

KG
11366
v. 734

DR Part

P

$$\text{Preses. } \left\{ \begin{array}{l} m+n \sin \delta \tan \delta \quad m \cos \delta \\ m = 3.07224 \\ \log m = 0.1261149 = 1.3022062 \end{array} \right.$$

$$\text{Seovan. } \left\{ \begin{array}{l} A + B \tan \delta + C \tan^2 \delta = \frac{da}{dt} \\ A' + B' \tan \delta = \frac{d\delta}{dt} \end{array} \right.$$

$$A = +.00190 + 7.81287 \sin 2\delta$$

$$B = 8.47524 \cos \delta + 6.75992 \sin \delta$$

$$\log C = 8.11390 \sin 2\delta$$

$$A' = 7.93601 \sin \cos \delta + 9.65133 \sin \delta$$

$$B' = 9.28999 \sin^2 \delta$$

D. B. Pratt
1883-84

Record
of the
Work done
by
D. B. Pratt
1883-4

1883phae.proj.1738P

Pross' note book

Sept. 1883

checked R.A. + d
summations in the
five books entitled

"Fundamental Stars.
Observations + Reductions"
B₁ B₂ B₃ B₄ B₅ - { 1872-73
 { 1870-71

Oct. 1883

Fundamental Stars.
checked α & δ summation in

B1 1876-7 $0^h 2^m$ to $6^h 9^m$
B3 1876-7 $12^h 48^m$ to $1^h 28^m$

Rechecked—

General Catalogue

Observations + Reductions

~~A₁~~	1874-5	$0^h 0^m$ to $1^h 52^m$
A ₂	" " "	$1^h 52$ to $4^h 32^m$
A ₃	" "	4 32 .. 6 17
A ₄	" "	6 20 .. 8 47
A ₅	" "	8 49 .. 11 19
A ₆		11 21 .. 14 10
~~A₇~~		14 12 .. 16 14
A ₈		16 16 .. 17 58
A ₉		18 0 .. 19 49

Oct. 1883 (con)

A_{10}	1874-5	1949 ^h to 22 ^h 10 ^m
A_{11}	" "	22 14 " 23 49
A_{12}	" "	23 ^h 49 ^m - 0 ^h 0 ^m

Rechecked
Fundamental Stars, Zone 7c.
Observations + Reductions

B_1	1877
B_2	1877
B_3	1877

Rechecked
Fundamental Stars

B_2	1876-7
B_3	1876-7
B_4	1876-7
B_5	1876-7

Supplemental List

Oct.

Rechecked
Maskeleyne Fundamentals

Observations & Reductions

B₁ 1877

B₂ 1877

Rechecked

Fundamental Stars

Observations & Reductions

B₁ 1870 - 71

B₂ 1870 - 71

B₃

B₄ 1872 - 3

B₅ 1872 - 3

} Nov,

Nov. 1883

Performed multiplication to reduce
to 1875.0 in Book entitled

D.M. Places for 1855.0 + 1875.0

Zone Observations Final Reductions

1849 to 22 23 No 4

From p. 49 - 89 inclusive

90 - 96 . . .

97 - End,

" D.M. Places 1855.0 + No 5

p 1 to 36 inclusive

37 to 54 . .

X of 8
No 5

Rechecked: D.M. Places 1855.0 1875.0
Zone Observations. Final Reductions)

The multiplication to reduce the 0 to
1875.0 B4

p 1 to 65 inclusive

66 to the end

to B5

Prov. & Dec.

B₃ Multiplying of δ checked to
p 14

Summs δ in Vo 4 D.M. Places
for 1855.0 + 1875.0 to middle of Page
48 + from P 67 to 78 inclusive

48 to 58 B. 4

59 to 66 inclusive B. 4

From p 81 to 92 inclusive B₁

Checked RA + δ Sum $\left(\begin{array}{r} 22 \text{ to } 24.25 \text{ to } 30 \\ 13 \\ 41 \\ 149 \\ 80 \end{array} \right) \underline{67.58}$

Summs of δ in Bk 2 75 to 88 inches
to 957 inclusive

B₃ 69 to 76 checked

RA + δ sum, 79 to 88 95
to (1/2 III) to End.

Dec. 1883
 Copied on sheets fundamentals
 for 1877

Dec 17 finished 49-50-51

19 " 52 53

20 " 54-5-6-7-8-9

21 " 60-1, 2, 3, 4, 5

Dec 21 finished the 3 Bks of '77
 & began on Maskelyne X

Dec 22 finished Bk, Maskelyne

Dec 24 finished year '77

Dec 26 Copied R.A. & δ on sheets for '77

Dec 27 Began copying 1872 funda-
 mentals on sheets, K. L.V.

Dec 29 finished B₄ & began B₅
 (" sheets 12 to 17 partly)

Dec 31 finished 18

Jan 3 " 19 20

Jan 4 " 21 22 & 23

Jan 5 " 24

Jan 1884

6th. finished 25 26 + 27 of 1872

7th filled in missing obs. from B_4 + B_5
(28 + 29 finished) (B_5 -finished)

Jan 8 ~~run~~ on $\tan \delta + \Delta T + m$ in C_{42}

Jan 9 finished C_{42} & began C_{41}

Jan 11 finished running on $\tan \delta + (\Delta T + m)$
in C_{41} + C_{43}

Began copying on zone sheets from C_9
finished sheet no. 107

Jan 12 " " nos 108 to 113 inclusive

Jan 14 " " " 114 to 117

Prepared sheet 116a & copied out.

I have changed sheets ~~118~~¹²⁷ to 160

Jan 15 finished sheets nos 118 to 122 inclusive

Jan 16 " " " 113a 113b 121a 123

Prepared sheet 121a

Got the constants twice Therm. +10 too!

Jan. 17 finished 124 to 27 inclusive

Jan. 18 " " 128 128a 128b 129 & part of 130

prepared 128a & b

Began the reduction of Polar cat. for 1872

1884

Jan 19 copied $\tan \delta$, $\frac{d\alpha}{dt}$ $\frac{d\delta}{dt}$ & δ of Polar
Catalogue from 23^h to 16^h 18^m

Jan 21 finished the above work & began to
check the same

Jan 22 finished the above & Copied
several ~~promitted~~ - Began to
copy $(\Delta T + m)$

Jan 23 con. the above.

Jan 24 finished copying $(\Delta T + m)$ & checked
 B_5 B_4 B_3 for m , c , & Req. for the
polar catalogue. Began the checking of $(\Delta T + m)$
finished B_4

Jan 25 finished the checking of $\Delta T + m$ in
 B_3 & B_5 ~~Began to~~ $\times m \tan \delta + c \sec \delta$
in B_3

Jan 26 Continued the above.

Jan 28 worked on Apparent place sheets

Jan 29 contin the above.

Jan 30 finished 11 Sheets of appatint place
& began on 10 more sheets 34-43+3

Jan 31 finished the above 10 sheets & summed
2 others. Began 10 more,

1884

Feb 1 Finished the 10 apparent place sheets.

Feb 2 Began on 13 more do.

Feb 4 finished the above,

Feb 5, Began the summing of $\alpha + \delta$ for Polar Catalogue putting in $\sin z$ & also $\sin \delta$ where omitted.

Feb 6 Away to W.

Feb 7 Continued my work of the 5th.

" 8 " " " "

" 9 " " " "

Feb 10 Finished the Polar Catalogue

Began work on interpolating apparent place sheets.

Feb 12 Did 10 of the above sheets & numbered sheets the rest of the A.M.

Feb 13 found the $\Sigma + \delta'$ in 76 & 77 Books.

Feb 13 & 14 do 15 do

Feb 18 Began to find the mean of α, δ & δ' wires for Zone 1883

1884

Jan 19 copied $\tan \delta$, $\frac{d\alpha}{dt}$ $\frac{d\delta}{dt}$ & δ of Polar Catalogue from 23^h to $16^h 18^m$

Jan 21 finished the above work & began to check the same

Jan 22 finished the above & copied several $\times$ omitted, - Began to copy $(\Delta T + m)$

Jan 23 con. the above.

Jan 24 finished copying $(\Delta T + m)$ & checked $B_5 B_4 B_3$ for m, c , & Reg. for the polar catalogue. Began the checking of $(\Delta T + m)$ finished B_4

Jan 25 finished the checking of $\Delta T + m$ in B_3 & B_5 ~~Began to~~ $\times m \tan \delta + c \sec \delta$ in B_3

Jan 26 Continued the above.

Jan 28 worked on Apparent place sheets

Jan 29 con. the above.

Jan 30 finished 11 sheets of apparent place & began on 10 more sheets 34-43+3

Jan 31 finished the above 10 sheets & turned 2 others. Began 10 more,

1884

Feb 1 Finished the 10 apparent place sheets.

Feb. 2 Began on 13 more do.

Feb. 4 finished the above,

Feb 5, Began the summing of $RA + \delta$ for Polar Catalogue putting in $\sin z$ & also in $\tan \delta$ where omitted.

Feb 6 Away to W.

Feb 7 Continued my work of the 5th.

" 8 " " " "

" 9 " " " "

Feb 10 Finished the Polar Catalogue

Began work on interpolating apparent place sheets.

Feb. 12 Did 10 of the above sheets & numbered sheets the rest of the A.M.

Feb. 13 found the $\Sigma + \delta'$ in 76 & 77 Books.

Feb 13 & 14 do 15 do

Feb 18 Began to find the mean of $Q.A.$ & δ wires for Zone 1883

1884.

Feb. 19 Continued taking the mean
of Q.A. to wires,

Feb 20 Continued the above,

do

Feb. 21 Con. the above - began to copy
circle readings & ~~the~~ observed magni-
tudes.

Feb 22 Calibrated by continuing
the above work,

Feb 23 do,

Feb. 25 - finished the above copying &
taking of means. Began to
take means of circle readings
microscopes.

Feb 26 Finished taking mean of micros.
Began to copy plates & proper motion
 L_0 & D_0 for reduction to 1887.5.0 on
fundamental sheets.

Feb 27 Began to copy circle readings
& α & δ used for observation in to zone
Book 1883 No 2,

Feb 28. ~~29~~ do

1884

March

1 # + 3 + 4 Copied pces. Sacc. Var. + Proper
motion on to sheets also of 50
to reduce to 1875.0

5. checked 70 sheets of the above
(wrong!) Began to take mean
of To + Tm for 1883 fundamen-
tals Oct + Nov.

6 Con-tin-ued the above,

7 finished the above up to Nov 17
Copied on precession sheets 242 - 324
8 325 - 399

10 Began to check To + Tm as above in fundamen-
tal Book.

11 con. the above + worked part of precession
+ 2 sheets 190 to ? (about 25 sheet)

12 finished checking work. Began to find
I cos δ V mean of A_1 & A_2 , groups referred to the
mean of all the wires.

13 Cal Did the tenth of year precession
for mean year for a.s. sheets 222 - 275

14 The above work sheets 275 to 283.

Did ~~most~~ a little - most everything

March 15-1884

Did 'multiplying for prec & proper
motion on sheets 222 to ---

Mar 17 --- 283

Mar 18 worked on wire interval

Mar 19 worked broken wire for
fundamentals

March 20 finished the above. Began
grouping fundamentals * by date
Copied ✓ record Book into ~~fund-~~
zone fundamental Book the
* 5 name 5 + R.A. from Nov. 17
to Jan 21

Mar 21 + 22 Summed on prec. sheets to
reduce 1875.0 sheets 114 to 134
+ about 15 other sheets numbers
unknown. (93 on ?)

Mar 23 24 25 + 26 Worked on apparent
place sheets for fundamentals for zone,
from data given in J. B.

Mar 27 copied in R.A. to Nov 14 + found
T - R.A. Copied data into Constant Book
+ took out Jan 5 to Nov 14 1883,

Mar 28

Took $T_m - T_0$ in Fundamental Book
for zone upto Nov 14

March 29. Performed the final summing on
Preces. sheets 302-318 to reduce to 1875.0
do. " 320-327

March 30 checked the mean of circle
readings in Fundamental Book for
zone 1883 to Nov 28.

April 1 + 2 Investigated the value of incli-
nation from Oct 9 to Dec 3 1883

April 2 Took out log $T_m - T_0$ to Nov. 6.

3 + C found correction for i in above
Book from Oct 9 to Nov 12

April 10 + 11 found the mean of
 $\delta + \alpha$ for each year on precession
sheets 201 to 253 inclusive

April 12 Sheets 400 - 375

" 14 374 - 60

April 15 359 - 351 inclusive, Copied year
no. of observations + mean for each
year on sheets 1 to —

Apr. 16. Continued to sheet 128

1884

April 17 Copied year, number of
observations & mean ~~of~~ of the obser-
ved α & δ for each year on precession
sheets 128 - 200

April 18 do. 201 - 276'

April 19 375 - 400 Also took mean
of α & δ by weights on sheets
36

April 21 100 and 136 - 150

" 22 179 - 199. Copied year
No. of obs. mean α & δ for each year on
sheets 276 - 300 & 300 - 350

" 23 checked mean by weights on
sheets 179' - 159'

" 25 ~~160~~¹⁷⁸ - 135 & 200 - 189 - 180

" 26 200 - 225 - 242

" 28 ~~243 - 225~~ & 276' - 291

29 291' - 318 & 321 - 344'

30 Worked on sheets comparing Paris with
H.C.O.

May 1 continued the above

May 2. Began to find T_m for Polaris
beginning Oct 9 1883

May 3 Continued work on Polaris

4 = Sunday $\times 5$ Copied fraction of year on sheets
~~135~~ - ~~211~~ 335 - 399

~~125~~ - ~~225~~ 335 - 399

May 1 to Sheets 142 - 194²⁰⁹ same work
contin. Polaris

Centin, Polaris

May. 17 copied fraction of year on sheets
209-316

209'-316'

May 8 317-330 Began to take the
means of Tm + Ts wires in fundam-
ental Book 1883 Nov 17

May 9. Continued the above work
also checked the mean circle reading
to Dec. 3 1883

May 10 continued to take mean of $\delta + R.A.$

May 12

May 13 finished the above work to
March 10 1884,

Began to take means in Polaris
Book 1500, 12 1883 on.

May 14 Did about everything. Discussed
precession - took means, final T_m & checked
them in Polaris Book Oct 9 - end.
Corrected for K to NA place & got $T-Ra$.

May 14 (con) Began to take means
by years in Nonfundamental
cat. for 1872+3.

May 15 Took the means by
years of non-fundamentals
in B₅ 1872-73. Con. Polaris

May 16. Polaris work continued.

May 17 Polaris

May 19 Completed means up to
March 1. 1884. Began to check
in the same Book.

May 20 con. to check

21
22 { Polaris finished to Apr. 1884
23 { & apt check the means of
24 { broken observations.

May 26 { Reduced 1876 & 77 cat. for am. places.
" 27 { and calculated prec. by formula $m + n \sin^2$
{ etc

May 28 Continued the above work on 1876 & 77 precession.

May 29 Finished the above. Continued
to check in Fundamental book means of
T_m & T₂ wires & also to fill in broken Transits
up to Dec 1/1883

May 31. Worked on Sec. var, for
1872-3 sheets

June 2 Continued the
above

June 3. do. Began to copy
plates & R.A. & δ for each
star on sheets to reduced
to 75.0

June 4 do. ra, me.

June 5 do. — —

June 7 do.

9 do.

10 do.

11 finished mapwork on
precession for 3 sets of
sheets of 11, 16, & 11 P.P. aspect
only. Copied mean year & No.
of observations into Comparison
Cat. 1875.0

June 12 Finished the above copying
Checked the mean of years and
the final means by weights of
L.C. with M.C. on fundamental sheets

June 13 Checked the mean year
+ final means by weights of
L.C. + N.C. stars on sheets
155-256

June 14 Began to Calculate the
Secular Var. Constants for 284~~1~~ from
vol. II, sheets 1 2 + part of 3

June 16 Checked Corrected for
proper motion error on sheet
87-123

June 18. Secular var. constants
on sheet 36 + 7, see above

June 19 Coast Survey Cat.
Sheets 1 + 2 of Sec. var.

June 20 do. 3 also polar cat sheet 1

June 21 do. 4. Completed $\frac{dx}{dt} + \frac{dy}{dt}$ on 1234 +
Polar Cat. ~~Q~~ 1

June 23 Pieces, Sec. var. + 3rd term
Corrected below pole ~~x~~^s mean year
Sheets 1-338.

June 24 - Found mean year on sheets
469 - End! Corrected on these sheets
for below pole ~~x~~^s only the precession error.

June 24. (Circ) Corrected precession error
on sheets 80 - 133 for final value

June 25 Continued above to sheet 380
also checked sign & value of first
correction for each star, from sheet 265
to 380

June 26 Continued the above to the end

June 27 Finished sec var. on sheets
4 5 6 & part of 7 of vol ~~XII~~ ~~XV~~
Vacation

July 1 } Worked on division errors
2 } of m.c.

July 3 do, Continued sec var,
on Polar Cat. & Coast Sur. Cat.

July 5 Finished sec var. of Pol. Cat
& continued the Coast Sur. Cat.

July 7 Continued the above, Circle
errors & occupy most of the time

July 8, 9, 10. Out observing

July 11 Finished 7 8 9 10 & 11 of sec var
for Coast survey Cat.

July 14. Began checking the precession & sec var.
for 1876 & 77 Checked prec. $12^h 23^m - 19^h 38^m$

July 15 checked precession to the
end of 1886 & 77 - checked constant
A B & C from tables from $12^h 23^m$ to
end & began with sheet 8 to apply
to 5 & 10 & 15

July 16 Finished the above checking
to the end also copied into
vol XII Cat the computed values
of precession & sec. var. & began
to look up discrepancies

July 17 Checked doubtful cases in Pre-
cession in Vol XII $12^h - 24^h$ & Sec-
var $12^h - 18^h$

July 18 continue to $21^h 50^m$

July 19 Finished Vol XII checking & began
to check by comparison C. S. Cat. from
 17^h - got to $20^h 19^m$ & corrected
mistakes up to this date

July 21 & 22 Worked in M.C. Room also
finished checking C. S. Cat. Re-worked
precession for sheet 3 polar Cat. from $19^h - 3$
6 end & looked up doubtful cases in
Sec. var.

July 23 Finished checking doubtful cases in Polar Cat. Sec. var.

July 24 Copied μ & reduced to 75.0 of last 4 sheets of 76-77 Cat. Also checked the final value of μ on fundamental sheets from 471 to the end. Copied Q.A., Dec.

~~* Prec + μ from 9 yr. cat, onto ~~the fundamental sheets~~~~

Large non-fundamental sheets 3 & part of 4

July 25 Copied the above quantities through sheet 8 & began to copy the same for the ~~9~~ from 1860 cat. sheets 1-4

July 26 Continued the above for both 1872 & 1860 Cat's. & reduced the values μ to 75.0 to compare.

July 30 Finished comparisons with 1872.0 cat.

July 31 Got to sheet 10 about $\frac{1}{2}$ on 1860.0 cat.

Notes

Copy of 1877 on sheets

Ex Feb. 14th. for $\times 107$ B,
Mar. 6th $\times 115$ Ex. δ B,
Apr. 16th. Ex $\times 135$ B,
May 13 + 30 $\times 170$

June 2 + 24 $2^h 16^m 47 + 113$ 9 om. on sheet

June 20-24 25 27 and July 4 ~~omitted~~
on sheet for $\times 14^h 26^m + 3852$

June 27. $15^h 26^m + 41^0 15'$ om. on sheet

B₃ Oct. 18. Ex R.A. for $\times 510$ $21^h 7^m$

Oct 1 $22^h 7^m + 71^0 - 43'$ om. on sheet

— 23 9 + 22.42 B₃ Ex δ

Nov. 14 13 22 + 732 Ex δ

Dec 25 1 30 + 4759 om. on sheet

α Gem 7 26 + 32 9 B₁ Mask
om. on sheets.

Apr. 22 + 23, 9 21 - $8^0 7'$ B₁ Mask Ex δ

Jan 25, 15 29 + 277 om on sht.

α^2 Cap. 20 11 om on sheets B₂ Mask

α Piscis Aust 22 51 om. on sheets B₂ Mask

Notes on Copying 1872 fundamentals on sheets

~~Mar 30~~ B₄

Apr. 2 9ⁿ 23 + 70 24 om. on sheet,

Apr 6 21ⁿ 27 + 70^o om on sheet

Apr 1 21ⁿ 40 + 70^o 43 om. on sheets

Mar 28 9ⁿ 42 + 59 38 om. on sheet

Apr 19 10 26^m + 9 58 om. on sheet

Apr 18 22 45 + 114 28 om. on sheet

Apr 22 " " " " " " " "

Apr. 25 12 6 + 78 19 om on sheet

~~Jan 1 (or June)~~ 12 50 + 66. 7 to be filled in
on sheet

Jan 1 12 56 + 11. 39 to be filled in.

June 3 13 41 + 39 10 om. on sheet,

+ Polaris for Jan 1 9 10 & 11 to be filled in

Br June 11 13 18 - 10 29 om. on sheet

+ Jan. 1 13 24 + 60 37 to be copied

+ Jan. 10 & 11 13 28 + 0 1 to be Copied

+ Jan 10 & 11 13 43 + 49 56 to be Copied

June 19 & 27 Ex 6 13 49 + 19 2

+ Jan 9 10 & 11 13 49 to be Copied

+ Jan 9 10 & 11 14 1 to be Copied

B₃ (con)Jan 9 14ⁿ 5^m to be copied

* Jan 9 10 + 11. 14 10 To be copied

* Jan 9, 10, 11, + 19. 14 21 To be copied

June ~~23~~ 14 21 om, on sheet~~Jan 9, 10, + 19 + Feb 7~~

July 1 14 34 + 44 58 om on sheet

* June 30 + July 1 14ⁿ 43^m - 15 30^s om, on sheet

* Jan 1, 8, 9, 10, 11, + Feb 14 To be copied

* Jan 1 + 8. 14ⁿ 57 to be copied,* July 6 15ⁿ 36 + 70 56 ex R, A,July 15 15ⁿ 37 + 6 30 om, on sheet

July 11, 15 45 + 60 0 om, on sheet

~~Feb 27 + 15 49 + 78 11 To be copied~~* June 30 &c. 15ⁿ 56^m + 85° 13'
om, on sheet,July 22 16ⁿ 20 + 14 20 om, on sheet~~July 24 16 22 + 61 48 om, on sheet~~

Aug 1 16 28 + 69° 3' om, on sheet

July 15 16 31 + 75 42 om, on sheet

July 1 16 36 + 77 42 ex R, A

July 25 16 36 + 77° 42' ex R, A

July 14 17 1 + 79 4 om, on sheet

h B₅- 1872 + 73

July 29 17 4^m + 40 41 Ex 5

June 30 17 9 + 14 32 Ex. R.A.

Aug 4 17 29 + 55 16 om on sheet

Aug 7, 8, + 70 17 29 + 55 16 om on sheet

Aug 5, + 8. 17¹ 51^m 56 54 Ex 5

July 27 + 30 18 4 + 110 38 om on sheet

Aug 7 + Oct 9, 18 14 + 86 36 om on sheet

Oct 2 + 9 18 14 + 86 36 Ex R.A.

Ex 5 on sheets for 18 39 + 69.2

Aug 1 Oct 2, 9, + 14 18 49 + 59 14

omitted on the sheets

Oct 10 18 55 + 71 7 om on sheet

19ⁿ 12^m + 11° 21' Ex 5,

~~Oct~~ July 27 + 19 13 + 67 26 om on sheet

19ⁿ 14^m + 53° 8' omitted on sheet.

~~omit~~ 1 Urs. Min. To be copied

20ⁿ 10^m + 46 22 Ex 5 for

Sept 28 & Oct 2

20ⁿ 51^m + 82° 3' om. on sheets.

Oct 12, 21ⁿ 16^m + 62 3 om on sheet

14 Dracon. 21ⁿ 18^m + 98° 6' om. on sheet

Nov 16 21ⁿ 23 + 109° 36' Ex. the min. for 5.

Oct 12 21 32 + 39 50 om on sheet

22^h 34^m + 12^0 $55'$ om. on sheet

May 22 11^h 59^m + 926 Ex δ

June 9 12 49 + 56^0 - $39'$ Ex δ

June 11 12 50 Ex δ

~~C_{10} P18 first om. on sheet.~~

Notes on reduction of Polar Catalogue for '72 & '73

Ex. δ of Gr. 67 $0^{\circ} 28^m$ for Nov. 17

Should 23 Cassiop $0^{\circ} 39^m$ be copied?

~~X Ex. sign of $\frac{d\delta}{dt}$ for Gr. 2213 $3^{\circ} 4^m$ O.K.~~

~~Where are Jan. 1 + Feb. 7, 1872 $2^{\circ} 27^m$~~

~~Ex sign of $\frac{d\delta}{dt}$ for Gr. 2391 $4^{\circ} 49^m$~~

~~Where are Feb. 27 + 28 + Mar. 3 + 28 $6^{\circ} 50^m$~~

~~What is the sign for tan. δ for $11^{\circ} 49^m$ Gr. 4163~~

~~Ex. $\frac{d\delta}{dt}$ for Gr. 4163 $11^{\circ} 49^m$~~

~~Should 240 Mrs Mira 1249 be copied~~

~~Where are ¹⁷² morning obs. of $14^{\circ} 26^m$ 5 Mrs Mira~~

~~Should Gr. 2213 $15^{\circ} 4^m$ be copied~~

~~{ Ex sign $\frac{d\delta}{dt}$ for Gr. 643 $15^{\circ} 23^m$ O.K.~~

~~Tell in from S.D. the rest of this //~~

~~where is the rest of $15^{\circ} 35^m$ 15 Mrs Mira~~

~~Tell from S.D. 16 6 Gr. 2320~~

~~Ex δ' for of Gr. 828 $16^{\circ} 18^m$~~

~~Tell in Gr~~

~~Where is the rest of Gr. 2391 $16^{\circ} 48^m$?~~

Notes on Polar Cat. (con.)

Where is the apparent place for δ
to be used in finding $\tan \delta$ for $9^h 23^m$
+ $86^\circ 30'$ ($93^\circ 30'$)

do. — for $10^h 12^m$ + $84^\circ 08'$

do. ... 10 23 85 28

11 28 93 24

11 54 87 35

12 14 + 88 25

12 48 + 84 6

12 49 + 88 20

3^h 19^m + 92 17 (End of B₄)

23 28 + 86 36

0 23 + 85 31

0 49 + 88 20

3 2 + 84

3 4 + 84 25

3 24 + 86 16

5 21 85 8

5 33 + 86 46

7 23 + 89 00

~~15 4 + 84 25~~

~~15 19 + 87 43~~

~~15 23 + 93 49~~

Polar Catalogue (con.)

Ex tan 5 for $17^h 55^m + 86^0 45'$

~~19 1 + 87 28~~

~~19 4 + 82 38~~

~~46 + 84 25~~

~~20 23 + 97 18~~

~~21 25 + 86 30~~

~~22 23~~

Ex 2320 Mrs. Min. $7^h 25^m$

Ex 5 of Gr. 2391 $16^h 48^m$

Ex 2 for Sal. 896 $18^h 20^m$

Ex 5 of Gr 1431 $20^h 23^m$

Ex 5 of Sal. 4097 + Sal. 4123 $22^h 13^m$

Notes 188H on Zone
Book No 1 for 1883

Page 40 of Circle readings
21^h 33^m 56^s Ex

Where is the place for 2nd ~~Nov~~ Nov 7
20^h 34^m 30^s, ?

Cleaned plate &c Dec 4th 1883

1883phae.proj.47385

1883phae.proj.47385

1883phae.proj.47385

1893phae.pr.03.1738P