008	0.08520	0.12656	1.48442	0.08447	79.145
536	Arg. Zone + 16°. No. 835	8	5. 32. 53.894	1875.1	1	+ 3.4611	+ 0.0045	..	0.08214	0.10346	1.45425	0.08002	83.859
537	25 Camelopardali	6-7	5. 33. 23.728	1874.1	1	+ 4.9547	+ 0.0135	+ 0.005	0.08400	0.11889	1.47647	0.08312	80.974
538	Lalande 10705	8	5. 33. 28.961	1873.0	1	+ 3.0258	+ 0.0033	..	0.08196	0.10253	1.44756	0.07909	84.526
539	126 Tauri δ	5*	5. 33. 53.858	1875.1	1	+ 3.4648	+ 0.0045	+ 0.005	0.08204	0.10349	1.45431	0.08000	83.860
540	50 Orionis ζ	2*	5. 34. 18.034	1872.4	5	+ 3.0255	+ 0.0033	+ 0.002	0.08187	0.10253	1.44755	0.07909	84.533
541	Piazzi V. 184.....	7	5. 34. 19.753	1876.2	1	+ 3.6251	+ 0.0050	- 0.009	0.08209	0.10440	1.45675	0.08030	83.577
542	Columbæ α	2*	5. 35. 0.854	1870.7	12	+ 2.1709	+ 0.0028	+ 0.008	0.08234	0.10724	1.43410	0.07739	85.297
543	27 Aurigæ δ	6-5*	5. 35. 59.211	1868.2	2	+ 4.6438	+ 0.0100	+ 0.010	0.08307	0.11483	1.47193	0.08215	81.386
544	128 Tauri δ	6	5. 37. 30.822	1872.5	2	+ 3.4544	+ 0.0041	+ 0.003	0.08163	0.10347	1.45415	0.07986	83.912
545	13 Leporis γ	4*	5. 39. 7.619	1868.1	2	+ 2.5210	+ 0.0026	- 0.023	0.08155	0.10443	1.43967	0.07827	85.077
546	Radcliffe 1553	6	5. 39. 9.426	1874.4	7	+ 6.4401	+ 0.0236	..	0.08511	0.14008	1.49749	0.08469	76.960
547	131 Tauri δ	6	5. 39. 55.755	1874.1	5	+ 3.4151	+ 0.0037	+ 0.004	0.08136	0.10332	1.45355	0.07972	83.999
548	29 Aurigæ τ	5*	5. 40. 18.488	1870.3	5	+ 4.1560	+ 0.0061	0.000	0.08184	0.10912	1.46473	0.08086	82.572
549	133 Tauri δ	6*	5. 40. 27.424	1868.1	2	+ 3.4007	+ 0.0036	+ 0.006	0.08130	0.10326	1.45333	0.07969	84.027
550	30 Camelopardali	6	5. 41. 0.414	1869.1	1	+ 5.2830	+ 0.0120	+ 0.003	0.08303	0.12342	1.48119	0.08248	79.948
551	132 Tauri δ	5-6*	5. 41. 9.678	1870.7	7	+ 3.6800	+ 0.0043	- 0.003	0.08136	0.10484	1.45758	0.08008	83.545
552	53 Orionis κ	3-2*	5. 41. 41.149	1872.0	32	+ 2.8440	+ 0.0027	0.000	0.08113	0.10292	1.44473	0.07885	84.790
553	31 Aurigæ υ	5*	5. 42. 18.654	1872.0	5	+ 4.0864	+ 0.0054	+ 0.006	0.08151	0.10841	1.46369	0.08060	82.748
554	32 Aurigæ υ	4*	5. 42. 37.206	1869.5	5	+ 4.1559	+ 0.0056	+ 0.003	0.08153	0.10913	1.46472	0.08067	82.606
555	135 Tauri δ	6*	5. 43. 12.038	1869.1	3	+ 3.4112	+ 0.0034	- 0.001	0.08100	0.10333	1.45349	0.07963	84.035
556	31 Camelopardali	5-6*	5. 43. 30.005	1873.0	8	+ 5.3685	+ 0.0111	- 0.003	0.08262	0.12463	1.48242	0.08216	79.804
557	Piazzi V. 243.....	6-7†	5. 44. 11.850	1868.6	4	+ 3.9678	+ 0.0046	+ 0.003	0.08117	0.10725	1.46192	0.08030	83.020
558	137 Tauri δ	6*	5. 45. 6.053	1873.9	5	+ 3.4082	+ 0.0032	- 0.001	0.08080	0.10333	1.45344	0.07958	84.056
559	136 Tauri δ	5*	5. 45. 16.960	1873.7	11	+ 3.7691	+ 0.0039	- 0.001	0.08092	0.10553	1.45893	0.08000	83.424
560	Columbæ β	3*	5. 46. (26.)	..	..	+ 2.1089	+ 0.0026	+ 0.002	0.08094	0.10791	1.43311	0.07816	85.366

532. The adopted proper motion is taken from the Bonn Observations, Vol. VII., p. 110.

1876 GOAMM. 1886..78A	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Frac- tion of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of l'	No. in Bessel's Bradley. 1755.	No. in Piazzi. 1800.	No. in Groom- bridge. 1810.	No. in B.A.C. 1850.
							e	f	g	h					
521	90. 23. 44.63	1871.0	23	- 3.010	+ 0.443	+ 0.04	9.88036	0.07956	1.34222	0.34019	79.888	787	V. 126	..	1730
522	110. 57. 35.71	1868.1	1	- 2.995	+ 0.371	+ 0.03	9.64444	0.09810	1.34253	0.34021	86.511	791	V. 133	..	1732
523	71. 33. 12.49	1868.8	6	- 2.961	+ 0.508	- 0.06	0.04194	0.06193	1.34319	0.34026	72.459	786	V. 127	..	1734
524	107. 54. 56.93	1872.0	4	- 2.870	+ 0.383	0.00	9.68359	0.09484	1.34498	0.34039	85.533	796	V. 139	..	1741
525	66. 2. 52.44	1874.5	4	- 2.823	+ 0.530	+ 0.03	0.08113	0.05799	1.34591	0.34046	69.929	790	V. 135	..	1742
526	62. 25. 24.42	1875.8	6	- 2.800	+ 0.545	+ 0.06	0.10514	0.05514	1.34636	0.34049	68.322	..	V. 136	..	1746
527	24. 22. 33.31	1872.3	16	- 2.651	+ 0.868	..	0.28414	0.03326	1.34926	0.34069	53.317	..	....	..	1751
528	73. 2. 27.51	1868.1	2	- 2.649	+ 0.504	0.00	0.03109	0.06500	1.34929	0.34069	72.504	798	V. 148	..	1764
529	91. 17. 7.77	1871.0	20	- 2.642	+ 0.441	+ 0.01	9.87157	0.08025	1.34943	0.34070	79.714	809	V. 160	..	1765
530	68. 56. 16.53	1870.0	16	- 2.618	+ 0.519	+ 0.05	0.06126	0.06187	1.34991	0.34074	70.737	800	V. 152	..	1767
531	59. 35. 9.80	1876.9	1	- 2.581	+ 0.558	0.00	0.12317	0.05493	1.35060	0.34078	66.737	799	V. 155	..	1768
532	36. 34. 27.19	1868.2	1	- 2.535	+ 0.704	+ 0.57	0.24010	0.04079	1.35150	0.34084	57.325	..	V. 146	995	1769
533	60. 51. 40.19	1875.7	4	- 2.516	+ 0.553	..	0.11524	0.05649	1.35186	0.34086	67.146	..	....	..	1772
534	64. 10. 37.34	1870.1	5	- 2.461	+ 0.539	+ 0.03	0.09398	0.05939	1.35203	0.34093	68.493	810	V. 165	..	1778
535	28. 35. 27.19	1874.9	9	- 2.411	+ 0.798	- 0.03	0.27047	0.03919	1.35390	0.34099	54.110	795	V. 153	999	1777
536	73. 40. 25.22	1875.1	1	- 2.366	+ 0.502	..	0.02649	0.06700	1.35476	0.34104	72.270	..	....	..	..
537	35. 12. 2.37	1874.1	1	- 2.322	+ 0.719	- 0.01	0.24588	0.04351	1.35560	0.34110	56.281	808	V. 166	1005	1784
538	91. 59. 56.16	1873.0	1	- 2.315	+ 0.439	..	9.86433	0.08064	1.35573	0.34111	79.550	..	....	..	..
539	73. 32. 4.50	1875.1	1	- 2.279	+ 0.503	- 0.02	0.02755	0.06736	1.35643	0.34114	72.064	817	V. 180	..	1792
540	92. 0. 43.45	1872.4	5	- 2.244	+ 0.440	+ 0.03	9.86415	0.08061	1.35709	0.34118	79.466	819	V. 188	..	1794
541	67. 24. 23.17	1875.1	4	- 2.241	+ 0.526	0.00	0.07236	0.06335	1.35715	0.34119	69.385	..	V. 184	..	1793
542	124. 8. 34.40	1870.6	9	- 2.182	+ 0.316	0.00	9.45163	0.10074	1.35828	0.34125	89.166	..	V. 196	..	1802
543	40. 13. 58.80	1868.2	2	- 2.098	+ 0.675	+ 0.08	0.22502	0.04928	1.35988	0.34134	57.676	815	V. 186	1016	1804
544	73. 58. 18.78	1872.5	2	- 1.964	+ 0.502	- 0.08	0.02444	0.06928	1.36240	0.34147	71.705	826	V. 201	..	1810
545	112. 29. 28.12	1868.1	2	- 1.823	+ 0.367	+ 0.37	9.62149	0.09158	1.36505	0.34161	85.963	837	V. 219	..	1823
546	21. 34. 12.98	1874.3	7	- 1.822	+ 0.936	..	0.29372	0.04748	1.36508	0.34161	50.235	..	....	..	..
547	75. 33. 40.32	1874.1	5	- 1.754	+ 0.497	+ 0.09	0.01204	0.07122	1.36635	0.34167	72.042	833	V. 216	..	1827
548	50. 51. 54.81	1870.7	7	- 1.722	+ 0.605	+ 0.06	0.17383	0.05912	1.36695	0.34170	61.206	829	V. 213	1025	1830
549	76. 8. 57.54	1868.1	2	- 1.709	+ 0.495	+ 0.01	0.00741	0.07174	1.36719	0.34171	72.220	834	V. 221	..	1834
550	31. 4. 35.06	1869.1	1	- 1.661	+ 0.769	- 0.05	0.26233	0.05272	1.36809	0.34175	53.113	825	V. 208	1022	1833
551	65. 28. 40.11	1870.7	7	- 1.646	+ 0.536	+ 0.01	0.08593	0.06667	1.36836	0.34176	67.440	835	V. 223	..	1837
552	99. 43. 0.39	1872.0	13	- 1.601	+ 0.414	+ 0.03	9.78111	0.08404	1.36920	0.34180	81.558	844	V. 234	..	1843
553	52. 44. 2.69	1870.6	13	- 1.546	+ 0.595	+ 0.03	0.16388	0.06196	1.37022	0.34184	61.634	839	V. 228	..	1844
554	50. 53. 31.01	1873.2	12	- 1.520	+ 0.605	- 0.03	0.17383	0.06154	1.37071	0.34186	60.782	840	V. 229	1028	1845
555	75. 44. 1.67	1869.1	3	- 1.469	+ 0.497	+ 0.02	0.01085	0.07260	1.37164	0.34190	71.647	845	V. 240	..	1852
556	30. 8. 40.20	1874.2	16	- 1.443	+ 0.782	+ 0.02	0.26590	0.05606	1.37213	0.34192	52.234	831	V. 226	1027	1849
557	56. 7. 6.94	1868.6	4	- 1.381	+ 0.578	+ 0.04	0.14488	0.06506	1.37325	0.34195	62.777	..	V. 243	..	1857
558	75. 51. 46.99	1873.9	5	- 1.303	+ 0.497	+ 0.01	0.00983	0.07341	1.37470	0.34201	71.438	849	V. 249	..	1862
559	62. 25. 13.33	1873.4	22	- 1.287	+ 0.549	+ 0.07	0.10636	0.06829	1.37499	0.34202	65.399	848	V. 247	..	1863
560	125. 49. 9.91	1868.1	1	- 1.185	+ 0.308	- 0.28	9.42160	0.09151	1.37684	0.34208	89.001	..	V. 267	..	1878

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Celestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Medie Stellarum Fixarum in Zonis Regiomontanis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichniss* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

{xxx}

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fra- tion of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
561	Piazzi V. 256	6.7	5. 46. 40.632	1868.0	1	+ 3.8958	+ 0.0039	- 0.002	0.08082	0.10660	1.46084	0.08005	83.197
562	54 Orionis χ^1	5.4*	5. 46. 48.239	1869.6	5	+ 3.5646	+ 0.0033	- 0.016	0.08067	0.10412	1.45583	0.07969	83.811
563	Piazzi V. 248	7	5. 46. 57.270	1869.1	3	+ 5.0240	+ 0.0075	+ 0.007	0.08161	0.11989	1.47747	0.08118	80.717
564	57 Orionis χ^2	6*	5. 47. 22.050	1868.2	2	+ 3.5507	+ 0.0032	+ 0.005	0.08059	0.10405	1.45562	0.07966	83.841
565	Piazzi V. 246	6	5. 47. 32.155	1872.0	4	+ 6.2168	+ 0.0129	- 0.031	0.08252	0.13684	1.49440	0.08226	77.836
566	58 Orionis α	Var.	5. 48. 14.519	1872.0	89	+ 3.2452	+ 0.0027	+ 0.001	0.08043	0.10282	1.45094	0.07935	84.330
567	33 Aurigæ δ	4.5*	5. 48. 59.247	1872.9	10	+ 4.9287	+ 0.0061	+ 0.015	0.08116	0.11860	1.47608	0.08080	80.987
568	Bradley 851 θ	6.7†	5. 49. 5.704	1869.1	1	+ 5.0013	+ 0.0063	+ 0.001	0.08119	0.11958	1.47713	0.08084	80.820
569	139 Tauri β	5.6*	5. 50. 3.134	1872.1	6	+ 3.7218	+ 0.0031	- 0.001	0.08034	0.10519	1.45821	0.07969	83.567
570	34 Aurigæ β	2*	5. 50. 8.383	1870.9	29	+ 4.4047	+ 0.0043	+ 0.001	0.08065	0.11196	1.46842	0.08022	82.188
571	37 Aurigæ θ	3*	5. 50. 59.593	1874.1	5	+ 4.0863	+ 0.0035	+ 0.004	0.08037	0.10844	1.46369	0.07990	82.873
572	B. F. 817 δ	6*	5. 51. 41.159	1868.1	5	+ 3.3756	+ 0.0025	..	0.08008	0.10323	1.45295	0.07938	84.165
573	W. B. V. 1317	8	5. 52. 30.533	1871.1	4	+ 2.8160	+ 0.0023	..	0.07999	0.10307	1.44430	0.07903	84.878
574	Bradley 865 δ	6.7	5. 53. 38.435	1868.1	1	+ 4.3349	+ 0.0031	+ 0.007	0.08010	0.11115	1.46738	0.07982	82.399
575	38 Aurigæ δ	6*	5. 54. 4.306	1868.2	3	+ 4.3147	+ 0.0030	+ 0.015	0.08003	0.11092	1.46709	0.07977	82.447
576	39 Aurigæ δ	6.7†	5. 55. 51.108	1868.1	1	+ 4.3183	+ 0.0025	+ 0.002	0.07978	0.11096	1.46713	0.07959	82.472
577	64 Orionis χ^3	6*	5. 55. 52.696	1874.4	5	+ 3.5506	+ 0.0022	+ 0.010	0.07964	0.10407	1.45561	0.07934	83.928
578	62 Orionis χ^4	5*	5. 56. 19.107	1872.8	2	+ 3.5624	+ 0.0021	0.000	0.07960	0.10414	1.45579	0.07933	83.912
579	1 Geminorum γ	5*	5. 56. 20.400	1871.6	21	+ 3.6470	+ 0.0021	- 0.002	0.07960	0.10468	1.45708	0.07935	83.769
580	40 Aurigæ δ	6*	5. 57. 45.742	1868.1	2	+ 4.1353	+ 0.0020	+ 0.001	0.07948	0.10896	1.46442	0.07937	82.875
581	2 Geminorum γ	6.7	5. 59. 0.486	1873.6	6	+ 3.6576	+ 0.0018	- 0.003	0.07930	0.10475	1.45724	0.07923	83.781
582	17 Leporis δ	5*	5. 59. 16.412	1868.1	1	+ 2.6767	+ 0.0021	+ 0.007	0.07925	0.10364	1.44211	0.07916	85.046
583	Bradley 889 δ	6*	5. 59. 24.388	1868.2	2	+ 2.8308	+ 0.0020	- 0.003	0.07924	0.10304	1.44453	0.07917	84.906
584	39 Camelopardali	6.7	5. 59. 38.703	1875.1	3	+ 5.4325	+ 0.0010	..	0.07919	0.12556	1.48333	0.07925	80.095
585	36 Camelopardali	6.5*	5. 59. 58.312	1874.4	2	+ 6.0387	+ 0.0006	- 0.011	0.07919	0.13424	1.49189	0.07919	78.698
586	W. B. V. 1531 ...	9	6. 0. 11.558	1870.1	5	+ 2.8153	+ 0.0020	..	0.07916	0.10308	1.44428	0.07918	84.926
587	67 Orionis ν	6*	6. 0. 15.824	1871.7	23	+ 3.4250	+ 0.0017	+ 0.001	0.07915	0.10345	1.45370	0.07917	84.169
588	Bradley 894 δ	7	6. 0. 52.334	1876.1	2	+ 2.8084	+ 0.0020	+ 0.006	0.07909	0.10310	1.44417	0.07920	84.935
589	3 Geminorum γ	6.7†	6. 1. 57.643	1875.1	5	+ 3.6433	+ 0.0014	+ 0.006	0.07896	0.10466	1.45702	0.07909	83.836
590	5 Geminorum γ	6	6. 3. 41.277	1872.1	5	+ 3.6799	+ 0.0011	0.000	0.07877	0.10491	1.45758	0.07900	83.793
591	40 Camelopardali	6*	6. 4. 10.560	1874.6	4	+ 5.3904	- 0.0017	+ 0.004	0.07830	0.12497	1.48274	0.07841	80.309
592	68 Orionis δ	6*	6. 4. 26.465	1868.2	5	+ 3.5539	+ 0.0012	+ 0.003	0.07868	0.10409	1.45567	0.07901	84.011
593	6 Geminorum γ	6	6. 4. 33.491	1872.8	5	+ 3.6378	+ 0.0010	+ 0.002	0.07866	0.10462	1.45694	0.07898	83.874
594	70 Orionis ξ	5.4*	6. 4. 39.862	1868.1	1	+ 3.4113	+ 0.0013	+ 0.005	0.07867	0.10338	1.45349	0.07906	84.231
595	Piazzi V. 335 δ	5.4*	6. 4. 44.251	1871.6	5	+ 6.6209	- 0.0053	+ 0.003	0.07776	0.14274	1.49999	0.07786	77.515
596	Piazzi V. 337 δ	6	6. 5. 24.170	1873.3	3	+ 6.6680	- 0.0063	- 0.007	0.07756	0.14344	1.50064	0.07765	77.431
597	1 Lynceis δ	6*	6. 6. 6.568	1872.8	2	+ 5.5391	- 0.0034	- 0.001	0.07781	0.12707	1.48485	0.07800	80.034
598	Lalande 11806	8-9	6. 7. 0.913	1868.1	2	+ 4.0496	0.0000	- 0.003	0.07826	0.10808	1.46314	0.07864	83.178
599	Bradley 904 δ	6.7†	6. 7. 1.524	1868.1	1	+ 4.0497	0.0000	- 0.003	0.07826	0.10808	1.46314	0.07864	83.178
600	7 Geminorum η	3.4*	6. 7. 9.066	1871.7	44	+ 3.6269	+ 0.0007	- 0.007	0.07837	0.10453	1.45677	0.07887	83.922

566. The limits of magnitude are 1 and 1.4; the period is irregular.

N	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of μ	No. in Bessel's Bradley, 1755.	No. in Piazz.	No. in Groom-bridge, 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
561	58. 19. 15.87	1868.0	1	-1.165	+0.568	+0.09	0.13197	0.06800	1.37722	0.34209	63.324	..	V. 256	..	1875
562	69. 44. 59.82	1869.6	5	-1.154	+0.520	+0.10	0.05629	0.07191	1.37740	0.34210	68.464	856	V. 259	..	1876
563	34. 22. 2.70	1869.1	3	-1.141	+0.732	+0.12	0.25022	0.06184	1.37764	0.34211	53.103	..	V. 248	1035	1872
564	70. 16. 40.28	1868.2	2	-1.105	+0.518	-0.01	0.05246	0.07241	1.37831	0.34213	68.617	857	V. 265	..	1880
565	23. 0. 10.55	1872.1	18	-1.090	+0.906	-0.05	0.28995	0.06067	1.37857	0.34213	48.858	..	V. 246	1032	1874
566	82. 37. 7.75	1871.9	69	-1.029	+0.473	0.00	9.95328	0.07679	1.37968	0.34217	73.981	860	V. 268	..	1883
567	35. 43. 42.94	1874.2	10	-0.963	+0.718	+0.12	0.24487	0.06484	1.38086	0.34220	53.224	852	V. 262	1040	1885
568	34. 41. 34.69	1869.1	1	-0.953	+0.729	+0.06	0.24900	0.06479	1.38102	0.34220	52.797	851	V. 264	1041	1887
569	64. 3. 52.34	1873.3	8	-0.870	+0.543	+0.01	0.09576	0.07226	1.38255	0.34224	65.373	862	V. 273	..	1896
570	45. 4. 6.25	1872.1	16	-0.863	+0.642	+0.03	0.20369	0.06804	1.38268	0.34224	56.859	859	V. 269	1050	1895
571	52. 47. 56.74	1874.9	5	-0.787	+0.596	+0.11	0.16391	0.07050	1.38404	0.34227	60.095	863	V. 277	..	1900
572	77. 12. 23.53	1868.1	5	-0.726	+0.492	..	9.99926	0.07627	1.38514	0.34229	71.129	..	....	..	1907
573	100. 51. 11.28	1871.1	4	-0.655	+0.411	..	9.77688	0.08140	1.38642	0.34232	81.001	..	....	..	..
574	46. 37. 33.39	1868.1	1	-0.557	+0.632	..	0.19618	0.07222	1.38815	0.34235	56.880	865	....	1065	1921
575	47. 5. 14.87	1868.2	3	-0.519	+0.629	+0.15	0.19393	0.07276	1.38883	0.34236	56.998	868	V. 293	1067	1923
576	47. 0. 41.38	1868.1	1	-0.362	+0.630	+0.07	0.19432	0.07471	1.39161	0.34240	56.635	873	V. 298	1071	1931
577	70. 18. 34.83	1875.1	8	-0.360	+0.518	+0.03	0.05242	0.07699	1.39164	0.34240	67.377	878	V. 304	..	1934
578	69. 51. 38.66	1872.8	2	-0.322	+0.520	+0.02	0.05568	0.07718	1.39230	0.34240	67.107	881	V. 308	..	1939
579	66. 43. 56.06	1872.9	28	-0.321	+0.532	+0.11	0.07788	0.07689	1.39233	0.34240	65.635	880	V. 307	..	1938
580	51. 30. 31.37	1868.1	2	-0.195	+0.603	..	0.17105	0.07698	1.39453	0.34241	58.319	882	....	1075	1942
581	66. 21. 7.89	1874.4	10	-0.088	+0.534	+0.01	0.08052	0.07855	1.39641	0.34242	65.055	884	V. 323	..	1951
582	106. 28. 38.39	1868.1	1	-0.064	+0.390	+0.02	9.69914	0.07951	1.39683	0.34242	82.548	890	V. 331	..	1955
583	100. 14. 9.36	1868.2	2	-0.052	+0.413	+0.04	9.77474	0.07935	1.39704	0.34242	80.167	889	V. 330	..	1956
584	29. 31. 43.90	1875.1	3	-0.030	+0.792	+0.01	0.26862	0.07871	1.39741	0.34242	48.663	879	....	1079	1950
585	24. 15. 38.14	1873.8	4	-0.003	+0.881	+0.07	0.28630	0.07913	1.39789	0.34242	46.673	875	V. 314	1076	1952
586	100. 52. 32.09	1870.1	5	+0.016	+0.411	..	9.76723	0.07912	1.39821	0.34242	80.357	..	....	..	..
587	75. 13. 5.81	1872.5	4	+0.023	+0.500	+0.02	0.01523	0.07929	1.39833	0.34242	69.072	887	V. 332	..	1958
588	101. 9. 41.36	1876.1	4	+0.077	+0.410	-0.01	9.76388	0.07945	1.39928	0.34242	80.373	894	V. 339	..	1961
589	66. 52. 5.13	1875.2	6	+0.172	+0.531	+0.05	0.07697	0.08040	1.40092	0.34241	64.862	891	V. 340	..	1971
590	65. 33. 15.19	1871.8	7	+0.322	+0.536	+0.07	0.08593	0.08159	1.40350	0.34240	63.978	896	V. 350	..	1981
591	29. 58. 8.77	1874.5	4	+0.366	+0.786	+0.04	0.26705	0.08487	1.40425	0.34240	47.929	888	V. 341	1102	1979
592	70. 11. 0.51	1868.2	5	+0.388	+0.518	+0.02	0.05335	0.08155	1.40463	0.34239	66.106	900	VI. 2	..	1986
593	67. 3. 54.37	1873.4	7	+0.400	+0.530	+0.02	0.07555	0.08198	1.40483	0.34239	64.580	899	VI. 3	..	1987
594	75. 45. 53.08	1868.1	1	+0.408	+0.497	+0.04	0.01081	0.07736	1.40498	0.34238	69.010	903	VI. 8	..	1990
595	20. 38. 22.62	1871.0	11	+0.414	+0.965	+0.09	0.29728	0.08612	1.40507	0.34238	44.455	..	V. 335	1100	1980
596	20. 23. 25.75	1872.3	5	+0.472	+0.972	+0.08	0.29798	0.08710	1.40608	0.34237	44.236	..	V. 337	..	1985
597	28. 26. 49.72	1873.1	2	+0.533	+0.807	+0.03	0.27235	0.08754	1.40709	0.34235	46.982	893	V. 351	1111	1992
598	53. 49. 7.18	1868.1	2	+0.614	+0.590	+0.06	0.15833	0.08569	1.40850	0.34233	57.821	..	....	..	..
599	53. 48. 58.15	1868.1	1	+0.615	+0.590	+0.06	0.15833	0.08569	1.40850	0.34233	57.821	904	....	..	1999
600	67. 27. 30.25	1871.2	25	+0.626	+0.528	+0.02	0.07269	0.08348	1.40867	0.34233	64.406	909	VI. 22	..	2002

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Coelestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radelhoff Catalogue (1860); from Piazz's Catalogue (1814); from Weisse's two Catalogues, *Positiones Mediae Stellarum Fixarum in Zonis Regiomontanis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

{xxxii}

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B. A. C.	Logarithms of				Value of μ
									e	f	g	h	
601	44 Aurigæ κ	5-4*	6. 7. 13.233	1875.4	3	+ 3.8296	+ 0.0004	- 0.005	0.07831	0.10605	1.45984	0.07875	83.579
602	71 Orionis	6-5*	6. 7. 19.027	1868.2	1	+ 3.5375	+ 0.0009	- 0.005	0.07836	0.10400	1.45542	0.07892	84.066
603	42 Aurigæ	6*	6. 8. 2.205	1868.1	1	+ 4.4784	- 0.0013	- 0.004	0.07796	0.11285	1.46951	0.07829	82.354
604	73 Orionis λ^1	6*	6. 8. 33.579	1869.1	3	+ 3.3706	+ 0.0010	0.000	0.07826	0.10321	1.45287	0.07898	84.326
605	43 Aurigæ	6*	6. 8. 44.107	1868.1	1	+ 4.4755	- 0.0015	+ 0.002	0.07785	0.11281	1.46946	0.07822	82.373
606	Bradley 912	6-7†	6. 8. 59.292	1868.2	2	+ 4.0142	- 0.0004	- 0.013	0.07803	0.10772	1.46261	0.07851	83.270
607	3 Lyncis	6	6. 10. (16.)	..	..	+ 5.5646	- 0.0063	- 0.006	0.07689	0.12744	1.48522	0.07717	80.093
608	Bradley 918	6-7	6. 10. 19.854	1868.1	1	+ 4.0163	- 0.0006	- 0.007	0.07785	0.10773	1.46264	0.07841	83.288
609	Piazzi VI. 54	6-7	6. 14. (0.)	..	..	+ 5.6635	- 0.0095	..	0.07595	0.12883	1.48662	0.07631	79.991
610	13 Geminorum μ	3*	6. 15. 12.995	1871.4	28	+ 3.6269	- 0.0003	+ 0.005	0.07745	0.10450	1.45678	0.07852	84.011
611	1 Canis Majoris ... ζ	3-2*	6. 15. 23.974	1869.7	3	+ 2.3018	+ 0.0019	+ 0.002	0.07731	0.10612	1.43619	0.08011	85.383
612	5 Lyncis	6*	6. 15. 38.114	1876.1	1	+ 5.2474	- 0.0080	- 0.009	0.07603	0.12295	1.48069	0.07649	80.924
613	Piazzi VI. 78	7	6. 16. 50.735	1868.8	3	+ 3.6972	- 0.0008	+ 0.001	0.07722	0.10497	1.45784	0.07835	83.920
614	2 Canis Majoris ... β	3-2*	6. 17. 3.777	1873.4	11	+ 2.6417	+ 0.0016	+ 0.001	0.07729	0.10376	1.44156	0.07976	85.173
615	3 Canis Majoris	4	6. 17. 26.043	1870.1	1	+ 2.1941	+ 0.0019	- 0.001	0.07698	0.10707	1.43448	0.08039	85.445
616	6 Lyncis	6	6. 19. 39.902	1868.2	1	+ 5.2251	- 0.0101	+ 0.001	0.07523	0.12262	1.48036	0.07583	81.078
617	Piazzi VI. 99	8	6. 20. 8.026	1868.0	1	+ 3.5797	- 0.0008	..	0.07691	0.10417	1.45606	0.07837	84.139
618	15 Geminorum	6	6. 20. 8.805	1869.1	8	+ 3.5798	- 0.0008	- 0.003	0.07691	0.10417	1.45606	0.07837	84.139
619	16 Geminorum	6	6. 20. 19.899	1868.1	2	+ 3.5720	- 0.0008	+ 0.001	0.07689	0.10412	1.45594	0.07837	84.155
620	48 Aurigæ	6-5*	6. 20. 20.349	1876.5	2	+ 3.8588	- 0.0020	+ 0.002	0.07669	0.10623	1.46028	0.07792	83.700
621	47 Aurigæ	6-7†	6. 20. 29.128	1876.1	2	+ 4.4885	- 0.0053	+ 0.004	0.07603	0.11292	1.46965	0.07689	82.565
622	Groombridge 1151 ..	6*	6. 20. 34.112	1873.1	8	+ 9.3860	- 0.0668	..	0.06859	0.18229	1.53633	0.06881	72.134
623	18 Geminorum ν	5-4*	6. 21. 21.741	1872.9	19	+ 3.5644	- 0.0009	- 0.002	0.07678	0.10406	1.45582	0.07835	84.176
624	10 Monocerotis	5*	6. 21. 38.383	1868.0	1	+ 2.9631	+ 0.0009	+ 0.006	0.07689	0.10264	1.44659	0.07937	84.924
625	Radcliffe 1742	6	6. 21. 44.243	1875.2	5	+ 7.6501	- 0.0400	..	0.07092	0.15765	1.51386	0.07125	75.989
626	Piazzi VI. 114	6-7	6. 22. 17.358	1873.6	6	+ 3.7885	- 0.0020	+ 0.002	0.07651	0.10564	1.45922	0.07792	83.840
627	Piazzi VI. 136	4-5*	6. 23. 25.517	1869.8	10	+ 2.2249	+ 0.0018	+ 0.001	0.07625	0.10675	1.43497	0.08075	85.457
628	Piazzi VI. 126	6*	6. 24. 5.994	1870.5	5	+ 3.9206	- 0.0029	+ 0.005	0.07617	0.10675	1.46121	0.07756	83.648
629	Piazzi VI. 75	5-6*	6. 24. 20.469	1873.5	7	+ 10.3840	- 0.1030	+ 0.041	0.06464	0.19611	1.54885	0.06488	70.226
630	B. F. 897	7	6. 25. 6.763	1868.2	1	+ 5.2163	- 0.0131	..	0.07415	0.12248	1.48025	0.07490	81.235
631	9 Lyncis	6-7	6. 25. 14.009	1876.4	3	+ 5.0788	- 0.0118	- 0.014	0.07436	0.12058	1.47826	0.07517	81.513
632	Carrington 929	8-7	6. 25. 52.261	1868.5	3	+ 17.6630	- 0.3941	..	0.04811	0.28576	1.63012	0.04825	54.656
633	8 Lyncis	6*	6. 25. 59.166	1874.7	4	+ 5.5279	- 0.0169	- 0.035	0.07341	0.12684	1.48469	0.07410	80.633
634	10 Lyncis	6-7	6. 26. 50.658	1875.2	1	+ 5.5258	- 0.0174	- 0.029	0.07321	0.12682	1.48467	0.07394	80.661
635	49 Aurigæ	6-5*	6. 27. 8.348	1874.9	4	+ 3.7817	- 0.0027	0.000	0.07593	0.10553	1.45912	0.07766	83.915
636	Groombridge 1190 ..	6-7†	6. 27. 44.735	1868.1	3	+ 4.1296	- 0.0050	..	0.07544	0.10878	1.46434	0.07686	83.345
637	14 Monocerotis	6	6. 27. 50.349	1875.4	3	+ 3.2509	- 0.0003	+ 0.005	0.07622	0.10270	1.45103	0.07878	84.662
638	41 Camelopardali	6-7	6. 28. 40.878	1873.2	9	+ 5.5701	- 0.0192	- 0.018	0.07272	0.12745	1.48530	0.07348	80.623
639	Piazzi VI. 165	6-7	6. 29. 36.414	1872.1	5	+ 3.6819	- 0.0025	+ 0.011	0.07575	0.10475	1.45761	0.07775	84.098
640	5 Canis Majoris ... ξ^2	5*	6. 29. 41.493	1868.6	2	+ 2.5131	+ 0.0015	+ 0.010	0.07578	0.10440	1.43954	0.08049	85.333

632. The magnitude is taken from the Redhill Catalogue.

1876 No.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of l'	No. in Bessel's Bradley, 1755.	No. in Piazzi, 1800.	No. in Groombridge, 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
601	60. 27. 26.13	1875.4	3	+0.631	+0.558	+0.29	0.11906	0.08476	1.40877	0.34233	60.980	907	VI. 18	..	2001
602	70. 48. 9.73	1868.2	1	+0.640	+0.515	+0.26	0.04879	0.08296	1.40892	0.34232	66.010	911	VI. 23	..	2004
603	43. 32. 12.09	1868.1	2	+0.703	+0.652	+0.03	0.21101	0.08828	1.40998	0.34231	52.896	905	VI. 19	1125	2008
604	77. 24. 4.23	1869.1	3	+0.748	+0.491	+0.01	9.99747	0.08211	1.41075	0.34229	69.060	916	VI. 32	..	2012
605	43. 35. 35.19	1868.1	2	+0.764	+0.652	+0.11	0.21072	0.08905	1.41101	0.34229	52.796	908	VI. 25	1128	2010
606	54. 48. 38.65	1868.2	2	+0.786	+0.585	-0.02	0.15265	0.08727	1.41138	0.34227	57.982	912	....	..	2014
607	28. 11. 7.65	1875.0	4	+0.898	+0.810	+0.12	0.27314	0.09314	1.41326	0.34222	46.098	906	VI. 27	1129	2019
608	54. 44. 42.92	1868.1	1	+0.904	+0.585	+0.09	0.15299	0.08849	1.41335	0.34222	57.733	918	....	..	2021
609	27. 14. 52.05	1874.0	1	+1.226	+0.824	..	0.27616	0.09842	1.41873	0.34206	44.997	..	VI. 54	..	..
610	67. 25. 22.93	1871.8	22	+1.331	+0.527	+0.14	0.07284	0.08830	1.42046	0.34199	63.255	929	VI. 74	..	2047
611	120. 0. 27.05	1869.7	3	+1.347	+0.334	-0.02	9.51228	0.06686	1.42072	0.34198	86.146	933	VI. 81	..	2051
612	31. 30. 59.22	1876.1	2	+1.367	+0.763	+0.03	0.26095	0.09971	1.42106	0.34193	46.377	925	VI. 63	1146	2045
613	64. 53. 12.01	1868.8	3	+1.473	+0.537	+0.10	0.09005	0.09032	1.42280	0.34190	61.759	..	VI. 78	..	2058
614	107. 53. 36.89	1873.5	5	+1.492	+0.384	+0.02	9.68178	0.07083	1.42312	0.34188	81.833	936	VI. 92	..	2061
615	123. 22. 18.67	1870.1	1	+1.524	+0.318	+0.06	9.46120	0.09404	1.42364	0.34186	84.968	939	VI. 95	..	2066
616	31. 44. 49.16	1868.2	1	+1.719	+0.759	+0.36	0.25981	0.10479	1.42681	0.34170	45.734	930	VI. 90	1163	2074
617	69. 8. 29.85	1868.0	1	+1.759	+0.519	..	0.06047	0.09036	1.42750	0.34167	63.465	..	VI. 99	..	..
618	69. 8. 3.38	1869.1	8	+1.761	+0.519	+0.02	0.06047	0.09036	1.42750	0.34167	63.465	940	VI. 100	..	2080
619	69. 25. 44.31	1868.1	3	+1.777	+0.518	+0.04	0.05831	0.09030	1.42776	0.34166	63.593	941	VI. 101	..	2084
620	59. 25. 49.67	1874.9	4	+1.777	+0.560	+0.04	0.12480	0.09519	1.42776	0.34166	58.514	938	VI. 98	..	2082
621	43. 14. 9.07	1876.1	2	+1.790	+0.651	+0.03	0.21179	0.10210	1.42797	0.34164	50.612	935	VI. 96	1166	2081
622	11. 54. 32.93	1873.1	8	+1.797	+1.363	..	0.31909	0.10980	1.42809	0.34164	38.627	..	....	1151	2069
623	69. 42. 32.93	1872.3	15	+1.867	+0.517	+0.01	0.05622	0.09071	1.42922	0.34157	63.604	942	VI. 109	..	2090
624	94. 41. 6.08	1868.0	1	+1.890	+0.429	+0.05	9.83645	0.07639	1.42960	0.34155	75.878	948	VI. 116	..	2094
625	16. 12. 39.81	1875.6	8	+1.899	+1.110	..	0.30850	0.11090	1.42974	0.34154	39.691	..	....	..	..
626	61. 42. 19.81	1873.6	6	+1.947	+0.549	+0.10	0.11052	0.09553	1.43050	0.34149	59.385	..	VI. 114	..	2097
627	122. 30. 0.54	1869.8	10	+2.047	+0.322	-0.08	9.47640	0.05887	1.43212	0.34140	86.555	..	VI. 136	..	2109
628	57. 27. 23.38	1872.1	7	+2.105	+0.568	-0.02	0.13650	0.09916	1.43305	0.34134	56.964	..	VI. 126	..	2110
629	10. 18. 15.55	1874.6	12	+2.125	+1.505	+0.61	0.32236	0.11536	1.43337	0.34132	37.465	..	VI. 75	1159	2095
630	31. 47. 26.50	1868.2	1	+2.193	+0.755	..	0.25921	0.11159	1.43446	0.34124	44.782	..	....	1178	2113
631	33. 30. 59.59	1876.3	5	+2.202	+0.736	+0.05	0.25263	0.11111	1.43460	0.34123	45.491	947	VI. 123	1179	2114
632	5. 12. 8.22	1868.5	1	+2.259	+2.559	..	0.33250	0.11799	1.43551	0.34117	35.885	..	....	..	..
633	28. 24. 36.43	1874.8	4	+2.270	+0.800	+0.25	0.27124	0.11380	1.43569	0.34115	43.260	946	VI. 125	1180	2120
634	28. 25. 12.52	1875.2	1	+2.344	+0.799	+0.01	0.27114	0.11488	1.43687	0.34107	43.112	949	VI. 132	1182	2125
635	61. 52. 48.84	1874.9	4	+2.370	+0.547	+0.02	0.10900	0.09889	1.43728	0.34104	58.803	959	VI. 146	..	2133
636	51. 27. 14.46	1868.1	4	+2.422	+0.597	..	0.17006	0.10561	1.43810	0.34097	53.410	..	....	1190	2139
637	82. 19. 48.54	1875.7	5	+2.429	+0.470	+0.03	9.95540	0.08499	1.43822	0.34097	69.303	961	VI. 156	..	2144
638	27. 58. 14.44	1873.3	10	+2.503	+0.805	-0.01	0.27249	0.11736	1.43939	0.34088	42.613	954	VI. 141	1188	2143
639	65. 18. 19.22	1872.1	5	+2.583	+0.532	+0.10	0.08643	0.09823	1.44064	0.34078	60.257	..	VI. 165	..	2154
640	112. 51. 51.25	1868.6	2	+2.592	+0.362	-0.06	9.61794	0.09698	1.44078	0.34077	80.470	972	VI. 170	..	2160

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Cælestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Mediæ Stellarum Fixarum in Zonis Regiomontanis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

{xxxiv}

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Frac- tion of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
641	51 Aurigæ.....	6-7†	h m s 6. 29. 47.295	1870.4	6	+ 4.1650	- 0.0057	- 0.002	0.07511	0.10913	1.46486	0.07659	83.318
642	52 Aurigæ.....	6*	6. 29. 54.195	1869.6	2	+ 4.1849	- 0.0059	- 0.004	0.07506	0.10935	1.46516	0.07654	83.285
643	50 Aurigæ.....	5*	6. 30. 11.347	1869.7	4	+ 4.2909	- 0.0068	+ 0.003	0.07486	0.11051	1.46673	0.07626	83.105
644	53 Aurigæ.....	6*	6. 30. 15.955	1868.1	1	+ 3.8096	- 0.0034	0.000	0.07553	0.10572	1.45953	0.07741	83.912
645	24 Geminorum γ	2-3*	6. 30. 18.993	1872.4	63	+ 3.4649	- 0.0014	+ 0.001	0.07585	0.10344	1.45431	0.07824	84.413
646	Piazz VI. 178....	8	6. 30. 45.305	1876.0	1	+ 2.6274	+ 0.0013	..	0.07577	0.10370	1.44134	0.08026	85.265
647	6 Canis Majoris.. ν ¹	6-7†	6. 30. 46.574	1875.6	2	+ 2.6274	+ 0.0013	- 0.003	0.07576	0.10370	1.44134	0.08026	85.265
648	7 Canis Majoris.. ν ²	5*	6. 31. 6.042	1874.7	7	+ 2.6122	+ 0.0013	+ 0.004	0.07571	0.10378	1.44110	0.08031	85.278
649	54 Aurigæ.....	6*	6. 31. 28.755	1874.1	4	+ 3.7875	- 0.0034	- 0.001	0.07541	0.10553	1.45920	0.07739	83.961
650	25 Geminorum	7	6. 33. 16.807	1873.6	4	+ 3.7849	- 0.0037	+ 0.003	0.07520	0.10549	1.45917	0.07730	83.988
651	26 Geminorum	6-5*	6. 34. 57.106	1868.1	3	+ 3.4957	- 0.0021	- 0.001	0.07531	0.10353	1.45478	0.07801	84.422
652	27 Geminorum ε	3-4*	6. 36. 3.396	1872.6	4	+ 3.6951	- 0.0035	0.000	0.07499	0.10476	1.45781	0.07739	84.157
653	28 Geminorum	6*	6. 36. 38.688	1876.2	2	+ 3.8068	- 0.0044	- 0.002	0.07476	0.10562	1.45950	0.07703	84.001
654	56 Aurigæ.....	6*	6. 37. 30.721	1869.0	1	+ 4.3328	- 0.0092	+ 0.003	0.07371	0.11091	1.46735	0.07541	83.162
655	42 Camelopardali	5*	6. 37. 35.422	1875.8	3	+ 6.2899	- 0.0384	+ 0.006	0.06867	0.13782	1.49542	0.06946	79.445
656	31 Geminorum ξ	4-3*	6. 38. 6.309	1872.8	8	+ 3.3774	- 0.0017	- 0.007	0.07506	0.10294	1.45297	0.07826	84.607
657	9 Canis Majoris .. α	1*	6. 39. 30.318	1872.4	48	+ 2.6810	+ 0.0010	- 0.035	0.07484	0.10330	1.44218	0.08041	85.283
658	Cephei 51 (Hev.).	5*	6. 39. 43.915	1873.1	142	+ 30.3676	- 2.0165	- 0.027	9.98289	0.40869	1.74326	9.98301	31.417
659	17 Monocerotis	5*	6. 40. 22.752	1875.1	2	+ 3.2613	- 0.0013	+ 0.010	0.07488	0.10254	1.45119	0.07858	84.767
660	11 Canis Majoris	5*	6. 41. 0.823	1869.0	1	+ 2.7371	+ 0.0008	+ 0.002	0.07473	0.10302	1.44306	0.08028	85.253
661	Piazz VI. 201....	5-4*	6. 41. 21.277	1872.6	1	+ 8.8307	- 0.1143	+ 0.014	0.05929	0.17450	1.52931	0.05980	74.689
662	12 Canis Majoris	6-7†	6. 41. 32.505	1869.1	1	+ 2.5706	+ 0.0012	+ 0.002	0.07450	0.10387	1.44044	0.08084	85.368
663	59 Aurigæ.....	6-7†	6. 44. 13.020	1869.1	4	+ 4.1355	- 0.0089	+ 0.011	0.07318	0.10864	1.46442	0.07542	83.603
664	34 Geminorum θ	3-4*	6. 44. 21.070	1870.1	13	+ 3.9609	- 0.0071	- 0.002	0.07353	0.10687	1.46181	0.07603	83.877
665	60 Aurigæ.....	6*	6. 44. 26.565	1875.7	2	+ 4.1193	- 0.0087	+ 0.016	0.07319	0.10847	1.46418	0.07545	83.632
666	61 Aurigæ.....	6*	6. 45. 10.447	1870.3	5	+ 4.1210	- 0.0089	+ 0.009	0.07309	0.10847	1.46421	0.07539	83.641
667	15 Lyncis.....	5*	6. 46. 11.181	1869.1	3	+ 5.2171	- 0.0250	+ 0.004	0.06982	0.12232	1.48025	0.07120	81.793
668	Groombridge 1228	6-7†	6. 46. 47.614	1873.0	9	+ 6.8691	- 0.0633	..	0.06390	0.14624	1.50339	0.06475	78.763
669	38 Geminorum e	5*	6. 47. 25.311	1872.4	4	+ 3.3824	- 0.0026	+ 0.001	0.07406	0.10279	1.45305	0.07801	84.698
670	37 Geminorum	6-7†	6. 47. 26.268	1876.2	1	+ 3.6972	- 0.0051	- 0.005	0.07365	0.10459	1.45784	0.07680	84.299
671	14 Canis Majoris .. θ	4-5*	6. 48. 14.565	1871.6	28	+ 2.7972	+ 0.0005	- 0.010	0.07400	0.10265	1.44400	0.08024	85.261
672	18 Canis Majoris .. μ	5*	6. 50. 14.681	1871.7	7	+ 2.7498	+ 0.0006	0.000	0.07374	0.10279	1.44326	0.08047	85.309
673	62 Aurigæ.....	6-7†	6. 50. 19.482	1875.6	2	+ 4.1000	- 0.0099	- 0.001	0.07244	0.10817	1.46389	0.07503	83.756
674	Lalande 13463	6	6. 50. 23.890	1869.1	3	+ 2.5243	+ 0.0011	..	0.07344	0.10400	1.43972	0.08139	85.448
675	20 Canis Majoris .. ι	5-4*	6. 50. 25.696	1870.1	3	+ 2.6760	+ 0.0008	- 0.002	0.07364	0.10311	1.44211	0.08078	85.358
676	39 Geminorum	6-7†	6. 50. 53.947	1872.2	2	+ 3.7152	- 0.0058	- 0.009	0.07321	0.10466	1.45811	0.07655	84.320
677	Arg. Zone+26°. No.1410	8-9	6. 51. 19.881	1874.0	5	+ 3.7103	- 0.0058	..	0.07317	0.10462	1.45804	0.07655	84.331
678	Groombridge 1245	6*	6. 51. 21.641	1874.7	6	+ 6.8393	- 0.0688	..	0.06246	0.14576	1.50297	0.06340	79.026
679	40 Geminorum	6-7	6. 51. 33.694	1870.7	9	+ 3.7102	- 0.0058	+ 0.001	0.07314	0.10461	1.45804	0.07654	84.335
680	21 Canis Majoris .. ε	2-1*	6. 53. 35.722	1872.5	17	+ 2.3572	+ 0.0013	0.000	0.07276	0.10518	1.43707	0.08224	85.549

1876. Argelander.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fra- tion of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of P	No. in Bessel's Bradley. 1755.	No. in Piazzi. 1800.	No. in Groom- bridge. 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
641	50. 29. 56.69	1870.6	8	+ 2.599	+ 0.601	+ 0.11	0.17490	0.10804	1.44089	0.34076	52.632	963	VI. 161	1196	2155
642	49. 59. 25.37	1869.6	2	+ 2.609	+ 0.604	+ 0.05	0.17759	0.10845	1.44106	0.34075	52.357	964	VI. 162	1198	2156
643	47. 24. 4.50	1869.7	4	+ 2.634	+ 0.619	+ 0.05	0.19078	0.11022	1.44144	0.34071	51.042	965	VI. 163	1199	2159
644	60. 54. 31.16	1868.1	1	+ 2.641	+ 0.550	+ 0.04	0.11481	0.10175	1.44155	0.34070	57.883	967	VI. 167	..	2161
645	73. 29. 37.17	1872.6	34	+ 2.645	+ 0.500	+ 0.04	0.02755	0.09253	1.44162	0.34069	64.470	969	VI. 169	..	2163
646	108. 33. 23.13	1876.0	1	+ 2.683	+ 0.379	..	9.67514	0.09432	1.44221	0.34065	79.108	..	VI. 178	..	..
647	108. 33. 21.42	1875.6	2	+ 2.684	+ 0.379	- 0.01	9.67514	0.09432	1.44223	0.34065	79.106	975	VI. 179	..	2168
648	109. 8. 52.48	1875.0	9	+ 2.713	+ 0.376	+ 0.05	9.66755	0.09495	1.44269	0.34061	79.236	978	VI. 180	..	2171
649	61. 37. 34.92	1872.8	9	+ 2.746	+ 0.546	+ 0.04	0.11019	0.10211	1.44320	0.34056	58.093	970	VI. 173	..	2170
650	61. 41. 15.25	1873.6	4	+ 2.902	+ 0.545	+ 0.02	0.10968	0.10334	1.44563	0.34034	57.882	977	VI. 186	..	2178
651	72. 13. 54.47	1868.1	3	+ 3.046	+ 0.503	+ 0.08	0.03679	0.09564	1.44788	0.34013	63.265	982	VI. 202	..	2191
652	64. 44. 40.41	1872.4	5	+ 3.142	+ 0.531	+ 0.02	0.08952	0.10272	1.44934	0.33998	59.145	983	VI. 204	..	2194
653	60. 54. 7.30	1876.2	4	+ 3.193	+ 0.547	+ 0.03	0.11428	0.10634	1.45014	0.33990	57.026	986	VI. 207	..	2197
654	46. 17. 51.08	1869.0	1	+ 3.268	+ 0.622	- 0.14	0.19532	0.11813	1.45130	0.33978	49.398	985	VI. 209	1218	2200
655	22. 17. 26.77	1875.8	3	+ 3.275	+ 0.904	0.00	0.28968	0.13070	1.45141	0.33977	38.914	974	VI. 194	1215	2198
656	76. 58. 6.40	1872.7	2	+ 3.319	+ 0.484	+ 0.22	9.99987	0.09248	1.45208	0.33970	65.434	989	VI. 217	..	2206
657	106. 32. 32.19	1872.0	51	+ 3.439	+ 0.384	+ 1.24	9.70200	0.06113	1.45391	0.33949	79.881	994	VI. 227	..	2213
658	2. 45. 44.86	1873.2	436	+ 3.459	+ 4.361	+ 0.08	0.33506	0.13745	1.45423	0.33945	32.840	..	VI. 21	1141	2157
659	81. 49. 35.62	1875.5	3	+ 3.515	+ 0.467	0.00	9.95923	0.08810	1.45508	0.33935	67.785	993	VI. 228	..	2216
660	104. 17. 24.18	1869.0	1	+ 3.570	+ 0.391	- 0.01	9.72973	0.06299	1.45591	0.33925	78.796	996	VI. 237	..	2221
661	12. 51. 57.21	1872.6	1	+ 3.599	+ 1.266	+ 0.03	0.31439	0.13829	1.45635	0.33921	35.149	..	VI. 201	1217	2210
662	110. 52. 42.79	1869.1	1	+ 3.616	+ 0.367	+ 0.02	9.64738	0.05528	1.45661	0.33917	81.577	1001	VI. 241	..	2224
663	50. 58. 50.67	1869.1	4	+ 3.847	+ 0.590	+ 0.02	0.17050	0.12082	1.46009	0.33874	50.809	999	VI. 244	1229	2235
664	55. 53. 12.72	1870.1	13	+ 3.857	+ 0.565	+ 0.05	0.14339	0.11656	1.46025	0.33871	53.363	1003	VI. 248	..	2237
665	51. 24. 17.70	1875.8	3	+ 3.865	+ 0.588	+ 0.15	0.16823	0.12066	1.46038	0.33870	50.995	1000	VI. 246	1230	2239
666	51. 20. 26.69	1870.3	5	+ 3.927	+ 0.588	+ 0.01	0.16847	0.12134	1.46130	0.33858	50.865	1005	VI. 252	1234	2241
667	31. 24. 46.41	1869.1	3	+ 4.014	+ 0.744	+ 0.18	0.25765	0.13698	1.46262	0.33841	41.168	998	VI. 250	1231	2248
668	19. 1. 27.90	1872.7	20	+ 4.067	+ 0.979	..	0.29763	0.14355	1.46340	0.33830	36.235	..	....	1228	2247
669	76. 39. 42.16	1872.4	4	+ 4.120	+ 0.481	+ 0.09	0.00152	0.09600	1.46419	0.33819	64.316	1009	VI. 266	..	2255
670	64. 28. 0.08	1876.2	2	+ 4.121	+ 0.526	- 0.02	0.09001	0.11011	1.46421	0.33819	57.614	1007	VI. 264	..	2254
671	101. 52. 47.60	1872.3	6	+ 4.191	+ 0.397	+ 0.03	9.75891	0.06332	1.46525	0.33805	77.247	1011	VI. 274	..	2264
672	103. 52. 45.50	1871.8	7	+ 4.362	+ 0.390	+ 0.01	9.73608	0.05987	1.46779	0.33768	78.052	1017	VI. 286	..	2273
673	51. 46. 29.69	1875.8	3	+ 4.368	+ 0.582	+ 0.10	0.16521	0.12540	1.46787	0.33767	50.415	1010	VI. 276	1251	2270
674	112. 46. 39.62	1869.1	3	+ 4.375	+ 0.357	..	9.62552	0.04751	1.46798	0.33765	81.906	..	....	..	..
675	106. 53. 22.15	1869.6	2	+ 4.378	+ 0.379	- 0.01	9.70018	0.05561	1.46802	0.33764	79.398	1019	VI. 289	..	2274
676	63. 45. 11.74	1874.5	7	+ 4.417	+ 0.527	- 0.10	0.09419	0.11309	1.46861	0.33755	56.820	1013	VI. 283	..	2275
677	63. 55. 4.27	1874.0	5	+ 4.454	+ 0.526	..	0.09307	0.11316	1.46915	0.33747	56.869	..	....	..	..
678	19. 5. 15.04	1875.0	7	+ 4.457	+ 0.971	..	0.29658	0.14924	1.46919	0.33746	35.535	..	....	1245	..
679	63. 54. 52.19	1870.7	9	+ 4.474	+ 0.526	- 0.01	0.09304	0.11330	1.46944	0.33742	56.835	1015	VI. 288	..	2278
680	118. 47. 55.58	1872.8	6	+ 4.648	+ 0.332	+ 0.02	9.54555	0.03676	1.47199	0.33702	84.114	1023	VI. 304	..	2293

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Celestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 3377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weiss's two Catalogues, *Positiones Medie Stellarum Fixarum in Zonis Regionum* (Weiss's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

{xxxvi}

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fra- ction of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
681	B. F. 984	6	6. 53. 53 ^h 938 ^m	1868.5	5	+ 3.3203 ^s	-0.0027	..	0.07342	0.10244	1.45210	0.07811	84.835
682	42 Geminorum.....	6*	6. 54. 36 ^h 808 ^m	1874.9	5	+ 3.6614	-0.0058	-0.001	0.07288	0.10420	1.45730	0.07659	84.437
683	Piazzi VI. 293	6	6. 54. 42 ^h 637 ^m	1874.2	5	+ 5.3212	-0.0322	+0.008	0.06762	0.12368	1.48174	0.06919	81.848
684	43 Geminorum.....	4*	6. 56. 30 ^h 967 ^m	1872.2	33	+ 3.5636	-0.0050	-0.001	0.07284	0.10351	1.45581	0.07694	84.584
685	Piazzi VI. 316.....	5-6*	6. 57. 45 ^h 221 ^m	1869.3	7	+ 3.9676	-0.0098	-0.016	0.07181	0.10670	1.46191	0.07500	84.069
686	23 Canis Majoris...	4-5*	6. 57. 58 ^h 078 ^m	1870.7	19	+ 2.7145	+0.0005	+0.002	0.07287	0.10277	1.44271	0.08085	85.385
687	17 Lynceis.....	6	6. 58. 9 ^h 228 ^m	1872.9	11	+ 5.4060	-0.0363	-0.001	0.06652	0.12485	1.48295	0.06812	81.803
688	Carrington 1005 ...	8-7	6. 59. 59 ^h 655 ^m	1868.5	2	+ 24.9992	-2.0158	..	9.95738	0.36084	1.69896	9.95761	47.281
689	Piazzi VI. 285.....	6-7	7. 0. 58 ^h 369 ^m	1873.8	8	+ 11.6851	-0.3516	-0.088	0.03410	0.21334	1.56450	0.03462	71.003
690	45 Geminorum.....	6*	7. 1. 1 ^h 508 ^m	1870.8	6	+ 3.4453	-0.0044	-0.002	0.07252	0.10276	1.45401	0.07734	84.776
691	Arg. Zone +69°. No. 413	7-8	7. 1. 14 ^h 292 ^m	1875.6	2	+ 6.4339	-0.0684	..	0.06101	0.13974	1.49741	0.06224	80.166
692	63 Aurigæ.....	5*	7. 2. 50 ^h 915 ^m	1869.7	11	+ 4.1341	-0.0133	+0.005	0.07062	0.10830	1.46441	0.07376	83.917
693	46 Geminorum.....	5-4*	7. 2. 59 ^h 403 ^m	1872.6	5	+ 3.8287	-0.0089	-0.003	0.07151	0.10532	1.45983	0.07531	84.335
694	25 Canis Majoris...	2*	7. 3. 11 ^h 214 ^m	1871.8	14	+ 2.4394	+0.0011	0.000	0.07180	0.10431	1.43838	0.08240	85.568
695	47 Geminorum.....	6*	7. 3. 26 ^h 640 ^m	1873.6	6	+ 3.7293	-0.0078	-0.003	0.07171	0.10449	1.45833	0.07580	84.470
696	Piazzi VI. 292.....	5*	7. 3. 59 ^h 480 ^m	1874.9	6	+ 13.0341	-0.4836	+0.009	0.02384	0.23069	1.58019	0.02432	68.982
697	48 Geminorum.....	6†	7. 4. 39 ^h 642 ^m	1873.1	5	+ 3.6531	-0.0070	-0.002	0.07175	0.10390	1.45717	0.07613	84.579
698	51 Geminorum.....	6*	7. 6. 1 ^h 193 ^m	1870.9	34	+ 3.4488	-0.0049	+0.002	0.07198	0.10265	1.45406	0.07717	84.828
699	Bradley 1048.....	7-8	7. 6. (37.)	..	..	+ 3.6675	-0.0075	-0.019	0.07149	0.10395	1.45739	0.07596	84.587
700	52 Geminorum.....	6-7†	7. 6. 52 ^h 270 ^m	1871.6	7	+ 3.6721	-0.0075	+0.006	0.07144	0.10397	1.45746	0.07592	84.586
701	26 Canis Majoris.....	6	7. 6. 57 ^h 946 ^m	1868.0	1	+ 2.4552	+0.0011	+0.002	0.07139	0.10410	1.43862	0.08251	85.584
702	44 Camelopardali.....	6-7	7. 7. 32 ^h 363 ^m	1874.7	3	+ 5.2134	-0.0374	-0.009	0.06530	0.12202	1.48021	0.06729	82.387
703	53 Geminorum.....	6-7†	7. 7. 57 ^h 404 ^m	1873.1	2	+ 3.7554	-0.0088	-0.002	0.07111	0.10459	1.45872	0.07540	84.498
704	46 Camelopardali.....	6-7	7. 8. 45 ^h 792 ^m	1876.2	2	+ 5.2388	-0.0388	-0.003	0.06490	0.12236	1.48057	0.06691	82.383
705	Bradley 1061.....	6-7	7. 9. 40 ^h 929 ^m	1868.0	1	+ 2.4275	+0.0011	+0.008	0.07101	0.10424	1.43818	0.08282	85.613
706	54 Geminorum.....	4-3*	7. 10. 44 ^h 169 ^m	1869.4	5	+ 3.4560	-0.0055	-0.002	0.07145	0.10255	1.45417	0.07696	84.877
707	47 Camelopardali.....	6	7. 11. 3 ^h 868 ^m	1873.6	6	+ 5.2896	-0.0416	-0.014	0.06413	0.12304	1.48129	0.06617	82.372
708	Piazzi VI. 334.....	6	7. 11. 14 ^h 321 ^m	1874.2	4	+ 11.2465	-0.3763	-0.093	0.02836	0.20750	1.55927	0.02900	72.778
709	Bradley 1054.....	7-8	7. 12. 23 ^h 545 ^m	1868.1	2	+ 4.9228	-0.0325	+0.001	0.06573	0.11790	1.47600	0.06813	82.965
710	19 Lynceis.....	5*	7. 12. 24 ^h 892 ^m	1868.1	2	+ 4.9226	-0.0325	-0.002	0.06573	0.11790	1.47600	0.06813	82.965
711	55 Geminorum.....	3-4*	7. 12. 28 ^h 613 ^m	1871.2	56	+ 3.5912	-0.0073	0.000	0.07100	0.10327	1.45623	0.07610	84.752
712	29 Canis Majoris.....	5*	7. 13. 20 ^h 555 ^m	1868.1	1	+ 2.4985	+0.0009	+0.001	0.07077	0.10362	1.43931	0.08260	85.603
713	30 Canis Majoris.....	5-4*	7. 13. 24 ^h 113 ^m	1869.2	2	+ 2.4880	+0.0010	+0.004	0.07074	0.10369	1.43914	0.08266	85.609
714	65 Aurigæ.....	6*	7. 13. 29 ^h 295 ^m	1869.7	11	+ 4.0283	-0.0139	-0.002	0.06956	0.10695	1.46282	0.07341	84.238
715	W. B. (2) VII. 385	8	7. 14. 16 ^h 483 ^m	1870.7	5	+ 4.1716	-0.0166	..	0.06892	0.10845	1.46499	0.07248	84.061
716	56 Geminorum.....	6-5*	7. 14. 23 ^h 645 ^m	1869.1	2	+ 3.5506	-0.0070	+0.002	0.07088	0.10296	1.45562	0.07627	84.819
717	Groombridge 1299..	6*	7. 14. 44 ^h 347 ^m	1874.1	5	+ 5.9961	-0.0675	..	0.05929	0.13318	1.49131	0.06095	81.409
718	66 Aurigæ.....	6*	7. 15. 16 ^h 425 ^m	1870.5	5	+ 4.1691	-0.0169	+0.003	0.06876	0.10841	1.46492	0.07238	84.085
719	57 Geminorum.....	5-6*	7. 15. 40 ^h 277 ^m	1873.2	1	+ 3.6699	-0.0087	0.000	0.07044	0.10372	1.45743	0.07547	84.705
720	58 Geminorum.....	6*	7. 15. 46 ^h 614 ^m	1868.1	1	+ 3.6139	-0.0080	0.000	0.07057	0.10333	1.45658	0.07581	84.769

688. The magnitude is taken from the Redhill Catalogue.

1878 D.A.M.W. 386.78A	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of l'	No. in Bessel's Bradley. 1755.	No. in Piazzi. 1800.	No. in Groombridge. 1810.	No. in B. A. C. 1850.
							e'	f'	g'	h'					
681	79. 11. 50.34	1868.5	5	+ 4.673	+ 0.469	..	9.98046	0.09470	1.47237	0.33696	65.086	..	....	..	2292
682	65. 36. 16.40	1872.5	7	+ 4.734	+ 0.517	0.00	0.08146	0.11312	1.47326	0.33681	57.427	1021	VI. 302	..	2299
683	30. 0. 44.52	1874.4	7	+ 4.743	+ 0.752	+ 0.02	0.26107	0.14761	1.47338	0.33679	39.292	..	VI. 293	1256	2294
684	69. 14. 38.71	1872.1	21	+ 4.896	+ 0.502	+ 0.01	0.05607	0.10941	1.47561	0.33641	59.273	1024	VI. 312	..	2305
685	55. 20. 2.13	1870.7	11	+ 5.000	+ 0.558	+ 0.17	0.14423	0.12769	1.47713	0.33614	51.395	..	VI. 316	..	2314
686	105. 26. 45.01	1871.8	5	+ 5.018	+ 0.381	+ 0.01	9.71925	0.05436	1.47739	0.33609	78.342	1028	VI. 325	..	2319
687	29. 0. 35.91	1872.9	10	+ 5.034	+ 0.761	+ 0.06	0.26387	0.15214	1.47761	0.33605	38.372	1022	VI. 308	1264	2312
688	3. 22. 14.19	1868.5	1	+ 5.191	+ 3.519	..	0.33015	0.16387	1.47987	0.33565	29.694	..	....	..	..
689	8. 31. 3.67	1873.1	12	+ 5.272	+ 1.642	+ 0.01	0.32013	0.16435	1.48105	0.33543	30.803	..	VI. 285	1255	2317
690	73. 52. 0.96	1871.9	8	+ 5.276	+ 0.482	+ 0.10	0.02173	0.10487	1.48111	0.33541	61.437	1030	VI. 333	..	2330
691	20. 59. 14.41	1875.8	3	+ 5.295	+ 0.903	..	0.28896	0.16032	1.48136	0.33536	34.741	..	....	..	..
692	50. 28. 23.64	1869.7	11	+ 5.431	+ 0.578	0.00	0.16970	0.13748	1.48331	0.33498	48.154	1032	VI. 338	1273	2338
693	59. 32. 50.40	1874.6	16	+ 5.442	+ 0.535	+ 0.05	0.11850	0.12630	1.48348	0.33496	53.125	1033	VI. 341	..	2340
694	116. 11. 26.70	1872.5	8	+ 5.459	+ 0.340	- 0.01	9.58659	0.03337	1.48372	0.33491	82.745	1042	VII. 2	..	2345
695	62. 56. 7.07	1874.0	7	+ 5.482	+ 0.521	+ 0.03	0.09736	0.12201	1.48403	0.33484	54.981	1034	VI. 343	..	2343
696	7. 21. 1.21	1874.5	11	+ 5.526	+ 1.825	+ 0.02	0.32178	0.16829	1.48468	0.33472	30.053	..	VI. 292	1259	2326
697	65. 39. 35.28	1873.3	11	+ 5.584	+ 0.509	+ 0.02	0.07929	0.11884	1.48549	0.33455	56.410	1038	VII. 3	..	2350
698	73. 37. 33.21	1872.9	11	+ 5.697	+ 0.480	+ 0.03	0.02280	0.10723	1.48710	0.33421	60.843	1046	VII. 17	..	2362
699	65. 4. 21.81	1873.2	1	+ 5.746	+ 0.510	..	0.08293	0.12083	1.48778	0.33407	55.872	1048	....	..	2363
700	64. 53. 42.57	1871.4	10	+ 5.768	+ 0.511	+ 0.16	0.08400	0.12124	1.48810	0.33400	55.748	1049	VII. 21	..	2364
701	115. 43. 44.59	1868.0	1	+ 5.777	+ 0.340	+ 0.02	9.59472	0.03138	1.48822	0.33398	82.420	1053	VII. 31	..	2368
702	30. 51. 26.51	1875.1	4	+ 5.824	+ 0.725	+ 0.07	0.25503	0.16118	1.48890	0.33383	37.877	1037	VII. 10	1283	2365
703	61. 52. 56.44	1874.1	1	+ 5.859	+ 0.521	+ 0.01	0.10312	0.12636	1.48939	0.33373	53.914	1050	VII. 25	..	2374
704	30. 31. 8.58	1876.2	3	+ 5.928	+ 0.727	+ 0.09	0.25592	0.16275	1.49034	0.33352	37.593	1043	VII. 22	1286	2376
705	116. 49.	..	..	+ 6.004	+ 0.335	..	9.58246	0.02732	1.49142	0.33328	82.758	1061	....	..	2393
706	73. 13. 51.17	1871.1	7	+ 6.092	+ 0.478	+ 0.04	0.02502	0.10979	1.49265	0.33299	60.196	1058	VII. 50	..	2398
707	29. 51. 51.84	1873.7	6	+ 6.119	+ 0.732	+ 0.01	0.25761	0.16572	1.49303	0.33290	36.991	1051	VII. 36	1290	2397
708	8. 51. 3.37	1875.1	11	+ 6.133	+ 1.559	- 0.03	0.31681	0.17673	1.49323	0.33286	29.430	..	VI. 334	1278	2377
709	34. 28. 40.07	1868.1	2	+ 6.230	+ 0.680	+ 0.04	0.24000	0.16319	1.49458	0.33254	38.912	1054	VII. 47	1292	2406
710	34. 28. 50.45	1868.1	2	+ 6.232	+ 0.680	+ 0.05	0.23997	0.16321	1.49459	0.33254	38.912	1056	VII. 48	1293	2407
711	67. 47. 2.99	1872.1	41	+ 6.237	+ 0.495	+ 0.02	0.06360	0.11979	1.49467	0.33252	56.870	1062	VII. 57	..	2410
712	114. 19. 33.84	1868.1	1	+ 6.309	+ 0.343	0.00	9.61648	0.02954	1.49568	0.33229	81.598	1067	VII. 71	..	2417
713	114. 43. 17.07	1869.2	2	+ 6.314	+ 0.342	0.00	9.61172	0.02872	1.49573	0.33227	81.760	1069	VII. 72	..	2418
714	53. 0. 4.20	1869.7	11	+ 6.320	+ 0.555	0.00	0.15369	0.14291	1.49583	0.33224	48.332	1063	VII. 60	..	2416
715	49. 3. 34.26	1870.6	4	+ 6.385	+ 0.574	..	0.17415	0.14879	1.49673	0.33202	46.090	..	....	..	..
716	69. 19. 0.93	1869.1	2	+ 6.397	+ 0.488	0.00	0.05258	0.03636	1.49688	0.33199	63.228	1065	VII. 69	..	2423
717	23. 25. 14.13	1874.0	11	+ 6.424	+ 0.826	..	0.27804	0.17434	1.49726	0.33190	33.835	..	....	1299	2419
718	49. 5. 0.94	1871.4	6	+ 6.468	+ 0.573	+ 0.01	0.17380	0.14959	1.49787	0.33174	45.991	1064	VII. 70	1307	2429
719	64. 42. 21.06	1873.2	2	+ 6.501	+ 0.504	+ 0.02	0.08350	0.12664	1.49833	0.33164	54.782	1068	VII. 75	..	2431
720	66. 48. 37.48	1868.1	1	+ 6.511	+ 0.496	+ 0.05	0.06945	0.12314	1.49847	0.33159	56.009	1070	VII. 76	..	2434

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Caelestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Mediae Stellarum Fixarum in Zonis Regionantis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
721	59 Geminorum	6-7	7. 16. 35.497	1872.1	5	+ 3.7405	- 0.0099	- 0.001	0.07013	0.10423	1.45849	0.07498	84.639
722	21 Lyncei	5*	7. 17. 3.084	1869.5	9	+ 4.5480	- 0.0254	+ 0.005	0.06676	0.11289	1.47053	0.06977	83.610
723	Piazzi VII. 67	6*	7. 17. 32.279	1872.7	10	+ 6.3108	- 0.0827	- 0.010	0.05654	0.13775	1.49568	0.05813	81.040
724	60 Geminorum	4*	7. 17. 46.454	1874.6	8	+ 3.7440	- 0.0101	- 0.008	0.06998	0.10423	1.45855	0.07488	84.651
725	1 Canis Minoris	6*	7. 17. 51.517	1870.6	4	+ 3.3383	- 0.0048	0.000	0.07089	0.10183	1.45237	0.07748	85.072
726	31 Canis Majoris ... η	3-2*	7. 19. 1.921	1875.0	2	+ 2.3732	+ 0.0011	- 0.004	0.06975	0.10441	1.43733	0.08369	85.689
727	63 Geminorum	6-5*	7. 20. 8.427	1869.5	6	+ 3.5722	- 0.0079	- 0.004	0.07019	0.10292	1.45594	0.07588	84.871
728	3 Canis Minoris ... β	3*	7. 20. 12.505	1870.9	35	+ 3.2609	- 0.0041	- 0.004	0.07073	0.10152	1.45119	0.07794	85.168
729	62 Geminorum	5*	7. 20. 52.609	1869.6	7	+ 3.8573	- 0.0124	+ 0.007	0.06923	0.10510	1.46025	0.07393	84.568
730	4 Canis Minoris ... γ	6*	7. 21. 11.473	1876.2	1	+ 3.2749	- 0.0043	+ 0.001	0.07061	0.10153	1.45140	0.07783	85.165
731	....	..	7. 21. 36.215	1871.2	3	+ 3.5575	- 0.0079	..	0.07006	0.10278	1.45572	0.07591	84.905
732	Lalande 14512	8	7. 21. 36.595	1871.2	6	+ 3.5582	- 0.0079	..	0.07006	0.10278	1.45573	0.07591	84.904
733	65 Geminorum ... δ^2	5*	7. 21. 50.917	1875.5	3	+ 3.7432	- 0.0107	- 0.001	0.06950	0.10409	1.45854	0.07463	84.711
734	Piazzi VII. 114	6	7. 22. 42.002	1868.5	5	+ 3.7422	- 0.0108	+ 0.002	0.06941	0.10406	1.45852	0.07460	84.723
735	Groombridge 1119	6	7. 25. 23.188	1871.8	8	+ 74.4298	- 29.6072	- 0.323	†..	..	..	..	..
736	67 Geminorum	7	7. 26. 6.513	1876.2	1	+ 3.4268	- 0.0065	+ 0.007	0.06987	0.10192	1.45373	0.07665	85.085
737	68 Geminorum	6-5*	7. 26. 18.089	1873.3	5	+ 3.4311	- 0.0066	- 0.004	0.06984	0.10193	1.45379	0.07661	85.085
738	66 { Geminorum ... α^1 Geminorum (as one mass) α Geminorum ... α^2 }	2-1*	7. 26. 25.347	1871.6	16	+ 3.8540	- 0.0133	- 0.013	0.06856	0.10491	1.46021	0.07356	84.655
739			7. 26. (25.)	..	..	+ 3.8540	- 0.0133	- 0.013	0.06856	0.10491	1.46021	0.07356	84.655
740			7. 26. 25.774	1872.4	65	+ 3.8540	- 0.0133	- 0.013	0.06856	0.10490	1.46021	0.07356	84.656
741	Bradley 1090	7	7. 27. 0.624	1868.1	1	+ 3.8254	- 0.0129	+ 0.001	0.06860	0.10463	1.45977	0.07373	84.696
742	69 Geminorum ... ν	4-5*	7. 28. 1.962	1874.2	12	+ 3.7086	- 0.0110	- 0.001	0.06890	0.10363	1.45802	0.07451	84.835
743	70 Geminorum	6*	7. 30. 8.658	1868.1	3	+ 3.9476	- 0.0158	+ 0.010	0.06769	0.10567	1.46161	0.07257	84.612
744	71 Geminorum ... σ	5-6*	7. 30. 48.446	1871.3	3	+ 3.9318	- 0.0156	0.000	0.06768	0.10550	1.46138	0.07264	84.640
745	Groombridge 1348	6	7. 31. 32.638	1868.2	2	+ 4.8351	- 0.0392	..	0.06248	0.11635	1.47472	0.06554	83.578
746	Bradley 1105	9	7. 31. 40.278	1868.1	2	+ 3.1878	- 0.0040	0.000	0.06965	0.10095	1.45006	0.07830	85.345
747	Bradley 1101	7	7. 31. 42.676	1875.5	3	+ 3.8506	- 0.0142	..	0.06791	0.10471	1.46015	0.07320	84.743
748	74 Geminorum ... f	6*	7. 32. 4.923	1876.9	1	+ 3.4712	- 0.0077	0.000	0.06915	0.10192	1.45441	0.07611	85.117
749	10 Canis Minoris ... α	1*	7. 32. 35.970	1871.9	133	+ 3.1917	- 0.0041	- 0.048	0.06955	0.10091	1.45012	0.07826	85.353
750	Bradley 1107	7	7. 33. 19.008	1868.1	2	+ 3.1912	- 0.0041	- 0.001	0.06948	0.10088	1.45011	0.07826	85.361
751	Puppis	4-5*	7. 33. 34.640	1869.2	1	+ 2.4601	+ 0.0010	+ 0.001	0.06834	0.10325	1.43870	0.08393	85.748
752	Puppis		7. 33. 35.164	1868.8	3	+ 2.4601	+ 0.0010	..	0.06834	0.10325	1.43870	0.08393	85.748
753	Bradley 1104	6*	7. 34. 22.002	1868.2	1	+ 4.5709	- 0.0324	+ 0.002	0.06365	0.11278	1.47086	0.06721	83.972
754	51 Camelopardali	6*	7. 34. 24.634	1873.7	8	+ 5.7929	- 0.0776	+ 0.003	0.05500	0.12993	1.48844	0.05718	82.438
755	49 Camelopardali	5-6	7. 34. 51.125	1873.3	7	+ 5.4888	- 0.0649	- 0.007	0.05716	0.12551	1.48414	0.05959	82.843
756	Piazzi VII. 132	6	7. 35. 0.398	1872.0	5	+ 10.4482	- 0.4270	- 0.225	0.01532	0.19672	1.54963	0.01624	76.284
757	75 Geminorum ... σ	5*	7. 35. 18.598	1868.2	2	+ 3.7555	- 0.0129	+ 0.007	0.06787	0.10375	1.45872	0.07371	84.895
758	76 Geminorum ... c	6*	7. 36. 18.342	1873.5	6	+ 3.6698	- 0.0115	0.000	0.06808	0.10304	1.45742	0.07434	84.993
759	77 Geminorum ... κ	4-3*	7. 36. 43.057	1870.8	10	+ 3.6333	- 0.0109	- 0.005	0.06816	0.10276	1.45687	0.07461	85.032
760	78 Geminorum ... β	1-2*	7. 37. 28.828	1872.1	115	+ 3.7289	- 0.0128	- 0.049	0.06772	0.10346	1.45832	0.07379	84.951

731. This is a nebulous star preceding Lalande 14512.

† For No. 735, log. e = -9.28262, log. f = 0.67750, log. g = 1.99752, log. h = -9.28069, and l = -18.724.

738, 740. In Struve's *Mensura Micrometrica* the magnitudes of the two components of a Geminorum are 3.7 and 2.7 respectively.

1878.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of μ	No. in Bessel's Bradley, 1755.	No. in Piazzzi, 1800.	No. in Groombridge, 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
721	62. 7. 1'43	1872.1	5	+ 6.577	+ 0.513	- 0.02	0.09978	0.13143	1.49938	0.33136	53.196	1071	VII. 83	..	2440
722	40. 32. 14.78	1869.4	9	+ 6.616	+ 0.623	+ 0.09	0.21362	0.16162	1.49994	0.33122	41.302	1066	VII. 79	1309	2441
723	21. 16. 36.59	1873.2	30	+ 6.656	+ 0.866	+ 0.07	0.28364	0.17876	1.50045	0.33109	32.659	..	VII. 67	1308	2439
724	61. 56. 59.13	1874.6	22	+ 6.675	+ 0.512	+ 0.09	0.10054	0.13243	1.50072	0.33102	52.987	1072	VII. 90	..	2442
725	78. 4. 55.16	1870.6	4	+ 6.683	+ 0.456	- 0.02	9.98682	0.10340	1.50083	0.33100	62.433	1074	VII. 91	..	2444
726	119. 3. 15.91	1875.6	4	+ 6.780	+ 0.323	- 0.01	9.56074	0.01530	1.50215	0.33065	83.344	1081	VII. 104	..	2458
727	68. 17. 42.01	1870.9	10	+ 6.870	+ 0.486	+ 0.10	0.05850	0.12277	1.50338	0.33032	56.494	1077	VII. 101	..	2460
728	81. 27. 16.49	1872.3	17	+ 6.877	+ 0.444	+ 0.05	9.95933	0.09726	1.50348	0.33029	64.222	1079	VII. 106	..	2462
729	57. 57. 47.96	1871.8	14	+ 6.932	+ 0.525	- 0.19	0.12382	0.14092	1.50423	0.33009	50.389	1078	VII. 105	..	2464
730	80. 49. 2.03	1876.2	2	+ 6.958	+ 0.445	+ 0.02	9.96445	0.09877	1.50457	0.32999	63.784	1083	VII. 109	..	2468
731	68. 49. 43.18	1871.2	3	+ 6.990	+ 0.483	..	0.05454	0.12250	1.50502	0.32987	56.685	..	....	..	..
732	68. 48. 3.48	1871.2	6	+ 6.992	+ 0.483	..	0.05477	0.12256	1.50504	0.32986	56.666	..	....	..	..
733	61. 49. 19.82	1875.7	4	+ 7.011	+ 0.508	+ 0.02	0.10037	0.13418	1.50530	0.32979	52.613	1082	VII. 111	..	2469
734	61. 49. 34.22	1868.5	5	+ 7.081	+ 0.508	- 0.28	0.10006	0.13566	1.50624	0.32952	52.467	..	VII. 114	..	2472
735	0. 59. 59.30	1873.3	9	+ 7.301	+ 1.0106	- 0.01	0.32707	0.19423	1.50922	0.32866	25.764	..	....	1119	2320
736	74. 5. 17.94	1876.2	1	+ 7.360	+ 0.462	- 0.03	0.01611	0.11416	1.51001	0.32843	59.450	1089	VII. 129	..	2483
737	73. 54. 0.55	1873.5	9	+ 7.375	+ 0.462	0.00	0.01745	0.11460	1.51021	0.32837	59.327	1091	VII. 131	..	2486
738	57. 50. 2.72	1872.5	20	+ 7.384	+ 0.519	+ 0.08	0.12310	0.14489	1.51033	0.32833	49.800	1087	VII. 127	..	2485
739	57. 50. 1.66	1876.6	1	+ 7.385	+ 0.519	+ 0.08	0.12310	0.14490	1.51034	0.32833	49.799	1087	....	..	2485
740	57. 49. 59.34	1873.1	65	+ 7.385	+ 0.519	+ 0.08	0.12310	0.14490	1.51034	0.32833	49.799	1087	VII. 128	..	2485
741	58. 45. 48.00	1868.1	1	+ 7.431	+ 0.515	- 0.01	0.11747	0.14368	1.51096	0.32814	50.293	1090	....	..	2489
742	62. 49. 19.30	1873.2	20	+ 7.515	+ 0.498	+ 0.11	0.09255	0.13710	1.51209	0.32779	52.584	1094	VII. 138	..	2493
743	54. 40. 2.05	1868.1	3	+ 7.687	+ 0.528	+ 0.03	0.13994	0.15280	1.51437	0.32708	47.638	1097	VII. 145	..	2504
744	55. 7. 27.80	1871.0	2	+ 7.739	+ 0.526	+ 0.30	0.13726	0.15250	1.51506	0.32686	47.838	1099	VII. 152	..	2509
745	34. 56. 31.88	1868.2	3	+ 7.800	+ 0.646	..	0.23211	0.18150	1.51587	0.32660	36.974	..	....	1348	2512
746	84. 38. 15.17	1868.1	2	+ 7.809	+ 0.425	- 0.09	9.93156	0.09217	1.51599	0.32656	65.335	1105	....	..	2518
747	57. 41. 57.86	1875.8	5	+ 7.813	+ 0.514	+ 0.04	0.12231	0.14866	1.51604	0.32654	49.262	1101	....	..	2517
748	72. 2. 9.16	1876.9	1	+ 7.843	+ 0.463	- 0.01	0.02987	0.12079	1.51644	0.32641	57.784	1103	VII. 166	..	2519
749	84. 26. 55.20	1872.1	106	+ 7.884	+ 0.425	+ 1.08	9.93298	0.09273	1.51699	0.32623	65.177	1106	VII. 168	..	2522
750	84. 28. 34.07	1868.1	2	+ 7.942	+ 0.424	+ 0.04	9.93268	0.09275	1.51775	0.32597	65.151	1107	VII. 170	..	2526
751	116. 30. 41.67	1869.2	1	+ 7.963	+ 0.326	- 0.04	9.60412	0.00976	1.51803	0.32588	81.884	..	VII. 175	..	2530
752	116. 30. 49.28	1868.8	3	+ 7.965	+ 0.326	- 0.12	9.60423	0.00971	1.51805	0.32587	81.883	..	VII. 177	..	2531
753	39. 15. 58.30	1868.2	1	+ 8.026	+ 0.607	+ 0.04	0.21349	0.17893	1.51885	0.32560	38.839	1104	VII. 169	1358	2532
754	24. 14. 31.86	1872.3	10	+ 8.030	+ 0.771	- 0.06	0.26888	0.19454	1.51891	0.32558	31.895	1098	VII. 164	1356	2527
755	26. 51. 51.37	1874.5	24	+ 8.065	+ 0.730	+ 0.07	0.26021	0.19277	1.51937	0.32543	32.948	1100	VII. 167	1357	2533
756	9. 25. 11.78	1872.0	5	+ 8.077	+ 1.391	- 0.06	0.30792	0.20340	1.51952	0.32538	26.690	..	VII. 132	1339	2521
757	60. 48. 32.21	1868.2	2	+ 8.102	+ 0.498	+ 0.24	0.10285	0.14520	1.51986	0.32526	50.802	1108	VII. 178	..	2540
758	63. 54. 47.59	1873.9	7	+ 8.181	+ 0.485	+ 0.03	0.08340	0.13967	1.52089	0.32491	52.578	1109	VII. 183	..	2549
759	65. 17. 49.86	1873.3	25	+ 8.214	+ 0.480	+ 0.05	0.07445	0.13709	1.52132	0.32475	53.382	1111	VII. 184	..	2551
760	61. 40. 0.38	1872.3	107	+ 8.275	+ 0.492	+ 0.06	0.09705	0.14484	1.52213	0.32446	51.140	1112	VII. 191	..	2555

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Celestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Medie Stellarum Fixarum in Zonis Regiomontanis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichniss* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

{xl}

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Frac- tion of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
761	Groombridge 1363 .	7-8	h m s 7. 38. 14.558	1876.1	1	+ 6.8375	- 0.1373	..	0.04526	0.14528	1.50293	0.04696	81.263
762	Piazzi VII. 155	6-7	7. 38. 39.402	1868.6	2	+ 10.0982	- 0.4080	- 0.003	0.01565	0.19192	1.54531	0.01665	77.094
763	81 Geminorum g	6-5*	7. 38. 42.721	1874.1	2	+ 3.4863	- 0.0086	- 0.008	0.06841	0.10175	1.45463	0.07573	85.189
764	11 Canis Minoris	5-6*	7. 39. 13.430	1868.1	2	+ 3.3098	- 0.0060	+ 0.001	0.06874	0.10094	1.45194	0.07720	85.337
765	80 Geminorum π	6*	7. 39. 15.073	1873.2	1	+ 3.8824	- 0.0162	+ 0.002	0.06683	0.10475	1.46064	0.07237	84.830
766	2 Puppis (1st Star) ..	7-8	7. 39. 35.350	1868.1	1	+ 2.7613	- 0.0004	+ 0.002	0.06857	0.10121	1.44344	0.08178	85.670
767	2 Puppis (2nd Star) ..	7	7. 39. 35.880	1868.1	1	+ 2.7613	- 0.0004	+ 0.002	0.06857	0.10121	1.44344	0.08178	85.670
768	Piazzi VII. 199	6-7†	7. 41. 0.080	1868.2	1	+ 4.7641	- 0.0413	- 0.004	0.06110	0.11517	1.47370	0.06454	83.909
769	B. F. 1083	7	7. 42. 1.141	1874.2	3	+ 3.7279	- 0.0134	..	0.06720	0.10329	1.45830	0.07350	85.021
770	Navis	4-3*	7. 43. 54.665	1870.9	10	+ 2.5235	+ 0.0009	+ 0.001	0.06740	0.10239	1.43971	0.08398	85.794
771	Piazzi VII. 187	5*	7. 44. 32.925	1875.1	5	+ 9.7590	- 0.3981	- 0.025	0.01449	0.18710	1.54101	0.01558	78.071
772	Groombridge 1374 .	6-5*	7. 44. 49.499	1871.1	9	+ 7.3269	- 0.1814	..	0.03804	0.15240	1.50954	0.03965	81.022
773	84 Geminorum	6-7	7. 45. 24.801	1872.9	3	+ 3.5724	- 0.0108	- 0.003	0.06742	0.10200	1.45595	0.07469	85.206
774	83 Geminorum φ	5*	7. 45. 39.667	1874.5	7	+ 3.6848	- 0.0131	- 0.004	0.06695	0.10280	1.45765	0.07366	85.113
775	Piazzi VII. 250	5	7. 47. 29.265	1870.2	1	+ 2.2561	+ 0.0013	+ 0.008	0.06576	0.10451	1.43546	0.08659	85.888
776	Geminorum U	Var.	7. 47. 30.667	1872.2	1	+ 3.5621	- 0.0109	..	0.06723	0.10185	1.45579	0.07468	85.242
777	1. Cancri	6-7†	7. 49. 43.366	1874.2	4	+ 3.4154	- 0.0084	- 0.001	0.06746	0.10092	1.45356	0.07595	85.382
778	53 Camelopardali	6	7. 50. 45.429	1868.1	2	+ 5.1793	- 0.0630	0.000	0.05567	0.12074	1.47970	0.05876	83.732
779	Piazzi VII. 251 ...	6	7. 51. (11.)	..	..	+ 5.2360	- 0.0658	- 0.004	0.05507	0.12154	1.48052	0.05811	83.685
780	Piazzi VII. 277 ...	6-5*	7. 52. 34.026	1869.4	5	+ 2.3918	+ 0.0013	+ 0.017	0.06584	0.10308	1.43762	0.08570	85.887
781	2 Cancri	6*	7. 53. 10.968	1874.8	6	+ 3.6398	- 0.0131	- 0.001	0.06630	0.10215	1.45697	0.07363	85.261
782	3 Cancri	6†	7. 53. 27.111	1868.7	2	+ 3.4467	- 0.0093	- 0.003	0.06698	0.10091	1.45403	0.07552	85.408
783	12 Puppis	6*	7. 53. 36.487	1868.3	1	+ 2.5739	+ 0.0007	+ 0.001	0.06654	0.10165	1.44050	0.08402	85.843
784	4 Cancri	6-7†	7. 54. 0.373	1873.6	2	+ 3.6311	- 0.0130	+ 0.005	0.06624	0.10205	1.45684	0.07367	85.280
785	5 Cancri	6-7†	7. 54. 12.421	1873.2	2	+ 3.4269	- 0.0090	- 0.001	0.06696	0.10078	1.45373	0.07569	85.430
786	6 Cancri	5*	7. 55. 39.218	1871.4	35	+ 3.6985	- 0.0148	- 0.005	0.06574	0.10250	1.45786	0.07290	85.252
787	Groombridge 1400 .	6-7	7. 57. 1.990	1871.3	8	+ 6.2921	- 0.1298	..	0.04311	0.13695	1.49542	0.04535	82.822
788	B. F. 1128	6	7. 57. 21.370	1868.1	1	+ 3.4781	- 0.0103	..	0.06648	0.10090	1.45451	0.07505	85.437
789	Piazzi VII. 282	6	7. 57. 32.681	1873.7	3	+ 5.6922	- 0.0940	+ 0.012	0.04901	0.12807	1.48704	0.05169	83.446
790	9 Cancri	6-7†	7. 58. 43.037	1876.1	1	+ 3.5652	- 0.0122	- 0.005	0.06601	0.10138	1.45584	0.07409	85.395
791	55 Camelopardali	6*	8. 0. 2.504	1870.9	14	+ 6.0644	- 0.1189	+ 0.007	0.04438	0.13354	1.49227	0.04682	83.186
792	10 Cancri	6-5*	8. 0. 13.767	1872.1	9	+ 3.5386	- 0.0118	+ 0.003	0.06595	0.10113	1.45543	0.07428	85.436
793	Groombridge 1403 .	5*	8. 0. 37.804	1875.6	4	+ 7.7525	- 0.2518	..	0.02541	0.15853	1.51528	0.02708	81.566
794	15 Argus	3*	8. 2. 5.575	1872.2	17	+ 2.5610	+ 0.0009	- 0.007	0.06556	0.10135	1.44030	0.08459	85.906
795	14 Cancri	6*	8. 2. 44.447	1874.0	9	+ 3.6304	- 0.0141	- 0.006	0.06527	0.10166	1.45683	0.07316	85.408
796	Bradley 1147	6*	8. 3. 23.733	1872.8	10	+ 7.7253	- 0.2562	+ 0.020	0.02415	0.15809	1.51491	0.02586	81.786
797	18 Puppis	6-7†	8. 4. 43.802	1868.2	1	+ 2.7992	- 0.0007	- 0.013	0.06615	0.09990	1.44404	0.08215	85.855
798	16 Cancri	5-4*	8. 4. 52.122	1869.4	3	+ 3.4444	- 0.0103	+ 0.004	0.06583	0.10035	1.45400	0.07509	85.557
799	Piazzi VIII. 6	7-8	8. 4. 52.475	1869.5	2	+ 3.4444	- 0.0103	+ 0.005	0.06583	0.10035	1.45400	0.07509	85.557
800	56 Camelopardali	6	8. 5. 1.980	1873.3	7	+ 5.1142	- 0.0693	- 0.003	0.05276	0.11948	1.47877	0.05621	84.263

776. The limits of magnitude are 8.9 and 13.1; the period is irregular.

1878 ADAM... 386... 78A

No.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of μ	No. in Bessel's Bradley, 1755.	No. in Piazzi, 1800.	No. in Groombridge, 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
761	17. 53. 52.50	1873.2	6	+ 8.336	+0.903	..	0.28603	0.20292	1.52292	0.32417	29.066	..	....	1363	..
762	9. 48. 40.21	1869.4	4	+ 8.368	+1.335	+0.02	0.30570	0.20715	1.52334	0.32403	26.417	..	VII. 155	1355	2548
763	71. 10. 45.10	1874.1	2	+ 8.374	+0.459	+0.05	0.03439	0.12538	1.52341	0.32400	56.808	1115	VII. 194	..	2558
764	78. 55. 17.86	1868.1	2	+ 8.413	+0.435	-0.01	9.97713	0.10743	1.52392	0.32381	61.477	1117	VII. 198	..	2564
765	56. 16. 20.84	1873.2	1	+ 8.416	+0.510	+0.02	0.12817	0.15626	1.52396	0.32380	47.799	1114	VII. 196	..	2563
766	104. 22. 37.09	1868.1	1	+ 8.442	+0.362	0.00	9.74382	0.03958	1.52431	0.32367	75.946	..	VII. 204	..	..
767	104. 22. 52.53	1868.1	1	+ 8.444	+0.362	0.00	9.74382	0.03958	1.52431	0.32367	75.946	1121	VII. 205	..	2569
768	35. 33. 16.52	1868.2	1	+ 8.555	+0.625	+0.09	0.22624	0.18951	1.52575	0.32314	36.355	..	VII. 199	1372	2576
769	61. 28. 57.69	1874.8	6	+ 8.635	+0.487	..	0.09677	0.14786	1.52679	0.32275	50.693	..	....	..	2586
770	114. 32. 19.53	1871.0	1	+ 8.785	+0.327	-0.02	9.63548	0.00780	1.52872	0.32199	80.732	1132	VII. 230	..	2602
771	10. 10. 34.76	1873.4	7	+ 8.833	+1.274	+0.10	0.30253	0.21312	1.52934	0.32175	25.945	..	VII. 187	1368	2590
772	15. 44. 40.58	1874.0	13	+ 8.857	+0.955	..	0.28908	0.21086	1.52965	0.32165	27.670	..	....	1374	2596
773	67. 20. 18.26	1872.9	3	+ 8.902	+0.463	+0.01	0.05877	0.13706	1.53023	0.32141	54.014	1127	VII. 232	..	2613
774	62. 54. 18.03	1874.0	9	+ 8.922	+0.478	+0.05	0.08696	0.14695	1.53047	0.32131	51.293	1128	VII. 233	..	2617
775	124. 23. 4.70	1870.2	1	+ 9.064	+0.290	-0.09	9.52905	9.97532	1.53230	0.32057	84.749	..	VII. 250	..	2629
776	67. 39. 53.93	1872.2	1	+ 9.067	+0.459	..	0.05595	0.13729	1.53234	0.32056	54.086	..	....	..	..
777	73. 52. 11.45	1873.6	7	+ 9.238	+0.438	+0.04	0.01275	0.12320	1.53451	0.31965	57.778	1138	VII. 255	..	2639
778	29. 19. 44.03	1868.1	2	+ 9.320	+0.665	+0.03	0.24534	0.20551	1.53554	0.31921	32.566	1135	VII. 248	1387	2643
779	28. 39. 35.74	1872.1	2	+ 9.353	+0.672	-0.01	0.24751	0.20662	1.53597	0.31902	32.227	..	VII. 251	1389	2648
780	119. 59. 27.19	1869.4	5	+ 9.459	+0.304	+0.11	9.58377	9.98421	1.53730	0.31843	82.910	..	VII. 277	..	2655
781	64. 15. 32.09	1875.2	8	+ 9.506	+0.463	-0.01	0.07606	0.14793	1.53790	0.31817	51.648	1140	VII. 270	..	2657
782	72. 20. 33.52	1868.6	5	+ 9.527	+0.438	+0.04	0.02255	0.12841	1.53816	0.31805	56.634	1143	VII. 275	..	2659
783	112. 57. 48.58	1868.3	1	+ 9.538	+0.326	-0.04	9.66020	0.00622	1.53830	0.31799	79.768	1150	VII. 281	..	2662
784	64. 33. 36.72	1873.6	2	+ 9.569	+0.461	+0.01	0.07390	0.14765	1.53869	0.31782	51.785	1144	VII. 276	..	2663
785	73. 11. 37.26	1873.2	2	+ 9.585	+0.435	0.00	0.01641	0.12650	1.53888	0.31773	57.120	1146	VII. 279	..	2664
786	61. 50. 55.49	1871.8	12	+ 9.696	+0.468	+0.07	0.09005	0.15476	1.54027	0.31710	50.017	1149	VII. 285	..	2672
787	19. 54. 46.08	1871.0	8	+ 9.802	+0.796	..	0.27242	0.21998	1.54161	0.31648	28.125	..	....	1400	2674
788	70. 47. 51.40	1868.1	1	+ 9.826	+0.438	..	0.03218	0.13390	1.54190	0.31634	55.462	..	....	..	2683
789	23. 58. 16.89	1873.7	3	+ 9.841	+0.719	+0.07	0.26005	0.21706	1.54209	0.31624	29.698	..	VII. 282	1401	2681
790	67. 0. 3.14	1876.2	4	+ 9.930	+0.448	+0.02	0.05694	0.14409	1.54320	0.31572	53.024	1157	VII. 298	..	2700
791	21. 9. 9.17	1871.4	20	+10.030	+0.762	..	0.26741	0.22179	1.54444	0.31513	28.378	1148	....	1404	2707
792	68. 2. 54.31	1872.3	11	+10.045	+0.442	+0.07	0.04961	0.14215	1.54463	0.31504	53.599	1161	VII. 304	..	2714
793	13. 52. 26.06	1874.0	4	+10.075	+0.973	..	0.28677	0.22731	1.54501	0.31486	25.711	..	....	1403	..
794	113. 56. 10.33	1873.7	13	+10.186	+0.317	-0.06	9.65696	9.99736	1.54639	0.31416	80.042	1170	VII. 320	..	2728
795	64. 6. 22.07	1873.1	19	+10.234	+0.451	+0.35	0.07383	0.15318	1.54696	0.31387	51.013	1167	VII. 314	..	2730
796	13. 51. 24.31	1871.9	12	+10.284	+0.963	..	0.28547	0.22991	1.54758	0.31355	25.508	1147	....	1408	2722
797	103. 25. 25.33	1868.2	1	+10.384	+0.345	-0.11	9.76298	0.03336	1.54881	0.31292	74.670	1176	VIII. 9	..	2746
798	71. 58. 5.87	1869.4	3	+10.394	+0.425	+0.11	0.02206	0.13368	1.54892	0.31286	55.833	1175	VIII. 5	..	2744
799	71. 58. 9.75	1869.5	2	+10.394	+0.425	+0.33	0.02206	0.13368	1.54892	0.31286	55.833	..	VIII. 6	..	2745
800	29. 14. 7.94	1873.1	7	+10.406	+0.633	0.00	0.23905	0.21822	1.54908	0.31278	31.470	1164	VII. 319	1420	2741

The magnitude of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Celestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Mediae Stellarum Fixarum in Zonis Regionum* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fra- tion of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stene, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
801	B. F. 1152	7	8. 5. 12'349	1868.2	2	+ 3'3652	-0'0087	..	0'06605	0'09995	1'45279	0'07595	85'608
802	15 Cancri	6*	8. 5. 12'612	1876.2	3	+ 3'7327	-0'0170	-0'001	0'06445	0'10236	1'45837	0'07187	85'378
803	Bradley 1169	6-7	8. 6. 22'180	1868.2	2	+ 5'0115	-0'0651	+0'003	0'05347	0'11799	1'47729	0'05710	84'394
804	Bradley 1160	6-7†	8. 6. 31'025	1872.6	7	+ 6'7498	-0'1773	+0'002	0'03414	0'14363	1'50174	0'03625	82'880
805	29 Lynceis	6*	8. 7. 11'334	1875.6	6	+ 5'0372	-0'0668	-0'003	0'05301	0'11833	1'47767	0'05661	84'398
806	57 Camelopardali	6*	8. 8. 7'390	1873.8	7	+ 5'2871	-0'0805	+0'005	0'05015	0'12191	1'48126	0'05343	84'220
807	17 Cancri	4-3*	8. 9. 34'335	1872.0	47	+ 3'2627	-0'0071	-0'004	0'06587	0'09937	1'45122	0'07699	85'713
808	Piazzi VIII. 30	6	8. 11. 57'560	1873.3	7	+ 5'0980	-0'0730	-0'007	0'05117	0'11908	1'47854	0'05477	84'509
809	18 Cancri	6*	8. 12. 17'179	1869.6	5	+ 3'6587	-0'0161	0'000	0'06406	0'10143	1'45726	0'07223	85'535
810	Piazzi VIII. 42	6*	8. 12. 52'770	1876.1	3	+ 3'5049	-0'0124	+0'017	0'06478	0'10031	1'45492	0'07404	85'629
811	19 Cancri	6*	8. 12. 55'303	1873.4	8	+ 3'5801	-0'0142	-0'004	0'06442	0'10080	1'45606	0'07313	85'591
812	20 Cancri	6*	8. 16. 1'933	1871.1	29	+ 3'4482	-0'0113	-0'005	0'06469	0'09980	1'45405	0'07458	85'705
813	Groombridge 1433	6	8. 16. 2'338	1868.2	5	+ 4'0847	-0'0299	..	0'06050	0'10546	1'46367	0'06667	85'342
814	Groombridge 1434	8	8. 16. 3'795	1868.3	1	+ 4'0839	-0'0299	..	0'06050	0'10546	1'46365	0'06667	85'344
815	Groombridge 1418	6	8. 17. 33'250	1874.0	3	+ 17'0887	-2'1802	..	9'85744	0'27901	1'62417	9'85833	75'920
816	Piazzi VIII. 46	6*	8. 17. 39'749	1873.9	9	+ 5'7635	-0'1187	+0'003	0'04164	0'12874	1'48805	0'04456	84'240
817	25 Cancri	6*	8. 18. 35'031	1868.2	5	+ 3'4183	-0'0109	-0'015	0'06456	0'09951	1'45360	0'07485	85'751
818	Arg. Zone +2°. No. 1965	6-7	8. 18. 56'705	1876.1	6	+ 3'1205	-0'0050	..	0'06520	0'09859	1'44902	0'07858	85'877
819	Lalande 16511	8	8. 19. 2'373	1873.3	2	+ 3'6404	-0'0165	-0'001	0'06341	0'10094	1'45698	0'07200	85'653
820	23 Cancri	6*	8. 19. 2'653	1872.8	5	+ 3'6404	-0'0165	-0'001	0'06341	0'10094	1'45698	0'07200	85'653
821	Arg. Zone +2°. No. 1967	7-8	8. 19. 10'868	1876.1	3	+ 3'1104	-0'0048	..	0'06518	0'09857	1'44886	0'07871	85'883
822	1 Ursæ Majoris ...	3-4*	8. 19. 36'647	1871.9	15	+ 5'0620	-0'0763	-0'019	0'04958	0'11837	1'47803	0'05337	84'800
823	Piazzi VIII. 52	6	8. 20. 11'623	1875.9	8	+ 6'0383	-0'1418	-0'013	0'03718	0'13280	1'49191	0'03990	84'170
824	Arg. Zone +1°. No. 2095	8	8. 20. 54'790	1876.2	3	+ 3'0960	-0'0046	..	0'06504	0'09846	1'44864	0'07888	85'905
825	28 Cancri	6-7	8. 21. 1'236	1873.3	5	+ 3'5713	-0'0149	-0'004	0'06359	0'10033	1'45593	0'07277	85'716
826	29 Cancri	6*	8. 21. 28'611	1874.2	3	+ 3'3568	-0'0097	-0'002	0'06451	0'09905	1'45266	0'07552	85'817
827	Arg. Zone +0°. No. 2305	8-7	8. 21. 40'264	1876.2	3	+ 3'0849	-0'0045	..	0'06497	0'09841	1'44847	0'07902	85'917
828	Arg. Zone +0°. No. 2310	8-7	8. 22. 34'879	1876.1	3	+ 3'0745	-0'0043	..	0'06489	0'09836	1'44831	0'07915	85'929
829	Piazzi VIII. 78	6	8. 22. 56'245	1868.2	2	+ 4'5414	-0'0511	+0'002	0'05479	0'11096	1'47043	0'05967	85'229
830	Arg. Zone -0°. No. 2000	9-8	8. 22. 59'037	1876.1	5	+ 3'0621	-0'0041	..	0'06486	0'09833	1'44812	0'07932	85'937
831	Groombridge 1431	6	8. 23. 0'380	1875.3	4	+ 11'5258	-0'8918	..	9'95142	0'21081	1'56256	9'95262	80'883
832	2 Ursæ Majoris ...	5*	8. 23. 6'704	1874.5	6	+ 5'4611	-0'1036	-0'007	0'04364	0'12413	1'48375	0'04694	84'678
833	30 Cancri	6*	8. 23. 56'200	1872.1	11	+ 3'5655	-0'0151	-0'007	0'06331	0'10012	1'45584	0'07266	85'764
834	31 Cancri	6*	8. 24. 17'723	1869.2	2	+ 3'4343	-0'0117	-0'006	0'06393	0'09928	1'45384	0'07439	85'822
835	Groombridge 1450	6-7†	8. 24. 35'485	1868.7	4	+ 3'9295	-0'0265	..	0'06061	0'10337	1'46134	0'06773	85'604
836	32 Lynceis	6†	8. 25. 8'765	1868.2	5	+ 3'8804	-0'0249	-0'004	0'06095	0'10283	1'46060	0'06834	85'638
837	33 Cancri	6*	8. 25. 18'245	1872.3	39	+ 3'4830	-0'0130	-0'005	0'06360	0'09950	1'45458	0'07370	85'817
838	Groombridge 1446	6*	8. 25. 24'852	1875.7	4	+ 6'8451	-0'2203	..	0'02367	0'14475	1'50302	0'02595	83'960
839	32 Cancri	6*	8. 25. 25'940	1871.5	6	+ 3'5633	-0'0152	-0'008	0'06317	0'10003	1'45581	0'07260	85'786
840	33 Lynceis	6*	8. 26. 30'109	1868.2	5	+ 3'8766	-0'0250	-0'004	0'06080	0'10273	1'46054	0'06826	85'665

1878G2MM...386...78A

No.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of μ	No. in Bessel's Bradley, 1755.	No. in Piazzi, 1800.	No. in Groombridge, 1810.	No. in B.A.C., 1850.
							e'	f'	g'	h'					
801	75. 36. 56.69	1868.2	2	+ 10.419	+ 0.415	..	9.99651	0.12354	1.54923	0.31270	58.109	..	....	..	2748
802	59. 57. 42.54	1875.1	4	+ 10.420	+ 0.461	+ 0.03	0.09760	0.16437	1.54925	0.31269	48.333	1173	VIII. 4	..	2747
803	30. 25. 21.60	1868.2	2	+ 10.506	+ 0.618	+ 0.01	0.23424	0.21794	1.55030	0.31214	31.930	1169	....	..	2751
804	17. 11. 58.31	1873.7	14	+ 10.517	+ 0.834	..	0.27533	0.23069	1.55044	0.31206	26.440	1160	....	1419	2749
805	30. 2. 21.73	1875.6	6	+ 10.566	+ 0.620	+ 0.01	0.23517	0.21919	1.55104	0.31174	31.690	1171	VIII. 7	1422	2757
806	27. 6. 1.32	1874.0	12	+ 10.636	+ 0.649	0.00	0.24477	0.22327	1.55189	0.31128	30.313	1172	VIII. 10	1424	2765
807	80. 25. 18.28	1871.6	17	+ 10.743	+ 0.397	+ 0.05	9.96038	0.11032	1.55319	0.31057	60.947	1180	VIII. 28	..	2778
808	28. 58. 0.12	1873.1	13	+ 10.920	+ 0.619	0.00	0.23646	0.22438	1.55534	0.30936	30.922	..	VIII. 30	1427	2784
809	62. 22. 10.93	1871.0	35	+ 10.943	+ 0.442	+ 0.38	0.08073	0.16229	1.55561	0.30920	49.483	1181	VIII. 37	..	2786
810	68. 51. 1.61	1876.1	5	+ 10.987	+ 0.423	- 0.02	0.04025	0.14541	1.55614	0.30890	53.531	..	VIII. 42	..	2788
811	65. 34. 35.82	1873.5	8	+ 10.990	+ 0.432	+ 0.04	0.06096	0.15428	1.55618	0.30888	51.468	1182	VIII. 41	..	2789
812	71. 15. 31.17	1871.5	14	+ 11.217	+ 0.412	+ 0.02	0.02338	0.13976	1.55891	0.30727	54.941	1185	VIII. 50	..	2799
813	47. 35. 6.75	1868.2	5	+ 11.217	+ 0.489	..	0.15800	0.19790	1.55891	0.30727	40.413	..	....	1433	2798
814	47. 36. 21.36	1868.3	1	+ 11.219	+ 0.489	..	0.15790	0.19789	1.55894	0.30726	40.419	..	....	1434	..
815	4. 30. 2.84	1874.0	3	+ 11.327	+ 2.052	..	0.29855	0.24630	1.56026	0.30648	21.977	..	....	1418	2787
816	22. 17. 4.56	1872.3	16	+ 11.335	+ 0.689	- 0.04	0.25498	0.23629	1.56033	0.30642	27.729	..	VIII. 46	1432	2803
817	72. 32. 1.03	1868.2	5	+ 11.401	+ 0.405	+ 0.15	0.01410	0.13692	1.56111	0.30592	55.661	1192	VIII. 62	..	2816
818	87. 28. 56.44	1876.1	10	+ 11.427	+ 0.369	..	9.90450	0.08795	1.56131	0.30573	65.070	..	....	..	..
819	62. 38. 58.01	1874.7	4	+ 11.433	+ 0.431	- 0.02	0.07628	0.16493	1.56151	0.30568	49.391	..	....	..	..
820	62. 38. 53.87	1873.8	7	+ 11.435	+ 0.431	- 0.02	0.07628	0.16493	1.56151	0.30568	49.391	1191	VIII. 64	..	2817
821	88. 0. 29.77	1876.1	5	+ 11.444	+ 0.368	..	9.90020	0.08627	1.56163	0.30561	65.373	..	....	..	..
822	28. 51. 23.60	1872.8	27	+ 11.475	+ 0.601	+ 0.13	0.23272	0.23075	1.56200	0.30538	30.474	1186	....	1438	2819
823	20. 15. 14.00	1876.0	8	+ 11.517	+ 0.716	..	0.25955	0.24025	1.56250	0.30506	26.796	..	VIII. 52	1435	2824
824	88. 45. 11.09	1876.2	6	+ 11.569	+ 0.364	..	9.89432	0.08371	1.56312	0.30468	65.779	..	....	..	..
825	65. 25. 56.07	1873.3	5	+ 11.576	+ 0.420	+ 0.07	0.05877	0.15836	1.56319	0.30462	51.070	1198	VIII. 76	..	2833
826	75. 22. 1.53	1874.4	4	+ 11.609	+ 0.394	+ 0.01	9.99396	0.12913	1.56359	0.30436	57.372	1200	VIII. 77	..	2836
827	89. 20. 1.10	1876.2	6	+ 11.622	+ 0.362	..	9.88964	0.08162	1.56374	0.30427	66.119	..	....	..	..
828	89. 52. 32.44	1876.1	4	+ 11.687	+ 0.359	..	9.88525	0.07961	1.56451	0.30377	66.428	..	....	..	..
829	36. 27. 11.10	1868.2	2	+ 11.712	+ 0.533	0.00	0.20279	0.22267	1.56481	0.30357	34.029	..	VIII. 78	1445	2844
830	90. 32. 3.83	1876.1	10	+ 11.716	+ 0.358	..	9.87996	0.07721	1.56486	0.30354	66.822	..	....	..	..
831	7. 18. 51.75	1875.3	4	+ 11.717	+ 1.359	..	0.28995	0.25030	1.56487	0.30353	22.422	..	....	1431	2830
832	24. 25. 17.32	1872.0	29	+ 11.724	+ 0.641	+ 0.08	0.24534	0.23863	1.56496	0.30348	28.355	1195	VIII. 75	1442	2842
833	65. 29. 20.39	1873.2	15	+ 11.783	+ 0.416	+ 0.07	0.05729	0.15951	1.56565	0.30302	51.009	1201	VIII. 84	..	2850
834	71. 28. 29.15	1869.2	2	+ 11.809	+ 0.400	+ 0.06	0.01924	0.14208	1.56595	0.30282	54.813	1203	VIII. 85	..	2853
835	51. 32. 47.28	1868.6	5	+ 11.831	+ 0.458	..	0.13427	0.19503	1.56622	0.30264	42.386	..	....	1450	2855
836	53. 7. 53.11	1868.2	5	+ 11.869	+ 0.451	- 0.02	0.12597	0.19176	1.56667	0.30234	43.313	1204	VIII. 87	..	2860
837	69. 7. 32.36	1872.0	19	+ 11.880	+ 0.404	+ 0.06	0.03407	0.14952	1.56679	0.30226	53.287	1207	VIII. 88	..	2862
838	15. 55. 35.91	1875.8	4	+ 11.889	+ 0.799	..	0.26841	0.24799	1.56689	0.30219	24.965	..	....	1446	2852
839	65. 28. 53.38	1871.5	6	+ 11.889	+ 0.414	+ 0.04	0.05668	0.16017	1.56689	0.30219	50.965	1205	VIII. 89	..	2864
840	53. 8. 36.04	1870.4	9	+ 11.964	+ 0.449	+ 0.04	0.12519	0.19251	1.56779	0.30159	43.279	1208	VIII. 92	..	2871

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Cælestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 3377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Medie Stellarum Fixarum in Zonis Regiomontanis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
841	3 Ursæ Majoris.....	6-5†	8. 27. 48.230	1873.6	6	+ 5.4124	-0.1046	-0.004	0.04277	0.12330	1.48306	0.04618	84.904
842	35 Cancri.....	6-7†	8. 27. 57.811	1873.8	3	+ 3.4615	-0.0127	0.000	0.06344	0.09923	1.45426	0.07386	85.862
843	4 Ursæ Majoris ... π	5-4*	8. 28. 59.785	1873.5	7	+ 5.3310	-0.1001	+0.002	0.04349	0.12205	1.48188	0.04703	84.999
844	Bradley 1211.....	6-7	8. 30. 18.922	1875.1	4	+ 3.7668	-0.0220	-0.001	0.06122	0.10147	1.45889	0.06943	85.781
845	Piazzi VIII. 118 ...	7-8	8. 31. 44.761	1876.4	3	+ 3.4585	-0.0130	+0.015	0.06309	0.09899	1.45421	0.07372	85.916
846	Bradley 1216.....	6-7†	8. 31. 57.086	1868.1	1	+ 3.7611	-0.0221	+0.003	0.06106	0.10133	1.45881	0.06936	85.813
847	34 Lynceis.....	6*	8. 32. 9.771	1868.2	2	+ 4.1733	-0.0379	+0.002	0.05711	0.10584	1.46499	0.06335	85.654
848	Groombridge 1452 .	9	8. 32. 11.910	1868.3	3	+ 9.3445	-0.5650	..	9.97850	0.18105	1.53589	9.98005	83.182
849	38 Cancri.....	7	8. 32. 21.238	1875.8	3	+ 3.4599	-0.0131	-0.001	0.06302	0.09896	1.45424	0.07366	85.925
850	39 Cancri.....	6	8. 32. 44.504	1873.2	4	+ 3.4642	-0.0132	-0.009	0.06297	0.09896	1.45430	0.07358	85.928
851	40 Cancri.....	6	8. 32. 49.690	1872.4	5	+ 3.4633	-0.0132	-0.006	0.06296	0.09896	1.45428	0.07359	85.931
852	42 Cancri.....	6-7	8. 33. 22.171	1871.6	7	+ 3.4574	-0.0131	+0.008	0.06294	0.09889	1.45419	0.07365	85.940
853	Mali..... b	5	8. 35. 5.579	1870.0	7	+ 2.3462	+0.0027	+0.018	0.06037	0.10153	1.43690	0.08958	86.145
854	9 Hydræ.....	6*	8. 35. 46.944	1874.2	3	+ 2.7841	-0.0001	+0.006	0.06315	0.09822	1.44380	0.08337	86.111
855	43 Cancri..... γ	4-5*	8. 35. 52.552	1871.5	40	+ 3.4306	-0.0143	-0.011	0.06250	0.09895	1.45470	0.07303	85.967
856	45 Cancri..... A ¹	6*	8. 36. 8.866	1874.7	2	+ 3.3146	-0.0097	-0.002	0.06329	0.09801	1.45201	0.07562	86.017
857	Groombridge 1463 .	6	8. 36. 34.194	1872.0	7	+ 9.2709	-0.5744	..	9.97545	0.17992	1.53490	9.97705	83.706
858	Piazzi VIII. 137 ...	6*	8. 37. 11.754	1875.3	4	+ 5.5304	-0.1224	-0.001	0.03790	0.12482	1.48472	0.04128	85.268
859	47 Cancri..... δ	4*	8. 37. 24.488	1869.4	8	+ 3.4206	-0.0125	-0.002	0.06273	0.09843	1.45363	0.07400	86.007
860	46 Cancri..... σ ¹	6-7†	8. 37. 30.015	1868.1	2	+ 3.6971	-0.0209	+0.002	0.06091	0.10045	1.45784	0.06982	85.933
861	Mali..... a	4*	8. 38. 26.936	1870.0	5	+ 2.4103	+0.0028	+0.001	0.06049	0.10074	1.43791	0.08896	86.162
862	W. B. (2) VIII. 958	8-9	8. 38. 55.029	1868.2	1	+ 3.6476	-0.0194	..	0.06114	0.09993	1.45709	0.07046	85.972
863	48 Cancri..... ι	4*	8. 38. 56.776	1873.1	3	+ 3.6474	-0.0194	-0.002	0.06113	0.09993	1.45709	0.07046	85.972
864	11 { Hydræ (1st Star) } ε	3-4*	8. 39. 59.747	1871.6	46	+ 3.1959	-0.0071	-0.013	0.06328	0.09741	1.45018	0.07731	86.088
865	11 { Hydræ (2d Star) } ε	3-4*	8. 39. 59.828	1875.3	1	+ 3.1959	-0.0071	-0.013	0.06328	0.09741	1.45018	0.07731	86.088
866	5 Ursæ Majoris ... b	5*	8. 42. 48.317	1874.3	6	+ 5.0142	-0.0899	-0.001	0.04378	0.11701	1.47732	0.04795	85.684
867	51 Cancri.....	6*	8. 44. 39.910	1871.0	5	+ 3.7246	-0.0230	+0.008	0.05983	0.10031	1.45825	0.06876	86.053
868	53 Cancri..... ρ ¹	6-7	8. 44. 46.557	1869.8	5	+ 3.6238	-0.0194	-0.011	0.06067	0.09941	1.45673	0.07038	86.075
869	6 Ursæ Majoris.....	6*	8. 45. 37.307	1872.5	9	+ 5.2316	-0.1078	-0.003	0.03955	0.12015	1.48045	0.04340	85.744
870	57 Cancri (1st Star)...	6-7	8. 46. 25.783	1875.3	1	+ 3.6744	-0.0215	+0.004	0.06006	0.09974	1.45749	0.06942	86.096
871	57 Cancri (as one mass) σ ²	6*	8. 46. 25.849	1872.1	2	+ 3.6744	-0.0215	+0.004	0.06006	0.09974	1.45749	0.06942	86.096
872	57 Cancri (2nd Star) ..	6-7	8. 46. 25.853	1875.3	1	+ 3.6744	-0.0215	+0.004	0.06006	0.09974	1.45749	0.06942	86.096
873	60 Cancri.....	6†	8. 48. 56.109	1874.2	4	+ 3.2847	-0.0096	-0.002	0.06226	0.09708	1.45155	0.07569	86.183
874	59 Cancri.....	6*	8. 49. 2.391	1873.6	3	+ 3.7247	-0.0237	-0.001	0.05930	0.10006	1.45826	0.06835	86.134
875	9 Ursæ Majoris.... ι	3*	8. 50. 25.947	1871.3	36	+ 4.1861	-0.0446	-0.047	0.05378	0.10521	1.46518	0.06028	86.105
876	B. F. 1267.....	6-7†	8. 50. 47.761	1868.2	5	+ 3.2433	-0.0086	..	0.06224	0.09682	1.45092	0.07632	86.209
877	8 Ursæ Majoris ... ρ	5	8. 50. 58.129	1872.0	8	+ 5.5179	-0.1366	+0.006	0.03283	0.12433	1.48457	0.03633	85.946
878	65 Cancri..... α	4*	8. 51. 29.070	1872.8	27	+ 3.2868	-0.0097	0.000	0.06205	0.09691	1.45158	0.07557	86.214
879	64 Cancri.....	5*	8. 51. 40.698	1874.7	2	+ 3.7059	-0.0235	0.000	0.05916	0.09973	1.45797	0.06842	86.185
880	66 Cancri.....	6-7†	8. 53. 32.866	1870.8	3	+ 3.6972	-0.0234	-0.002	0.05902	0.09954	1.45784	0.06839	86.220

864, 865. In Struve's *Mensura Micrometrica* the magnitudes of the two components of ε Hydræ are 3.8 and 7.8 respectively.
 870, 872. The magnitudes are taken from Struve's *Mensura Micrometrica*.

No.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of ρ	No. in Bessel's Bradley. 1755.	No. in Piazzi. 1800.	No. in Groombridge. 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
841	24. 32. 22.64	1873.1	6	+12.055	+0.626	-0.05	0.24224	0.24226	1.56885	0.30085	28.213	1202	VIII. 90	1451	2876
842	69. 58. 17.37	1873.6	5	+12.067	+0.398	+0.07	0.02776	0.14802	1.56899	0.30075	53.748	1210	VIII. 101	..	2880
843	25. 13. 40.44	1873.8	23	+12.139	+0.614	-0.02	0.23930	0.24243	1.56984	0.30016	28.468	1206	VIII. 96	1455	2884
844	56. 45. 11.63	1875.3	5	+12.230	+0.430	+0.02	0.10435	0.18593	1.57089	0.29940	45.361	1211	VIII. 110	..	2896
845	69. 52. 31.01	1876.3	4	+12.331	+0.393	+0.08	0.02686	0.14967	1.57207	0.29855	53.604	..	VIII. 118	..	2906
846	56. 49. 23.43	1868.1	1	+12.343	+0.427	+0.07	0.10322	0.18664	1.57221	0.29844	45.355	1216	VIII. 117	..	2908
847	43. 43. 8.35	1868.2	2	+12.358	+0.474	-0.06	0.16711	0.21628	1.57239	0.29833	37.609	1214	VIII. 115	1465	2909
848	9. 31. 41.84	1868.3	3	+12.361	+1.068	..	0.27985	0.25716	1.57241	0.29831	22.663	..	....	1452	..
849	69. 46. 19.25	1875.9	5	+12.371	+0.392	+0.06	0.02739	0.15024	1.57253	0.29821	53.517	1220	VIII. 122	..	2913
850	69. 32. 32.03	1874.1	7	+12.397	+0.392	0.00	0.02857	0.15106	1.57284	0.29799	53.371	1222	VIII. 126	..	2917
851	69. 34. 42.63	1872.4	5	+12.404	+0.392	-0.04	0.02837	0.15099	1.57292	0.29793	53.388	1223	VIII. 127	..	2918
852	69. 49. 44.06	1872.2	8	+12.441	+0.390	+0.05	0.02657	0.15042	1.57334	0.29762	53.536	1226	VIII. 132	..	2924
853	124. 51. 17.57	1870.0	7	+12.558	+0.261	+0.10	9.60032	9.92540	1.57470	0.29659	84.424	..	VIII. 145	..	2935
854	105. 29. 4.33	1874.7	4	+12.606	+0.310	+0.08	9.75906	0.01376	1.57526	0.29617	75.268	1234	VIII. 146	..	2940
855	68. 4. 22.43	1872.8	50	+12.613	+0.390	-0.01	0.03659	0.15682	1.57533	0.29611	52.357	1230	VIII. 142	..	2937
856	76. 51. 42.30	1874.9	3	+12.630	+0.370	-0.01	9.97955	0.12811	1.57553	0.29596	57.996	1232	VIII. 144	..	2942
857	9. 29. 48.94	1872.2	15	+12.659	+1.043	..	0.27722	0.26069	1.57586	0.29569	22.523	..	....	1463	2930
858	22. 49. 30.74	1875.1	4	+12.702	+0.619	-0.02	0.24175	0.25134	1.57637	0.29531	27.196	..	VIII. 137	..	2943
859	71. 22. 36.89	1869.4	8	+12.716	+0.380	+0.24	0.15319	0.14687	1.57653	0.29520	54.456	1236	VIII. 150	..	2953
860	58. 50. 25.86	1868.1	2	+12.722	+0.411	-0.02	0.08952	0.18421	1.57660	0.29514	46.475	1233	VIII. 149	..	2952
861	122. 43. 30.34	1870.1	6	+12.787	+0.265	-0.09	9.62159	9.93209	1.57733	0.29454	83.556	..	VIII. 162	..	2964
862	60. 46. 5.94	1868.2	1	+12.818	+0.404	..	0.07809	0.17959	1.57770	0.29426	47.662	..	....	..	..
863	60. 46. 25.00	1872.3	8	+12.820	+0.404	+0.05	0.07806	0.17961	1.57773	0.29424	47.662	1239	VIII. 158	..	2965
864	83. 6. 46.70	1871.0	20	+12.891	+0.352	+0.04	9.93500	0.10620	1.57854	0.29360	61.927	..	....	..	..
865	83. 6. 46.73	1875.3	1	+12.891	+0.352	+0.04	9.93500	0.10620	1.57854	0.29360	61.927	1243	VIII. 164	..	2971
866	27. 33. 40.92	1874.3	14	+13.078	+0.549	-0.17	0.22305	0.24996	1.58067	0.29184	29.116	1241	VIII. 165	1472	2982
867	57. 2. 52.69	1872.5	9	+13.201	+0.403	-0.02	0.09527	0.19258	1.58207	0.29066	45.254	1252	VIII. 184	..	2999
868	61. 15. 43.37	1870.1	17	+13.208	+0.392	+0.02	0.07232	0.18088	1.58216	0.29058	47.891	1253	VIII. 185	..	3000
869	24. 54. 32.45	1873.9	24	+13.263	+0.567	+0.13	0.22978	0.25522	1.58279	0.29005	27.901	1246	VIII. 178	1477	3003
870	58. 56. 13.30	1875.3	1	+13.317	+0.395	0.00	0.08425	0.18827	1.58339	0.28952	46.407	..	....	..	..
871	58. 56. 15.12	1874.5	5	+13.317	+0.395	0.00	0.08425	0.18827	1.58339	0.28952	46.407	1255	VIII. 192	..	3016
872	58. 56. 15.61	1875.3	1	+13.317	+0.395	0.00	0.08425	0.18827	1.58339	0.28952	46.407	..	....	..	..
873	77. 53. 11.16	1874.6	8	+13.480	+0.349	+0.02	9.96904	0.12746	1.58523	0.28789	58.507	1262	VIII. 211	..	3035
874	56. 35. 55.89	1874.8	7	+13.486	+0.396	+0.07	0.09524	0.19595	1.58531	0.28782	44.928	1259	VIII. 209	..	3033
875	41. 27. 26.87	1870.0	17	+13.577	+0.444	+0.28	0.16569	0.23234	1.58633	0.28690	36.009	1260	VIII. 212	1492	3048
876	80. 7. 14.87	1868.2	5	+13.600	+0.342	..	9.95357	0.11939	1.58659	0.28666	59.931	..	....	..	3053
877	21. 52. 27.25	1871.2	24	+13.611	+0.585	+0.01	0.28553	0.26242	1.58671	0.28655	26.560	1257	VIII. 207	1490	3049
878	77. 38. 53.44	1872.5	15	+13.644	+0.345	+0.04	9.96988	0.12889	1.58708	0.28621	58.341	1269	VIII. 222	..	3055
879	57. 5. 9.60	1873.6	5	+13.657	+0.390	+0.06	0.09124	0.19591	1.58722	0.28608	45.207	1267	VIII. 221	..	3056
880	57. 14. 56.86	1872.8	6	+13.773	+0.386	-0.01	0.08927	0.19635	1.58857	0.28482	45.303	1270	VIII. 226	..	3068

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Celestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Medie Stellarum Fixarum in Zonis Regionum* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

{xlv}

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
881	69 Cancri	6*	8. 55. 15.027	1872.2	5	+ 3.5212	-0.0172	-0.003	0.06035	0.09777	1.45517	0.07133	86.258
882	11 Ursæ Majoris ..	5*	8. 57. 7.354	1873.2	7	+ 5.3699	-0.1305	-0.001	0.03301	0.12192	1.48244	0.03674	86.274
883	Piazzi VIII. 245...	5*	8. 58. 22.792	1875.2	3	+ 3.8421	-0.0304	+0.007	0.05683	0.10074	1.46003	0.06526	86.313
884	13 Ursæ Majoris...	5*	8. 59. 5.894	1874.9	5	+ 5.3808	-0.1337	-0.005	0.03202	0.12204	1.48260	0.03574	86.374
885	Bradley 1283	7-8	8. 59. 15.255	1873.9	3	+ 3.3403	-0.0117	+0.005	0.06114	0.09662	1.45240	0.07435	86.316
886	72 Cancri	6*	9. 0. 18.675	1870.1	3	+ 3.6209	-0.0215	+0.004	0.05896	0.09845	1.45668	0.06914	86.345
887	14 Ursæ Majoris ...	5-4*	9. 0. 20.279	1873.3	5	+ 5.0104	-0.1037	+0.011	0.03830	0.11644	1.47727	0.04260	86.419
888	76 Cancri	5*	9. 0. 48.748	1871.2	25	+ 3.2584	-0.0094	-0.001	0.06137	0.09618	1.45115	0.07578	86.331
889	77 Cancri	5*	9. 1. 59.812	1872.6	20	+ 3.4615	-0.0159	-0.002	0.06013	0.09712	1.45426	0.07197	86.363
890	Groombridge 1517 .	6*	9. 2. 57.627	1874.4	5	+ 6.2167	-0.2256	..	0.01377	0.13465	1.49437	0.01669	86.671
891	79 Cancri	6-7†	9. 2. 59.407	1872.1	1	+ 3.4589	-0.0159	+0.002	0.06006	0.09703	1.45422	0.07196	86.377
892	16 Ursæ Majoris ...	5*	9. 4. 11.982	1874.2	7	+ 4.8136	-0.0915	+0.003	0.04058	0.11341	1.47441	0.04529	86.567
893	Mali	5-6	9. 4. 30.950	1869.4	9	+ 2.5406	+0.0037	+0.002	0.05866	0.09804	1.43997	0.08905	86.316
894	80 Cancri	6-7	9. 4. 45.412	1869.2	10	+ 3.3831	-0.0134	-0.005	0.06041	0.09646	1.45306	0.07329	86.395
895	Bradley 1299	6-7†	9. 6. 18.411	1873.8	11	+ 3.4400	-0.0155	+0.002	0.05989	0.09670	1.45393	0.07211	86.425
896	Bradley 1300	6-7†	9. 7. 22.392	1874.6	5	+ 3.7164	-0.0267	-0.009	0.05710	0.09891	1.45813	0.06660	86.490
897	82 Cancri	6*	9. 8. 9.699	1869.2	2	+ 3.3244	-0.0117	-0.004	0.06046	0.09591	1.45216	0.07427	86.436
898	20 Ursæ Majoris	7	9. 10. (40.)	..	..	+ 4.6519	-0.0838	+0.015	0.04158	0.11081	1.47205	0.04671	86.801
899	{Lynceis (1st Star)...	4* }	9. 10. 52.053	1876.2	1	+ 3.7585	-0.0293	-0.007	0.05612	0.09914	1.45877	0.06534	86.571
900	{Lynceis (2nd Star)...		9. 10. 52.306	1874.9	5	+ 3.7585	-0.0293	-0.007	0.05612	0.09914	1.45877	0.06534	86.571
901	83 Cancri	6*	9. 11. 50.069	1871.3	45	+ 3.3674	-0.0134	-0.012	0.05989	0.09588	1.45282	0.07323	86.494
902	40 Lynceis	4	9. 13. 15.139	1870.3	6	+ 3.6933	-0.0267	-0.016	0.05662	0.09832	1.45778	0.06641	86.604
903	Piazzi IX. 50	7-8	9. 13. 25.622	1869.2	5	+ 3.3891	-0.0143	-0.001	0.05960	0.09588	1.45315	0.07270	86.524
904	Bradley 1310	6	9. 13. 47.806	1873.3	1	+ 4.1323	-0.0502	+0.009	0.05009	0.10344	1.46437	0.05705	86.753
905	Piazzi IX. 51	7	9. 15. 23.942	1873.3	1	+ 4.9158	-0.1090	..	0.03483	0.11455	1.47589	0.03934	87.099
906	1 Leonis	5*	9. 17. 11.764	1873.7	4	+ 3.5113	-0.0194	-0.004	0.05821	0.09645	1.45502	0.06987	86.619
907	Piazzi IX. 74	7	9. 18. 26.951	1869.2	1	+ 3.3393	-0.0129	+0.005	0.05951	0.09524	1.45239	0.07348	86.583
908	Piazzi IX. 37	4-5*	9. 18. 38.138	1870.7	7	+ 9.1445	-0.7989	-0.063	9.92414	0.17782	1.53335	9.92600	89.298
909	W. B. (2) IX. 390..	7-8	9. 19. 23.336	1869.2	3	+ 3.3794	-0.0144	..	0.05915	0.09539	1.45300	0.07256	86.610
910	30 Hydræ	2*	9. 21. 17.827	1872.4	66	+ 2.9506	-0.0014	-0.004	0.06001	0.09447	1.44639	0.08181	86.497
911	23 Ursæ Majoris ...	3-4*	9. 21. 24.708	1872.3	9	+ 4.7921	-0.1035	+0.011	0.03523	0.11251	1.47410	0.04001	87.331
912	31 Hydræ	5*	9. 22. 39.039	1873.9	3	+ 3.0395	-0.0036	+0.007	0.06009	0.09422	1.44777	0.07990	86.536
913	W. B. IX. 465	8	9. 22. 39.377	1873.3	1	+ 3.0398	-0.0036	..	0.06009	0.09422	1.44777	0.07990	86.536
914	22 Ursæ Majoris	6*	9. 22. 45.701	1874.8	4	+ 5.8034	-0.2126	+0.012	0.01110	0.12793	1.48859	0.01440	87.983
915	7 Leonis Minoris	6-7†	9. 22. 58.712	1874.2	3	+ 3.6475	-0.0264	+0.007	0.05598	0.09726	1.45709	0.06629	86.786
916	24 Ursæ Majoris ...	5-4*	9. 23. 7.300	1872.1	9	+ 5.4451	-0.1707	-0.009	0.01960	0.12240	1.48350	0.02329	87.797
917	25 Ursæ Majoris ...	3*	9. 24. 16.946	1872.0	39	+ 4.1576	-0.0562	-0.111	0.04737	0.10327	1.46476	0.05422	87.094
918	4 Leonis	5-4*	9. 24. 24.849	1872.4	12	+ 3.4378	-0.0172	-0.004	0.05821	0.09540	1.45390	0.07092	86.711
919	5 Leonis	6*	9. 25. 2.681	1872.1	19	+ 3.2480	-0.0100	-0.009	0.05951	0.09434	1.45099	0.07522	86.637
920	10 Leonis Minoris	5*	9. 26. 22.431	1873.2	2	+ 3.6973	-0.0295	-0.001	0.05485	0.09755	1.45784	0.06471	86.885

899, 900. In Struve's *Mensura Micrometrica* the magnitudes of the two components of 38 Lynceis are 6.7 and 4.0 respectively.

1873 DAMM.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fra- tion of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of 1'	No. in Bessel's Bradley. 1755.	No. in Piazzi. 1800.	No. in Groom- bridge. 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
	° ' "			"	"	"					"				
881	65. 2. 41.84	1872.4	9	+ 13.884	+ 0.365	+ 0.01	0.04571	0.17378	1.58977	0.28366	50.223	1275	VIII. 234	..	3079
882	22. 36. 55.35	1874.8	25	+ 14.001	+ 0.555	+ 0.06	0.22891	0.26587	1.59108	0.28238	26.838	1271	VIII. 232	1505	3087
883	51. 2. 15.34	1875.9	9	+ 14.080	+ 0.393	+ 0.06	0.11740	0.21525	1.59196	0.28150	41.504	..	VIII. 245	1513	3097
884	22. 20. 54.17	1874.2	8	+ 14.125	+ 0.551	+ 0.11	0.22827	0.26750	1.59245	0.28100	26.732	1276	VIII. 241	1510	3099
885	74. 12. 53.69	1873.9	3	+ 14.134	+ 0.340	- 0.12	9.98923	0.14355	1.59256	0.28090	56.121	1283	VIII. 250	..	3104
886	59. 49. 57.64	1871.3	9	+ 14.200	+ 0.367	+ 0.05	0.07177	0.19197	1.59329	0.28015	46.916	1285	VIII. 253	..	3109
887	25. 58. 5.13	1870.9	9	+ 14.201	+ 0.510	+ 0.08	0.21611	0.26402	1.59330	0.28014	28.270	1279	VIII. 247	1515	3108
888	78. 49. 4.77	1871.5	9	+ 14.231	+ 0.329	+ 0.01	9.95957	0.12634	1.59363	0.27979	59.089	1287	VIII. 255	..	3111
889	67. 26. 17.81	1872.6	22	+ 14.304	+ 0.348	- 0.01	0.02869	0.16841	1.59443	0.27896	51.761	1289	VIII. 259	..	3117
890	16. 31. 38.07	1874.4	5	+ 14.363	+ 0.627	..	0.24192	0.27568	1.59509	0.27828	24.512	..	....	1517	3116
891	67. 29. 7.27	1872.1	1	+ 14.364	+ 0.346	+ 0.03	0.02792	0.16858	1.59511	0.27826	51.798	1291	VIII. 262	..	3123
892	28. 3. 5.68	1874.7	14	+ 14.438	+ 0.481	+ 0.09	0.20642	0.26372	1.59591	0.27738	29.227	1288	VIII. 261	1521	3125
893	119. 50. 36.15	1869.4	9	+ 14.457	+ 0.251	+ 0.11	9.68015	9.92489	1.59614	0.27716	82.324	..	IX. 7	..	3130
894	71. 25. 58.49	1869.2	10	+ 14.471	+ 0.335	0.00	0.00393	0.15527	1.59628	0.27699	54.353	1296	IX. 3	..	3129
895	68. 11. 27.33	1873.3	14	+ 14.565	+ 0.339	+ 0.04	0.02230	0.16730	1.59731	0.27587	52.269	1299	....	..	3138
896	54. 50. 23.30	1873.4	10	+ 14.629	+ 0.365	- 0.03	0.09318	0.20955	1.59801	0.27508	43.858	1300	IX. 14	..	3144
897	74. 31. 44.02	1869.2	2	+ 14.677	+ 0.324	- 0.02	9.98385	0.14463	1.59853	0.27450	56.382	1304	IX. 20	..	3147
898	29. 40. 52.76	1871.7	12	+ 14.825	+ 0.451	+ 0.14	0.19596	0.26534	1.60016	0.27264	30.061	1302	IX. 23	1529	3157
899	52. 39. 25.85	1876.2	2	+ 14.837	+ 0.362	+ 0.06	0.10151	0.21718	1.60028	0.27248	42.573	..	....	..	..
900	52. 39. 26.88	1874.2	7	+ 14.837	+ 0.362	+ 0.06	0.10151	0.21718	1.60028	0.27248	42.573	1305	IX. 29	..	3162
901	71. 45. 11.89	1871.6	36	+ 14.894	+ 0.323	+ 0.16	9.99896	0.15612	1.60090	0.27175	54.633	1309	IX. 42	..	3171
902	55. 4. 3.79	1871.3	11	+ 14.976	+ 0.352	+ 0.02	0.08817	0.21156	1.60180	0.27069	44.084	1312	IX. 48	..	3178
903	70. 22. 7.76	1869.2	5	+ 14.987	+ 0.322	+ 0.11	0.00629	0.16170	1.60192	0.27056	53.759	..	IX. 50	..	3181
904	39. 54. 45.33	1873.3	1	+ 15.008	+ 0.393	+ 0.04	0.15543	0.24895	1.60214	0.27028	35.300	1310	IX. 47	1540	3182
905	25. 30. 38.34	1872.5	3	+ 15.101	+ 0.465	..	0.20599	0.27405	1.60315	0.26906	28.265	..	IX. 51	1541	..
906	63. 16. 4.77	1873.7	4	+ 15.204	+ 0.328	+ 0.05	0.04368	0.18782	1.60427	0.26767	49.279	1320	IX. 67	..	3204
907	72. 51. 49.48	1869.2	1	+ 15.275	+ 0.309	0.00	9.98958	0.15363	1.60504	0.26670	55.451	..	IX. 74	..	3209
908	8. 6. 41.63	1870.2	9	+ 15.286	+ 0.857	+ 0.04	0.25035	0.29105	1.60515	0.26655	22.115	..	IX. 37	1537	3199
909	70. 23. 19.04	1869.2	3	+ 15.328	+ 0.311	..	0.00337	0.16335	1.60561	0.26598	53.871	..	....	..	..
910	98. 6. 16.88	1871.8	40	+ 15.435	+ 0.268	- 0.03	9.83276	0.03805	0.60676	0.26445	71.216	1330	IX. 89	..	3223
911	26. 22. 49.51	1871.9	18	+ 15.442	+ 0.439	- 0.11	0.19833	0.27642	1.60683	0.26436	28.802	1323	IX. 82	1548	3221
912	92. 12. 37.35	1873.9	3	+ 15.511	+ 0.274	+ 0.03	9.87035	0.06821	1.60757	0.26337	67.740	1334	IX. 94	..	3237
913	92. 11. 33.01	1873.3	1	+ 15.511	+ 0.274	..	9.87046	0.06830	1.60757	0.26337	67.729	..	....	..	..
914	17. 13. 41.89	1874.6	4	+ 15.517	+ 0.530	+ 0.10	0.22438	0.28758	1.60764	0.26328	25.155	1322	IX. 83	1549	3231
915	55. 46. 58.64	1873.9	6	+ 15.529	+ 0.330	+ 0.11	0.07809	0.21363	1.60777	0.26311	44.733	1331	IX. 92	..	3238
916	19. 36. 33.10	1870.3	17	+ 15.536	+ 0.495	- 0.04	0.21746	0.28550	1.60784	0.26300	26.056	1324	IX. 86	1550	3232
917	37. 44. 26.80	1871.9	38	+ 15.601	+ 0.374	+ 0.57	0.15573	0.25893	1.60854	0.26206	34.404	1332	IX. 98	1554	3242
918	66. 28. 8.02	1872.4	14	+ 15.608	+ 0.308	+ 0.04	0.02239	0.17919	1.60862	0.26196	51.478	1335	IX. 100	..	3246
919	78. 8. 4.43	1871.8	12	+ 15.643	+ 0.290	+ 0.08	9.95622	0.13366	1.60899	0.26144	58.971	1338	IX. 106	..	3250
920	53. 2. 8.08	1873.7	4	+ 15.715	+ 0.328	+ 0.02	0.08881	0.22304	1.60975	0.26037	43.155	1340	IX. 111	..	3261

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Caelestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Medice Stellarum Fixarum in Zonis Regiomontanis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichniss* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fra- tion of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
921	11 Leonis Minoris	6*	9. 27. 58.576	1872.9	3	+ 3.6788	- 0.0289	- 0.061	0.05490	0.09726	1.45756	0.06495	86.909
922	7 Leonis	6-7†	9. 28. 53.003	1876.1	3	+ 3.2909	- 0.0117	+ 0.002	0.05899	0.09421	1.45165	0.07406	86.710
923	8 Leonis	6*	9. 29. 58.680	1874.1	7	+ 3.3212	- 0.0129	0.000	0.05870	0.09428	1.45211	0.07328	86.741
924	9 Leonis	6-7†	9. 30. 30.210	1873.3	5	+ 3.4549	- 0.0185	- 0.008	0.05744	0.09508	1.45416	0.07004	86.825
925	27 Ursæ Majoris	6*	9. 31. 6.789	1871.3	12	+ 5.6899	- 0.2137	- 0.007	0.00866	0.12601	1.48700	0.01205	88.549
926	Groombridge 1564 ..	6*	9. 31. 14.971	1874.9	5	+ 5.2706	- 0.1627	..	0.01956	0.11952	1.48102	0.02347	88.215
927	Piazzi IX. 135	6-7	9. 31. 43.555	1870.7	8	+ 3.3795	- 0.0154	+ 0.006	0.05808	0.09448	1.45300	0.07178	86.799
928	Groombridge 1562 ..	6	9. 31. 59.069	1875.7	6	+ 7.5091	- 0.5174	..	9.95510	0.15375	1.51198	9.95739	90.163
929	13 Leonis	6-7†	9. 34. 16.345	1872.9	3	+ 3.4680	- 0.0196	0.000	0.05693	0.09490	1.45436	0.06940	86.898
930	14 Leonis	4-3*	9. 34. 19.049	1870.7	35	+ 3.2189	- 0.0093	- 0.013	0.05898	0.09351	1.45054	0.07558	86.742
931	13 Leonis Minoris	6	9. 34. 59.510	1868.2	4	+ 3.6398	- 0.0283	+ 0.008	0.05454	0.09640	1.45697	0.06498	87.039
932	Lalande (F) 1479 ..	8-9	9. 35. (25.)	..	..	+ 19.1120	- 5.6246	..	9.01576	0.30119	1.64456	9.02122	101.830
933	15 Leonis	5*	9. 36. 2.777	1868.1	1	+ 3.5361	- 0.0231	+ 0.001	0.05589	0.09535	1.45540	0.06749	86.982
934	28 Ursæ Majoris	6-7†	9. 36. 2.816	1873.0	11	+ 4.7003	- 0.1081	- 0.006	0.03178	0.11063	1.47275	0.03672	88.004
935	Piazzi IX. 158	7	9. 36. 12.343	1869.2	1	+ 3.3700	- 0.0154	+ 0.015	0.05777	0.09407	1.45286	0.07170	86.864
936	16 Leonis	6*	9. 36. 45.526	1874.5	4	+ 3.2760	- 0.0115	- 0.002	0.05848	0.09353	1.45142	0.07405	86.809
937	Bradley 1364	6*	9. 37. 26.781	1868.2	2	+ 4.3051	- 0.0741	- 0.003	0.04082	0.10474	1.46694	0.04698	87.695
938	Bradley 1363	6	9. 37. 45.465	1876.3	5	+ 4.6553	- 0.1053	- 0.016	0.03222	0.10989	1.47210	0.03727	88.051
939	17 Leonis	3*	9. 38. 34.916	1871.2	46	+ 3.4225	- 0.0179	- 0.004	0.05703	0.09424	1.45366	0.07017	86.943
940	18 Leonis	6*	9. 39. 29.482	1872.8	5	+ 3.2413	- 0.0103	- 0.003	0.05850	0.09317	1.45088	0.07482	86.824
941	29 Ursæ Majoris ...	4-3*	9. 41. 52.105	1871.2	12	+ 4.3661	- 0.0821	- 0.033	0.03797	0.10543	1.46784	0.04386	87.951
942	16 Leonis Minoris	6	9. 42. 21.631	1874.6	3	+ 3.7112	- 0.0340	+ 0.002	0.05229	0.09669	1.45805	0.06201	87.277
943	Lalande 19273-4...	8	9. 43. 55.171	1876.2	1	+ 3.7048	- 0.0340	..	0.05217	0.09651	1.45795	0.06194	87.311
944	24 Leonis	4*	9. 45. 28.799	1871.3	30	+ 3.4431	- 0.0197	- 0.021	0.05610	0.09388	1.45398	0.06899	87.084
945	Piazzi IX. 187	6†	9. 46. 53.037	1871.8	12	+ 5.5467	- 0.2250	- 0.032	0.00172	0.12342	1.48496	0.00320	89.843
946	19 Leonis Minoris	5*	9. 49. 50.235	1874.0	4	+ 3.7121	- 0.0360	- 0.013	0.05106	0.09622	1.45807	0.06069	87.477
947	Lacaille 4072	6	9. 50. 35.752	1870.3	12	+ 2.6511	+ 0.0070	+ 0.012	0.05486	0.09391	1.44171	0.09102	86.589
948	27 Leonis	5*	9. 51. 20.131	1869.9	8	+ 3.2372	- 0.0105	- 0.004	0.05770	0.09217	1.45082	0.07441	86.981
949	Piazzi IX. 221	6*	9. 52. 13.073	1868.2	2	+ 3.4849	- 0.0229	+ 0.016	0.05481	0.09371	1.45461	0.06707	87.260
950	29 Leonis	5*	9. 53. 26.877	1871.3	24	+ 3.1790	- 0.0081	- 0.003	0.05789	0.09180	1.44992	0.07605	86.953
951	20 Leonis Minoris	5*	9. 53. 37.545	1871.7	5	+ 3.5193	- 0.0251	- 0.041	0.05409	0.09392	1.45514	0.06586	87.331
952	Piazzi IX. 230	6*	9. 55. 40.617	1873.1	5	+ 3.3590	- 0.0166	+ 0.001	0.05620	0.09246	1.45269	0.07050	87.178
953	Groombridge 1609 ..	6-7	9. 59. 42.856	1873.3	1	+ 4.4816	- 0.1087	..	0.02759	0.10647	1.46956	0.03284	89.071
954	21 Leonis Minoris	4-5*	9. 59. 52.412	1868.9	3	+ 3.5560	- 0.0285	+ 0.006	0.05261	0.09384	1.45570	0.06380	87.527
955	30 Leonis	3-4*	10. 0. 21.128	1874.3	10	+ 3.2810	- 0.0130	- 0.004	0.05668	0.09161	1.45149	0.07258	87.160
956	31 Leonis	5*	10. 1. 6.570	1868.7	2	+ 3.1965	- 0.0090	- 0.009	0.05732	0.09118	1.45019	0.07523	87.070
957	15 Sextantis	4-5*	10. 1. 23.168	1869.3	7	+ 3.0751	- 0.0038	+ 0.002	0.05769	0.09096	1.44832	0.07909	86.939
958	32 Leonis	1-2*	10. 1. 33.182	1872.2	122	+ 3.2198	- 0.0101	- 0.019	0.05713	0.09123	1.45056	0.07447	87.101
959	Bradley 1408	6-7†	10. 2. 6.697	1869.1	3	+ 3.3007	- 0.0142	- 0.001	0.05635	0.09157	1.45180	0.07182	87.211
960	Piazzi IX. 254	6-7†	10. 3. 15.528	1874.3	3	+ 3.6447	- 0.0353	- 0.005	0.05020	0.09456	1.45704	0.06028	87.761

932. The magnitude is taken from Fedorenko's Lalande.

1876. GOALM.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Frac- tion of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of l'	No. in Bessel's Bradley. 1755.	No. in Piazzi. 1800.	No. in Groom- bridge. 1810.	No. in B. A. C. 1850.
							e'	f'	g'	h'					
921	53. 36. 43.75	1873.0	4	+15.802	+0.324	+0.27	0.08490	0.22205	1.61069	0.25905	43.558	1343	IX. 118	..	3268
922	75. 3. 1.13	1876.1	5	+15.851	+0.287	..	9.97257	0.14733	1.61120	0.25831	57.096	1345	IX. 125	..	3272
923	72. 59. 23.30	1874.3	8	+15.910	+0.288	-0.07	9.98376	0.15599	1.61182	0.25740	55.801	1347	IX. 127	..	3278
924	64. 45. 20.49	1873.9	9	+15.937	+0.299	+0.03	0.02796	0.18723	1.61212	0.25697	50.560	1348	IX. 128	..	3285
925	17. 10. 4.24	1871.2	21	+15.969	+0.495	+0.05	0.21743	0.29245	1.61247	0.25645	25.445	1342	IX. 121	1563	3283
926	20. 10. 54.96	1875.2	7	+15.976	+0.458	..	0.20887	0.28953	1.61255	0.25634	26.582	..	....	1564	3287
927	69. 7. 34.91	1870.7	8	+16.002	+0.290	-0.02	0.00398	0.17151	1.61282	0.25593	53.390	..	IX. 135	..	3292
928	10. 16. 44.95	1875.5	5	+16.015	+0.652	..	0.23419	0.29793	1.61295	0.25572	23.226	..	....	1562	3284
929	63. 30. 20.68	1872.9	3	+16.135	+0.294	+0.01	0.03209	0.19284	1.61420	0.25379	49.900	1357	IX. 148	..	3309
930	79. 31. 34.92	1871.1	13	+16.138	+0.272	+0.04	9.94507	0.12911	1.61424	0.25375	60.106	1360	IX. 151	..	3312
931	54. 19. 22.66	1868.2	4	+16.173	+0.307	+0.07	0.07646	0.22282	1.61461	0.25317	44.236	1359	IX. 153	..	3313
932	2. 48. 52.15	1869.2	1	+16.195	+1.637	..	0.24743	0.30246	1.61485	0.25281	21.458	..	....	..	..
933	59. 26. 18.74	1868.1	1	+16.227	+0.296	+0.11	0.05123	0.20723	1.61518	0.25227	47.419	1365	IX. 157	..	3317
934	25. 45. 34.10	1871.8	19	+16.227	+0.396	-0.01	0.18769	0.28527	1.61518	0.25227	29.103	1355	IX. 150	1576	3315
935	69. 13. 21.15	1869.2	1	+16.235	+0.282	-0.06	0.00113	0.17238	1.61527	0.25214	53.594	..	IX. 158	..	3318
936	75. 23. 37.69	1874.5	4	+16.264	+0.273	+0.02	9.96736	0.14749	1.61557	0.25166	57.555	1366	IX. 160	..	3321
937	32. 17. 7.88	1868.2	2	+16.299	+0.359	0.00	0.16459	0.27579	1.61594	0.25106	32.179	1364	IX. 159	1577	3324
938	26. 9. 32.34	1876.3	6	+16.314	+0.388	..	0.18486	0.28559	1.61610	0.25081	29.364	1363	....	..	3325
939	65. 38. 15.10	1871.5	37	+16.356	+0.282	+0.02	0.01849	0.18653	1.61655	0.25009	51.403	1368	IX. 164	..	3331
940	77. 36. 5.10	1872.8	5	+16.402	+0.265	-0.06	9.95415	0.13850	1.61702	0.24931	59.046	1370	IX. 168	..	3337
941	30. 21. 37.99	1871.4	12	+16.521	+0.354	+0.18	0.16723	0.28121	1.61826	0.24721	31.489	1371	IX. 174	1581	3346
942	49. 46. 25.07	1874.6	3	+16.546	+0.299	-0.03	0.09121	0.23878	1.61853	0.24677	41.849	1374	IX. 177	1582	3352
943	49. 46. 47.64	1876.2	1	+16.622	+0.295	..	0.08987	0.23934	1.61933	0.24539	41.936	..	....	..	..
944	63. 23. 28.86	1871.4	36	+16.698	+0.271	+0.06	0.02539	0.19674	1.62010	0.24399	50.287	1384	IX. 194	..	3371
945	16. 30. 49.01	1871.5	23	+16.766	+0.437	+0.01	0.20485	0.30135	1.62082	0.24271	26.059	..	IX. 187	1586	3376
946	48. 20. 10.09	1874.2	5	+16.906	+0.284	+0.01	0.09114	0.24562	1.62228	0.24003	41.414	1392	IX. 209	1592	3399
947	120. 29. 2.86	1870.3	12	+16.942	+0.200	+0.14	9.74406	9.88731	1.62264	0.23932	83.138	..	....	..	3403
948	76. 56. 43.99	1869.4	8	+16.976	+0.244	+0.01	9.95303	0.14337	1.62300	0.23865	59.101	1395	IX. 216	..	3406
949	59. 44. 33.92	1868.2	2	+17.017	+0.262	+0.13	0.03814	0.21152	1.62343	0.23783	48.367	..	IX. 221	..	3409
950	81. 20. 32.90	1871.9	11	+17.074	+0.236	+0.03	9.92937	0.12322	1.62402	0.23667	61.946	1398	IX. 225	..	3415
951	57. 26. 51.99	1871.0	22	+17.082	+0.262	+0.45	0.04770	0.21967	1.62410	0.23650	47.042	1397	IX. 224	..	3416
952	67. 26. 4.10	1874.3	9	+17.176	+0.246	+0.01	9.99887	0.18431	1.62507	0.23457	53.331	..	IX. 230	..	3423
953	25. 25. 24.91	1873.5	7	+17.355	+0.320	..	0.16625	0.29781	1.62691	0.23072	50.355	..	....	1609	..
954	54. 7. 56.48	1870.3	9	+17.362	+0.252	-0.01	0.05751	0.23229	1.62698	0.23060	45.429	1401	IX. 242	..	3446
955	72. 36. 50.54	1874.5	9	+17.383	+0.231	0.00	9.97077	0.16404	1.62719	0.23010	56.827	1403	IX. 245	..	3453
956	79. 22. 33.14	1868.7	2	+17.416	+0.224	+0.05	9.93692	0.13354	1.62753	0.22937	61.085	1405	IX. 248	..	3457
957	89. 44. 47.92	1869.3	7	+17.428	+0.214	-0.01	9.88553	0.08055	1.62765	0.22911	67.413	1407	IX. 250	..	3458
958	77. 24. 28.89	1872.0	106	+17.435	+0.225	-0.01	9.94665	0.14291	1.62772	0.22894	59.873	1406	IX. 251	..	3459
959	70. 50. 28.05	1869.1	3	+17.460	+0.229	-0.06	9.97850	0.17197	1.62798	0.22840	55.809	1408	....	..	3460
960	48. 42. 37.11	1874.7	4	+17.509	+0.252	-0.03	0.07759	0.24946	1.62847	0.22727	42.507	..	IX. 254	1617	3466

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Caelestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Mediae Stellarum Fixarum in Zonis Regionum* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

{1}

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fra- ction of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
961	33 Leonis.....	7	10. 3. 47.381	1869.1	3	+ 3.2625	- 0.0123	+ 0.005	0.05662	0.09122	1.45121	0.07296	87.188
962	34 Leonis.....	6-7†	10. 4. 45.051	1875.2	5	+ 3.2327	- 0.0109	+ 0.001	0.05683	0.09100	1.45075	0.07389	87.161
963	Bradley 1414.....	6	10. 4. 54.173	1874.7	2	+ 2.9967	- 0.0006	+ 0.011	0.05735	0.09072	1.44711	0.08166	86.895
964	Bradley 1416.....	8	10. 6. 49.111	1874.3	2	+ 3.4691	- 0.0244	- 0.003	0.05336	0.09247	1.45438	0.06566	87.557
965	22 Leonis Minoris	6-7†	10. 7. 44.979	1874.7	2	+ 3.4668	- 0.0245	- 0.007	0.05329	0.09237	1.45434	0.06562	87.573
966	32 Ursæ Majoris.....	6*	10. 8. 42.641	1873.4	11	+ 4.4571	- 0.1156	- 0.016	0.02385	0.10576	1.46919	0.02902	89.620
967	Piazzi X. 23.....	6†	10. 9. 17.590	1869.9	6	+ 3.2785	- 0.0135	+ 0.005	0.05606	0.09083	1.45146	0.07202	87.296
968	33 Ursæ Majoris... λ	3-4*	10. 9. 22.171	1869.3	6	+ 3.6623	- 0.0385	- 0.015	0.04865	0.09437	1.45731	0.05839	87.976
969	36 Leonis..... ζ	3*	10. 9. 34.081	1872.9	3	+ 3.3488	- 0.0175	0.000	0.05512	0.09125	1.45253	0.06954	87.413
970	37 Leonis.....	6-5†	10. 9. 48.362	1871.5	8	+ 3.2306	- 0.0110	- 0.002	0.05652	0.09056	1.45072	0.07367	87.230
971	39 Leonis.....	6	10. 10. 11.888	1875.2	3	+ 3.3434	- 0.0173	- 0.029	0.05514	0.09116	1.45245	0.06966	87.416
972	Bradley 1399.....	5-6	10. 10. (39.)	..	..	+ 9.9506	- 1.6350	- 0.079	9.72736	0.18875	1.54345	9.72951	102.696
973	Piazzi X. 26.....	6*	10. 11. 15.470	1875.6	4	+ 4.6965	- 0.1494	- 0.015	0.01350	0.10942	1.47270	0.01803	90.353
974	22 Sextantis.....	6*	10. 11. 16.152	1875.2	3	+ 2.9925	- 0.0001	- 0.012	0.05698	0.09016	1.44704	0.08197	86.943
975	41 Leonis..... γ ¹	2*	10. 12. 54.749	1871.8	50	+ 3.2972	- 0.0149	+ 0.019	0.05556	0.09064	1.45174	0.07106	87.387
976	W. B. (2) X. 243 ..	9	10. 13. 27.968	1873.3	1	+ 3.6091	- 0.0358	..	0.04922	0.09347	1.45650	0.05942	88.001
977	Bradley 1433.....	6	10. 14. 33.606	1874.6	3	+ 3.6044	- 0.0358	- 0.012	0.04912	0.09334	1.45643	0.05935	88.026
978	34 Ursæ Majoris.... μ	3*	10. 14. 41.740	1870.5	18	+ 3.6087	- 0.0362	- 0.008	0.04899	0.09338	1.45650	0.05916	88.040
979	Bradley 1429.....	5*	10. 14. 52.389	1873.7	6	+ 4.4153	- 0.1178	+ 0.005	0.02192	0.10490	1.46858	0.02709	89.968
980	42 Leonis.....	6†	10. 14. 57.167	1872.3	9	+ 3.2376	- 0.0116	- 0.004	0.05610	0.09012	1.45083	0.07309	87.321
981	Piazzi X. 22.....	5-6	10. 15. 15.295	1875.7	3	+ 8.0254	- 0.9564	- 0.106	9.84144	0.16100	1.51885	9.84364	99.356
982	Piazzi X. 51.....	6-7†	10. 15. 29.103	1876.3	2	+ 3.1719	- 0.0081	- 0.007	0.05663	0.08983	1.44981	0.07551	87.220
983	29 Leonis Minoris	6-7†	10. 18. 21.689	1874.2	3	+ 3.4902	- 0.0283	- 0.009	0.05135	0.09181	1.45470	0.06300	87.885
984	30 Leonis Minoris	5-4*	10. 18. 34.298	1869.3	3	+ 3.4650	- 0.0266	- 0.005	0.05190	0.09153	1.45431	0.06395	87.838
985	42 Hydræ..... μ	4*	10. 19. 54.052	1872.9	17	+ 2.9081	+ 0.0040	- 0.010	0.05580	0.08968	1.44573	0.08549	86.909
986	31 Leonis Minoris... β	4-5*	10. 20. 28.518	1874.2	3	+ 3.5017	- 0.0297	- 0.010	0.05073	0.09177	1.45487	0.06213	87.973
987	35 Ursæ Majoris.....	6	10. 20. 47.077	1873.0	9	+ 4.3487	- 0.1166	- 0.007	0.02100	0.10364	1.46759	0.02623	90.249
988	Antliæ..... α	4*	10. 21. 17.859	1868.9	5	+ 2.7445	+ 0.0097	- 0.005	0.05298	0.09071	1.44318	0.09187	86.766
989	Piazzi X. 83.....	6	10. 21. 57.907	1870.7	8	+ 3.2208	- 0.0111	- 0.001	0.05583	0.08943	1.45057	0.07326	87.395
990	Groombridge 1648..	8-7	10. 22. 13.746	1870.9	3	+ 3.7714	- 0.0533	..	0.04225	0.09498	1.45896	0.05049	88.727
991	Bradley 1456.....	6-7†	10. 22. 14.725	1874.9	3	+ 3.0424	- 0.0016	- 0.009	0.05660	0.08906	1.44782	0.08036	87.097
992	36 Ursæ Majoris.....	5*	10. 22. 25.189	1872.9	10	+ 3.9108	- 0.0672	- 0.013	0.03727	0.09693	1.46106	0.04446	89.121
993	Bradley 1439.....	6	10. 22. 41.727	1876.0	2	+ 6.6101	- 0.5820	- 0.004	9.90587	0.13940	1.49981	9.90840	97.233
994	Bradley 1446.....	5-6	10. 24. 8.905	1871.3	13	+ 5.3116	- 0.2805	- 0.003	9.97383	0.11889	1.48160	9.97719	93.496
995	33 Leonis Minoris	5-4*	10. 24. 35.048	1872.8	2	+ 3.4238	- 0.0249	+ 0.005	0.05203	0.09067	1.45368	0.06459	87.897
996	46 Leonis..... i	6*	10. 25. 21.687	1873.0	9	+ 3.2139	- 0.0108	- 0.002	0.05571	0.08908	1.45046	0.07330	87.434
997	47 Leonis..... p	4*	10. 26. 4.190	1871.2	40	+ 3.1658	- 0.0080	0.000	0.05610	0.08884	1.44972	0.07527	87.348
998	34 Leonis Minoris.....	6*	10. 26. (11.)	..	..	+ 3.4538	- 0.0276	- 0.005	0.05105	0.09084	1.45414	0.06301	88.019
999	37 Ursæ Majoris.....	5*	10. 26. 54.006	1871.9	9	+ 3.9092	- 0.0703	+ 0.012	0.03554	0.09669	1.46103	0.04258	89.369
1000	44 Hydræ.....	6*	10. 27. 55.632	1873.3	1	+ 2.8494	+ 0.0073	- 0.004	0.05435	0.08932	1.44482	0.08854	86.885

1876. DAMM. 386. 78A

1876.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of l'	No. in Bessel's Bradley. 1755.	No. in Piazzi. 1800.	No. in Groom-bridge. 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
961	73. 39. 54.79	1869.1	3	+ 17.531	+ 0.224	+ 0.01	9.96388	0.16012	1.62870	0.22676	57.671	..	IX. 256	..	3469
962	76. 0. 49.56	1875.2	5	+ 17.572	+ 0.220	+ 0.11	9.95207	0.14975	1.62913	0.22581	59.184	1411	X. 3	..	3475
963	96. 41. 13.25	1874.6	3	+ 17.578	+ 0.203	0.00	9.85309	0.04060	1.62919	0.22566	71.597	1414	X. 6	..	3476
964	57. 56. 27.35	1874.3	2	+ 17.658	+ 0.232	..	0.03503	0.22206	1.63000	0.22376	48.172	1416	....	..	3484
965	57. 53. 50.90	1875.2	3	+ 17.697	+ 0.230	0.00	0.03439	0.22244	1.63040	0.22283	48.219	1418	X. 12	..	3490
966	24. 15. 15.17	1873.6	13	+ 17.736	+ 0.296	+ 0.04	0.16053	0.30241	1.63079	0.22187	30.705	1415	X. 9	1625	3496
967	71. 37. 25.10	1869.9	6	+ 17.760	+ 0.215	0.00	9.97067	0.17005	1.63104	0.22128	56.724	..	X. 23	..	3506
968	46. 26. 50.28	1869.3	6	+ 17.762	+ 0.240	+ 0.06	0.08113	0.25774	1.63106	0.22122	41.687	1421	X. 20	1629	3505
969	65. 56. 44.97	1873.4	5	+ 17.771	+ 0.219	- 0.02	9.99682	0.19344	1.63114	0.22101	53.241	1425	X. 25	..	3508
970	75. 38. 2.98	1872.5	10	+ 17.780	+ 0.210	+ 0.02	9.95158	0.15228	1.63125	0.22077	59.236	1426	X. 27	..	3510
971	66. 15. 9.86	1875.5	4	+ 17.796	+ 0.217	+ 0.10	9.99498	0.19239	1.63141	0.22038	53.471	1427	X. 28	..	3511
972	5. 6. 1.39	1876.3	2	+ 17.815	+ 0.659	+ 0.05	0.20917	0.31907	1.63161	0.21989	24.551	1399	IX. 252	1620	3495
973	20. 36. 37.14	1875.4	4	+ 17.839	+ 0.305	+ 0.06	0.16873	0.30803	1.63183	0.21930	29.488	..	X. 26	1632	3514
974	97. 25. 49.67	1875.5	4	+ 17.839	+ 0.192	+ 0.01	9.85163	0.03540	1.63185	0.21928	72.307	1428	X. 33	..	3517
975	69. 30. 42.94	1871.3	43	+ 17.905	+ 0.209	+ 0.15	9.97823	0.17968	1.63251	0.21760	55.662	1432	X. 38	..	3523
976	48. 8. 41.58	1873.3	1	+ 17.927	+ 0.228	..	0.07037	0.25440	1.63273	0.21703	42.972	..	....	..	..
977	48. 7. 17.72	1874.6	3	+ 17.969	+ 0.226	+ 0.01	0.06945	0.25484	1.63316	0.21590	43.045	1433	X. 44	1641	3530
978	47. 51. 27.31	1870.8	15	+ 17.975	+ 0.226	- 0.03	0.07037	0.25563	1.63321	0.21576	42.907	1434	X. 45	1642	3533
979	23. 47. 14.81	1873.5	16	+ 17.981	+ 0.278	+ 0.07	0.15540	0.30545	1.63327	0.21559	31.185	1429	X. 42	1640	3531
980	74. 22. 46.98	1872.2	9	+ 17.984	+ 0.201	+ 0.02	9.95482	0.15879	1.63332	0.21550	58.789	1436	X. 47	..	3534
981	6. 47. 31.40	1875.7	3	+ 17.996	+ 0.509	+ 0.07	0.20052	0.32038	1.63344	0.21517	25.423	..	X. 22	1633	3528
982	80. 23. 32.91	1876.2	1	+ 18.005	+ 0.196	+ 0.11	9.92716	0.13024	1.63357	0.21495	62.494	..	X. 51	..	3538
983	53. 55. 24.87	1874.2	3	+ 18.115	+ 0.211	+ 0.09	0.04218	0.23855	1.63462	0.21195	46.684	1444	X. 62	..	3559
984	55. 33. 9.51	1869.5	9	+ 18.122	+ 0.209	+ 0.08	0.03523	0.23329	1.63469	0.21173	47.654	1445	X. 63	..	3560
985	106. 10. 59.54	1872.1	6	+ 18.172	+ 0.172	+ 0.11	9.82308	9.97655	1.63520	0.21032	77.297	1451	X. 74	..	3568
986	52. 38. 16.20	1874.7	8	+ 18.194	+ 0.207	+ 0.10	0.04548	0.24319	1.63541	0.20970	46.124	1448	X. 72	..	3572
987	23. 43. 11.45	1873.1	9	+ 18.205	+ 0.258	+ 0.02	0.14910	0.30769	1.63554	0.20938	31.652	..	X. 69	1645	3571
988	120. 24. 59.89	1869.6	6	+ 18.223	+ 0.159	+ 0.05	9.78845	9.86919	1.63572	0.20884	83.837	..	X. 82	..	3578
989	75. 0. 11.57	1870.7	8	+ 18.247	+ 0.187	+ 0.04	9.94856	0.15700	1.63596	0.20812	59.638	..	X. 83	..	3579
990	38. 21. 6.62	1870.9	3	+ 18.257	+ 0.220	..	0.09875	0.28194	1.63607	0.20784	38.512	..	....	1648	..
991	93. 5. 17.15	1874.9	3	+ 18.258	+ 0.176	..	9.87186	0.06108	1.63607	0.20782	70.359	1456	....	..	3582
992	33. 21. 50.19	1872.3	9	+ 18.264	+ 0.228	- 0.01	0.11608	0.29239	1.63613	0.20765	36.081	1454	X. 80	1649	3580
993	8. 50. 50.72	1873.1	9	+ 18.274	+ 0.389	0.00	0.18758	0.32230	1.63624	0.20734	26.756	1439	....	1643	3577
994	13. 37. 44.13	1870.9	24	+ 18.326	+ 0.307	0.00	0.17389	0.31975	1.63675	0.20578	28.342	1446	X. 78	1650	3593
995	56. 57. 51.99	1874.4	8	+ 18.341	+ 0.194	- 0.01	0.02395	0.23008	1.63690	0.20532	48.997	1461	X. 93	..	3602
996	75. 12. 23.06	1873.0	9	+ 18.369	+ 0.180	- 0.01	9.94596	0.15654	1.63718	0.20447	59.999	1463	X. 97	..	3606
997	80. 2. 7.39	1871.0	24	+ 18.394	+ 0.176	+ 0.03	9.92516	0.13314	1.63743	0.20371	62.952	1467	X. 102	..	3609
998	54. 21. 10.28	1873.2	2	+ 18.398	+ 0.193	0.00	0.03314	0.23922	1.63747	0.20357	47.624	1465	X. 99	..	3610
999	32. 15. 32.07	1871.6	9	+ 18.423	+ 0.217	+ 0.03	0.11478	0.29596	1.63772	0.20280	36.030	1464	X. 101	1660	3612
1000	113. 5. 7.99	1873.3	1	+ 18.458	+ 0.155	- 0.03	9.81124	9.92384	1.63807	0.20167	80.908	1471	X. 111	..	3620

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Celestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Media Stellarum Fixarum in Zonis Regiomontanis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
1001	35 Leonis Minoris	6*	10. 29. 0°369	1873·1	5	+ 3·4617	-0°0289	+ 0°006	0°05039	0°09071	1°45426	0°06210	88°120
1002	Bradley 1458	6	10. 30. 43°190	1874·1	5	+ 6·3125	-0°5522	+ 0°049	9°90403	0°13465	1°49571	9°90663	98°132
1003	37 Leonis Minoris	5-4*	10. 31. 30°727	1872·3	3	+ 3·3947	-0°0242	0°000	0°05180	0°08984	1°45324	0°06463	88°003
1004	50 Leonis	6*	10. 32. 2°474	1870·2	1	+ 3·2233	-0°0119	+ 0°005	0°05516	0°08852	1°45061	0°07237	87°561
1005	Groombridge 1669 .	6*	10. 32. 39°947	1872·0	5	+ 4·3751	-0°1375	..	0°01132	0°10365	1°46799	0°01611	91°405
1006	38 Ursæ Majoris	5*	10. 33. 11°066	1872·8	5	+ 4·2032	-0°1133	- 0°017	0°01928	0°10090	1°46543	0°02463	90°824
1007	39 Leonis Minoris	6-7	10. 33. 15°684	1873·2	3	+ 3·3370	-0°0201	+ 0°006	0°05297	0°08918	1°45235	0°06700	87°884
1008	Piazzi X. 126	5*	10. 33. 52°115	1875·5	5	+ 4·4020	-0°1437	+ 0°003	0°00895	0°10404	1°46838	0°01364	91°631
1009	Piazzi X. 131	6-7†	10. 35. 0°849	1868·2	1	+ 3·3793	-0°0238	+ 0°001	0°05170	0°08941	1°45300	0°06469	88°055
1010	39 Ursæ Majoris	6*	10. 35. 37°600	1868·2	1	+ 3·8383	-0°0693	+ 0°006	0°03465	0°09521	1°45997	0°04178	89°665
1011	34 Sextantis	6-7†	10. 36. 0°834	1871·5	29	+ 3·1078	-0°0046	- 0°008	0°05598	0°08777	1°44883	0°07750	87°348
1012	Bradley 1485	5*	10. 36. 27°163	1873·5	3	+ 3·2830	-0°0166	- 0°005	0°05381	0°08849	1°45152	0°06910	87°801
1013	42 Leonis Minoris	5*	10. 38. 44°489	1875·2	3	+ 3·3551	-0°0227	- 0°002	0°05185	0°08889	1°45263	0°06518	88°078
1014	52 Leonis	6*	10. 39. 38°404	1871·8	7	+ 3·1941	-0°0104	- 0°011	0°05509	0°08767	1°45016	0°07312	87°610
1015	53 Leonis	5*	10. 42. 31°655	1871·6	30	+ 3·1602	-0°0081	- 0°003	0°05533	0°08726	1°44963	0°07464	87°560
1016	44 Leonis Minoris	6-7†	10. 42. 51°405	1871·2	4	+ 3·3135	-0°0201	- 0°001	0°05243	0°08817	1°45199	0°06656	88°048
1017	42 Ursæ Majoris	6*	10. 43. 19°761	1872·5	7	+ 3·8325	-0°0755	- 0°003	0°03103	0°09475	1°45988	0°03780	90°181
1018	Groombridge 1699 .	7-6	10. 44. 48°523	1869·8	10	+ 3·6491	-0°0544	..	0°03922	0°09199	1°45711	0°04747	89°472
1019	Groombridge 1700 .	6-7	10. 44. 50°529	1869·8	10	+ 3·6476	-0°0542	..	0°03929	0°09197	1°45709	0°04755	89°466
1020	45 Leonis Minoris	6-7	10. 45. 48°047	1869·2	3	+ 3·3036	-0°0199	+ 0°015	0°05233	0°08784	1°45184	0°06656	88°090
1021	46 Leonis Minoris	4*	10. 46. 8°856	1873·1	4	+ 3·3676	-0°0257	+ 0°005	0°05034	0°08839	1°45282	0°06292	88°347
1022	45 Ursæ Majoris ...	5*	10. 46. 36°235	1871·0	14	+ 3·4768	-0°0366	+ 0°002	0°04620	0°08959	1°45449	0°05659	88°815
1023	54 Leonis	4-5*	10. 48. 40°786	1874·0	3	+ 3·2668	-0°0172	- 0°002	0°05297	0°08728	1°45128	0°06812	88°026
1024	W.B. (2) X. 966...	8	10. 48. 41°222	1873·4	1	+ 3·2668	-0°0172	..	0°05297	0°08728	1°45128	0°06812	88°026
1025	Bradley 1508	6*	10. 49. 38°437	1873·9	4	+ 5°0504	-0°3214	- 0°019	9°94576	0°11415	1°47784	9°94893	97°134
1026	47 Ursæ Majoris	5*	10. 52. 17°569	1875·6	3	+ 3·4120	-0°0323	- 0°028	0°04740	0°08840	1°45350	0°05856	88°770
1027	58 Leonis	5*	10. 53. 56°970	1871·8	18	+ 3·1008	-0°0038	- 0°002	0°05534	0°08601	1°44872	0°07744	87°527
1028	Bradley 1521	7	10. 53. 57°333	1868·3	1	+ 4°6112	-0°2346	- 0°022	9°97002	0°10689	1°47146	9°97363	95°631
1029	48 Ursæ Majoris ...	2-3*	10. 54. 6°141	1871·8	20	+ 3·6576	-0°0630	+ 0°010	0°03439	0°09159	1°45724	0°04190	90°149
1030	59 Leonis	5*	10. 54. 6°716	1868·6	2	+ 3·1173	-0°0052	- 0°005	0°05523	0°08602	1°44897	0°07642	87°584
1031	60 Leonis	4-5*	10. 55. 29°672	1874·7	3	+ 3·2137	-0°0136	- 0°001	0°05365	0°08629	1°45046	0°07025	87°973
1032	50 Ursæ Majoris ...	2*	10. 55. 48°480	1871·9	66	+ 3·7805	-0°0822	- 0°017	0°02594	0°09337	1°45910	0°03233	90°996
1033	W.B. (2) X. 1112..	7-8	10. 56. 20°168	1873·3	4	+ 3·3468	-0°0270	- 0°045	0°04918	0°08736	1°45250	0°06145	88°616
1034	51 Ursæ Majoris	6*	10. 57. (23.)	..	..	+ 3·3635	-0°0293	- 0°003	0°04824	0°08747	1°45276	0°06000	88°745
1035	Lalande (F.) 1729..	8	10. 57. (33.)	..	..	+ 15°4485	-8°9699	..	‡..	..	..	..	..
1036	63 Leonis	5*	10. 58. 24°799	1870·5	20	+ 3·1223	-0°0056	- 0°024	0°05503	0°08560	1°44905	0°07588	87°656
1037	W.B. (2) X. 1174..	8-9	10. 59. 6°744	1868·7	3	+ 3·4133	-0°0358	- 0°400	0°04544	0°08793	1°45352	0°05594	89°100
1038	Lalande 21272	6	10. 59. 56°803	1873·7	4	+ 3·1876	-0°0117	..	0°05390	0°08572	1°45006	0°07134	87°954
1039	67 Leonis	6*	11. 1. 56°839	1874·3	4	+ 3·2309	-0°0164	+ 0°003	0°05253	0°08583	1°45072	0°06797	88°211
1040	Piazzi X. 252	6*	11. 2. 16°458	1868·2	4	+ 3·3233	-0°0267	+ 0°009	0°04890	0°08665	1°45214	0°06121	88°728

1033, 1037. The adopted proper motion is taken from the Bonn Observations, Vol. VII., p. 111.

1034. The magnitude is taken from Fedorenko's Lalande.

‡ For No. 1035, log. e = -0°00408, log. f = 0°25945, log. g = 1°60690, log. h = -0°00366, l = 166°475.

18789 DAMM. 386. 78A	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of μ	No. in Bessel's Bradley, 1755.	No. in Piazzi, 1800.	No. in Groombridge, 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
1001	53. 0. 36.64	1873.6	9	+18.494	+0.187	+0.02	0.03583	0.24423	1.63844	0.20050	47.117	1470	X. 114	..	3625
1002	8. 54. 23.44	1873.9	8	+18.552	+0.342	0.00	0.17840	0.32509	1.63901	0.19860	27.693	1458	....	1662	3629
1003	57. 21. 34.15	1872.7	5	+18.578	+0.178	-0.01	0.01607	0.23034	1.63927	0.19771	49.859	1475	X. 121	..	3640
1004	73. 12. 24.59	1870.2	1	+18.595	+0.168	+0.02	9.95075	0.16673	1.63944	0.19714	59.204	1478	X. 125	..	3643
1005	20. 53. 20.68	1871.8	5	+18.616	+0.229	..	0.14389	0.31540	1.63965	0.19643	31.859	..	....	1669	3645
1006	23. 36. 49.54	1872.0	6	+18.632	+0.219	+0.10	0.13513	0.31203	1.63982	0.19585	32.986	1476	X. 124	1672	3647
1007	61. 48. 30.52	1874.1	7	+18.635	+0.172	0.00	9.99651	0.21454	1.63985	0.19576	52.626	1480	X. 129	..	3650
1008	20. 15. 18.34	1875.0	9	+18.655	+0.228	+0.05	0.14433	0.31654	1.64004	0.19508	31.762	..	X. 126	1673	3652
1009	57. 38. 2.38	1868.2	1	+18.691	+0.171	-0.02	0.01178	0.23018	1.64040	0.19379	50.348	..	X. 131	..	3661
1010	32. 7. 45.71	1868.2	1	+18.711	+0.193	+0.07	0.10514	0.29887	1.64059	0.19308	36.950	1481	X. 133	1677	3664
1011	85. 44. 54.84	1871.3	9	+18.723	+0.154	-0.01	9.89977	0.10352	1.64071	0.19266	66.996	1484	X. 138	..	3667
1012	66. 8. 32.21	1872.8	11	+18.736	+0.163	+0.01	9.97649	0.19804	1.64084	0.19216	55.475	1485	X. 139	..	3671
1013	58. 38. 38.36	1873.9	3	+18.807	+0.162	+0.03	0.00436	0.22735	1.64153	0.18955	51.301	1490	X. 145	..	3685
1014	75. 7. 47.73	1871.8	7	+18.834	+0.152	+0.08	9.93887	0.15865	1.64181	0.18851	61.069	1494	X. 152	..	3693
1015	78. 46. 40.68	1872.1	26	+18.920	+0.145	+0.02	9.92371	0.14098	1.64265	0.18515	63.445	1500	X. 162	..	3708
1016	61. 21. 2.90	1871.6	6	+18.929	+0.152	-0.03	9.99016	0.21816	1.64274	0.18478	53.273	1501	X. 164	..	3710
1017	30. 0. 2.70	1872.9	17	+18.943	+0.175	+0.06	0.10291	0.30492	1.64289	0.18421	36.925	1498	X. 161	1694	3714
1018	36. 45. 18.10	1869.8	10	+18.985	+0.163	..	0.07867	0.29192	1.64330	0.18249	40.233	..	....	1699	..
1019	36. 48. 57.60	1869.8	10	+18.985	+0.163	..	0.07842	0.29179	1.64331	0.18246	40.267	..	....	1700	..
1020	61. 27. 22.85	1869.2	3	+19.013	+0.145	+0.10	9.98717	0.21830	1.64358	0.18131	53.629	..	X. 180	..	3727
1021	55. 5. 44.05	1872.2	22	+19.022	+0.147	+0.25	0.01085	0.24123	1.64367	0.18090	50.053	1509	X. 181	..	3728
1022	46. 7. 44.84	1871.0	14	+19.035	+0.152	+0.06	0.04352	0.26899	1.64380	0.18036	45.207	1510	X. 182	1703	3729
1023	64. 34. 4.83	1873.4	20	+19.091	+0.138	0.00	9.97294	0.20651	1.64435	0.17787	55.725	1515	X. 190	..	3742
1024	64. 34. 6.70	1873.4	1	+19.091	+0.138	..	9.97294	0.20651	1.64435	0.17787	55.725	..	....	..	..
1025	11. 32. 41.62	1873.5	12	+19.117	+0.214	+0.04	0.14897	0.32918	1.64460	0.17674	30.925	1508	....	1706	3747
1026	48. 53. 11.36	1875.6	3	+19.185	+0.137	-0.06	0.02719	0.26224	1.64527	0.17353	47.355	1522	X. 202	1718	3757
1027	85. 41. 44.19	1873.3	8	+19.227	+0.120	+0.03	9.89686	0.10445	1.64570	0.17150	68.307	1526	X. 210	..	3768
1028	13. 52. 10.96	1868.3	1	+19.227	+0.183	-0.01	0.13732	0.32855	1.64570	0.17150	32.251	1521	....	1720	3764
1029	32. 55. 54.61	1871.7	20	+19.231	+0.143	-0.03	0.07994	0.30208	1.64573	0.17131	39.657	1523	X. 207	1726	3767
1030	83. 12. 42.42	1868.6	2	+19.231	+0.121	+0.06	9.90450	0.11835	1.64573	0.17129	66.937	1527	X. 211	..	3769
1031	69. 8. 2.49	1873.6	3	+19.265	+0.122	-0.03	9.95109	0.18814	1.64606	0.16960	59.045	1529	X. 219	..	3776
1032	27. 33. 30.15	1871.7	103	+19.273	+0.144	+0.09	0.09493	0.31216	1.64614	0.16923	37.553	1528	X. 217	1729	3777
1033	53. 10. 21.90	1873.3	4	+19.285	+0.126	+4.72	0.00736	0.24957	1.64626	0.16857	50.160	..	....	..	..
1034	51. 4. 9.70	1871.3	2	+19.311	+0.124	+0.06	0.01368	0.25651	1.64652	0.16725	49.154	1532	X. 226	1733	3784
1035	1. 39. 54.76	1868.2	1	+19.314	+0.598	..	0.16328	0.33500	1.64655	0.16706	29.614	..	....	..	..
1036	81. 58. 20.42	1871.4	19	+19.335	+0.113	+0.08	9.90714	0.12540	1.64674	0.16598	66.604	1535	X. 236	..	3788
1037	45. 48. 58.33	1868.7	3	+19.351	+0.122	-0.94	0.03011	0.27242	1.64690	0.16511	46.607	..	....	..	..
1038	71. 34. 14.47	1873.7	4	+19.370	+0.112	..	9.93962	0.17766	1.64709	0.16406	60.889	..	....	..	..
1039	64. 38. 56.66	1873.5	13	+19.415	+0.110	+0.01	9.96152	0.20802	1.64753	0.16154	57.196	1541	X. 249	..	3809
1040	52. 59. 49.07	1868.2	4	+19.421	+0.112	+0.02	0.00152	0.25111	1.64759	0.16115	50.803	..	X. 252	..	3811

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Coelestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weiss's two Catalogues, *Positiones Medie Stellarum Fixarum in Zonis Regiomontanis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichniss* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

CATALOGUE OF THE MEAN PLACES OF STARS FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
1041	52 Ursæ Majoris .. ψ	3*	11. 2. 27.513	1872.0	18	+ 3.4066	-0.0369	-0.007	0.04468	0.08760	1.45342	[0.05498	89.242
1042	Piazzi X. 254.....	6-7†	11. 2. 28.027	1868.5	5	+ 3.3918	-0.0350	-0.005	0.04547	0.08742	1.45319	0.05608	89.150
1043	66 Leonis..... p^4	6-7†	11. 2. 41.576	1875.3	3	+ 3.0685	-0.0009	+0.004	0.05515	0.08512	1.44822	0.07944	87.502
1044	Oeltz. Arg. (N) 11509	6-7	11. 3. 58.896	1875.7	4	+ 3.9138	-0.1182	..	0.00851	0.09515	1.46111	0.01359	92.889
1045	Groombridge 1746	6-7†	11. 5. 16.836	1868.3	2	+ 3.5338	-0.0564	..	0.03559	0.08916	1.45536	0.04354	90.292
1046	68 Leonis	2-3*	11. 7. 17.887	1871.7	64	+ 3.1905	-0.0132	+0.011	0.05322	0.08504	1.45010	0.06996	88.136
1047	Piazzi XI. 12.....	6*	11. 7. 22.711	1873.2	7	+ 3.1191	-0.0056	+0.008	0.05473	0.08470	1.44900	0.07554	87.765
1048	70 Leonis	3-4*	11. 7. 31.292	1874.2	4	+ 3.1600	-0.0099	-0.005	0.05401	0.08484	1.44963	0.07233	87.974
1049	73 Leonis	6*	11. 9. 10.037	1869.5	3	+ 3.1456	-0.0085	-0.001	0.05422	0.08462	1.44941	0.07327	87.930
1050	Piazzi XI. 22.....	6	11. 9. 16.547	1873.2	5	+ 3.1429	-0.0083	+0.001	0.05428	0.08460	1.44937	0.07348	87.915
1051	75 Leonis.....	6*	11. 10. 42.131	1876.3	3	+ 3.0857	-0.0022	+0.005	0.05492	0.08432	1.44849	0.07806	87.647
1052	53 Ursæ Majoris.. ξ^1	4-3*	11. 11. 20.993	1870.6	5	+ 3.2499	-0.0214	-0.037	0.05036	0.08515	1.45102	0.06404	88.639
1053	53 Ursæ Majoris.. ξ^2		11. 11. 21.190	1869.2	4	+ 3.2499	-0.0214	-0.037	0.05036	0.08515	1.45102	0.06404	88.639
1054	54 Ursæ Majoris.. ν		11. 11. 33.681	1874.4	2	+ 3.2599	-0.0228	+0.001	0.04983	0.08523	1.45117	0.06310	88.719
1055	12 Crateris	3-4*	11. 12. 56.548	1872.3	22	+ 3.0038	+0.0063	-0.009	0.05412	0.08422	1.44722	0.08507	87.317
1056	Piazzi XI. 41.....	7	11. 14. 23.205	1871.3	8	+ 3.0980	-0.0035	+0.010	0.05474	0.08394	1.44868	0.07687	87.752
1057	77 Leonis	4*	11. 14. 32.135	1871.3	42	+ 3.1033	-0.0042	-0.009	0.05468	0.08393	1.44876	0.07638	87.785
1058	Piazzi XI. 43.....	6*	11. 15. 13.765	1874.2	7	+ 3.6295	-0.0866	-0.003	0.01915	0.09014	1.45681	0.02512	92.262
1059	71 Leonis.....	6	11. 15. 46.892	1873.6	3	+ 3.1562	-0.0107	..	0.05352	0.08403	1.44957	0.07137	88.132
1060	78 Leonis	4*	11. 17. 15.044	1872.6	9	+ 3.1214	-0.0065	+0.007	0.05432	0.08372	1.44904	0.07445	87.933
1061	81 Leonis.....	6*	11. 18. 55.810	1874.5	4	+ 3.1458	-0.0099	-0.005	0.05359	0.08366	1.44941	0.07179	88.137
1062	84 Leonis	5*	11. 21. 21.260	1872.2	23	+ 3.0862	-0.0021	-0.001	0.05467	0.08322	1.44849	0.07770	87.765
1063	Piazzi XI. 74	6-7†	11. 21. 44.684	1874.7	6	+ 3.4984	-0.0726	-0.017	0.002440	0.08777	1.45482	0.03096	91.911
1064	Groombridge 1782	6	11. 22. 42.718	1875.2	4	+ 4.5807	-0.4080	..	9.86740	0.10585	1.47101	9.87016	105.641
1065	1 Draconis	3-4*	11. 23. 46.663	1871.7	22	+ 3.6514	-0.1122	-0.009	0.00312	0.09016	1.45714	0.00808	94.202
1066	86 Leonis.....	6*	11. 23. 48.166	1874.3	3	+ 3.1451	-0.0109	-0.001	0.05320	0.08318	1.44940	0.07084	88.260
1067	Groombridge 1797	6*	11. 25. 4.713	1874.3	8	+ 3.4505	-0.0687	..	0.02554	0.08679	1.45403	[0.03228	91.891
1068	88 Leonis.....	6*	11. 25. 8.292	1874.0	3	+ 3.1268	-0.0083	-0.022	0.05375	0.08295	1.44912	0.07271	88.137
1069	Lalande (F) 1875.	7-8	11. 25. 31.894	1868.7	5	+ 6.1862	-1.3925	..	9.23590	0.13213	1.49396	9.24124	130.026
1070	Bradley 1580.....	4*	11. 26. 42.630	1868.9	7	+ 2.9553	+0.0166	-0.016	0.05036	0.08324	1.44646	0.09338	87.101
1071	89 Leonis.....	6*	11. 27. 48.868	1875.7	2	+ 3.0845	-0.0019	-0.012	0.05455	0.08255	1.44847	0.07761	87.826
1072	20 Crateris	6	11. 28. 16.516	1871.2	1	+ 2.9563	+0.0174	-0.057	0.05000	0.08309	1.44648	0.09394	87.095
1073	2 Draconis.....	6-5†	11. 28. 31.016	1873.5	10	+ 3.5762	-0.1082	+0.016	0.00286	0.08875	1.45600	0.00785	94.420
1074	Piazzi XI. 111....	6*	11. 29. 33.551	1873.8	2	+ 3.1683	-0.0169	-0.001	0.05108	0.08281	1.44976	0.06601	88.722
1075	Groombridge 1804	6	11. 30. 13.599	1875.5	6	+ 3.4106	-0.0705	..	0.02321	0.08599	1.45348	0.02972	92.290
1076	91 Leonis	5-4*	11. 30. 23.692	1872.8	33	+ 3.0718	+0.0003	-0.003	0.05457	0.08228	1.44827	0.07923	87.749
1077	60 Ursæ Majoris.....	6†	11. 31. 40.666	1874.4	4	+ 3.2523	-0.0360	+0.001	0.04217	0.08356	1.45105	0.05218	90.053
1078	1 Virginis	6*	11. 31. 51.561	1873.3	1	+ 3.0977	-0.0044	-0.002	0.05425	0.08216	1.44867	0.07544	88.008
1079	Bradley 1594.....	5-6	11. 33. 51.588	1868.6	3	+ 2.9695	+0.0192	-0.008	0.04925	0.08248	1.44668	0.09507	87.088
1080	92 Leonis	5*	11. 34. 7.607	1872.9	3	+ 3.1332	-0.0121	-0.002	0.05251	0.08210	1.44922	0.06935	88.496

1052, 1053. In Struve's *Mensuræ Micrometricæ* the magnitudes of the two components of ξ Ursæ Majoris are 4.0 and 5.0 respectively.

18783 DAMM. 386. 78A

No.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of μ	No. in Bessel's Bradley, 1755.	No. in Piazzini, 1800.	No. in Groombridge, 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
1041	44. 48. 26.21	1871.7	13	+ 19.426	+ 0.115	+ 0.08	0.02963	0.27585	1.64764	0.16089	46.531	1542	X. 253	..	3812
1042	46. 5. 55.51	1868.5	5	+ 19.426	+ 0.115	- 0.04	0.02514	0.27223	1.64764	0.16089	47.196	..	X. 254	1742	3813
1043	90. 38. 23.44	1875.3	3	+ 19.431	+ 0.102	+ 0.05	9.88275	0.07528	1.64769	0.16060	71.679	1543	X. 255	..	3816
1044	21. 2. 2.29	1874.2	16	+ 19.458	+ 0.130	..	0.10387	0.32336	1.64795	0.15899	36.204	..	....	..	..
1045	34. 24. 35.25	1868.3	2	+ 19.486	+ 0.114	..	0.06066	0.30137	1.64822	0.15730	41.917	..	....	1746	3825
1046	68. 46. 31.11	1872.0	74	+ 19.527	+ 0.098	+ 0.14	9.94340	0.19100	1.64862	0.15471	60.113	1546	XI. 10	..	3834
1047	81. 14. 20.81	1873.2	7	+ 19.528	+ 0.095	+ 0.12	9.90628	0.12983	1.64863	0.15460	67.017	..	XI. 12	..	3837
1048	73. 52. 15.70	1874.4	11	+ 19.531	+ 0.096	+ 0.06	9.92752	0.16750	1.64866	0.15443	62.963	1548	XI. 13	..	3838
1049	75. 59. 40.57	1869.5	3	+ 19.563	+ 0.093	+ 0.04	9.92023	0.15715	1.64898	0.15228	64.318	1550	XI. 20	..	3843
1050	76. 27. 20.28	1873.2	5	+ 19.565	+ 0.092	0.00	9.91887	0.15491	1.64899	0.15216	64.577	..	XI. 22	..	3845
1051	87. 17. 8.54	1876.2	5	+ 19.592	+ 0.088	+ 0.19	9.89025	0.09563	1.64926	0.15028	70.576	1552	XI. 24	..	3850
1052	57. 45. 3.53	1870.4	6	+ 19.604	+ 0.092	+ 0.59	9.97562	0.23594	1.64938	0.14943	54.531	1553	XI. 28	..	3851
1053	57. 45. 2.31	1869.2	4	+ 19.604	+ 0.092	+ 0.59	9.97562	0.23594	1.64938	0.14943	54.531	1553	XI. 28	..	3851
1054	56. 12. 27.36	1874.9	7	+ 19.608	+ 0.091	- 0.05	9.98050	0.24153	1.64942	0.14915	53.722	1554	XI. 29	..	3852
1055	104. 5. 8.91	1872.7	8	+ 19.633	+ 0.081	- 0.18	9.86303	9.98308	1.64967	0.14732	79.059	1557	XI. 38	..	3859
1056	84. 25. 3.85	1871.3	9	+ 19.658	+ 0.081	+ 0.06	9.89620	0.11239	1.64991	0.14542	69.397	..	XI. 41	..	3861
1057	83. 16. 9.88	1871.2	39	+ 19.661	+ 0.081	+ 0.03	9.89883	0.11891	1.64993	0.14522	68.800	1558	XI. 42	..	3862
1058	24. 58. 9.61	1872.1	23	+ 19.673	+ 0.094	+ 0.06	0.07660	0.32000	1.65005	0.14429	39.485	..	XI. 43	1771	3864
1059	71. 51. 39.29	1874.1	13	+ 19.682	+ 0.080	..	9.92804	0.17767	1.65013	0.14356	62.767	..	....	..	3869
1060	78. 45. 57.09	1872.5	8	+ 19.707	+ 0.076	+ 0.07	9.90881	0.14346	1.65037	0.14159	66.665	1560	XI. 54	..	3877
1061	72. 50. 24.92	1874.1	9	+ 19.733	+ 0.073	+ 0.01	9.92324	0.17331	1.65063	0.13932	63.653	1565	XI. 64	..	3886
1062	86. 26. 19.70	1872.3	13	+ 19.770	+ 0.067	+ 0.02	9.89059	0.10083	1.65099	0.13604	71.111	1570	XI. 76	..	3900
1063	27. 31. 31.68	1873.5	13	+ 19.776	+ 0.076	- 0.13	0.05945	0.31690	1.65105	0.13549	41.611	..	XI. 74	1783	3904
1064	8. 10. 7.13	1874.9	3	+ 19.790	+ 0.100	..	0.17351	0.33782	1.65118	0.13416	35.314	..	....	1782	3906
1065	19. 57. 45.75	1871.3	44	+ 19.805	+ 0.075	+ 0.06	0.07907	0.32801	1.65132	0.13270	39.101	1572	XI. 86	1790	3914
1066	70. 53. 7.64	1874.7	13	+ 19.805	+ 0.064	- 0.01	9.92505	0.18282	1.65132	0.13267	63.178	1575	XI. 88	..	3915
1067	28. 12. 32.30	1874.5	9	+ 19.822	+ 0.068	..	0.05258	0.31617	1.65150	0.13091	42.425	..	....	1797	3918
1068	74. 55. 21.20	1874.0	3	+ 19.823	+ 0.061	+ 0.19	9.91408	0.16352	1.65150	0.13084	65.479	1577	XI. 93	..	3919
1069	3. 40. 35.40	1868.8	4	+ 19.828	+ 0.126	..	0.12103	0.33980	1.65156	0.13020	34.760	..	....	..	..
1070	121. 8. 55.26	1868.9	7	+ 19.844	+ 0.054	+ 0.03	9.87726	9.83769	1.65170	0.12863	86.520	1580	XI. 103	..	3928
1071	86. 13. 43.92	1875.9	3	+ 19.857	+ 0.055	+ 0.11	9.88997	0.10210	1.65184	0.12709	71.640	1582	XI. 106	..	3930
1072	122. 9. 6.51	1871.2	1	+ 19.863	+ 0.051	- 0.82	9.88036	9.82799	1.65189	0.12644	86.911	1584	XI. 110	..	3934
1073	19. 57. 54.41	1873.6	13	+ 19.866	+ 0.063	+ 0.10	0.07207	0.32860	1.65191	0.12611	39.949	1581	XI. 107	1802	3933
1074	61. 30. 40.63	1873.0	10	+ 19.878	+ 0.053	+ 0.05	9.94532	0.22342	1.65204	0.12463	58.974	..	XI. 111	..	3937
1075	27. 5. 44.57	1875.5	6	+ 19.886	+ 0.056	..	0.04829	0.31863	1.65211	0.12369	42.889	..	....	1804	3942
1076	90. 7. 1.14	1872.3	11	+ 19.887	+ 0.049	- 0.03	9.88412	0.07845	1.65212	0.12346	73.820	1586	XI. 116	..	3946
1077	42. 27. 21.90	1874.4	4	+ 19.901	+ 0.050	+ 0.05	9.99913	0.28606	1.65226	0.12164	49.781	1589	XI. 123]	1811	3953
1078	81. 9. 25.81	1873.3	1	+ 19.904	+ 0.047	+ 0.03	9.89768	0.13120	1.65229	0.12138	69.483	1590	XI. 125	..	3954
1079	124. 2. 2.13	1868.6	3	+ 19.924	+ 0.041	- 0.02	9.89025	9.80886	1.65248	0.11853	87.729	1594	XI. 133	..	3963
1080	67. 56. 11.05	1874.2	5	+ 19.927	+ 0.043	- 0.01	9.92438	0.19681	1.65251	0.11814	62.933	1592	XI. 134	..	3964

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Caelstis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 3377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzini's Catalogue (1814); from Weisse's two Catalogues, *Positiones Mediae Stellarum Fixarum in Zonis Regionum* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fra- ction of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B. A. C.	Logarithms of				Value of l
									e	f	g	h	
1081	61 Ursæ Majoris.....	5*	11. 34. 18.335	1870.3	3	+ 3.1767	-0.0217	0.000	0.04891	0.08246	1.44989	0.06212	89.137
1082	3 Draconis.....	5-6*	11. 35. 18.706	1873.3	7	+ 3.4186	-0.0873	-0.007	0.01164	0.08591	1.45360	0.01719	93.742
1083	Piazzi XI. 144.....	7	11. 35. 34.518	1871.3	8	+ 3.0858	-0.0024	-0.025	0.05438	0.08176	1.44849	0.07689	87.941
1084	Piazzi XI. 146.....	6-7†	11. 36. 50.245	1874.0	4	+ 3.1955	-0.0288	+0.001	0.04537	0.08247	1.45018	0.05665	89.701
1085	2 Virginis.....	5-4*	11. 38. 41.126	1871.8	3	+ 3.0918	-0.0041	+0.002	0.05415	0.08145	1.44858	0.07538	88.074
1086	3 Virginis.....	4-5*	11. 39. 16.783	1870.4	15	+ 3.0875	-0.0031	+0.001	0.05426	0.08137	1.44851	0.07611	88.027
1087	63 Ursæ Majoris... X	4*	11. 39. 17.018	1871.3	20	+ 3.2086	-0.0359	-0.013	0.04133	0.08245	1.45038	0.05115	90.302
1088	Groombridge 1826..	7-6	11. 40. 12.313	1875.9	3	+ 3.2902	-0.0636	..	0.02448	0.08361	1.45164	0.03120	92.433
1089	4 Virginis..... A ¹	6*	11. 41. 20.286	1870.2	1	+ 3.0893	-0.0039	-0.005	0.05412	0.08116	1.44854	0.07538	88.099
1090	94 Leonis..... B	2*	11. 42. 31.757	1872.3	77	+ 3.1000	-0.0074	-0.036	0.05349	0.08108	1.44871	0.07256	88.326
1091	B. F. 1656.....	6	11. 42. 33.437	1871.2	10	+ 3.0827	-0.0022	..	0.05430	0.08102	1.44844	0.07669	88.016
1092	5 Virginis..... B	3-4*	11. 44. 1.655	1873.1	28	+ 3.0762	-0.0003	+0.048	0.05439	0.08086	1.44834	0.07814	87.930
1093	B. A. C. 4005.....	6*	11. 44. 21.070	1874.0	4	+ 3.0932	-0.0060	..	0.05375	0.08087	1.44860	0.07360	88.260
1094	Groombridge 1830..	6-7	11. 45. 35.680	1872.7	26	+ 3.1393	-0.0238	+0.346	0.04721	0.08112	1.44931	0.05949	89.558
1095	28 Crateris.....	4*	11. 46. 26.796	1869.5	4	+ 3.0205	+0.0200	-0.008	0.04941	0.08088	1.44748	0.09467	87.156
1096	Piazzi XI. 175.....	5-6	11. 46. 59.326	1869.3	2	+ 3.0204	+0.0209	-0.027	0.04898	0.08083	1.44747	0.09535	87.139
1097	64 Ursæ Majoris... γ	2-3*	11. 47. 5.247	1871.6	55	+ 3.1774	-0.0434	+0.011	0.03569	0.08151	1.44990	0.04416	91.209
1098	Piazzi XI. 180.....	7	11. 47. 30.593	1871.3	5	+ 3.0793	-0.0017	+0.017	0.05428	0.08050	1.44839	0.07682	88.049
1099	95 Leonis..... o	6*	11. 49. 5.498	1874.6	3	+ 3.0909	-0.0076	0.000	0.05331	0.08038	1.44857	0.07204	88.432
1100	66 Ursæ Majoris.....	6*	11. 49. 16.621	1868.3	2	+ 3.1696	-0.0482	+0.003	0.03209	0.08126	1.44978	0.03989	91.731
1101	Groombridge 1838..	6*	11. 50. 11.379	1876.1	5	+ 3.1811	-0.0595	..	0.02402	0.08140	1.44996	0.03072	92.775
1102	Bradley 1616.....	7	11. 51. 40.267	1871.2	3	+ 3.0758	-0.0008	+0.004	0.05431	0.08006	1.44833	0.07740	88.041
1103	Piazzi XI. 207.....	6-7†	11. 52. 30.557	1874.8	4	+ 3.0731	+0.0008	-0.017	0.05436	0.07998	1.44829	0.07866	87.960
1104	7 Virginis..... b	6*	11. 53. 23.531	1874.2	2	+ 3.0751	-0.0008	-0.002	0.05430	0.07988	1.44832	0.07733	88.060
1105	Groombridge 1845..	6	11. 53. 34.307	1871.5	7	+ 3.3253	-0.2331	..	9.87251	0.08378	1.45217	9.87536	108.287
1106	8 Virginis..... π	4-5*	11. 54. 18.798	1871.9	53	+ 3.0765	-0.0023	0.000	0.05415	0.07979	1.44834	0.07607	88.161
1107	1 Comæ.....	6-7†	11. 55. 10.853	1869.7	5	+ 3.0840	-0.0110	-0.004	0.05219	0.07973	1.44846	0.06893	88.769
1108	Piazzi XI. 227.....	7	11. 58. 9.862	1872.5	8	+ 3.0730	-0.0004	+0.011	0.05429	0.07938	1.44829	0.07737	88.094
1109	Groombridge 1850..	6	11. 58. 15.243	1872.6	2	+ 3.2284	-0.5065	..	9.22562	0.08199	1.45068	9.23109	137.473
1110	9 Virginis..... o	4*	11. 58. 41.305	1872.3	23	+ 3.0735	-0.0032	-0.013	0.05401	0.07933	1.44830	0.07515	88.268
1111	Groombridge 1853..	6*	11. 59. 10.800	1874.4	4	+ 3.0818	-0.0588	..	0.02111	0.07938	1.44842	0.02752	93.408
1112	10 Virginis.....	6*	12. 3. 7.804	1874.2	15	+ 3.0714	+0.0007	+0.001	0.05434	0.07885	1.44826	0.07808	88.082
1113	11 Virginis.....	6*	12. 3. 31.978	1869.1	6	+ 3.0698	-0.0013	-0.008	0.05420	0.07881	1.44824	0.07642	88.209
1114	2 Corvi..... ε	3*	12. 3. 32.660	1871.1	22	+ 3.0805	+0.0142	-0.005	0.05237	0.07878	1.44840	0.08878	87.458
1115	3 Comæ.....	6-7†	12. 4. 0.034	1873.3	3	+ 3.0648	-0.0073	+0.005	0.05312	0.07874	1.44816	0.07150	88.625
1116	Piazzi XII. 3.....	6-7†	12. 4. 15.974	1868.2	1	+ 3.0590	-0.0136	+0.015	0.05097	0.07867	1.44807	0.06617	89.136
1117	Piazzi XII. 6.....	6-7	12. 5. 7.348	1873.5	5	+ 3.0697	-0.0003	-0.005	0.05428	0.07865	1.44824	0.07717	88.164
1118	Groombridge 1858..	6	12. 5. 11.503	1871.2	3	+ 2.8449	-0.1891	..	9.84161	0.07503	1.44475	9.84436	112.041
1119	68 Ursæ Majoris.....	6	12. 5. 21.407	1874.4	6	+ 3.0227	-0.0436	-0.001	0.03142	0.07813	1.44751	0.03913	92.213
1120	4 Comæ.....	6*	12. 5. 21.417	1874.8	4	+ 3.0566	-0.0126	-0.004	0.05134	0.07855	1.44803	0.06694	89.074

1094. The adopted proper motion is taken from the Bonn Observations, Vol. VII., p. 111.

18782DAMM...386...78A	Mean North Polar Distance 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of	No. in Bessel's Bradley. 1755.	No. in Piazzi. 1800.	No. in Groombridge. 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
1081	55. 4. 31.40	1870.4	15	+19.928	+0.043	+0.41	9.95823	0.24768	1.65253	0.11789	56.358	1593	XI. 135	..	3965
1082	22. 32. 48.07	1872.8	15	+19.938	+0.045	-0.06	0.05419	0.32596	1.65262	0.11647	42.105	1595	XI. 139	1819	3968
1083	84. 32. 38.01	1871.3	8	+19.941	+0.039	-0.01	9.89104	0.11208	1.65265	0.11606	71.597	..	XI. 144	..	3971
1084	47. 34. 2.13	1873.7	4	+19.952	+0.038	0.00	9.97676	0.27213	1.65276	0.11424	53.054	..	XI. 146	1821	3973
1085	81. 1. 49.29	1871.8	3	+19.968	+0.033	+0.02	9.89537	0.13201	1.65291	0.11155	70.186	1599	XI. 151	..	3979
1086	82. 45. 11.74	1870.4	15	+19.972	+0.032	+0.21	9.89265	0.12244	1.65295	0.11068	71.108	1601	XI. 153	..	3982
1087	41. 30. 38.99	1870.8	16	+19.972	+0.034	-0.02	9.99123	0.28907	1.65295	0.11068	50.633	1600	XI. 152	1823	3981
1088	27. 53. 9.38	1873.8	8	+19.980	+0.033	..	0.03076	0.31819	1.65302	0.10933	45.016	..	....	1826	..
1089	81. 2. 35.38	1870.2	1	+19.988	+0.028	0.00	9.89437	0.13196	1.65310	0.10767	70.500	1602	XI. 158	..	3989
1090	74. 42. 44.58	1872.2	48	+19.996	+0.026	+0.10	9.90390	0.16519	1.65318	0.10590	67.491	1605	XI. 163	..	3995
1091	84. 5. 58.65	1871.3	10	+19.996	+0.026	..	9.88997	0.11478	1.65318	0.10587	72.134	..	....	..	3996
1092	87. 30. 49.76	1872.8	21	+20.006	+0.023	+0.28	9.88621	0.09455	1.65327	0.10367	73.933	1606	XI. 166	..	4002
1093	77. 0. 36.61	1874.1	5	+20.007	+0.022	..	9.89900	0.15355	1.65329	0.10320	68.867	..	....	..	4005
1094	51. 21. 47.05	1872.3	31	+20.015	+0.020	+5.78	9.95439	0.26081	1.65336	0.10134	56.324	..	....	1830	4010
1095	123. 11. 44.60	1869.5	4	+20.019	+0.017	+0.05	9.90553	9.81518	1.65341	0.10006	88.049	1607	XI. 172	..	4015
1096	124. 21. 8.30	1869.3	2	+20.022	+0.016	+0.02	9.90838	9.80391	1.65343	0.09923	88.393	..	XI. 175	..	4016
1097	35. 35. 36.31	1871.9	56	+20.023	+0.018	0.00	9.99704	0.30359	1.65344	0.09911	49.436	1608	XI. 174	1831	4017
1098	84. 24. 32.71	1871.3	5	+20.024	+0.016	+0.08	9.88846	0.11299	1.65345	0.09845	72.842	..	XI. 180	..	4021
1099	73. 38. 27.24	1875.0	4	+20.032	+0.013	-0.06	9.90151	0.17070	1.65353	0.09608	67.806	1613	XI. 189	..	4031
1100	32. 41. 19.26	1868.3	2	+20.032	+0.013	+0.02	0.00217	0.30979	1.65353	0.09578	48.648	1612	XI. 190	1835	4033
1101	27. 44. 12.17	1873.1	13	+20.036	+0.011	..	0.01536	0.31896	1.65357	0.09441	46.878	..	....	1838	4036
1102	85. 48. 17.51	1871.2	3	+20.041	+0.008	+0.07	9.88649	0.10490	1.65362	0.09215	73.960	1616	XI. 203	..	4039
1103	88. 45. 26.68	1874.8	4	+20.044	+0.006	-0.06	9.88474	0.08700	1.65364	0.09086	75.411	..	XI. 207	..	4043
1104	85. 37. 53.73	1874.2	2	+20.046	+0.004	+0.02	9.88627	0.10588	1.65366	0.08949	74.081	1617	XI. 208	..	4049
1105	8. 25. 58.19	1872.4	15	+20.047	+0.005	..	0.06603	0.34021	1.65367	0.08922	41.416	..	....	1845	4050
1106	82. 40. 18.43	1871.3	28	+20.048	+0.003	+0.04	9.88807	0.12307	1.65368	0.08807	72.812	1618	XI. 211	..	4052
1107	67. 11. 33.06	1871.6	16	+20.050	+0.001	+0.02	9.90747	0.20070	1.65370	0.08672	65.526	1620	XI. 216	..	4056
1108	85. 42. 46.01	1872.0	7	+20.054	-0.005	+0.14	9.88530	0.10540	1.65374	0.08207	74.669	..	XI. 227	..	4069
1109	3. 42. 12.37	1877.0	1	+20.054	-0.005	..	0.07170	0.34201	1.65374	0.08191	41.309	..	....	1850	4070
1110	80. 33. 20.72	1871.8	15	+20.054	-0.006	-0.02	9.88812	0.13487	1.65374	0.08125	72.364	1623	XI. 228	..	4072
1111	26. 21. 5.72	1872.5	13	+20.054	-0.007	..	0.00458	0.32141	1.65374	0.08047	48.178	..	....	1853	4074
1112	87. 22. 58.87	1874.2	15	+20.053	-0.015	+0.21	9.88417	0.09540	1.65373	0.07421	75.987	1625	XI. 246	..	4094
1113	83. 28. 51.85	1869.1	6	+20.052	-0.016	-0.02	9.88491	0.11842	1.65372	0.07357	74.305	1627	XI. 249	..	4096
1114	111. 54. 25.29	1872.3	7	+20.052	-0.016	-0.01	9.90482	9.91753	1.65372	0.07354	85.568	1626	XI. 248	..	4097
1115	72. 28. 41.59	1874.4	9	+20.051	-0.016	-0.01	9.89260	0.17636	1.65371	0.07282	69.328	1628	XII. 2	..	4099
1116	62. 0. 20.27	1868.2	1	+20.051	-0.017	+0.02	9.90752	0.22256	1.65371	0.07239	64.463	..	XII. 3	..	4100
1117	85. 13. 54.69	1873.5	5	+20.049	-0.019	+0.14	9.88406	0.10826	1.65369	0.07103	75.279	..	XII. 6	..	4104
1118	7. 34. 39.12	1871.2	3	+20.049	-0.018	..	0.04937	0.34065	1.65369	0.07092	43.720	..	....	1858	..
1119	32. 13. 57.33	1874.4	6	+20.049	-0.019	+0.06	9.97722	0.31083	1.65369	0.07065	51.661	1631	XII. 8	1857	4108
1120	63. 24. 58.90	1872.7	7	+20.049	-0.019	+0.04	9.90396	0.21679	1.65369	0.07065	65.301	1630	XII. 7	..	4107

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Celestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Medie Stellarum Fixarum in Zonis Regionum* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichniss* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fra- tion of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
1121	Lalande (F) 2025...	9-8	12. 5. 43.569	1871.2	3	+ 2.8207	-0.1855	..	9.84163	0.07458	1.44437	9.84438	112.099
1122	Bradley 1633	7-8	12. 5. 45.456	1868.2	1	+ 2.9123	-0.1252	+ 0.025	9.94224	0.07622	1.44580	9.94565	102.763
1123	Bradley 1634	5-4*	12. 6. 10.367	1871.7	15	+ 2.8981	-0.1259	+ 0.007	9.93974	0.07596	1.44557	9.94312	103.053
1124	....	9-10	12. 6. 57.812	1869.3	1	+ 2.7254	-0.1949	..	9.79757	0.07234	1.44288	9.80026	115.695
1125	1 Canum Venaticum .	6-7†	12. 8. 22.022	1875.3	3	+ 3.0047	-0.0371	+ 0.002	0.03593	0.07768	1.44723	0.04446	91.648
1126	Groombridge 1863 .	6-5†	12. 9. 1.269	1876.5	5	+ 2.9200	-0.0753	..	9.99837	0.07627	1.44591	0.00323	96.604
1127	69 Ursæ Majoris ... δ	3-4*	12. 9. 4.856	1871.3	19	+ 2.9883	-0.0423	+ 0.015	0.03148	0.07738	1.44698	0.03918	92.299
1128	6 Comæ	5*	12. 9. 30.122	1875.0	3	+ 3.0567	-0.0058	- 0.006	0.05340	0.07815	1.44804	0.07239	88.597
1129	7 Comæ	5-6*	12. 9. 51.851	1869.8	11	+ 3.0458	-0.0110	- 0.003	0.05182	0.07804	1.44787	0.06797	89.021
1130	Piazzi XII. 35	7	12. 11. 57.258	1875.8	2	+ 3.0822	+ 0.0069	+ 0.009	0.05412	0.07792	1.44843	0.08263	87.832
1131	13 Virginis	6-7†	12. 12. 6.556	1872.4	4	+ 3.0723	+ 0.0026	0.000	0.05439	0.07791	1.44828	0.07921	88.064
1132	14 Virginis	6-7†	12. 12. 45.024	1876.3	4	+ 3.0829	+ 0.0069	+ 0.005	0.05413	0.07783	1.44844	0.08264	87.836
1133	8 Comæ	6-7†	12. 12. 51.117	1875.6	3	+ 3.0392	-0.0102	- 0.002	0.05203	0.07771	1.44777	0.06846	89.004
1134	Bradley 1650	6-5*	12. 13. 3.898	1871.2	16	+ 2.7695	-0.0923	+ 0.022	9.96728	0.07351	1.44357	9.97112	100.488
1135	15 Virginis	3-4*	12. 13. 21.453	1871.2	49	+ 3.0721	+ 0.0026	- 0.007	0.05439	0.07777	1.44827	0.07916	88.077
1136	16 Virginis	5*	12. 13. 50.902	1871.6	7	+ 3.0665	+ 0.0006	- 0.019	0.05434	0.07772	1.44819	0.07748	88.206
1137	11 Comæ	5*	12. 14. 14.942	1875.6	3	+ 3.0444	-0.0071	- 0.012	0.05301	0.07760	1.44785	0.07105	88.766
1138	Bradley 1672	6	12. 14. 18.690	1873.8	3	+ 0.0664	+ 1.0312	- 0.152	†	..	..	..	..
1139	Groombridge 1879 .	6	12. 15. 30.321	1873.6	8	+ 2.2002	-0.1212	..	9.74408	0.06307	1.43457	9.74675	120.631
1140	12 Comæ	5*	12. 16. 4.145	1875.3	3	+ 3.0254	-0.0116	- 0.002	0.05141	0.07729	1.44755	0.06698	89.189
1141	Piazzi XII. 75	6-7†	12. 18. 48.637	1872.5	5	+ 3.0219	-0.0102	+ 0.017	0.05189	0.07700	1.44750	0.06801	89.113
1142	Groombridge 1888..	6-7	12. 19. 7.379	1874.6	3	+ 2.8385	-0.0500	..	0.01936	0.07448	1.44464	0.02542	94.270
1143	Groombridge 1892..	6	12. 19. 49.825	1875.4	5	+ 1.9477	-0.0741	..	9.73979	0.05828	1.43051	9.74249	121.524
1144	72 Ursæ Majoris	6-7†	12. 20. 24.436	1876.0	3	+ 2.8969	-0.0358	+ 0.020	0.03410	0.07534	1.44556	0.04220	92.195
1145	15 Comæ	4-5*	12. 20. 33.357	1873.4	3	+ 3.0059	-0.0127	- 0.008	0.05080	0.07671	1.44725	0.06566	89.381
1146	Piazzi XII. 91	6-7†	12. 21. 17.603	1876.1	5	+ 3.0807	+ 0.0051	- 0.016	0.05440	0.07693	1.44841	0.08082	88.009
1147	W. B. XII. 334	6-7	12. 21. 21.261	1876.4	3	+ 3.0896	+ 0.0073	..	0.05422	0.07690	1.44855	0.08252	87.893
1148	7 Corvi	δ ¹	12. 23. 13.628	1871.2	1	+ 3.1105	+ 0.0118	..	0.05349	0.07663	1.44887	0.08593	87.696
1149	7 Corvi	δ ²	12. 23. 14.624	1871.0	36	+ 3.1105	+ 0.0118	- 0.007	0.05349	0.07663	1.44887	0.08593	87.696
1150	7 Canum Venaticum ..	6*	12. 23. 59.150	1874.7	3	+ 2.8919	-0.0305	- 0.013	0.03811	0.07505	1.44548	0.04703	91.662
1151	4 Draconis	5*	12. 24. 29.237	1872.7	11	+ 2.6824	-0.0572	+ 0.001	0.00301	0.07162	1.44220	0.00806	96.658
1152	21 Comæ	6-5*	12. 24. 36.850	1876.2	1	+ 3.0045	-0.0101	+ 0.005	0.05181	0.07631	1.44723	0.06770	89.208
1153	Piazzi XII. 111	6-7†	12. 25. 3.917	1875.5	5	+ 3.0833	+ 0.0056	- 0.012	0.05443	0.07653	1.44845	0.08100	88.012
1154	Piazzi XII. 122	5*	12. 27. 20.386	1868.2	1	+ 2.9651	-0.0151	- 0.013	0.04930	0.07570	1.44662	0.06275	89.791
1155	8 Canum Venaticum β	4-5*	12. 27. 39.626	1869.5	17	+ 2.9270	-0.0207	- 0.069	0.04566	0.07525	1.44602	0.05702	90.478
1156	9 Corvi	β	12. 27. 39.999	1872.9	21	+ 3.1395	+ 0.0164	- 0.008	0.05241	0.07602	1.44932	0.08908	87.551
1157	Piazzi XII. 125	7	12. 27. 49.542	1871.1	2	+ 3.0742	+ 0.0038	- 0.009	0.05455	0.07625	1.44831	0.07948	88.146
1158	Oeltz. Arg. (N.) 12753	6-7	12. 27. 55.612	1874.4	5	+ 2.8951	-0.0250	..	0.04224	0.07482	1.44553	0.05228	91.074
1159	5 Draconis	κ	12. 28. 0.327	1870.4	30	+ 2.6122	-0.0550	- 0.012	0.00077	0.07027	1.44110	0.00567	97.102
1160	23 Comæ	5*	12. 28. 28.211	1876.0	3	+ 3.0007	-0.0087	+ 0.013	0.05229	0.07591	1.44717	0.06873	89.138

1124. The magnitude is taken from the Greenwich Observations, 1869.

† For No. 1138, log. e = -0.07817, log. f = 0.02122, log. g = 1.39909, log. h = -0.07782, l = 213°.505.

1158. The magnitude is taken from Oeltzen's Argelander (N. Zones).

1876 GOALM. 1866. 78A	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Frac- tion of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of l'	No. in Bessel's Bradley. 1755.	No. in Piazzi. 1800.	No. in Groom- bridge. 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
1121	7. 34. 23.11	1871.2	3	+20.048	-0.019	..	0.04844	0.34064	1.65368	0.07003	43.843	..	....	..	..
1122	11. 50. 50.39	1868.2	1	+20.048	-0.019	0.00	0.03599	0.33813	1.65368	0.07000	44.951	1633	....	..	4111
1123	11. 40. 20.30	1872.1	31	+20.047	-0.020	-0.03	0.03583	0.33825	1.65367	0.06933	44.992	1634	XII. 10	1859	4112
1124	6. 40. 54.54	1869.3	1	+20.045	-0.021	..	0.04895	0.34099	1.65365	0.06804	43.904	..	....	..	..
1125	35. 51. 10.18	1875.3	3	+20.041	-0.025	+0.05	9.96204	0.30319	1.65361	0.06577	53.706	1636	XII. 19	1861	4121
1126	19. 5. 13.99	1874.9	6	+20.039	-0.025	..	0.00898	0.33129	1.65360	0.06468	47.807	..	....	1863	4122
1127	32. 15. 21.30	1871.3	22	+20.039	-0.026	+0.04	9.97081	0.31071	1.65360	0.06460	52.441	1637	XII. 22	1862	4123
1128	74. 23. 17.48	1875.1	4	+20.037	-0.027	+0.03	9.88700	0.16701	1.65358	0.06391	70.994	1639	XII. 26	..	4125
1129	65. 20. 34.28	1871.0	34	+20.036	-0.028	0.00	9.89636	0.20862	1.65357	0.06331	66.923	1641	XII. 28	..	4127
1130	98. 11. 24.70	1875.8	2	+20.027	-0.032	+0.07	9.89092	0.02443	1.65348	0.05990	81.375	..	XII. 35	..	4136
1131	90. 4. 29.34	1873.2	5	+20.026	-0.032	+0.04	9.88434	0.07876	1.65347	0.05962	78.163	1643	XII. 38	..	4137
1132	98. 12. 9.81	1876.3	4	+20.024	-0.034	+0.04	9.89120	0.02433	1.65345	0.05858	81.460	1644	XII. 41	..	4140
1133	66. 15. 14.60	1874.0	7	+20.023	-0.033	+0.02	9.89221	0.20470	1.65344	0.05843	67.814	1645	XII. 42	..	4141
1134	14. 7. 42.89	1872.0	33	+20.022	-0.032	-0.02	0.01653	0.33609	1.65343	0.05806	47.223	1650	XII. 45	1868	4143
1135	89. 57. 17.65	1871.4	43	+20.020	-0.035	+0.03	9.88423	0.07950	1.65342	0.05759	78.257	1647	XII. 44	..	4145
1136	85. 58. 25.66	1871.4	7	+20.018	-0.036	+0.08	9.88252	0.10388	1.65339	0.05675	76.657	1652	XII. 50	..	4151
1137	71. 29. 58.98	1874.1	7	+20.016	-0.036	-0.08	9.88581	0.18090	1.65337	0.05608	70.397	1654	XII. 53	..	4156
1138	1. 35. 25.72	1873.8	3	+20.015	-0.009	-0.07	0.05138	0.34196	1.65336	0.05598	44.462	1672	....	1884	4165
1139	5. 54. 56.29	1873.3	10	+20.009	-0.030	..	0.03667	0.34093	1.65330	0.05401	45.663	..	....	1879	4166
1140	63. 26. 35.82	1874.4	11	+20.005	-0.040	0.00	9.89243	0.21640	1.65327	0.05306	67.082	1658	XII. 59	..	4169
1141	65. 21. 46.45	1874.2	15	+19.987	-0.045	+0.14	9.88728	0.20827	1.65309	0.04844	68.396	..	XII. 75	..	4184
1142	25. 29. 16.78	1875.4	11	+19.985	-0.043	..	9.97225	0.32214	1.65307	0.04793	52.158	..	....	1888	..
1143	5. 51. 43.37	1875.0	7	+19.979	-0.033	..	0.02930	0.34066	1.65301	0.04675	46.662	..	....	1892	4193
1144	34. 7. 54.59	1876.0	3	+19.975	-0.046	+0.02	9.94591	0.30631	1.65298	0.04576	55.566	1668	XII. 83	1891	4194
1145	61. 1. 10.48	1874.6	11	+19.974	-0.048	+0.10	9.89042	0.22598	1.65296	0.04550	66.781	1666	XII. 84	..	4195
1146	93. 54. 23.46	1876.1	5	+19.968	-0.050	+0.03	9.88840	0.05396	1.65291	0.04425	80.713	..	XII. 91	..	4200
1147	97. 58. 4.08	1876.4	3	+19.967	-0.051	..	9.89387	0.02613	1.65290	0.04411	82.236	..	....	..	4201
1148	105. 48. 28.05	1871.2	1	+19.952	-0.055	..	9.90854	0.96807	1.65275	0.04091	85.108	..	....	..	..
1149	105. 48. 7.75	1871.5	15	+19.952	-0.055	+0.15	9.90854	0.96808	1.65275	0.04089	85.109	1675	XII. 101	..	4211
1150	37. 45. 27.03	1874.7	3	+19.944	-0.053	+0.01	9.93034	0.29806	1.65268	0.03963	57.723	1677	XII. 106	1898	4217
1151	20. 5. 21.47	1871.3	42	+19.940	-0.050	+0.09	9.97813	0.32916	1.65264	0.03877	51.619	1680	XII. 110	1901	4222
1152	64. 43. 29.48	1873.9	6	+19.939	-0.056	+0.05	9.88190	0.21075	1.65263	0.03854	69.089	1679	XII. 109	..	4223
1153	94. 20. 45.49	1875.5	5	+19.935	-0.058	-0.02	9.88964	0.05099	1.65260	0.03776	81.301	..	XII. 111	..	4225
1154	56. 2. 40.67	1868.2	1	+19.912	-0.060	+0.07	9.88857	0.24416	1.65236	0.03384	65.874	..	XII. 122	..	4233
1155	47. 56. 48.06	1869.5	17	+19.909	-0.060	-0.30	9.90151	0.27066	1.65233	0.03325	62.570	1686	XII. 126	1905	4235
1156	112. 41. 16.68	1873.7	9	+19.909	-0.064	+0.07	9.92742	9.91231	1.65233	0.03325	87.539	1685	XII. 123	..	4234
1157	90. 42. 4.54	1871.1	2	+19.907	-0.063	+0.04	9.88513	0.07477	1.65231	0.03296	80.254	..	XII. 125	..	4237
1158	42. 32. 41.55	1874.4	5	+19.906	-0.060	..	9.91222	0.28583	1.65230	0.03278	60.448	..	....	..	..
1159	19. 30. 21.32	1872.2	57	+19.905	-0.055	+0.03	9.97327	0.32952	1.65229	0.03267	52.264	1689	XII. 129	1906	4239
1160	66. 39. 55.51	1874.1	5	+19.900	-0.063	0.00	9.87651	0.20222	1.65225	0.03186	70.579	..	XII. 130	..	4240

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Celestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Medice Stellarum Fixarum in Zonis Regiomontanis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

{lx}

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
1161	6 Draconis.....	6-5†	12. 29. 18.175	1875.1	4	+2.5847	-0.0541	+0.019	9.99982	0.06976	1.44067	0.00468	97.281
1162	25 Virginis..... f	6*	12. 30. 11.863	1868.4	1	+3.0880	+0.0063	-0.004	0.05448	0.07599	1.44852	0.08133	88.025
1163	Groombridge 1909..	6	12. 30. 12.972	1875.6	5	+1.9679	-0.0482	..	9.89179	0.05852	1.43084	9.89470	109.930
1164	25 Comæ.....	6†	12. 30. 33.153	1874.1	4	+3.0152	-0.0055	0.000	0.05331	0.07580	1.44739	0.07143	88.881
1165	Piazzi XII. 142 ...	6†	12. 31. 50.680	1870.6	9	+3.0639	+0.0024	-0.002	0.05458	0.07582	1.44815	0.07811	88.280
1166	Piazzi XII. 143....	6-7†	12. 32. 8.526	1874.9	5	+3.0842	+0.0056	-0.004	0.05456	0.07579	1.44846	0.08071	88.079
1167	26 Comæ.....	6*	12. 32. 45.139	1873.3	3	+2.9962	-0.0075	-0.002	0.05267	0.07546	1.44710	0.06954	89.097
1168	29 Virginis..... γ ¹	..	12. 35. 10.400	1871.1	47	+3.0749	+0.0043	-0.037	0.05465	0.07548	1.44832	0.07950	88.191
1169	29 { Virginis (as one mass) } γ	3-2*	12. 35. 10.435	1876.3	1	+3.0749	+0.0043	-0.037	0.05465	0.07548	1.44832	0.07950	88.191
1170	29 Virginis..... γ ²	..	12. 35. 10.568	1871.3	29	+3.0749	+0.0043	-0.037	0.05465	0.07548	1.44832	0.07950	88.191
1171	30 Virginis..... ρ	5*	12. 35. 24.343	1871.5	32	+3.0324	-0.0017	+0.003	0.05420	0.07539	1.44766	0.07455	88.617
1172	76 Ursæ Majoris	6*	12. 35. 57.844	1872.7	10	+2.6546	-0.0389	-0.005	0.02236	0.07067	1.44177	0.02874	94.365
1173	B. F. 1762	6	12. 37. 3.634	1869.4	7	+3.0755	+0.0044	..	0.05468	0.07527	1.44833	0.07954	88.199
1174	Groombridge 1923 ..	6	12. 37. 23.841	1874.3	6	+0.8781	+0.1327	..	9.72578	0.03742	1.41291	9.72843	125.025
1175	10 Canum Venaticum ..	6*	12. 38. 55.855	1873.1	5	+2.8827	-0.0175	-0.033	0.04699	0.07383	1.44534	0.05878	90.427
1176	34 Virginis.....	6-7†	12. 40. 47.030	1875.0	3	+3.0190	-0.0022	+0.005	0.05413	0.07478	1.44745	0.07381	88.730
1177	Piazzi XII. 183....	6-7†	12. 40. 56.595	1875.1	6	+3.0955	+0.0071	-0.005	0.05464	0.07485	1.44864	0.08150	88.070
1178	Groombridge 1927..	6	12. 41. 11.073	1875.7	6	+1.5071	+0.0085	..	9.88371	0.04962	1.42335	9.88653	111.787
1179	35 Virginis.....	6-7†	12. 41. 20.376	1870.8	39	+3.0543	+0.0020	-0.001	0.05470	0.07482	1.44800	0.07740	88.402
1180	Groombridge 1926..	6*	12. 41. 50.467	1874.2	5	+2.5858	-0.0358	..	0.02249	0.06926	1.44069	0.02882	94.531
1181	7 Draconis.....	6*	12. 42. 19.911	1873.7	7	+2.4797	-0.0390	+0.041	0.01237	0.06745	1.43902	0.01784	96.054
1182	30 Comæ.....	6*	12. 43. 3.200	1871.7	5	+2.9381	-0.0101	-0.009	0.05140	0.07404	1.44620	0.06626	89.565
1183	Groombridge 1930..	6-7†	12. 43. 4.806	1874.8	4	+2.6211	-0.0330	..	0.02728	0.06978	1.44124	0.03414	93.831
1184	Groombridge 1931..	6*	12. 44. (5.)	..	..	+2.8709	-0.0156	..	0.04794	0.07327	1.44515	0.06012	90.331
1185	Piazzi XII. 196....	6-7†	12. 44. 43.399	1876.0	3	+3.1162	+0.0094	-0.007	0.05448	0.07450	1.44894	0.08318	87.966
1186	31 Comæ.....	5*	12. 45. 27.747	1872.2	21	+2.9307	-0.0098	+0.003	0.05147	0.07375	1.44608	0.06629	89.587
1187	38 Virginis.....	6	12. 46. 37.921	1873.1	5	+3.0857	+0.0059	-0.016	0.05486	0.07427	1.44848	0.08035	88.188
1188	35 Comæ.....	5*	12. 46. 59.483	1873.5	4	+2.9625	-0.0064	-0.003	0.05294	0.07386	1.44658	0.06956	89.226
1189	41 Virginis.....	6*	12. 47. 24.282	1873.6	3	+3.0082	-0.0020	+0.008	0.05423	0.07406	1.44729	0.07364	88.797
1190	40 Virginis..... ψ	5*	12. 47. 41.843	1876.2	5	+3.1152	+0.0092	-0.002	0.05461	0.07411	1.44894	0.08285	88.005
1191	Bradley 1730.....	5-6	12. 48. 4.787	1871.5	10	+0.3712	+0.2208	-0.006	9.75118	0.02716	1.40432	9.75376	124.665
1192	Bradley 1731.....	5-6	12. 48. 12.731	1870.4	13	+0.3662	+0.2213	-0.017	9.75192	0.02709	1.40426	9.75449	124.625
1193	77 Ursæ Majoris.... ε	2*	12. 48. 23.445	1873.5	8	+2.6463	-0.0273	+0.013	0.03399	0.06989	1.44164	0.04178	92.899
1194	43 Virginis..... δ	3*	12. 49. 9.365	1871.5	59	+3.0518	+0.0026	-0.030	0.05488	0.07400	1.44796	0.07748	88.444
1195	Bradley 1724.....	7	12. 50. 1.068	1870.5	7	+2.8377	-0.0153	-0.021	0.04776	0.07241	1.44463	0.05967	90.471
1196	12 Canum Venaticum α	3*	12. 50. 2.271	1871.1	25	+2.8376	-0.0153	-0.023	0.04775	0.07241	1.44463	0.05967	90.471
1197	8 Draconis.....	5*	12. 50. 22.181	1874.3	7	+2.4134	-0.0327	+0.014	0.01670	0.06599	1.43796	0.02240	95.698
1198	36 Comæ.....	5*	12. 52. 35.627	1872.7	5	+2.9728	-0.0041	-0.002	0.05374	0.07338	1.44674	0.07143	89.068
1199	44 Virginis..... κ	6*	12. 53. 3.924	1871.4	1	+3.0889	+0.0064	-0.002	0.05500	0.07360	1.44853	0.08045	88.214
1200	46 Virginis.....	6*	12. 54. 0.537	1871.6	2	+3.0868	+0.0062	-0.002	0.05504	0.07350	1.44850	0.08028	88.232

1166. An observation of N.P.D. of this star made on 1874, April 6, is not included in the adopted Mean North Polar Distance, the separate readings of the telescope-micrometer being very discordant.

1868-1876	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of μ	No. in Bessel's Bradley, 1755.	No. in Piazzini, 1800.	No. in Groombridge, 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
1161	19. 16. 20.43	1874.7	3	+19.891	-0.057	+0.01	9.97146	0.32966	1.65216	0.03040	52.501	1691	XII. 135	1908	4246
1162	95. 7. 32.94	1868.4	1	+19.881	-0.068	+0.03	9.89187	0.04583	1.65206	0.02882	82.156	1690	XII. 136	..	4247
1163	9. 2. 37.20	1875.6	5	+19.881	-0.046	..	0.00087	0.33825	1.65206	0.02879	49.906	..	....	1909	4249
1164	72. 12. 17.66	1873.9	8	+19.877	-0.067	+0.04	9.87291	0.17695	1.65202	0.02820	73.239	1692	XII. 137	..	4248
1165	87. 26. 24.52	1870.6	9	+19.861	-0.070	+0.09	9.88098	0.09495	1.65187	0.02591	79.513	..	XII. 142	..	4254
1166	93. 40. 8.55	1875.3	5	+19.858	-0.071	-0.04	9.88981	0.05563	1.65184	0.02540	81.851	..	XII. 143	..	4255
1167	68. 13. 59.15	1874.2	9	+19.850	-0.071	-0.01	9.87169	0.19508	1.65176	0.02432	71.959	1695	XII. 151	..	4260
1168	90. 44. 45.71	1871.2	49	+19.819	-0.077	+0.05	9.88542	0.07447	1.65146	0.01999	81.161	1698	XII. 157	..	..
1169	90. 44.	..	..	+19.819	-0.077	+0.05	9.88542	0.07447	1.65146	0.01999	81.161	..	....	..	4268
1170	90. 44. 50.58	1871.4	34	+19.819	-0.077	+0.05	9.88542	0.07447	1.65146	0.01999	81.161	1699	XII. 158	..	..
1171	79. 3. 31.01	1870.1	14	+19.815	-0.077	+0.10	9.87204	0.14220	1.65143	0.01960	76.762	1701	XII. 160	..	4271
1172	26. 35. 1.85	1873.6	19	+19.808	-0.069	+0.04	9.93752	0.31875	1.65135	0.01858	56.406	1703	....	1917	4276
1173	90. 52. 20.19	1869.4	7	+19.793	-0.081	..	9.88564	0.07375	1.65121	0.01661	81.434	..	....	..	4277
1174	5. 39. 12.42	1874.3	6	+19.788	-0.029	..	9.99808	0.33884	1.65116	0.01600	50.879	..	....	1923	4281
1175	50. 1. 30.44	1874.2	14	+19.766	-0.080	-0.16	9.88013	0.26319	1.65095	0.01323	65.710	1705	XII. 171	1921	4285
1176	77. 20. 29.25	1874.5	10	+19.738	-0.087	+0.06	9.86800	0.15101	1.65068	0.00987	76.895	1707	XII. 182	..	4292
1177	95. 36. 1.49	1874.9	5	+19.735	-0.089	0.00	9.89515	0.04296	1.65065	0.00956	83.525	..	XII. 183	..	4294
1178	8. 40. 37.49	1875.7	6	+19.732	-0.048	..	9.98137	0.33699	1.65062	0.00916	52.523	..	....	1927	4298
1179	85. 43. 39.63	1870.3	11	+19.729	-0.088	+0.01	9.87737	0.10490	1.65059	0.00887	80.129	1708	XII. 184	..	4296
1180	26. 31. 10.97	1874.2	5	+19.721	-0.077	..	9.92629	0.31805	1.65051	0.00795	57.777	..	....	1926	4300
1181	22. 30. 37.66	1872.5	22	+19.713	-0.075	-0.01	9.93656	0.32388	1.65043	0.00703	56.633	1713	XII. 190	1928	4302
1182	61. 44. 59.91	1874.4	12	+19.702	-0.089	-0.03	9.86297	0.22141	1.65032	0.00572	71.168	1711	XII. 192	..	4304
1183	28. 58. 53.37	1875.7	3	+19.701	-0.080	..	9.91714	0.31373	1.65032	0.00566	58.889	..	....	1930	4305
1184	51. 47. 10.36	1874.3	2	+19.684	-0.089	..	9.86970	0.25702	1.65015	0.00380	67.459	..	...	1931	4311
1185	99. 38. 26.34	1876.0	3	+19.674	-0.097	+0.07	9.90558	0.01529	1.65006	0.00265	85.227	..	XII. 196	..	4312
1186	61. 45. 43.49	1870.2	30	+19.661	-0.093	0.00	9.86004	0.22109	1.64993	0.00127	71.627	1715	XII. 200	..	4315
1187	92. 51. 23.48	1873.1	5	+19.640	-0.100	+0.03	9.89020	0.06119	1.64974	9.99910	83.284	1718	XII. 208	..	4323
1188	68. 3. 30.69	1874.9	16	+19.634	-0.096	+0.06	9.85818	0.19471	1.64967	9.99842	74.352	1719	XII. 212	..	4328
1189	76. 53. 5.58	1873.8	6	+19.627	-0.099	+0.05	9.86380	0.15293	1.64961	9.99767	77.758	1720	XII. 213	..	4329
1190	98. 50. 33.82	1876.2	5	+19.622	-0.102	+0.04	9.90477	0.02098	1.64956	9.99711	85.303	1721	XII. 214	..	4330
1191	5. 53. 10.13	1872.9	16	+19.615	-0.020	-0.02	9.97695	0.33705	1.64948	9.99639	53.637	1730	XII. 230	1937	4339
1192	5. 53. 28.02	1870.5	12	+19.612	-0.020	-0.04	9.97672	0.33702	1.64946	9.99614	53.671	1731	XII. 232	1940	4342
1193	33. 20. 41.37	1873.4	7	+19.609	-0.089	+0.05	9.89564	0.30466	1.64943	9.99580	61.629	1722	XII. 220	1932	4335
1194	85. 54. 22.25	1871.3	20	+19.595	-0.103	+0.09	9.87622	0.10375	1.64929	9.99440	81.260	1723	XII. 223	..	4340
1195	50. 59. 36.45	1870.0	9	+19.579	-0.098	..	9.86124	0.25873	1.64912	9.99278	68.396	1724	....	..	4345
1196	50. 59. 23.30	1872.4	67	+19.579	-0.098	-0.06	9.86130	0.25878	1.64912	9.99275	68.391	1725	XII. 226	1935	4346
1197	23. 51. 59.96	1873.1	14	+19.572	-0.085	+0.06	9.91645	0.32066	1.64906	9.99211	59.027	1727	XII. 228	1939	4347
1198	71. 53. 59.49	1874.3	11	+19.529	-0.107	-0.04	9.85546	0.17682	1.64864	9.98789	76.767	1728	XII. 236	..	4351
1199	93. 7. 12.05	1871.4	1	+19.519	-0.112	0.00	9.89165	0.05960	1.64854	9.98701	84.158	1729	XII. 237	..	4352
1200	92. 40. 46.26	1871.6	2	+19.500	-0.114	-0.05	9.89070	0.06238	1.64835	9.98519	84.139	1732	XII. 241	..	4358

The magnitude of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Cælestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzini's Catalogue (1814); from Weisse's two Catalogues, *Positiones Medie Stellarum Fixarum in Zonis Regionum* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
1201	37 Comæ.....	5*	12. 54. 8.777	1872.3	4	+ 2.8806	- 0.0106	- 0.001	0.05076	0.07251	1.44530	0.06457	89.894
1202	9 Draconis.....	6*	12. 55. 4.511	1872.5	14	+ 2.3120	- 0.0298	- 0.018	0.01382	0.06405	1.43636	0.01925	96.311
1203	47 Virginis.....	3-2*	12. 55. 48.304	1871.6	117	+ 3.0058	- 0.0008	- 0.018	0.05460	0.07320	1.44725	0.07433	88.787
1204	Piazzi XII. 255....	6*	12. 56. 46.367	1873.2	4	+ 2.3912	- 0.0282	- 0.011	0.02159	0.06532	1.43761	0.02763	95.157
1205	Piazzi XII. 253....	7	12. 56. 57.407	1872.4	4	+ 2.9222	- 0.0069	..	0.05269	0.07260	1.44595	0.06839	89.455
1206	48 Virginis.....	6*	12. 57. 18.762	1869.5	3	+ 3.0894	+ 0.0065	- 0.004	0.05512	0.07316	1.44854	0.08039	88.239
1207	14 Canum Venaticum.	5*	12. 59. 45.251	1869.8	7	+ 2.8173	- 0.0126	+ 0.001	0.04917	0.07137	1.44431	0.06159	90.349
1208	39 Comæ.....	6*	13. 0. 6.866	1875.6	4	+ 2.9332	- 0.0053	- 0.005	0.05332	0.07239	1.44612	0.06975	89.323
1209	41 Comæ.....	5*	13. 1. 2.125	1873.4	5	+ 2.8827	- 0.0083	+ 0.002	0.05190	0.07191	1.44533	0.06646	89.732
1210	Piazzi XII. 278....	6*	13. 1. 19.062	1876.4	2	+ 2.3866	- 0.0254	+ 0.024	0.02518	0.06504	1.43754	0.03151	94.724
1211	B. F. 1805.....	6*	13. 1. 52.089	1875.6	4	+ 3.1242	+ 0.0096	..	0.05502	0.07263	1.44908	0.08256	88.089
1212	50 Virginis.....	6	13. 3. 3.394	1876.3	2	+ 3.1340	+ 0.0104	- 0.001	0.05496	0.07248	1.44923	0.08311	88.052
1213	51 Virginis.....	4-5*	13. 3. 19.437	1871.1	39	+ 3.1032	+ 0.0078	- 0.004	0.05524	0.07253	1.44875	0.08114	88.206
1214	Piazzi XII. 283....	6-7†	13. 3. 30.346	1868.2	2	+ 2.9567	- 0.0030	+ 0.003	0.05413	0.07220	1.44649	0.07179	89.118
1215	Groombridge 1961..	6-7†	13. 3. 44.466	1870.0	10	+ 2.7844	- 0.0129	..	0.04865	0.07068	1.44380	0.06060	90.534
1216	42 Comæ.....	4-5*	13. 3. 45.626	1875.1	3	+ 2.9514	- 0.0033	- 0.031	0.05405	0.07215	1.44640	0.07148	89.155
1217	17 Canum Venaticum.	5*	13. 4. 10.422	1868.2	1	+ 2.7711	- 0.0133	- 0.005	0.04819	0.07049	1.44359	0.05986	90.640
1218	43 Comæ.....	4*	13. 5. 53.917	1872.5	1	+ 2.8661	- 0.0080	- 0.060	0.05202	0.07132	1.44507	0.06642	89.787
1219	58 Virginis.....	6	13. 10. 44.850	1875.9	2	+ 3.1429	+ 0.0108	- 0.007	0.05520	0.07168	1.44937	0.08316	88.079
1220	Piazzi XIII. 41....	6*	13. 10. 55.713	1868.2	1	+ 2.9680	- 0.0011	+ 0.006	0.05479	0.07152	1.44666	0.07326	89.008
1221	20 Canum Venaticum.	5-4*	13. 11. 48.045	1870.1	4	+ 2.7109	- 0.0132	- 0.013	0.04753	0.06918	1.44265	0.05857	90.930
1222	Oeltz. Arg. (N.) 13558	6-7	13. 15. 36.461	1874.4	6	+ 2.5922	- 0.0154	..	0.04370	0.06735	1.44079	0.05313	91.796
1223	65 Virginis.....	6*	13. 16. 40.970	1871.5	3	+ 3.1049	+ 0.0081	- 0.005	0.05571	0.07116	1.44878	0.08087	88.284
1224	66 Virginis.....	6*	13. 17. 53.519	1871.2	6	+ 3.1072	+ 0.0082	+ 0.010	0.05574	0.07104	1.44882	0.08097	88.280
1225	Groombridge 1986.	6	13. 18. 5.566	1868.3	5	+ 2.7269	- 0.0107	..	0.04945	0.06887	1.44290	0.06124	90.631
1226	67 Virginis.....	1*	13. 18. 27.083	1872.1	252	+ 3.1553	+ 0.0115	- 0.005	0.05543	0.07087	1.44956	0.08337	88.089
1227	79 Ursæ Majoris... (1)	2* }	13. 18. 46.051	1872.3	11	+ 2.4144	- 0.0172	+ 0.017	0.03699	0.06455	1.43798	0.04467	93.166
1228	79 Ursæ Majoris... (2)		13. 18. 46.994	1872.3	11	+ 2.4143	- 0.0172	+ 0.014	0.03701	0.06455	1.43798	0.04469	93.163
1229	Groombridge 2007.	6	13. 19. 52.463	1868.4	2	- 2.6317	+ 0.9602	..	9.61767	9.96127	1.34963	9.62027	139.497
1230	68 Virginis.....	6*	13. 19. 57.647	1873.4	1	+ 3.1697	+ 0.0124	- 0.010	0.05535	0.07066	1.44978	0.08399	88.048
1231	Virginis..... V	Var.	13. 21. 11.716	1868.4	2	+ 3.0925	+ 0.0074	..	0.05592	0.07072	1.44859	0.08018	88.364
1232	Piazzi XIII. 96....	6	13. 21. 37.158	1874.4	3	+ 2.1199	- 0.0152	- 0.056	0.02444	0.05961	1.43329	0.03034	95.522
1233	70 Virginis.....	5*	13. 22. 10.113	1870.4	7	+ 2.9512	- 0.0004	- 0.019	0.05520	0.07035	1.44640	0.07331	89.078
1234	Hydræ..... R	Var.	13. 22. 43.309	1870.4	1	+ 3.2689	+ 0.0192	+ 0.002	0.05402	0.06985	1.45131	0.08848	87.755
1235	Piazzi XIII. 109...	6	13. 22. 52.350	1873.9	4	+ 1.5198	+ 0.0078	+ 0.004	9.99393	0.04888	1.42358	9.99800	100.660
1236	Piazzi XIII. 110...	5-6*	13. 23. 44.998	1873.0	5	+ 2.2240	- 0.0156	+ 0.001	0.03067	0.06125	1.43496	0.03722	94.478
1237	W. B. (2) XIII. 465	8-9	13. 24. 43.065	1876.3	1	+ 2.8480	- 0.0047	..	0.05365	0.06947	1.44479	0.06862	89.680
1238	B. F. 1857.....	6	13. 24. 47.992	1874.4	2	+ 2.8478	- 0.0047	..	0.05365	0.06946	1.44479	0.06862	89.681
1239	74 Virginis..... (2)	5*	13. 25. 18.692	1871.6	17	+ 3.1198	+ 0.0091	- 0.006	0.05599	0.07026	1.44901	0.08138	88.275
1240	Piazzi XIII. 112...	6	13. 25. 25.649	1869.5	10	+ 3.3411	+ 0.0242	- 0.007	0.05272	0.06903	1.45242	0.09141	87.600

1222. The magnitude is taken from Oeltzen's Argelander (N. Zones).

1227, 1228. In Struve's *Mensura Micrometrica* the magnitudes of the two components of ζ Ursæ Majoris are 2.1 and 4.2 respectively.

1231. The limits of magnitude are 8.0 and less than 13, the period 251 days.

1232. The adopted proper motion is taken from the Bonn Observations, Vol. VII, p. 111.

1234. The limits of magnitude are 4 and 10, the period 469 days.

No.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of l'	No. in Bessel's Bradley. 1755.	No. in Piazzi. 1800.	No. in Groombridge. 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
1201	58. 31. 26.46	1874.1	10	+ 19.498	- 0.107	0.00	9.84985	0.23243	1.64833	9.98494	72.069	1733	XII. 242	..	4360
1202	22. 42. 42.36	1872.1	26	+ 19.478	- 0.089	+ 0.02	9.91004	0.32138	1.64815	9.98319	59.853	1737	XII. 250	1949	4365
1203	78. 21. 7.72	1871.8	60	+ 19.463	- 0.114	- 0.03	9.86112	0.14488	1.64800	9.98178	79.614	1735	XII. 249	..	4367
1204	25. 42. 5.57	1872.7	3	+ 19.442	- 0.094	- 0.02	9.89812	0.31672	1.64780	9.97993	61.185	..	XII. 255	1950	4371
1205	65. 29. 6.82	1873.0	6	+ 19.438	- 0.113	..	9.84702	0.20472	1.64776	9.97957	75.190	..	XII. 253	..	..
1206	92. 58. 25.50	1869.5	3	+ 19.431	- 0.120	+ 0.03	9.89182	0.06064	1.64769	9.97887	84.635	1738	XII. 254	..	4373
1207	53. 30. 56.02	1870.1	12	+ 19.377	- 0.114	0.00	9.84373	0.24908	1.64715	9.97415	71.386	1739	XII. 266	..	4384
1208	68. 9. 32.77	1874.5	9	+ 19.368	- 0.119	+ 0.06	9.84559	0.19289	1.64707	9.97345	76.743	1740	XII. 267	..	4387
1209	61. 41. 15.17	1870.6	6	+ 19.347	- 0.119	+ 0.09	9.84086	0.21949	1.64687	9.97166	74.591	1743	XII. 273	..	4390
1210	27. 16. 17.98	1874.7	3	+ 19.341	- 0.100	+ 0.03	9.88434	0.31329	1.64681	9.97110	62.812	..	XII. 278	1959	4392
1211	98. 17. 53.12	1875.6	4	+ 19.328	- 0.130	..	9.90800	0.02566	1.64669	9.97003	86.722	..	....	..	4394
1212	99. 38. 43.01	1876.3	2	+ 19.300	- 0.133	+ 0.02	9.91259	0.01648	1.64640	9.96768	87.224	1746	XII. 280	..	4397
1213	94. 51. 16.79	1871.1	19	+ 19.294	- 0.132	+ 0.04	9.89807	0.04870	1.64635	9.96719	85.928	1747	XII. 281	..	4401
1214	72. 28. 5.08	1868.2	2	+ 19.289	- 0.126	+ 0.10	9.84751	0.17312	1.64631	9.96682	78.849	..	XII. 283	..	4403
1215	51. 53. 39.09	1870.0	10	+ 19.284	- 0.120	..	9.83828	0.25366	1.64625	9.96637	71.661	..	....	1961	4407
1216	71. 47. 34.10	1875.1	3	+ 19.283	- 0.127	- 0.13	9.84634	0.17619	1.64624	9.96630	78.668	1748	XIII. 2	..	4406
1217	50. 49. 12.50	1868.2	1	+ 19.273	- 0.120	- 0.04	9.83828	0.25701	1.64614	9.96551	71.373	1751	XIII. 6	1964	4415
1218	61. 28. 21.47	1873.6	3	+ 19.231	- 0.127	- 0.89	9.83461	0.21960	1.64573	9.96209	75.479	1755	XIII. 15	..	4421
1219	99. 52. 15.31	1875.9	2	+ 19.106	- 0.148	- 0.01	9.91624	0.01567	1.64450	9.95239	88.135	1761	XIII. 38	..	4442
1220	75. 38. 59.04	1868.2	1	+ 19.102	- 0.140	+ 0.11	9.84763	0.15718	1.64445	9.95202	81.183	..	XIII. 41	..	4444
1221	48. 45. 9.52	1870.1	4	+ 19.078	- 0.130	- 0.03	9.82646	0.26180	1.64423	9.95028	72.364	1765	XIII. 48	1975	4451
1222	42. 3. 31.07	1874.4	6	+ 18.973	+ 0.131	..	9.82530	0.27929	1.64319	9.94255	71.051	..	....	..	..
1223	94. 15. 13.13	1871.5	3	+ 18.942	- 0.157	+ 0.03	9.89851	0.05308	1.64288	9.94033	87.439	1772	XIII. 70	..	4477
1224	94. 29. 38.81	1871.2	6	+ 18.907	- 0.159	+ 0.03	9.89960	0.05154	1.64253	9.93782	87.657	1773	XIII. 73	..	4478
1225	52. 17. 49.32	1870.0	7	+ 18.902	- 0.141	..	9.81451	0.24953	1.64248	9.93744	74.953	..	....	1986	4479
1226	100. 29. 31.49	1872.0	130	+ 18.891	- 0.163	+ 0.04	9.92148	0.01214	1.64238	9.93668	89.148	1774	XIII. 75	..	4480
1227	34. 24. 19.41	1872.1	11	+ 18.882	- 0.127	+ 0.04	9.83052	0.29598	1.64229	9.93603	69.420	1776	XIII. 78	1987	4484
1228	34. 24. 31.72	1872.1	11	+ 18.881	- 0.127	+ 0.05	9.83046	0.29594	1.64228	9.93599	69.431	1777	XIII. 79	1988	4486
1229	4. 34. 34.20	1868.4	2	+ 18.849	+ 0.123	..	9.91645	0.32979	1.64196	9.93376	61.870	..	....	2007	4498
1230	102. 2. 24.50	1873.4	1	+ 18.846	- 0.166	+ 0.04	9.92783	0.00177	1.64193	9.93355	89.657	1775	XIII. 80	..	4492
1231	92. 30. 29.70	1868.3	1	+ 18.809	- 0.165	..	9.89304	0.06401	1.64155	9.93098	87.591	..	....	..	..
1232	26. 4. 51.46	1873.0	5	+ 18.796	- 0.116	- 0.20	9.84267	0.31001	1.64143	9.93012	67.713	..	XIII. 96	1993	4497
1233	75. 32. 11.75	1871.4	15	+ 18.779	- 0.159	+ 0.57	9.84023	0.15653	1.64126	9.92897	83.085	1780	XIII. 90	..	4499
1234	112. 37. 7.43	1870.4	1	+ 18.762	- 0.176	- 0.01	9.97095	9.92439	1.64110	9.92781	91.926	..	XIII. 94	..	4501
1235	16. 56. 36.01	1872.0	15	+ 18.758	- 0.087	+ 0.03	9.86635	0.32112	1.64105	9.92750	65.590	..	XIII. 109	2001	4506
1236	29. 23. 32.65	1873.0	5	+ 18.730	- 0.124	+ 0.02	9.82975	0.30399	1.64079	9.92565	69.222	..	XIII. 110	..	4510
1237	65. 6. 19.39	1876.4	3	+ 18.700	- 0.158	..	9.81578	0.20211	1.64048	9.92361	80.419	..	....	..	..
1238	65. 6. 8.43	1876.0	3	+ 18.697	- 0.158	..	9.81564	0.20209	1.64045	9.92344	80.439	..	....	..	4513
1239	95. 35. 37.77	1871.3	17	+ 18.681	- 0.174	+ 0.04	9.90509	0.04497	1.64029	9.92235	88.856	1784	XIII. 115	..	4516
1240	118. 54. 18.87	1869.5	10	+ 18.677	- 0.186	+ 0.03	9.99830	9.87501	1.64025	9.92210	93.042	..	XIII. 112	..	4517

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Cælestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Medie Stellarum Fixarum in Zonis Regiomontanis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fra- tion of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
1241	Piazzi XIII. 133 ...	6	13. 25. 52.888	1873.5	6	+ 0.4811	+ 0.1084	- 0.029	9.93744	0.02881	1.40624	9.94035	109.268
1242	76 Virginis..... h	5*	13. 26. 13.626	1875.1	5	+ 3.1544	+ 0.0112	- 0.004	0.05581	0.07010	1.44955	0.08292	88.149
1243	77 Virginis	7	13. 26. 43.388	1874.0	3	+ 3.1325	+ 0.0099	+ 0.003	0.05598	0.07011	1.44921	0.08191	88.233
1244	Piazzi XIII. 126 ...	6-7†	13. 27. 52.326	1873.4	6	+ 3.1836	+ 0.0130	+ 0.002	0.05563	0.06983	1.44999	0.08414	88.058
1245	79 Virginis	3-4*	13. 28. 10.312	1871.6	91	+ 3.0717	+ 0.0064	- 0.019	0.05621	0.07002	1.44827	0.07916	88.487
1246	80 Virginis	6*	13. 28. 51.849	1871.2	10	+ 3.1141	+ 0.0088	0.000	0.05616	0.06993	1.44893	0.08103	88.316
1247	Piazzi XIII. 136 ...	6†	13. 29. (4.)	..	..	+ 2.6786	- 0.0093	+ 0.011	0.04995	0.06745	1.44215	0.06149	90.736
1248	Oeltz Arg.(N.) 13800	8	13. 30. 39.668	1873.2	2	+ 2.3787	- 0.0135	..	0.04015	0.06330	1.43742	0.04814	92.870
1249	Bradley 1794	7-8	13. 31. 30.757	1875.3	1	+ 2.3738	- 0.0133	..	0.04025	0.06317	1.43733	0.04822	92.874
1250	25 Canum Venaticum	5*	13. 31. 46.399	1873.4	4	+ 2.6803	- 0.0087	..	0.05045	0.06725	1.44217	0.06214	90.671
1251	Groombridge 2029..	6	13. 34. 6.603	1875.0	3	+ 1.4398	+ 0.0126	..	0.00141	0.04702	1.42225	0.00561	100.008
1252	1 Boötis	6*	13. 34. 33.639	1869.4	6	+ 2.8706	- 0.0022	- 0.005	0.05491	0.06872	1.44515	0.07079	89.474
1253	82 Virginis	6*	13. 34. 53.743	1872.2	25	+ 3.1483	+ 0.0107	- 0.010	0.05628	0.06926	1.44945	0.08229	88.225
1254	2 Boötis	6*	13. 34. 58.919	1876.3	3	+ 2.8421	- 0.0031	0.000	0.05447	0.06849	1.44470	0.06964	89.631
1255	Piazzi XIII. 174 ...	6*	13. 37. 14.703	1870.3	5	+ 3.1189	+ 0.0091	- 0.011	0.05653	0.06910	1.44900	0.08104	88.341
1256	Piazzi XIII. 184 ...	6*	13. 37. 30.725	1873.1	9	+ 1.8629	- 0.0054	- 0.001	0.02274	0.05451	1.42916	0.02814	96.403
1257	1 Centauri. i	4-5*	13. 38. 25.236	1869.1	16	+ 3.4254	+ 0.0214	- 0.038	0.05238	0.06711	1.45371	0.09289	87.544
1258	86 Virginis	6*	13. 39. 7.195	1874.3	8	+ 3.1891	+ 0.0129	- 0.004	0.05620	0.06873	1.45008	0.08372	88.117
1259	B. F. 1886	6*	13. 40. 27.614	1871.5	7	+ 3.1628	+ 0.0114	..	0.05648	0.06869	1.44968	0.08265	88.207
1260	3 Boötis	6*	13. 40. 46.658	1874.1	3	+ 2.7903	- 0.0039	- 0.005	0.05411	0.06756	1.44389	0.06823	89.874
1261	4 Boötis	5-4*	13. 41. 10.759	1872.4	23	+ 2.8855	- 0.0008	- 0.034	0.05560	0.06820	1.44538	0.07200	89.364
1262	84 Ursæ Majoris	6*	13. 41. 48.862	1875.0	3	+ 2.2493	- 0.0106	+ 0.019	0.03936	0.06068	1.43536	0.04682	93.334
1263	Groombridge 2053..	6	13. 42. 8.035	1873.7	8	+ 0.1867	+ 0.1266	- 0.013	9.95085	0.02257	1.40120	9.95373	108.642
1264	85 Ursæ Majoris ... η	2*	13. 42. 29.654	1872.1	71	+ 2.3843	- 0.0104	- 0.012	0.04399	0.06266	1.43750	0.05250	92.382
1265	5 Boötis	4-5*	13. 43. 18.204	1873.3	3	+ 2.9004	0.0000	- 0.007	0.05592	0.06808	1.44561	0.07273	89.284
1266	3 Centauri (1st Star). }	4-5* {	13. 44. 26.680	1869.0	12	+ 3.4450	+ 0.0280	- 0.002	0.05275	0.06643	1.45400	0.09270	87.557
1267	3 Centauri (2nd Star) }		13. 44. 27.378	1869.1	3	+ 3.4450	+ 0.0280	..	0.05275	0.06643	1.45401	0.09270	87.556
1268	B. F. 1905	5*	13. 45. 30.171	1874.0	3	+ 2.6517	- 0.0065	..	0.05186	0.06585	1.44172	0.06359	90.612
1269	Groombridge 2055..	6-5*	13. 45. 35.412	1875.7	5	+ 1.9483	- 0.0060	..	0.03029	0.05560	1.43053	0.03625	95.265
1270	Piazzi XIII. 263...	6	13. 46. 6.151	1873.9	7	- 2.0835	+ 0.5528	- 0.023	9.83357	9.97372	1.36018	9.83577	124.796
1271	Piazzi XIII. 228 ...	7-8	13. 46. 23.545	1869.9	2	+ 2.8850	- 0.0002	+ 0.012	0.05597	0.06771	1.44537	0.07238	89.347
1272	10 Draconis	5*	13. 47. 41.650	1873.3	7	+ 1.7525	- 0.0005	+ 0.002	0.02428	0.05216	1.42737	0.02957	96.509
1273	Bradley 1820 (1st Star)	6* {	13. 48. 15.417	1871.2	8	+ 3.1515	+ 0.0108	- 0.006	0.05696	0.06796	1.44950	0.08197	88.286
1274	Bradley 1820 (2nd Star)		13. 48. 15.558	1870.4	1	+ 3.1515	+ 0.0108	- 0.006	0.05696	0.06796	1.44950	0.08197	88.286
1275	8 Boötis	3*	13. 48. 35.396	1872.2	70	+ 2.8617	- 0.0006	- 0.004	0.05586	0.06737	1.44501	0.07171	89.451
1276	Groombridge 2066..	6	13. 50. 29.640	1874.4	7	- 0.3147	+ 0.1831	..	9.94039	0.01208	1.39240	9.94305	110.953
1277	9 Boötis	5*	13. 50. 43.455	1875.0	5	+ 2.7403	- 0.0037	+ 0.002	0.05426	0.06629	1.44311	0.06761	90.051
1278	Piazzi XIII. 264 ...	6*	13. 52. 29.146	1875.0	3	+ 2.9001	+ 0.0010	+ 0.003	0.05654	0.06723	1.44560	0.07333	89.259
1279	10 Boötis	6*	13. 52. 39.067	1872.3	1	+ 2.8131	- 0.0016	+ 0.003	0.05556	0.06669	1.44425	0.07036	89.666
1280	93 Virginis	4*	13. 55. 7.993	1871.8	29	+ 3.0479	+ 0.0064	+ 0.001	0.05748	0.06740	1.44790	0.07838	88.663

1248. The magnitude is taken from Oeltzen's Argelander (N. Zones).

1249. The right ascension of this star in the British Association Catalogue appears to be 6^s. too great.1266, 1267. In the first Melbourne Catalogue the magnitudes of the two components of *h* Centauri are 5.5 and 7.1 respectively.1273, 1274. In Struve's *Mensura Micrometrica* the magnitudes of the two components of Bradley 1820 are 6.7 and 7.9 respectively.

No.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of 1'	No. in Bessel's Bradley. 1755.	No. in Piazz. 1800.	No. in Groombridge. 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
1241	10. 41. 40.74	1873.9	14	+18.663	-0.034	-0.02	9.88064	0.32519	1.64011	9.92116	64.902	..	XIII. 133	2012	4527
1242	99. 30. 15.02	1875.3	6	+18.651	-0.177	+0.02	9.92044	0.01975	1.63999	9.92041	89.827	1786	XIII. 118	..	4521
1243	96. 57. 49.83	1874.0	3	+18.636	-0.177	-0.01	9.91068	0.03634	1.63985	9.91939	89.336	1787	XIII. 121	..	4525
1244	102. 33. 23.87	1873.4	7	+18.599	-0.182	+0.06	9.93339	9.99934	1.63948	9.91694	90.626	..	XIII. 126	..	4531
1245	89. 56. 25.28	1871.9	34	+18.589	-0.176	-0.06	9.88406	0.07957	1.63938	9.91631	87.905	1789	XIII. 128	..	4532
1246	94. 44. 34.95	1871.1	11	+18.566	-0.180	-0.09	9.90249	0.05051	1.63914	9.91481	89.119	1790	XIII. 130	..	4535
1247	52. 9. 38.94	1871.4	2	+18.558	-0.156	+0.09	9.79574	0.24739	1.63908	9.91435	77.393	..	XIII. 136	2014	4536
1248	36. 36. 43.07	1873.2	2	+18.505	-0.142	..	9.80065	0.28794	1.63855	9.91096	73.114	..	....	..	..
1249	36. 39. 28.37	1875.3	1	+18.477	-0.143	+0.01	9.79872	0.28762	1.63826	9.90913	73.340	1794	....	..	4550
1250	53. 3. 10.92	1873.6	10	+18.468	-0.160	..	9.79162	0.24392	1.63817	9.90860	78.272	..	....	..	4552
1251	18. 6. 21.56	1874.6	18	+18.387	-0.092	..	9.83613	0.31628	1.63736	9.90351	68.987	..	....	2029	..
1252	69. 23. 45.30	1870.3	26	+18.371	-0.176	-0.02	9.81471	0.18251	1.63720	9.90254	83.604	1797	XIII. 160	..	4562
1253	98. 3. 20.92	1872.8	14	+18.359	-0.193	0.00	9.91735	0.03011	1.63709	9.90181	90.564	1796	XIII. 162	..	4565
1254	66. 51. 17.58	1874.2	11	+18.357	-0.175	-0.01	9.80801	0.19308	1.63706	9.90163	82.975	1798	XIII. 164	..	4566
1255	94. 51. 10.12	1870.3	5	+18.276	-0.195	+0.06	9.90445	0.05036	1.63625	9.89668	90.225	..	XIII. 174	..	4572
1256	24. 31. 49.29	1874.0	12	+18.266	-0.120	+0.27	9.80909	0.30720	1.63615	9.89610	71.577	..	XIII. 184	2034	4577
1257	122. 23. 40.56	1869.1	16	+18.233	-0.216	+0.22	0.02395	9.85298	1.63583	9.89412	94.289	1803	XIII. 178	..	4579
1258	101. 47. 1.07	1874.2	9	+18.208	-0.203	-0.01	9.93490	0.00629	1.63556	9.89259	91.744	1805	XIII. 186	..	4585
1259	99. 3. 59.57	1871.5	7	+18.158	-0.204	..	9.92345	0.02422	1.63506	9.88960	91.429	..	....	..	4591
1260	63. 39. 16.66	1873.5	17	+18.146	-0.181	+0.05	9.79393	0.20457	1.63495	9.88890	83.276	1808	XIII. 196	..	4594
1261	71. 54. 14.89	1871.5	11	+18.132	-0.188	-0.05	9.81611	0.17052	1.63479	9.88801	85.534	1810	XIII. 199	..	4597
1262	34. 55. 35.75	1875.0	3	+18.108	-0.149	+0.11	9.77757	0.28785	1.63455	9.88661	75.531	1812	XIII. 205	2049	4605
1263	11. 17. 39.86	1873.7	8	+18.096	-0.020	-0.07	9.84029	0.31908	1.63443	9.88591	69.632	..	....	2053	4614
1264	40. 2. 49.13	1872.2	77	+18.082	-0.158	+0.03	9.77063	0.27651	1.63430	9.88509	77.115	1815	XIII. 209	2050	4607
1265	73. 33. 57.85	1874.2	8	+18.051	-0.192	-0.04	9.81994	0.16272	1.63398	9.88330	86.352	1813	XIII. 210	..	4615
1266	122. 21. 25.53	1869.0	12	+18.008	-0.229	+0.10	0.02894	9.85704	1.63356	9.88076	94.680	1814	XIII. 216	..	4623
1267	122. 21. 28.98	1869.1	3	+18.008	-0.229	..	0.02902	9.85692	1.63355	9.88074	94.682	1814	XIII. 217	..	4623
1268	54. 41. 56.30	1873.4	7	+17.967	-0.180	..	9.77026	0.23494	1.63314	9.87839	81.873	..	....	..	4628
1269	27. 52. 18.03	1874.5	8	+17.964	-0.134	..	9.78118	0.29926	1.63310	9.87820	74.656	..	....	2055	..
1270	6. 36. 20.24	1874.3	8	+17.943	+0.128	+0.09	9.84911	0.31990	1.63289	9.87703	69.751	..	XIII. 263	2063	4643
1271	72. 38. 13.27	1870.1	4	+17.932	-0.196	-0.25	9.81445	0.16640	1.63278	9.87637	86.695	..	XIII. 228	..	4634
1272	24. 38. 37.59	1873.1	33	+17.881	-0.123	+0.04	9.78347	0.30327	1.63226	9.87342	74.421	1823	XIII. 243	2059	4646
1273	97. 25. 39.09	1871.2	8	+17.859	-0.217	+0.03	9.91840	0.03535	1.63204	9.87217	92.106	1820	XIII. 238	..	4647
1274	97. 25. 38.67	1870.4	1	+17.859	-0.217	+0.03	9.91840	0.03535	1.63204	9.87217	92.106				
1275	70. 57. 34.94	1872.2	60	+17.846	-0.198	+0.36	9.80686	0.17324	1.63191	9.87142	86.712	1821	XIII. 240	..	4648
1276	10. 22. 21.01	1873.6	16	+17.768	+0.014	..	9.82334	0.31629	1.63112	9.86706	71.837	..	....	2066	4659
1277	61. 52. 45.04	1873.6	15	+17.759	-0.193	+0.05	9.77699	0.20880	1.63103	9.86657	84.909	1826	XIII. 254	..	4656
1278	74. 43. 27.98	1875.2	5	+17.687	-0.207	+0.19	9.81770	0.15609	1.63029	9.86253	88.317	..	XIII. 264	..	4662
1279	67. 40. 41.71	1872.3	1	+17.680	-0.201	+0.02	9.79197	0.18605	1.63023	9.86215	86.727	1828	XIII. 266	..	4664
1280	87. 50. 5.31	1872.3	11	+17.576	-0.222	+0.07	9.87402	0.09101	1.62917	9.85643	91.412	1829	XIII. 275	..	4672

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Coelestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazz's Catalogue (1814); from Weiss's two Catalogues, *Positiones Mediae Stellarum Fixarum in Zonis Regiomontanis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fra- tion of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
1281	11 Boötis.....	6*	13. 55. 22.192	1875.8	5	+ 2.7292	- 0.0033	- 0.005	0.05456	0.06580	1.44294	0.06780	90.064
1282	Piazzi XIII. 286..	6-7	13. 57. 31.344	1875.3	6	+ 3.2401	+ 0.0148	+ 0.003	0.05692	0.06679	1.45086	0.08453	88.083
1283	Piazzi XIII. 306..	6-7†	13. 59. 1.405	1874.6	5	+ 1.3167	+ 0.0181	+ 0.019	0.01546	0.04391	1.42022	0.01988	98.684
1284	94 Virginis.....	6	13. 59. 31.167	1872.5	7	+ 3.1691	+ 0.0115	- 0.002	0.05750	0.06687	1.44977	0.08222	88.285
1285	95 Virginis.....	6*	13. 59. 56.745	1872.5	6	+ 3.1745	+ 0.0117	- 0.010	0.05750	0.06681	1.44986	0.08236	88.274
1286	11 Draconis..... α	3-4*	14. 0. 55.445	1871.9	29	+ 1.6295	+ 0.0048	- 0.010	0.02685	0.04946	1.42537	0.03205	96.519
1287	96 Virginis.....	6-7†	14. 2. 11.511	1874.0	3	+ 3.1887	+ 0.0123	+ 0.003	0.05758	0.06656	1.45008	0.08273	88.242
1288	Piazzi XIII. 316..	6-5*	14. 2. 48.595	1869.9	6	+ 2.4022	- 0.0063	+ 0.007	0.04909	0.06157	1.43778	0.05834	91.724
1289	Groombridge 2099	7-8	14. 2. 52.501	1868.3	1	- 7.6949	+ 2.4456	..	9.46915	9.82086	1.23817	9.47183	157.911
1290	13 Boötis.....	6*	14. 3. 30.291	1870.3	10	+ 2.2527	- 0.0063	- 0.009	0.04565	0.05945	1.43541	0.05371	92.567
1291	Piazzi XIII. 317..	6*	14. 3. 51.174	1876.0	3	+ 3.2655	+ 0.0157	- 0.005	0.05714	0.06610	1.45126	0.08496	88.054
1292	Oeltz. Arg. (N) 14328	8-9	14. 3. 55.097	1874.8	2	+ 0.4711	+ 0.0759	..	9.98966	0.02768	1.40604	9.99297	103.779
1293	12 Boötis..... d	5*	14. 4. 33.657	1872.8	3	+ 2.7395	- 0.0018	0.000	0.05563	0.06511	1.44310	0.06913	89.939
1294	3 Ursæ Minoris.....	6-7†	14. 5. 56.883	1875.5	3	+ 0.4291	+ 0.0783	..	9.99009	0.02681	1.40533	9.99335	103.837
1295	98 Virginis..... κ	4-5*	14. 6. 4.197	1871.6	25	+ 3.1914	+ 0.0123	+ 0.001	0.05780	0.06620	1.45012	0.08268	88.251
1296	B. F. 1943.....	6-7†	14. 7. 36.817	1869.7	15	+ 3.4588	+ 0.0249	- 0.017	0.05518	0.06440	1.45422	0.09025	87.692
1297	14 Boötis.....	6*	14. 7. 55.814	1873.1	4	+ 2.9014	+ 0.0024	- 0.013	0.05760	0.06583	1.44562	0.07422	89.222
1298	Piazzi XIV. 22...	6*	14. 8. 20.978	1876.0	5	+ 3.2975	+ 0.0169	+ 0.008	0.05719	0.06552	1.45175	0.08562	88.005
1299	15 Boötis.....	6*	14. 8. 34.792	1875.4	1	+ 2.9377	+ 0.0035	+ 0.004	0.05788	0.06591	1.44619	0.07530	89.081
1300	Groombridge 2089	6*	14. 9. 13.797	1872.4	1	+ 2.4261	- 0.0052	..	0.05078	0.06144	1.43816	0.06034	91.463
1301	99 Virginis..... ι	4*	14. 9. 18.237	1869.5	5	+ 3.1396	+ 0.0102	+ 0.001	0.05821	0.06603	1.44932	0.08110	88.408
1302	4 Ursæ Minoris.....	5*	14. 9. 22.991	1876.3	2	- 0.3365	+ 0.1559	- 0.015	9.96649	0.01127	1.39205	9.96922	108.314
1303	Groombridge 2091.	6-5*	14. 9. 41.561	1874.7	3	+ 1.0990	+ 0.0284	+ 0.019	0.01503	0.03954	1.41663	0.01917	99.290
1304	16 Boötis..... α	1*	14. 9. 49.390	1872.1	164	+ 2.8132	+ 0.0003	- 0.079	0.05698	0.06520	1.44425	0.07177	89.577
1305	19 Boötis..... λ	4*	14. 11. 31.004	1870.0	8	+ 2.3026	- 0.0051	- 0.018	0.04859	0.05966	1.43620	0.05714	92.081
1306	Lalande 26150....	6-7†	14. 11. 33.797	1875.4	1	+ 3.3098	+ 0.0172	..	0.05733	0.06517	1.45194	0.08576	87.994
1307	21 Boötis..... ι	4-5*	14. 11. 37.985	1874.5	1	+ 2.1439	- 0.0045	- 0.018	0.04500	0.05737	1.43367	0.05248	92.957
1308	100 Virginis..... λ	5-4*	14. 12. 11.184	1872.8	30	+ 3.2376	+ 0.0141	- 0.002	0.05793	0.06548	1.45083	0.08374	88.163
1309	Boötis..... A	5*	14. 12. 35.088	1875.4	3	+ 2.5391	- 0.0038	- 0.007	0.05343	0.06253	1.43995	0.06420	90.825
1310	Bradley 1856.....	6	14. 12. 48.149	1868.3	1	+ 2.1386	- 0.0043	+ 0.002	0.04517	0.05723	1.43359	0.05264	92.952
1311	18 Boötis.....	6*	14. 13. 4.640	1875.0	3	+ 2.8948	+ 0.0026	+ 0.008	0.05791	0.06534	1.44552	0.07427	89.239
1312	20 Boötis.....	5*	14. 13. 41.695	1875.0	3	+ 2.8485	+ 0.0015	- 0.008	0.05761	0.06507	1.44480	0.07302	89.418
1313	2 Libræ.....	6	14. 16. 32.501	1871.8	8	+ 3.2198	+ 0.0132	- 0.004	0.05835	0.06516	1.45056	0.08309	88.223
1314	Groombridge 2105.	7	14. 17. 24.020	1873.7	3	+ 1.1699	+ 0.0236	..	0.02148	0.04059	1.41781	0.02581	98.348
1315	Groombridge 2108.	7	14. 18. 39.167	1875.4	1	+ 1.1530	+ 0.0243	..	0.02167	0.04024	1.41753	0.02597	98.369
1316	22 Boötis..... f	5*	14. 20. 30.167	1871.9	22	+ 2.7952	+ 0.0009	+ 0.001	0.05769	0.06417	1.44397	0.07201	89.604
1317	52 Hydræ.....	6-5*	14. 20. 40.885	1871.4	13	+ 3.4976	+ 0.0251	- 0.005	0.05604	0.06300	1.45481	0.08995	87.704
1318	23 Boötis..... θ	4-3*	14. 20. 50.303	1871.0	21	+ 2.0697	- 0.0026	- 0.029	0.04557	0.05573	1.43248	0.05275	93.099
1319	106 Virginis.....	6*	14. 21. 56.685	1869.0	1	+ 3.1582	+ 0.0109	+ 0.001	0.05895	0.06486	1.44960	0.08135	88.399
1320	B. F. 1983.....	6	14. 22. 58.374	1873.0	6	+ 2.4886	- 0.0029	..	0.05402	0.06122	1.43915	0.06430	90.929

No.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of ι	No. in Bessel's 1755.	No. in Piazz.	No. in Groombridge.	No. in B.A.C.
							e'	f'	g'	h'					
1281	61. 59. 38.80	1874.6	14	+17.567	-0.200	-0.02	9.77115	0.20717	1.62908	9.85588	85.937	1830	XIII. 282	..	4675
1282	104. 21. 18.08	1874.2	3	+17.475	-0.239	+0.03	9.95482	9.99302	1.62813	9.85090	94.165	..	XIII. 286	..	4679
1283	20. 42. 16.26	1873.8	12	+17.410	-0.103	+0.04	9.76522	0.30366	1.62747	9.84740	76.651	..	XIII. 306	2075	4689
1284	98. 16. 45.65	1870.6	3	+17.389	-0.238	+0.01	9.92552	0.03144	1.62725	9.84623	93.651	1833	XIII. 297	..	4688
1285	98. 42. 4.41	1872.5	6	+17.370	-0.239	-0.01	9.92773	0.02897	1.62706	9.84521	93.759	1834	XIII. 299	..	4690
1286	25. 0. 41.99	1871.8	64	+17.328	-0.127	0.00	9.74842	0.29732	1.62662	9.84294	78.211	1836	XIII. 312	2076	4696
1287	99. 43. 35.37	1874.0	3	+17.270	-0.244	0.00	9.93359	0.02301	1.62603	9.83993	94.168	1835	XIII. 311	..	4698
1288	45. 32. 8.37	1869.9	6	+17.243	-0.186	+0.12	9.72640	0.25582	1.62575	9.83847	83.702	..	XIII. 316	2078	4699
1289	3. 37. 44.91	1868.3	1	+17.241	+0.566	..	9.82132	0.31344	1.62572	9.83834	74.066	..	....	2099	..
1290	39. 56. 9.42	1870.3	10	+17.212	-0.176	-0.04	9.72263	0.26908	1.62544	9.83686	82.520	1838	XIV. 6	2080	4701
1291	105. 41. 44.60	1876.0	3	+17.197	-0.252	+0.06	9.96450	9.98586	1.62528	9.83603	94.989	..	XIII. 317	..	4700
1292	14. 49. 9.77	1873.3	1	+17.194	-0.043	..	9.77188	0.30725	1.62525	9.83586	76.729	..	....	..	..
1293	64. 18. 3.15	1874.6	23	+17.164	-0.214	+0.05	9.76693	0.19622	1.62495	9.83432	88.434	1839	XIV. 8	..	4706
1294	14. 47. 59.35	1875.2	9	+17.102	-0.040	-0.07	9.76656	0.30631	1.62430	9.83103	77.319	..	XIV. 27	2085	4718
1295	99. 40. 35.26	1871.1	26	+17.096	-0.251	-0.02	9.93460	0.02392	1.62424	9.83074	94.633	1842	XIV. 14	..	4716
1296	118. 40. 52.94	1869.8	14	+17.025	-0.274	-0.49	0.03060	9.89903	1.62350	9.82704	96.145	..	....	..	4719
1297	76. 26. 20.55	1873.5	6	+17.010	-0.231	+0.06	9.81558	0.14581	1.62335	9.82629	91.506	1844	XIV. 23	..	4721
1298	107. 36. 7.55	1876.0	5	+16.991	-0.263	+0.01	9.97635	9.97488	1.62316	9.82528	95.622	..	XIV. 22	..	4722
1299	79. 17. 44.14	1875.4	1	+16.980	-0.235	+0.17	9.82918	0.13265	1.62304	9.82472	92.126	1845	XIV. 25	..	4724
1300	47. 52. 44.69	1872.4	1	+16.950	-0.196	..	9.71575	0.24719	1.62272	9.82317	85.860	..	....	2089	4728
1301	95. 23. 17.54	1869.3	6	+16.947	-0.252	+0.41	9.91286	0.04950	1.62269	9.82301	94.560	1846	XIV. 28	..	4727
1302	11. 51. 3.75	1876.3	3	+16.943	+0.019	-0.03	9.76886	0.30682	1.62265	9.82281	77.691	1859	XIV. 49	2094	4733
1303	19. 57. 58.68	1869.9	9	+16.928	-0.093	+0.06	9.73862	0.29959	1.62250	9.82204	79.563	..	....	2091	4732
1304	70. 9. 0.09	1872.8	163	+16.922	-0.228	+1.93	9.78512	0.17217	1.62244	9.82175	90.704	1847	XIV. 32	..	4729
1305	43. 19. 22.25	1870.0	9	+16.842	-0.190	-0.15	9.70526	0.25792	1.62161	9.81765	85.404	1852	XIV. 41	2092	4741
1306	108. 7. 19.94	1875.4	1	+16.839	-0.269	..	9.98068	9.97262	1.62157	9.81749	95.987	..	....	..	4739
1307	38. 2. 29.01	1874.5	1	+16.836	-0.177	-0.08	9.70312	0.26980	1.62155	9.81738	84.228	1854	XIV. 42	2093	4742
1308	102. 46. 48.96	1872.9	31	+16.810	-0.265	-0.02	9.95308	0.00626	1.62128	9.81604	95.658	1850	XIV. 37	..	4743
1309	53. 53. 55.98	1875.4	3	+16.791	-0.210	0.00	9.72198	0.22874	1.62108	9.81506	88.007	..	XIV. 45	..	4747
1310	38. 5. 59.13	1868.3	1	+16.781	-0.178	-0.07	9.70018	0.26916	1.62097	9.81454	84.556	1856	XIV. 50	2096	4752
1311	76. 24. 13.86	1875.0	3	+16.767	-0.239	-0.01	9.81245	0.14507	1.62083	9.81385	92.447	1853	XIV. 46	..	4751
1312	73. 6. 19.32	1874.3	10	+16.737	-0.236	-0.10	9.79567	0.15915	1.62053	9.81235	92.003	1855	XIV. 51	..	4753
1313	101. 7. 39.60	1871.8	8	+16.599	-0.271	+0.09	9.94581	0.01711	1.61908	9.80538	96.038	1860	XIV. 64	..	4765
1314	21. 37. 53.43	1874.4	10	+16.557	-0.103	..	9.71223	0.29390	1.61864	9.80328	82.165	..	....	2105	..
1315	21. 36. 47.99	1875.1	4	+16.495	-0.103	..	9.70885	0.29330	1.61800	9.80021	82.518	..	....	2108	..
1316	70. 11. 46.65	1871.7	29	+16.402	-0.242	-0.04	9.77590	0.16940	1.61702	9.79562	92.852	1864	XIV. 86	..	4785
1317	118. 54. 51.05	1871.3	14	+16.392	-0.301	+0.05	0.04088	9.90565	1.61694	9.79516	97.142	1862	XIV. 82	..	4784
1318	37. 33. 24.34	1870.7	18	+16.386	-0.181	+0.41	9.67988	0.26665	1.61685	9.79479	86.594	1867	XIV. 92	2110	4789
1319	96. 19. 25.89	1869.0	1	+16.329	-0.274	+0.05	9.92044	0.04548	1.61626	9.79202	96.343	1866	XIV. 91	..	4795
1320	53. 13. 45.80	1873.0	6	+16.278	-0.219	..	9.70140	0.22682	1.61572	9.78949	90.353	..	....	..	4797

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked *, and those from Heis's *Atlas Caelestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radeliffe Catalogue (1860); from Piazz's Catalogue (1814); from Weisse's two Catalogues, *Positiones Media Stellarum Fixarum in Zonis Regiomontanis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fra- tion of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
			h m s			s	s	s					s
1321	Piazzi XIV. 103 ..	6-7†	14. 24. 20.674	1874.8	5	+ 2.5732	- 0.0020	+ 0.002	0.05546	0.06202	1.44049	0.06664	90.523
1322	25 Boötis..... ρ	4-3*	14. 26. 18.785	1872.2	28	+ 2.5947	- 0.0016	- 0.008	0.05598	0.06210	1.44083	0.06741	90.406
1323	Groombridge 2123.	6†	14. 27. 43.683	1874.1	7	+ 1.4430	+ 0.0118	..	0.03323	0.04510	1.42231	0.03820	96.246
1324	5 Ursæ Minoris.....	5-4*	14. 27. 49.267	1872.7	12	- 0.2163	+ 0.1210	+ 0.009	9.98927	0.01334	1.39416	9.99211	105.540
1325	Piazzi XIV. 128 ..	6-7†	14. 29. 24.451	1874.2	5	+ 2.4568	- 0.0024	+ 0.011	0.05442	0.06041	1.43865	0.06438	90.989
1326	Groombridge 2132.	6	14. 30. 54.367	1872.7	5	+ 1.2385	+ 0.0192	..	0.02963	0.04135	1.41895	0.03418	97.204
1327	30 Boötis..... ζ	3-4*	14. 35. 2.181	1872.6	5	+ 2.8592	+ 0.0032	+ 0.002	0.05932	0.06331	1.44497	0.07436	89.318
1328	Centauri ε ¹	5	14. 35. 50.022	1870.9	6	+ 3.6525	+ 0.0301	- 0.008	0.05576	0.06034	1.45716	0.09195	87.571
1329	107 Virginis μ	4*	14. 36. 18.990	1869.0	1	+ 3.1474	+ 0.0104	+ 0.007	0.05996	0.06363	1.44944	0.08085	88.462
1330	34 Boötis.....	6*	14. 37. 47.841	1873.1	3	+ 2.6380	0.0000	+ 0.001	0.05774	0.06162	1.44151	0.06956	90.125
1331	Groombridge 2146.	6*	14. 38. 51.830	1874.4	5	+ 1.4785	+ 0.0106	..	0.03802	0.04527	1.42290	0.04311	95.582
1332	5 Libræ	6-7†	14. 38. 54.464	1873.8	13	+ 3.2998	+ 0.0152	- 0.003	0.05954	0.06292	1.45178	0.08410	88.129
1333	108 Virginis	6*	14. 38. 59.070	1874.4	3	+ 3.0534	+ 0.0078	- 0.013	0.06021	0.06347	1.44798	0.07878	88.712
1334	35 Boötis..... o	5-4*	14. 39. (16.)	..	..	+ 2.8021	+ 0.0024	- 0.005	0.05930	0.06267	1.44408	0.07330	89.502
1335	36 Boötis..... ε ²	2-3*	14. 39. 23.804	1871.8	66	+ 2.6240	0.0000	- 0.005	0.05776	0.06137	1.44129	0.06938	90.169
1336	Lacaille 6111.....	6-7	14. 41. 55.241	1876.4	1	+ 3.4536	+ 0.0206	..	0.05867	0.06174	1.45414	0.08717	87.864
1337	7 Libræ..... μ	6*	14. 42. 18.222	1871.3	6	+ 3.2828	+ 0.0145	- 0.004	0.05990	0.06273	1.45152	0.08360	88.172
1338	8 Libræ	6	14. 43. 36.605	1876.2	4	+ 3.3144	+ 0.0155	- 0.007	0.05983	0.06247	1.45201	0.08420	88.113
1339	9 Libræ..... α	2-3*	14. 43. 48.006	1872.1	46	+ 3.3153	+ 0.0155	- 0.007	0.05985	0.06245	1.45202	0.08421	88.113
1340	Bradley 1895.....	6	14. 44. 25.559	1875.4	5	+ 3.3452	+ 0.0165	- 0.007	0.05971	0.06224	1.45248	0.08479	88.059
1341	Piazzi XIV. 193..	6*	14. 44. 27.735	1874.7	3	+ 2.5819	0.0000	+ 0.013	0.05785	0.06063	1.44062	0.06892	90.295
1342	6 Ursæ Minoris.....	7	14. 45. 11.611	1874.8	5	+ 0.2737	+ 0.0681	- 0.031	0.01428	0.02271	1.40267	0.01751	101.465
1343	Groombridge 2154.	6	14. 45. 26.595	1868.3	1	+ 2.3869	- 0.0010	..	0.05563	0.05853	1.43754	0.06490	91.083
1344	37 Boötis..... ξ	4*	14. 45. 29.094	1875.7	3	+ 2.7570	+ 0.0021	+ 0.010	0.05952	0.06192	1.44337	0.07267	89.635
1345	13 Libræ	6*	14. 47. 26.032	1869.4	5	+ 3.2517	+ 0.0133	- 0.003	0.06045	0.06244	1.45104	0.08278	88.248
1346	Piazzi XIV. 204 ..	5-6	14. 47. 53.690	1868.4	4	+ 3.6603	+ 0.0283	- 0.004	0.05716	0.05943	1.45728	0.09082	87.610
1347	15 Libræ	6*	14. 49. 49.497	1873.9	11	+ 3.2458	+ 0.0130	- 0.001	0.06066	0.06227	1.45095	0.08259	88.268
1348	Piazzi XIV. 212 ..	6	14. 49. 59.756	1875.4	2	+ 3.4160	+ 0.0185	+ 0.069	0.05971	0.06139	1.45356	0.08591	87.952
1349	W.B. XIV. 941...	9	14. 50. 48.856	1875.0	3	+ 3.0867	+ 0.0087	..	0.06107	0.06250	1.44850	0.07946	88.632
1350	7 Ursæ Minoris .. β	2*	14. 51. 6.073	1872.5	77	- 0.2419	+ 0.1025	- 0.005	0.00636	0.01225	1.39370	0.00916	103.675
1351	Piazzi XIV. 226 ..	6*	14. 51. 13.576	1874.7	3	+ 2.7961	+ 0.0030	+ 0.003	0.06027	0.06170	1.44399	0.07377	89.478
1352	19 Libræ	5*	14. 54. 8.124	1869.4	4	+ 3.2018	+ 0.0116	- 0.006	0.06115	0.06207	1.45028	0.08164	88.367
1353	40 Boötis.....	5*	14. 54. 42.422	1876.1	3	+ 2.3036	- 0.0003	- 0.003	0.05586	0.05695	1.43622	0.06441	91.304
1354	Piazzi XIV. 260 ..	5*	14. 55. 33.185	1875.6	5	+ 0.9464	+ 0.0283	- 0.004	0.03332	0.03517	1.41407	0.03734	97.517
1355	41 Boötis	5-4*	14. 56. 30.099	1874.6	4	+ 2.6279	+ 0.0013	- 0.001	0.05955	0.06016	1.44135	0.07083	90.029
1356	42 Boötis	3*	14. 57. 7.461	1871.1	24	+ 2.2638	0.0000	- 0.003	0.05571	0.05630	1.43558	0.06395	91.436
1357	43 Boötis	4-5*	14. 58. 57.652	1872.6	21	+ 2.5834	+ 0.0011	- 0.013	0.05943	0.05961	1.44065	0.07018	90.171
1358	Groombridge 2196.	5	14. 59. (6.)	..	..	- 4.6368	+ 0.7090	..	9.90839	9.91002	1.30891	9.90993	124.676
1359	21 Libræ	6*	14. 59. 29.447	1869.9	2	+ 3.3384	+ 0.0153	- 0.004	0.06104	0.06112	1.45238	0.08398	88.110
1360	22 Libræ	6-7	14. 59. 40.546	1874.4	2	+ 3.3427	+ 0.0154	- 0.007	0.06103	0.06108	1.45244	0.08405	88.104

1348. The adopted proper motion is taken from the Bonn Observations, Vol. VII., page 111.

1878 GOAMM.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of μ	No. in Bessel's Bradley. 1755.	No. in Piazz. 1800.	No. in Groom-bridge. 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
1321	57. 38. 16.97	1874.9	6	+ 16.207	- 0.228	- 0.02	9.71450	0.21289	1.61497	9.78602	91.507	..	XIV. 103	..	4803
1322	59. 3. 56.17	1871.9	42	+ 16.104	- 0.232	- 0.14	9.71725	0.20758	1.61389	9.78108	92.215	1869	XIV. 112	..	4808
1323	26. 14. 51.76	1873.3	9	+ 16.030	- 0.133	..	9.67136	0.28260	1.61311	9.77751	86.132	..	....	2123	4817
1324	13. 44. 5.28	1873.5	28	+ 16.026	+ 0.012	+ 0.02	9.71012	0.29584	1.61306	9.77730	83.567	1873	XIV. 136	2130	4822
1325	52. 48. 37.96	1873.4	10	+ 15.942	- 0.224	+ 0.05	9.68806	0.22542	1.61217	9.77329	91.836	..	XIV. 128	..	4825
1326	24. 2. 41.54	1872.5	10	+ 15.861	- 0.117	..	9.66689	0.28381	1.61132	9.76942	86.598	..	....	2132	4834
1327	75. 43. 16.87	1874.0	11	+ 15.638	- 0.268	0.00	9.79588	0.14376	1.60894	9.75889	96.450	1876	XIV. 152	..	4849
1328	124. 37. 12.71	1869.8	5	+ 15.594	- 0.342	+ 0.26	0.07922	9.87982	1.60847	9.75682	98.045	..	XIV. 150	..	4852
1329	95. 5. 59.21	1869.0	1	+ 16.568	- 0.296	+ 0.33	9.91582	0.05346	1.60818	9.75557	98.209	1880	XIV. 158	..	4855
1330	62. 55. 36.46	1873.9	11	+ 15.486	- 0.251	- 0.01	9.71975	0.19071	1.60730	9.75173	95.405	1883	XIV. 165	..	4864
1331	28. 11. 30.34	1873.3	8	+ 15.427	- 0.144	..	9.63538	0.27368	1.60666	9.74901	89.716	..	....	2146	..
1332	104. 55. 4.54	1873.8	13	+ 15.424	- 0.314	+ 0.01	9.97552	0.00087	1.60664	9.74889	98.788	1882	XIV. 167	..	4868
1333	88. 44. 27.05	1874.4	3	+ 15.420	- 0.291	- 0.05	9.87628	0.08529	1.60659	9.74867	98.253	1884	XIV. 168	..	4869
1334	72. 29. 32.83	1874.3	2	+ 15.404	- 0.268	+ 0.04	9.77349	0.15563	1.60642	9.74793	96.910	1888	XIV. 172	..	4873
1335	62. 23. 5.34	1871.7	77	+ 15.396	- 0.252	- 0.01	9.71475	0.19198	1.60634	9.74759	95.684	1890	XIV. 175	..	4876
1336	113. 43. 33.33	1876.4	1	+ 15.254	- 0.334	..	0.02686	9.95137	1.60481	9.74102	98.977	..	....	..	4888
1337	103. 36. 49.19	1871.3	6	+ 15.232	- 0.318	+ 0.03	9.96914	0.00910	1.60458	9.74001	99.168	1891	XIV. 183	..	4890
1338	105. 27. 47.52	1876.1	3	+ 15.158	- 0.323	+ 0.07	9.98064	9.99931	1.60378	9.73660	99.309	1893	XIV. 186	..	4894
1339	105. 30. 28.37	1872.2	41	+ 15.147	- 0.323	+ 0.06	9.98096	9.99920	1.60365	9.73607	99.327	1894	XIV. 187	..	4895
1340	107. 15. 20.33	1875.4	6	+ 15.111	- 0.327	+ 0.17	9.99149	9.98969	1.60326	9.73445	99.375	1895	XIV. 188	..	4896
1341	60. 51. 9.27	1874.7	3	+ 15.109	- 0.254	+ 0.02	9.69958	0.19506	1.60324	9.73432	96.617	..	XIV. 193	..	4902
1342	17. 29. 58.88	1873.8	7	+ 15.067	- 0.033	+ 0.01	9.64355	0.28252	1.60279	9.73244	89.501	1906	XIV. 210	2161	4909
1343	52. 12. 7.54	1868.3	1	+ 15.052	- 0.237	..	9.65533	0.22011	1.60262	9.73174	95.653	..	....	2154	4906
1344	70. 21. 59.57	1874.4	7	+ 15.050	- 0.272	+ 0.12	9.75526	0.16201	1.60260	9.73165	97.929	1898	XIV. 197	..	4905
1345	101. 22. 26.04	1869.4	4	+ 14.937	- 0.323	+ 0.05	9.95718	0.02251	1.60138	9.72648	99.775	1901	XIV. 206	..	4915
1346	123. 19. 58.12	1868.4	4	+ 14.909	- 0.363	+ 0.04	0.08099	9.89844	1.60107	9.72525	98.917	..	XIV. 204	..	4916
1347	100. 53. 27.59	1875.2	7	+ 14.797	- 0.326	+ 0.03	9.95487	0.02558	1.59985	9.72017	100.069	1903	XIV. 214	..	4922
1348	110. 50. 8.93	1875.4	2	+ 14.786	- 0.343	+ 1.77	0.01486	9.97210	1.59973	9.71968	99.833	..	XIV. 212	..	4923
1349	90. 54. 48.14	1875.0	3	+ 14.737	- 0.312	..	9.89048	0.07491	1.59920	9.71749	100.136	..	....	..	..
1350	15. 19. 16.54	1872.3	128	+ 14.720	+ 0.018	+ 0.03	9.63387	0.28057	1.59901	9.71675	90.855	1917	XIV. 240	2172	4936
1351	73. 5. 42.41	1874.3	8	+ 14.712	- 0.283	- 0.05	9.76886	0.15022	1.59892	9.71638	99.321	..	XIV. 226	..	4933
1352	98. 0. 33.02	1869.4	4	+ 14.539	- 0.328	+ 0.02	9.93772	0.04095	1.59703	9.70863	100.640	1911	XIV. 238	..	4939
1353	50. 13. 33.04	1875.9	4	+ 14.505	- 0.238	- 0.06	9.62818	0.22080	1.59664	9.70709	97.673	1914	XIV. 248	2173	4943
1354	23. 33. 25.77	1874.6	12	+ 14.453	- 0.102	- 0.05	9.59229	0.26967	1.59608	9.70479	93.693	..	XIV. 260	2177	4949
1355	64. 29. 3.95	1875.0	5	+ 14.396	- 0.273	+ 0.05	9.70629	0.17875	1.59544	9.70223	99.689	1916	XIV. 255	..	4953
1356	49. 6. 11.42	1871.4	26	+ 14.358	- 0.237	+ 0.06	9.61794	0.22240	1.59504	9.70057	98.131	1918	XIV. 259	2178	4958
1357	62. 33. 6.56	1872.3	16	+ 14.244	- 0.271	0.00	9.69055	0.18396	1.59378	9.69556	100.059	1922	XIV. 270	..	4969
1358	6. 57. 50.72	1870.4	4	+ 14.236	+ 0.470	..	9.65157	0.27980	1.59369	9.69521	91.701	..	....	2196	4982
1359	105. 45. 30.43	1869.9	2	+ 14.212	- 0.350	+ 0.03	9.98860	0.00322	1.59342	9.69415	101.045	1919	XIV. 267	..	4970
1360	105. 59. 11.46	1874.8	3	+ 14.200	- 0.350	+ 0.01	9.99003	0.00217	1.59329	9.69362	101.055	1920	XIV. 269	..	4971

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Coelestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazz's Catalogue (1814); from Weisse's two Catalogues, *Positiones Medice Stellarum Fixarum in Zonis Regionum* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

{lxx}

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
1361	9 Ursæ Minoris	6-7†	15. 0. 17'896	1873.7	7	+ 0'1122	+ 0'0708	- 0'063	0'01930	0'01913	1'39988	0'02233	101'285
1362	Piazzì XIV. 282 ...	6	15. 2. 23'551	1876.3	1	+ 3'4874	+ 0'0198	+ 0'006	0'06037	0'05997	1'45465	0'08646	87'878
1363	46 Boötis	6*	15. 2. 52'190	1875.0	3	+ 2'5889	+ 0'0014	0'000	0'05989	0'05939	1'44073	0'07058	90'121
1364	Groombridge 2213..	6	15. 4. 48'287	1872.0	1	- 6'8505	+ 1'1722	..	9'85948	9'84710	1'25903	9'86084	134'396
1365	24 Libræ	5-4*	15. 4. 55'682	1874.6	19	+ 3'4104	+ 0'0171	- 0'002	0'06112	0'06031	1'45348	0'08498	88'002
1366	Piazzì XV. 19	6	15. 8. 58'005	1875.6	8	+ 3'4673	+ 0'0185	- 0'009	0'06115	0'05965	1'45434	0'08573	87'923
1367	48 Boötis	5*	15. 9. 8'103	1876.3	2	+ 2'5132	+ 0'0013	- 0'026	0'05993	0'05830	1'43954	0'06977	90'326
1368	27 Libræ	2*	15. 10. 7'248	1871.6	46	+ 3'2268	+ 0'0118	- 0'009	0'06237	0'06078	1'45066	0'08173	88'335
1369	49 Boötis	3*	15. 10. 20'496	1870.2	14	+ 2'4116	+ 0'0010	+ 0'009	0'05916	0'05720	1'43793	0'06815	90'692
1370	Groombridge 2214 ..	5-6*	15. 13. 10'626	1872.7	8	+ 0'6222	+ 0'0384	+ 0'037	0'03441	0'02860	1'40862	0'03788	98'212
1371	1 Coronæ	6*	15. 14. 50'858	1875.0	3	+ 2'4903	+ 0'0015	- 0'007	0'06038	0'05771	1'43918	0'06986	90'367
1372	Serpentis	Var.	15. 15. 40'153	1868.4	1	+ 2'8064	+ 0'0042	..	0'06246	0'05995	1'44414	0'07498	89'354
1373	30 Libræ	6	15. 15. 53'580	1869.0	12	+ 3'3363	+ 0'0142	- 0'003	0'06249	0'05994	1'45234	0'08331	88'141
1374	7 Serpentis	6-7†	15. 16. 19'628	1874.1	3	+ 2'8385	+ 0'0046	+ 0'003	0'06264	0'06005	1'44464	0'07551	89'261
1375	50 Boötis	5-6*	15. 16. (41.)	..	..	+ 2'4053	+ 0'0013	- 0'002	0'05986	0'05674	1'43783	0'06866	90'648
1376	11 Ursæ Minoris	5†	15. 17. 12'832	1872.1	9	- 0'1017	+ 0'0747	+ 0'033	0'02413	0'01448	1'39619	0'02691	101'247
1377	2 Coronæ	5*	15. 17. (55.)	..	..	+ 2'4675	+ 0'0016	+ 0'011	0'06054	0'05730	1'43882	0'06976	90'417
1378	Groombridge 2283..	6	15. 19. (23.)	..	..	- 22'6075	+ 7'6311	..	†	..	..	..	..
1379	51 Boötis	4-3*	15. 19. 39'307	1872.5	10	+ 2'2780	+ 0'0014	- 0'014	0'05906	0'05516	1'43581	0'06694	91'073
1380	13 Ursæ Minoris ..	3*	15. 20. 56'806	1871.3	22	- 0'1461	+ 0'0751	+ 0'018	0'02526	0'01351	1'39542	0'02797	101'225
1381	32 Libræ	5†	15. 21. 2'432	1871.8	18	+ 3'3722	+ 0'0148	+ 0'002	0'06281	0'05941	1'45289	0'08366	88'088
1382	12 Draconis	3*	15. 22. 5'068	1871.3	9	+ 1'3262	+ 0'0134	+ 0'010	0'04793	0'04094	1'42039	0'05242	94'814
1383	3 Coronæ	4-3*	15. 22. 33'138	1874.2	2	+ 2'4862	+ 0'0019	- 0'010	0'06122	0'05724	1'43913	0'07042	90'307
1384	34 Libræ	6*	15. 23. 27'281	1870.2	2	+ 3'3729	+ 0'0147	+ 0'004	0'06303	0'05925	1'45290	0'08357	88'089
1385	Piazzì XV. 96	6*	15. 25. 15'750	1874.7	6	+ 3'4363	+ 0'0161	- 0'009	0'06291	0'05877	1'45387	0'08441	87'994
1386	Groombridge 2241 ..	6*	15. 25. 19'263	1873.2	5	+ 1'1803	+ 0'0169	..	0'04679	0'03832	1'41797	0'05096	95'321
1387	Piazzì XV. 110	6*	15. 25. (19'5)	..	..	+ 1'0481	+ 0'0206	- 0'054	0'04499	0'03601	1'41578	0'04893	95'871
1388	Lacaille 6425	7	15. 26. 19'121	1874.4	2	+ 3'5535	+ 0'0192	+ 0'002	0'06235	0'05786	1'45566	0'08602	87'837
1389	38 Libræ	4-5*	15. 28. 22'093	1870.3	7	+ 3'3423	+ 0'0136	+ 0'002	0'06359	0'05908	1'45244	0'08296	88'142
1390	Piazzì XV. 136	6*	15. 29. (9.)	..	..	+ 0'8406	+ 0'0266	+ 0'020	0'04329	0'03217	1'41231	0'04689	96'599
1391	5 Coronæ	2*	15. 29. 16'111	1872.3	92	+ 2'5297	+ 0'0024	+ 0'009	0'06228	0'05717	1'43980	0'07155	90'116
1392	15 Serpentis	6*	15. 29. 44'723	1875.3	3	+ 2'7261	+ 0'0037	- 0'009	0'06342	0'05859	1'44289	0'07435	89'519
1393	40 Libræ	4-5*	15. 30. 47'949	1870.2	17	+ 3'6703	+ 0'0221	- 0'007	0'06208	0'05658	1'45743	0'08733	87'707
1394	....	7	15. 30. 49'999	1876.5	1	+ 3'4718	+ 0'0166	..	0'06328	0'05819	1'45441	0'08464	87'950
1395	42 Libræ	5-6	15. 32. 43'058	1874.1	8	+ 3'5353	+ 0'0180	- 0'003	0'06314	0'05761	1'45538	0'08540	87'867
1396	7 Coronæ (1st Star) ζ	} 4*{	15. 34. 33'052	1871.7	3	+ 2'2593	+ 0'0022	+ 0'013	0'06088	0'05412	1'43552	0'06825	90'955
1397	7 Coronæ (2nd Star) ζ		15. 34. 33'477	1870.8	5	+ 2'2593	+ 0'0022	+ 0'013	0'06088	0'05412	1'43552	0'06825	90'955
1398	43 Libræ		15. 34. 34'437	1873.5	5	+ 3'4484	+ 0'0157	- 0'003	0'06375	0'05810	1'45406	0'08415	87'985
1399	19 Serpentis		15. 35. 6'140	1873.4	3	+ 2'7540	+ 0'0041	+ 0'003	0'06405	0'05841	1'44333	0'07496	89'413
1400	15 Ursæ Minoris ... θ	6-5*	15. 35. 15'563	1871.5	9	- 1'9080	+ 0'1925	- 0'024	0'06613	9'97592	1'36352	0'00794	107'818

1370. The adopted proper motion is taken from the Bonn Observations, Vol. VII., page 112.

1372. The limits of magnitude are 7.6 and less than 12; period 361 days.

† For No. 1378, log. e = 9.07332, log. f = -8.91477, log. g = 0.37885, log. h = 9.07849, l = 203.229.

1394. The magnitude is taken from the Greenwich Observations, 1876.

1396, 1397. In Struve's *Mensura Micrometrica* the magnitudes of the two components of ζ Coronæ are 5.0 and 4.1 respectively.

1876 GOAMM. No.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fra- tion of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of l'	No. in Bessel's Bradley. 1755.	No. in Piazzi. 1800.	No. in Groom- bridge. 1810.	No. in B. A. C. 1850.
							e'	f'	g'	h'					
1361	17. 44. 4.29	1873.7	8	+ 14.162	- 0.018	- 0.13	9.59483	0.27245	1.59287	9.69193	94.055	..	XV. 2	2191	4978
1362	113. 29. 38.81	1876.4	1	+ 14.031	- 0.369	+ 0.04	0.03623	9.96426	1.59142	9.68622	100.824	..	XIV. 282	..	4984
1363	63. 12. 25.15	1875.2	5	+ 14.002	- 0.276	+ 0.02	9.69011	0.18036	1.59109	9.68494	100.976	1926	XIV. 290	..	4991
1364	5. 33. 14.87	1874.7	5	+ 13.881	+ 0.715	..	9.64306	0.27621	1.58973	9.67965	93.175	..	....	2213	5022
1365	109. 18. 17.73	1874.5	13	+ 13.872	- 0.365	+ 0.04	0.01250	9.98739	1.58964	9.67927	101.392	1927	XV. 3	..	4995
1366	111. 55. 24.40	1875.6	8	+ 13.615	- 0.377	+ 0.09	0.03003	9.97617	1.58676	9.66817	101.563	..	XV. 19	..	5023
1367	60. 21. 33.47	1873.8	12	+ 13.604	- 0.275	- 0.03	9.66238	0.18623	1.58664	9.66772	102.167	1935	XV. 25	..	5031
1368	98. 54. 30.84	1871.4	21	+ 13.541	- 0.353	+ 0.01	9.94724	0.03955	1.58592	9.66501	102.667	1934	XV. 26	..	5034
1369	56. 12. 22.72	1871.3	35	+ 13.526	- 0.266	+ 0.09	9.63215	0.19733	1.58575	9.66436	102.129	1936	XV. 29	..	5036
1370	22. 10. 0.40	1874.3	29	+ 13.342	- 0.074	+ 0.42	9.53769	0.25914	1.58367	9.65650	98.629	..	....	2214	5058
1371	59. 55. 5.06	1875.6	5	+ 13.232	- 0.279	+ 0.06	9.65108	0.18491	1.58244	9.65185	103.441	1942	XV. 49	..	5061
1372	75. 13. 27.79	1868.4	1	+ 13.179	- 0.314	..	9.76953	0.13599	1.58182	9.64957	104.133	..	....	..	..
1373	104. 40. 29.63	1873.9	8	+ 13.165	- 0.373	- 0.03	9.98731	0.01443	1.58166	9.64897	102.937	1941	XV. 50	..	5063
1374	76. 58. 20.97	1874.1	3	+ 13.136	- 0.319	+ 0.01	9.78312	0.12960	1.58134	9.64776	104.260	1943	XV. 55	..	5067
1375	56. 36. 24.60	1871.5	2	+ 13.112	- 0.271	- 0.02	9.62459	0.19310	1.58106	9.64674	103.651	1946	XV. 59	..	5072
1376	17. 42. 41.89	1872.3	17	+ 13.076	+ 0.006	- 0.03	9.53882	0.26034	1.58066	9.64524	99.090	1954	XV. 78	2228	5079
1377	59. 14. 54.74	1871.4	2	+ 13.030	- 0.279	+ 0.19	9.64187	0.18532	1.58013	9.64327	104.104	1947	XV. 67	..	5075
1378	2. 16. 46.37	1868.6	5	+ 12.931	+ 2.516	..	9.62211	0.26583	1.57899	9.63912	97.012	..	....	2283	5140
1379	52. 10. 21.15	1872.5	11	+ 12.914	- 0.260	- 0.09	9.58883	0.20275	1.57880	9.63844	104.055	1950	XV. 73	2226	5084
1380	17. 42. 37.77	1872.5	31	+ 12.827	+ 0.011	- 0.06	9.52595	0.25750	1.57780	9.63479	100.201	1962	XV. 95	2236	5094
1381	106. 16. 4.55	1872.1	12	+ 12.821	- 0.384	+ 0.05	9.99952	0.00899	1.57774	9.63455	103.341	1949	XV. 75	..	5089
1382	30. 35. 4.83	1871.8	9	+ 12.751	- 0.155	- 0.04	9.49790	0.24235	1.57694	9.63159	102.445	1957	XV. 92	2235	5097
1383	60. 27. 6.19	1875.5	15	+ 12.719	- 0.286	- 0.08	9.64464	0.17978	1.57657	9.63026	105.215	1955	XV. 86	..	5098
1384	106. 10. 3.79	1870.2	2	+ 12.658	- 0.387	+ 0.03	9.99970	0.01041	1.57585	9.62773	103.613	1953	XV. 84	..	5100
1385	109. 13. 55.34	1874.9	8	+ 12.534	- 0.397	+ 0.08	0.02011	9.99743	1.57442	9.62261	103.438	..	XV. 96	..	5109
1386	28. 53. 14.56	1873.2	5	+ 12.531	- 0.140	..	9.48686	0.24232	1.57438	9.62248	103.135	..	....	2241	5115
1387	27. 16. 51.32	1874.4	4	+ 12.530	- 0.125	+ 0.13	9.48742	0.24435	1.57437	9.62242	102.923	..	XV. 110	2243	5116
1388	114. 40. 32.10	1874.4	2	+ 12.462	- 0.412	+ 0.32	0.05419	9.97335	1.57359	9.61963	102.798	..	....	..	5117
1389	104. 21. 36.69	1870.3	7	+ 12.321	- 0.390	- 0.02	9.98923	0.02018	1.57196	9.61385	104.362	1964	XV. 111	..	5134
1390	25. 21. 36.77	1874.6	8	+ 12.266	- 0.102	- 0.01	9.47596	0.24370	1.57131	9.61157	103.763	..	XV. 136	2250	5147
1391	62. 51. 10.76	1872.1	73	+ 12.259	- 0.297	+ 0.07	9.65591	0.16995	1.57123	9.61131	106.781	1973	XV. 121	..	5143
1392	71. 54. 59.13	1875.3	3	+ 12.226	- 0.320	- 0.02	9.73360	0.14277	1.57084	9.60993	106.879	1974	XV. 124	..	5146
1393	119. 21. 14.90	1870.5	18	+ 12.153	- 0.431	+ 0.08	0.08340	9.95569	1.56999	9.60695	102.436	1970	XV. 123	..	5151
1394	110. 35. 29.06	1876.5	1	+ 12.150	- 0.408	..	0.03080	9.99432	1.56997	9.60686	103.795	..	....	..	..
1395	113. 23. 57.72	1874.5	10	+ 12.019	- 0.418	+ 0.02	0.04910	9.98317	1.56842	9.60150	103.548	1978	XV. 138	..	5166
1396	52. 56. 46.85	1871.7	3	+ 11.890	- 0.271	+ 0.10	9.56644	0.19234	1.56689	9.59628	107.723	..	....	..	..
1397	52. 56. 50.61	1870.8	5	+ 11.890	- 0.271	+ 0.10	9.56644	0.19234	1.56689	9.59628	107.723	..	XV. 152	..	5178
1398	109. 15. 41.26	1873.5	5	+ 11.889	- 0.410	+ 0.12	0.02371	0.00190	1.56689	9.59624	104.354	1981	XV. 145	..	5176
1399	73. 33. 39.77	1874.6	5	+ 11.851	- 0.329	- 0.06	9.74476	0.13582	1.56646	9.59473	107.876	1983	XV. 151	..	5180
1400	12. 13. 31.00	1871.7	19	+ 11.841	+ 0.220	- 0.01	9.50420	0.24969	1.56633	9.59428	103.561	2008	XV. 172	2268	5191

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Cælestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weiss's two Catalogues, *Positiones Medie Stellarum Fixarum in Zonis Regionum* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

{lxxii}

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Frac- tion of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
1401	20 Serpentis..... χ	6*	15. 35. 45.982	1875.7	3	+ 2.8175	+ 0.0047	0.0000	0.06434	0.05867	1.44432	0.07582	89.242
1402	Groombridge 2275 .	6	15. 36. 42.698	1875.4	1	- 3.6739	+ 0.3803	- 0.0067	9.97953	9.93408	1.32885	9.98094	115.157
1403	Groombridge 2276 .	6	15. 36. 55.528	1875.4	1	- 3.6795	+ 0.3802	- 0.0056	9.97967	9.93396	1.32876	9.98109	115.153
1404	8 Coronæ..... γ	4-3*	15. 37. 22.080	1875.0	3	+ 2.5258	+ 0.0026	- 0.0007	0.06314	0.05665	1.43974	0.07204	90.063
1405	24 Serpentis..... α	2-3*	15. 37. 57.831	1871.4	74	+ 2.9418	+ 0.0062	+ 0.0009	0.06484	0.05894	1.44625	0.07750	88.926
1406	Lalande 28670.....	6	15. 38. 12.931	1874.9	4	+ 3.5642	+ 0.0182	..	0.06355	0.05706	1.45583	0.08546	87.836
1407	Groombridge 2270 .	6*	15. 39. 21.837	1869.7	4	+ 1.6339	+ 0.0072	- 0.0004	0.05559	0.04529	1.42543	0.06050	93.141
1408	28 Serpentis..... β	3-4*	15. 40. 16.852	1873.8	5	+ 2.7615	+ 0.0043	+ 0.0006	0.06458	0.05813	1.44345	0.07525	89.367
1409	Groombridge 2286 .	7	15. 40. 38.881	1874.2	2	- 5.4767	+ 0.6183	..	9.95470	9.88667	1.29061	9.95588	122.202
1410	5 Lupi..... χ	5*	15. 42. 49.759	1869.0	9	+ 3.7959	+ 0.0239	- 0.0001	0.06261	0.05467	1.45933	0.08800	87.599
1411	35 Serpentis..... κ	4*	15. 42. 58.684	1874.4	5	+ 2.7016	+ 0.0038	- 0.0004	0.06462	0.05762	1.44251	0.07460	89.515
1412	1 Scorpii..... b	5*	15. 43. 17.040	1876.4	2	+ 3.5964	+ 0.0184	- 0.0005	0.06391	0.05651	1.45631	0.08556	87.803
1413	10 Coronæ..... δ	4-5*	15. 44. 13.569	1869.2	7	+ 2.5201	+ 0.0029	- 0.0012	0.06386	0.05622	1.43965	0.07242	90.024
1414	37 Serpentis..... ϵ	3-4*	15. 44. 26.170	1872.6	42	+ 2.9777	+ 0.0066	+ 0.0010	0.06547	0.05861	1.44681	0.07804	88.826
1415	Piazzi XV. 198	5*	15. 44. 43.173	1873.4	6	+ 0.8927	+ 0.0225	+ 0.0030	0.04854	0.03262	1.41317	0.05199	95.844
1416	2 Scorpii..... A	5*	15. 45. 55.792	1875.6	5	+ 3.5906	+ 0.0179	- 0.0003	0.06423	0.05641	1.45623	0.08534	87.810
1417	Piazzi XV. 192	6*	15. 46. 18.957	1872.4	1	+ 3.5596	+ 0.0171	+ 0.0001	0.06444	0.05662	1.45575	0.08495	87.848
1418	11 Coronæ..... κ	5-4*	15. 46. 24.601	1875.2	5	+ 2.2596	+ 0.0026	- 0.0003	0.06243	0.05352	1.43552	0.06941	90.812
1419	46 Libræ..... θ	5-4*	15. 46. 32.462	1869.9	7	+ 3.3998	+ 0.0136	+ 0.0009	0.06513	0.05766	1.45332	0.08306	88.056
1420	18 Ursæ Minoris.....	6	15. 46. (45.)	..	..	- 3.5209	+ 0.3295	..	9.99158	9.93777	1.33200	9.99295	113.446
1421	3 Scorpii.....	6	15. 46. 58.654	1875.4	1	+ 3.5903	+ 0.0178	- 0.0003	0.06435	0.05635	1.45622	0.08527	87.811
1422	47 Libræ.....	6-7†	15. 47. 36.658	1874.4	2	+ 3.4579	+ 0.0147	- 0.0004	0.06502	0.05726	1.45420	0.08369	87.977
1423	Oeltz.Arg.(S.)15028	8	15. 48. 34.660	1868.4	2	+ 3.6612	+ 0.0193	..	0.06414	0.05567	1.45730	0.08599	87.734
1424	16 Ursæ Minoris ... ζ	4-5*	15. 48. 40.644	1870.8	35	- 2.2992	+ 0.2034	+ 0.0029	0.01008	9.96682	1.35608	0.01167	108.328
1425	Lupi..... ξ^2	6-7	15. 48. 42.606	1868.4	1	+ 3.8183	+ 0.0235	- 0.0023	0.06319	0.05413	1.45967	0.08778	87.585
1426	Piazzi XV. 212	6*	15. 48. (56.)	..	..	+ 2.6476	+ 0.0036	- 0.0007	0.06499	0.05693	1.44166	0.07423	89.625
1427	41 Serpentis..... γ	4-3*	15. 50. 32.501	1871.8	32	+ 2.7467	+ 0.0043	+ 0.0022	0.06553	0.05743	1.44321	0.07544	89.355
1428	48 Libræ.....	5*	15. 51. 1.425	1869.0	6	+ 3.3522	+ 0.0123	- 0.0002	0.06571	0.05764	1.45258	0.08236	88.126
1429	6 Scorpii..... π	3*	15. 51. 6.726	1874.0	8	+ 3.6176	+ 0.0179	- 0.0003	0.06466	0.05590	1.45664	0.08534	87.783
1430	12 Coronæ..... λ	6-5*	15. 51. 8.231	1875.1	3	+ 2.1783	+ 0.0029	+ 0.0004	0.06247	0.05235	1.43422	0.06890	91.017
1431	13 Coronæ..... ϵ	4*	15. 52. 17.332	1870.5	10	+ 2.4878	+ 0.0029	- 0.0003	0.06458	0.05551	1.43914	0.07256	90.052
1432	7 Scorpii..... δ	2-3*	15. 52. 46.045	1870.9	24	+ 3.5371	+ 0.0159	- 0.0001	0.06522	0.05644	1.45541	0.08437	87.875
1433	49 Libræ.....	6†	15. 53. 8.804	1869.4	2	+ 3.4016	+ 0.0131	- 0.0049	0.06578	0.05727	1.45334	0.08284	88.052
1434	Coronæ..... T	Var.	15. 54. 8.944	1868.9	6	+ 2.5090	+ 0.0031	..	0.06490	0.05560	1.43947	0.07292	89.975
1435	3 Herculis.....	6†	15. 54. 29.916	1874.8	3	+ 2.9766	+ 0.0065	- 0.0002	0.06639	0.05800	1.44680	0.07813	88.800
1436	5 Herculis..... τ	6-5*	15. 55. 29.234	1873.8	5	+ 2.6963	+ 0.0040	- 0.0002	0.06585	0.05688	1.44243	0.07507	89.456
1437	Piazzi XV. 237	6†	15. 55. 36.705	1874.9	2	+ 3.6184	+ 0.0174	- 0.0006	0.06515	0.05566	1.45645	0.08508	87.799
1438	Lalande 29156.....	7-8	15. 55. 40.947	1872.5	1	+ 3.4773	+ 0.0144	..	0.06576	0.05668	1.45450	0.08357	87.950
1439	15 Coronæ..... ρ	6-5*	15. 56. 9.012	1872.1	6	+ 2.3078	+ 0.0028	- 0.0013	0.06400	0.05357	1.43629	0.07083	90.550
1440	14 Coronæ..... ι	5-4*	15. 56. 18.908	1876.4	3	+ 2.4044	+ 0.0029	+ 0.0002	0.06459	0.05454	1.43782	0.07190	90.260

1402, 1403. Struve gives the magnitude of these stars as 6 and 7 respectively. The adopted proper motions have been deduced from a comparison of the places given in Fedorenko's Lalande with those in the first Radcliffe Catalogue, the Redhill Catalogue, and in the Annual Catalogue in the Greenwich Observations for 1875, (Monthly Notices, R.A.S., Vol. XXXVIII., p. 23).

1423. The magnitude is taken from Oeltzen's Argelander (S. Zones).

1434. The limits of magnitude are 2 to 9.5. This star suddenly attained the second magnitude in May 1866.

AT THE ROYAL OBSERVATORY, GREENWICH, FROM 1868 TO 1876.

{lxxiii}

No.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of ν	No. in Bessel's Bradley. 1755.	No. in Piazzi. 1800.	No. in Groombridge. 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
1401	76. 44. 24.34	1875.7	3	+ 11.804	- 0.337	0.00	9.77247	0.12551	1.56590	9.59281	107.864	1984	XV. 154	..	5185
1402	9. 7. 44.34	1875.4	1	+ 11.738	+ 0.429	- 0.13	9.51930	0.24991	1.56512	9.59016	103.471	..	....	2275	5205
1403	9. 7. 39.92	1875.4	1	+ 11.723	+ 0.430	- 0.17	9.51865	0.24973	1.56494	9.58953	103.534	..	....	2276	5207
1404	63. 17. 50.84	1875.0	3	+ 11.691	- 0.304	- 0.06	9.65060	0.16493	1.56456	9.58826	108.552	1991	XV. 162	..	5192
1405	83. 10. 11.56	1870.8	44	+ 11.648	- 0.354	- 0.05	9.82756	0.10350	1.56405	9.58656	107.838	1990	XV. 163	..	5196
1406	114. 18. 37.78	1874.9	4	+ 11.630	- 0.429	..	0.05694	9.98281	1.56384	9.58584	103.878	..	....	..	5197
1407	37. 14. 2.77	1871.7	4	+ 11.548	- 0.200	..	9.45728	0.21970	1.56286	9.58257	107.956	..	....	2270	5210
1408	74. 10. 33.25	1874.5	10	+ 11.483	- 0.335	+ 0.01	9.74741	0.13228	1.56208	9.57994	108.842	1996	XV. 170	..	5216
1409	7. 18. 53.31	1874.4	11	+ 11.456	+ 0.651	..	9.51930	0.24714	1.56177	9.57888	104.343	..	....	2286	..
1410	123. 14. 1.54	1869.0	9	+ 11.299	- 0.462	+ 0.06	0.11056	9.94999	1.55989	9.57268	102.567	1998	XV. 174	..	5227
1411	71. 27. 41.01	1874.4	7	+ 11.288	- 0.331	+ 0.06	9.72090	0.13953	1.55977	9.57224	109.498	2002	XV. 182	..	5234
1412	115. 21. 32.14	1876.4	2	+ 11.266	- 0.439	+ 0.02	0.06532	9.98196	1.55950	9.57139	104.122	2000	XV. 177	..	5232
1413	63. 32. 17.59	1870.6	21	+ 11.197	- 0.310	+ 0.06	9.64532	0.16102	1.55867	9.56867	110.035	2010	XV. 188	..	5244
1414	85. 8. 6.08	1871.5	18	+ 11.183	- 0.365	- 0.07	9.84342	0.09598	1.55851	9.56809	108.716	2005	XV. 187	..	5245
1415	27. 0. 15.08	1873.1	8	+ 11.162	- 0.113	+ 0.05	9.41963	0.22942	1.55825	9.56728	108.407	..	XV. 198	2281	5249
1416	114. 56. 31.91	1875.6	5	+ 11.074	- 0.441	+ 0.01	0.06382	9.98546	1.55719	9.56379	104.420	2006	XV. 189	..	5250
1417	113. 35. 37.36	1872.4	1	+ 11.046	- 0.438	0.00	0.05557	9.99101	1.55685	9.56272	104.711	..	XV. 192	..	5254
1418	53. 56. 39.49	1875.0	10	+ 11.038	- 0.280	+ 0.35	9.55376	0.18296	1.55676	9.56242	110.581	2018	XV. 200	..	5259
1419	106. 21. 4.09	1869.9	7	+ 11.030	- 0.419	- 0.12	0.00805	0.01919	1.55666	9.56211	106.047	2011	XV. 193	..	5257
1420	9. 37. 3.02	1868.5	2	+ 11.015	+ 0.424	..	9.48230	0.24094	1.55649	9.56153	106.543	..	....	2292	5274
1421	114. 51. 39.60	1875.4	1	+ 10.997	- 0.443	+ 0.19	0.06367	9.98651	1.55626	9.56082	104.527	2012	XV. 195	..	5260
1422	109. 0. 8.93	1874.4	2	+ 10.950	- 0.427	0.00	0.02629	0.00955	1.55570	9.55899	105.688	2015	XV. 197	..	5264
1423	117. 40. 29.96	1868.4	2	+ 10.880	- 0.453	..	0.08138	9.97679	1.55484	9.55623	104.094	..	....	..	..
1424	11. 48. 46.53	1870.8	41	+ 10.874	+ 0.277	+ 0.08	9.46030	0.23823	1.55477	9.55600	107.476	2041	XV. 238	2294	5285
1425	123. 35. 10.72	1868.4	1	+ 10.870	- 0.473	- 0.02	0.11504	9.95433	1.55473	9.55585	102.877	..	XV. 205	..	5269
1426	69. 18. 43.90	1875.1	3	+ 10.854	- 0.329	0.00	9.69644	0.14338	1.55454	9.55522	110.790	..	XV. 212	..	5273
1427	73. 55. 7.99	1872.2	8	+ 10.736	- 0.343	+ 1.27	9.73965	0.12980	1.55310	9.55068	110.796	2023	XV. 219	..	5284
1428	103. 54. 27.65	1869.0	6	+ 10.700	- 0.418	+ 0.10	9.99211	0.03012	1.55267	9.54929	106.959	2022	XV. 218	..	5290
1429	115. 44. 32.85	1874.3	9	+ 10.693	- 0.451	+ 0.04	0.07067	9.98603	1.55258	9.54900	104.692	2020	XV. 216	..	5289
1430	51. 40. 55.25	1875.1	3	+ 10.692	- 0.273	- 0.09	9.52504	0.18485	1.55256	9.54895	111.683	2027	XV. 224	2290	5295
1431	62. 44. 59.46	1871.6	15	+ 10.606	- 0.313	+ 0.05	9.62910	0.15902	1.55153	9.54568	111.791	2029	XV. 229	..	5302
1432	112. 15. 16.83	1870.9	22	+ 10.570	- 0.443	+ 0.01	0.04930	0.00018	1.55108	9.54430	105.546	2024	XV. 225	..	5303
1433	106. 9. 14.00	1869.4	2	+ 10.542	- 0.427	+ 0.37	0.00852	0.02275	1.55074	9.54321	106.777	2026	XV. 228	..	5304
1434	63. 42. 55.92	1868.8	7	+ 10.467	- 0.317	..	9.63679	0.15567	1.54983	9.54035	112.153	..	....	..	..
1435	85. 12. 44.06	1874.8	3	+ 10.441	- 0.375	- 0.04	9.84286	0.09462	1.54952	9.53933	110.319	2031	XV. 234	..	5309
1436	71. 49. 34.46	1874.7	13	+ 10.367	- 0.341	- 0.17	9.71667	0.13392	1.54861	9.53656	111.909	2032	XV. 241	..	5315
1437	115. 30. 19.32	1874.9	2	+ 10.358	- 0.456	+ 0.13	0.07078	9.99018	1.54849	9.53616	105.112	..	XV. 237	..	5314
1438	109. 28. 54.32	1872.5	1	+ 10.353	- 0.439	..	0.03205	0.01191	1.54843	9.53596	106.378	..	....	..	..
1439	56. 18. 32.11	1872.0	11	+ 10.317	- 0.293	+ 0.75	9.56027	0.17183	1.54798	9.53464	112.841	2037	XV. 246	..	5319
1440	59. 47. 21.19	1876.4	3	+ 10.305	- 0.305	+ 0.07	9.59483	0.16394	1.54784	9.53419	112.781	2036	XV. 247	..	5321

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Cælestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Media Stellarum Fixarum in Zonis Regiomontanis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Frac- tion of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
1441	44 Serpentis π	5-4*	h m s 15. 56. (47.)	..	..	+ 2'5809	+ 0'0034	0'000	0'06553	0'05603	1'44061	0'07386	89'753
1442	51 Libræ	4-5*	15. 57. 19'778	1868'4	2	+ 3'2961	+ 0'0109	- 0'008	0'06647	0'05750	1'45173	0'08158	88'205
1443	W.B. XV. 1062	8	15. 57. 20'270	1868'5	1	+ 3'2961	+ 0'0109	..	0'06647	0'05750	1'45173	0'08158	88'205
1444	8 Scorpii β^1	2*	15. 57. 59'812	1872'5	40	+ 3'4791	+ 0'0142	- 0'002	0'06600	0'05655	1'45452	0'08348	87'948
1445	17 Ursæ Minoris	7	15. 58. 5'618	1875'1	5	- 1'5288	+ 0'1303	+ 0'019	0'02558	9'98390	1'37058	0'02730	104'603
1446	Piazzi XV. 266	6*	15. 58. 37'077	1872'4	1	+ 2'2032	+ 0'0030	+ 0'012	0'06364	0'05230	1'43462	0'06991	90'846
1447	9 Scorpii ω^1	4*	15. 59. 19'417	1872'3	2	+ 3'5002	+ 0'0145	+ 0'001	0'06606	0'05635	1'45485	0'08365	87'919
1448	13 Draconis θ	4-3*	15. 59. 29'675	1870'8	15	+ 1'1546	+ 0'0145	- 0'027	0'05509	0'03677	1'41756	0'05864	94'410
1449	10 Scorpii ω^2	5†	15. 59. 54'070	1868'9	22	+ 3'5055	+ 0'0145	+ 0'002	0'06610	0'05628	1'45493	0'08367	87'912
1450	Piazzi XV. 265	6-5†	16. 0. 19'714	1874'9	2	+ 3'6369	+ 0'0172	+ 0'010	0'06558	0'05527	1'45693	0'08501	87'762
1451	11 Scorpii	6*	16. 0. 30'072	1876'5	1	+ 3'3271	+ 0'0112	- 0'001	0'06670	0'05722	1'45220	0'08181	88'155
1452	Lacaille 6710	6-7	16. 1. 5'199	1874'9	2	+ 3'5732	+ 0'0158	..	0'06595	0'05574	1'45596	0'08432	87'831
1453	7 Herculis κ	5-6	16. 2. 17'920	1872'8	5	+ 2'7075	+ 0'0041	- 0'005	0'06658	0'05658	1'44260	0'07545	89'387
1454	Bradley 2050	7	16. 2. 18'187	1872'4	1	+ 2'7073	+ 0'0041	- 0'006	0'06658	0'05658	1'44259	0'07545	89'388
1455	16 Coronæ τ	5-4*	16. 4. 17'515	1870'0	11	+ 2'1962	+ 0'0031	- 0'001	0'06436	0'05197	1'43451	0'07036	90'797
1456	Piazzi XVI. 3	7	16. 4. 32'359	1870'3	1	+ 3'4780	+ 0'0135	+ 0'008	0'06667	0'05621	1'45451	0'08319	87'946
1457	14 Scorpii ν	4*	16. 4. 33'521	1870'8	7	+ 3'4782	+ 0'0136	- 0'002	0'06667	0'05621	1'45452	0'08320	87'945
1458	Groombridge 2320	6-5*	16. 5. 58'926	1871'2	14	+ 0'1425	+ 0'0409	- 0'006	0'04709	0'01812	1'40040	0'04948	97'885
1459	Piazzi XVI. 10	6	16. 6. 9'073	1874'6	4	+ 3'5250	+ 0'0142	- 0'002	0'06668	0'05583	1'45523	0'08359	87'885
1460	Piazzi XVI. 25	6*	16. 7. 7'236	1876'4	5	+ 2'1922	+ 0'0032	+ 0'015	0'06471	0'05181	1'43445	0'07057	90'773
1461	1 Ophiuchi δ	3*	16. 7. 38'328	1871'2	75	+ 3'1415	+ 0'0081	- 0'006	0'06764	0'05732	1'44935	0'07985	88'444
1462	13 Herculis	7	16. 8. 59'306	1871'6	6	+ 2'8247	+ 0'0049	0'000	0'06754	0'05680	1'44443	0'07682	89'073
1463	17 Coronæ (1st Star) σ	6* {	16. 9. (53.)	..	..	+ 2'2670	+ 0'0031	- 0'028	0'06549	0'05251	1'43564	0'07154	90'520
1464	17 Coronæ (2d Star) σ		16. 9. 53'186	1874'5	4	+ 2'2669	+ 0'0031	- 0'028	0'06549	0'05251	1'43564	0'07154	90'520
1465	15 Herculis	7	16. 9. 58'199	1869'4	3	+ 2'8257	+ 0'0049	- 0'005	0'06764	0'05675	1'44444	0'07686	89'067
1466	17 Herculis	6	16. 10. 49'261	1876'4	3	+ 2'5570	+ 0'0035	+ 0'002	0'06695	0'05516	1'44023	0'07435	89'711
1467	Piazzi XVI. 35	7	16. 11. 25'987	1868'4	2	+ 3'7755	+ 0'0186	..	0'06621	0'05349	1'45902	0'08564	87'627
1468	Piazzi XVI. 36	6†	16. 11. 27'100	1868'5	13	+ 3'7757	+ 0'0186	+ 0'005	0'06621	0'05349	1'45903	0'08565	87'625
1469	2 Ophiuchi ϵ	3-4*	16. 11. 32'977	1873'3	5	+ 3'1633	+ 0'0082	+ 0'005	0'06801	0'05709	1'44969	0'08002	88'396
1470	18 Coronæ ν	6-5*	16. 11. 37'098	1876'4	2	+ 2'3997	+ 0'0031	+ 0'005	0'06637	0'05378	1'43775	0'07293	90'125
1471	19 Scorpii	6*	16. 12. 56'184	1872'6	7	+ 3'6002	+ 0'0149	0'000	0'06713	0'05496	1'45637	0'08396	87'796
1472	20 Scorpii σ	3-4*	16. 13. 24'628	1874'9	8	+ 3'6366	+ 0'0155	- 0'003	0'06704	0'05465	1'45692	0'08427	87'757
1473	19 Ursæ Minoris	6*	16. 14. 30'080	1871'2	13	- 1'8039	+ 0'1267	- 0'031	0'03174	9'97754	1'36541	0'03319	104'544
1474	Groombridge 2332	6*	16. 15. 7'283	1875'4	4	+ 0'9893	+ 0'0161	..	0'05728	0'03348	1'41479	0'06026	94'564
1475	22 Herculis τ	3-4*	16. 15. 53'669	1870'3	25	+ 1'8009	+ 0'0052	0'000	0'06349	0'04641	1'42815	0'06783	91'858
1476	20 Herculis γ	3*	16. 16. 16'436	1871'3	36	+ 2'6475	+ 0'0039	- 0'004	0'06784	0'05554	1'44166	0'07544	89'442
1477	4 Ophiuchi ψ	5*	16. 16. 36'926	1870'0	7	+ 3'5039	+ 0'0128	- 0'004	0'06786	0'05548	1'45490	0'08293	87'901
1478	Groombridge 2337	6	16. 16. 40'749	1876'3	4	- 1'0448	+ 0'0835	..	0'04000	9'99397	1'37943	0'04166	101'668
1479	19 Coronæ ξ	5*	16. 17. 6'605	1876'0	4	+ 2'3430	+ 0'0032	- 0'001	0'06677	0'05300	1'43685	0'07280	90'226
1480	5 Ophiuchi (N. Star) ρ	5†	16. 17. 54'760	1868'4	2	+ 3'5880	+ 0'0141	- 0'002	0'06773	0'05483	1'45619	0'08360	87'804

1453, 1454. The combined magnitude of these two stars given in the *Uranometria Nova* is 5.1456, 1457. The combined magnitude of these two stars given in the *Uranometria Nova* is 4.1463, 1464. In Struve's *Mensura Micrometrica* the magnitudes of the two components of σ Coronæ are 6'1 and 5'0 respectively.

1876GOAMM. No.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fra- tion of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of 1'	No. in Bessel's Bradley. 1755.	No. in Piazzi. 1800.	No. in Groom- bridge. 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
1441	66. 50. 19.51	1875.4	12	+ 10.270	- 0.328	- 0.04	9.66577	0.14658	1.54740	9.53286	112.534	2038	XV. 250	..	5322
1442	101. 1. 3.27	1868.4	2	+ 10.229	- 0.418	+ 0.02	9.97243	0.04239	1.54690	9.53130	108.202	2033	XV. 245	..	5324
1443	101. 1. 0.92	1868.5	1	+ 10.229	- 0.418	..	9.97243	0.04239	1.54690	9.53130	108.202		XV. 251	..	5329
1444	109. 27. 8.78	1871.8	19	+ 10.178	- 0.442	+ 0.02	0.03254	0.01326	1.54627	9.52940	106.608	2034	XV. 288	2308	5343
1445	14. 3. 34.78	1874.9	10	+ 10.172	+ 0.188	+ 0.02	9.41246	0.22840	1.54620	9.52914	110.576	2063	XV. 266	..	5336
1446	53. 0. 49.61	1874.9	5	+ 10.132	- 0.282	+ 0.03	9.52401	0.17723	1.54570	9.52763	113.464	..	XV. 259	..	5337
1447	110. 19. 12.09	1872.3	2	+ 10.079	- 0.446	+ 0.01	0.03874	0.01093	1.54504	9.52565	106.549	2039	XV. 277	2304	5348
1448	31. 5. 31.74	1870.8	15	+ 10.065	- 0.150	- 0.33	9.37162	0.21213	1.54488	9.52513	112.917	2053	XV. 263	..	5342
1449	110. 31. 12.85	1868.9	17	+ 10.035	- 0.447	+ 0.04	0.04021	0.01057	1.54450	9.52400	106.562	2040	XV. 265	..	5347
1450	115. 58. 51.97	1874.9	2	+ 10.002	- 0.464	+ 0.07	0.07544	9.99189	1.54408	9.52279	105.387	..	XV. 268	..	5351
1451	102. 23. 49.60	1876.5	1	+ 9.989	- 0.425	+ 0.02	9.98336	0.03864	1.54393	9.52229	108.305	2042	XV. 284	..	5367
1452	113. 20. 28.48	1874.9	2	+ 9.945	- 0.457	..	0.05900	0.00156	1.54338	9.52064	106.049	..	XV. 285	..	5368
1453	72. 36. 37.27	1874.0	9	+ 9.852	- 0.348	0.00	9.72074	0.12930	1.54223	9.51720	113.139	2049	XVI. 9	..	5385
1454	72. 36. 6.07	1872.4	1	+ 9.852	- 0.348	+ 0.07	9.72057	0.12934	1.54223	9.51720	113.141	2050	XVI. 3	..	5383
1455	53. 10. 56.34	1870.0	11	+ 9.701	- 0.285	- 0.35	9.51601	0.17315	1.54033	9.51159	114.790	2058	XVI. 4	..	5382
1456	109. 6. 54.58	1870.3	1	+ 9.682	- 0.448	+ 0.11	0.03214	0.01783	1.54010	9.51088	107.308	..	XVI. 21	..	5414
1457	109. 7. 31.34	1870.8	7	+ 9.681	- 0.449	+ 0.03	0.03230	0.01778	1.54008	9.51086	107.303	2055	XVI. 30	..	5422
1458	21. 51. 8.74	1872.6	28	+ 9.570	- 0.022	- 0.07	9.34811	0.21562	1.53871	9.50680	113.838	..	XVI. 38	..	5432
1459	111. 4. 14.22	1874.6	4	+ 9.558	- 0.456	+ 0.05	0.04575	0.01228	1.53855	9.50634	107.013	..	XVI. 32	..	5428
1460	53. 14. 35.58	1875.0	10	+ 9.482	- 0.286	+ 0.03	9.51202	0.17111	1.53760	9.50354	115.450	..	XVI. 42	..	5434
1461	93. 21. 44.85	1870.5	30	+ 9.443	- 0.408	+ 0.13	9.91307	0.06906	1.53711	9.50214	110.948	2065	XVI. 35	..	5445
1462	78. 11. 0.99	1871.6	6	+ 9.339	- 0.369	+ 0.11	9.77386	0.11239	1.53579	9.49837	113.680	..	XVI. 50	..	5447
1463	55. 48. 58.91	1873.6	1	+ 9.269	- 0.297	+ 0.04	9.53504	0.16426	1.53490	9.49586	115.983	2074	XVI. 82	2334	5462
1464	55. 48. 56.77	1874.5	4	+ 9.269	- 0.297	+ 0.04	9.53504	0.16426	1.53490	9.49586	115.983		XVI. 73	..	5463
1465	78. 15. 18.89	1869.4	3	+ 9.263	- 0.370	- 0.07	9.77422	0.11195	1.53482	9.49560	113.843	2071	XVI. 66	..	5466
1466	66. 33. 27.31	1876.4	3	+ 9.195	- 0.335	- 0.02	9.65147	0.14066	1.53396	9.49319	115.416	2075	XVI. 64	..	5467
1467	120. 35. 17.46	1868.4	2	+ 9.149	- 0.494	..	0.10679	9.98582	1.53338	9.49154	105.088	..	XVI. 74	..	5473
1468	120. 35. 35.88	1868.5	13	+ 9.147	- 0.494	+ 0.09	0.10704	9.98579	1.53336	9.49148	105.088	..	XVI. 71	..	5477
1469	94. 22. 41.33	1873.3	5	+ 9.139	- 0.415	- 0.04	9.92189	0.06639	1.53326	9.49120	111.271	2073	XVI. 46	..	5445
1470	60. 31. 53.68	1875.5	13	+ 9.134	- 0.316	+ 0.05	9.58467	0.15353	1.53319	9.49102	116.085	2078	XVI. 82	2332	5459
1471	113. 51. 29.19	1873.0	6	+ 9.032	- 0.473	+ 0.02	0.06614	0.00765	1.53189	9.48735	106.925	2076	XVI. 73	..	5463
1472	115. 16. 57.15	1875.0	10	+ 8.995	- 0.478	- 0.01	0.07533	0.00365	1.53141	9.48606	106.604	2077	XVI. 66	..	5466
1473	13. 48. 4.16	1872.7	32	+ 8.909	+ 0.232	0.00	9.35507	0.21256	1.53032	9.48303	115.257	2096	XVI. 64	..	5467
1474	29. 56. 2.52	1875.4	4	+ 8.861	- 0.133	..	9.31408	0.19945	1.52970	9.48131	117.067	..	XVI. 74	..	5473
1475	43. 22. 50.38	1870.4	23	+ 8.799	- 0.240	- 0.02	9.39602	0.18153	1.52890	9.47913	117.710	2086	XVI. 71	..	5477
1476	70. 32. 39.93	1872.5	17	+ 8.770	- 0.351	- 0.06	9.69144	0.12892	1.52853	9.47811	116.033	2084	XVI. 66	..	5466
1477	109. 44. 5.85	1870.0	7	+ 8.743	- 0.464	+ 0.06	0.03961	0.00234	1.52818	9.47715	108.300	2082	XVI. 64	..	5467
1478	16. 17. 34.48	1876.3	5	+ 8.739	+ 0.133	..	9.33102	0.20903	1.52813	9.47703	116.202	..	XVI. 74	..	5473
1479	58. 48. 33.76	1874.5	6	+ 8.703	- 0.312	- 0.12	9.55907	0.15373	1.52767	9.47577	117.403	2087	XVI. 71	..	5477
1480	113. 8. 55.31	1868.4	2	+ 8.640	- 0.476	- 0.01	0.06288	0.01310	1.52685	9.47357	107.532	2083	XVI. 71	..	5477

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Celestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Mediae Stellarum Fixarum in Zonis Regionumantis* (Weisse's Bessel); from Argelander's *Bömer Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

{lxxvi}

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
1481	5 Ophiuchi (as one mass) ρ	5*	16. 17. 54.701	1873.4	2	+ 3.5881	+ 0.0141	- 0.002	0.06773	0.05483	1.45619	0.08360	87.804
1482	5 Ophiuchi (S. Star) ρ	..	16. 17. 54.767	1870.1	6	+ 3.5881	+ 0.0141	- 0.002	0.06773	0.05483	1.45619	0.08360	87.804
1483	24 Herculis..... ω	5*	16. 19. 30.602	1873.8	4	+ 2.7630	+ 0.0044	- 0.009	0.06848	0.05602	1.44346	0.07656	89.154
1484	7 Ophiuchi..... χ	6*	16. 19. 36.545	1869.3	2	+ 3.4694	+ 0.0120	- 0.003	0.06828	0.05555	1.45438	0.08252	87.938
1485	25 Herculis.....	6-5*	16. 20. 50.591	1875.9	5	+ 2.1345	+ 0.0035	0.000	0.06621	0.05059	1.43352	0.07129	90.773
1486	21 Ursæ Minoris... η	5*	16. 21. 16.278	1874.6	3	- 1.8182	+ 0.1186	+ 0.005	0.03524	9.97714	1.36514	0.03660	104.153
1487	21 Scorpii..... α	1-2*	16. 21. 33.699	1871.2	31	+ 3.6689	+ 0.0151	- 0.001	0.06784	0.05403	1.45741	0.08409	87.717
1488	Groombridge 2343..	6-5*	16. 21. 37.540	1868.4	4	+ 1.3036	+ 0.0103	..	0.06108	0.03861	1.42001	0.06432	93.346
1489	Groombridge 2345..	6	16. 22. 5.727	1875.3	2	+ 0.7848	+ 0.0192	..	0.05736	0.02972	1.41137	0.05998	95.054
1490	Groombridge 2347..	6-5*	16. 22. 6.817	1876.5	1	- 0.1661	+ 0.0447	..	0.04980	0.01180	1.39508	0.05174	98.307
1491	14 Draconis..... η	3-2*	16. 22. 15.658	1871.9	20	+ 0.8017	+ 0.0188	+ 0.005	0.05753	0.03002	1.41166	0.06016	94.993
1492	22 Scorpii.....	5*	16. 22. 26.073	1873.0	6	+ 3.6356	+ 0.0144	- 0.002	0.06806	0.05428	1.45691	0.08377	87.748
1493	Normæ..... α	4	16. 23. 1.321	1868.7	4	+ 3.9076	+ 0.0194	- 0.003	0.06700	0.05166	1.46101	0.08592	87.514
1494	8 Ophiuchi..... ϕ	5*	16. 23. 48.876	1869.2	6	+ 3.4300	+ 0.0110	- 0.001	0.06881	0.05559	1.45378	0.08206	87.978
1495	10 Ophiuchi..... λ	4-5*	16. 24. 27.491	1872.1	16	+ 3.0238	+ 0.0063	0.000	0.06929	0.05652	1.44753	0.07879	88.599
1496	9 Ophiuchi..... ω	5*	16. 24. 33.071	1871.1	11	+ 3.5462	+ 0.0126	+ 0.001	0.06859	0.05485	1.45555	0.08294	87.842
1497	27 Herculis..... β	2-3*	16. 24. 43.051	1869.4	10	+ 2.5837	+ 0.0036	- 0.009	0.06856	0.05474	1.44065	0.07527	89.536
1498	B. F. 2270.....	7	16. 25. 46.156	1874.5	2	+ 2.8184	+ 0.0047	..	0.06922	0.05599	1.44433	0.07718	88.996
1499	29 Herculis..... h	5-6*	16. 26. 37.056	1874.9	2	+ 2.8166	+ 0.0047	- 0.012	0.06931	0.05594	1.44430	0.07719	88.994
1500	23 Scorpii..... τ	3-4*	16. 27. 55.054	1875.6	7	+ 3.7250	+ 0.0151	- 0.001	0.06837	0.05329	1.45826	0.08416	87.657
1501	Piazzi XVI. 111...	5	16. 27. 57.241	1869.0	6	+ 3.9335	+ 0.0190	+ 0.004	0.06751	0.05119	1.46140	0.08574	87.491
1502	15 Draconis..... Λ	5*	16. 28. 14.503	1870.9	17	- 0.1429	+ 0.0412	+ 0.005	0.05205	0.01211	1.39543	0.05390	87.980
1503	32 Herculis.....	6	16. 28. 29.857	1875.7	4	+ 2.3388	+ 0.0033	- 0.004	0.06813	0.05251	1.43678	0.07356	90.120
1504	Piazzi XVI. 127...	6-7†	16. 29. 13.497	1876.5	1	+ 2.0961	+ 0.0036	+ 0.014	0.06715	0.04983	1.43291	0.07175	90.775
1505	35 Herculis..... σ	4*	16. 29. 58.647	1870.0	6	+ 1.9323	+ 0.0043	- 0.001	0.06643	0.04774	1.43028	0.07057	91.233
1506	13 Ophiuchi..... ζ	3-2*	16. 30. 6.706	1871.1	30	+ 3.2968	+ 0.0088	+ 0.001	0.06970	0.05591	1.45174	0.08085	88.142
1507	....	10	16. 30. 14.811	1873.5	3	+ 3.4293	+ 0.0104	..	0.06949	0.05533	1.45377	0.08183	87.966
1508	Oeltz. Arg. (S.) 15776	8	16. 30. 16.312	1873.4	2	+ 3.4403	+ 0.0105	..	0.06947	0.05527	1.45393	0.08191	87.953
1509	Piazzi XVI. 140...	6*	16. 30. 37.224	1876.5	2	+ 0.8328	+ 0.0169	+ 0.019	0.05978	0.03036	1.41216	0.06223	94.651
1510	Oeltz. Arg. (S.) 15798	9	16. 31. 22.473	1874.5	1	+ 3.5671	+ 0.0122	..	0.06927	0.05442	1.45586	0.08281	87.808
1511	....	11	16. 32. 32.392	1873.5	3	+ 3.4218	+ 0.0101	..	0.06975	0.05527	1.45365	0.08171	87.970
1512	Piazzi XVI. 182...	6	16. 32. 54.410	1873.6	5	- 3.4579	+ 0.1986	- 0.019	0.02842	9.93882	1.33331	0.02935	108.994
1513	16 Draconis.....	5-7	16. 33. 9.868	1869.5	10	+ 1.4143	+ 0.0082	- 0.004	0.06404	0.04010	1.42185	0.06711	92.734
1514	17 Draconis.....	6	16. 33. 12.424	1869.4	4	+ 1.4127	+ 0.0083	- 0.007	0.06404	0.04006	1.42181	0.06710	92.740
1515	Radcliffe 3584.....	8	16. 33. 12.925	1869.4	1	+ 1.4127	+ 0.0083	..	0.06404	0.04006	1.42181	0.06710	92.740
1516	24 Scorpii.....	5*	16. 34. 10.248	1870.9	3	+ 3.4643	+ 0.0105	- 0.004	0.06982	0.05497	1.45430	0.08195	87.918
1517	Bradley 2115.....	6*	16. 34. 22.381	1871.2	8	+ 3.5173	+ 0.0112	- 0.004	0.06973	0.05464	1.45511	0.08232	87.855
1518	Lacaille 6950.....	6-7	16. 35. 25.136	1868.7	7	+ 3.8471	+ 0.0160	..	0.06881	0.05184	1.46011	0.08456	87.547
1519	Groombridge 2370..	6-7†	16. 35. 37.758	1876.6	4	+ 0.5887	+ 0.0205	..	0.05939	0.02588	1.40804	0.06154	95.289
1520	Piazzi XVI. 195...	6*	16. 36. 10.728	1873.6	6	- 2.6539	+ 0.1424	+ 0.017	0.03666	9.95796	1.34920	0.03769	106.023

1491. The annual proper motion in R.A. is taken from Mädler's Bradley.

1507, 1511. The magnitudes are taken from the Greenwich Observations, 1873.

1508, 1510. The magnitudes are taken from Oeltzen's Argelander (S. Zones).

1513, 1514, 1515. The combined magnitude for these stars given in the *Uranometria Nova* is 4-5.

No.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of μ	No. in Bessel's Bradley. 1755.	No. in Piazzi. 1800.	No. in Groombridge. 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
1481	113. 8. 56.23	1873.4	2	+ 8.640	- 0.476	- 0.01	0.06288	0.01310	1.52685	9.47357	107.532	2083	....	..	..
1482	113. 8. 59.12	1870.1	6	+ 8.640	- 0.476	- 0.01	0.06288	0.01310	1.52685	9.47357	107.532	2083	XVI. 72	..	5478
1483	75. 40. 12.63	1873.8	4	+ 8.514	- 0.369	+ 0.03	9.74465	0.11563	1.52522	9.46921	115.905	2090	XVI. 81	..	5490
1484	108. 9. 45.87	1869.3	2	+ 8.506	- 0.462	+ 0.01	0.02942	0.02847	1.52512	9.46894	108.986	2088	XVI. 80	..	5489
1485	52. 18. 47.10	1874.8	12	+ 8.408	- 0.286	0.00	9.47943	0.16325	1.52386	9.46559	118.658	2093	XVI. 91	..	5496
1486	13. 57. 2.39	1873.1	20	+ 8.375	+ 0.237	- 0.26	9.32960	0.20555	1.52343	9.46443	117.193	2111	XVI. 114	2349	5511
1487	116. 8. 42.07	1872.0	32	+ 8.351	- 0.490	+ 0.03	0.08322	0.00711	1.52311	9.46362	107.015	2091	XVI. 84	..	5498
1488	34. 30. 10.68	1868.5	3	+ 8.346	- 0.177	..	9.31133	0.18835	1.52304	9.46347	119.023	..	....	2343	5502
1489	28. 0. 41.15	1875.1	1	+ 8.308	- 0.108	..	9.28488	0.19472	1.52255	9.46219	118.822	..	....	2345	5509
1490	20. 35. 40.51	1876.5	1	+ 8.307	+ 0.019	..	9.29070	0.20078	1.52253	9.46212	118.210	..	....	2347	5514
1491	28. 11. 43.86	1872.7	30	+ 8.295	- 0.110	- 0.07	9.28466	0.19438	1.52239	9.46174	118.878	2104	XVI. 102	2346	5512
1492	114. 49. 49.76	1873.0	6	+ 8.282	- 0.487	- 0.05	0.07507	0.01138	1.52222	9.46127	107.447	2092	XVI. 89	..	5501
1493	124. 25. 19.87	1868.7	4	+ 8.234	- 0.523	+ 0.08	0.13274	9.98585	1.52158	9.45967	104.777	..	XVI. 92	..	5508
1494	106. 19. 51.59	1869.2	6	+ 8.171	- 0.460	+ 0.03	0.01720	0.03560	1.52077	9.45754	109.878	2094	XVI. 94	..	5516
1495	87. 44. 1.86	1873.5	4	+ 8.120	- 0.407	+ 0.05	9.86344	0.08494	1.52010	9.45582	114.459	2097	XVI. 100	..	5520
1496	111. 11. 22.58	1871.4	10	+ 8.113	- 0.477	- 0.03	0.05150	0.02276	1.52000	9.45559	108.634	2095	XVI. 96	..	5519
1497	68. 13. 47.58	1871.5	19	+ 8.100	- 0.348	0.00	9.66068	0.13025	1.51982	9.45514	117.961	2100	XVI. 103	..	5525
1498	78. 17. 53.79	1874.9	3	+ 8.016	- 0.380	..	9.77026	0.10757	1.51872	9.45233	116.540	..	....	..	5529
1499	78. 14. 6.39	1874.9	2	+ 7.947	- 0.381	+ 0.08	9.76938	0.10749	1.51782	9.45007	116.695	2105	XVI. 112	..	5532
1500	117. 56. 49.85	1875.7	8	+ 7.843	- 0.503	+ 0.02	0.09625	0.00719	1.51644	9.44659	106.978	2103	XVI. 113	..	5539
1501	124. 59. 17.43	1869.0	6	+ 7.840	- 0.532	+ 0.13	0.13742	9.98940	1.51640	9.44649	104.901	..	XVI. 111	..	5538
1502	20. 57. 17.72	1870.9	25	+ 7.816	+ 0.016	- 0.04	9.26670	0.19422	1.51608	9.44570	119.926	2118	XVI. 135	2359	5545
1503	59. 13. 50.71	1873.8	10	+ 7.796	- 0.318	+ 0.04	0.55133	0.14577	1.51581	9.44504	119.811	2110	XVI. 120	..	5541
1504	51. 38. 38.43	1876.5	1	+ 7.736	- 0.285	+ 0.13	9.45834	0.15817	1.51503	9.44312	120.615	..	XVI. 127	2355	5546
1505	47. 17. 51.59	1870.0	6	+ 7.676	- 0.264	- 0.05	9.40586	0.16423	1.51423	9.44112	121.030	2113	XVI. 132	2358	5552
1506	100. 18. 19.03	1873.2	10	+ 7.665	- 0.448	- 0.03	9.97234	0.05372	1.51408	9.44079	112.154	2109	XVI. 123	..	5548
1507	106. 7. 5.44	1873.5	3	+ 7.654	- 0.466	..	0.01695	0.03903	1.51394	9.44041	110.577	..	....	..	..
1508	106. 35. 15.78	1873.4	2	+ 7.653	- 0.467	..	0.02032	0.03786	1.51393	9.44038	110.448	..	....	..	..
1509	28. 54. 28.52	1875.0	6	+ 7.623	- 0.116	- 0.04	9.25672	0.18548	1.51352	9.43944	121.140	..	XVI. 140	2361	5560
1510	111. 47. 7.51	1874.5	1	+ 7.564	- 0.485	..	0.05721	0.02532	1.51273	9.43752	109.057	..	....	..	..
1511	105. 44. 8.49	1873.5	4	+ 7.469	- 0.466	..	0.01452	0.04100	1.51147	9.43446	110.914	..	....	..	..
1512	10. 45. 54.64	1874.2	7	+ 7.440	+ 0.465	..	9.31513	0.19436	1.51108	9.43353	120.010	..	XVI. 182	2372	5592
1513	36. 50. 30.16	1869.5	10	+ 7.418	- 0.195	- 0.02	9.29314	0.17492	1.51078	9.43285	122.017	2122	XVI. 152	2365	5574
1514	36. 49. 2.71	1869.4	4	+ 7.415	- 0.195	- 0.01	9.29270	0.17491	1.51073	9.43268	122.029	2124	XVI. 153	2366	5575
1515	36. 49. 5.20	1869.4	1	+ 7.414	- 0.195	..	9.29270	0.17491	1.51073	9.43268	122.029	..	....	..	..
1516	107. 29. 30.66	1870.9	3	+ 7.336	- 0.473	- 0.01	0.02780	0.03743	1.50969	9.43026	110.560	2114	XVI. 143	..	5579
1517	109. 40. 34.72	1871.2	9	+ 7.320	- 0.481	- 0.06	0.04336	0.03224	1.50947	9.42974	109.939	2115	XVI. 145	..	5580
1518	121. 51. 32.92	1868.8	6	+ 7.235	- 0.526	..	0.12186	0.00412	1.50832	9.42704	106.299	..	....	..	5588
1519	26. 40. 10.38	1874.8	21	+ 7.217	- 0.083	..	9.23426	0.18230	1.50809	9.42645	122.340	..	....	2370	5601
1520	12. 17. 59.60	1873.6	6	+ 7.172	+ 0.358	..	9.29048	0.19017	1.50749	9.42512	121.122	..	XVI. 195	2373	5611

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Celestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Mediæ Stellarum Fixarum in Zonis Regionumantis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

{lxxviii}

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fra- ction of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
1521	40 Herculis..... ζ	3-2*	16. 36. 27.692	1871.5	51	+ 2.2966	+ 0.0033	- 0.034	0.06894	0.05181	1.43611	0.07381	90.144
1522	Piazzi XVI. 159 ...	6-7	16. 37. 0.064	1875.5	3	+ 3.7445	+ 0.0141	- 0.006	0.06937	0.05278	1.45855	0.08375	87.629
1523	44 Herculis..... η	3*	16. 38. 30.499	1872.2	5	+ 2.0512	+ 0.0037	+ 0.002	0.06821	0.04898	1.43219	0.07228	90.774
1524	Piazzi XVI. 172 ...	6	16. 38. 30.512	1868.4	1	+ 2.1363	+ 0.0036	..	0.06857	0.04999	1.43355	0.07286	90.544
1525	25 Scorpii	6	16. 39. 1.272	1874.0	7	+ 3.6649	+ 0.0126	+ 0.001	0.06984	0.05339	1.45735	0.08311	87.697
1526	18 Draconis	5-6*	16. 40. 2.273	1873.2	5	+ 0.3983	+ 0.0233	- 0.001	0.05934	0.02229	1.40480	0.06126	95.758
1527	26 Scorpii	3*	16. 41. 52.587	1871.8	9	+ 3.9239	+ 0.0161	- 0.051	0.06933	0.05083	1.46125	0.08460	87.484
1528	18 Ophiuchi	6	16. 41. 57.092	1870.6	10	+ 3.6442	+ 0.0120	- 0.001	0.07023	0.05346	1.45704	0.08283	87.711
1529	Groombridge 2377..	5*	16. 42. 52.238	1868.4	5	+ 1.1281	+ 0.0108	..	0.06430	0.03520	1.41710	0.06672	93.396
1530	Lacaille 7015	6-7	16. 43. 33.037	1874.6	5	+ 3.6509	+ 0.0119	..	0.07040	0.05335	1.45714	0.08279	87.701
1531	50 Herculis	6*	16. 45. 39.236	1873.9	5	+ 2.3398	+ 0.0033	- 0.004	0.07020	0.05192	1.43679	0.07472	89.939
1532	Herculis	Var.	16. 46. 4.262	1868.4	6	+ 2.7287	+ 0.0040	..	0.07118	0.05480	1.44293	0.07710	89.055
1533	22 Ophiuchi	6-7	16. 47. 6.804	1875.1	5	+ 3.6191	+ 0.0110	+ 0.002	0.07089	0.05348	1.45666	0.08241	87.724
1534	Lacaille 7047	7	16. 47. 10.887	1869.7	4	+ 3.8748	+ 0.0144	..	0.07017	0.05118	1.46052	0.08391	87.511
1535	53 Herculis	5*	16. 48. 6.898	1873.3	5	+ 2.2801	+ 0.0033	- 0.012	0.07032	0.05126	1.43585	0.07451	90.059
1536	Groombridge 2391 .	6-7†	16. 48. 49.653	1875.7	5	- 2.7827	+ 0.1262	..	0.04302	9.95483	1.34669	0.04388	105.548
1537	24 Ophiuchi	6-7	16. 49. 4.965	1875.8	3	+ 3.6113	+ 0.0107	+ 0.003	0.07112	0.05347	1.45654	0.08228	87.728
1538	54 Herculis	6*	16. 49. 44.719	1875.0	4	+ 2.6423	+ 0.0036	- 0.012	0.07142	0.05420	1.44158	0.07672	89.206
1539	27 Ophiuchi	3-4*	16. 51. 36.602	1871.6	66	+ 2.8566	+ 0.0044	- 0.023	0.07193	0.05514	1.44493	0.07799	88.767
1540	Bradley 2153	6	16. 52. 7.681	1872.4	2	+ 3.6656	+ 0.0109	+ 0.008	0.07134	0.05296	1.45736	0.08244	87.670
1541	57 Herculis	6-7†	16. 52. 15.722	1873.6	2	+ 2.4607	+ 0.0033	+ 0.004	0.07132	0.05281	1.43871	0.07581	89.584
1542	Groombridge 2390 .	5-6	16. 52. 17.382	1875.8	3	+ 0.8053	+ 0.0138	..	0.06464	0.02947	1.41171	0.06655	94.127
1543	29 Ophiuchi	6	16. 54. 22.037	1870.4	1	+ 3.5062	+ 0.0089	- 0.001	0.07193	0.05404	1.45494	0.08148	87.818
1544	Piazzi XVI. 282 ...	6	16. 55. 4.083	1874.5	3	+ 0.5993	+ 0.0163	+ 0.014	0.06429	0.02575	1.40823	0.06599	94.663
1545	19 Draconis	5*	16. 55. 19.754	1873.7	7	+ 0.2764	+ 0.0214	+ 0.033	0.06278	0.01977	1.40271	0.06430	95.628
1546	58 Herculis	3-4*	16. 55. 23.564	1871.6	34	+ 2.2970	+ 0.0032	- 0.005	0.07127	0.05123	1.43611	0.07511	89.936
1547	20 Draconis	6	16. 55. 47.585	1873.6	6	+ 0.2872	+ 0.0211	- 0.007	0.06296	0.01998	1.40290	0.06448	95.577
1548	28 Ophiuchi	7	16. 56. 8.284	1872.5	3	+ 3.6856	+ 0.0106	+ 0.001	0.07176	0.05269	1.45767	0.08233	87.642
1549	Scorpii	5	16. 56. 24.152	1868.9	5	+ 3.9375	+ 0.0136	- 0.007	0.07114	0.05027	1.46146	0.08361	87.450
1550	31 Ophiuchi	7	16. 56. 51.093	1875.2	3	+ 3.6847	+ 0.0105	+ 0.008	0.07185	0.05267	1.45765	0.08229	87.641
1551	59 Herculis	5*	16. 56. 52.920	1876.3	4	+ 2.2124	+ 0.0033	- 0.006	0.07122	0.05032	1.43477	0.07478	90.121
1552	32 Ophiuchi	5*	16. 57. 16.079	1874.6	5	+ 2.7446	+ 0.0038	0.000	0.07240	0.05452	1.44316	0.07751	88.944
1553	Bradley 2162	6	16. 58. 33.404	1868.8	2	+ 3.5770	+ 0.0091	+ 0.001	0.07226	0.05344	1.45602	0.08168	87.734
1554	Groombridge 2411 .	6-7†	16. 58. 49.973	1874.9	4	- 1.2320	+ 0.0544	..	0.05643	9.98945	1.37601	0.05741	100.075
1555	61 Herculis	5*	16. 58. 54.525	1875.6	2	+ 2.1489	+ 0.0034	+ 0.015	0.07129	0.04964	1.43375	0.07461	90.249
1556	22 Ursæ Minoris.... ϵ	4-5*	16. 59. 9.868	1870.9	18	- 6.4009	+ 0.3064	+ 0.009	0.02957	9.85940	1.26957	0.03004	116.040
1557	Ophiuchi	Var.	17. 0. 25.079	1868.5	4	+ 3.4407	+ 0.0077	..	0.07268	0.05423	1.45394	0.08095	87.870
1558	Bradley 2172	7-8	17. 2. 6.364	1875.9	3	+ 2.1490	+ 0.0033	..	0.07171	0.04950	1.43375	0.07486	90.213
1559	Groombridge 2419 .	7-6	17. 2. 17.123	1873.5	3	- 2.9364	+ 0.1081	..	0.04967	9.95117	1.34374	0.05036	105.076
1560	21 Draconis (S. Star) μ	5-4*	17. 2. 41.047	1870.9	10	+ 1.2468	+ 0.0078	- 0.011	0.06874	0.03678	1.41908	0.07068	92.590

1532. The limits of magnitude are 5.9 and 12.2; the period 303 days.

1557. The limits of magnitude are 7.6 and less than 12; the period 302.4 days.

1560. The magnitude taken from the *Uranometria Nova* includes both stars.

1876 GOAMM. 386. 78A No.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of l'	No. in Bessel's Bradley. 1755.	No. in Piazz. 1800.	No. in Groom-bridge. 1810.	No. in B. A. C. 1850.
							e'	f'	g'	h'					
1521	58. 9. 49.78	1871.1	51	+ 7.149	-0.316	-0.45	9.52969	0.14240	1.50717	9.42438	121.613	2127	XVI. 165	..	5604
1522	118. 16. 5.02	1875.5	3	+ 7.105	-0.514	0.00	0.10058	0.01377	1.50657	9.42300	107.533	..	XVI. 159	..	5603
1523	50. 49. 58.40	1872.2	5	+ 6.982	-0.284	+0.07	9.43377	0.15224	1.50490	9.41920	122.773	2133	XVI. 173	2371	5617
1524	53. 14. 57.49	1868.4	1	+ 6.982	-0.295	..	9.46449	0.14870	1.50490	9.41920	122.565	..	XVI. 172	..	5615
1525	115. 17. 31.44	1874.0	7	+ 6.940	-0.505	+0.24	0.08228	0.02206	1.50433	9.41796	108.609	2126	XVI. 168	..	5614
1526	25. 10. 4.77	1872.3	36	+ 6.856	-0.058	+0.02	9.21748	0.17881	1.50320	9.41540	123.405	2141	XVI. 197	2375	5628
1527	124. 3. 25.88	1870.2	8	+ 6.705	-0.542	+0.33	0.13615	0.00552	1.50113	9.41088	105.990	2132	XVI. 184	..	5632
1528	114. 24. 46.16	1870.6	11	+ 6.699	-0.504	+0.02	0.07719	0.02610	1.50104	9.41066	109.113	..	XVI. 185	..	5633
1529	32. 59. 19.07	1868.4	5	+ 6.623	-0.158	..	9.23578	0.16939	1.50000	9.40844	124.420	..	....	2377	5643
1530	114. 36. 41.16	1875.0	5	+ 6.566	-0.506	..	0.07886	0.02678	1.49922	9.40677	109.175	..	....	..	5641
1531	59. 58. 24.63	1873.8	21	+ 6.392	-0.326	-0.02	9.54407	0.13340	1.49682	9.40169	123.286	2145	XVI. 221	..	5666
1532	74. 50. 27.25	1868.4	5	+ 6.358	-0.380	..	9.72681	0.10821	1.49634	9.40068	120.679	..	....	..	..
1533	113. 17. 57.38	1875.2	6	+ 6.271	-0.504	+0.05	0.07085	0.03194	1.49514	9.39819	109.883	2143	XVI. 220	..	5680
1534	122. 17. 31.41	1869.7	4	+ 6.265	-0.540	..	0.12736	0.01413	1.49505	9.39804	106.884	..	....	..	5679
1535	58. 5. 5.40	1874.0	12	+ 6.187	-0.319	0.00	9.51693	0.13453	1.49398	9.39583	124.057	2151	XVI. 238	..	5693
1536	12. 16. 0.73	1873.9	15	+ 6.128	+0.384	..	9.24895	0.17568	1.49315	9.39413	124.550	..	....	2391	5705
1537	112. 56. 38.35	1875.8	3	+ 6.107	-0.504	+0.07	0.06885	0.03393	1.49285	9.39356	110.158	2148	XVI. 234	..	5698
1538	71. 21. 37.30	1874.3	8	+ 6.051	-0.370	-0.03	9.68511	0.11274	1.49208	9.39201	122.055	2152	XVI. 242	..	5702
1539	80. 25. 26.45	1871.5	21	+ 5.896	-0.401	-0.02	9.78753	0.09655	1.48990	9.38774	120.268	2156	XVI. 252	..	5708
1540	114. 53. 40.04	1872.4	2	+ 5.852	-0.514	+0.16	0.08246	0.03227	1.48929	9.38657	109.733	2153	XVI. 248	..	5709
1541	64. 26. 52.09	1873.1	9	+ 5.841	-0.346	-0.01	9.59759	0.12242	1.48914	9.38625	123.867	2157	XVI. 257	..	5714
1542	29. 25. 56.12	1875.5	2	+ 5.840	-0.115	..	9.18639	0.16245	1.48912	9.38622	126.726	..	....	2390	5717
1543	108. 41. 39.29	1870.4	1	+ 5.665	-0.493	-0.01	0.04005	0.04510	1.48664	9.38154	112.033	2158	XVI. 261	..	5723
1544	27. 25. 59.39	1874.5	3	+ 5.606	-0.086	+0.01	9.16997	0.16080	1.48580	9.37998	127.375	..	XVI. 282	2395	5734
1545	24. 40. 9.93	1874.1	13	+ 5.584	-0.041	-0.03	9.16465	0.16227	1.48549	9.37938	127.331	2169	XVI. 286	2396	5740
1546	58. 53. 0.76	1871.7	49	+ 5.578	-0.324	-0.04	9.52127	0.12832	1.48541	9.37922	125.423	2161	XVI. 272	..	5731
1547	24. 45. 57.91	1873.7	5	+ 5.545	-0.043	-0.03	9.16316	0.16168	1.48493	9.37838	127.456	2170	XVI. 290	2397	5745
1548	115. 30. 43.98	1872.5	3	+ 5.517	-0.519	+0.08	0.08739	0.03403	1.48454	9.37765	109.804	..	XVI. 269	..	5733
1549	123. 56. 20.33	1868.9	5	+ 5.494	-0.555	+0.05	0.13890	0.01998	1.48421	9.37705	106.851	..	XVI. 268	..	5735
1550	115. 27. 35.00	1875.2	3	+ 5.456	-0.519	+0.19	0.08711	0.03464	1.48368	9.37607	109.880	2160	XVI. 271	..	5744
1551	56. 14. 41.89	1876.2	5	+ 5.453	-0.313	-0.03	9.48373	0.13068	1.48364	9.37599	126.121	2165	XVI. 280	..	5747
1552	75. 43. 18.56	1874.6	7	+ 5.421	-0.388	+0.03	9.73400	0.10268	1.48318	9.37510	122.353	2163	XVI. 279	..	5749
1553	111. 23. 3.77	1868.8	2	+ 5.313	-0.505	+0.08	0.05979	0.04273	1.48163	9.37240	111.456	2162	XVI. 281	..	5758
1554	16. 40. 46.74	1875.0	5	+ 5.289	+0.171	..	9.18013	0.16216	1.48128	9.37178	127.667	..	....	2411	5769
1555	54. 24. 12.70	1875.6	4	+ 5.282	-0.305	+0.05	9.45576	0.13140	1.48119	9.37158	126.806	2168	XVI. 295	..	5763
1556	7. 45. 21.56	1871.8	32	+ 5.261	+0.898	-0.01	9.26764	0.16433	1.48088	9.37109	126.684	2201	XVII. 36	2422	5780
1557	105. 55. 9.77	1868.5	4	+ 5.155	-0.487	..	0.02004	0.05289	1.47936	9.36846	113.543	..	....	..	..
1558	54. 30. 17.27	1875.7	5	+ 5.013	-0.306	-0.07	9.45408	0.12877	1.47731	9.36500	127.449	2172	....	..	5777
1559	12. 9. 38.67	1872.9	7	+ 4.997	+0.413	..	9.20925	0.15944	1.47709	9.36470	128.075	..	....	2419	..
1560	35. 21. 38.23	1870.9	10	+ 4.963	-0.178	-0.06	9.20085	0.14670	1.47659	9.36386	129.250	2175	XVII. 4	2414	5785

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Celestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazz's Catalogue (1814); from Weisse's two Catalogues, *Positiones Medice Stellarum Fixarum in Zonis Regiomontanis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

{lxxx}

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fra- tion of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
1561	21 Draconis(N.Star) μ	5.4*	17. 2. 41.049	1870.9	10	+ 1.2467	+ 0.0078	- 0.011	0.06874	0.03678	1.41908	0.07068	92.590
1562	35 Ophiuchi η	2.3*	17. 3. 2.287	1871.3	32	+ 3.4332	+ 0.0074	+ 0.001	0.07298	0.05420	1.45383	0.08083	87.868
1563	Piazzi XVII. 3	5*	17. 3. 29.841	1875.5	4	+ 2.1266	+ 0.0033	- 0.002	0.07183	0.04921	1.43340	0.07487	90.249
1564	Groombridge 2427..	6*	17. 5. 42.448	1874.4	4	- 1.9436	+ 0.0683	..	0.05601	9.97393	1.36284	0.05676	101.855
1565	63 Herculis	6*	17. 5. 45.011	1875.9	3	+ 2.4827	+ 0.0032	+ 0.026	0.07292	0.05263	1.43906	0.07660	89.407
1566	Piazzi XVII. 15 . . .	8	17. 5. 58.860	1875.6	1	+ 2.4822	+ 0.0032	..	0.07295	0.05262	1.43905	0.07662	89.405
1567	Bradley 2174	6-7	17. 6. 16.129	1874.4	1	+ 3.7299	+ 0.0096	- 0.006	0.07286	0.05205	1.45834	0.08201	87.578
1568	36 Ophiuchi A^1	..	17. 7. 28.583	1874.7	5	+ 3.7189	+ 0.0093	- 0.037	0.07302	0.05212	1.45817	0.08189	87.584
1569	36 Ophiuchi(as one mass) A	5*	17. 7. 28.941	1875.5	1	+ 3.7189	+ 0.0093	- 0.037	0.07302	0.05212	1.45817	0.08189	87.584
1570	36 Ophiuchi A^2	..	17. 7. 28.816	1876.5	3	+ 3.7189	+ 0.0093	- 0.037	0.07302	0.05212	1.45817	0.08189	87.584
1571	22 Draconis ζ	3*	17. 8. 25.192	1871.6	8	+ 0.1626	+ 0.0193	+ 0.002	0.06581	0.01748	1.40077	0.06699	95.517
1572	Piazzi XVII. 23 . . .	5-6	17. 8. 44.149	1870.5	4	+ 3.9032	+ 0.0109	- 0.005	0.07279	0.05035	1.46095	0.08257	87.446
1573	64 Herculis a^1	Var.	17. 8. 48.675	1871.6	60	+ 2.7341	+ 0.0035	- 0.003	0.07363	0.05417	1.44302	0.07780	88.874
1574	Herculis a^2	6	17. 8. 49.018	1868.9	3	+ 2.7341	+ 0.0035	..	0.07363	0.05417	1.44302	0.07780	88.874
1575	65 Herculis δ	3*	17. 9. 46.496	1874.1	4	+ 2.4639	+ 0.0031	- 0.005	0.07335	0.05238	1.43876	0.07673	89.407
1576	Piazzi XVII. 31 . . .	7	17. 10. 12.268	1870.5	2	+ 3.6573	+ 0.0084	- 0.007	0.07345	0.05256	1.45724	0.08151	87.627
1577	39 Ophiuchi	6*	17. 10. 12.408	1870.5	8	+ 3.6574	+ 0.0084	- 0.007	0.07345	0.05256	1.45724	0.08151	87.627
1578	Bradley 2182	6	17. 10. 18.261	1873.9	3	+ 3.6516	+ 0.0083	+ 0.003	0.07347	0.05260	1.45715	0.08148	87.632
1579	67 Herculis π	3-4*	17. 10. 35.355	1869.7	11	+ 2.0896	+ 0.0033	- 0.001	0.07267	0.04864	1.43281	0.07527	90.244
1580	Piazzi XVII. 61 . . .	6*	17. 11. 26.440	1874.9	5	+ 0.5046	+ 0.0140	+ 0.007	0.06785	0.02381	1.40663	0.06910	94.446
1581	68 Herculis u	5*	17. 12. 35.876	1873.0	4	+ 2.2147	+ 0.0031	- 0.003	0.07321	0.04999	1.43481	0.07592	89.930
1582	40 Ophiuchi ξ	5*	17. 13. 20.056	1870.1	7	+ 3.5741	+ 0.0073	+ 0.017	0.07393	0.05311	1.45597	0.08105	87.691
1583	Bradley 2188	7	17. 13. 50.639	1870.6	1	+ 3.6768	+ 0.0080	- 0.006	0.07384	0.05233	1.45753	0.08140	87.600
1584	42 Ophiuchi θ	3-4*	17. 14. 8.984	1871.9	30	+ 3.6796	+ 0.0080	- 0.003	0.07387	0.05231	1.45757	0.08140	87.596
1585	Groombridge 2432..	7	17. 14. 31.457	1874.7	5	+ 0.7220	+ 0.0110	..	0.06931	0.02768	1.41031	0.07056	93.752
1586	Groombridge 2433..	6*	17. 14. 56.348	1874.8	5	+ 0.7254	+ 0.0109	..	0.06941	0.02775	1.41037	0.07066	93.729
1587	43 Ophiuchi	6	17. 15. 18.315	1875.2	13	+ 3.7701	+ 0.0086	0.000	0.07386	0.05151	1.45894	0.08166	87.521
1588	70 Herculis	6*	17. 15. 37.885	1869.5	8	+ 2.4707	+ 0.0301	- 0.003	0.07404	0.05232	1.43887	0.07704	89.335
1589	74 Herculis	6-5*	17. 16. 44.270	1869.5	10	+ 1.6948	+ 0.0043	- 0.007	0.07257	0.04340	1.42643	0.07440	91.120
1590	Piazzi XVII. 76 . . .	6	17. 17. 2.799	1870.0	7	+ 3.5848	+ 0.0070	- 0.011	0.07433	0.05296	1.45614	0.08093	87.668
1591	Groombridge 2437..	6	17. 18. 12.843	1871.0	6	- 0.9565	+ 0.0329	..	0.06486	9.99510	1.38104	0.06557	98.324
1592	44 Ophiuchi b	5*	17. 18. 33.314	1870.7	6	+ 3.6592	+ 0.0073	- 0.002	0.07440	0.05238	1.45726	0.08111	87.598
1593	Herculis ρ^1	} 4* {	17. 19. 15.814	1869.5	3	+ 2.0710	+ 0.0032	- 0.002	0.07379	0.04827	1.43250	0.07592	90.170
1594	75 Herculis ρ^2		17. 19. 16.056	1869.8	12	+ 2.0710	+ 0.0032	- 0.002	0.07379	0.04827	1.43250	0.07592	90.170
1595	49 Ophiuchi σ		17. 20. 9.837	1871.4	55	+ 2.9743	+ 0.0038	+ 0.001	0.07498	0.05467	1.44676	0.07888	88.387
1596	Piazzi XVII. 109 . .	6*	17. 21. 17.694	1873.5	5	+ 2.5875	+ 0.0030	+ 0.007	0.07484	0.05307	1.44071	0.07769	89.047
1597	51 Ophiuchi c^2	5*	17. 23. 36.439	1870.5	2	+ 3.6561	+ 0.0066	0.000	0.07499	0.05232	1.45722	0.08087	87.583
1598	Piazzi XVII. 117 . .	6-7	17. 23. 47.624	1871.9	7	+ 3.7210	+ 0.0069	- 0.001	0.07493	0.05179	1.45820	0.08104	87.532
1599	Radcliffe 3714	6*	17. 24. 2.081	1875.2	4	+ 0.7705	+ 0.0090	..	0.07153	0.02846	1.41113	0.07256	93.359
1600	35 Scorpii λ	3*	17. 24. 54.916	1876.5	1	+ 4.0682	+ 0.0091	+ 0.007	0.07455	0.04825	1.46341	0.08194	87.308

1573. The limits of magnitude are 3.1 and 3.9; the period irregular.

1574. The magnitude is taken from Struve's *Mensura Micrometrica*.1593, 1594. In Struve's *Mensura Micrometrica* the magnitudes of the two components of ρ Herculis are 5.1 and 4.0 respectively.

AT THE ROYAL OBSERVATORY, GREENWICH, FROM 1868 TO 1876.

{lxxx}

1880AMM.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of μ	No. in Bessel's Bradley, 1755.	No. in Piazzi, 1800.	No. in Groombridge, 1810.	No. in B.A.C., 1850.
							e'	f'	g'	h'					
1561	35. 21. 35.18	1870.7	10	+ 4.963	-0.178	-0.06	9.20085	0.14670	1.47659	9.36386	129.250	2175	XVII. 4	2414	5785
1562	105. 33. 49.33	1871.4	17	+ 4.934	-0.488	-0.12	0.01791	0.05461	1.47616	9.36308	113.908	2171	XVI. 306	..	5781
1563	53. 53. 49.42	1873.3	15	+ 4.894	-0.303	+0.02	9.44404	0.12833	1.47559	9.36215	127.825	..	XVII. 3	..	5788
1564	14. 31. 35.52	1874.6	5	+ 4.707	+0.274	..	9.17667	0.15449	1.47286	9.35778	129.217	..	....	2427	5811
1565	65. 36. 14.92	1875.8	5	+ 4.703	-0.354	-0.08	9.60552	0.11290	1.47280	9.35770	126.157	2177	XVII. 11	..	5798
1566	65. 35. 24.64	1875.6	2	+ 4.683	-0.354	..	9.60531	0.11279	1.47251	9.35727	126.200	..	XVII. 15	..	..
1567	116. 49. 42.54	1874.4	1	+ 4.659	-0.531	..	0.09757	0.03947	1.47216	9.35671	110.048	2174	XVII. 6	..	5800
1568	116. 24. 42.45	1874.7	5	+ 4.555	-0.530	+1.12	0.09506	0.04099	1.47062	9.35436	110.289	..	....	..	..
1569	116. 24. 41.82	1875.4	3	+ 4.555	-0.530	+1.12	0.09506	0.04099	1.47062	9.35436	110.289	2176	XVII. 17	..	5808
1570	116. 24. 38.08	1876.5	2	+ 4.554	-0.530	+1.12	0.09506	0.04099	1.47062	9.35436	110.289	..	....	..	..
1571	24. 7. 39.28	1871.7	26	+ 4.476	-0.025	-0.07	9.12385	0.14726	1.46947	9.35259	130.581	2193	XVII. 42	2428	5823
1572	122. 30. 51.89	1870.5	4	+ 4.449	-0.557	-0.10	0.13296	0.03374	1.46907	9.35203	108.062	..	XVII. 23	..	5817
1573	75. 27. 42.33	1871.2	34	+ 4.442	-0.391	-0.04	9.72860	0.09885	1.46896	9.35186	124.276	2183	XVII. 29	..	5821
1574	75. 27. 44.02	1868.9	3	+ 4.442	-0.391	..	9.72860	0.09885	1.46896	9.35186	124.276	..	....	..	..
1575	65. 0. 29.02	1873.2	6	+ 4.361	-0.353	+0.15	9.59583	0.11123	1.46776	9.35012	127.013	2185	XVII. 35	..	5828
1576	114. 8. 29.35	1870.5	2	+ 4.323	-0.523	+0.02	0.08048	0.04603	1.46722	9.34933	111.338	..	XVII. 31	..	..
1577	114. 8. 39.84	1870.5	8	+ 4.323	-0.523	+0.02	0.08048	0.04603	1.46722	9.34933	111.338	2181	XVII. 32	..	5827
1578	113. 55. 42.18	1873.9	3	+ 4.315	-0.522	+0.12	0.07904	0.04638	1.46709	9.34911	111.439	2182	XVII. 33	..	5831
1579	53. 2. 42.78	1871.4	20	+ 4.291	-0.300	-0.01	9.42483	0.12340	1.46673	9.34859	129.406	2187	XVII. 39	..	5834
1580	26. 58. 44.46	1873.8	11	+ 4.218	-0.074	+0.03	9.12024	0.14221	1.46565	9.34709	131.395	..	XVII. 61	2430	5840
1581	56. 45. 37.85	1874.4	11	+ 4.118	-0.318	0.00	9.47813	0.11811	1.46417	9.34502	129.192	2194	XVII. 56	..	5842
1582	110. 58. 19.64	1870.1	7	+ 4.055	-0.512	+0.21	0.05888	0.05217	1.46322	9.34374	112.796	2186	XVII. 47	..	5844
1583	114. 46. 25.92	1870.6	1	+ 4.011	-0.527	+0.08	0.08511	0.04774	1.46257	9.34281	111.363	2188	XVII. 51	..	5846
1584	114. 52. 7.06	1872.2	16	+ 3.985	-0.528	-0.02	0.08579	0.04784	1.46218	9.34231	111.347	2189	XVII. 53	..	5851
1585	29. 8. 56.24	1874.7	5	+ 3.954	-0.105	..	9.12189	0.13741	1.46170	9.34165	132.151	..	....	2432	..
1586	29. 11. 34.89	1875.3	7	+ 3.918	-0.106	..	9.12123	0.13690	1.46117	9.34097	132.247	..	....	2433	..
1587	118. 0. 55.62	1875.3	21	+ 3.887	-0.541	+0.03	0.10643	0.04491	1.46071	9.34035	110.194	2192	XVII. 60	..	5857
1588	65. 22. 16.81	1871.3	16	+ 3.858	-0.355	0.00	9.59835	0.10728	1.46027	9.33981	127.983	2197	XVII. 75	..	5860
1589	43. 37. 56.49	1869.5	10	+ 3.764	-0.244	-0.02	9.27807	0.12575	1.45884	9.33800	131.901	2203	XVII. 87	2434	5871
1590	111. 19. 8.86	1870.0	7	+ 3.736	-0.515	+0.08	0.06183	0.05395	1.45842	9.33791	112.942	..	XVII. 76	..	5866
1591	18. 4. 30.64	1870.4	24	+ 3.636	+0.136	..	9.11561	0.13746	1.45691	9.33561	132.651	..	....	2437	5887
1592	114. 3. 15.40	1870.7	6	+ 3.607	-0.527	+0.12	0.08088	0.05181	1.45648	9.33506	111.977	2198	XVII. 83	..	5876
1593	52. 44. 2.12	1872.3	3	+ 3.546	-0.299	-0.02	9.41280	0.11630	1.45554	9.33393	131.207	..	....	..	..
1594	52. 44. 5.19	1871.2	30	+ 3.546	-0.299	-0.02	9.41280	0.11630	1.45554	9.33393	131.207	2207	XVII. 105	..	5886
1595	85. 44. 46.04	1871.5	30	+ 3.468	-0.429	-0.02	9.84155	0.08380	1.45436	9.33256	122.783	2206	XVII. 103	..	5893
1596	69. 48. 28.75	1873.7	13	+ 3.370	-0.374	+0.13	9.65552	0.09969	1.45286	9.33086	127.839	..	XVII. 109	..	5900
1597	113. 51. 37.89	1869.8	3	+ 3.172	-0.528	+0.05	0.08016	0.05538	1.44981	9.32754	112.411	2209	XVII. 115	..	5907
1598	116. 10. 5.75	1871.9	7	+ 3.155	-0.537	+0.09	0.09556	0.05332	1.44955	9.32726	111.484	..	XVII. 117	..	5909
1599	29. 50. 36.90	1874.0	15	+ 3.134	-0.112	..	9.10483	0.12566	1.44923	9.32694	134.360	..	....	..	5917
1600	127. 0. 38.25	1876.5	1	+ 3.057	-0.588	-0.05	0.16086	0.04467	1.44803	9.32568	107.124	2210	XVII. 121	..	5915

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Cælestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Medie Stellarum Fixarum in Zonis Regiomontanis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

{lxxxii}

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fra- tion of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or R.A.C.	Logarithms of				Value of l
									e	f	g	h	
1601	76 Herculis λ	5*	h m s 17. 25. 33.923	1872.5	5	+ 2.4215	+ 0.0028	- 0.001	0.07514	0.05174	1.43809	0.07739	89.332
1602	78 Herculis	6*	17. 26. 47.972	1872.9	5	+ 2.3538	+ 0.0028	+ 0.003	0.07521	0.05113	1.43702	0.07729	89.454
1603	23 Draconis β	3-2*	17. 27. 32.457	1872.0	39	+ 1.3537	+ 0.0051	- 0.003	0.07356	0.03816	1.42084	0.07474	91.771
1604	55 Ophiuchi α	2*	17. 28. 59.578	1871.4	135	+ 2.7747	+ 0.0030	+ 0.004	0.07584	0.05396	1.44365	0.07845	88.643
1605	Groombridge 2444 ..	6	17. 29. 3.745	1869.5	7	+ 1.9069	+ 0.0033	..	0.07484	0.04611	1.42987	0.07632	90.406
1606	55 Serpentes ξ	4-3*	17. 30. 15.502	1868.4	4	+ 3.4353	+ 0.0047	- 0.004	0.07593	0.05364	1.45386	0.08004	87.756
1607	Piazzi XVII. 176 ..	6*	17. 31. 44.495	1873.6	5	+ 2.2792	+ 0.0028	+ 0.003	0.07571	0.05036	1.43583	0.07740	89.547
1608	7-yr. Cat. (1860) No. 1423	..	17. 31. 50.753	1869.0	2	+ 3.9072	+ 0.0067	..	0.07567	0.04992	1.46101	0.08103	87.380
1609	27 Draconis f	5-6*	17. 32. 28.723	1873.7	7	- 0.2492	+ 0.0153	- 0.007	0.07132	0.00930	1.39359	0.07188	95.796
1610	Piazzi XVII. 167 ..	7	17. 32. 38.088	1869.7	5	+ 3.9062	+ 0.0065	- 0.023	0.07577	0.04993	1.46099	0.08098	87.377
1611	26 Draconis	6-5*	17. 33. 40.164	1872.6	5	+ 0.5771	+ 0.0085	+ 0.037	0.07326	0.02492	1.40786	0.07395	93.596
1612	Piazzi XVII. 196 ..	6*	17. 35. 7.500	1875.7	5	+ 2.2650	+ 0.0027	+ 0.002	0.07611	0.05018	1.43561	0.07759	89.541
1613	58 Ophiuchi	5*	17. 35. 45.628	1870.0	16	+ 3.5991	+ 0.0047	- 0.010	0.07644	0.05257	1.45635	0.08019	87.583
1614	Bradley 2228	6-7†	17. 35. 50.084	1873.2	3	+ 2.4641	+ 0.0027	+ 0.005	0.07638	0.05195	1.43876	0.07802	89.140
1615	85 Herculis	3-4*	17. 35. 51.110	1873.3	4	+ 1.6918	+ 0.0035	+ 0.014	0.07551	0.04313	1.42637	0.07654	90.796
1616	Piazzi XVII. 203 ..	6*	17. 36. 13.975	1874.9	5	+ 2.6906	+ 0.0027	+ 0.005	0.07657	0.05346	1.44233	0.07847	88.726
1617	60 Ophiuchi	3*	17. 37. 8.955	1871.4	101	+ 2.9646	+ 0.0030	- 0.005	0.07677	0.05439	1.44661	0.07899	88.286
1618	Oeltz.Arg.(N.) 17413	7	17. 37. 9.168	1874.5	3	- 0.3157	+ 0.0138	..	0.07256	0.00795	1.39240	0.07302	95.795
1619	Oeltz.Arg.(N.) 17415	9	17. 37. 10.302	1873.5	4	- 0.2974	+ 0.0136	- 0.070	0.07259	0.00834	1.39276	0.07306	95.743
1620	83 Herculis	6	17. 37. 13.509	1872.9	5	+ 2.4623	+ 0.0026	- 0.002	0.07654	0.05193	1.43874	0.07808	89.128
1621	Oeltz.Arg.(N.) 17419	8	17. 37. 18.858	1874.6	5	- 0.2969	+ 0.0136	..	0.07264	0.00834	1.39276	0.07309	95.737
1622	28 Draconis	5*	17. 37. 42.217	1872.9	7	- 0.3614	+ 0.0139	+ 0.003	0.07265	0.00706	1.39162	0.07309	95.889
1623	84 Herculis	6*	17. 38. 6.415	1876.6	2	+ 2.4689	+ 0.0026	- 0.006	0.07665	0.05198	1.43884	0.07814	89.105
1624	.....	10	17. 38. 22.619	1868.8	3	+ 2.5478	+ 0.0026	..	0.07674	0.05256	1.44009	0.07828	88.956
1625	3 Sagittarii	5*	17. 39. 30.314	1874.8	22	+ 3.7737	+ 0.0048	- 0.010	0.07674	0.05113	1.45900	0.08031	87.437
1626	86 Herculis	3-4*	17. 41. 26.973	1871.7	109	+ 2.3697	+ 0.0026	- 0.026	0.07697	0.05111	1.43727	0.07816	89.256
1627	Piazzi XVII. 238 ..	6-7	17. 42. 20.768	1875.4	2	+ 3.7519	+ 0.0043	+ 0.001	0.07709	0.05130	1.45867	0.08013	87.441
1628	Piazzi XVII. 255 ..	6*	17. 43. 14.258	1873.8	5	+ 2.6053	+ 0.0025	+ 0.017	0.07731	0.05291	1.44099	0.07857	88.806
1629	87 Herculis	6*	17. 43. 37.760	1873.5	6	+ 2.4313	+ 0.0025	- 0.001	0.07727	0.05163	1.43825	0.07835	89.115
1630	31 Draconis (1st Star) ψ	4-5	17. 44. 13.087	1874.2	7	- 1.0848	+ 0.0155	- 0.002	0.07371	9.99221	1.37865	0.07397	97.481
1631	31 Draconis (2d Star) ψ	6	17. 44. 14.851	1874.1	5	- 1.0869	+ 0.0155	+ 0.001	0.07372	9.99221	1.37865	0.07398	97.479
1632	Bradley 2245	6-7†	17. 47. 54.847	1872.6	5	+ 1.9514	+ 0.0027	+ 0.009	0.07752	0.04652	1.43058	0.07811	90.021
1633	Lacaille 7508	6-7	17. 48. 37.005	1875.9	3	+ 3.7835	+ 0.0034	..	0.07783	0.05099	1.45915	0.07983	87.393
1634	89 Herculis	6*	17. 50. 15.372	1872.1	18	+ 2.4186	+ 0.0024	+ 0.001	0.07804	0.05148	1.43805	0.07868	89.064
1635	32 Draconis	3-4*	17. 51. 19.048	1874.5	2	+ 1.0233	+ 0.0039	+ 0.014	0.07750	0.03263	1.41535	0.07778	92.035
1636	4 Sagittarii	5*	17. 51. 58.714	1871.7	1	+ 3.6615	+ 0.0027	- 0.005	0.07826	0.05199	1.45730	0.07955	87.466
1637	92 Herculis	4-3*	17. 52. 47.437	1872.6	2	+ 2.3234	+ 0.0024	+ 0.010	0.07831	0.05062	1.43653	0.07876	89.210
1638	94 Herculis	4-5*	17. 53. 36.386	1868.6	1	+ 2.2943	+ 0.0024	- 0.002	0.07839	0.05034	1.43607	0.07879	89.257
1639	33 Draconis	2-3*	17. 53. 38.004	1872.7	59	+ 1.3918	+ 0.0031	+ 0.000	0.07810	0.03860	1.42147	0.07834	91.139
1640	Piazzi XVII. 312 ..	6	17. 54. 9.125	1872.2	6	+ 3.6333	+ 0.0024	- 0.004	0.07851	0.05220	1.45687	0.07944	87.475

1618, 1619, 1621. The magnitudes are taken from Oeltzen's Argelander (N. Zones).

1619. The annual proper motion is taken from the Monthly Notices, R.A.S., Vol. XXXI, page 43.

1624. The magnitude is taken from the Greenwich Observations, 1869.

1630, 1631. The combined magnitude for these stars given in the *Uranometria Nova* is 4-5.

No.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of ρ	No. in Bessel's Bradley, 1755.	No. in Piazzi, 1800.	No. in Groombridge, 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
1601	63. 47. 28.13	1873.4	13	+ 3.002	- 0.351	- 0.03	9.57276	0.10248	1.44719	9.32483	130.114	2213	XVII. 136	..	5922
1602	61. 29. 52.78	1872.9	5	+ 2.895	- 0.341	- 0.06	9.53970	0.10343	1.44552	9.32320	130.878	2214	XVII. 146	..	5931
1603	37. 36. 10.07	1872.1	38	+ 2.831	- 0.197	0.00	9.17884	0.11789	1.44453	9.32225	134.782	2221	XVII. 155	2443	5937
1604	77. 20. 41.14	1871.7	121	+ 2.704	- 0.402	+ 0.20	9.74788	0.08974	1.44255	9.32045	126.797	2218	XVII. 153	..	5941
1605	48. 39. 52.78	1869.5	7	+ 2.699	- 0.277	..	9.34203	0.11022	1.44245	9.32036	133.816	..	....	2444	5944
1606	105. 18. 54.57	1868.4	4	+ 2.594	- 0.498	+ 0.04	0.01845	0.06663	1.44083	9.31893	116.445	2217	XVII. 157	..	5949
1607	59. 8. 3.61	1874.6	13	+ 2.466	- 0.331	- 0.01	9.50311	0.10144	1.43879	9.31716	132.310	..	XVII. 176	..	5962
1608	122. 10. 49.46	1869.0	2	+ 2.457	- 0.567	..	0.13399	0.05490	1.43866	9.31711	109.458	..	....	..	..
1609	21. 47. 0.50	1873.3	19	+ 2.404	+ 0.035	- 0.11	9.06856	0.11771	1.43780	9.31639	136.225	2234	XVII. 198	2451	5972
1610	122. 8. 30.77	1869.7	5	+ 2.389	- 0.567	+ 0.07	0.13376	0.05562	1.43758	9.31625	109.521	..	XVII. 167	..	5964
1611	28. 1. 37.29	1872.6	5	+ 2.299	- 0.085	+ 0.36	9.07628	0.11435	1.43615	9.31510	136.565	..	XVII. 201	2452	5978
1612	58. 43. 41.03	1875.1	7	+ 2.172	- 0.329	+ 0.01	9.49568	0.09906	1.43411	9.31360	133.014	..	XVII. 196	..	5986
1613	111. 37. 4.22	1870.0	16	+ 2.117	- 0.523	- 0.04	0.06554	0.06488	1.43323	9.31297	114.220	2226	XVII. 192	..	5987
1614	65. 25. 18.27	1873.2	3	+ 2.111	- 0.358	- 0.07	9.59295	0.09475	1.43314	9.31292	131.440	2228	XVII. 200	..	5988
1615	43. 55. 27.32	1873.3	4	+ 2.109	- 0.246	- 0.01	9.26174	0.10577	1.43312	9.31292	135.868	2233	XVII. 211	2455	5990
1616	73. 59. 11.34	1875.0	10	+ 2.076	- 0.391	- 0.07	9.70629	0.08940	1.43258	9.31253	128.948	..	XVII. 203	..	5991
1617	85. 22. 37.16	1871.4	50	+ 1.996	- 0.431	- 0.17	9.83721	0.08207	1.43130	9.31166	125.096	2229	XVII. 209	..	5996
1618	21. 26. 17.33	1874.5	3	+ 1.996	+ 0.045	..	9.06183	0.11148	1.43130	9.31166	137.282	..	....	..	..
1619	21. 32. 38.94	1873.5	4	+ 1.995	+ 0.042	+ 1.20	9.06108	0.11143	1.43128	9.31166	137.291	..	....	..	..
1620	65. 22. 10.68	1873.3	6	+ 1.989	- 0.358	- 0.05	9.59195	0.09389	1.43118	9.31161	131.687	2232	XVII. 213	..	5999
1621	21. 32. 54.07	1874.6	5	+ 1.983	+ 0.042	..	9.06108	0.11126	1.43109	9.31156	137.319	..	....	..	..
1622	21. 10. 58.93	1871.4	36	+ 1.948	+ 0.052	- 0.31	9.06145	0.11079	1.43053	9.31117	137.399	2238	XVII. 241	2461	6006
1623	65. 36. 53.52	1874.9	6	+ 1.912	- 0.359	- 0.11	9.59528	0.09320	1.42995	9.31078	131.762	2235	XVII. 218	..	6005
1624	68. 29. 50.52	1868.8	3	+ 1.889	- 0.371	..	9.63488	0.09149	1.42957	9.31054	130.975	..	....	..	..
1625	117. 46. 43.23	1875.2	33	+ 1.791	- 0.549	+ 0.02	0.10735	0.06384	1.42799	9.30962	111.782	2230	XVII. 217	..	6008
1626	62. 12. 9.87	1871.6	54	+ 1.621	- 0.345	+ 0.74	9.54568	0.09262	1.42523	9.30811	133.246	2237	XVII. 244	..	6021
1627	117. 1. 0.19	1875.4	3	+ 1.543	- 0.546	+ 0.03	0.10257	0.06635	1.42395	9.30742	112.287	..	XVII. 238	..	6024
1628	70. 42. 6.88	1875.0	9	+ 1.466	- 0.380	+ 0.01	9.66361	0.08784	1.42269	9.30678	131.047	..	XVII. 255	..	6030
1629	64. 19. 58.19	1872.7	12	+ 1.431	- 0.354	+ 0.04	9.57623	0.09022	1.42211	9.30654	133.024	2239	XVII. 259	..	6033
1630	17. 47. 20.47	1873.8	31	+ 1.380	+ 0.157	+ 0.26	9.07004	0.10227	1.42128	9.30615	138.708	2251	XVII. 286	2475	6047
1631	17. 46. 50.46	1873.7	11	+ 1.377	+ 0.158	+ 0.28	9.07004	0.10223	1.42123	9.30615	138.715	2252	XVII. 287	2477	6048
1632	49. 59. 19.05	1872.5	7	+ 1.057	- 0.285	- 0.02	9.35334	0.09127	1.41592	9.30402	137.210	2245	XVII. 289	2479	6062
1633	118. 2. 28.92	1875.8	5	+ 0.996	- 0.552	..	0.10948	0.07065	1.41489	9.30373	112.190	..	....	..	6063
1634	63. 55. 39.89	1870.9	15	+ 0.853	- 0.353	- 0.02	9.56961	0.08590	1.41251	9.30298	134.206	2249	XVII. 298	..	6073
1635	33. 6. 22.18	1874.5	2	+ 0.760	- 0.150	- 0.06	9.10003	0.09052	1.41094	9.30253	140.129	2263	XVII. 316	2488	6079
1636	113. 48. 4.18	1871.7	1	+ 0.701	- 0.534	+ 0.04	0.08146	0.07404	1.40996	9.30233	114.338	2246	XVII. 299	..	6077
1637	60. 44. 12.10	1873.6	4	+ 0.631	- 0.339	+ 0.03	9.52231	0.08472	1.40877	9.30208	135.523	2258	XVII. 314	..	6084
1638	59. 47. 54.75	1868.6	2	+ 0.560	- 0.335	- 0.01	9.50813	0.08424	1.40756	9.30188	135.911	2261	XVII. 324	..	6087
1639	38. 29. 42.31	1872.9	69	+ 0.557	- 0.203	+ 0.04	9.16909	0.08698	1.40751	9.30188	140.087	2267	XVII. 335	2492	6091
1640	112. 46. 23.15	1872.2	6	+ 0.512	- 0.530	+ 0.08	0.07438	0.07561	1.40674	9.30173	114.954	..	XVII. 312	..	6088

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Caelstis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Mediae Stellarum Fixarum in Zonis Regionum* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B. A. C.	Logarithms of				Value of l
									e	f	g	h	
1641	67 Ophiuchi	4*	17. 54. 14.060	1869.4	7	+ 3.0036	+ 0.0022	0.000	0.07857	0.05434	1.44722	0.07915	88.107
1642	W. B. XVII. 1115	8-9	17. 54. 16.256	1870.3	4	+ 3.0038	+ 0.0022	..	0.07858	0.05433	1.44722	0.07915	88.107
1643	Piazzi XVII. 323	6	17. 54. 59.138	1868.6	4	+ 3.5782	+ 0.0023	- 0.003	0.07862	0.05259	1.45603	0.07938	87.514
1644	35 Draconis	5*	17. 55. 10.860	1873.8	4	- 2.7074	+ 0.0122	+ 0.014	0.07692	9.95621	1.34811	0.07698	100.958
1645	Lalande 33031....	7-8	17. 55. 54.124	1871.6	3	+ 3.4965	+ 0.0022	..	0.07873	0.05311	1.45479	0.07932	87.573
1646	9 Sagittarii	5-4*	17. 56. 1.647	1873.0	2	+ 3.6774	+ 0.0022	- 0.006	0.07873	0.05186	1.45754	0.07937	87.434
1647	96 Herculis	5*	17. 56. 54.837	1872.6	1	+ 2.5634	+ 0.0022	- 0.001	0.07884	0.05257	1.44033	0.07906	88.739
1648	97 Herculis	6	17. 57. 9.085	1870.7	1	+ 2.5068	+ 0.0022	- 0.003	0.07886	0.05216	1.43944	0.07906	88.832
1649	34 Draconis	ψ ²	17. 57. 24.335	1874.6	4	- 1.0463	+ 0.0056	- 0.013	0.07829	9.99304	1.37937	0.07834	96.773
1650	10 Sagittarii	γ ²	17. 57. 35.237	1868.8	4	+ 3.8572	+ 0.0020	- 0.004	0.07889	0.05027	1.46025	0.07933	87.314
1651	Arg. Zone + 66°. No. 1065	9	17. 58. 10.680	1872.2	16	- 0.0254	+ 0.0039	..	0.07870	0.01360	1.39751	0.07874	94.298
1652	Lalande 33303	9	17. 58. 36.019	1872.2	15	- 0.0229	+ 0.0037	..	0.07881	0.01364	1.39755	0.07884	94.279
1653	70 Ophiuchi (1st Star)	..	17. 58. 59.075	1871.6	1	+ 3.0131	+ 0.0020	+ 0.015	0.07907	0.05434	1.44736	0.07917	88.061
1654	70 Ophiuchi (as one mass)	4-5*	17. 58. 59.143	1873.9	3	+ 3.0131	+ 0.0020	+ 0.015	0.07907	0.05434	1.44736	0.07917	88.061
1655	70 Ophiuchi (2nd Star)	..	17. 58. 59.365	1871.6	1	+ 3.0131	+ 0.0020	+ 0.015	0.07907	0.05434	1.44736	0.07917	88.061
1656	Piazzi XVII. 359	6-5†	17. 59. 58.631	1875.5	5	+ 3.7971	+ 0.0016	- 0.001	0.07918	0.05083	1.45935	0.07918	87.341
1657	....	10	18. 0. 17.834	1870.4	5	+ 3.4952	+ 0.0017	..	0.07921	0.05311	1.45477	0.07917	87.553
1658	98 Herculis	6*	18. 0. 38.489	1872.8	5	+ 2.5263	+ 0.0021	+ 0.003	0.07925	0.05231	1.43974	0.07921	88.762
1659	Bradley 2272	7-8	18. 0. 54.940	1875.3	5	+ 3.0146	+ 0.0019	..	0.07928	0.05434	1.44738	0.07918	88.044
1660	72 Ophiuchi	3-4*	18. 1. 16.879	1872.2	114	+ 2.8473	+ 0.0020	- 0.005	0.07932	0.05400	1.44478	0.07920	88.263
1661	Piazzi XVII. 367	5-6†	18. 1. 50.538	1868.9	6	+ 3.8674	+ 0.0012	+ 0.001	0.07941	0.05016	1.46041	0.07907	87.290
1662	103 Herculis	4-3*	18. 2. 32.976	1875.2	3	+ 2.3389	+ 0.0022	- 0.001	0.07949	0.05075	1.43678	0.07933	89.064
1663	101 Herculis	5*	18. 3. 21.719	1875.2	5	+ 2.5849	+ 0.0020	- 0.001	0.07956	0.05271	1.44067	0.07932	88.636
1664	Bradley 2276	6	18. 3. 54.647	1872.6	1	+ 3.6597	+ 0.0011	0.000	0.07963	0.05200	1.45727	0.07900	87.411
1665	Piazzi XVIII. 23	7	18. 5. 18.649	1874.1	2	- 0.0657	+ 0.0013	..	0.08062	0.01279	1.39678	0.08049	94.142
1666	13 Sagittarii	μ	18. 6. 6.509	1871.5	71	+ 3.5876	+ 0.0009	- 0.004	0.07987	0.05253	1.45618	0.07893	87.450
1667	104 Herculis	A	18. 7. 5.173	1874.2	5	+ 2.2573	+ 0.0021	+ 0.005	0.08005	0.04998	1.43549	0.07964	89.150
1668	Groombridge 2530.	6*	18. 8. 48.615	1876.6	1	+ 2.0004	+ 0.0021	..	0.08037	0.04712	1.43137	0.07993	89.601
1669	Sagittarii	η	18. 8. 57.902	1874.5	1	+ 4.0714	- 0.0005	- 0.014	0.08036	0.04797	1.46347	0.07848	87.160
1670	Lalande 33537	6-7	18. 9. 17.220	1871.6	2	+ 3.8033	+ 0.0001	..	0.08029	0.05079	1.45945	0.07865	87.294
1671	40 Draconis	6	18. 9. 36.767	1872.6	1	- 4.4890	- 0.0232	+ 0.022	0.08496	9.91225	1.31195	0.08488	104.166
1672	41 Draconis	6	18. 9. 43.177	1872.6	1	- 4.4909	- 0.0235	+ 0.018	0.08502	9.91225	1.31196	0.08493	104.156
1673	Piazzi XVIII. 24	6*	18. 10. 2.493	1874.9	5	+ 3.7553	+ 0.0001	+ 0.005	0.08037	0.05123	1.45872	0.07864	87.319
1674	Groombridge 2533	6-5*	18. 11. (40.)	..	..	+ 1.8650	+ 0.0021	..	0.08083	0.04541	1.42919	0.08029	89.815
1675	19 Sagittarii	δ	18. 12. 47.927	1875.9	3	+ 3.8391	- 0.0006	- 0.001	0.08073	0.05047	1.45998	0.07840	87.259
1676	36 Draconis	5*	18. 13. (9.)	..	..	+ 0.2921	- 0.0006	+ 0.052	0.08237	0.01964	1.40299	0.08206	93.071
1677	23 Ursæ Minoris ..	δ	18. 13. 37.203	1872.9	146	- 19.4365	- 0.3976	+ 0.048	0.10274	8.87887	0.74535	0.10270	138.091
1678	58 Serpentis	η	18. 14. 41.199	1873.1	21	+ 3.1405	+ 0.0009	- 0.039	0.08072	0.05437	1.44933	0.07910	87.798
1679	Bradley 2302	6-7	18. 14. 55.805	1876.6	1	+ 2.3139	+ 0.0019	+ 0.009	0.08094	0.05056	1.43638	0.08007	88.954
1680	1 Lyræ	κ	18. 15. 22.597	1872.7	3	+ 2.1027	+ 0.0020	- 0.002	0.08117	0.04836	1.43301	0.08036	89.312

1653, 1655. In Struve's *Mensuræ Micrometricæ* the magnitudes of the two components of 70 Ophiuchi are 4.1 and 6.1 respectively.

1657. The magnitude is taken from the Greenwich Observations, 1870.

1671, 1672. The combined magnitude given for these stars in the *Uranometria Nova* is 5.

1878GDAW...886...78A

AT THE ROYAL OBSERVATORY, GREENWICH, FROM 1868 TO 1876.

{lxxxv}

No.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of ρ	No. in Bessel's Bradley.	No. in Piazzi.	No. in Groombridge.	No. in B. A. C.
							e	f	g	h					
1641	87. 3. 36.35	1869.4	7	+ 0.505	- 0.438	+ 0.03	9.85461	0.07965	1.40662	9.30170	126.465	2259	XVII. 322	..	6092
1642	87. 4. 19.47	1870.3	4	+ 0.502	- 0.438	..	9.85461	0.07965	1.40657	9.30168	126.470	..	....	..	..
1643	110. 44. 0.17	1868.6	5	+ 0.439	- 0.522	+ 0.15	0.05998	0.07637	1.40549	9.30153	115.958	..	XVII. 323	..	6098
1644	13. 1. 19.17	1874.2	5	+ 0.421	+ 0.395	- 0.24	9.10789	0.08653	1.40520	9.30153	140.771	2287	XVII. 380	2501	6114
1645	107. 36. 30.58	1871.6	3	+ 0.359	- 0.510	..	0.03707	0.07722	1.40413	9.30138	117.472	..	....	..	..
1646	114. 21. 36.15	1873.0	2	+ 0.347	- 0.536	+ 0.02	0.08540	0.07659	1.40392	9.30138	114.325	2260	XVII. 332	..	6102
1647	69. 9. 53.54	1873.5	4	+ 0.270	- 0.374	- 0.01	9.64237	0.08091	1.40260	9.30123	133.581	2269	XVII. 349	..	6110
1648	67. 4. 32.64	1870.7	1	+ 0.249	- 0.366	- 0.02	9.61379	0.08093	1.40225	9.30118	134.304	2270	XVII. 352	..	6116
1649	17. 59. 0.05	1874.6	4	+ 0.227	+ 0.153	0.00	9.06032	0.08307	1.40187	9.30118	141.582	2285	XVII. 382	2504	6122
1650	120. 25. 19.49	1868.8	4	+ 0.208	- 0.563	+ 0.23	0.12454	0.07727	1.40155	9.30113	111.577	2266	XVII. 343	..	6115
1651	23. 20. 41.10	1872.2	19	+ 0.159	+ 0.004	..	9.04100	0.08180	1.40069	9.30108	141.878	..	....	..	..
1652	23. 21. 43.65	1872.2	19	+ 0.122	+ 0.003	..	9.04100	0.08120	1.40006	9.30108	141.964	..	....	..	..
1653	87. 28. 6.42	1871.6	1	+ 0.089	- 0.439	+ 1.12	9.85872	0.07925	1.39948	9.30103	126.830	2271	XVII. 358	..	6123
1654	87. 28. 6.44	1873.9	3	+ 0.089	- 0.439	+ 1.12	9.85872	0.07925	1.39948	9.30103	126.830	2271	XVII. 358	..	6123
1655	87. 28. 6.53	1871.6	1	+ 0.089	- 0.439	+ 1.12	9.85872	0.07925	1.39948	9.30103	126.830	2271	XVII. 358	..	6123
1656	118. 28. 3.70	1875.5	6	+ 0.001	- 0.554	+ 0.11	0.11233	0.07916	1.39797	9.30103	112.619	..	XVII. 359	..	6127
1657	107. 33. 28.58	1870.3	4	- 0.025	- 0.510	..	0.03655	0.07932	1.39749	9.30103	117.826	..	....	..	..
1658	67. 47. 27.17	1872.5	8	- 0.055	- 0.369	- 0.04	9.62346	0.07880	1.39698	9.30103	134.587	2274	XVII. 372	..	6134
1659	87. 31. 55.18	1875.4	6	- 0.080	- 0.440	+ 0.03	9.85944	0.07912	1.39655	9.30103	127.012	2272	....	..	6137
1660	80. 27. 8.60	1871.7	19	- 0.112	- 0.415	- 0.06	9.78262	0.07884	1.39599	9.30108	130.001	2275	XVII. 374	..	6143
1661	120. 44. 44.43	1868.9	6	- 0.160	- 0.564	+ 0.13	0.12659	0.08067	1.39515	9.30108	111.628	..	XVII. 367	..	6145
1662	61. 15. 11.68	1873.4	5	- 0.223	- 0.341	- 0.01	9.52969	0.07725	1.39405	9.30118	136.933	2281	XVII. 388	..	6150
1663	69. 58. 22.63	1875.5	13	- 0.295	- 0.377	+ 0.04	9.65312	0.07735	1.39279	9.30128	134.229	2283	XVIII. 2	..	6159
1664	113. 43. 28.37	1872.6	1	- 0.343	- 0.534	+ 0.07	0.08095	0.08166	1.39194	9.30138	115.113	2276	XVII. 386	..	6161
1665	23. 4. 16.42	1874.7	7	- 0.465	+ 0.010	..	9.04218	0.07139	1.38979	9.30163	143.329	..	XVIII. 23	..	..
1666	111. 5. 21.88	1870.5	35	- 0.535	- 0.523	+ 0.01	0.06247	0.08264	1.38854	9.30183	116.525	2284	XVIII. 7	..	6168
1667	58. 37. 29.96	1874.1	9	- 0.620	- 0.329	- 0.09	9.49024	0.07332	1.38704	9.30208	138.403	2291	XVIII. 18	..	6178
1668	51. 15. 40.29	1872.5	3	- 0.771	- 0.291	..	9.37346	0.07038	1.38434	9.30263	140.601	..	....	2530	6193
1669	126. 47. 37.82	1874.5	1	- 0.784	- 0.593	+ 0.23	0.16173	0.08758	1.38410	9.30268	109.056	..	XVIII. 17	..	6186
1670	118. 41. 32.50	1871.6	2	- 0.812	- 0.554	..	0.11368	0.08616	1.38360	9.30283	112.987	..	....	..	6190
1671	10. 1. 7.71	1871.0	10	- 0.841	+ 0.654	- 0.09	9.14799	0.06396	1.38308	9.30293	143.505	2318	XVIII. 62	2546	6206
1672	10. 0. 55.98	1871.1	8	- 0.850	+ 0.655	- 0.06	9.14799	0.06380	1.38292	9.30298	143.527	2321	XVIII. 63	2547	6208
1673	117. 5. 6.78	1875.1	7	- 0.878	- 0.547	+ 0.06	0.10329	0.08632	1.38242	9.30308	113.819	..	XVIII. 24	..	6194
1674	47. 52. 57.78	1872.5	2	- 1.022	- 0.271	..	9.31869	0.06663	1.37981	9.30382	141.841	..	....	2533	6203
1675	119. 52. 44.38	1875.9	3	- 1.119	- 0.559	+ 0.04	0.12100	0.08913	1.37805	9.30442	112.576	2294	XVIII. 32	..	6209
1676	25. 38. 45.00	1869.2	6	- 1.151	- 0.042	- 0.01	9.04999	0.06003	1.37745	9.30462	144.830	2309	XVIII. 54	2543	6224
1677	3. 23. 35.92	1873.3	457	- 1.191	+ 2.830	- 0.03	9.24993	0.05718	1.37675	9.30481	143.422	2395	XVIII. 178	2628	6281
1678	92. 55. 46.25	1872.7	10	- 1.284	- 0.457	+ 0.68	9.91265	0.08037	1.37504	9.30546	125.963	2298	XVIII. 48	..	6229
1679	60. 23. 15.16	1876.6	1	- 1.306	- 0.336	+ 0.04	9.51812	0.06737	1.37465	9.30561	139.075	2302	XVIII. 51	..	6232
1680	53. 59. 29.35	1872.7	3	- 1.345	- 0.305	- 0.02	9.41913	0.06468	1.37392	9.30590	140.980	2305	XVIII. 55	..	6235

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Coelestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Mediae Stellarum Fixarum in Zonis Regionumantis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichniss* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

{lxxxvi}

CATALOGUE OF THE MEAN PLACES OF STARS FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
1681	20 Sagittarii	3-2*	18. 15. 40.536	1869.6	2	+ 3.9869	-0.0016	-0.004	0.08117	0.04897	1.46221	0.07805	87.171
1682	37 Draconis	6*	18. 16. 1.710	1873.7	7	- 0.3503	-0.0041	+0.004	0.08381	0.00723	1.39179	0.08349	94.382
1683	Bradley 2308	6*	18. 16. 48.425	1875.1	4	+ 2.5001	+0.0018	..	0.08110	0.05218	1.43934	0.07994	88.623
1684	Radcliffe 3896	6*	18. 17. 9.691	1875.0	5	+ 2.6451	+0.0016	..	0.08108	0.05316	1.44162	0.07976	88.400
1685	21 Sagittarii	5*	18. 17. 43.622	1869.6	11	+ 3.5734	-0.0005	-0.003	0.08116	0.05269	1.45596	0.07848	87.398
1686	38 Draconis	6	18. 17. 43.733	1873.2	2	- 0.3451	-0.0049	-0.006	0.08429	0.00738	1.39193	0.08393	94.299
1687	24 Ursæ Minoris	6	18. 18. 10.423	1869.7	5	- 22.2336	-0.6832	+0.085	†..	..	..	..	..
1688	109 Herculis	4*	18. 18. 14.576	1872.2	2	+ 2.5415	+0.0017	+0.017	0.08124	0.05249	1.43999	0.07995	88.542
1689	Piazzi XVIII. 93	6	18. 19. 56.561	1875.0	5	- 0.1233	-0.0046	+0.021	0.08460	0.01175	1.39581	0.08419	93.736
1690	2 Lyræ	5-6*	18. 20. 0.864	1874.1	5	+ 1.9767	+0.0019	-0.003	0.08190	0.04689	1.43099	0.08091	89.470
1691	22 Sagittarii	3*	18. 20. 4.237	1873.0	48	+ 3.7072	-0.0013	-0.005	0.08151	0.05170	1.45799	0.07818	87.300
1692	43 Draconis	4-5*	18. 22. 35.398	1872.9	8	- 0.8516	-0.0112	+0.002	0.08651	9.99712	1.38290	0.08612	95.192
1693	....	8-9	18. 22. 38.262	1872.9	3	+ 2.4860	+0.0017	..	0.08177	0.05212	1.43911	0.08023	88.577
1694	Piazzi XVIII. 79	5 6	18. 22. 41.163	1868.6	1	+ 3.9385	-0.0028	-0.002	0.08202	0.04955	1.46147	0.07763	87.163
1695	44 Draconis	4-3*	18. 23. 21.815	1873.3	7	- 1.1920	-0.0149	+0.116	0.08735	9.98998	1.37669	0.08699	95.889
1696	Piazzi XVIII. 100	6*	18. 24. 17.331	1871.9	6	+ 2.4863	-0.0006	+0.015	0.08196	0.05214	1.43912	0.08030	88.557
1697	Bradley 2320	7-8	18. 24. 30.840	1874.6	3	+ 3.4351	-0.0007	-0.008	0.08184	0.05357	1.45385	0.07848	87.460
1698	42 Draconis	5*	18. 25. 36.934	1873.0	12	+ 0.1589	-0.0048	+0.014	0.08562	0.01717	1.40070	0.08504	92.946
1699	Piazzi XVIII. 116	6*	18. 27. 26.608	1871.6	8	+ 2.4944	+0.0016	+0.005	0.08231	0.05224	1.43925	0.08043	88.507
1700	Bradley 2329	6*	18. 27. 55.547	1872.7	3	+ 3.3319	-0.0006	+0.003	0.08216	0.05407	1.45227	0.07861	87.520
1701	Piazzi XVIII. 132	6*	18. 30. 10.792	1871.9	6	+ 2.4958	+0.0015	+0.009	0.08262	0.05229	1.43927	0.08055	88.473
1702	Bradley 2333	6	18. 30. 43.561	1870.8	10	+ 3.6514	-0.0025	-0.002	0.08268	0.05227	1.45715	0.07777	87.275
1703	3 Lyræ	1*	18. 32. 36.251	1872.8	201	+ 2.0132	+0.0016	+0.017	0.08354	0.04746	1.43158	0.08191	89.205
1704	2 Aquilæ	5*	18. 35. 15.850	1873.1	25	+ 3.2855	-0.0010	-0.001	0.08291	0.05434	1.45156	0.07859	87.508
1705	Groombridge 2627	6-7†	18. 35. 25.524	1875.8	4	+ 1.9311	+0.0014	..	0.08406	0.04648	1.43026	0.08238	89.297
1706	Groombridge 2655	5-6	18. 35. 54.946	1875.0	4	- 2.8577	-0.0575	..	0.09618	9.95277	1.34518	0.09578	98.641
1707	Bradley 2348	6	18. 36. 1.352	1874.5	3	+ 1.1773	-0.0009	..	0.08574	0.03536	1.41792	0.08457	90.635
1708	Groombridge 2642	6	18. 36. 51.035	1875.6	4	+ 0.7307	-0.0036	..	0.08698	0.02773	1.41044	0.08598	91.459
1709	Piazzi XVIII. 170	6*	18. 36. 56.304	1871.5	7	+ 1.3785	-0.0001	+0.015	0.08544	0.03859	1.42124	0.08413	90.245
1710	Piazzi XVIII. 155	6†	18. 36. 57.338	1875.4	1	+ 3.6914	-0.0036	+0.005	0.08344	0.05205	1.45775	0.07736	87.218
1711	27 Sagittarii	4-3*	18. 37. 39.481	1874.4	10	+ 3.7477	-0.0041	+0.004	0.08359	0.05158	1.45860	0.07716	87.183
1712	Groombridge 2644	6-7	18. 38. (59.)	..	..	+ 1.9986	+0.0014	..	0.08442	0.04737	1.43134	0.08250	89.127
1713	Groombridge 2658	6*	18. 39. 48.977	1872.2	1	+ 0.5292	-0.0058	..	0.08816	0.02418	1.40705	0.08716	91.750
1714	4 Lyræ	4-5†	18. 40. 5.937	1869.6	5	+ 1.9854	-0.0014	-0.002	0.08459	0.04723	1.43113	0.08263	89.131
1715	Bradley 2347	7-8	18. 40. 16.621	1876.6	1	+ 3.5620	-0.0031	+0.007	0.08366	0.05306	1.45579	0.07761	87.274
1716	111 Herculis	4-5*	18. 41. 22.027	1874.1	2	+ 2.6438	+0.0010	+0.010	0.08371	0.05347	1.44160	0.08059	88.141
1717	29 Sagittarii	6-7†	18. 42. 4.302	1873.2	2	+ 3.5628	-0.0033	-0.002	0.08386	0.05310	1.45580	0.07753	87.263
1718	Bradley 2370	6-7†	18. 42. 47.677	1873.0	2	+ 0.7106	-0.0048	..	0.08830	0.02744	1.41011	0.08716	91.324
1719	31 Sagittarii	6-7†	18. 44. 27.035	1868.6	5	+ 3.6041	-0.0039	+0.003	0.08417	0.05286	1.45643	0.07729	87.222
1720	Lacaille 7898	6-7	18. 44. 28.462	1869.4	5	+ 3.8568	-0.0061	..	0.08458	0.05068	1.46025	0.07639	87.095

† For No. 1687, log. e = 0.11407, log. f = -8.80346, log. g = 0.44192, log. h = 0.11402, and l = 143.255.

1693. The magnitude is taken from the Greenwich Observations, 1873.

1714. The magnitude in the *Uranometria Nova* is given for ε¹ and ε² Lyræ, the combined magnitude being 4.

187862 AMM. 386. 78A

	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of l'.	No. in Bessel's Bradley. 1755.	No. in Piazz. 1800.	No. in Groombridge. 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
1681	124. 26. 33.97	1869.6	2	- 1.371	-0.580	+ 0.14	0.14817	0.09297	1.37344	9.30610	110.453	2297	XVIII. 46	..	6233
1682	21. 17. 26.39	1873.7	11	- 1.402	+0.052	+ 0.08	9.05308	0.05494	1.37288	9.30629	149.425	2316	XVIII. 67	2554	6243
1683	66. 46. 40.91	1872.9	6	- 1.469	-0.363	- 0.06	9.61077	0.06861	1.37164	9.30683	137.214	2308	....	..	6241
1684	72. 14. 9.17	1875.0	5	- 1.501	-0.384	..	9.68350	0.07084	1.37105	9.30708	135.239	..	....	..	6245
1685	110. 36. 26.06	1869.6	11	- 1.549	-0.519	+ 0.02	0.05866	0.08891	1.37016	9.30747	117.489	2303	XVIII. 58	..	6247
1686	21. 18. 32.46	1873.6	3	- 1.550	+0.051	+ 0.09	9.05500	0.05231	1.37014	9.30747	145.747	2322	XVIII. 80	2561	6257
1687	3. 0. 53.02	1869.7	7	- 1.588	+3.233	- 0.01	9.25935	0.04958	1.36944	9.30781	144.260	2417	XVIII. 227	2667	6320
1688	68. 17. 12.24	1872.2	2	- 1.595	-0.369	+ 0.24	9.63155	0.06840	1.36930	9.30786	136.867	2311	XVIII. 64	..	6251
1689	22. 37. 37.77	1875.3	10	- 1.743	+0.019	- 0.04	9.05461	0.04912	1.36655	9.30893	146.171	..	XVIII. 93	..	6272
1690	50. 33. 40.30	1874.9	8	- 1.749	-0.286	0.00	9.36568	0.05866	1.36643	9.30922	142.585	2315	XVIII. 78	2560	6268
1691	115. 29. 20.92	1872.6	24	- 1.754	-0.538	+ 0.24	0.09233	0.09260	1.36635	9.30927	115.144	2310	XVIII. 66	..	6263
1692	18. 43. 50.63	1873.4	18	- 1.973	+0.124	- 0.03	9.07262	0.04408	1.36224	9.31147	146.619	2334	XVIII. 113	2581	6297
1693	66. 13. 20.93	1872.9	3	- 1.977	-0.360	..	9.60379	0.06454	1.36215	9.31147	138.205	..	....	..	..
1694	123. 4. 11.12	1868.6	1	- 1.982	-0.571	+ 0.12	0.13966	0.09827	1.36208	9.31151	111.425	..	XVIII. 79	..	6285
1695	17. 19. 23.79	1872.7	10	- 2.041	+0.174	+ 0.38	9.08314	0.04252	1.36095	9.31214	146.719	2337	XVIII. 119	2586	6302
1696	66. 13. 2.15	1873.1	22	- 2.121	-0.360	0.00	9.60412	0.06346	1.35944	9.31302	138.423	..	XVIII. 100	..	6300
1697	105. 16. 9.78	1874.6	3	- 2.141	-0.497	..	0.01837	0.08924	1.35905	9.31326	120.644	2320	....	..	6303
1698	24. 30. 55.94	1875.1	33	- 2.237	-0.022	+ 0.06	9.06371	0.04080	1.35724	9.31437	147.170	2336	XVIII. 124	2592	6316
1699	66. 28. 36.73	1873.0	44	- 2.396	-0.360	0.00	9.60842	0.06158	1.35418	9.31630	138.739	..	XVIII. 116	..	6322
1700	101. 4. 28.11	1872.7	3	- 2.438	-0.481	+ 0.02	9.98444	0.08754	1.35337	9.31686	123.037	2329	XVIII. 114	..	6324
1701	66. 29. 46.26	1873.9	27	- 2.634	-0.360	+ 0.05	9.60906	0.05979	1.34960	9.31945	139.090	..	XVIII. 132	..	6341
1702	113. 36. 40.28	1870.8	10	- 2.681	-0.527	+ 0.03	0.07896	0.09815	1.34867	9.32012	116.668	2333	XVIII. 129	..	6343
1703	51. 20. 2.60	1872.6	211	- 2.843	-0.290	- 0.28	9.38507	0.04588	1.34551	9.32244	144.305	2341	XVIII. 143	2616	6355
1704	99. 10. 20.17	1872.3	13	- 3.074	-0.472	+ 0.01	9.96802	0.08793	1.34097	9.32596	124.557	2342	XVIII. 149	..	6361
1705	49. 10. 51.58	1875.8	5	- 3.088	-0.277	..	9.35372	0.04114	1.34068	9.32614	145.279	..	....	2627	6364
1706	12. 33. 18.02	1875.1	5	- 3.130	+0.413	..	9.15106	0.02022	1.33985	9.32689	148.717	..	....	2655	6375
1707	34. 52. 20.84	1874.5	3	- 3.139	-0.168	- 0.28	9.15106	0.03003	1.33968	9.32703	148.128	2348	....	2634	6368
1708	29. 24. 26.09	1874.0	7	- 3.211	-0.104	..	9.10380	0.02552	1.33824	9.32819	148.842	..	....	2642	6373
1709	37. 55. 24.90	1871.7	8	- 3.218	-0.197	- 0.03	9.18949	0.03076	1.33810	9.32828	147.834	..	XVIII. 170	2638	6372
1710	115. 8. 7.51	1875.4	1	- 3.219	-0.530	+ 0.28	0.08863	0.10318	1.33807	9.32833	116.174	..	XVIII. 155	..	6369
1711	117. 7. 8.54	1874.4	10	- 3.280	-0.538	- 0.01	0.10158	0.10535	1.33687	9.32930	115.148	2344	XVIII. 159	..	6371
1712	50. 49. 36.88	1873.6	2	- 3.396	-0.286	..	9.38220	0.03864	1.33453	9.33132	145.360	..	....	2644	..
1713	27. 22. 38.10	1872.2	1	- 3.467	-0.075	..	9.09968	0.01975	1.33312	9.33252	149.475	..	....	2658	6393
1714	50. 27. 44.32	1869.6	5	- 3.491	-0.284	- 0.04	9.37767	0.03710	1.33262	9.33297	145.612	2355	XVIII. 183	2650	6390
1715	110. 24. 36.64	1876.6	1	- 3.507	-0.510	+ 0.15	0.05572	0.10072	1.33231	9.33324	118.874	2347	XVIII. 175	..	6386
1716	71. 57. 32.47	1874.1	5	- 3.600	-0.378	- 0.12	9.68386	0.05859	1.33041	9.33493	138.230	2354	XVIII. 192	..	6397
1717	110. 28. 2.45	1873.2	2	- 3.660	-0.509	- 0.03	0.05588	0.10169	1.32920	9.33601	118.944	2352	XVIII. 185	..	6399
1718	29. 5. 13.83	1871.7	4	- 3.723	-0.100	+ 0.03	9.11528	0.01609	1.32790	9.33724	149.830	2370	....	2670	6410
1719	112. 4. 6.77	1868.6	5	- 3.865	-0.514	+ 0.02	0.06688	0.10463	1.32499	9.33994	118.196	2359	XVIII. 202	..	6415
1720	120. 52. 57.25	1869.4	5	- 3.868	-0.550	..	0.12424	0.11362	1.32494	9.33998	113.417	..	....	..	6414

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Caelestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazz's Catalogue (1814); from Weisse's two Catalogues, *Positiones Mediae Stellarum Fixarum in Zonis Regionantibus* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

{lxxxviii}

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
1721	10 Lyræ..... β^1	Var.	18. 45. 21.249	1872.0	79	+ 2.2139	+ 0.0015	- 0.002	0.08482	0.04994	1.43479	0.08228	88.689
1722	Lyræ..... β^2	8	18. 45. 23.180	1876.6	1	+ 2.2143	+ 0.0015	..	0.08482	0.04995	1.43480	0.08228	88.689
1723	34 Sagittarii..... σ	2-3*	18. 47. 19.628	1873.8	13	+ 3.7233	- 0.0053	0.000	0.08468	0.05197	1.45823	0.07671	87.142
1724	Groombridge 2719.	6*	18. 48. 57.361	1873.4	8	- 1.4654	- 0.0418	..	0.09728	9.98434	1.37172	0.09659	95.139
1725	47 Draconis..... α	5-4*	18. 49. 18.677	1869.6	4	+ 0.8783	- 0.0045	+ 0.005	0.08914	0.03047	1.41293	0.08775	90.836
1726	113 Herculis.....	4-5*	18. 49. 20.672	1872.0	6	+ 2.5316	+ 0.0011	+ 0.005	0.08473	0.05289	1.43983	0.08131	88.191
1727	37 Sagittarii..... ξ^2	4*	18. 50. 5.581	1869.8	7	+ 3.5803	- 0.0044	- 0.001	0.08476	0.05314	1.45607	0.07715	87.201
1728	Lalande 35345....	8-9	18. 50. 10.447	1872.6	1	+ 2.1979	+ 0.0014	..	0.08544	0.04987	1.43454	0.08268	88.642
1729	Bradley 2381.....	6*	18. 50. 11.057	1872.7	3	+ 2.1983	+ 0.0014	..	0.08544	0.04987	1.43455	0.08268	88.642
1730	50 Draconis.....	6*	18. 50. 29.367	1872.8	10	- 1.8945	- 0.0542	- 0.016	0.09945	9.97493	1.36371	0.09881	95.856
1731	13 Lyræ.....	5-4*	18. 51. 26.395	1871.2	34	+ 1.8232	+ 0.0008	- 0.001	0.08656	0.04531	1.42851	0.08431	89.193
1732	.....	..	18. 52. 44.413	1873.6	1	+ 2.2442	+ 0.0014	..	0.08566	0.05040	1.43527	0.08267	88.538
1733	Piazzi XVIII. 259	8	18. 53. 23.502	1872.9	3	+ 2.7247	+ 0.0006	..	0.08491	0.05418	1.44287	0.08067	87.907
1734	13 Aquilæ..... ϵ	4*	18. 53. 48.768	1872.3	84	+ 2.7263	+ 0.0005	- 0.008	0.08496	0.05420	1.44289	0.08068	87.900
1735	14 Lyræ..... γ	3-4*	18. 54. 9.320	1872.7	6	+ 2.2436	+ 0.0014	- 0.002	0.08584	0.05043	1.43526	0.08277	88.517
1736	52 Draconis..... ν	5-6*	18. 55. 57.447	1873.6	10	- 0.7225	- 0.0306	+ 0.007	0.09685	9.99997	1.38518	0.09592	93.446
1737	Groombridge 2742	6-7†	18. 56. 0.016	1872.8	7	+ 0.6093	- 0.0084	..	0.09152	0.02581	1.40841	0.09012	91.106
1738	39 Sagittarii..... α	4*	18. 57. 0.674	1870.0	4	+ 3.5938	- 0.0054	+ 0.001	0.08554	0.05321	1.45627	0.07678	87.152
1739	Radcliffe 4177....	8	18. 57. 49.716	1874.2	3	- 1.9751	- 0.0656	..	0.10278	9.97319	1.36218	0.10206	95.570
1740	Bradley 2421.....	7	18. 57. 50.764	1875.0	5	- 1.9756	- 0.0656	..	0.10278	9.97319	1.36218	0.10206	95.570
1741	40 Sagittarii..... τ	4-3*	18. 58. 56.810	1874.8	5	+ 3.7555	- 0.0074	- 0.008	0.08607	0.05195	1.45872	0.07593	87.061
1742	Bradley 2403.....	8	18. 59. 16.137	1872.5	3	+ 2.6283	+ 0.0007	..	0.08566	0.05380	1.44136	0.08130	87.951
1743	16 Aquilæ..... λ	3-4*	18. 59. 27.289	1869.6	11	+ 3.1869	- 0.0021	- 0.003	0.08535	0.05512	1.45005	0.07863	87.402
1744	17 Aquilæ..... ζ	3*	18. 59. 31.610	1871.8	103	+ 2.7578	+ 0.0003	- 0.006	0.08551	0.05449	1.44339	0.08069	87.804
1745	18 Aquilæ.....	5*	19. 0. 56.998	1876.7	1	+ 2.8243	0.0000	+ 0.003	0.08559	0.05480	1.44442	0.08040	87.719
1746	Groombridge 2771.	6	19. 2. 4.923	1873.1	7	+ 0.6594	- 0.0090	..	0.09268	0.02679	1.40925	0.09111	90.835
1747	41 Sagittarii..... π	3*	19. 2. 9.024	1869.9	12	+ 3.5725	- 0.0058	- 0.004	0.08606	0.05350	1.45595	0.07666	87.131
1748	18 Lyræ..... ι	5*	19. 2. 44.059	1871.2	15	+ 2.1404	+ 0.0012	+ 0.004	0.08716	0.04952	1.43362	0.08387	88.530
1749	Bradley 2440.....	6	19. 3. 18.162	1874.1	6	- 2.4408	- 0.0895	- 0.015	0.10721	9.96270	1.35332	0.10650	96.039
1750	Bradley 2420.....	8	19. 5. 52.162	1874.2	3	+ 2.2888	+ 0.0013	..	0.08713	0.05118	1.43598	0.08335	88.284
1751	19 Lyræ.....	6*	19. 6. 51.481	1872.7	6	+ 2.3006	+ 0.0012	+ 0.001	0.08721	0.05133	1.43618	0.08335	88.254
1752	42 Sagittarii..... ψ	6*	19. 7. 41.422	1872.3	30	+ 3.6816	- 0.0078	0.000	0.08689	0.05283	1.45760	0.07582	87.042
1753	53 Draconis.....	6-5*	19. 9. 15.303	1869.6	6	+ 1.1334	- 0.0045	+ 0.002	0.09204	0.03515	1.41721	0.08996	89.875
1754	55 Draconis.....	6-7†	19. 9. 16.810	1872.8	9	+ 0.2369	- 0.0173	- 0.003	0.09635	0.01910	1.40203	0.09486	91.279
1755	20 Lyræ..... η	4-5*	19. 9. 24.126	1872.1	5	+ 2.0415	+ 0.0010	0.000	0.08833	0.04851	1.43203	0.08496	88.555
1756	43 Sagittarii..... d	5*	19. 10. 8.712	1872.0	5	+ 3.5156	- 0.0061	- 0.004	0.08682	0.05411	1.45508	0.07664	87.108
1757	1 Vulpeculæ.....	5-4*	19. 10. 42.923	1873.0	5	+ 2.5790	+ 0.0007	0.000	0.08697	0.05381	1.44058	0.08201	87.868
1758	25 Aquilæ..... ω	6-5*	19. 11. 48.489	1871.9	63	+ 2.8165	- 0.0003	- 0.003	0.08670	0.05512	1.44430	0.08068	87.609
1759	21 Lyræ..... θ	4-5*	19. 11. 55.588	1873.0	4	+ 2.0820	+ 0.0011	- 0.005	0.08852	0.04908	1.43268	0.08495	88.458
1760	23 Aquilæ.....	6	19. 12. 1.670	1876.7	1	+ 3.0532	- 0.0018	+ 0.001	0.08658	0.05560	1.44798	0.07930	87.399

1721. The limits of magnitude are 3.4 and 4.5; the period 12.91 days.

1728. The observed clock-time at the middle wire printed in the *Histoire Celeste*, p. 19, appears to be 5^s in error.

1876 N	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of ν	No. in Bessel's Bradley, 1755.	No. in Piazzini, 1800.	No. in Groombridge, 1810.	No. in B.A.C., 1850.
							e'	f'	g'	h'					
1721	56. 47. 3.62	1872.7	63	- 3.942	- 0.315	+ 0.03	9.47698	0.03834	1.32341	9.34147	144.437	2369	XVIII. 215	..	6429
1722	56. 47. 42.81	1876.6	1	- 3.945	- 0.315	..	9.47712	0.03833	1.32334	9.34151	144.440	..	....	..	..
1723	116. 27. 8.54	1873.8	13	- 4.112	- 0.530	+ 0.08	0.09601	0.11104	1.31989	9.34490	115.935	2365	XVIII. 218	..	6440
1724	16. 3. 48.83	1872.3	14	- 4.251	+ 0.211	..	9.14860	9.99840	1.31701	9.34775	151.104	..	....	2719	6469
1725	30. 46. 2.82	1869.6	4	- 4.282	- 0.123	- 0.01	9.14176	0.00712	1.31634	9.34841	150.685	2386	XVIII. 249	2707	6463
1726	67. 30. 55.36	1874.5	29	- 4.285	- 0.359	- 0.01	9.62890	0.04855	1.31628	9.34850	140.970	2378	XVIII. 239	..	6453
1727	111. 16. 19.36	1869.8	7	- 4.349	- 0.508	+ 0.03	0.06058	0.10676	1.31494	9.34985	118.914	2373	XVIII. 233	..	6461
1728	56. 10. 50.45	1872.6	1	- 4.355	- 0.311	..	9.47173	0.03308	1.31482	9.34999	145.242	..	....	..	..
1729	56. 11. 35.10	1872.7	3	- 4.356	- 0.311	- 0.01	9.47188	0.03309	1.31479	9.35003	145.241	2381	....	..	6468
1730	14. 43. 5.19	1873.5	26	- 4.382	+ 0.272	- 0.07	9.16435	9.99505	1.31425	9.35055	151.287	2404	XVIII. 279	2726	6478
1731	46. 13. 16.53	1871.2	31	- 4.463	- 0.257	0.00	9.32654	0.01954	1.31254	9.35233	148.274	2389	XVIII. 252	2717	6475
1732	57. 32. 28.27	1873.6	1	- 4.574	- 0.317	..	9.49304	0.03243	1.31017	9.35479	145.113	..	....	..	..
1733	75. 2. ..	..	..	- 4.629	- 0.385	..	9.72411	0.05707	1.30901	9.35603	138.124	..	XVIII. 259	..	..
1734	75. 6. 12.98	1872.6	58	- 4.666	- 0.385	+ 0.10	9.72477	0.05697	1.30822	9.35684	138.145	2390	XVIII. 262	..	6487
1735	57. 29. 4.26	1873.3	47	- 4.694	- 0.316	0.00	9.49346	0.03107	1.30762	9.35759	145.295	2392	XVIII. 266	..	6491
1736	18. 52. 27.07	1873.6	10	- 4.847	+ 0.104	- 0.06	9.15076	9.98735	1.30433	9.36110	152.255	2411	XVIII. 308	2748	6510
1737	27. 46. 34.27	1873.2	24	- 4.852	- 0.084	..	9.14395	9.99386	1.30423	9.36118	151.948	..	....	2742	6508
1738	111. 55. 32.68	1870.0	4	- 4.938	- 0.506	+ 0.05	0.06427	0.11126	1.30237	9.36320	118.869	2393	XVIII. 278	..	6507
1739	14. 23. 9.86	1874.2	3	- 5.007	+ 0.281	..	9.18837	9.98141	1.30085	9.36402	152.419	..	....	..	..
1740	14. 23. 4.63	1875.2	6	- 5.009	+ 0.281	+ 0.02	9.18837	9.98141	1.30085	9.36402	152.419	2421	....	2763	6529
1741	117. 51. 15.44	1875.1	4	- 5.102	- 0.528	+ 0.26	0.10319	0.12020	1.29882	9.36716	115.623	2397	XVIII. 292	..	6521
1742	71. 2. 48.81	1872.5	3	- 5.128	- 0.368	+ 0.09	9.67733	0.04804	1.29824	9.36784	140.506	2403	....	..	6527
1743	95. 4. 19.82	1869.6	11	- 5.144	- 0.447	+ 0.07	9.93105	0.08730	1.29789	9.36821	128.441	2401	XVIII. 298	..	6526
1744	76. 19. 29.75	1872.4	68	- 5.151	- 0.387	+ 0.07	9.74044	0.05664	1.29775	9.36837	138.116	2405	XVIII. 303	..	6528
1745	79. 7. ..	..	..	- 5.271	- 0.395	+ 0.02	9.77210	0.06084	1.29512	9.37133	136.893	2407	XVIII. 312	..	6543
1746	28. 5. 51.86	1873.1	7	- 5.366	- 0.090	..	9.16346	9.98405	1.29300	9.37379	152.786	..	....	2771	6555
1747	111. 13. 27.71	1869.9	12	- 5.372	- 0.500	+ 0.03	0.05850	0.11292	1.29287	9.37392	119.504	2406	XVIII. 315	..	6548
1748	54. 5. 56.69	1872.4	32	- 5.421	- 0.298	- 0.04	9.45332	0.01766	1.29178	9.37518	147.437	2414	XIX. 2	..	6556
1749	13. 7. 59.71	1873.4	35	- 5.469	+ 0.345	- 0.01	9.21617	9.97055	1.29073	9.37640	153.142	2440	XIX. 38	2784	6563
1750	58. 34. 22.59	1874.2	3	- 5.685	- 0.318	- 0.15	9.51812	0.02209	1.28591	9.38206	146.247	2420	....	..	6567
1751	58. 55. 43.36	1874.4	33	- 5.768	- 0.319	- 0.06	9.52388	0.02184	1.28401	9.38428	146.223	2422	....	..	6571
1752	115. 28. 27.37	1873.1	21	- 5.837	- 0.511	+ 0.01	0.08625	0.12227	1.28247	9.38614	117.300	2418	XIX. 21	..	6575
1753	33. 21. 29.61	1869.6	6	- 5.968	- 0.155	- 0.05	9.21511	9.97840	1.27948	9.38973	153.139	2433	XIX. 52	2791	6583
1754	24. 14. 7.68	1874.4	42	- 5.971	- 0.030	+ 0.01	9.18013	9.96780	1.27942	9.38976	154.034	2443	XIX. 63	2796	6586
1755	51. 4. 22.74	1871.2	16	- 5.980	- 0.282	- 0.02	9.41946	0.00544	1.27920	9.39004	149.157	2427	XIX. 45	2790	6581
1756	109. 10. 41.12	1868.9	3	- 6.044	- 0.486	- 0.01	0.04277	0.11362	1.27773	9.39181	121.028	2423	XIX. 35	..	6584
1757	68. 50. 1.89	1874.2	21	- 6.090	- 0.356	0.00	9.65456	0.03757	1.27669	9.39309	142.583	2428	XIX. 51	..	6589
1758	78. 38. 0.23	1871.8	24	- 6.180	- 0.388	- 0.02	9.76871	0.05661	1.27461	9.39564	138.041	2432	XIX. 57	..	6595
1759	52. 5. 34.19	1872.6	12	- 6.192	- 0.286	+ 0.07	9.43664	0.00447	1.27436	9.39594	149.117	2438	XIX. 65	..	6599
1760	89. 8. ..	..	..	- 6.200	- 0.421	+ 0.04	9.87622	0.07751	1.27417	9.39619	132.529	2430	XIX. 56	..	6597

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Celestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzini's Catalogue (1814); from Weisse's two Catalogues, *Positiones Media Stellarum Fixarum in Zonis Regionumantis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

{xc}

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
1761	57 Draconis δ	3*	19. 12. 31'211	1873.6	12	+0'0143	-0'0228	+0'020	0'09831	0'01490	1'39820	0'09688	91'510
1762	Piazzi XIX. 61	6-7†	19. 12. 57'868	1869.6	5	+3'6018	-0'0074	-0'008	0'08729	0'05362	1'45639	0'07602	87'046
1763	28 Aquilæ A	6*	19. 13. 40'985	1873.6	5	+2'7993	-0'0002	-0'003	0'08691	0'05511	1'44404	0'08082	87'606
1764	59 Draconis.....	6-5*	19. 13. 50'430	1874.6	8	-2'1483	-0'0932	+0'009	0'11040	9'96943	1'35889	0'10955	94'870
1765	1 Cygni..... κ	4*	19. 14. 8'599	1871.0	22	+1'3819	-0'0026	+0'004	0'09178	0'03927	1'42131	0'08929	89'387
1766	44 Sagittarii ρ^1	4*	19. 14. 14'880	1869.9	11	+3'4861	-0'0061	-0'003	0'08719	0'05443	1'45463	0'07666	87'095
1767	Groombridge 2815..	6	19. 15. 13'003	1868.6	2	+1'5991	-0'0010	..	0'09095	0'04263	1'42487	0'08814	89'054
1768	W. B. XIX. 357...	6*	19. 15. 46'569	1868.6	3	+3'0831	-0'0022	..	0'08695	0'05574	1'44845	0'07911	87'340
1769	Piazzi XIX. 84....	6†	19. 16. 31'306	1875.4	6	+3'7469	-0'0099	+0'005	0'08806	0'05253	1'45859	0'07494	86'962
1770	47 Sagittarii χ^1	6*	19. 17. 29'077	1872.3	1	+3'6538	-0'0087	-0'001	0'08791	0'05336	1'45718	0'07548	86'994
1771	3 Vulpeculæ α	5-6*	19. 17. 36'336	1872.8	10	+2'4567	+0'0010	+0'002	0'08801	0'05310	1'43865	0'08308	87'914
1772	60 Draconis τ	5*	19. 17. 59'982	1874.2	7	-1'0803	-0'0564	-0'033	0'10606	9'99283	1'37876	0'10493	92'958
1773	50 Sagittarii.....	6*	19. 18. 41'014	1868.5	2	+3'5815	-0'0079	+0'005	0'08786	0'05396	1'45609	0'07588	87'016
1774	31 Aquilæ..... δ	5-6*	19. 18. 51'986	1873.3	5	+2'8122	-0'0004	+0'049	0'08741	0'05535	1'44424	0'08085	87'538
1775	30 Aquilæ..... δ	5-4*	19. 19. 2'625	1872.4	57	+3'0093	-0'0017	+0'014	0'08727	0'05583	1'44730	0'07959	87'367
1776	58 Draconis π	5*	19. 20. 0'397	1870.8	22	+0'3194	-0'0188	+0'009	0'09862	0'02083	1'40346	0'09689	90'766
1777	Bradley 2459 δ	6-5†	19. 20. 7'974	1873.6	7	+2'4949	+0'0009	-0'012	0'08819	0'05349	1'43925	0'08296	87'838
1778	Piazzi XIX. 126 ...	6†	19. 21. 57'018	1874.8	7	+3'7171	-0'0103	-0'006	0'08858	0'05298	1'45814	0'07481	86'940
1779	Piazzi XIX. 130 ...	8-9	19. 22. 7'130	1868.6	2	+3'5679	-0'0081	..	0'08819	0'05418	1'45588	0'07582	86'998
1780	Piazzi XIX. 138 ...	6-7†	19. 23. 18'046	1868.6	5	+3'5663	-0'0082	-0'009	0'08831	0'05423	1'45586	0'07577	86'993
1781	6 Vulpeculæ α	4-5*	19. 23. 22'752	1872.0	38	+2'5052	+0'0009	-0'011	0'08851	0'05369	1'43942	0'08306	87'783
1782	Piazzi XIX. 154....	7-8	19. 23. 23'934	1868.6	1	+1'5893	-0'0013	..	0'09231	0'04269	1'42471	0'08925	88'886
1783	7 Cygni..... ι^1	6*	19. 24. 17'906	1869.7	5	+1'4720	-0'0024	-0'009	0'09307	0'04091	1'42278	0'09017	89'021
1784	6 Cygni β	3*	19. 25. 33'579	1871.5	20	+2'4188	+0'0011	-0'002	0'08902	0'05303	1'43805	0'08378	87'844
1785	Bradley 2474 δ	7	19. 25. 35'767	1871.3	6	+2'4187	+0'0011	..	0'08902	0'05303	1'43805	0'08378	87'844
1786	Oeltz. Arg. (N.) 19336.	6	19. 26. 4'306	1873.3	6	-2'0319	-0'1047	..	0'11503	9'97226	1'36116	0'11404	93'895
1787	10 Cygni ι^2	4*	19. 26. 28'683	1869.7	3	+1'5120	-0'0021	0'000	0'09322	0'04161	1'42345	0'09020	88'914
1788	8 Cygni δ	5-4*	19. 27. 0'870	1873.2	5	+2'2289	+0'0012	+0'002	0'08986	0'05121	1'43503	0'08522	88'029
1789	38 Aquilæ..... μ	5-4*	19. 27. 50'152	1872.2	43	+2'9176	-0'0013	+0'013	0'08818	0'05602	1'44587	0'08031	87'352
1790	52 Sagittarii λ^2	5-4*	19. 28. 54'971	1872.7	22	+3'6536	-0'0102	+0'002	0'08915	0'05378	1'45718	0'07487	86'919
1791	9 Vulpeculæ ϵ	5*	19. 28. 57'648	1873.2	5	+2'6341	+0'0004	+0'001	0'08877	0'05482	1'44144	0'08240	87'583
1792	Groombridge 2900..	6	19. 29. 23'189	1873.5	5	-3'4998	-0'1979	..	0'12618	9'93769	1'33237	0'12542	95'746
1793	39 Aquilæ..... κ	5*	19. 30. 0'303	1876.7	2	+3'2307	-0'0044	-0'001	0'08839	0'05610	1'45072	0'07800	87'114
1794	Piazzi XIX. 211 ...	6*	19. 31. 0'923	1869.6	11	+1'5517	-0'0019	+0'017	0'09376	0'04233	1'42409	0'09054	88'760
1795	11 Cygni δ	6*	19. 31. 12'365	1875.2	5	+2'1548	+0'0011	+0'003	0'09069	0'05053	1'43384	0'08608	88'044
1796	4 Sagittæ..... ϵ	6*	19. 31. 29'753	1874.4	5	+2'7148	0'0000	+0'004	0'08884	0'05540	1'44271	0'08189	87'478
1797	W.B. (2) XIX. 956	8	19. 31. 35'912	1873.6	1	+2'7148	0'0000	..	0'08885	0'05540	1'44271	0'08190	87'478
1798	61 Draconis σ	5-6*	19. 32. 36'220	1871.4	14	-0'2058	-0'0369	+0'096	0'10540	0'01088	1'39433	0'10378	90'999
1799	13 Cygni θ	5-4*	19. 33. 0'561	1876.7	2	+1'6122	-0'0015	-0'002	0'09373	0'04331	1'42509	0'09035	88'639
1800	54 Sagittarii..... ϵ^1	6*	19. 33. 23'315	1872.5	11	+3'4378	-0'0074	+0'001	0'08905	0'05543	1'45389	0'07632	86'979

1786. An observation of the N.P.D. of this star, made on 1871, October 13, is not included in the adopted Mean North Polar Distance. It appears to be about 10'' in error.

187600AMM-386..78A

No.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of μ	No. in Bessel's Bradley.	No. in Piazzi.	No. in Groombridge.	No. in B.A.C.
							e	f	g	h					
1761	22. 33. 48.50	1874.3	66	- 6.240	+ 0.001	- 0.07	9.19285	9.96031	1.27322	9.39732	154.533	2449	XIX. 90	2811	6612
1762	112. 38. 16.73	1869.6	5	- 6.278	- 0.496	+ 0.07	0.06633	0.12073	1.27236	9.39838	119.140	..	XIX. 61	..	6607
1763	77. 51. 35.36	1873.6	5	- 6.337	- 0.385	- 0.03	9.76072	0.05466	1.27218	9.40008	138.499	2441	XIX. 73	..	6615
1764	13. 39. 14.57	1874.9	8	- 6.350	+ 0.300	+ 0.14	9.24502	9.95052	1.27069	9.40045	154.630	2466	XIX. 119	2825	6625
1765	36. 52. 0.39	1870.6	24	- 6.376	- 0.188	- 0.09	9.25816	9.97573	1.27008	9.40120	153.183	2447	XIX. 91	2813	6623
1766	108. 5. 7.91	1869.2	10	- 6.384	- 0.479	- 0.03	0.03411	0.11355	1.26989	9.40143	121.847	2434	XIX. 69	..	6619
1767	40. 40. 0.78	1868.6	2	- 6.464	- 0.218	..	9.29929	9.98023	1.26801	9.40375	152.555	..	....	2815	6626
1768	90. 29. 31.68	1868.6	3	- 6.511	- 0.423	..	9.88897	0.08020	1.26691	9.40513	132.028	..	....	..	..
1769	118. 6. 36.73	1875.5	9	- 6.572	- 0.514	- 0.01	0.10123	0.13176	1.26549	9.40692	116.081	..	XIX. 84	..	6628
1770	114. 45. 14.79	1872.3	1	- 6.652	- 0.500	+ 0.03	0.07954	0.12674	1.26360	9.40928	118.070	2445	XIX. 93	..	6633
1771	63. 58. 54.05	1872.3	26	- 6.661	- 0.335	- 0.01	9.59813	0.02296	1.26337	9.40957	145.307	2450	XIX. 105	..	6637
1772	16. 52. 58.07	1874.2	31	- 6.694	+ 0.151	- 0.10	9.23553	9.94477	1.26259	9.41052	155.284	2472	XIX. 141	2840	6650
1773	112. 1. 13.00	1868.5	2	- 6.751	- 0.489	+ 0.15	0.06111	0.12263	1.26125	9.41221	119.707	2448	XIX. 103	..	6638
1774	78. 19. 39.43	1873.5	11	- 6.766	- 0.383	..	9.76686	0.05377	1.26089	9.41268	138.743	2452	XIX. 114	..	6644
1775	87. 8. 18.09	1872.2	25	- 6.781	- 0.410	- 0.10	9.85703	0.07302	1.26053	9.41311	134.099	2451	XIX. 113	..	6646
1776	24. 31. 53.91	1872.1	80	- 6.859	- 0.041	- 0.03	9.21722	9.94884	1.25866	9.41548	155.378	2471	XIX. 142	2842	6662
1777	65. 19. 0.66	1873.6	7	- 6.870	- 0.339	+ 0.64	9.61637	0.02405	1.25840	9.41584	144.972	2459	XIX. 123	..	6657
1778	117. 14. 39.75	1874.9	8	- 7.019	- 0.505	+ 0.13	0.09454	0.13362	1.25480	9.42035	116.756	..	XIX. 126	..	6666
1779	111. 35. 54.79	1868.6	2	- 7.033	- 0.484	..	0.05740	0.12355	1.25448	9.42076	120.092	..	XIX. 130	..	..
1780	111. 34. 32.17	1868.6	5	- 7.130	- 0.483	+ 0.10	0.05702	0.12410	1.25214	9.42381	120.144	..	XIX. 138	..	6671
1781	65. 35. 33.45	1872.1	43	- 7.136	- 0.338	+ 0.10	9.62201	0.02242	1.25198	9.42403	145.131	2467	XIX. 148	..	6674
1782	40. 6. 57.58	1868.6	1	- 7.138	- 0.214	..	9.31345	9.96746	1.25195	9.42406	153.588	..	XIX. 154	2849	..
1783	37. 56. 21.74	1869.7	6	- 7.211	- 0.197	+ 0.06	9.29513	9.96208	1.25014	9.42634	154.139	2476	XIX. 160	2854	6687
1784	62. 18. 27.60	1873.6	65	- 7.315	- 0.325	0.00	9.58320	0.01303	1.24761	9.42957	146.719	2473	XIX. 161	..	6690
1785	62. 18. 7.46	1871.7	7	- 7.318	- 0.325	..	9.58320	0.01300	1.24755	9.42964	146.723	2474	XIX. 162	..	6691
1786	13. 41. 42.82	1873.6	5	- 7.355	+ 0.279	..	9.28646	9.92617	1.24661	9.43085	156.158	..	....	..	6702
1787	38. 32. 31.48	1869.7	3	- 7.389	- 0.202	- 0.13	9.30664	9.95992	1.24578	9.43195	154.247	2481	XIX. 175	2859	6697
1788	55. 49. 4.10	1872.6	10	- 7.433	- 0.299	- 0.04	9.50420	9.99640	1.24471	9.43329	149.362	2480	XIX. 173	..	6698
1789	82. 53. 26.82	1872.4	21	- 7.499	- 0.391	+ 0.14	9.81591	0.06209	1.24306	9.43544	136.980	2479	XIX. 171	..	6701
1790	115. 9. 47.50	1872.7	21	- 7.587	- 0.490	- 0.02	0.07951	0.13382	1.24089	9.43826	118.201	2478	XIX. 174	..	6706
1791	70. 30. 15.84	1873.8	13	- 7.591	- 0.352	- 0.03	9.68305	0.03086	1.24078	9.43839	143.358	2483	XIX. 184	..	6709
1792	10. 39. 21.34	1872.8	14	- 7.625	+ 0.475	..	9.32387	9.91717	1.23993	9.43947	156.344	..	....	2900	..
1793	97. 18.	..	..	- 7.674	- 0.432	0.00	9.94807	0.09648	1.23869	9.44108	128.904	2482	XIX. 187	..	6713
1794	39. 2. 13.56	1869.6	11	- 7.757	- 0.205	+ 0.10	9.32305	9.95403	1.23663	9.44375	154.623	..	XIX. 211	2881	6723
1795	53. 20. 17.43	1874.1	11	- 7.771	- 0.286	- 0.04	9.47914	9.98614	1.23625	9.44428	150.622	2491	XIX. 206	..	6722
1796	73. 49. 22.40	1874.4	4	- 7.796	- 0.361	- 0.06	9.72140	0.03809	1.23564	9.44504	141.934	2489	XIX. 203	..	6724
1797	73. 49. 8.12	1873.6	1	- 7.804	- 0.361	..	9.72140	0.03804	1.23544	9.44530	141.942	..	....	..	..
1798	20. 33. 24.03	1871.4	65	- 7.884	+ 0.031	+ 1.79	9.27114	9.92006	1.23340	9.44798	156.983	2505	XIX. 236	2898	6735
1799	40. 4.	..	..	- 7.916	- 0.213	- 0.15	9.33766	9.95327	1.23257	9.44902	154.580	2498	XIX. 223	2895	6734
1800	106. 35. 4.07	1873.5	5	- 7.947	- 0.457	+ 0.02	0.01957	0.11830	1.23180	9.45007	123.506	2490	XIX. 214	..	6733

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Celestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Medie Stellarum Fixarum in Zonis Regiomontanis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
1801	Groombridge 2899..	5-6	19. 33. 24.620	1874.7	4	+ 0.6476	- 0.0153	..	0.09985	0.02714	1.40905	0.09768	89.844
1802	12 Cygni..... ϕ	5*	19. 34. 19.307	1871.2	5	+ 2.3687	+ 0.0012	+ 0.020	0.09017	0.05291	1.43725	0.08469	87.767
1803	5 Sagittæ..... α	4-5*	19. 34. 22.521	1874.2	5	+ 2.6807	+ 0.0002	+ 0.001	0.08920	0.05533	1.44218	0.08226	87.473
1804	55 Sagittarii..... e^2	5*	19. 35. 11.773	1868.6	4	+ 3.4327	- 0.0075	+ 0.001	0.08922	0.05554	1.45382	0.07631	86.966
1805	Groombridge 2917.	6	19. 35. 41.203	1872.8	4	- 0.5427	- 0.0498	..	0.10870	0.00421	1.38842	0.10719	91.298
1806	Bradley 2502.....	7	19. 36. 37.167	1872.7	3	+ 2.6719	+ 0.0002	+ 0.012	0.08945	0.05537	1.44204	0.08241	87.453
1807	Piazzi XIX. 237....	6-7	19. 37. 17.700	1871.3	12	+ 3.8102	- 0.0143	- 0.005	0.09065	0.05269	1.45954	0.07312	86.816
1808	10 Vulpeculæ.....	6*	19. 38. 23.639	1873.0	3	+ 2.4932	+ 0.0009	+ 0.002	0.09016	0.05418	1.43523	0.08393	87.588
1809	56 Sagittarii..... f	5*	19. 38. 53.613	1870.4	10	+ 3.5158	- 0.0091	- 0.013	0.08980	0.05520	1.45509	0.07548	86.905
1810	50 Aquilæ..... γ	3*	19. 40. 10.423	1872.1	103	+ 2.8520	- 0.0010	+ 0.001	0.08944	0.05637	1.44486	0.08103	87.267
1811	18 Cygni..... δ	3*	19. 40. 58.432	1871.0	26	+ 1.8705	+ 0.0002	+ 0.006	0.09346	0.04727	1.42928	0.08928	88.171
1812	17 Cygni..... χ^1	5-6*	19. 41. 34.047	1872.0	5	+ 2.2748	+ 0.0013	- 0.001	0.09140	0.05224	1.43576	0.08596	87.746
1813	Arg. Zone+33°. No.3589	9	19. 41. 36.181	1869.6	1	+ 2.2748	+ 0.0013	..	0.09141	0.05225	1.43576	0.08596	87.745
1814	....	10	19. 42. 25.417	1872.7	3	+ 2.4577	+ 0.0010	..	0.09073	0.05405	1.43867	0.08446	87.562
1815	52 Aquilæ..... π	6*	19. 42. 40.105	1873.6	5	+ 2.8271	- 0.0009	- 0.001	0.08972	0.05640	1.44447	0.08130	87.256
1816	Lalande 37730.....	6-7	19. 42. 50.907	1872.7	3	+ 2.4482	+ 0.0011	..	0.09082	0.05399	1.43852	0.08458	87.562
1817	....	10-11	19. 43. 11.007	1873.5	1	+ 2.4597	+ 0.0011	..	0.09081	0.05410	1.43870	0.08449	87.547
1818	Groombridge 2948.	8-9	19. 43. (29.)	..	..	- 0.0678	- 0.0374	..	0.10765	0.01383	1.39677	0.10582	90.342
1819	Groombridge 2952.	6†	19. 44. 28.685	1874.2	7	- 0.0592	- 0.0375	..	0.10788	0.01403	1.39693	0.10603	90.287
1820	53 Aquilæ..... α	1-2*	19. 44. 32.242	1872.2	111	+ 2.8921	- 0.0014	+ 0.036	0.08980	0.05669	1.44548	0.08077	87.191
1821	57 Sagittarii.....	6	19. 44. 45.616	1869.9	3	+ 3.4939	- 0.0093	- 0.003	0.09032	0.05560	1.45475	0.07542	86.874
1822	W. B. XIX. 1129..	7	19. 45. 9.670	1868.6	5	+ 2.8758	- 0.0013	..	0.08988	0.05668	1.44523	0.08093	87.195
1823	12 Vulpeculæ.....	5*	19. 45. 33.378	1875.1	5	+ 2.5814	+ 0.0006	+ 0.005	0.09063	0.05517	1.44062	0.08355	87.412
1824	56 Aquilæ.....	6	19. 47. 11.472	1876.7	1	+ 3.2592	- 0.0058	+ 0.002	0.09005	0.05682	1.45116	0.07747	86.953
1825	58 Sagittarii..... ω	5*	19. 47. 59.773	1873.9	12	+ 3.6697	- 0.0131	+ 0.013	0.09126	0.05444	1.45742	0.07366	86.791
1826	13 Vulpeculæ.....	5-4*	19. 48. 1.248	1873.6	1	+ 2.5481	+ 0.0008	+ 0.001	0.09098	0.05504	1.44009	0.08397	87.406
1827	Groombridge 2968..	6	19. 48. 23.547	1872.7	1	+ 0.9356	- 0.0120	..	0.10120	0.03263	1.41389	0.09848	89.004
1828	63 Draconis..... ϵ	4*	19. 48. 35.711	1870.6	15	- 0.1861	- 0.0439	+ 0.015	0.11017	0.01156	1.39467	0.10834	90.249
1829	60 Aquilæ..... β	4*	19. 49. 1.522	1870.4	58	+ 2.9454	- 0.0020	+ 0.002	0.09016	0.05706	1.44631	0.08036	87.106
1830	Lalande 38033.....	8	19. 49. 49.256	1874.7	1	+ 2.1404	+ 0.0012	..	0.09310	0.05106	1.43361	0.08784	87.732
1831	10 Sagittæ.....	6*	19. 50. 12.411	1872.2	2	+ 2.7256	- 0.0002	+ 0.002	0.09066	0.05630	1.44288	0.08243	87.241
1832	60 Sagittarii..... A	5*	19. 51. 9.134	1872.4	11	+ 3.6629	- 0.0134	- 0.004	0.09157	0.05464	1.45732	0.07353	86.773
1833	22 Cygni.....	5-6*	19. 51. 17.290	1876.6	2	+ 2.1435	+ 0.0013	+ 0.002	0.09327	0.05117	1.43366	0.08794	87.702
1834	21 Cygni..... η	4-5*	19. 51. 30.277	1872.2	2	+ 2.2525	+ 0.0014	- 0.004	0.09270	0.05241	1.43540	0.08694	87.601
1835	Ursæ Minoris... λ	6-7†	19. 52. 16.822	1873.7	127	- 59.6932	- 29.8022	- 0.035	†..	..	..	..	..
1836	24 Cygni (N. Star) } ψ	5* {	19. 52. 19.228	1869.6	7	+ 1.5569	- 0.0026	..	0.09729	0.04306	1.42418	0.09353	88.241
1837	24 Cygni (S. Star) }		19. 52. 19.258	1869.6	1	+ 1.5570	- 0.0026	..	0.09729	0.04306	1.42418	0.09353	88.241
1838	Groombridge 2992..	6	19. 52. 38.105	1873.3	4	+ 0.9901	- 0.0115	..	0.10170	0.03371	1.41481	0.09884	88.808
1839	Groombridge 2993..	6	19. 52. 42.185	1871.6	1	+ 1.0080	- 0.0111	..	0.10158	0.03400	1.41510	0.09870	88.788
1840	14 Vulpeculæ.....	6-5*	19. 53. 41.026	1875.0	5	+ 2.5790	+ 0.0007	- 0.007	0.09146	0.05554	1.44058	0.08397	87.301

1814, 1817. The magnitudes are taken from the Greenwich Observations, 1873.

† For No. 1835, log. e = 0.45788, log. f = - 0.28587, log. g = 1.54051, log. h = 0.45783, and l = 156.451.

1836, 1837. In Struve's *Mensuræ Micrometricæ* the magnitudes of the two components of ψ Cygni are 5.0 and 7.5 respectively.

No.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of l'	No. in Bessel's Bradley, 1755.	No. in Piazzi, 1800.	No. in Groombridge, 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
1801	26. 51. 0.36	1874.9	6	— 7.950	— 0.083	..	9.26694	9.92754	1.23173	9.45015	156.711	..	....	2899	6737
1802	60. 8. 25.45	1872.5	26	— 8.022	— 0.313	— 0.06	9.56502	0.00034	1.22988	9.45256	148.336	2497	XIX. 226	..	6740
1803	72. 16. 43.38	1874.9	9	— 8.026	— 0.355	0.00	9.70569	0.03270	1.22979	9.45330	142.881	2495	XIX. 224	..	6739
1804	106. 25. 17.24	1868.6	4	— 8.093	— 0.455	— 0.02	0.01803	0.11861	1.22807	9.45492	123.674	2494	XIX. 222	..	6742
1805	18. 40. 46.07	1873.5	20	— 8.132	+ 0.076	..	9.29026	9.91163	1.22707	9.45620	157.336	..	....	2917	6752
1806	71. 50. 3.33	1872.7	3	— 8.206	— 0.352	— 0.03	9.70174	0.03036	1.22515	9.45873	143.268	2502	XIX. 244	..	6750
1807	121. 12. 25.15	1871.3	12	— 8.261	— 0.503	+ 0.12	0.11424	0.15026	1.22374	9.46055	114.836	..	XIX. 237	..	6753
1808	64. 31. 58.20	1873.3	26	— 8.348	— 0.327	+ 0.01	9.62055	0.00903	1.22146	9.46356	146.788	2508	XIX. 256	..	6758
1809	110. 3. 58.39	1870.5	11	— 8.388	— 0.462	+ 0.07	0.04305	0.12824	1.22042	9.46491	121.579	2504	XIX. 249	..	6760
1810	79. 41. 48.74	1871.6	46	— 8.488	— 0.373	0.00	9.78611	0.05089	1.21778	9.46835	139.452	2511	XIX. 264	..	6772
1811	45. 10. 49.64	1870.9	19	— 8.552	— 0.243	0.00	9.40603	9.95397	1.21612	9.47052	154.021	2520	XIX. 280	2932	6779
1812	56. 34. 7.57	1870.7	28	— 8.599	— 0.296	+ 0.44	9.53173	9.98395	1.21486	9.47217	150.308	2517	XIX. 282	..	6784
1813	56. 33. 58.81	1869.6	1	— 8.602	— 0.296	..	9.53173	9.98393	1.21479	9.47226	150.309	..	....	..	..
1814	62. 59. 41.53	1872.7	2	— 8.667	— 0.320	..	9.60638	0.00165	1.21254	9.47451	147.774	..	....	..	..
1815	78. 30. 3.11	1873.9	7	— 8.686	— 0.368	+ 0.04	9.77459	0.04675	1.21255	9.47520	140.238	2518	XIX. 283	..	6789
1816	62. 36. 46.97	1872.7	2	— 8.701	— 0.318	..	9.60239	0.00019	1.21216	9.47571	147.946	..	....	..	..
1817	63. 1. 51.03	1873.5	1	— 8.727	— 0.319	..	9.60746	0.00116	1.21147	9.47661	147.789	..	....	..	..
1818	20. 57. 42.93	1869.7	2	— 8.752	+ 0.013	..	9.31069	9.89900	1.21081	9.47748	158.070	..	....	2948	..
1819	20. 58. 32.84	1872.8	40	— 8.828	+ 0.012	..	9.31429	9.89707	1.20876	9.48015	158.161	..	....	2952	6808
1820	81. 28. 4.16	1872.1	87	— 8.833	— 0.375	— 0.38	9.80462	0.05486	1.20862	9.48032	138.735	2524	XIX. 294	..	6802
1821	109. 22. 3.56	1870.1	4	— 8.850	— 0.454	+ 0.06	0.03675	0.12916	1.20817	9.48092	122.187	2522	XIX. 291	..	6803
1822	80. 41. 35.82	1868.6	4	— 8.883	— 0.372	..	9.79720	0.05247	1.20728	9.48211	139.190	..	....	..	..
1823	67. 42. 49.62	1873.8	8	— 8.914	— 0.334	— 0.05	9.66162	0.01344	1.20644	9.48320	145.835	2527	XIX. 305	..	6810
1824	98. 54.	..	..	— 9.041	— 0.420	— 0.01	9.95875	0.10372	1.20302	9.48770	128.685	2530	XIX. 309	..	6821
1825	116. 38. 9.89	1874.0	13	— 9.105	— 0.473	— 0.08	0.08332	0.14721	1.20127	9.48996	117.826	2528	XIX. 311	..	6823
1826	66. 15. 10.27	1873.1	4	— 9.106	— 0.327	— 0.04	9.64738	0.00737	1.20124	9.49002	146.673	2537	XIX. 323	..	6827
1827	29. 7. 11.27	1872.0	9	— 9.136	— 0.118	..	9.32469	9.90418	1.20042	9.49105	157.889	..	....	2968	6834
1828	20. 3. 29.21	1870.4	14	— 9.151	+ 0.028	+ 0.01	9.33304	9.88724	1.19999	9.49162	158.561	2554	XIX. 343	2974	6836
1829	83. 54. 40.25	1870.4	33	— 9.185	— 0.378	+ 0.47	9.82885	0.06125	1.19906	9.49282	137.601	2538	XIX. 324	..	6833
1830	51. 51. 14.35	1874.7	1	— 9.246	— 0.273	..	9.49220	9.96152	1.19739	9.49501	152.635	..	....	..	..
1831	73. 42. 8.92	1872.2	2	— 9.276	— 0.349	— 0.07	9.72811	0.02946	1.19658	9.49609	143.173	2544	XIX. 334	..	6839
1832	116. 32. 21.48	1872.4	11	— 9.349	— 0.469	— 0.01	0.08171	0.14868	1.19453	9.49874	117.955	2539	XIX. 331	..	6842
1833	51. 51. 8.12	1872.6	3	— 9.360	— 0.273	0.00	9.49485	9.95985	1.19424	9.49913	152.737	2547	XIX. 342	..	6849
1834	55. 15. 18.73	1872.2	2	— 9.376	— 0.286	+ 0.03	9.53097	9.97011	1.19378	9.49972	151.523	2548	XIX. 344	..	6851
1835	1. 4. 36.35	1874.3	293	— 9.437	+ 7.688	— 0.01	9.49094	9.86304	1.19209	9.50192	157.403	2795	XX. 424	3308	6999
1836	37. 54. 0.02	1869.6	7	— 9.439	— 0.196	— 0.02	9.37530	9.91834	1.19202	9.50200	156.738	2556	XIX. 356	2987	6856
1837	37. 54. 4.69	1869.6	1	— 9.439	— 0.196	..	9.37530	9.91834	1.19202	9.50200	156.738	..	....	..	..
1838	29. 30. 54.89	1873.1	10	— 9.464	— 0.123	..	9.34044	9.89727	1.19134	9.50291	158.189	..	....	2992	6861
1839	29. 43. 28.16	1871.6	1	— 9.469	— 0.126	..	9.34104	9.89759	1.19119	9.50308	158.170	..	....	2993	6862
1840	67. 14. 43.61	1873.4	8	— 9.545	— 0.327	0.00	9.66257	0.00686	1.18908	9.50588	146.548	2553	XIX. 358	..	6866

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Cælestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 3377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Medie Stellarum Fixarum in Zonis Regionum* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Frac- tion of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
1841	Piazzi XIX. 351 ...	6	h m s 19. 53. 47.263	1876.6	1	+ 3.5733	- 0.0118	+ 0.003	0.09149	0.05548	1.45596	0.07426	86.781
1842	13 Sagittæ.....	6*	19. 54. 16.487	1872.7	2	+ 2.7094	0.0000	+ 0.002	0.09109	0.05641	1.44263	0.08273	87.201
1843	62 Sagittarii..... c	5*	19. 54. 47.106	1873.7	9	+ 3.6974	- 0.0146	0.000	0.09212	0.05451	1.45784	0.07296	86.740
1844	25 Cygni.....	6-5*	19. 55. 13.520	1868.7	2	+ 2.1992	+ 0.0014	- 0.036	0.09345	0.05198	1.43455	0.08776	87.583
1845	15 Vulpeculæ.....	5*	19. 55. 49.793	1875.1	2	+ 2.4658	+ 0.0012	+ 0.002	0.09215	0.05472	1.43879	0.08520	87.356
1846	Lalande 38283.....	7	19. 56. 1.098	1868.6	4	+ 2.2152	+ 0.0015	..	0.09345	0.05220	1.43481	0.08767	87.555
1847	Arg. Zone +36°. No. 3820	6-7	19. 56. 33.119	1868.7	3	+ 2.2004	+ 0.0014	..	0.09360	0.05205	1.43457	0.08787	87.558
1848	16 Vulpeculæ.....	5*	19. 56. 35.783	1876.7	1	+ 2.5381	+ 0.0009	+ 0.008	0.09192	0.05537	1.43993	0.08453	87.291
1849	Groombridge 3019..	6	19. 56. 52.534	1875.7	3	+ 0.7636	- 0.0172	..	0.10453	0.02980	1.41101	0.10188	88.895
1850	14 Sagittæ.....	6*	19. 57. 38.524	1875.3	3	+ 2.7454	- 0.0003	+ 0.003	0.09132	0.05678	1.44319	0.08249	87.135
1851	26 Cygni..... e	6-5*	19. 57. 44.283	1869.5	1	+ 1.6968	- 0.0013	+ 0.002	0.09716	0.04537	1.42646	0.09297	87.975
1852	16 Sagittæ..... η	5-6*	19. 59. 28.851	1876.7	2	+ 2.6588	+ 0.0003	+ 0.004	0.09176	0.05638	1.44183	0.08345	87.166
1853	64 Draconis..... e	6-5*	20. 0. 6.919	1874.0	3	+ 0.6495	- 0.0208	- 0.001	0.10633	0.02780	1.40907	0.10375	88.887
1854	17 Vulpeculæ.....	5-6*	20. 1. 23.395	1873.0	4	+ 2.5766	+ 0.0008	0.000	0.09226	0.05590	1.44054	0.08438	87.196
1855	67 Draconis..... ρ	5*	20. 2. 14.039	1872.8	8	+ 0.2915	- 0.0323	- 0.001	0.11013	0.02114	1.40296	0.10786	89.140
1856	Groombridge 3042 ..	6-5*	20. 2. 51.473	1870.0	7	+ 1.5585	- 0.0029	..	0.09909	0.04345	1.42421	0.09511	87.970
1857	7-yr. Cat. (1864) No. 2244	..	20. 3. 4.579	1874.7	1	+ 3.4090	- 0.0094	..	0.09186	0.05702	1.45345	0.07555	86.763
1858	Groombridge 3051 ..	6	20. 3. 7.777	1876.1	3	+ 0.7662	- 0.0182	..	0.10602	0.03002	1.41106	0.10329	88.667
1859	66 Draconis.....	6*	20. 3. 30.384	1874.7	4	+ 0.9478	- 0.0138	+ 0.013	0.10448	0.03328	1.41411	0.10152	88.489
1860	28 Cygni..... b ²	5*	20. 4. 40.399	1875.5	5	+ 2.2268	+ 0.0016	- 0.001	0.09444	0.05272	1.43500	0.08831	87.391
1861	65 Aquilæ..... θ	3*	20. 4. 41.960	1872.8	68	+ 3.0961	- 0.0042	+ 0.001	0.09149	0.05803	1.44865	0.07892	86.866
1862	19 Vulpeculæ.....	6*	20. 6. 27.077	1873.9	5	+ 2.5063	+ 0.0013	0.000	0.09308	0.05561	1.43943	0.08543	87.167
1863	Piazzi XX. 36.....	9	20. 6. 35.984	1874.7	3	+ 2.5081	+ 0.0013	..	0.09309	0.05563	1.43946	0.08542	87.164
1864	20 Vulpeculæ.....	6*	20. 6. 38.633	1871.3	3	+ 2.5148	+ 0.0012	+ 0.002	0.09306	0.05569	1.43956	0.08534	87.161
1865	Lalande (F.) 3384..	7	20. 6. 54.821	1873.9	5	+ 0.9604	- 0.0139	..	0.10516	0.03359	1.41431	0.10213	88.361
1866	Piazzi XX. 29.....	6*	20. 7. 18.140	1873.0	2	+ 3.6614	- 0.0155	+ 0.093	0.09329	0.05545	1.45730	0.07253	86.666
1867	Lacaille 8386.....	7	20. 7. 53.293	1870.0	10	+ 3.7374	- 0.0175	..	0.09375	0.05478	1.45845	0.07162	86.649
1868	Sagittæ..... R	Var.	20. 8. 13.107	1868.5	1	+ 2.7400	- 0.0002	..	0.09233	0.05733	1.44311	0.08292	87.003
1869	67 Aquilæ..... ρ	5*	20. 8. 21.220	1875.3	3	+ 2.7727	- 0.0004	+ 0.001	0.09225	0.05750	1.44362	0.08256	86.984
1870	7-yr. Cat. (1860) No. 1648	..	20. 8. 33.687	1868.5	1	+ 2.7399	- 0.0002	..	0.09236	0.05735	1.44310	0.08293	87.000
1871	21 Vulpeculæ.....	6-5*	20. 8. 58.971	1875.3	5	+ 2.4631	+ 0.0015	+ 0.004	0.09356	0.05536	1.43875	0.08606	87.156
1872	Lalande 39147.....	8	20. 9. 0.221	1868.7	3	- 2.9166	- 0.2465	..	0.14363	9.95225	1.34398	0.14258	91.594
1873	30 Cygni..... o ¹	5*	20. 9. 16.569	1868.6	1	+ 1.8845	+ 0.0003	+ 0.006	0.09751	0.04854	1.42950	0.09253	87.554
1874	68 Draconis.....	6*	20. 9. 28.880	1873.2	7	+ 0.9758	- 0.0139	+ 0.015	0.10560	0.03394	1.41458	0.10252	88.258
1875	31 Cygni..... o ²	4*	20. 9. 36.005	1872.5	7	+ 1.8887	+ 0.0004	+ 0.001	0.09752	0.04862	1.42957	0.09252	87.543
1876	23 Vulpeculæ.....	5*	20. 10. 27.851	1876.6	4	+ 2.4879	+ 0.0014	- 0.004	0.09359	0.05566	1.43914	0.08588	87.119
1877	5 Capricorni..... α ¹	4	20. 10. 33.092	1874.3	5	+ 3.3301	- 0.0084	- 0.002	0.09234	0.05782	1.45225	0.07619	86.727
1878	6 Capricorni..... α ²	3	20. 10. 57.060	1872.9	58	+ 3.3306	- 0.0085	+ 0.001	0.09236	0.05784	1.45225	0.07617	86.726
1879	Bradley 2615.....	6	20. 11. 6.288	1874.1	4	+ 1.1054	- 0.0111	+ 0.029	0.10474	0.03625	1.41673	0.10146	88.100
1880	32 Cygni.....	4-5*	20. 11. 30.921	1869.7	6	+ 1.8545	+ 0.0001	0.000	0.09808	0.04822	1.42902	0.09316	87.523

1868. The limits of magnitude are 8.5 and 10.4; the period 70.42 days.

1877, 1878. The combined magnitude of these two stars given in the *Uranometria Nova* is 3-4.

18386. .78A	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of μ	No. in Bessel's Bradley. 1755.	No. in Piazzi. 1800.	No. in Groombridge. 1810.	No. in B.A.C. 1850.
							e	f	g	h					
1841	113. 5. 12.23	1876.6	1	— 9.553	— 0.454	+ 0.06	0.05900	0.14200	1.18886	9.50615	120.138	..	XIX. 351	..	6864
1842	72. 49. 54.18	1868.6	1	— 9.590	— 0.343	— 0.06	9.72115	0.02484	1.18781	9.50752	143.837	2555	XIX. 361	..	6868
1843	118. 3. 45.31	1872.8	5	— 9.629	— 0.469	— 0.02	0.08983	0.15409	1.18669	9.50896	117.091	2549	XIX. 355	..	6870
1844	53. 18. 24.85	1868.7	2	— 9.664	— 0.277	— 0.08	9.51640	9.96000	1.18572	9.51024	152.493	2557	XIX. 373	..	6875
1845	62. 35. 55.98	1874.8	9	— 9.710	— 0.311	— 0.05	9.61500	9.98998	1.18441	9.51194	148.793	2558	XIX. 375	..	6879
1846	53. 45. 43.90	1868.6	4	— 9.724	— 0.278	..	9.52257	9.96066	1.18401	9.51245	152.370	..	....	..	..
1847	53. 15. 22.14	1868.7	3	— 9.765	— 0.276	..	9.51812	9.95840	1.18285	9.51395	152.595	..	....	..	..
1848	65. 25.	..	..	— 9.769	— 0.319	— 0.09	9.64552	9.99885	1.18274	9.51408	147.569	2561	XIX. 378	..	6883
1849	26. 48. 53.21	1872.4	7	— 9.788	— 0.093	..	9.35257	9.88333	1.18219	9.51481	158.825	..	....	3019	..
1850	74. 19. 34.58	1874.3	5	— 9.848	— 0.345	— 0.04	9.73799	0.02832	1.18046	9.51706	143.236	2565	XIX. 385	..	6890
1851	40. 15. 2.61	1869.5	1	— 9.855	— 0.211	— 0.02	9.40637	9.91642	1.18028	9.51730	156.603	2570	XIX. 397	3017	6895
1852	70. 22.	..	..	— 9.888	— 0.332	— 0.10	9.69888	0.01395	1.17645	9.52224	145.348	2569	XIX. 400	..	6901
1853	25. 32. 13.55	1870.5	15	— 10.036	— 0.078	+ 0.02	9.36511	9.87414	1.17504	9.52405	159.183	2578	XIX. 421	3033	6905
1854	66. 45. 10.73	1870.8	16	— 10.132	— 0.320	0.00	9.66332	0.00024	1.17226	9.52763	147.204	2572	XIX. 412	..	6912
1855	22. 29. 28.47	1872.7	16	— 10.196	— 0.032	— 0.04	9.37731	9.86346	1.17038	9.53006	159.547	2587	XX. 21	3048	6926
1856	37. 12. 43.59	1870.0	7	— 10.242	— 0.191	..	9.40295	9.89943	1.16901	9.53181	157.630	..	....	3042	6928
1857	106. 20. 25.88	1874.7	1	— 10.260	— 0.423	..	0.01081	0.12836	1.16850	9.53247	124.566	..	....	..	..
1858	26. 28. 40.36	1876.1	3	— 10.264	— 0.092	..	9.37566	9.87036	1.16839	9.53262	159.308	..	....	3051	6930
1859	28. 22. 32.16	1875.3	5	— 10.291	— 0.114	— 0.05	9.37767	9.87420	1.16757	9.53367	159.129	2586	XX. 25	3052	6932
1860	53. 32. 9.65	1874.5	8	— 10.379	— 0.273	— 0.06	9.53466	9.95056	1.16499	9.53699	152.972	2582	XX. 22	..	6937
1861	91. 11. 56.86	1873.3	13	— 10.381	— 0.382	0.00	9.89437	0.08309	1.16492	9.53709	133.972	2576	XX. 10	..	6934
1862	63. 34. 16.63	1874.7	7	— 10.512	— 0.307	0.00	9.63589	9.98527	1.16101	9.54206	148.928	2585	XX. 34	..	6943
1863	63. 38. 12.24	1874.7	2	— 10.523	— 0.307	..	9.63659	9.98540	1.16067	9.54248	148.908	..	XX. 36	..	..
1864	63. 54. 6.70	1868.6	2	— 10.527	— 0.308	— 0.02	9.63929	9.98635	1.16056	9.54263	148.790	2588	XX. 37	..	6944
1865	28. 18. 1.49	1874.0	5	— 10.547	— 0.115	..	9.38987	9.86743	1.15996	9.54338	159.362	..	....	..	..
1866	117. 24. 45.19	1870.6	1	— 10.575	— 0.449	+ 0.16	0.08135	0.15920	1.15911	9.54448	117.712	..	XX. 29	..	6947
1867	120. 23. 36.66	1870.0	10	— 10.618	— 0.458	..	0.09864	0.16671	1.15781	9.54615	115.876	..	....	..	6948
1868	73. 39. 33.57	1868.5	1	— 10.643	— 0.334	..	9.73664	0.02150	1.15706	9.54711	144.058	..	....	..	..
1869	75. 11. 26.45	1874.9	10	— 10.653	— 0.338	— 0.07	9.75113	0.02700	1.15675	9.54747	143.266	2590	XX. 48	..	6952
1870	73. 38. 26.76	1868.5	1	— 10.669	— 0.334	..	9.73648	0.02123	1.15627	9.54809	144.092	..	....	..	..
1871	61. 41. 29.33	1873.7	5	— 10.700	— 0.299	+ 0.08	9.61993	9.97631	1.15533	9.54929	149.891	2594	XX. 52	..	6957
1872	10. 41. 25.33	1869.0	4	— 10.704	+ 0.364	..	9.46030	9.82963	1.15522	9.54943	159.883	..	....	..	..
1873	43. 34. 13.17	1868.6	1	— 10.722	— 0.228	— 0.01	9.46045	9.90988	1.15466	9.55015	156.461	2601	XX. 59	..	6962
1874	28. 18. 30.61	1873.6	25	— 10.737	— 0.116	— 0.05	9.39915	9.86253	1.15421	9.55073	159.514	2610	XX. 71	3097	6970
1875	43. 38. 45.19	1872.5	7	— 10.746	— 0.228	— 0.04	9.46180	9.90972	1.15395	9.55107	156.455	2603	XX. 62	..	6965
1876	62. 34. 37.49	1874.9	16	— 10.810	— 0.301	— 0.01	9.63043	9.97855	1.15199	9.55354	149.559	2602	XX. 64	..	6973
1877	102. 54. 5.80	1870.8	3	— 10.816	— 0.404	0.00	9.98453	0.12070	1.15180	9.55377	126.896	2593	XX. 54	..	6972
1878	102. 56. 21.95	1871.4	21	— 10.845	— 0.404	0.00	9.98471	0.12091	1.15091	9.55489	126.882	2595	XX. 58	..	6974
1879	29. 45. 0.83	1874.1	4	— 10.856	— 0.131	— 0.01	9.40603	9.86334	1.15057	9.55533	159.428	2615	XX. 82	3111	6980
1880	42. 40. 40.59	1869.7	6	— 10.887	— 0.222	0.00	9.46000	9.90360	1.14962	9.55650	156.826	2612	XX. 78	..	6983

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Coelestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weiss's two Catalogues, *Positiones Mediae Stellarum Fixarum in Zonis Regiomontanis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

{xcvi}

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fra- tion of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
			h m s			s	s	s					
1881	7 Capricorni σ	6-5*	20. 12. 0°349	1870·3	3	+ 3·4696	-0°0115	0°000	0°09291	0°05716	1°45438	0°07449	86°679
1882	....	..	20. 12. 8°025	1873·5	4	+ 3·4870	-0°0119	..	0°09299	0°05706	1°45465	0°07428	86°673
1883	....	..	20. 12. 29°293	1873·5	3	+ 3·4866	-0°0119	..	0°09302	0°05708	1°45464	0°07427	86°671
1884	1 Cephei κ	4-5*	20. 13. 9°326	1872·0	18	- 1·8972	-0°1647	+ 0°003	0°13566	9°97598	1°36373	0°13436	90°388
1885	35 Cygni	5-6*	20. 13. 44°150	1873·9	5	+ 2°3030	+0°0019	+ 0°003	0°09503	0°05401	1°43621	0°08825	87°178
1886	9 Capricorni β	3*	20. 13. 49°061	1872·8	33	+ 3·3749	-0°0096	- 0°001	0°09275	0°05781	1°45293	0°07555	86°690
1887	Lalande 39124	9	20. 13. 55°856	1868·6	4	+ 1°7072	-0°0012	..	0°09972	0°04615	1°42663	0°09517	87°570
1888	Groombridge 3140	6	20. 15. 36°876	1875·8	7	+ 2°1736	+0°0019	..	0°09617	0°05262	1°43415	0°08995	87°222
1889	Groombridge 3150	6*	20. 16. 15°304	1874·9	6	+ 0°5319	-0°0281	+ 0°089	0°01175	0°02603	1°40707	0°10913	88°341
1890	Lacaille 8427	7	20. 16. 50°708	1870·8	9	+ 3°6974	-0°0178	..	0°09449	0°05563	1°45784	0°07144	86°601
1891	....	7-8	20. 17. 17°259	1870·7	4	+ 3°6912	-0°0177	..	0°09450	0°05572	1°45775	0°07149	86°599
1892	Lacaille 8433	6-7	20. 17. 36°377	1871·7	3	+ 3°6856	-0°0176	..	0°09451	0°05578	1°45767	0°07153	86°597
1893	37 Cygni γ	3-2*	20. 17. 38°080	1870·2	14	+ 2°1516	+0°0019	0°000	0°09659	0°05245	1°43380	0°09042	87°196
1894	Groombridge 3212	6-7†	20. 17. 46°714	1873·6	4	- 7°9551	-1°0439	..	0°19841	9°81108	1°23153	0°19789	94°459
1895	Lacaille 8442	7	20. 18. 41°346	1870·6	15	+ 3°6940	-0°0180	..	0°09467	0°05577	1°45779	0°07134	86°589
1896	Bradley 2636	6*	20. 19. 31°364	1873·4	8	+ 0°2920	-0°0381	..	0°11523	0°02160	1°40300	0°11282	88°362
1897	W. B. XX. 465	7-8	20. 19. 34°690	1873·8	7	+ 2°8859	-0°0016	..	0°09297	0°05864	1°44538	0°08152	86°793
1898	10 Capricorni π	5*	20. 19. 59°546	1868·6	3	+ 3°4414	-0°0115	- 0°002	0°09355	0°05781	1°45395	0°07449	86°624
1899	11 Capricorni ρ	5*	20. 21. 33°437	1871·9	51	+ 3°4313	-0°0114	- 0°006	0°09365	0°05796	1°45380	0°07456	86°615
1900	Lalande 39408	7-8	20. 21. 44°937	1876·5	4	+ 2°4446	+0°0019	..	0°09503	0°05588	1°43846	0°08717	86°961
1901	Piazzi XX. 146	6	20. 22. 0°563	1875·5	6	+ 3°5300	-0°0139	- 0°001	0°09412	0°05733	1°45530	0°07324	86°594
1902	Cephei 24 (Hev.)	5	20. 22. 11°693	1872·7	4	- 46°4169	-24°6431	..	†..	..	..	..	..
1903	40 Cygni	6*	20. 22. 49°794	1873·9	5	+ 2°2234	+0°0022	- 0°001	0°09671	0°05357	1°43494	0°09005	87°054
1904	Lacaille 8466	6-7	20. 23. 6°201	1870·1	18	+ 3°6869	-0°0184	..	0°09510	0°05607	1°45768	0°07111	86°563
1905	43 Cygni ω^1	6†	20. 23. 7°584	1870·2	7	+ 1°8262	+0°0001	+ 0°005	0°10015	0°04829	1°42855	0°09509	87°266
1906	41 Cygni	4-5*	20. 24. 9°958	1875·0	3	+ 2°4495	+0°0020	0°000	0°09526	0°05606	1°43853	0°08728	86°920
1907	Piazzi XX. 165	8	20. 24. 41°652	1874·6	1	+ 3°5823	-0°0156	..	0°09466	0°05709	1°45610	0°07240	86°565
1908	Piazzi XX. 170	6	20. 25. 14°906	1874·5	9	+ 3°5832	-0°0157	- 0°011	0°09472	0°05711	1°45611	0°07235	86°562
1909	45 Cygni ω^2	5*	20. 26. 5°694	1869·6	8	+ 1°8569	+0°0004	0°000	0°10034	0°04888	1°42906	0°09512	87°175
1910	44 Cygni	6	20. 26. 7°613	1873·1	3	+ 2°2771	+0°0024	+ 0°006	0°09670	0°05437	1°43580	0°08968	86°964
1911	2 Delphini ϵ	4*	20. 27. 5°846	1871·7	43	+ 2°8666	-0°0013	- 0°001	0°09365	0°05905	1°44508	0°08194	86°712
1912	2 Cephei θ	4*	20. 27. 25°791	1871·3	20	+ 1°0116	-0°0152	+ 0°004	0°10951	0°03512	1°41516	0°10620	87°585
1913	3 Delphini η	6-5*	20. 27. 53°796	1874·7	4	+ 2°8336	-0°0009	+ 0°007	0°09380	0°05897	1°44457	0°08241	86°713
1914	47 Cygni	5-6*	20. 28. 55°463	1875·9	4	+ 2°3320	+0°0025	+ 0°003	0°09662	0°05513	1°43667	0°08922	86°887
1915	Bradley 2673	6†	20. 30. 32°610	1873·3	6	- 0°2054	-0°0670	+ 0°007	0°12465	0°01209	1°39435	0°12256	88°079
1916	27 Vulpeculæ	6-5*	20. 31. 37°016	1873·7	5	+ 2°5573	+0°0018	+ 0°001	0°09537	0°05746	1°44024	0°08636	86°756
1917	14 Capricorni τ^2	5*	20. 32. 6°809	1868·8	2	+ 3°3623	-0°0106	- 0°002	0°09433	0°05901	1°45274	0°07506	86°545
1918	Piazzi XX. 265	6	20. 32. 8°167	1874·1	4	+ 0°1642	-0°0486	+ 0°015	0°12079	0°01942	1°40076	0°11842	87°809
1919	Bradley 2659	7	20. 32. 33°571	1873·0	3	+ 3°1248	-0°0054	+ 0°003	0°09385	0°05975	1°44909	0°07843	86°584
1920	15 Capricorni ν	6-5*	20. 32. 45°654	1870·0	6	+ 3°4256	-0°0122	- 0°005	0°09465	0°05871	1°45371	0°07414	86°528

1889. The adopted proper motion is taken from the Bonn Observations, Vol. VII., p. 112.

1891. The magnitude is taken from the Greenwich Observations, 1870.

† For No. 1902, log. e = 0°47175, log. f = - 0°10313, log. g = - 1°33064, log. h = 0°47170, and l = 119°246.

1878 GOALM 386.78A	Mean North Polar Distance 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of l'	No. in Bessel's Bradley. 1755.	No. in Piazzi. 1800.	No. in Groombridge. 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
1881	109.30.56.27	1870.3	3	-10.922	-0.420	-0.02	0.02987	0.14050	1.14853	9.55790	122.745	2597	XX. 67	..	6981
1882	110.18.32.16	1873.5	4	-10.932	-0.422	..	0.03511	0.14278	1.14823	9.55827	122.242	..	....	..	..
1883	110.18.32.08	1873.5	2	-10.958	-0.421	..	0.03499	0.14292	1.14743	9.55929	122.246	..	....	..	..
1884	12.40.30.87	1872.7	27	-11.007	+0.236	0.00	9.46120	9.82253	1.14593	9.56119	160.262	2632	XX. 126	3148	7005
1885	55.24.57.54	1874.3	11	-11.049	-0.276	-0.02	9.56714	9.94805	1.14460	9.56286	152.713	2616	XX. 92	..	6998
1886	105.10.59.86	1870.7	12	-11.055	-0.406	-0.03	9.99987	0.12852	1.14441	9.56309	125.522	2609	XX. 83	..	6995
1887	39.14.46.99	1868.6	4	-11.064	-0.203	..	9.44654	9.88805	1.14414	9.56342	157.819	..	....	..	..
1888	50.59.57.56	1871.7	14	-11.186	-0.258	..	9.53212	9.92889	1.14032	9.56825	154.435	..	....	3140	7008
1889	23.33.26.82	1874.6	5	-11.233	-0.060	-0.27	9.42684	9.83668	1.13886	9.57003	160.346	..	....	3150	7017
1890	119.29.11.10	1870.8	9	-11.276	-0.441	..	0.08966	0.16930	1.13749	9.57176	116.554	..	....	..	7011
1891	119.16.25.92	1870.7	4	-11.307	-0.440	..	0.08824	0.16899	1.13650	9.57301	116.690	..	....	..	..
1892	119.4.30.74	1871.7	3	-11.330	-0.439	..	0.08704	0.16868	1.13576	9.57391	116.811	..	....	..	7018
1893	50.9.6.72	1872.6	47	-11.333	-0.254	-0.02	9.52917	9.92320	1.13569	9.57400	154.822	2624	XX. 124	3149	7022
1894	5.42.33.99	1873.6	4	-11.343	+0.962	..	9.52660	9.80426	1.13535	9.57441	159.894	..	....	3212	7047
1895	119.29.14.79	1870.6	14	-11.408	-0.438	..	0.08888	0.17026	1.13327	9.57700	116.573	..	....	..	7026
1896	21.31.44.87	1874.4	24	-11.468	-0.030	+0.03	9.44342	9.82480	1.13135	9.57936	160.630	2636	....	3173	7037
1897	80.21.29.11	1873.8	7	-11.473	-0.340	..	9.80257	0.04301	1.13120	9.57956	140.802	..	....	..	..
1898	108.37.44.38	1868.6	3	-11.503	-0.406	-0.02	0.02140	0.14090	1.13025	9.58076	123.438	2623	XX. 131	..	7031
1899	108.14.4.43	1870.9	19	-11.614	-0.403	+0.01	0.01828	0.14025	1.12667	9.58519	123.713	2626	XX. 142	..	7042
1900	60.3.0.11	1876.1	8	-11.628	-0.286	..	9.62034	9.95930	1.12621	9.58574	151.128	..	....	..	..
1901	112.48.48.79	1875.1	10	-11.647	-0.414	+0.04	0.04759	0.15388	1.12558	9.58649	120.803	..	XX. 146	..	7049
1902	1.15.32.52	1872.7	4	-11.660	+5.513	..	9.57634	9.79159	1.12523	9.58693	159.435	..	....	3402	7184
1903	51.58.44.24	1874.2	9	-11.705	-0.258	+0.04	9.55400	9.92456	1.12369	9.58882	154.379	2634	XX. 164	..	7061
1904	119.32.19.14	1870.1	18	-11.724	-0.431	..	0.08721	0.17265	1.12307	9.58959	116.588	..	....	..	7057
1905	41.2.25.09	1870.0	4	-11.725	-0.211	-0.04	9.48159	9.88023	1.12302	9.58963	157.801	2639	XX. 169	3186	7062
1906	60.3.26.28	1874.2	15	-11.799	-0.284	0.00	9.62356	9.95725	1.12060	9.59263	151.210	2637	XX. 173	..	7067
1907	115.18.0.37	1874.6	1	-11.837	-0.417	..	0.06172	0.16204	1.11935	9.59415	119.261	..	XX. 165	..	..
1908	115.22.25.18	1874.4	8	-11.876	-0.416	+0.12	0.06187	0.16248	1.11806	9.59571	119.225	..	XX. 170	..	7077
1909	41.28.39.83	1869.6	8	-11.936	-0.213	-0.01	9.49220	9.87744	1.11609	9.59813	157.795	2645	XX. 192	3201	7085
1910	53.29.39.52	1873.1	3	-11.938	-0.262	-0.07	9.57206	9.92732	1.11600	9.59823	153.933	2643	XX. 188	..	7084
1911	79.7.48.63	1872.9	11	-12.006	-0.330	+0.03	9.79442	0.03628	1.11374	9.60097	141.681	2642	XX. 191	..	7088
1912	27.26.8.19	1873.3	45	-12.029	-0.113	+0.05	9.46225	9.82452	1.11296	9.60192	160.500	2651	XX. 211	3218	7098
1913	77.24.34.55	1874.0	6	-12.062	-0.325	-0.08	9.77996	0.02896	1.11187	9.60326	142.659	2644	XX. 196	..	7094
1914	55.11.10.30	1874.0	23	-12.133	-0.266	+0.05	9.59017	9.93174	1.10944	9.60619	153.371	2650	XX. 210	..	7103
1915	17.54.7.81	1873.4	6	-12.246	+0.029	+0.04	9.49554	9.79163	1.10563	9.61077	161.195	2673	XX. 257	3241	7124
1916	63.58.55.70	1873.9	28	-12.320	-0.289	+0.01	9.66652	9.96874	1.10310	9.61379	149.647	2660	XX. 232	..	7126
1917	105.24.5.99	1868.8	2	-12.355	-0.381	+0.03	9.99603	0.13469	1.10192	9.61521	125.656	2652	XX. 225	..	7127
1918	19.54.24.38	1873.3	3	-12.356	-0.014	+0.09	9.49374	9.79285	1.10189	9.61525	161.210	..	XX. 265	3246	7144
1919	92.51.40.87	1873.0	3	-12.386	-0.353	0.00	9.90628	0.09022	1.10087	9.61649	133.605	2659	XX. 234	..	7130
1920	108.35.13.91	1870.0	6	-12.400	-0.387	0.00	0.01670	0.14521	1.10039	9.61706	123.622	2657	XX. 233	..	7134

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Caelestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Mediae Stellarum Fixarum in Zonis Regionumantis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

{xcviii}

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Frac- tion of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
1921	Bradley 2667	7	20. 33. 8.745	1874.4	6	+ 2.7833	- 0.0002	+ 0.001	0.09442	0.05909	1.44379	0.08328	86.661
1922	73 Draconis	5-6*	20. 33. 10.180	1872.4	6	- 0.7156	- 0.1008	- 0.006	0.13186	0.00174	1.38532	0.13006	88.161
1923	9 Delphini	4-3*	20. 33. 41.540	1872.1	45	+ 2.7825	- 0.0001	+ 0.006	0.09447	0.05911	1.44377	0.08331	86.654
1924	Bradley 2671	8	20. 34. 37.561	1873.7	3	+ 2.7888	- 0.0002	..	0.09453	0.05921	1.44387	0.08325	86.641
1925	Bradley 2701	7	20. 34. 48.495	1875.8	4	- 3.5135	- 0.3894	+ 0.020	0.16627	9.93823	1.33213	0.16530	89.291
1926	49 Cygni	6*	20. 35. 51.740	1871.3	5	+ 2.4263	+ 0.0026	+ 0.006	0.09669	0.05652	1.43817	0.08850	86.728
1927	75 Draconis	6*	20. 36. 10.137	1875.5	4	- 3.4710	- 0.3882	+ 0.005	0.16671	9.93932	1.33301	0.16573	89.111
1928	74 Draconis	6†	20. 36. 45.782	1875.0	3	- 3.2152	- 0.3560	+ 0.021	0.16408	9.94558	1.33815	0.16305	88.935
1929	50 Cygni	2-1*	20. 37. 4.094	1872.7	51	+ 2.0434	+ 0.0022	- 0.002	0.10019	0.05202	1.43207	0.09409	86.831
1930	11 Delphini	4*	20. 37. 28.959	1874.5	4	+ 2.8026	- 0.0003	+ 0.002	0.09472	0.05946	1.44409	0.08316	86.600
1931	51 Cygni	6-5*	20. 38. 15.870	1869.6	7	+ 1.8490	+ 0.0006	+ 0.010	0.10240	0.04931	1.42893	0.09705	86.867
1932	16 Capricorni	4-5*	20. 38. 30.863	1872.2	4	+ 3.5684	- 0.0169	- 0.007	0.09594	0.05805	1.45589	0.07170	86.475
1933	17 Capricorni	6*	20. 38. 44.564	1873.0	11	+ 3.4874	- 0.0145	0.000	0.09549	0.05869	1.45465	0.07292	86.479
1934	30 Vulpeculæ	6-5*	20. 39. 20.136	1874.9	3	+ 2.5975	+ 0.0018	0.000	0.09589	0.05828	1.44087	0.08627	86.622
1935	Groombridge 3274 ..	6*	20. 39. 55.622	1874.8	4	+ 1.2877	- 0.0091	..	0.10925	0.04037	1.41976	0.10537	87.003
1936	Bradley 2685	7	20. 40. 42.362	1869.7	10	+ 2.7857	0.0000	- 0.004	0.09505	0.05960	1.44382	0.08352	86.563
1937	12 Delphini	3-4*	20. 40. 43.222	1869.7	12	+ 2.7858	0.0000	- 0.004	0.09505	0.05960	1.44382	0.08352	86.563
1938	2 Aquarii	4-3*	20. 40. 44.708	1872.0	34	+ 3.2516	- 0.0084	- 0.001	0.09471	0.06005	1.45104	0.07644	86.488
1939	Piazzi XX. 298	6	20. 40. 53.364	1873.0	11	+ 3.5098	- 0.0153	+ 0.001	0.09581	0.05867	1.45499	0.07245	86.463
1940	53 Cygni	3-2*	20. 41. 1.965	1870.2	5	+ 2.3971	+ 0.0029	+ 0.029	0.09749	0.05652	1.43770	0.08938	86.644
1941	B.F. 2827	6	20. 41. 8.354	1868.6	4	+ 3.4168	- 0.0127	..	0.09535	0.05931	1.45357	0.07388	86.468
1942	Lalande 40125	8	20. 41. 9.425	1868.6	5	+ 3.4168	- 0.0127	..	0.09535	0.05931	1.45357	0.07388	86.468
1943	Radcliffe 4976	6-7	20. 41. 39.632	1875.8	3	- 5.4372	- 0.7352	..	0.19415	9.88811	1.29152	0.19344	89.078
1944	Microscopii	4-5	20. 41. 57.999	1871.4	3	+ 3.7646	- 0.0240	+ 0.021	0.09773	0.05639	1.45886	0.06839	86.443
1945	Piazzi XX. 310	6-7	20. 42. 4.750	1876.7	2	+ 3.4124	- 0.0126	- 0.003	0.09541	0.05940	1.45351	0.07391	86.461
1946	54 Cygni	5-4*	20. 42. 25.404	1870.5	4	+ 2.3341	+ 0.0031	- 0.003	0.09817	0.05592	1.43671	0.09045	86.634
1947	3 Cephei	4-3*	20. 42. 40.891	1871.3	17	+ 1.2168	- 0.0111	+ 0.014	0.11079	0.03923	1.41857	0.10705	86.925
1948	14 Delphini	6*	20. 43. 31.698	1874.0	3	+ 2.9411	- 0.0022	+ 0.006	0.09482	0.06039	1.44625	0.08122	86.499
1949	55 Cygni	6-5*	20. 44. 34.527	1874.7	3	+ 2.0427	+ 0.0025	+ 0.004	0.10131	0.05238	1.43205	0.09511	86.655
1950	Piazzi XX. 339	6	20. 45. 30.558	1874.1	8	+ 3.5243	- 0.0163	+ 0.011	0.09634	0.05886	1.45522	0.07193	86.430
1951	6 Aquarii	5-4*	20. 45. 44.878	1874.0	12	+ 3.2392	- 0.0083	0.000	0.09507	0.06044	1.45085	0.07651	86.446
1952	31 Vulpeculæ	5*	20. 46. 38.961	1874.9	5	+ 2.5716	+ 0.0024	- 0.006	0.09677	0.05854	1.44046	0.08715	86.510
1953	32 Vulpeculæ	5-6*	20. 49. 6.302	1871.9	49	+ 2.5556	+ 0.0026	- 0.002	0.09711	0.05857	1.44021	0.08757	86.475
1954	16 Delphini	6-5*	20. 49. 32.081	1873.0	5	+ 2.8608	- 0.0008	+ 0.008	0.09550	0.06056	1.44499	0.08264	86.438
1955	Piazzi XX. 391	7	20. 49. 38.962	1868.6	1	+ 1.7122	- 0.0008	+ 0.019	0.10604	0.04774	1.42670	0.10105	86.578
1956	Piazzi XX. 401	7-8	20. 51. 26.105	1874.7	3	+ 2.1296	+ 0.0034	..	0.10138	0.05392	1.43344	0.09469	86.476
1957	Bradley 2720	6*	20. 51. 30.470	1876.6	1	+ 2.0242	+ 0.0028	..	0.10258	0.05248	1.43175	0.09640	86.486
1958	76 Draconis	6*	20. 51. 42.562	1873.8	4	- 3.9424	- 0.5218	+ 0.006	0.18430	9.92773	1.32335	0.18342	87.213
1959	Bradley 2725	7	20. 52. 14.587	1873.0	3	+ 1.9602	+ 0.0023	..	0.10346	0.05161	1.43072	0.09754	86.473
1960	33 Vulpeculæ	6-5*	20. 52. 33.006	1871.6	5	+ 2.6814	+ 0.0017	+ 0.008	0.09661	0.05979	1.44219	0.08575	86.407

1880AMM.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of μ	No. in Bessel's Bradley. 1755.	No. in Piazzi. 1800.	No. in Groombridge. 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
1921	74. 36. 35.93	1873.2	2	-12.426	-0.313	-0.01	9.75846	0.01521	1.09947	9.61812	144.308	2667	XX. 247	..	7146
1922	15. 29. 3.87	1870.8	40	-12.427	+0.087	+0.03	9.51561	9.78018	1.09944	9.61818	161.269	2682	XX. 279	3251	7156
1923	74. 32. 16.58	1873.6	19	-12.464	-0.313	-0.03	9.75808	0.01464	1.09818	9.61969	144.362	2670	XX. 254	..	7149
1924	74. 48. 39.29	1873.7	3	-12.527	-0.312	-0.26	9.76095	0.01552	1.09596	9.62233	144.227	2671	....	..	7157
1925	9. 0. 9.44	1875.7	9	-12.540	+0.405	-0.06	9.55787	9.76523	1.09553	9.62285	160.965	2701	XX. 316	3268	7169
1926	58. 8. 47.97	1869.6	12	-12.612	-0.270	-0.03	9.62439	9.93859	1.09301	9.62580	152.340	2675	XX. 273	..	7164
1927	9. 1. 1.97	1874.4	10	-12.632	+0.399	0.00	9.56217	9.76185	1.09230	9.62665	161.004	2704	XX. 331	3276	7178
1928	9. 21. 29.59	1875.0	3	-12.673	+0.369	-0.20	9.56194	9.76080	1.09086	9.62835	161.053	2705	XX. 333	3277	7185
1929	45. 10. 33.25	1873.1	48	-12.693	-0.225	0.00	9.53970	9.87731	1.09015	9.62919	157.077	2679	XX. 285	3257	7171
1930	75. 22. 58.57	1875.1	11	-12.721	-0.311	+0.05	9.76716	0.01701	1.08916	9.63035	143.968	2678	XX. 281	..	7173
1931	40. 7. 7.58	1869.6	6	-12.773	-0.202	+0.04	9.51957	9.85304	1.08732	9.63252	158.508	2683	XX. 293	3264	7182
1932	115. 43. 42.19	1872.2	4	-12.791	-0.395	+0.17	0.05824	0.16936	1.08668	9.63330	119.092	2676	XX. 282	..	7177
1933	111. 58. 36.90	1873.0	11	-12.807	-0.386	+0.01	0.03571	0.15808	1.08612	9.63394	121.486	2677	XX. 284	..	7179
1934	65. 11. 10.10	1872.4	9	-12.846	-0.285	+0.17	9.68476	9.96902	1.08471	9.63558	149.237	2680	XX. 294	..	7188
1935	29. 51. 33.84	1874.9	5	-12.886	-0.138	..	9.50433	9.80805	1.08327	9.63726	160.566	..	....	3274	7193
1936	74. 20. 7.13	1869.7	10	-12.937	-0.305	+0.20	9.76035	0.01106	1.08145	9.63940	144.582	2685	XX. 303	..	7199
1937	74. 20. 7.89	1869.7	12	-12.939	-0.305	+0.20	9.76035	0.01105	1.08140	9.63945	144.583	2686	XX. 304	..	7200
1938	99. 57. 44.71	1871.3	9	-12.941	-0.357	+0.01	9.95655	0.11783	1.08131	9.63954	129.216	2681	XX. 299	..	7196
1939	113. 12. 11.23	1873.5	14	-12.950	-0.385	+0.18	0.04218	0.16268	1.08100	9.63993	120.719	..	XX. 298	..	7197
1940	56. 30. 28.47	1872.9	21	-12.960	-0.261	-0.32	9.62014	9.92599	1.08063	9.64033	153.123	2689	XX. 313	..	7204
1941	108. 40. 6.59	1868.6	4	-12.967	-0.375	..	0.01410	0.14829	1.08035	9.64066	123.632	..	....	..	7202
1942	108. 40. 13.17	1868.6	5	-12.968	-0.375	..	0.01410	0.14829	1.08035	9.64066	123.632	..	....	..	..
1943	6. 49. 17.59	1873.3	3	-13.001	+0.609	..	9.59373	9.74532	1.07915	9.64207	160.918	..	....	..	..
1944	124. 15. 7.58	1871.2	4	-13.022	-0.412	+0.15	0.10356	0.19464	1.07838	9.64296	113.770	..	XX. 307	..	7207
1945	108. 30. 21.85	1876.7	3	-13.030	-0.373	+0.09	0.01271	0.14803	1.07810	9.64327	123.744	..	XX. 310	..	7209
1946	53. 58. 43.27	1870.2	6	-13.052	-0.253	-0.02	9.60487	9.91239	1.07729	9.64421	154.146	2692	XX. 323	..	7213
1947	28. 39. 28.07	1873.1	40	-13.070	-0.129	-0.87	9.51375	9.79801	1.07664	9.64497	160.784	2698	XX. 338	3286	7220
1948	82. 36. 35.53	1873.2	2	-13.126	-0.319	-0.05	9.82269	0.04762	1.07460	9.64734	139.942	2691	XX. 329	..	7222
1949	44. 21. 35.08	1874.9	4	-13.195	-0.219	-0.01	9.55425	9.86311	1.07205	9.65027	157.462	2699	XX. 350	3299	7233
1950	114. 15. 37.96	1874.1	8	-13.257	-0.380	+0.11	0.04642	0.16781	1.06979	9.65289	120.054	..	XX. 339	..	7237
1951	99. 27. 43.08	1872.9	1	-13.272	-0.349	+0.04	9.95197	0.11688	1.06922	9.65352	129.565	2696	XX. 345	..	7239
1952	63. 22. 51.50	1874.2	20	-13.331	-0.275	+0.07	9.67888	9.95530	1.06704	9.65602	150.184	2703	XX. 365	..	7246
1953	62. 25. 40.45	1871.2	44	-13.490	-0.270	0.00	9.67486	9.94876	1.06107	9.66283	150.643	2709	XX. 379	..	7256
1954	77. 55. 9.72	1873.2	7	-13.519	-0.302	-0.05	9.79316	0.02485	1.05999	9.66404	142.689	2707	XX. 381	..	7257
1955	35. 58. 23.29	1868.6	1	-13.526	-0.179	..	9.54108	9.81566	1.05971	9.66436	159.645	..	XX. 391	3329	7262
1956	46. 6. 57.78	1874.7	3	-13.641	-0.222	..	9.57887	9.86243	1.05535	9.66928	157.002	..	XX. 401	..	..
1957	43. 4. 19.54	1876.6	1	-13.645	-0.211	-0.04	9.56620	9.84691	1.05518	9.66946	157.914	2720	....	..	7268
1958	7. 56. 41.24	1872.4	15	-13.659	+0.427	0.00	9.61784	9.72052	1.05466	9.67006	161.190	2754	XX. 463	3370	7291
1959	41. 17. 44.43	1873.0	3	-13.693	-0.203	-0.04	9.56194	9.83699	1.05335	9.67153	158.403	2725	....	..	7274
1960	68. 10. 5.28	1873.8	21	-13.712	-0.280	-0.08	9.72082	9.97576	1.05261	9.67237	147.910	2719	XX. 406	..	7275

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Caelestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Mediae Stellarum Fixarum in Zonis Regionemantis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

{c}

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
1961	Bradley 2749	6*	20. 53. 19.096	1871.0	15	- 2.4835	- 0.3084	- 0.008	0.16589	9.96326	1.35255	0.16472	86.845
1962	Piazzi XX. 429 (1st Star)	..	20. 54. 23.950	1869.6	9	+ 1.9198	+ 0.0020	+ 0.001	0.10431	0.05113	1.43007	0.09855	86.417
1963	Piazzi XX. 429 (2nd Star)	6*	20. 54. 23.899	1869.6	1	+ 1.9198	+ 0.0020	+ 0.001	0.10431	0.05113	1.43007	0.09855	86.417
1964	Piazzi XX. 429 (3rd Star)	..	20. 54. 24.090	1868.9	1	+ 1.9197	+ 0.0020	+ 0.001	0.10431	0.05113	1.43007	0.09855	86.417
1965	Groombridge 3357 ..	6	20. 55. 1.932	1873.0	4	+ 2.2690	+ 0.0039	..	0.10036	0.05590	1.43567	0.09284	86.387
1966	59 Cygni	5-6*	20. 55. 28.406	1871.2	31	+ 2.0377	+ 0.0031	- 0.005	0.10304	0.05289	1.43197	0.09677	86.383
1967	Bradley 2748	6†	20. 56. 12.891	1874.3	7	- 0.6245	- 0.1155	..	0.14124	0.00410	1.38694	0.13937	80.445
1968	Bradley 2738	6*	20. 56. 15.949	1874.7	3	+ 1.4773	- 0.0052	..	0.11054	0.04421	1.42288	0.10618	86.378
1969	22 Capricorni	5-6*	20. 57. 7.072	1875.6	4	+ 3.4274	- 0.0143	- 0.006	0.09679	0.06035	1.45374	0.07288	86.351
1970	Piazzi XX. 452	6	20. 57. 26.437	1873.8	4	+ 2.2980	+ 0.0041	- 0.003	0.10036	0.05639	1.43613	0.09264	86.334
1971	Vulpeculae	Var.	20. 58. 41.515	1869.8	1	+ 2.6625	+ 0.0022	..	0.09728	0.06009	1.44189	0.08643	86.313
1972	23 Capricorni	4*	20. 58. 44.944	1871.8	55	+ 3.3763	- 0.0128	+ 0.004	0.09665	0.06078	1.45295	0.07372	86.338
1973	Piazzi XX. 465	6	20. 59. 4.530	1874.1	3	+ 2.2436	+ 0.0042	+ 0.009	0.10117	0.05583	1.43527	0.09377	86.294
1974	62 Cygni	4*	21. 0. 16.557	1870.9	27	+ 2.1787	+ 0.0042	+ 0.001	0.10208	0.05507	1.43423	0.09505	86.266
1975	61 Cygni ... (1st Star)	5-6	21. 1. 9.671	1873.4	19	+ 2.3342	+ 0.0044	+ 0.339	0.10045	0.05705	1.43671	0.09243	86.254
1976	61 Cygni ... (2nd Star)	6	21. 1. 11.185	1872.3	13	+ 2.3343	+ 0.0044	+ 0.345	0.10045	0.05705	1.43671	0.09243	86.254
1977	13 Aquarii	4-5*	21. 2. 37.206	1868.7	3	+ 3.2689	- 0.0098	+ 0.003	0.09647	0.06160	1.45131	0.07554	86.299
1978	Piazzi XXI. 1	6*	21. 3. 13.128	1871.7	5	+ 2.5408	+ 0.0036	..	0.09865	0.05938	1.43998	0.08894	86.231
1979	6 Equulei	6-7	21. 4. 18.008	1873.6	3	+ 2.9165	- 0.0013	+ 0.002	0.09646	0.06188	1.44586	0.08209	86.252
1980	Groombridge 3409 ..	6†	21. 5. 36.635	1874.3	6	+ 0.4070	- 0.0494	..	0.12958	0.02506	1.40496	0.12697	85.844
1981	Piazzi XXI. 32	6*	21. 6. 18.187	1869.6	10	+ 1.8507	+ 0.0018	+ 0.012	0.10738	0.05069	1.42896	0.10186	86.063
1982	.....	..	21. 7. 8.735	1868.6	2	+ 1.5069	- 0.0046	..	0.11269	0.04516	1.42336	0.10826	85.969
1983	64 Cygni	3*	21. 7. 29.330	1872.5	93	+ 2.5508	+ 0.0039	- 0.003	0.09899	0.05976	1.44014	0.08912	86.157
1984	77 Draconis	6*	21. 8. 0.929	1874.6	6	- 1.0770	- 0.1718	- 0.005	0.15445	9.99488	1.37886	0.15283	85.362
1985	28 Capricorni	5-6*	21. 8. 20.507	1874.1	9	+ 3.4250	- 0.0152	+ 0.007	0.09773	0.06120	1.45370	0.07228	86.271
1986	29 Capricorni	6*	21. 8. 39.665	1868.6	1	+ 3.3277	- 0.0119	- 0.001	0.09719	0.06181	1.45221	0.07418	86.256
1987	8 Equulei	4*	21. 9. 25.475	1871.7	27	+ 2.9974	- 0.0028	+ 0.002	0.09664	0.06246	1.44712	0.08065	86.203
1988	65 Cygni	4*	21. 9. 40.954	1873.6	5	+ 2.3781	+ 0.0050	+ 0.013	0.10102	0.05811	1.43740	0.09261	86.079
1989	Groombridge 3426 ..	6	21. 10. 12.787	1873.0	6	- 0.2266	- 0.0956	..	0.14190	0.01262	1.39400	0.13982	85.378
1990	67 Cygni	4-5*	21. 12. 23.340	1873.8	5	+ 2.3527	+ 0.0053	0.000	0.10166	0.05798	1.43700	0.09342	86.012
1991	Lalande 41419	7	21. 12. 33.815	1872.6	5	+ 2.3581	+ 0.0053	..	0.10162	0.05805	1.43708	0.09334	86.011
1992	Armagh 4618	9	21. 13. 7.131	1873.7	1	+ 2.3564	+ 0.0053	..	0.10171	0.05807	1.43706	0.09344	85.997
1993	32 Capricorni	4-5*	21. 15. 7.013	1871.9	39	+ 3.3479	- 0.0130	0.000	0.09779	0.06219	1.45252	0.07346	86.214
1994	34 Vulpeculae	6*	21. 15. 17.247	1872.7	5	+ 2.6928	+ 0.0029	..	0.09852	0.06153	1.44237	0.08694	86.056
1995	5 Cephei	3-2*	21. 15. 31.324	1872.2	67	+ 1.4155	- 0.0072	+ 0.021	0.11633	0.04394	1.42185	0.11215	85.595
1996	Oeltz. Arg. (N) 22066	6*	21. 15. 43.124	1868.6	3	+ 1.6618	- 0.0010	..	0.11229	0.04811	1.42589	0.10744	85.683
1997	1 Pegasi	4-5*	21. 16. 9.968	1875.3	5	+ 2.7660	+ 0.0019	+ 0.012	0.09806	0.06210	1.44351	0.08550	86.065
1998	6 Cephei	6*	21. 16. 42.639	1874.8	5	+ 1.2538	- 0.0124	0.000	0.11941	0.04115	1.41919	0.11560	85.475
1999	33 Capricorni	5-6*	21. 16. 53.898	1872.4	9	+ 3.4143	- 0.0155	- 0.001	0.09838	0.06192	1.45354	0.07196	86.211
2000	Piazzi XXI. 114 ...	6*	21. 18. 12.843	1872.1	5	+ 2.6910	+ 0.0032	+ 0.015	0.09879	0.06175	1.44234	0.08718	86.007

1962, 1964. In Struve's *Mensura Micrometrica* the magnitudes of the two components of Piazzi XX. 429 are 6.0 and 7.3 respectively.

1971. The limits of magnitude are 7.5 and 13; the period 137.5 days.

1975, 1976. The combined magnitude of these stars given in the *Uranometria Nova* is 5-6.

1992. The magnitude is taken from the Armagh Catalogue.

No.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of l'	No. in Bessel's Bradley.	No. in Piazz.	No. in Groom-bridge.	No. in B.A.C.
							e'	f'	g'	h'					
	" ' "			"	"	"					"	1755.	1800.	1810.	1850.
1961	9. 55. 44.57	1872.0	39	-13.761	+0.269	..	9.61140	9.71941	1.05072	9.67447	161.379	2749	....	3373	7299
1962	40. 2. 3.91	1869.6	9	-13.830	-0.197	+0.10	9.56396	9.82736	1.04805	9.67745	158.740	} ..	XX. 429	3352	7294
1963	40. 2. 2.05	1869.6	1	-13.830	-0.197	+0.10	9.56396	9.82736	1.04805	9.67745	158.740				
1964	40. 2. 1.71	1868.9	1	-13.830	-0.197	+0.10	9.56396	9.82736	1.04805	9.67745	158.740				
1965	50. 14. 49.15	1871.9	8	-13.870	-0.233	..	9.60692	9.87953	1.04649	9.67918	155.644	..	....	3357	7297
1966	42. 58. 39.91	1872.1	22	-13.897	-0.208	+0.01	9.57611	9.84076	1.04543	9.68038	157.955	2732	XX. 437	3362	7301
1967	14. 34. 12.23	1874.7	9	-13.945	+0.072	-0.05	9.59693	9.72182	1.04357	9.68243	161.643	2748	....	3377	7311
1968	31. 3. 38.50	1874.8	4	-13.948	-0.149	+0.05	9.55703	9.78123	1.04346	9.68258	160.578	2738	....	..	7310
1969	110. 21. 32.95	1875.6	5	-14.001	-0.352	+0.05	0.01803	0.15926	1.04135	9.68490	122.565	2729	XX. 436	..	7305
1970	50. 59. 40.83	1874.9	14	-14.021	-0.234	+0.04	9.61584	9.88083	1.04056	9.68577	155.375	..	XX. 452	3367	7313
1971	66. 41. 8.34	1869.8	1	-14.100	-0.270	..	9.71600	9.96460	1.03744	9.68921	148.655	..	....	..	..
1972	107. 44. 22.14	1870.4	23	-14.103	-0.344	+0.05	0.00139	0.15051	1.03731	9.68935	124.263	2733	XX. 451	..	7322
1973	48. 52. 37.11	1873.2	7	-14.125	-0.226	+0.04	9.60885	9.86737	1.03644	9.69033	156.117	..	XX. 465	3376	7326
1974	46. 34. 54.19	1871.0	22	-14.198	-0.218	-0.02	9.60141	9.85333	1.03350	9.69352	156.874	2746	XX. 472	3385	7333
1975	51. 52. 43.13	1872.2	19	-14.252	-0.233	-3.22	9.62778	9.88155	1.03126	9.69598	155.048	2744	XX. 475	..	7336
1976	51. 52. 51.10	1871.9	14	-14.253	-0.233	-3.00	9.62778	9.88155	1.03126	9.69598	155.048	2745	XX. 476	..	7337
1977	101. 53. 16.73	1868.7	3	-14.342	-0.327	+0.04	9.96350	0.12945	1.02769	9.69985	128.019	2747	XX. 485	..	7344
1978	60. 18. 37.66	1873.7	17	-14.378	-0.252	..	9.67925	9.92683	1.02621	9.70147	151.613	..	XXI. 1	..	..
1979	80. 28. 17.17	1873.6	3	-14.444	-0.289	+0.02	9.81770	0.03371	1.02349	9.70440	141.228	2752	XXI. 10	..	7351
1980	19. 4. 52.30	1873.5	51	-14.524	-0.035	..	9.60906	9.71230	1.02021	9.70794	161.614	..	....	3409	7363
1981	36. 57. 31.10	1869.6	10	-14.565	-0.179	+0.06	9.59095	9.79219	1.01850	9.70976	159.423	..	XXI. 32	3408	7365
1982	30. 19. 12.01	1868.6	2	-14.616	-0.144	..	9.59095	9.75651	1.01636	9.71206	160.638	..	....	..	..
1983	60. 17. 48.99	1872.4	57	-14.636	-0.248	+0.07	9.68520	9.92345	1.01553	9.71295	151.584	2760	XXI. 35	..	7368
1984	12. 23. 35.77	1874.6	28	-14.668	+0.113	-0.03	9.64424	9.68633	1.01418	9.71437	161.490	2777	XXI. 72	3419	7381
1985	111. 10. 52.12	1874.0	8	-14.688	-0.334	-0.03	0.01762	0.16574	1.01335	9.71526	121.995	2758	XXI. 33	..	7371
1986	105. 42. 6.85	1868.6	1	-14.707	-0.324	-0.01	9.98511	0.14565	1.01256	9.71612	125.526	2759	XXI. 37	..	7374
1987	85. 16. 47.31	1871.6	9	-14.751	-0.290	+0.09	9.85242	0.05671	1.01067	9.71811	138.354	2764	XXI. 47	..	7380
1988	52. 29. 59.77	1874.3	9	-14.767	-0.228	-0.47	9.64729	9.87607	1.01001	9.71883	154.743	2767	XXI. 54	..	7385
1989	15. 17. 49.51	1872.9	6	-14.799	+0.029	..	9.63799	9.68862	1.00866	9.72024	161.562	..	....	3426	7393
1990	51. 8. 26.79	1873.5	8	-14.926	-0.223	+0.03	9.64650	9.86509	1.00323	9.72600	155.205	2769	XXI. 74	3423	7398
1991	51. 19. 27.65	1872.6	5	-14.937	-0.223	..	9.64758	9.86598	1.00275	9.72648	155.140	..	....	..	..
1992	51. 10. 59.16	1873.7	1	-14.969	-0.222	..	9.64807	9.86460	1.00136	9.72795	155.219	..	....	..	..
1993	107. 22. 40.19	1871.9	24	-15.084	-0.315	-0.02	9.99247	0.15374	0.99632	9.73323	124.386	2772	XXI. 84	..	7407
1994	66. 40. 55.25	1872.3	13	-15.094	-0.252	..	9.73312	9.95525	0.99589	9.73368	148.498	..	....	..	7410
1995	27. 57. 22.08	1874.0	118	-15.107	-0.129	-0.01	9.61878	9.72798	0.99531	9.73428	160.814	2786	XXI. 105	3437	7416
1996	31. 55. 2.03	1868.6	3	-15.118	-0.153	..	9.61584	9.74829	0.99484	9.73475	160.243	..	....	..	7417
1997	70. 44. 30.72	1874.9	12	-15.145	-0.258	-0.09	9.75914	9.97819	0.99367	9.73598	146.428	2780	XXI. 100	..	7418
1998	25. 40. 12.30	1874.6	4	-15.176	-0.113	+0.01	9.62624	9.71426	0.99228	9.73742	161.032	2788	XXI. 117	3442	7428
1999	111. 23. 38.63	1872.4	9	-15.187	-0.319	+0.07	0.01465	0.16918	0.99181	9.73792	121.785	2778	XXI. 99	..	7425
2000	66. 16. 28.79	1872.5	7	-15.262	-0.248	-0.06	0.73376	9.95119	0.98847	9.74137	148.647	..	XXI. 114	..	7437

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Coelestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazz's Catalogue (1814); from Weisse's two Catalogues, *Positiones Mediae Stellarum Fixarum in Zonis Regiomontanis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

{cii}

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fra- tion of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
			h m s			s	s	s					s
2001	34 Capricorni ζ	4*	21. 19. 21'311	1873'5	7	+ 3'4376	-0'0167	-0'002	0'09876	0'06195	1'45389	0'07129	86'199
2002	Piazzi XXI. 142 . . .	6	21. 19. 43'972	1875'9	4	+ 1'3327	-0'0099	+0'007	0'11895	0'04265	1'42049	0'11500	85'365
2003	35 Capricorni	6	21. 19. 59'192	1872'6	6	+ 3'4151	-0'0158	+0'002	0'09864	0'06214	1'45354	0'07175	86'191
2004	36 Capricorni b	5-4*	21. 21. 25'339	1871'2	4	+ 3'4231	-0'0163	+0'013	0'09882	0'06220	1'45367	0'07146	86'183
2005	35 Vulpeculæ	6-5*	21. 22. 1'610	1875'5	3	+ 2'6380	+0'0041	+0'012	0'09960	0'06160	1'44151	0'08859	85'923
2006	70 Cygni	6-5*	21. 22. 8'197	1876'6	3	+ 2'4418	+0'0059	+0'009	0'10178	0'05966	1'43841	0'09275	85'835
2007	2 Pegasi	5*	21. 24. 8'981	1873'1	5	+ 2'7140	+0'0033	+0'006	0'09911	0'06236	1'44270	0'08711	85'921
2008	Groombridge 3548 . .	6	21. 24. 45'482	1868'2	1	-10'6391	-3'0178	..	0'31212	9'71183	1'15717	0'31179	77'344
2009	22 Aquarii β	3*	21. 24. 49'128	1872'4	56	+ 3'1622	-0'0071	-0'001	0'09770	0'06370	1'44967	0'07716	86'088
2010	Lalande 41897	8	21. 24. 53'292	1874'3	3	+ 2'2091	+0'0064	..	0'10539	0'05692	1'43470	0'09815	85'644
2011	7 Cephei	6*	21. 25. 17'532	1875'1	4	+ 1'1734	-0'0161	-0'003	0'12360	0'04003	1'41786	0'12000	84'991
2012	Cephei β^1	8	21. 26. 57'539	1871'4	4	+ 0'7977	-0'0344	..	0'13131	0'03314	1'41158	0'12834	84'640
2013	8 Cephei β^2	3*	21. 26. 59'939	1871'1	37	+ 0'7982	-0'0344	0'000	0'13132	0'03315	1'41159	0'12835	84'636
2014	37 Capricorni	6*	21. 27. 39'587	1871'7	5	+ 3'3830	-0'0152	-0'003	0'09902	0'06298	1'45306	0'07197	86'131
2015	Oeltz. Arg. (N) 22411	6	21. 27. 40'130	1869'8	10	+ 2'1602	+0'0065	..	0'10662	0'05640	1'43393	0'09969	85'533
2016	Bradley 2804	7-8	21. 28. 11'978	1875'0	3	+ 3'0541	-0'0039	..	0'09780	0'06407	1'44799	0'07961	86'018
2017	Groombridge 3511 . .	5-6	21. 28. 31'101	1873'3	7	-1'5659	-0'2716	+0'050	0'17670	9'98458	1'36984	0'17536	82'762
2018	Groombridge 3508 . .	5-6	21. 28. (59.)	..	..	-0'1725	-0'1070	+0'001	0'15087	0'01420	1'39496	0'14886	83'769
2019	Groombridge 3503 . .	6	21. 29. 19'944	1873'5	6	+ 0'7958	-0'0351	..	0'13232	0'03320	1'41156	0'12936	84'479
2020	72 Cygni	5*	21. 29. 32'859	1870'7	4	+ 2'4356	+0'0067	+0'013	0'10277	0'06009	1'43831	0'09385	85'662
2021	39 Capricorni ϵ	5-4*	21. 29. 54'656	1874'3	7	+ 3'3692	-0'0148	-0'002	0'09909	0'06325	1'45285	0'07215	86'113
2022	23 Aquarii ξ	5-4*	21. 30. 56'164	1872'0	36	+ 3'1921	-0'0082	+0'004	0'09817	0'06415	1'45013	0'07632	86'046
2023	5 Pegasi	6-5†	21. 31. 46'034	1874'3	3	+ 2'7988	+0'0024	+0'011	0'09905	0'06354	1'44402	0'08567	85'847
2024	40 Capricorni γ	4-3*	21. 32. 59'805	1873'4	16	+ 3'3204	-0'0131	+0'013	0'09897	0'06379	1'45210	0'07314	86'076
2025	9 Cephei	5-6*	21. 34. 29'080	1875'6	4	+ 1'6114	-0'0015	0'000	0'11810	0'04810	1'42507	0'11356	84'854
2026	75 Cygni	6-5*	21. 35. 9'776	1875'5	5	+ 2'3436	+0'0077	+0'007	0'10490	0'05935	1'43685	0'09678	85'456
2027	43 Capricorni κ	5*	21. 35. 30'450	1871'0	5	+ 3'3505	-0'0145	+0'005	0'09938	0'06382	1'45256	0'07225	86'070
2028	Piazzi XXI. 243 . . .	6*	21. 36. 3'785	1872'0	4	+ 3'3613	-0'0150	-0'004	0'09950	0'06380	1'45272	0'07194	86'070
2029	Bradley 2827	6*	21. 36. 17'756	1873'4	3	+ 2'9305	-0'0003	+0'010	0'09860	0'06455	1'44608	0'08261	85'867
2030	Bradley 2829	8	21. 37. 16'701	1875'7	2	+ 3'3040	-0'0127	..	0'09916	0'06425	1'45185	0'07332	86'039
2031	Bradley 2854	7	21. 37. 22'310	1874'4	6	+ 0'8427	-0'0347	+0'020	0'13486	0'03431	1'41233	0'13193	83'956
2032	80 Cygni π^1	5-4*	21. 37. 32'982	1869'6	6	+ 2'1242	+0'0075	-0'005	0'10904	0'05646	1'43336	0'10243	85'195
2033	8 Pegasi ϵ	2-3*	21. 37. 53'946	1871'3	60	+ 2'9451	-0'0006	+0'003	0'09864	0'06474	1'44631	0'08238	85'850
2034	W. B. (2) XXI. 923	8	21. 37. 58'614	1873'8	2	+ 2'4779	+0'0074	..	0'10324	0'06117	1'43898	0'09396	85'499
2035	9 Pegasi	5*	21. 38. 26'997	1874'2	5	+ 2'8390	+0'0021	+0'002	0'09925	0'06434	1'44465	0'08507	85'773
2036	10 Pegasi κ	4*	21. 38. 50'909	1873'7	5	+ 2'7111	+0'0046	+0'003	0'10039	0'06352	1'44266	0'08829	85'672
2037	49 Capricorni δ	3*	21. 39. 58'414	1871'7	31	+ 3'3024	-0'0128	+0'014	0'09934	0'06449	1'45182	0'07321	86'020
2038	11 Cephei	5*	21. 40. 2'171	1876'0	3	+ 0'8802	-0'0331	+0'028	0'13526	0'03512	1'41298	0'13229	83'800
2039	78 Draconis	6*	21. 41. 29'911	1874'6	5	+ 0'7703	-0'0403	-0'016	0'13831	0'03308	1'41113	0'13551	83'565
2040	10 Cephei ν	5*	21. 41. 45'364	1870'3	31	+ 1'7299	+0'0019	0'000	0'11781	0'05042	1'42700	0'11300	84'626

2017. The annual proper motions have been determined from a comparison of the R.A. and N.P.D. in the Groombridge and Radcliffe Catalogues and in the Greenwich Annual Catalogues for 1860 and 1861, with the R.A. and N.P.D. in the Greenwich Nine-Year Catalogue. (Monthly Notices, R. A. S., Vol. XXXVIII, p. 25.) The values of the annual proper motion in the British Association Catalogue, +0" 119 and -0" 10, appear to be erroneous.

AT THE ROYAL OBSERVATORY, GREENWICH, FROM 1868 TO 1876.

{ciii}

No.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of μ	No. in Bessel's Bradley.	No. in Piazz.	No. in Groombridge.	No. in B.A.C.
							e'	f'	g'	h'					
	° ' "			" "	" "	" "					" "				
2001	112. 57. 50.29	1873.5	7	-15.326	-0.317	-0.02	0.02210	0.17557	0.98560	9.74432	120.755	2785	XXI. 118	..	7445
2002	26. 19. 21.68	1875.3	14	-15.348	-0.119	-0.13	9.63407	9.71098	0.98464	9.74532	160.893	..	XXI. 142	..	7449
2003	111. 44. 52.66	1872.6	6	-15.361	-0.314	-0.01	0.01502	0.17139	0.98402	9.74597	121.529	2787	XXI. 122	..	7447
2004	112. 21. 45.36	1871.2	4	-15.442	-0.312	-0.04	0.01766	0.17407	0.98038	9.74971	121.117	2790	XXI. 132	..	7460
2005	62. 56. 51.08	1875.1	10	-15.476	-0.238	-0.07	9.71966	9.92894	0.97880	9.75131	150.134	2793	XXI. 149	..	7461
2006	53. 25. 49.01	1870.7	8	-15.483	-0.220	+0.02	9.67468	9.86926	0.97851	9.75160	154.148	..	XXI. 150	..	7462
2007	66. 55. 15.75	1874.4	12	-15.593	-0.242	-0.02	9.74374	9.95189	0.97343	9.75678	148.196	2798	XXI. 160	..	7474
2008	3. 29. 48.85	1868.7	2	-15.628	+0.979	..	9.73878	9.62551	0.97186	9.75837	160.166	..	....	3548	7504
2009	96. 7. 58.04	1872.3	16	-15.630	-0.282	0.00	9.92195	0.10832	0.97174	9.75851	131.449	2797	XXI. 162	..	7478
2010	44. 8. 1.36	1874.3	3	-15.634	-0.195	..	9.65167	9.80648	0.97155	9.75868	157.198	..	....	..	..
2011	23. 44. 56.06	1875.3	4	-15.657	-0.100	+0.04	9.65629	9.68610	0.97050	9.75975	160.945	2805	XXI. 185	3481	7482
2012	20. 0. 7.40	1869.7	3	-15.747	-0.065	..	9.67182	9.66479	0.96630	9.76398	161.081	..	....	..	..
2013	20. 0. 3.14	1872.5	87	-15.749	-0.065	+0.04	9.67191	9.66468	0.96618	9.76410	161.081	2811	XXI. 198	3493	7493
2014	110. 39. 10.86	1871.7	5	-15.785	-0.298	-0.03	0.00497	0.16956	0.96449	9.76582	122.134	2800	XXI. 180	..	7490
2015	42. 7. 14.88	1869.7	12	-15.785	-0.188	..	9.65466	9.78967	0.96449	9.76582	157.671	..	....	..	..
2016	88. 44. 19.03	1875.1	4	-15.814	-0.267	-0.06	9.87656	0.07283	0.96313	9.76717	135.972	2804	....	..	7497
2017	10. 2. 2.36	1873.3	7	-15.832	+0.147	+0.04	9.71592	9.62595	0.96229	9.76803	160.778	..	....	3511	7510
2018	14. 9. 33.10	1869.7	6	-15.856	+0.022	+0.03	9.69906	9.63687	0.96112	9.76917	160.996	..	....	3508	7509
2019	19. 44. 32.73	1873.4	6	-15.874	-0.064	..	9.67970	9.65801	0.96025	9.77007	160.994	..	....	3503	7508
2020	52. 2. 19.49	1871.3	20	-15.886	-0.210	-0.12	9.68341	9.85289	0.95970	9.77061	154.444	2809	XXI. 203	..	7505
2021	110. 2. 16.26	1874.3	7	-15.906	-0.293	0.00	0.00043	0.16782	0.95876	9.77154	122.496	2806	XXI. 197	..	7506
2022	98. 25. 36.06	1872.2	9	-15.960	-0.275	+0.04	9.93430	0.11949	0.95619	9.77414	129.881	2808	XXI. 209	..	7514
2023	71. 15. 22.40	1873.3	5	-16.004	-0.239	-0.09	9.77481	9.97473	0.95407	9.77624	145.798	2814	XXI. 219	..	7520
2024	107. 14. 19.74	1873.6	18	-16.069	-0.283	+0.03	9.98358	0.15757	0.95092	9.77936	124.233	2815	XXI. 223	..	7525
2025	28. 29. 41.40	1874.6	18	-16.146	-0.133	0.00	9.67376	9.69236	0.94713	9.78310	160.097	2830	XXI. 247	3535	7542
2026	47. 18. 22.89	1874.7	5	-16.182	-0.195	-0.03	9.68169	9.81478	0.94539	9.78482	155.853	2826	XXI. 246	3534	7544
2027	109. 26. 52.24	1871.0	5	-16.199	-0.281	+0.01	9.99441	0.16701	0.94455	9.78566	122.772	2821	XXI. 238	..	7543
2028	110. 12. 12.11	1871.9	5	-16.228	-0.281	+0.15	9.99813	0.17009	0.94311	9.78707	122.284	..	XXI. 243	..	7550
2029	79. 45. 28.69	1873.4	3	-16.240	-0.244	+0.04	9.82517	0.02362	0.94252	9.78765	141.044	2827	XXI. 249	..	7553
2030	106. 33. 17.98	1875.6	4	-16.290	-0.274	-0.04	9.97782	0.15575	0.94002	9.79012	124.590	2829	....	..	7558
2031	19. 16. 7.99	1873.3	8	-16.294	-0.065	-0.06	9.70458	9.63648	0.93979	9.79032	160.640	2854	....	3558	7564
2032	39. 23. 37.39	1869.6	6	-16.304	-0.173	+0.01	9.67633	9.75723	0.93933	9.79078	157.962	2845	XXI. 263	3553	7560
2033	80. 42. 38.27	1870.2	27	-16.321	-0.243	0.00	9.83129	0.02886	0.93845	9.79165	140.441	2835	XXI. 260	..	7561
2034	52. 34. 2.07	1873.8	2	-16.326	-0.203	..	9.70114	9.84829	0.93822	9.79186	153.918	..	....	..	..
2035	73. 14. 10.01	1874.2	5	-16.349	-0.233	0.00	9.79064	9.98445	0.93705	9.79301	144.538	2837	XXI. 264	..	7567
2036	64. 56. 32.18	1873.5	22	-16.370	-0.221	-0.03	9.74997	9.93166	0.93602	9.79401	148.668	2848	XXI. 269	..	7571
2037	106. 42. 23.74	1872.1	24	-16.426	-0.269	+0.28	9.97740	0.15696	0.93319	9.79679	124.436	2847	XXI. 276	..	7580
2038	19. 16. 39.43	1874.0	20	-16.429	-0.067	-0.08	9.71214	9.63015	0.93302	9.79695	160.498	2856	XXI. 292	3566	7588
2039	18. 15. 58.41	1874.5	5	-16.503	-0.057	+0.05	9.71966	9.62179	0.92929	9.80058	160.433	2861	XXI. 302	3572	7597
2040	29. 28. 9.28	1870.3	36	-16.515	-0.136	+0.03	9.69258	9.68397	0.92865	9.80119	159.607	2857	XXI. 297	3569	7595

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Celestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 3377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazz's Catalogue (1814); from Weisse's two Catalogues, *Positiones Medie Stellarum Fixarum in Zonis Regiomontanis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

{civ}

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fra- tion of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
2041	Groombridge 3571 .	6*	21. 43. 0.710	1874.4	3	+ 2.4766	+ 0.0081	..	0.10391	0.06151	1.43896	0.09469	85.375
2042	13 Pegasi.....	6*	21. 44. 3.277	1872.7	6	+ 2.8481	+ 0.0023	+ 0.009	0.09958	0.06487	1.44480	0.08514	85.697
2043	Groombridge 3590 .	6-7†	21. 44. 45.333	1874.0	7	+ 1.0763	- 0.0232	+ 0.016	0.13307	0.03895	1.41626	0.12987	83.685
2044	Groombridge 3588 .	6	21. 45. 1.604	1875.4	6	+ 1.5098	- 0.0043	..	0.12355	0.04679	1.42341	0.11944	84.203
2045	51 Capricorni..... μ	5*	21. 46. 18.913	1869.2	5	+ 3.2579	- 0.0112	+ 0.021	0.09947	0.06525	1.45114	0.07408	85.953
2046	Groombridge 3594 .	7-8	21. 46. 30.944	1875.8	4	+ 1.5210	- 0.0039	..	0.12384	0.04704	1.42359	0.11973	84.130
2047	16 Pegasi.....	5-6*	21. 47. 14.322	1872.4	49	+ 2.7258	+ 0.0053	0.000	0.10096	0.06432	1.44289	0.08863	85.535
2048	Groombridge 3598 .	7	21. 47. 40.563	1874.0	3	+ 2.0227	+ 0.0078	..	0.11322	0.05548	1.43173	0.10732	84.712
2049	Bradley 2866	6*	21. 47. 41.180	1874.0	3	+ 2.0225	+ 0.0078	..	0.11324	0.05547	1.43172	0.10734	84.711
2050	Groombridge 3616 .	8-9	21. 50. 28.921	1874.1	3	+ 1.7871	+ 0.0040	..	0.11917	0.05179	1.42790	0.11431	84.271
2051	17 Pegasi.....	6-5*	21. 50. 41.871	1872.4	5	+ 2.9271	+ 0.0007	+ 0.003	0.09950	0.06582	1.44603	0.08330	85.673
2052	79 Draconis	6	21. 51. 16.366	1875.0	6	+ 0.7288	- 0.0467	+ 0.009	0.14429	0.03256	1.41041	0.14167	82.685
2053	Groombridge 3621 .	6	21. 51. 30.809	1873.2	9	+ 1.7932	+ 0.0042	..	0.11933	0.05194	1.42803	0.11447	84.227
2054	Piazzi XXI. 360 ...	6-5*	21. 53. 2.481	1875.0	7	+ 1.6908	+ 0.0017	+ 0.013	0.12221	0.05027	1.42636	0.11772	83.994
2055	12 Piscis Australis.. η	5-6*	21. 53. 28.741	1870.6	35	+ 3.4619	- 0.0218	- 0.002	0.10207	0.06446	1.45426	0.06761	86.012
2056	20 Pegasi.....	6-5*	21. 54. 51.209	1872.0	5	+ 2.9182	+ 0.0013	+ 0.005	0.09980	0.06616	1.44589	0.08372	85.610
2057	29 Aquarii (1st Star) ..	7	21. 55. 25.936	1873.8	2	+ 3.2913	- 0.0132	0.000	0.10032	0.06589	1.45165	0.07259	85.911
2058	29 Aquarii (2d Star) ..	7	21. 55. 26.537	1872.8	1	+ 3.2912	- 0.0132	0.000	0.10032	0.06589	1.45165	0.07259	85.911
2059	Groombridge 3667 .	6	21. 56. 14.964	1875.0	6	- 0.7095	- 0.2083	..	0.18179	0.00360	1.38543	0.18032	79.782
2060	30 Aquarii.....	5-6*	21. 56. 32.352	1868.6	1	+ 3.1581	- 0.0073	+ 0.003	0.09957	0.06653	1.44960	0.07658	85.809
2061	Bradley 2897	6-7	21. 56. 36.600	1875.8	3	+ 0.6196	- 0.0575	..	0.15002	0.03061	1.40858	0.14760	81.996
2062	16 Cephei	5-6*	21. 57. 24.668	1873.7	6	+ 0.9014	- 0.0367	- 0.023	0.14346	0.03606	1.41333	0.14071	82.402
2063	34 Aquarii	3*	21. 59. 12.516	1872.1	52	+ 3.0832	- 0.0042	- 0.003	0.09955	0.06687	1.44845	0.07834	85.721
2064	33 Aquarii	4*	21. 59. 31.338	1872.3	24	+ 3.2456	- 0.0113	- 0.001	0.10022	0.06650	1.45095	0.07376	85.851
2065	23 Pegasi	6-5*	21. 59. 46.781	1874.7	4	+ 2.7110	+ 0.0071	+ 0.002	0.10229	0.06523	1.44265	0.09031	85.276
2066	18 Cephei	5	22. 0. 2.855	1875.0	4	+ 1.7887	+ 0.0050	- 0.006	0.12224	0.05225	1.42795	0.11758	83.758
2067	Cephei	7	22. 0. 4.138	1869.2	15	+ 1.7020	+ 0.0026	+ 0.037	0.12442	0.05076	1.42655	0.12004	83.604
2068	17 Cephei	5	22. 0. 5.130	1869.2	15	+ 1.7021	+ 0.0026	+ 0.037	0.12442	0.05076	1.42655	0.12005	83.603
2069	Groombridge 3680 .	6-7	22. 0. 50.204	1870.7	13	+ 2.3445	+ 0.0116	..	0.10918	0.06102	1.43687	0.10155	84.685
2070	24 Pegasi.....	4*	22. 1. 3.201	1870.8	12	+ 2.7669	+ 0.0060	+ 0.021	0.10166	0.06581	1.44353	0.08872	85.330
2071	20 Cephei	6*	22. 1. 6.949	1876.4	4	+ 1.8170	+ 0.0058	- 0.003	0.12189	0.05277	1.42841	0.11716	83.748
2072	19 Cephei	6-5*	22. 1. 12.289	1875.2	2	+ 1.8441	+ 0.0065	+ 0.027	0.12122	0.05325	1.42886	0.11639	83.792
2073	35 Aquarii.....	6*	22. 1. 57.663	1870.7	3	+ 3.3008	- 0.0142	- 0.003	0.10085	0.06642	1.45180	0.07183	85.877
2074	Groombridge 3707 .	7	22. 2. 41.132	1875.3	3	- 1.7411	- 0.4098	..	0.21245	9.98131	1.36662	0.21141	76.688
2075	Bradley 2904	7-8	22. 2. 44.459	1872.7	30	+ 3.1661	- 0.0077	+ 0.008	0.09992	0.06708	1.44973	0.07615	85.767
2076	Bradley 2935	6	22. 2. 47.719	1875.3	3	- 1.7375	- 0.4093	+ 0.017	0.21249	9.98141	1.36671	0.21144	76.672
2077	27 Pegasi	5	22. 3. 33.446	1871.5	5	+ 2.6570	+ 0.0087	- 0.003	0.10350	0.06503	1.44181	0.09243	85.116
2078	29 Pegasi	4*	22. 4. 18.269	1871.7	6	+ 2.6594	+ 0.0088	- 0.001	0.10354	0.06511	1.44184	0.09245	85.103
2079	Piazzi XXII. 16 ...	6-7	22. 4. 39.113	1868.7	2	+ 2.0312	+ 0.0105	+ 0.018	0.11756	0.05651	1.43187	0.11202	83.960
2080	Piazzi XXII. 15 ...	6	22. 5. 40.444	1872.1	5	+ 2.8959	+ 0.0029	+ 0.006	0.10062	0.06703	1.44554	0.08498	85.432

2057, 2058. The magnitude is taken from the Washington Catalogue, 1845-1871.

2067, 2068. The combined magnitude of these two stars given in the *Uranometria Nova* is 5-4.

2075. The adopted proper motion is taken from the Bonn Observations, Vol. VII., p. 113.

18789 DAMM. 386. 78A	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of μ	No. in Bessel's Bradley. 1755.	No. in Piazzi. 1800.	No. in Groombridge. 1810.	No. in B. A. C. 1850.
							e	f	g	h					
2041	51. 38. 15.09	1873.0	4	-16.577	-0.196	..	9.70800	9.83692	0.92548	9.80427	154.025	..	....	3571	7602
2042	73. 18. 30.77	1873.7	10	-16.628	-0.225	+0.01	9.79511	9.98316	0.92281	9.80685	144.280	2858	XXI. 304	..	7606
2043	20. 26. 32.66	1874.5	20	-16.662	-0.080	-0.01	9.72181	9.62479	0.92104	9.80856	160.195	..	....	3590	7610
2044	25. 25. 29.60	1875.6	6	-16.676	-0.115	..	9.70927	9.65232	0.92036	9.80922	159.871	..	....	3588	7611
2045	104. 9. 10.18	1869.2	5	-16.738	-0.255	-0.02	9.96090	0.14738	0.91708	9.81239	125.906	2860	XXI. 315	..	7618
2046	25. 21. 52.14	1875.9	4	-16.748	-0.115	..	9.71357	9.64875	0.91657	9.81288	159.785	..	....	3594	..
2047	64. 40. 34.01	1871.8	43	-16.782	-0.210	+0.01	9.75868	9.92539	0.91476	9.81461	148.428	2864	XXI. 321	..	7627
2048	34. 48. 33.75	1874.0	3	-16.804	-0.154	..	9.70260	9.70935	0.91361	9.81572	158.403	..	....	3598	..
2049	34. 48. 14.77	1874.0	3	-16.804	-0.154	+0.06	9.70260	9.70923	0.91361	9.81572	158.406	2866	....	3599	7631
2050	29. 7. 24.98	1874.1	3	-16.936	-0.132	..	9.71684	9.66484	0.90653	9.82248	159.132	..	....	3616	..
2051	78. 31. 49.76	1873.1	7	-16.947	-0.221	+0.02	9.82510	0.01368	0.90598	9.82301	141.191	2869	XXI. 341	..	7641
2052	16. 54. 10.63	1874.6	22	-16.973	-0.049	+0.01	9.75151	9.59128	0.90454	9.82436	159.821	2880	XXI. 357	3631	7654
2053	29. 3. 53.41	1873.2	9	-16.985	-0.132	..	9.71975	9.66251	0.90391	9.82496	159.069	..	....	3621	7651
2054	26. 59. 0.09	1873.1	17	-17.055	-0.123	+0.02	9.72779	9.64556	0.90010	9.82860	159.206	..	XXI. 360	3633	7658
2055	119. 3. 57.76	1870.6	34	-17.075	-0.258	0.00	0.03161	0.20781	0.89898	9.82968	116.372	2873	XXI. 351	..	7657
2056	77. 29. 31.99	1873.5	9	-17.138	-0.214	+0.05	9.82217	0.00648	0.89554	9.83293	141.573	2879	XXI. 363	..	7664
2057	107. 34. 47.82	1873.8	2	-17.164	-0.241	-0.03	9.97433	0.16393	0.89410	9.83432	123.497	2878	XXI. 365	..	7666
2058	107. 34. 43.18	1872.8	1	-17.165	-0.241	-0.03	9.97433	0.16393	0.89410	9.83432	123.497				
2059	10. 18. 3.77	1875.0	6	-17.201	+0.061	..	9.79000	9.55158	0.89203	9.83626	159.176	..	....	3667	7678
2060	97. 8. 22.26	1868.6	1	-17.214	-0.229	+0.01	9.92070	0.11614	0.89131	9.83694	129.990	2882	XXI. 374	..	7670
2061	15. 36. 56.92	1875.8	3	-17.217	-0.039	+0.08	9.77041	9.57190	0.89112	9.83713	159.415	2897	....	3660	7677
2062	17. 25. 44.85	1872.7	24	-17.254	-0.060	+0.19	9.76619	9.57884	0.88909	9.83902	159.376	2900	XXI. 394	3665	7686
2063	90. 56. 25.22	1872.7	23	-17.333	-0.219	+0.02	9.88897	0.08426	0.88461	9.84326	133.661	2890	XXI. 387	..	7688
2064	104. 29. 21.31	1872.3	24	-17.346	-0.230	+0.07	9.95684	0.15117	0.88387	9.84396	125.318	2889	XXI. 389	..	7691
2065	61. 39. 25.16	1873.2	9	-17.358	-0.191	-0.04	9.76373	9.89706	0.88319	9.84459	149.116	2895	XXI. 396	..	7693
2066	27. 30. 8.71	1875.0	4	-17.370	-0.123	..	9.74531	9.63522	0.88254	9.84521	158.638	2906	....	3676	7699
2067	25. 59. 41.43	1869.2	15	-17.370	-0.117	-0.08	9.74865	9.62479	0.88250	9.84526	158.786	..	....	..	..
2068	25. 59. 42.80	1869.4	17	-17.371	-0.117	-0.08	9.74873	9.62476	0.88245	9.84529	158.783	2907	XXI. 408	3678	7700
2069	42. 23. 26.46	1870.7	13	-17.404	-0.162	..	9.73280	9.74739	0.88059	9.84706	155.819	..	....	3680	..
2070	65. 16. 44.80	1872.6	15	-17.413	-0.193	-0.02	9.77706	9.92269	0.88006	9.84755	147.411	2899	XXI. 402	..	7706
2071	27. 50. 17.46	1876.2	5	-17.416	-0.124	-0.04	9.74741	9.63551	0.87987	9.84771	158.518	2911	XXI. 415	3685	7707
2072	28. 20. 31.70	1875.1	4	-17.420	-0.126	+0.04	9.74663	9.63904	0.87967	9.84790	158.452	2910	XXI. 416	3686	7708
2073	109. 8. 39.61	1870.7	3	-17.453	-0.230	-0.01	9.97850	0.17187	0.87777	9.84970	122.328	2898	XXI. 407	..	7711
2074	7. 44. 49.34	1875.3	3	-17.485	+0.132	..	9.81704	9.52647	0.87594	9.85140	158.418	..	....	3707	..
2075	98. 9. 32.87	1872.7	30	-17.486	-0.219	+0.45	9.92433	0.12184	0.87587	9.85147	129.125	2904	....	..	7717
2076	7. 44. 45.51	1875.3	3	-17.490	+0.132	+0.03	9.81730	9.52616	0.87566	9.85167	158.409	2935	....	3709	7735
2077	57. 27. 7.27	1871.6	9	-17.521	-0.181	+0.05	9.75770	9.86330	0.87387	9.85337	150.629	2915	XXII. 3	..	7721
2078	57. 26. 55.77	1871.7	6	-17.553	-0.180	0.00	9.75891	9.86278	0.87201	9.85512	150.577	2917	XXII. 6	..	7731
2079	31. 46. 31.75	1868.7	2	-17.568	-0.135	-0.08	9.74935	9.65837	0.87114	9.85592	157.718	..	XXII. 16	..	7738
2080	74. 35. 21.42	1872.6	7	-17.610	-0.195	+0.11	9.81598	9.98523	0.86864	9.85828	142.564	..	XXII. 15	..	7742

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Celestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weiss's two Catalogues, *Positiones Media Stellarum Fixarum in Zonis Regiomontanis* (Weiss's Bessel); from Argelander's *Bonner Sternverzeichniss* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

{cvi}

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fra- ction of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
2081	21 Cephei	4-3*	22. 6. 24.931	1869.6	3	+ 2.0715	+ 0.0113	+ 0.003	0.11705	0.05725	1.43251	0.11136	83.951
2082	24 Cephei	5-4*	22. 7. 20.527	1874.5	6	+ 1.1627	- 0.0221	+ 0.003	0.14218	0.04126	1.41767	0.13921	81.984
2083	Groombridge 3719.	6*	22. 7. 43.199	1874.4	4	+ 1.3894	- 0.0095	+ 0.038	0.13608	0.04548	1.42143	0.13269	82.439
2084	Bradley 2934	6	22. 7. 44.197	1875.4	6	+ 1.1943	- 0.0202	+ 0.025	0.14152	0.04188	1.41820	0.13850	82.014
2085	Piazzi XXII. 36	5*	22. 8. 23.151	1872.2	5	+ 2.5641	+ 0.0111	+ 0.013	0.10581	0.06439	1.44034	0.09617	84.834
2086	Piazzi XXII. 42	6*	22. 8. 23.321	1875.4	4	+ 1.8621	+ 0.0079	- 0.006	0.12330	0.05387	1.42913	0.11858	83.407
2087	42 Aquarii	6*	22. 9. 56.672	1872.9	10	+ 3.2201	- 0.0105	- 0.004	0.10065	0.06756	1.45056	0.07403	85.762
2088	43 Aquarii	4-5*	22. 10. 4.646	1872.8	47	+ 3.1635	- 0.0076	+ 0.006	0.10030	0.06778	1.44969	0.07600	85.705
2089	23 Cephei	5-4*	22. 10. 19.488	1869.4	16	+ 2.1453	+ 0.0128	+ 0.055	0.11626	0.05863	1.43370	0.11028	83.911
2090	1 Lacertæ	5-4*	22. 10. 23.547	1873.7	4	+ 2.6067	+ 0.0108	- 0.001	0.10525	0.06503	1.44101	0.09510	84.858
2091	Groombridge 3735.	7	22. 11. 10.152	1873.9	6	+ 0.6517	- 0.0630	..	0.15904	0.03159	1.40909	0.15682	80.406
2092	45 Aquarii	6-7†	22. 12. 8.433	1875.0	7	+ 3.2227	- 0.0107	+ 0.004	0.10080	0.06776	1.45060	0.07381	85.750
2093	Groombridge 3739.	6	22. 13. 26.337	1876.5	4	+ 1.7574	+ 0.0057	..	0.12827	0.05229	1.42745	0.12406	82.836
2094	46 Aquarii	5-6*	22. 13. 27.626	1868.6	1	+ 3.1614	- 0.0076	- 0.002	0.10046	0.06810	1.44965	0.07596	85.679
2095	25 Cephei	6*	22. 14. 2.267	1875.7	3	+ 1.9428	+ 0.0106	- 0.002	0.12313	0.05549	1.43044	0.11827	83.242
2096	48 Aquarii	4-3*	22. 15. 2.631	1872.4	37	+ 3.0932	- 0.0042	+ 0.007	0.10032	0.06838	1.44860	0.07841	85.582
2097	31 Pegasi	5-4*	22. 15. 13.053	1873.5	4	+ 2.9515	+ 0.0019	0.000	0.10074	0.06817	1.44640	0.08359	85.377
2098	32 Pegasi	5*	22. 15. 24.741	1871.7	3	+ 2.7630	+ 0.0081	- 0.001	0.10298	0.06700	1.44347	0.09040	85.039
2099	Piazzi XXII. 96	7	22. 16. 46.817	1874.7	6	+ 0.7645	- 0.0558	..	0.16003	0.03394	1.41101	0.15778	79.962
2100	33 Pegasi	6-7†	22. 17. 30.075	1874.3	4	+ 2.8594	+ 0.0055	+ 0.027	0.10177	0.06792	1.44497	0.08711	85.182
2101	50 Aquarii	6-7†	22. 17. 35.534	1873.1	10	+ 3.2182	- 0.0107	+ 0.002	0.10106	0.06829	1.45053	0.07365	85.711
2102	Groombridge 3760	6-7†	22. 17. 56.610	1875.0	5	+ 1.7752	+ 0.0069	..	0.12980	0.05278	1.42773	0.12567	82.540
2103	Radcliffe 5671	7-8	22. 17. 57.210	1876.6	2	+ 1.7753	+ 0.0069	..	0.12980	0.05278	1.42773	0.12567	82.540
2104	Lalande 43776	7-8	22. 19. 36.867	1870.7	6	+ 3.2498	- 0.0126	..	0.10150	0.06832	1.45102	0.07228	85.732
2105	53 Aquarii	6-7	22. 19. 37.389	1870.7	5	+ 3.2498	- 0.0126	+ 0.011	0.10150	0.06832	1.45102	0.07228	85.732
2106	Piazzi XXII. 115	6	22. 21. 29.946	1876.1	4	+ 1.9939	+ 0.0131	+ 0.001	0.12453	0.05675	1.43126	0.11970	82.882
2107	Piazzi XXII. 113	6*	22. 21. 54.695	1872.4	4	+ 2.7363	+ 0.0100	..	0.10411	0.06732	1.44305	0.09227	84.834
2108	26 Cephei	6-5*	22. 22. 58.312	1876.1	4	+ 1.9216	+ 0.0118	- 0.006	0.12746	0.05554	1.43010	0.12298	82.573
2109	Bradley 2993	5-6	22. 23. 9.231	1876.7	3	- 3.8366	- 1.2007	+ 0.076	0.29413	9.93168	1.32559	0.29361	64.878
2110	56 Aquarii	6	22. 23. 25.640	1873.3	7	+ 3.2212	- 0.0112	+ 0.004	0.10142	0.06884	1.45057	0.07314	85.679
2111	57 Aquarii	5-4*	22. 23. 52.271	1871.2	33	+ 3.1813	- 0.0088	- 0.004	0.10109	0.06904	1.44996	0.07475	85.628
2112	38 Pegasi	6-5*	22. 24. 10.609	1873.5	5	+ 2.7341	+ 0.0105	+ 0.008	0.10441	0.06748	1.44301	0.09271	84.774
2113	17 Piscis Australis	4*	22. 24. 13.386	1868.9	7	+ 3.4246	- 0.0249	+ 0.002	0.10471	0.06735	1.45369	0.06462	85.870
2114	27 Cephei	Var.	22. 24. 25.244	1876.6	1	+ 2.2135	+ 0.0166	+ 0.002	0.11869	0.06045	1.43478	0.11283	83.336
2115	58 Aquarii	6-7†	22. 24. 54.008	1869.9	4	+ 3.1825	- 0.0089	+ 0.002	0.10116	0.06915	1.44998	0.07464	85.621
2116	28 Cephei	6-5*	22. 25. 43.174	1874.9	6	+ 0.5279	- 0.0873	- 0.012	0.17526	0.02953	1.40702	0.17342	77.909
2117	7 Lacertæ	4*	22. 26. 1.262	1871.1	14	+ 2.4452	+ 0.0165	+ 0.015	0.11206	0.06407	1.43847	0.10445	83.936
2118	39 Pegasi	6*	22. 26. 24.410	1872.5	3	+ 2.8834	+ 0.0058	+ 0.015	0.10207	0.06889	1.44535	0.08698	85.075
2119	Groombridge 3804	6	22. 26. 47.017	1875.4	3	+ 2.6420	+ 0.0134	..	0.10684	0.06670	1.44157	0.09684	84.462
2120	29 Cephei	6-5*	22. 28. 43.159	1876.7	2	+ 0.5971	- 0.0820	- 0.002	0.17599	0.03097	1.40819	0.17415	77.612

2104, 2105. The combined magnitude of these two stars given in the *Uranometria Nova* is 6.

2114. The limits of magnitude are 3.7 and 4.9; the period 5.362 days.

No.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of μ	No. in Bessel's Bradley.	No. in Piazz.	No. in Groombridge.	No. in B.A.C.
							e'	f'	g'	h'					
2081	32. 25. 44.30	1869.6	2	-17.642	-0.136	+0.02	9.75274	9.66042	0.86677	9.85999	157.472	2925	XXII. 26	3706	7749
2082	18. 17. 20.43	1874.5	7	-17.680	-0.073	+0.03	9.78937	9.55983	0.86454	9.86211	158.550	2932	XXII. 40	3718	7758
2083	20. 29. 57.41	1874.0	3	-17.695	-0.088	-0.08	9.78333	9.57230	0.86360	9.86299	158.480	..	....	3719	7760
2084	18. 31. 7.63	1875.3	18	-17.696	-0.074	+0.01	9.78965	9.56025	0.86354	9.86303	158.513	2934	XXII. 45	3723	7761
2085	50. 55. 9.54	1872.2	10	-17.723	-0.167	+0.16	9.75450	9.80811	0.86197	9.86452	152.691	..	XXII. 36	3716	7765
2086	27. 20. 27.98	1875.5	4	-17.723	-0.120	-0.04	9.76723	9.61799	0.86197	9.86452	157.965	..	XXII. 42	..	7766
2087	103. 28. 5.78	1872.9	10	-17.786	-0.209	+0.01	9.94724	0.14815	0.85815	9.86809	125.590	2928	XXII. 41	..	7771
2088	98. 25. 9.54	1871.0	17	-17.792	-0.205	+0.03	9.92340	0.12381	0.85783	9.86839	128.681	2929	XXII. 44	..	7773
2089	33.35. 38.62	1869.5	16	-17.801	-0.136	-0.02	9.76065	9.66339	0.85726	9.86893	156.949	2937	XXII. 54	3728	7778
2090	52. 53. 16.37	1873.8	14	-17.805	-0.167	0.00	9.76065	9.82234	0.85707	9.86911	151.855	2933	XXII. 49	..	7777
2091	14. 10. 25.57	1873.9	6	-17.835	-0.036	..	9.81325	9.52853	0.85520	9.87086	158.127	..	....	3735	..
2092	103. 56. 40.56	1875.1	8	-17.874	-0.206	0.00	9.94851	0.15072	0.85285	9.87305	125.208	2936	XXII. 56	..	7781
2093	24. 30. 40.15	1873.2	11	-17.925	-0.107	..	9.78675	9.58742	0.84970	9.87599	157.752	..	....	3739	7786
2094	98. 27. 44.38	1868.6	1	-17.927	-0.199	0.00	9.92262	0.12438	0.84962	9.87606	128.509	2939	XXII. 63	..	7784
2095	27. 50. 11.36	1875.2	2	-17.949	-0.119	+0.02	9.78025	9.61125	0.84827	9.87728	157.405	2947	XXII. 75	3741	7789
2096	92. 1. 51.79	1871.7	11	-17.989	-0.192	-0.02	9.89326	0.09055	0.84583	9.87962	132.289	2943	XXII. 72	..	7795
2097	78. 26. 19.39	1874.9	10	-17.995	-0.182	+0.01	9.83658	0.00864	0.84542	9.88000	139.968	2944	XXII. 74	..	7796
2098	62. 18. 48.20	1870.7	12	-18.002	-0.170	-0.01	9.78611	9.89374	0.84500	9.88040	147.768	2946	XXII. 77	..	7798
2099	14. 9. 17.06	1874.9	7	-18.055	-0.041	..	9.82724	9.51459	0.84169	9.88349	157.578	..	XXII. 96	3756	..
2100	69. 47. 51.59	1874.3	4	-18.082	-0.173	+0.02	9.80855	9.94874	0.83997	9.88509	144.206	2951	XXII. 88	..	7807
2101	104. 10. 37.32	1873.4	11	-18.085	-0.195	-0.02	9.94704	0.15258	0.83976	9.88528	124.853	2949	XXII. 86	..	7806
2102	23. 56. 23.09	1874.0	8	-18.099	-0.104	..	9.79962	9.57413	0.83887	9.88613	157.349	..	....	3760	7810
2103	23. 56.	..	..	-18.100	-0.104	..	9.79962	9.57413	0.83887	9.88613	157.349	..	....	..	..
2104	107. 23. 26.12	1870.7	6	-18.161	-0.193	..	9.96038	0.16756	0.83497	9.88979	122.806	..	....	..	..
2105	107. 23. 30.64	1870.7	5	-18.161	-0.193	-0.01	9.96038	0.16756	0.83497	9.88979	122.806	2954	XXII. 94	..	7819
2106	27. 19. 21.70	1874.2	6	-18.231	-0.113	-0.04	9.79982	9.59364	0.83055	9.89394	156.718	..	XXII. 115	3777	7829
2107	58. 48. 47.19	1872.4	4	-18.246	-0.158	..	9.78810	9.86269	0.82958	9.89486	148.699	..	XXII. 113	..	..
2108	25. 31. 11.62	1876.3	4	-18.284	-0.107	+0.02	9.80774	9.57661	0.82714	9.89716	156.722	2969	XXII. 128	3783	7837
2109	44. 32. 14.75	1875.5	5	-18.290	+0.237	-0.01	9.87904	9.46363	0.82670	9.89757	156.007	2993	XXII. 165	3820	7851
2110	105. 14. 19.71	1873.3	7	-18.300	-0.184	+0.01	9.94880	0.15830	0.82605	9.89818	123.970	2963	XXII. 117	..	7836
2111	101. 19. 54.71	1871.3	17	-18.316	-0.181	-0.05	9.93176	0.13971	0.82504	9.89913	126.308	2966	XXII. 122	..	7840
2112	58. 4. 54.48	1872.5	13	-18.327	-0.154	-0.11	9.79029	9.85542	0.82433	9.89982	148.796	2968	XXII. 129	..	7843
2113	123. 0. 2.76	1868.9	8	-18.328	-0.195	+0.07	0.02416	0.22988	0.82424	9.89990	113.266	2964	XXII. 123	..	7842
2114	32. 14.	..	..	-18.335	-0.123	+0.02	9.79650	9.63005	0.82378	9.90033	155.815	2973	XXII. 135	3791	7848
2115	101. 33. 36.52	1869.9	4	-18.353	-0.179	+0.03	9.93232	0.14097	0.82265	9.90138	126.122	2967	XXII. 130	..	7849
2116	11. 51. 59.29	1872.7	10	-18.381	-0.023	+0.06	9.85703	9.48149	0.82079	9.90316	156.490	2980	XXII. 150	3809	7857
2117	40. 22. 29.99	1870.9	14	-18.391	-0.134	0.00	9.78902	9.70022	0.82013	9.90377	154.122	2975	XXII. 141	3799	7855
2118	70. 25. 43.79	1873.6	9	-18.405	-0.159	-0.02	9.81836	9.95068	0.81921	9.90464	143.243	2974	XXII. 140	..	7856
2119	50. 52. 40.14	1872.6	5	-18.418	-0.145	..	9.78803	9.79279	0.81834	9.90547	151.133	..	....	3804	7858
2120	11. 49. 57.14	1871.8	2	-18.485	-0.026	+0.03	9.86415	9.47402	0.81394	9.90964	156.146	2988	XXII. 168	3831	7874

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Cælestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazz's Catalogue (1814); from Weisse's two Catalogues, *Positiones Medie Stellarum Fixarum in Zonis Regiomontanis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

{cviii}

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
2121	62 Aquarii	4-3*	22. 28. 46.686	1872.4	48	+ 3.0792	- 0.0031	+ 0.003	0.10087	0.06973	1.44839	0.07888	85.436
2122	Groombridge 3823..	6-7†	22. 29. 17.687	1876.3	3	+ 2.1379	+ 0.0173	..	0.12299	0.05948	1.43358	0.11777	82.793
2123	Groombridge 3834..	5-6*	22. 30. 0.930	1876.2	4	+ 1.0845	- 0.0334	+ 0.030	0.16050	0.04047	1.41639	0.15815	79.096
2124	31 Cephei.....	5*	22. 32. 36.475	1873.3	4	+ 1.4471	- 0.0071	+ 0.043	0.14966	0.04737	1.42237	0.14681	80.042
2125	40 Pegasi.....	6*	22. 32. 41.004	1872.4	5	+ 2.9024	+ 0.0059	0.000	0.10223	0.06959	1.44564	0.08677	85.008
2126	10 Lacertæ	5*	22. 33. 31.229	1874.5	3	+ 2.6820	+ 0.0140	- 0.001	0.10689	0.06769	1.44220	0.09660	84.361
2127	30 Cephei.....	5-6*	22. 34. 6.804	1876.4	3	+ 2.1151	+ 0.0184	0.000	0.12589	0.05934	1.43321	0.12100	82.364
2128	Piazzi XXII. 186 ..	6-7	22. 34. 32.198	1874.4	5	+ 2.9519	+ 0.0039	..	0.10174	0.07002	1.44641	0.08470	85.101
2129	11 Lacertæ	5*	22. 34. 54.218	1869.4	5	+ 2.6102	+ 0.0163	+ 0.008	0.10918	0.06692	1.44107	0.10009	84.078
2130	42 Pegasi	3-4*	22. 35. 4.705	1871.9	28	+ 2.9854	+ 0.0023	+ 0.001	0.10146	0.07021	1.44693	0.08319	85.174
2131	19 Piscis Australis	6	22. 35. 14.642	1868.8	3	+ 3.3515	- 0.0216	- 0.003	0.10442	0.06899	1.45258	0.06598	85.777
2132	Piazzi XXII. 195 ..	6*	22. 35. 38.291	1875.4	4	+ 2.9536	+ 0.0039	- 0.005	0.10177	0.07014	1.44644	0.08470	85.088
2133	43 Pegasi.....	5*	22. 35. 44.900	1876.7	3	+ 2.8098	+ 0.0103	+ 0.001	0.10410	0.06919	1.44420	0.09130	84.689
2134	12 Lacertæ	6*	22. 35. 44.972	1876.0	3	+ 2.6753	+ 0.0148	+ 0.001	0.10744	0.06779	1.44209	0.09739	84.265
2135	67 Aquarii.....	6*	22. 36. 33.155	1875.8	6	+ 3.1360	- 0.0064	- 0.003	0.10136	0.07042	1.44926	0.07615	85.473
2136	44 Pegasi	3*	22. 37. 0.251	1872.4	5	+ 2.8036	+ 0.0108	0.000	0.10437	0.06924	1.44410	0.09179	84.640
2137	Groombridge 3887..	6	22. 39. 5.650	1873.4	4	+ 0.2427	- 0.1457	..	0.20089	0.02407	1.40212	0.19950	74.004
2138	46 Pegasi	5-4*	22. 40. 17.885	1874.5	4	+ 2.9794	+ 0.0032	+ 0.013	0.10174	0.07071	1.44684	0.08378	85.087
2139	47 Pegasi	4*	22. 40. 22.037	1869.6	8	+ 2.8800	+ 0.0082	+ 0.003	0.10313	0.07017	1.44529	0.08867	84.795
2140	70 Aquarii.....	6†	22. 41. 45.931	1873.2	2	+ 3.1611	- 0.0082	+ 0.002	0.10177	0.07087	1.44965	0.07464	85.486
2141	Bradley 3014	6-7†	22. 42. 18.384	1876.7	3	+ 2.3660	+ 0.0223	..	0.11991	0.06386	1.43722	0.11389	82.754
2142	71 Aquarii.....	4*	22. 42. 48.771	1872.3	16	+ 3.1845	- 0.0099	- 0.004	0.10206	0.07088	1.45001	0.07335	85.524
2143	48 Pegasi	4*	22. 43. 49.613	1872.5	35	+ 2.8787	+ 0.0089	+ 0.009	0.10345	0.07048	1.44527	0.08918	84.718
2144	Groombridge 3904..	6-7†	22. 44. 39.181	1875.9	3	+ 2.0095	+ 0.0199	..	0.13596	0.05798	1.43153	0.13203	80.945
2145	Oeltz Arg.(N) 24748	7	22. 44. 39.810	1875.9	3	+ 2.0098	+ 0.0199	..	0.13596	0.05798	1.43153	0.13203	80.945
2146	32 Cephei	4-3*	22. 45. 7.690	1875.5	4	+ 2.1296	+ 0.0224	- 0.012	0.13113	0.06008	1.43344	0.12671	81.454
2147	73 Aquarii	4*	22. 45. 56.093	1871.8	28	+ 3.1338	- 0.0063	- 0.006	0.10171	0.07136	1.44923	0.07585	85.406
2148	15 Lacertæ	6*	22. 46. 15.892	1875.1	3	+ 2.6830	+ 0.0176	+ 0.010	0.10923	0.06869	1.44221	0.09976	83.892
2149	Bradley 3028	6†	22. 46. 23.126	1874.3	7	+ 2.3102	+ 0.0241	..	0.12403	0.06317	1.43632	0.11866	82.195
2150	74 Aquarii.....	6*	22. 46. 44.182	1874.7	4	+ 3.1638	- 0.0086	0.000	0.10201	0.07134	1.44969	0.07416	85.467
2151	Piazzi XXII. 241 ..	6*	22. 46. 44.298	1874.4	5	+ 2.9504	+ 0.0057	- 0.001	0.10240	0.07122	1.44639	0.08578	84.897
2152	76 Aquarii.....	3*	22. 47. 51.294	1872.4	5	+ 3.1948	- 0.0111	- 0.007	0.10248	0.07132	1.45017	0.07233	85.521
2153	78 Aquarii.....	6†	22. 47. 54.079	1877.0	1	+ 3.1295	- 0.0060	0.000	0.10175	0.07158	1.44916	0.07600	85.384
2154	Bradley 3038	5*	22. 47. 55.067	1874.6	5	- 0.0583	- 0.2238	+ 0.006	0.22637	0.01809	1.39692	0.22529	69.906
2155	Groombridge 3919 .	6*	22. 48. 15.006	1875.0	3	+ 2.7304	+ 0.0166	..	0.10804	0.06941	1.44296	0.09783	84.013
2156	Piazzi XXII. 250 ..	6*	22. 48. 32.570	1876.1		+ 3.1129	- 0.0048	+ 0.006	0.10167	0.07168	1.44891	0.07689	85.342
2157	24 Piscis Australis..	1-2*	22. 50. 34.367	1871.6	20	+ 3.3053	- 0.0211	+ 0.022	0.10507	0.07076	1.45187	0.06551	85.697
2158	51 Pegasi.....	6-5*	22. 51. 10.728	1874.1	3	+ 2.9276	+ 0.0077	+ 0.019	0.10306	0.07151	1.44603	0.08752	84.734
2159	Groombridge 3933..	6*	22. 51. 25.358	1870.1	10	+ 2.6344	+ 0.0211	..	0.11234	0.06842	1.44145	0.10406	83.424
2160	W. B. XXII. 1075 .	9	22. 52. 31.217	1873.6	1	+ 3.0099	+ 0.0027	..	0.10196	0.07203	1.44731	0.08287	85.007

1876. Argelander.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fra- tion of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of V	No. in Bessel's Bradley. 1755.	No. in Piazzi. 1800.	No. in Groom- bridge. 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
2121	90. 46. 33.74	1871.8	16	-18.487	-0.166	+0.06	9.88728	0.08371	0.81385	9.90971	132.277	2979	XXII. 151	..	7868
2122	28. 52. 58.06	1876.3	3	-18.504	-0.112	..	9.81478	9.59337	0.81263	9.91089	155.721	..	....	3823	7875
2123	14. 25. 58.96	1876.2	4	-18.528	-0.053	-0.11	9.85812	9.48466	0.81102	9.91243	156.135	..	....	3834	7881
2124	17. 1. 15.41	1871.1	16	-18.614	-0.071	-0.04	9.85564	9.49478	0.80522	9.91798	155.898	2994	XXII. 185	3846	7896
2125	71. 8. 21.88	1873.1	7	-18.616	-0.149	+0.07	9.82549	9.95416	0.80508	9.91811	142.411	2985	XXII. 174	..	7893
2126	51. 36. 55.07	1873.7	15	-18.643	-0.136	-0.02	9.80010	9.79433	0.80334	9.91989	150.234	2990	XXII. 181	3844	7901
2127	27. 4. 49.86	1873.1	9	-18.663	-0.105	+0.03	9.83033	9.56990	0.80192	9.92116	155.344	2996	XXII. 190	3850	7902
2128	76. 7. 21.70	1874.4	5	-18.676	-0.149	..	9.83973	9.98969	0.80101	9.92204	139.821	..	XXII. 186	..	..
2129	46. 23. 28.64	1869.4	5	-18.688	-0.130	0.00	9.80318	9.74598	0.80015	9.92284	151.676	2995	XXII. 192	3851	7906
2130	79. 50. 9.57	1870.5	14	-18.693	-0.150	0.00	9.85065	0.01514	0.79979	9.92320	137.872	2992	XXII. 189	..	7908
2131	120. 1. 41.09	1868.8	3	-18.699	-0.169	+0.09	0.00230	0.22185	0.79943	9.92354	114.674	2991	XXII. 187	..	7909
2132	76. 9. 4.08	1875.4	4	-18.711	-0.147	+0.01	9.84048	9.98973	0.79857	9.92436	139.718	..	XXII. 195	..	7912
2133	61. 21. 34.79	1872.9	7	-18.715	-0.139	+0.03	9.81090	9.87670	0.79834	9.92460	146.445	2999	XXII. 196	..	7914
2134	50. 26. 32.94	1875.9	4	-18.715	-0.132	+0.01	9.80387	9.78232	0.79834	9.92460	150.381	3002	XXII. 199	3856	7915
2135	97. 37. 55.42	1875.8	6	-18.740	-0.155	-0.02	9.91233	0.12193	0.79661	9.92628	127.857	3001	XXII. 202	..	7921
2136	60. 26. 51.03	1873.2	13	-18.753	-0.137	+0.04	9.81144	9.86853	0.79565	9.92722	146.696	3003	XXII. 205	..	7923
2137	9. 16. 38.04	1872.6	8	-18.818	-0.004	..	9.89702	9.43765	0.79114	9.93161	154.653	..	....	3887	7941
2138	78. 28. 58.46	1874.5	4	-18.854	-0.140	+0.49	9.84930	0.00531	0.78858	9.93411	138.166	3008	XXII. 215	..	7943
2139	67. 6. 26.68	1871.5	18	-18.856	-0.135	+0.01	9.82465	9.92124	0.78846	9.93423	143.591	3010	XXII. 217	..	7945
2140	101. 13. 49.95	1873.2	2	-18.897	-0.146	-0.02	9.92407	0.14100	0.78552	9.93713	125.467	3012	XXII. 223	..	7952
2141	32. 11. 31.89	1876.7	2	-18.913	-0.107	-0.07	9.83721	9.60418	0.78437	9.93827	153.774	3014	....	3892	7953
2142	104. 16. 1.99	1872.3	16	-18.928	-0.145	+0.02	9.93495	0.15612	0.78335	9.93929	123.636	3013	XXII. 225	..	7954
2143	66. 4. 25.14	1871.7	30	-18.957	-0.129	+0.04	9.82672	9.91196	0.78125	9.94139	143.716	3016	XXII. 231	..	7958
2144	22. 6. 31.22	1876.1	3	-18.980	-0.087	..	9.86776	9.50944	0.77956	9.94309	154.330	..	....	3904	7963
2145	22. 6. 30.87	1875.8	2	-18.981	-0.087	..	9.86776	9.50944	0.77956	9.94309	154.330	..	....	..	..
2146	24. 28. 20.32	1874.2	12	-18.994	-0.092	+0.14	9.86225	9.52881	0.77858	9.94404	154.162	3022	XXII. 238	3905	7967
2147	98. 15. 35.09	1871.7	19	-19.016	-0.137	-0.03	9.91185	0.12592	0.77695	9.94567	126.943	3019	XXII. 235	..	7970
2148	47. 22. 2.83	1875.8	5	-19.026	-0.116	0.00	9.82387	9.74621	0.77629	9.94636	150.135	3023	XXII. 240	3907	7972
2149	28. 58. 59.87	1874.4	7	-19.029	-0.098	-0.05	9.85339	9.56818	0.77607	9.94659	153.639	3028	....	3910	7973
2150	102. 17. 46.20	1874.7	4	-19.038	-0.137	+0.02	9.92583	0.14682	0.77539	9.94731	124.571	3021	XXII. 239	..	7974
2151	73. 50. 14.68	1874.2	7	-19.038	-0.127	+0.01	9.84248	9.97112	0.77539	9.94731	139.915	..	XXII. 241	..	7975
2152	106. 30. 1.91	1872.4	6	-19.069	-0.136	0.00	9.94047	0.16734	0.77316	9.94957	122.071	3025	XXII. 245	..	7980
2153	97. 53. 2.06	1877.0	1	-19.070	-0.133	-0.02	9.90988	0.12400	0.77306	9.94967	127.044	3027	XXII. 246	..	7981
2154	7. 31. 31.82	1875.3	7	-19.071	+0.011	-0.05	9.92247	9.41034	0.77300	9.94970	153.275	3038	XXII. 258	3928	7990
2155	50. 18. 18.07	1873.8	9	-19.080	-0.114	..	9.82543	9.77253	0.77235	9.95004	149.080	..	....	3919	7984
2156	95. 40. 7.34	1875.8	2	-19.088	-0.131	+0.02	9.90227	0.11192	0.77177	9.95098	128.261	..	XXII. 250	..	7986
2157	120. 17. 57.64	1870.6	14	-19.141	-0.136	+0.18	9.98941	0.22571	0.76781	9.95504	113.991	3032	XXII. 253	..	7992
2158	69. 55. 0.92	1874.2	13	-19.157	-0.118	-0.07	9.83942	9.94051	0.76663	9.95627	141.310	3035	XXII. 257	..	7997
2159	41. 59. 57.37	1870.1	10	-19.163	-0.105	..	9.83923	9.69010	0.76617	9.95674	150.854	..	....	3933	7999
2160	80. 52. 46.46	1873.6	1	-19.191	-0.119	..	9.86070	0.02052	0.76409	9.95894	135.934	..	....	..	..

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Caelstis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Mediae Stellarum Fixarum in Zonis Regiomontanis* (Weisse's Bessel); from Argelander's *Bömer Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

{cx}

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fra- tion of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
2161	Groombridge 3946..	6-7†	22. 53. 48.075	1873.3	8	+ 1.8680	+ 0.0184	..	0.14982	0.05577	1.42924	0.14677	78.981
2162	81 Aquarii	6-7†	22. 54. 44.373	1876.6	1	+ 3.1233	- 0.0057	- 0.002	0.10195	0.07229	1.44907	0.07602	85.327
2163	Bradley 3041	7	22. 55. 12.441	1873.4	3	+ 3.0537	- 0.0002	..	0.10179	0.07239	1.44799	0.08033	85.119
2164	Bradley 3058	5-6*	22. 55. 19.760	1876.4	3	- 0.2795	- 0.3052	+ 0.069	0.25035	0.01364	1.39308	0.24948	65.639
2165	1 Andromedæ.....	4-3*	22. 56. 2.121	1870.4	7	+ 2.7447	+ 0.0187	+ 0.002	0.10915	0.07019	1.44318	0.09932	83.754
2166	53 Pegasi	2.3*	22. 57. 34.250	1874.2	4	+ 2.8858	+ 0.0117	+ 0.014	0.10459	0.07181	1.44538	0.09105	84.403
2167	54 Pegasi	2*	22. 58. 23.143	1871.8	46	+ 2.9802	+ 0.0056	+ 0.003	0.10257	0.07251	1.44685	0.08516	84.805
2168	83 Aquarii.....	6-5*	22. 58. 29.186	1874.6	6	+ 3.1245	- 0.0059	+ 0.007	0.10208	0.07266	1.44908	0.07574	85.311
2169	Bradley 3054	6*	22. 58. 40.824	1873.3	2	+ 2.2586	+ 0.0301	..	0.13397	0.06287	1.43551	0.12968	80.662
2170	Pegasi	Var.	23. 0. 13.225	1869.1	3	+ 3.0123	+ 0.0035	..	0.10222	0.07283	1.44735	0.08321	84.907
2171	56 Pegasi.....	5*	23. 0. 52.759	1870.0	5	+ 2.9148	+ 0.0107	0.000	0.10415	0.07235	1.44583	0.08982	84.452
2172	Groombridge 3994 .	6	23. 2. 45.975	1875.4	7	+ 2.4086	+ 0.0321	..	0.12870	0.06559	1.43789	0.12377	81.166
2173	33 Cephei	5-4*	23. 3. 49.927	1874.1	6	+ 1.8868	+ 0.0235	+ 0.002	0.15990	0.05641	1.42953	0.15728	77.231
2174	Groombridge 4005 .	6	23. 4. 52.748	1873.8	5	+ 2.3382	+ 0.0341	..	0.13440	0.06451	1.43678	0.13010	80.391
2175	60 Pegasi.....	6*	23. 5. 36.572	1872.8	6	+ 2.9179	+ 0.0118	- 0.013	0.10455	0.07282	1.44588	0.09055	84.334
2176	Bradley 3077	6*	23. 7. 7.637	1873.6	5	+ 2.6110	+ 0.0299	+ 0.250	0.11975	0.06908	1.44108	0.11325	82.172
2177	90 Aquarii	4-5*	23. 7. 41.494	1870.9	10	+ 3.1079	- 0.0045	+ 0.001	0.10223	0.07365	1.44883	0.07640	85.207
2178	B. F. 3183	5-6*	23. 8. 58.586	1875.7	3	+ 3.0938	- 0.0031	..	0.10216	0.07381	1.44861	0.07745	85.146
2179	91 Aquarii.....	5-4*	23. 9. 11.020	1872.5	14	+ 3.1229	- 0.0061	+ 0.023	0.10244	0.07376	1.44906	0.07510	85.256
2180	61 Pegasi.....	6†	23. 9. 31.316	1873.2	3	+ 2.9198	+ 0.0129	+ 0.003	0.10496	0.07319	1.44591	0.09129	84.225
2181	Bradley 3085	6*	23. 10. 4.549	1874.9	6	+ 2.0948	+ 0.0355	..	0.15523	0.06039	1.43289	0.15236	77.509
2182	92 Aquarii	5-6*	23. 10. 12.812	1874.8	6	+ 3.1149	- 0.0053	- 0.005	0.10237	0.07390	1.44894	0.07568	85.221
2183	6 Piscium	4*	23. 10. 31.767	1872.1	37	+ 3.0593	+ 0.0005	+ 0.047	0.10216	0.07397	1.44808	0.08025	84.983
2184	Bradley 3086	6*	23. 10. 42.195	1875.5	6	+ 2.2799	+ 0.0388	..	0.14368	0.06371	1.43585	0.14012	78.992
2185	Bradley 3084	6*	23. 10. 52.526	1869.9	4	+ 2.7013	+ 0.0282	+ 0.002	0.11630	0.07066	1.44250	0.10889	82.541
2186	93 Aquarii.....	5-4*	23. 11. 14.963	1870.5	10	+ 3.1214	- 0.0061	0.000	0.10249	0.07397	1.44904	0.07506	85.241
2187	95 Aquarii.....	5*	23. 12. 18.107	1872.7	3	+ 3.1225	- 0.0063	- 0.002	0.10254	0.07409	1.44905	0.07487	85.241
2188	9 Andromedæ.....	6*	23. 12. 19.236	1875.0	3	+ 2.8315	+ 0.0209	+ 0.003	0.10942	0.07252	1.44454	0.09928	83.475
2189	94 Aquarii.....	6-5*	23. 12. 22.643	1870.8	2	+ 3.1418	- 0.0085	+ 0.021	0.10287	0.07402	1.44935	0.07319	85.313
2190	96 Aquarii.....	6-5*	23. 12. 45.696	1874.1	3	+ 3.1001	- 0.0038	+ 0.011	0.10230	0.07419	1.44871	0.07677	85.149
2191	Groombridge 4040 .	6	23. 13. 15.388	1876.1	3	+ 2.1869	+ 0.0402	..	0.15323	0.06215	1.43436	0.15023	77.621
2192	34 Cephei	6-5*	23. 13. 22.635	1872.6	7	+ 2.4228	+ 0.0402	+ 0.019	0.13673	0.06630	1.43811	0.13257	79.795
2193	Bradley 3094	6	23. 13. 41.264	1870.5	11	+ 2.7775	+ 0.0254	+ 0.019	0.11294	0.07193	1.44369	0.10439	82.946
2194	62 Pegasi	5-4*	23. 14. 18.189	1872.8	5	+ 2.9596	+ 0.0110	+ 0.001	0.10415	0.07395	1.44653	0.08913	84.338
2195	Bradley 3100	7-8	23. 15. 8.487	1874.5	3	+ 2.8699	+ 0.0193	..	0.10818	0.07319	1.44514	0.09722	83.623
2196	64 Pegasi.....	6*	23. 15. 40.188	1873.9	4	+ 2.9171	+ 0.0154	+ 0.002	0.10599	0.07374	1.44587	0.09325	83.976
2197	66 Pegasi.....	6-5*	23. 16. 37.237	1872.8	4	+ 3.0205	+ 0.0054	+ 0.004	0.10273	0.07452	1.44748	0.08403	84.686
2198	68 Pegasi	5-4*	23. 18. 59.562	1874.8	3	+ 2.9727	+ 0.0112	+ 0.013	0.10418	0.07450	1.44673	0.08901	84.290
2199	4 Cassiopeiæ	6*	23. 19. 9.627	1874.5	5	+ 2.6343	+ 0.0387	+ 0.003	0.12642	0.07010	1.44145	0.12098	80.982
2200	8 Piscium	5-4*	23. 20. 22.215	1872.4	50	+ 3.0700	0.0000	+ 0.005	0.10232	0.07501	1.44824	0.07941	84.945

2170. The limits of magnitude are 6.9 and 12; the period 382 days.

2176. The adopted proper motion is taken from the Bonn Observations, Vol. VII., page 113.

No.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of 1'	No. in Bessel's Bradley. 1755.	No. in Piazzi. 1800.	No. in Groombridge. 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
2161	17. 33. 1'29	1872.1	14	-19'223	-0'069	..	9'90179	9'45646	0'76167	9'96148	153'098	..	....	3946	8015
2162	97. 44. 51'23	1876.6	1	-19'247	-0'120	+0'02	9'90741	0'12366	0'75987	9'96338	126'684	3040	XXII. 278	..	8016
2163	87. 9. 15'90	1873.4	3	-19'258	-0'116	-0'01	9'87662	0'06155	0'75903	9'96426	132'461	3041	....	..	8019
2164	6. 20. 20'27	1872.8	4	-19'261	+0'020	-0'05	9'94216	9'38996	0'75883	9'96449	152'057	3058	XXII. 295	3970	8026
2165	48. 21. 40'89	1870.4	7	-19'278	-0'102	+0'01	9'84055	9'74924	0'75752	9'96590	148'670	3043	XXII. 284	3954	8023
2166	62. 36. 39'68	1874.5	12	-19'315	-0'105	-0'15	9'83942	9'87911	0'75474	9'96893	143'705	3047	XXII. 288	..	8032
2167	75. 28. 58'35	1872.2	41	-19'334	-0'107	+0'02	9'85327	9'98152	0'75328	9'97052	138'050	3050	XXII. 290	..	8034
2168	98. 23. 1'57	1874.8	7	-19'336	-0'113	-0'02	9'90816	0'12729	0'75311	9'97072	126'084	3048	XXII. 289	..	8035
2169	23. 28. 49'81	1873.9	12	-19'341	-0'079	-0'01	9'89465	9'49893	0'75273	9'97110	152'317	3054	....	3975	8039
2170	80. 8. 50'51	1869.1	3	-19'376	-0'105	..	9'86237	0'01482	0'75002	9'97413	135'620	..	....	..	..
2171	65. 13. 19'31	1870.6	9	-19'391	-0'100	+0'03	9'84460	9'90019	0'74888	9'97539	142'299	3057	XXII. 304	..	8052
2172	26. 28. 11'23	1875.4	6	-19'433	-0'078	..	9'89509	9'52188	0'74566	9'97904	151'548	..	....	3994	8068
2173	15. 18. 15'10	1874.3	16	-19'455	-0'058	+0'04	9'93018	9'42200	0'74387	9'98109	151'517	3074	XXIII. 8	4002	8074
2174	23. 27. 8'26	1873.7	5	-19'477	-0'073	..	9'90784	9'48999	0'74218	9'98310	151'380	..	....	4005	8077
2175	63. 50. 37'10	1873.8	12	-19'493	-0'092	+0'08	9'84936	9'88741	0'74095	9'98450	142'305	3073	XXIII. 11	..	8079
2176	33. 32. 16'20	1873.5	5	-19'523	-0'079	-0'27	9'88632	9'58940	0'73853	9'98739	150'187	3077	....	..	8083
2177	96. 44. 17'76	1870.9	10	-19'534	-0'094	+0'19	9'90069	0'11866	0'73764	9'98846	126'352	3076	XXIII. 19	..	8085
2178	94. 11. 36'21	1875.7	3	-19'560	-0'091	..	9'89404	0'10429	0'73562	9'99088	127'618	..	....	..	8094
2179	99. 47. 3'76	1872.5	14	-19'564	-0'092	+0'02	9'90838	0'13538	0'73530	9'99126	124'585	3078	XXIII. 22	..	8095
2180	62. 26. 58'23	1873.5	13	-19'570	-0'085	-0'05	9'85382	9'87428	0'73482	9'99189	142'376	3080	XXIII. 26	..	8097
2181	16. 27. 58'47	1873.1	18	-19'581	-0'058	-0'01	9'93942	9'42104	0'73393	9'99297	150'562	3085	....	4022	8104
2182	98. 25. 26'08	1875.0	7	-19'583	-0'090	+0'02	9'90439	0'12805	0'73375	9'99321	125'255	3081	XXIII. 30	..	8102
2183	87. 24. 59'46	1871.1	11	-19'589	-0'087	+0'01	9'87898	0'06295	0'73328	9'99380	131'042	3082	XXIII. 31	..	8105
2184	19. 48. 34'66	1875.7	6	-19'592	-0'063	+0'01	9'93049	9'44856	0'73303	9'99412	150'520	3086	....	4024	8106
2185	37. 28. 34'89	1869.9	4	-19'596	-0'075	+0'28	9'88491	9'62801	0'73274	9'99447	149'035	3084	....	4023	8107
2186	99. 52. 50'28	1870.5	10	-19'602	-0'088	+0'02	9'90779	0'13601	0'73219	9'99515	124'389	3083	XXIII. 33	..	8109
2187	100. 18. 36'43	1872.7	3	-19'622	-0'086	-0'01	9'90854	0'13838	0'73063	9'99711	124'078	3087	XXIII. 40	..	8116
2188	48. 55. 29'62	1875.0	3	-19'622	-0'077	-0'02	9'86759	9'74604	0'73063	9'99714	146'349	3091	XXIII. 45	4028	8118
2189	104. 9. 16'52	1870.8	2	-19'623	-0'086	+0'10	9'91892	0'15812	0'73052	9'99727	121'982	3088	XXIII. 42	..	8117
2190	95. 49. 21'95	1874.1	3	-19'630	-0'084	+0'01	9'89708	0'11368	0'72998	9'99799	126'466	3090	XXIII. 46	..	8119
2191	17. 0. 36'66	1876.1	3	-19'639	-0'056	..	9'94414	9'42094	0'72927	9'99888	150'057	..	....	4040	8122
2192	22. 35. 18'91	1872.4	24	-19'640	-0'063	-0'02	9'92778	9'47092	0'72913	9'99910	150'057	3097	XXIII. 53	4038	8124
2193	42. 19. 12'65	1870.5	11	-19'646	-0'073	-0'04	9'88053	9'67725	0'72865	9'99968	147'716	3094	XXIII. 51	4036	8126
2194	66. 57. 35'99	1874.1	9	-19'657	-0'077	+0'01	9'85926	9'91195	0'72778	0'00083	140'048	3096	XXIII. 56	..	8131
2195	52. 7. 5'40	1874.5	3	-19'672	-0'073	-0'04	9'86812	9'77645	0'72660	0'00237	145'075	3100	....	..	8139
2196	58. 53. 18'49	1874.4	10	-19'680	-0'073	-0'02	9'86285	9'84065	0'72590	0'00336	142'870	3103	XXIII. 62	..	8141
2197	78. 23. 14'04	1872.8	4	-19'697	-0'074	-0'03	9'86759	0'00097	0'72460	0'00511	134'853	3108	XXIII. 67	..	8149
2198	67. 18. 0'70	1873.6	10	-19'734	-0'069	-0'03	9'86392	9'91395	0'72147	0'00948	139'348	3114	XXIII. 77	..	8160
2199	28. 25. 10'77	1873.7	6	-19'737	-0'060	+0'01	9'92304	9'52428	0'72124	0'00978	148'817	3115	XXIII. 81	4059	8162
2200	89. 26. 40'12	1872.2	16	-19'755	-0'069	+0'12	9'88332	0'07574	0'71974	0'01196	129'135	3116	XXIII. 83	..	8169

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Cælestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Medie Stellarum Fixarum in Zonis Regionumantis* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichniß* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

{cxii}

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or R.A.C.	Logarithms of				Value of l
									e	f	g	h	
2201	Bradley 3121	6	23. 20. 53.628	1871.6	10	+ 2.4492	+ 0.0480	..	0.14362	0.06704	1.43853	0.13998	78.582
2202	Bradley 3125	6*	23. 21. 52.645	1872.2	8	+ 2.4753	+ 0.0486	..	0.14272	0.06754	1.43895	0.13902	78.664
2203	70 Pegasi	5*	23. 22. 40.935	1872.8	6	+ 3.0259	+ 0.0060	+ 0.002	0.10287	0.07517	1.44756	0.08424	84.612
2204	Piazzi XXIII. 96 ..	6-5*	23. 22. 55.019	1874.4	11	+ 3.0919	- 0.0029	+ 0.003	0.10246	0.07526	1.44858	0.07699	85.059
2205	14 Andromedæ	6*	23. 25. 0.029	1873.4	6	+ 2.9102	+ 0.0210	+ 0.026	0.10865	0.07446	1.44576	0.09777	83.414
2206	71 Pegasi	6*	23. 27. 3.596	1870.1	10	+ 2.9957	+ 0.0113	+ 0.003	0.10417	0.07544	1.44709	0.08863	84.225
2207	Bradley 3135	6-7†	23. 27. 4.139	1876.2	5	+ 2.5067	+ 0.0555	..	0.14792	0.06827	1.43944	0.14456	77.717
2208	14 Piscium	6*	23. 27. 34.052	1876.7	3	+ 3.0786	- 0.0009	+ 0.007	0.10245	0.07576	1.44838	0.07837	84.945
2209	Bradley 3147	6*	23. 27. 50.223	1871.5	8	- 0.0772	- 0.5217	+ 0.080	0.36428	0.01815	1.39660	0.36391	38.397
2210	15 Andromedæ	6*	23. 28. 22.130	1874.6	4	+ 2.9204	+ 0.0222	- 0.002	0.10912	0.07486	1.44592	0.09847	83.290
2211	Piazzi XXIII. 126 .	6-7	23. 28. 55.843	1871.6	7	+ 3.0981	- 0.0042	- 0.010	0.10269	0.07588	1.44868	0.07573	85.077
2212	Bradley 3140	6*	23. 29. 26.584	1874.7	2	+ 2.5581	+ 0.0574	..	0.14683	0.06925	1.44025	0.14338	77.772
2213	W.B. (2) XXIII. 612	8	23. 29. 33.135	1872.7	5	+ 3.0156	+ 0.0093	..	0.10359	0.07581	1.44740	0.08677	84.350
2214	Groombridge 4105 .	6-7†	23. 31. 16.995	1868.7	3	+ 2.9124	+ 0.0258	..	0.11110	0.07499	1.44580	0.10149	82.924
2215	75 Pegasi	6-5*	23. 31. 29.095	1874.0	5	+ 3.0193	+ 0.0095	+ 0.007	0.10361	0.07603	1.44746	0.08675	84.331
2216	17 Andromedæ	4*	23. 31. 51.791	1870.9	7	+ 2.9219	+ 0.0250	- 0.001	0.11054	0.07515	1.44594	0.10064	83.005
2217	17 Piscium	4-5*	23. 33. 22.014	1872.4	53	+ 3.0588	+ 0.0029	+ 0.025	0.10259	0.07636	1.44807	0.08125	84.719
2218	35 Cephei	3-4*	23. 34. 6.682	1872.4	38	+ 2.4238	+ 0.0745	- 0.020	0.17396	0.06700	1.43813	0.17174	73.479
2219	Piazzi XXIII. 153 .	6*	23. 34. 31.278	1871.3	2	+ 3.1048	- 0.0062	+ 0.009	0.10306	0.07644	1.44878	0.07388	85.131
2220	18 Piscium	5*	23. 35. 30.893	1876.9	2	+ 3.0695	+ 0.0011	- 0.011	0.10254	0.07661	1.44823	0.07964	84.804
2221	76 Pegasi	6-7†	23. 36. 14.093	1872.6	4	+ 3.0335	+ 0.0087	+ 0.008	0.10341	0.07658	1.44768	0.08585	84.354
2222	Bradley 3158	7	23. 36. 51.982	1868.7	5	+ 2.8970	+ 0.0349	..	0.11688	0.07518	1.44556	0.10933	81.921
2223	78 Pegasi	5*	23. 37. 33.315	1872.2	5	+ 3.0008	+ 0.0162	+ 0.006	0.10571	0.07648	1.44717	0.09211	83.788
2224	Piazzi XXIII. 185 .	6*	23. 40. 40.272	1870.8	5	+ 3.0974	- 0.0060	- 0.015	0.10314	0.07709	1.44867	0.07377	85.096
2225	20 Piscium	6*	23. 41. 21.696	1872.7	8	+ 3.0788	- 0.0010	+ 0.002	0.10264	0.07722	1.44838	0.07773	84.875
2226	Bradley 3166	6*	23. 41. 48.234	1873.2	9	+ 2.8212	+ 0.0600	+ 0.006	0.13697	0.07424	1.44437	0.13269	78.750
2227	Piazzi XXIII. 190 .	6-7	23. 41. 57.783	1871.6	8	+ 3.0853	- 0.0029	- 0.015	0.10277	0.07727	1.44848	0.07618	84.962
2228	Sculptoris	4-5*	23. 42. 15.282	1873.0	17	+ 3.1292	- 0.0161	+ 0.009	0.10581	0.07704	1.44916	0.06573	85.411
2229	Piazzi XXIII. 193 .	6-7†	23. 42. 16.208	1875.7	3	+ 3.0695	+ 0.0017	- 0.010	0.10261	0.07731	1.44823	0.07982	84.739
2230	6 Cassiopeiæ	6*	23. 42. 36.711	1875.5	3	+ 2.8856	+ 0.0492	- 0.003	0.12688	0.07533	1.44538	0.12137	80.258
2231	Bradley 3168	7	23. 42. 37.921	1876.1	3	+ 2.9020	+ 0.0455	..	0.12388	0.07559	1.44563	0.11787	80.718
2232	21 Piscium	6*	23. 42. 54.249	1876.9	2	+ 3.0716	+ 0.0011	- 0.002	0.10260	0.07738	1.44827	0.07934	84.765
2233	Bradley 3170	6	23. 42. 55.078	1868.7	4	+ 2.9113	+ 0.0441	..	0.12265	0.07575	1.44578	0.11642	80.899
2234	79 Pegasi	6*	23. 43. 10.882	1873.9	5	+ 3.0198	+ 0.0164	+ 0.007	0.10565	0.07718	1.44747	0.09187	83.740
2235	Piazzi XXIII. 200 .	6-7†	23. 43. 38.384	1869.6	1	+ 3.0902	+ 0.0047	+ 0.002	0.10301	0.07743	1.44855	0.07462	85.034
2236	81 Pegasi	6-5*	23. 45. 58.708	1874.2	5	+ 3.0450	+ 0.0109	0.000	0.10385	0.07763	1.44786	0.08713	84.146
2237	Piazzi XXIII. 218 .	6-7	23. 46. 11.587	1874.8	3	+ 2.7751	+ 0.0900	..	0.16267	0.07359	1.44365	0.16002	74.557
2238	24 Piscium	6-7†	23. 46. 21.014	1874.1	4	+ 3.0776	- 0.0009	+ 0.009	0.10268	0.07774	1.44836	0.07755	84.850
2239	25 Piscium	6	23. 46. 31.357	1876.6	2	+ 3.0703	+ 0.0019	+ 0.001	0.10264	0.07776	1.44825	0.07977	84.708
2240	Arg. Zone + 58°. No. 2667	8	23. 46. 40.691	1868.7	1	+ 2.9445	+ 0.0462	..	0.12325	0.07648	1.44629	0.11712	80.710

AT THE ROYAL OBSERVATORY, GREENWICH, FROM 1868 TO 1876.

{cxiii}

1860-1876	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of μ	No. in Bessel's Bradley, 1755.	No. in Piazz.	No. in Groombridge, 1810.	No. in B.A.C. 1850.
							e'	f'	g'	h'					
2201	20. 1. 8'99	1871'4	10	-19'763	-0'052	+ 0'04	9'95036	9'43782	0'71906	0'01293	148'809	3121	....	4068	8173
2202	20. 20. 39'47	1872'9	23	-19'778	-0'051	0'00	9'95129	9'43988	0'71785	0'01471	148'640	3125	....	4071	8180
2203	77. 56. 42'91	1872'8	6	-19'789	-0'063	- 0'02	9'87035	9'99738	0'71691	0'01615	134'402	3122	XXIII. 94	..	8182
2204	95. 13. 45'10	1874'4	11	-19'792	-0'064	+ 0'34	9'89354	0'11059	0'71664	0'01657	125'964	..	XXIII. 96	..	8184
2205	51. 27. 59'77	1874'2	14	-19'821	-0'056	+ 0'05	9'88412	9'76661	0'71424	0'02031	143'836	3128	XXIII. 107	4081	8195
2206	68. 12. 26'50	1869'7	25	-19'848	-0'054	+ 0'02	9'87151	9'92037	0'71200	0'02398	137'988	3132	XXIII. 115	..	8203
2207	18. 42. 17'25	1876'1	6	-19'848	-0'044	+ 0'03	9'96624	9'41920	0'71200	0'02398	147'704	3135	....	..	8204
2208	91. 57. 14'98	1876'7	3	-19'854	-0'055	- 0'01	9'88711	0'09121	0'71146	0'02487	127'231	3133	XXIII. 116	..	8205
2209	3. 23. 55'46	1873'5	16	-19'857	+0'010	0'00	0'01481	9'32549	0'71119	0'02535	146'168	3147	XXIII. 135	4101	8213
2210	50. 28. 8'26	1873'1	7	-19'864	-0'050	+ 0'04	9'89087	9'75550	0'71065	0'02629	143'593	3137	XXIII. 125	4093	8212
2211	98. 10. 20'23	1871'6	7	-19'870	-0'053	+ 0'04	9'89746	0'12735	0'71011	0'02729	123'961	..	XXIII. 126	..	8214
2212	19. 3. 55'07	1875'1	3	-19'877	-0'041	- 0'01	9'96918	9'42034	0'70956	0'02820	147'306	3140	....	4100	8217
2213	72. 16. 19'98	1872'7	5	-19'877	-0'050	..	9'87291	9'95333	0'70949	0'02839	136'053	..	....	..	..
2214	46. 16. 43'12	1868'7	3	-19'897	-0'045	..	9'90309	9'71123	0'70782	0'03142	144'142	..	....	4105	8223
2215	72. 18. 30'15	1873'5	7	-19'899	-0'046	- 0'07	9'87442	9'95356	0'70762	0'03177	135'794	3142	XXIII. 139	..	8227
2216	47. 26. 25'20	1873'9	12	-19'904	-0'044	- 0'02	9'90179	9'72316	0'70727	0'03243	143'790	3144	XXIII. 142	4109	8229
2217	85. 4. 1'42	1871'4	18	-19'919	-0'043	+ 0'45	9'87950	0'04712	0'70594	0'03505	129'994	3148	XXIII. 145	..	8233
2218	13. 4. 54'84	1872'5	67	-19'927	-0'031	- 0'15	9'99651	9'36576	0'70527	0'03635	146'125	3152	XXIII. 155	4122	8238
2219	102. 23. 24'33	1871'3	2	-19'931	-0'042	- 0'04	9'90309	0'15018	0'70496	0'03704	121'363	..	XXIII. 153	..	8239
2220	88. 55. 26'17	1876'9	2	-19'940	-0'039	+ 0'17	9'88321	0'07233	0'70417	0'03877	127'958	3153	XXIII. 158	..	8243
2221	74. 22. 28'52	1873'7	6	-19'947	-0'037	- 0'01	9'87749	9'96939	0'70359	0'04000	134'370	3156	XXIII. 162	..	8248
2222	37. 33. 26'15	1868'7	6	-19'953	-0'034	0'00	9'93232	9'61404	0'70307	0'04109	144'789	3158	....	..	8252
2223	61. 20. 50'02	1873'3	16	-19'958	-0'034	+ 0'04	9'88779	9'85904	0'70259	0'04226	139'016	3160	XXIII. 166	..	8256
2224	102. 37. 6'75	1870'8	5	-19'983	-0'030	+ 0'09	9'90037	0'15157	0'70045	0'04757	120'770	..	XXIII. 185	..	8266
2225	93. 28. 21'24	1872'3	7	-19'988	-0'028	+ 0'01	9'88750	0'10047	0'70001	0'04875	125'214	3165	XXIII. 188	..	8271
2226	22. 54. 15'07	1872'0	24	-19'991	-0'024	+ 0'01	9'98141	9'44981	0'69973	0'04948	144'976	3166	XXIII. 191	4141	8273
2227	97. 5. 27'14	1871'6	8	-19'992	-0'027	+ 0'08	9'89159	0'12154	0'69965	0'04976	123'405	..	XXIII. 190	..	8274
2228	118. 50. 14'34	1872'3	10	-19'994	-0'027	+ 0'10	9'93308	0'22552	0'69945	0'05024	112'477	..	XXIII. 192	..	8275
2229	88. 29. 43'32	1875'7	3	-19'994	-0'026	+ 0'02	9'88321	0'06964	0'69945	0'05027	127'472	..	XXIII. 193	..	8276
2230	28. 29. 48'01	1875'5	3	-19'997	-0'023	- 0'01	9'96680	9'51015	0'69925	0'05086	144'637	3169	XXIII. 195	4145	8279
2231	30. 43. 57'32	1875'5	3	-19'997	-0'023	- 0'02	9'96057	9'53519	0'69925	0'05088	144'486	3168	....	..	8280
2232	89. 38. 4'31	1876'9	2	-19'999	-0'025	+ 0'04	9'88400	0'07687	0'69909	0'05133	126'881	3167	XXIII. 197	..	8281
2233	31. 44. 52'25	1868'7	4	-19'999	-0'023	+ 0'02	9'95828	9'54655	0'69909	0'05136	144'350	3170	....	4146	8282
2234	61. 52. 11'90	1873'5	7	-20'000	-0'024	- 0'05	9'89365	9'86318	0'69893	0'05181	138'019	3171	XXIII. 198	..	8284
2235	100. 41. 19'33	1869'6	1	-20'003	-0'024	+ 0'15	9'89586	0'14143	0'69869	0'05256	121'495	..	XXIII. 200	..	8285
2236	71. 35. 25'50	1874'7	7	-20'017	-0'019	- 0'01	9'88593	9'94678	0'69749	0'05651	134'204	3176	XXIII. 212	..	8299
2237	15. 10. 8'73	1874'6	14	-20'018	-0'016	..	0'01112	9'37400	0'69741	0'05681	143'905	..	XXIII. 218	4154	..
2238	93. 51. 57'45	1874'1	4	-20'019	-0'018	- 0'02	9'88711	0'10289	0'69733	0'05708	124'551	3179	XXIII. 215	..	8302
2239	88. 37. 14'13	1876'6	2	-20'020	-0'018	- 0'02	9'88355	0'07037	0'69725	0'05736	126'977	3180	XXIII. 219	..	8303
2240	31. 17. 25'53	1868'7	1	-20'020	-0'016	..	9'96619	9'54012	0'69721	0'05764	143'677	..	....	..	..

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Celestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radeliffe Catalogue (1860); from Piazz's Catalogue (1814); from Weisse's two Catalogues, *Positiones Medice Stellarum Fixarum in Zonis Regionum* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichniss* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.

{cxiv}

CATALOGUE OF THE MEAN PLACES OF STARS, FROM NINE YEARS' OBSERVATIONS,

No.	Star's Name.	Magnitude.	Mean Right Ascension, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Fraction of Year.	Number of Observations.	Annual Precession in R.A. for 1872, from Peters' Elements.	Secular Variation of Precession in R.A. for 1872.	Annual Proper Motion in R.A. from Main, Stone, or B.A.C.	Logarithms of				Value of l
									e	f	g	h	
2241	Piazzi XXIII. 227 .	6-7	23. 48. 13.594	1876.5	3	+ 3.0729	+ 0.0009	- 0.014	0.10264	0.07795	1.44829	0.07893	84.749
2242	Groombridge 4163 .	6-7	23. 48. 37.565	1871.8	10	+ 2.8456	+ 0.0083	+ 0.027	0.15753	0.07490	1.44476	0.15464	75.255
2243	Piazzi XXIII. 229 .	6	23. 48. 52.451	1873.2	5	+ 3.0416	+ 0.0151	..	0.10504	0.07789	1.44780	0.09040	83.813
2244	Arg. Zone+58°. No. 2672	7	23. 49. 8.505	1868.7	3	+ 2.9680	+ 0.0471	..	0.12325	0.07697	1.44666	0.11712	80.648
2245	84 Pegasi ψ	5*	23. 51. 14.320	1871.0	4	+ 3.0490	+ 0.0148	+ 0.002	0.10489	0.07818	1.44792	0.09000	83.823
2246	27 Piscium	5-6*	23. 52. 7.144	1870.5	9	+ 3.0756	- 0.0008	- 0.008	0.10272	0.07835	1.44833	0.07737	84.820
2247	28 Piscium ω	4*	23. 52. 44.325	1872.3	51	+ 3.0676	+ 0.0047	+ 0.010	0.10278	0.07841	1.44821	0.08177	84.518
2248	Bradley 3192	7	23. 53. 51.146	1873.8	3	+ 3.0545	+ 0.0161	+ 0.003	0.10526	0.07846	1.44800	0.09089	83.708
2249	Bradley 3195	6-7†	23. 55. 5.877	1874.4	7	+ 3.0217	+ 0.0527	..	0.12562	0.07813	1.44749	0.11989	80.113
2250	29 Piscium	5-6*	23. 55. 15.788	1872.1	8	+ 3.0740	- 0.0003	- 0.002	0.10271	0.07868	1.44830	0.07761	84.785
2251	30 Piscium	5*	23. 55. 23.690	1870.7	11	+ 3.0754	- 0.0019	+ 0.002	0.10281	0.07869	1.44833	0.07632	84.863
2252	85 Pegasi	6*	23. 55. 29.209	1873.6	5	+ 3.0591	+ 0.0164	+ 0.067	0.10531	0.07865	1.44807	0.09099	83.679
2253	Bradley 3202	6-7†	23. 56. 3.670	1873.2	6	+ 3.0221	+ 0.0648	..	0.13355	0.07819	1.44750	0.12888	78.804
2254	Oeltz.Arg.(N.)26322	8	23. 56. 6.048	1873.6	5	+ 3.0225	+ 0.0648	..	0.13355	0.07820	1.44751	0.12888	78.803
2255	2 Ceti	4-5*	23. 57. 10.839	1871.5	10	+ 3.0776	- 0.0080	- 0.001	0.10385	0.07887	1.44836	0.07124	85.119
2256	Bradley 3207	6-7†	23. 58. 19.560	1868.7	1	+ 3.0567	+ 0.0488	..	0.12228	0.07885	1.44804	0.11592	80.577
2257	Piazzi XXIII. 270 .	6-7	23. 58. 30.079	1875.3	5	+ 3.0724	+ 0.0012	+ 0.005	0.10267	0.07902	1.44828	0.07867	84.692
2258	Groombridge 4222..	6*	23. 58. 30.088	1876.3	6	+ 3.0567	+ 0.0543	..	0.12574	0.07886	1.44804	0.12001	80.002
2259	33 Piscium	5*	23. 58. 46.968	1870.9	17	+ 3.0730	- 0.0015	- 0.002	0.10280	0.07906	1.44829	0.07646	84.830
2260	86 Pegasi	6*	23. 59. 7.695	1874.8	3	+ 3.0711	+ 0.0086	+ 0.005	0.10323	0.07909	1.44826	0.08458	84.238
2261	Bradley 3210	6-7†	23. 59. 34.703	1868.7	4	+ 3.0684	+ 0.0491	+ 0.035	0.12216	0.07909	1.44822	0.11579	80.565
2262	10 Cassiopeiæ	6*	23. 59. 48.404	1875.3	5	+ 3.0699	+ 0.0617	+ 0.002	0.13012	0.07913	1.44824	0.12504	79.246
2263	Bradley 3212	6-7	23. 59. 58.350	1871.4	7	+ 3.0721	+ 0.0180	+ 0.035	0.10576	0.07917	1.44827	0.09200	83.523

2242. The magnitude is taken from the Radcliffe Catalogue; that given in the British Association Catalogue is 5.

2254. The magnitude is taken from Oeltzen's Argelander (N. Zones).

2261. The adopted proper motion is taken from the Bonn Observations, Vol. VII., page 113.

No. in 1875.	Mean North Polar Distance, 1872, Jan. 1, from Observations, 1868 to 1876.	Mean Year and Frac- tion of Year.	Number of Observations.	Annual Precession in N.P.D. for 1872, from Peters' Elements.	Secular Variation of Precession in N.P.D. for 1872.	Annual Proper Motion in N.P.D. from Main, Stone, or B.A.C.	Logarithms of				Value of 1'	No. in Bessel's Bradley. 1755.	No. in Piazzi. 1800.	No. in Groom- bridge. 1810.	No. in B.A.C. 1850.
							e	f	g	h					
2241	90. 36. 8.36	1876.5	3	-20.028	-0.014	+0.06	9.88457	0.08295	0.69652	0.06020	125.891	..	XXIII. 227	..	8311
2242	16. 18. 6.67	1871.9	13	-20.030	-0.012	-0.11	0.01309	9.38270	0.69636	0.06085	143.477	..	....	4163	8314
2243	64. 45. 24.70	1872.3	7	-20.030	-0.013	..	9.89592	9.88871	0.69632	0.06124	136.228	..	XXIII. 229	..	..
2244	31. 17. 47.69	1868.7	3	-20.032	-0.012	..	9.97039	9.53971	0.69620	0.06168	143.207	..	....	..	..
2245	65. 34. 12.27	1870.7	20	-20.040	-0.008	+0.01	9.89719	9.89579	0.69551	0.06511	135.607	3186	XXIII. 239	..	8324
2246	94. 15. 57.00	1870.7	8	-20.043	-0.007	+0.12	9.88643	0.10529	0.69523	0.06656	123.803	3189	XXIII. 244	..	8328
2247	83. 50. 42.35	1871.4	15	-20.044	-0.006	+0.13	9.88377	0.03859	0.69511	0.06755	128.393	3191	XXIII. 246	..	8331
2248	63. 47. 33.40	1873.8	3	-20.047	-0.003	0.00	9.90244	9.88005	0.69487	0.06936	135.790	3192	XXIII. 251	..	8337
2249	29. 29. 23.19	1874.0	24	-20.050	-0.001	+0.03	9.98579	9.51812	0.69463	0.07137	142.157	3195	....	4198	8344
2250	93. 44. 22.92	1872.1	8	-20.050	-0.001	+0.01	9.88553	0.10213	0.69459	0.07164	123.740	3196	XXIII. 255	..	8346
2251	96. 43. 30.40	1870.7	11	-20.050	0.000	+0.04	9.88734	0.11966	0.69459	0.07185	122.343	3197	XXIII. 256	..	8349
2252	63. 35. 43.21	1873.9	7	-20.051	0.000	+0.95	9.90445	9.87821	0.69455	0.07199	135.605	3198	XXIII. 257	..	8350
2253	24. 36. 49.27	1873.6	6	-20.051	+0.001	-0.01	0.00160	9.46393	0.69451	0.07292	142.121	3202	....	..	8355
2254	24. 36. 44.02	1874.0	5	-20.052	+0.001	..	0.00165	9.46390	0.69447	0.07298	142.117	..	....	..	..
2255	108. 2. 53.24	1872.2	7	-20.053	+0.003	0.00	9.89834	0.17892	0.69434	0.07471	116.843	3204	XXIII. 264	..	8358
2256	32. 10. 49.69	1868.7	1	-20.054	+0.005	+0.05	9.98349	9.54859	0.69426	0.07654	141.337	3207	....	..	8364
2257	91. 12. 48.77	1875.2	6	-20.054	+0.006	+0.08	9.88440	0.08680	0.69426	0.07680	124.540	..	XXIII. 270	..	8365
2258	29. 23. 55.23	1876.4	6	-20.054	+0.006	..	9.99180	9.51695	0.69426	0.07680	141.476	..	....	4222	8366
2259	96. 25. 23.94	1870.9	17	-20.054	+0.006	-0.03	9.88615	0.11785	0.69426	0.07726	122.168	3208	XXIII. 272	..	8368
2260	77. 18. 58.13	1874.8	3	-20.054	+0.007	-0.04	9.88981	9.99142	0.69422	0.07782	130.250	3209	XXIII. 274	..	8370
2261	32. 16. 37.06	1868.7	4	-20.054	+0.008	-0.03	9.98529	9.54972	0.69422	0.07852	141.078	3210	....	..	8372
2262	26. 30. 58.84	1874.1	10	-20.054	+0.008	0.00	0.00238	9.48458	0.69422	0.07887	141.318	3211	XXIII. 275	4233	8373
2263	61. 41. 5.10	1871.8	8	-20.054	+0.009	+0.19	9.91270	9.86072	0.69422	0.07912	135.480	3212	XXIII. 276	..	8374

The magnitudes of Stars taken from Argelander's *Uranometria Nova* are marked with *, and those from Heis's *Atlas Celestis Novus* with †. Other magnitudes are taken in the order of preference from the British Association Catalogue of 8377 Stars; from the Catalogue of Lalande published by the British Association; from the Radcliffe Catalogue (1860); from Piazzi's Catalogue (1814); from Weisse's two Catalogues, *Positiones Media Stellarum Fixarum in Zonis Regionum* (Weisse's Bessel); from Argelander's *Bonner Sternverzeichnis* (Argelander's Zones); or, for the variable Stars, from the Catalogue of Schönfeld (*Zweiter Catalog von veränderlichen Sternen, mit Noten*, 1875). The authorities for any remaining magnitudes are given in the Notes.