

KG
11365
301

N 18

East Equatorial
Miscellaneous Observations
From 1871 November 4
to *Vol 18*
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KG 11365.301

1871 Oct. 21

Immersion of χ Sagittarii.

Observed with E. Equatorial by C.S.P.

Time noted by mean time chronometer H. 301 by A.S.
 $8^h 21^m 9.3$

The error of the South Clock by observations of this evening was 7.577 fast. After allowance for this error, the chronometer was fast, at $8^h 34^m$ mean time, $1^m 29.70$ by the mean of 3 comparisons with the South Clock, and at $9^h 15^m$ mean time $1^m 29.77$ by the mean of 2 comparisons. Hence error of chronometer at immersion of star $1^m 29.68$ fast.

Time from chronometer as above $8 \ 21 \ 9.3$
 Deduct for { error of chronometer $1 \ 29.68$
 absolute personal equation of C.S.P. 0.25 $1 \ 29.93$

Cambridge mean time of immersion of χ Sagittarii $8^h 19^m 39.37$

This entry made Nov. 15 1871. Original record pasted in below.

Immersion χ Sag. Oct. 21 1871
 Observed by C.S.P. with E. Equat.
 Time noted from chron. H. 301 by A.S.
 $8 \ 21 \ 9.3$
 $- .25$ corr. for abs. pers. eq. of C.S.P.
 $- 1 \ 29.92$ err. of chron.

 $8 \ 19 \ 39.18$ allowing S. Clock fast 8^s
 For error of chronometer
 3 comparisons with S. Clock mean $1^m 29.93$ at $8^h 34^m$
 2 " " $1^m 29.93$ at $9^h 15^m$
 " " $1^m 30.16$ at $9^h 15^m$
 " " $1^m 30.23$ at $9^h 15^m$

Note Dec. 15, 1880. In entering this observation, it is apparently best to omit the correction for personal equation, in order to make this observation conform to the rest. According to the almanac, the star is χ Capricorni, not χ Sagittarii.

1871 Nov 5

Coincidence 24.540

Adopted ^(gerd) position 232.0

In Kie's compared with A.Z. +35° 4729

Time noted by J. F. M.

C.S.P. obs.

Transits	☞			✱			time			Diff. dec. ☞ south
	h	m	s	h	m	s	h	m	sec	
24	1	40		24	2	37	1	7	24	101.14
		0	50		2	49	1	11	24	100.55
		1	61		2	57	1	13	14	100.83
1	16	46		1	16	48				
		53			17	58				
	17	14			17	18				
	18	46			19	50				
		54			58					
	19	14			20	19				

Stars follow S about 1^m.

Coincidence.

24 67

50

53

52

50

52

Mean 24.54 taken Nov. 24, 1877.

1871, Nov. 6 C. F. P. Obs. J. F. M. Rec.

Coincidence 51.373

Star entered field at 53.43 left at 53.93

Circle reads 51.8.

Zero

Star entered field at 50.93 left at 48.73

Circle reads 51.3

Coincidence of wires.

Star entered field at 47.17 left at 46.98

Circle reads 52.0

Star entered field at 49.70 left at 49.43

Circle reads 52.0

Star entered field at 49.35 left at 49.35

Circle reads 52.1, ^{which is} adopted as zero of position

51.40
40
39.5
41.4
40.2
39.5
40.3
38.7
39.1
39.7
37.7
38.1
37.8
38.4
38.8
37.8
37.0
36.0
38.1
37.8
37.8

Remark the smaller ones best, larger ones to be rejected.

The following are taken in pairs on one side & the other of the wire

51.43	32	51.375
43.3	318	37.55
43.4	312	38.3
43.0	313	37.15
43.2	312	37.0
42.5	322	37.35
42.0	329	37.95
44.9	296	37.25
43.9	305	37.2

Wires palpably crooked

Note Nov. 24, 1877. The third column opposite seems to be meant for the means of the corresponding figures in the first two columns, that is, for the coincidences themselves. Correcting the casual errors in this column, it becomes

51.375
37.55
37.3
37.15
37.2
37.35
37.45
37.25
37.2
37.25

Sum

Mean 51.3733

It seems needless to modify this result by allowing any weight to the previous observations recorded on this page, which seems from the note not to have been satisfactory to the observer.

1871 Nov 9

Coincidence 51.322

C. P. O. b.

Coincidence

51 32.5
 32.4
 33.0
 32.3
 32.5
 31.1
 31.5
 32.86

Aurora obs. with these first spectroscopes. By far the reddest ever seen. An intense fiery red. Absolutely no trace of light less refrangible than the bright green light.

96½ bright green

85 green

75 blue

57 violet ft.

these with the continuous light be-
 fore them and the bright green look
 red in the spectroscopes. They are also
 brighter in the red parts of the aurora

Red and green colors mixed together in irregular blotches.

Na 79½

Blue Dr. Cl 69½

Note. This aurora was no redder to my eye (and I think the color was ~~even~~ ^{practically} than that of the aurora of Oct. 14 1870. But it was certainly a very strong red, neither crimson nor scarlet. Arthur Searle.

1871 Nov 12

Encke's  J.M. Obs.From Nucleus to end of tail $\frac{1}{3}$ field of comet seeking eyepiece

Spectrum of Encke's Comet examined, light in the green sharp edge on the red side

Gas line with fr continuous spectrum running up ~~to the violet~~ ^{towards} the violet

3 lines; middle one brightest; red nearer to it than the violet is. Bright line sharp toward red.

All above pts. confirmed by Col. T.

1871 Nov. 13

Meteors.

16 meteors counted by C. P. & H. G. previous to $14\frac{1}{2}$ mean time.

A. S. S. Chronometer H. 301 $1^m 50^s$ fast. In times below, a correction of -2^m has been applied, as the chronometer was looked at in most cases several seconds after the meteor was seen. "Conformable" signifies "apparently belonging to meteors radiating from head of Leo."

At $14^h 37^m$ mean time	1 meteor south from head of Hydra.
39	1 eastwards from α Hydrae.
45	1 through head of U. S. Maj. towards Leo.
47	1 eastward between Hydra and Leo.
48	1 conformable, in Leo Minor.
55	1 westward, from β Orionis. Conformable.
15 6	1 eastwards, in Leo.
11	1 conformable, N.E. from α Can. Ven.
17	1 conformable, near Venus, towards which it moved.
16 3	1 conformable, south of α Hydrae.
17	1 from near α Leonis towards Venus.
30	1 conformable, from a little north of the Pleiades, westward.
32	1 conformable, nearly through α and γ Orionis.
43	1 conformable, north of Perseus.
52	1 conformable, from U. S. Maj. toward Cepella.
59	1 south of and parallel to line from α to α Leonis.
17 1	1 from α Hydrae towards β Leonis.
17	1 conformable, south of α Hydrae.
Conformable 9; others 9; in all 18	
Meteors seen before $14\frac{1}{2}$ 16. Total 34.	

[Observations made from east and west balconies of dome: at first mostly from the east, towards morning mostly from the west. All the meteors small, the brightest equal to 3^d magnitude stars: paths mostly very short, too short to locate accurately: a few small trains, lasting a few seconds. 5 or 6 more meteors supposed to have been seen, but not plainly enough to be sure of. Sky growing hazier and cloudier through the night. Some aurora over a bank of clouds in the N. increasing in brightness and extent till about $15\frac{1}{4}$, then fading. Diffused light, no distinct arch or streamers. Not seen at all after 1st. This paragraph applies only to observations of A. S.]

1871 Nov 18, C. G. P. Obs. J. H. M. Rec.

Enke's

Disappearance very sharp. Spectrum looking very badly

The Observations were made with the single Prism Spectroscope

Observed brightest line disappearance middle and reappearance
& then shifted the plate then observed the brightest line disappearance
and reappearance & then shifted the plate then observed most
retranslucal & least retranslucal lines in the middle.

then shifted the plate observed D. line of the moon, also b. also f.

Position of telescope moved considerably to get on the moon

I shifted the plate and marked two lines of Orion Nebulae

1st	"	"	"	"	"	bright	"	"	"	"
2d	"	"	"	"	"	second	"	"	"	"

Nebulae in the east, moon & Comet in the west

Note June 29, 1877. These observations seem to have been made with Prof. Winlock's apparatus for recording on a silver plate.

1872 Jan. 9

7

AZ - 1° 935 and 937 both double. Last triple
one of these stars apparently in. the other not.

Note June 16, 1881. D.M. - 1° 939 is the triple star Σ 734,
and this is probably the object designated here
as No. 937. Measurements were made 1872 Jan. 9,
and recorded in the small sheets then used for
this purpose, which agree with the Dun Ekt Catalogue
in regard to the triple star.

1872 Jan. 18.

Looked for δ 662 with the declination given in the positiones mediae no such double star found. Looked for it with the declination given in the Mensurae Micrometricae and found it. Mag 8 & 10 $\frac{1}{2}$ colors white & purple dec. of finding arc $25^{\circ} 41''$ A. R. = $5^h 8^m 32^{sec}$. The configuration shows this star to be A. R. + $25^{\circ} 507$ though the A. R. does not seem to agree. A. R. + $25^{\circ} 512$ is also a wide double mag. 9 & 7 $\frac{1}{2}$ colours yellow & violet. Stars very dim. Mag too faint.

* O of Position $231^{\circ} 40'$ Eridani following the bright star is a pair h the 10 $\frac{1}{2}$ & 12 mag. Circle = 34.6 lying between the bright star & bright pair position of this foll. pair circle = 5.7 S. of the bright star is a 11 $\frac{1}{2}$ mag star lying between them circle = 32.78 Line from North star to brightest of foll. pair circle = 74.2 The dif. of A. R. between the bright star & foll. pair is about 5 ^{sec} of time very hazy & bright moon therefore the mag are probably not correct. Observation of this star was interrupted by a cloud.

* Note Sept. 24, 1877. The zero of position seems to be 231° . The 40 which follows is to be taken with "Eridani" following, the star observed being apparently 40 Eridani, which is of the 4 $\frac{1}{2}$ magnitude according to the B. A. C., and would therefore be called a bright star.

1872 Jan. 25

Preceding ≈ 8.50 about a minute a little north of it is a double mag. 9.011
distance 3 sec.

Feb 2. J. W. & Mr L. Bonnet examined Jupiter
carefully and Mr. Bonnet made a sketch.
The seeing was not very good. The equatorial
band was red - rather a pinkish than a
brilliant red.

1872 Febr 19

Obs. C. P. P

Stop watch started at $7^h 23^m 0^s$ At $0^m 25.8^s$ by stop watch, an occultation & immersionChron. reads $7^h 26^m 58.2^s$ When Sidereal time ^{South} clock reads
 $7^h 28^m 10.0^s$
50^s sidereal time are 49.5^s Stop Watch

Note Dec. 15, 1880. According to this record, we
have Chronometer slow of South Clock $1^m 11.8^s$
 $49.5 : 50.0 = 25.8 : 26.1$; hence time by Chronometer $7^h 23^m 26.1^s$
 and time by South Clock $7^h 24^m 37.9^s$
 $\Delta T + m$ for South Clock ($7^h 3$) from Vol. X, $+ 12.49$
 Sidereal time, subject to correction m , $7^h 24^m 50.39^s$
 $m = -0.13$; hence $\Delta T' = +12.62$; hence sidereal time $7^h 24^m 50.52^s$

26 58.2
28 10.0

the Clock

Stop watch started $7^h 23^m 0^s$ At $0^m 25.8^s$ by stop watch, an occultation. Immersion.Chron. ^{reads} at $7^h 26^m 58.2^s$
when ^{Sidereal} Clock reads $7^h 28^m 10.0^s$ 50^s sid t are 49.5 on Stop watch

Note Dec. 16, 1880. This sheet found loose in the book and pasted in here today, as it seems to be the original record.

1872 Nov. 27

Meteors

11

J. W. As. $6^h 10^m$ mean time to $6^h 30^m$

200 meteors mostly
radiating from a point in
the neighborhood of γ Androm.
Mostly 4 magn, ~~5~~

Lo. J. As. $6^h 25^m$ mean time to $6^h 50^m$
5-6, three with crooked
paths

G. J. " $6^h 25^m$ to $6^h 50^m$ 52

A. S. obs. 1872 Nov. 27

Chron. H. 301 10^s fast of North Clock at 10^h and at 12^h
mean time. North Clock 16^s fast of Cambridge mean time

Chron. A. 424 at $10^h 12^m$ mean time $1^m 13^s$ slow of H. 301
at $11^h 12^m$ " " " " " "

Meteor brighter than Altair, with a train, started between γ Andr.
and ζ Persei, and ended ~~near~~ ran directly towards ζ Persei
ending nearer to it than the nearest fixed stars visible with the
naked eye. Time $9^h 32^m$ by chron. A. 424. Hence by above
comparisons $9^h 31^m$ by Cambridge mean time.

Note, Dec. 15, 1880. In this last time read $9^h 33^m$.

Meteor (faint, about 4th magnitude) just east of line joining β
& γ Arietis, parallel to that line, less than $\frac{1}{2}$ as far from it
as the stars are apart. From β towards γ . Time $9^h 46^m$
by A. 424. Hence as above $9^h 45^m$ Cambridge mean time.

Observations of meteors up to $6^h 50^m$ mean time as
at head of this page. The meteors seen by Lo. Houvelot
and G. Houvelot are presumably not the same, as
they were seen from opposite balconies of the dome.
In all therefore 308 meteors were counted between $6^h 10^m$
and $6^h 50^m$ mean time.

After $6^h 50^m$ the number seen was reported
even 5 minutes by observers on the east and west
balconies of the dome. The observers were changed from
time to time. They were J. W., Lo. J., G. J., W. W., J. F. McC.,
A. S. The observations are copied in the following page.

Observations discontinued at midnight.
Only 2 meteors seen by A. S. not radiating from region of γ Andromedae.

1872 Nov. 27 Meteors

Sign by chron. A424

East balcony West balcony

Time by chron. H. 301

E. balcony

W. balcony

6 ^h	50 ^m to 55 ^m	8		10 ^h 15 ^m to 20 ^m	3	2
7 ^h	55 to 60	12	5	20 25	4	3
	0 " 5	6	11	25 30	1 (not from And.)	0
	5 10	16	11	30 35	3	1
	10 15	16	10	35 40	0	1
	15 20	16	8	40 45	3	1
	20 25	16	17	45 50	1	0
	25 30	7	9	50 55	1	0
	30 35	13	8	55 60	0	2
	35 40	19	21	11 ^h 0 5	1	1
	40 45	10	6	5 10	0	0
	45 50	9	3	10 15	0	3
	50 55	10	4	15 20	1	1
8 ^h	55 60	11	29	20 25	0	0
	" 5	13	18	25 30	0	1
	5 10	16	11	30 35	0	1
	10 15	9	13	35 40	0	0
	15 20	7	7	40 45	0	4
	20 25	7	7	45 50	1	4
	25 30	7	3	50 55	0	1
	30 35	2	3	55 60	1	0
	35 40	9	2			
	40 45	2	2			
	45 50	4	2			
	50 55	11	6			
9 ^h	55 60	4	6			
	0 5	2	2			
	5 10	3	3			
	10 15	5	6			
	15 20	3	3			
	20 25	3	3			
	25 30	3	4			
	30 35	8 (1 not from Androm.)	12			
	35 40	5	3			
	40 45	1	4			
	45 50	4	5			
	50 55	5	3			
10 ^h	0 5	1	2			
	5 10	2				
	10 15	1				

In all

6 ^h 10 ^m to 6 ^h 30 ^m	200
6 30 to 6 50	108
6 50 to 9 45	542
9 45 to 10 15	23
10 15 to 12 0	46

Total 919

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