KG
11365
569

KG 11365.569

KG 11365.569

HARVARD
UNIVERSITY
LIBRARY
MAY 8 1956

July 6. 1904. (Wednesday).

R ✓ Ophiuchi. Phot. T. W. obs.

17 45 -6.0
15 10
-2 35
9 25

17 45
15 15
2 30 E ← Sky cldy in this region at present time

ET
8 24 Too cldy at present to see Var.

8 37 Sky too cldy for this Var.

No stars seen in finder

Sky pretty cldy everywhere

Will try for

i Librae

15 03 -19.2 9½ in cap
15 58 Phot T. W. obs.
55 W

For measurements see following page

July 6 1904 (~~W~~

ET
8 53 Sky cldy in this region. Stars momentarially seen in finder

R. and above

221.2 ∠ v ar dis
268.5

ET
9 04.5 → 39.1 47.3
90.7 51.6
98.9 1.68

219.0
271.5 52.5 - 1.64
40.7 49.9
90.6 102.4 1.60

L. and below

134.2
178.6 44.3
309.0 51.4
0.4 95.7 1.76

-1.72

130.9 49.6
9 12.4 180.5
9 8.4 310.4 50.0
14 7.8 0.4 99.6 1.67 mean -1.68

July 6 1904

9 23 Stars gone

L. and below

259.1

9 38.5 ~~30~~~~1~~3.9   44.8

70.7

132.0   6~~2~~1.3   1.51

106.1

250.1

310.1   60.0

79.0

125.4   46.4   1.50

106.4

R and above

168.1

209.9

9 48 Clds thicken Stars gone

S.T 17 14

H.a 2 11 W

Dec − 19.5

P.a 246.0 Ver B.

Sprocket −2.5 b −1.5 c

over

July 6 1904

Impossible to finish second group on acc't of clouds.

Troubled also by clds in first group.

~~Hm~~ First group one half weight.

The readings for sprocket are pretty close, although as clds grew thicker, somewhat suddenly the images could not quite be superposed.

Clouds so thick that it is impossible to do any thing further

W's watch used for times to-night Watch 37^s fast.

July 8, 1904 (Friday)

L Libra

15 03 — 19.2

15 26

0 23 W

Right and above

ET

8 14.4 345.3 ∠ vardis

38.4 53.1 ✓

167.0 52.1 ✓ 9.5 inch cap.

219.1 105.2 ✓ 1.53

~~344.3~~ 166.7 53.6 ✓ 1.50

~~36.0~~ 220.3 54.2 ✓

343.0 107.8 ✓ 1.47

37.2

L. and below

77.0 49.2 ✓

126.2 1.60

259.3 45.3 ✓

304.6 94.5 ✓ 1.75

77.8 47.5 ✓

8 21.0 125.3

35.4 256.8 50.9 ✓ 1.70 mean — 1.62

8 17.7 98.4 ✓

5 -.5 307.7

13 17.2

July 8, 1904

Same again

77.2
8 22.5   126.9   49.7
257.8   48.4
306.2   98.1   1.70

79.0   45.7   1.75
124.7
257.2   48.5
305.7   94.2   1.80

R. and above

344.7
37.6   52.9
166.1   52.8
218.9   105.7   1.52

344.9   1.50
8 29.1   37.2   52.3
11.6   164.4   55.4
8 25.8   219.8   107.7   1.47
5 -.5
13 25.3
mean -1.62
Gen. mean -1.62

July 8 1904

Sid. Time 15 59
H. a 0.51
Dec +19.5
P. a 246.5 V e B
Sprocket -2.5 b, -1.5 c.

R. S. Ophiuchi

17 45 -6.0
16 10

1 35 E

Measurements next page

July 8 1904

2 T
9 05.7 . 33/2/6
42/.1

I

L. and above.

92.2 C. S. dis.
9 08.2 144.7 52.5
265.1 66.6
331.7 119.1 +1.21

+1.16

84.8 68.4
153.2 55.4
271.7 123.8 +1.11
327.1

R. and below

~~43.5~~
332.8
28.4 55.6
145.6 66.0
211.6 121.6 +1.16

+1.22

327.5 62.4
9 26.4 29.9
34.6 150.5 54.2
9 17.3 204.7 ~~96.6~~
+5 -0.5 116.6 +1.27
14 16.8 mean = 1.19
667:0.595

July 8 '04

Same again

II

9 31.5 | 330.1 |
25.1 | 55.0 ✓
144.1 | 67.9 ✓
212.0 | 122.9 ✓ +1.13 ✓

324.0 | 69.4 ✓ | +1.14 ✓
33.4
152.4 | 52.4 ✓
204.8 | 121.8 ✓ +1.15 ✓

L. and above

241.0
296.8 | 55.8 ✓
50.4 | 73.9 ✓
124.3 | 129.7 ✓ +0.99 ✓

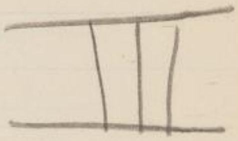
232.9 | 74.1 ✓ | +0.98 ✓
307.~~8~~0
58.7 | 55.7 ✓
114.4 | 129.8 ✓ +0.98 ✓

9 43.0
74.5
9 37.2 ✓
+5 −0.5 ✓
14 36.7 ✓
6670.609 ✓

Mean = +1.06 ✓

July 8 '04

L. and above



241.2 57.1

946.6 298.3

57.6 66.1

123.7 123.2 +1.12

232.9 72.2 +1.05

306.1

57.3 57.9

115.2 130.1 +0.98

R. and below

153.5

205.7 52.2

325.1 68.4

33.5 120.6 +1.18

145.0 67.2 +1.20

951.7 212.2

98.3 332.0 52.0

949.2 24.0 119.2 +1.21

+5 -0.5 mean +1.12

14 48.7

6690.617

July 8 '04

R. and below

IV

E T.
1002.9

153.4
206.7 53.3 ✓
325.3 63.1 ✓
28.4 116.4 ✓ +1.27 ✓

~~14~~
4.7
14~~2.8~~ 68.1 ✓ +1.27 ✓
212.8
333.8 48.6 ✓
22.4 116.7 ✓ +1.27 ✓

L. and above

60.5 54.3 ✓
114.8
233.5 70.0 ✓
303.5 124.3 ✓ +1.10 ✓

51.6 69.6 ✓ +1.08 ✓
1016.0 121.2
18.9 241.0 56.9 ✓
10 9.4 ✓ 297.9 126.5 ✓ +1.05 ✓
+5 -0.5 ✓
15 8.9 ✓
6670.631 ✓

mean +1.18 ✓

July 8 '04

L. and above

V

ST
10 22.7

56.8
117.0 60.2 ✓
233.8 69.8 ✓
303.6 130.0 ✓ +0.98 ✓

54.0 71.6 ✓ +1.06 ✓
125.6
243.2 51.5 ✓
294.7 123.1 ✓ +1.13 ✓

R. and below

333.2 51.6 ✓
24.8
145.1 66.3 ✓
211.4 117.9 ✓ +1.24 ✓

327.0 64.3 ✓ +1.26 ✓
31.3
152.6 51.9 ✓
204.5 116.2 ✓ +1.28 ✓

Mean 1.16 ✓

10 36.6
59.3
10 29.6 ✓
+5 −0.5 ✓
15 29.1 ✓
6670.645 ✓

July 8, '04

R. and below VI

335.0
1043.7 22.0 47.0 ✓
143.7 68.9 ✓
212.6 115.9 ✓ +1.28 ✓

327.6 62.4 ✓ +1.30 ✓
30.0
152.1 51.8 ✓
203.9 114.2 ✓ +1.32 ✓

L. and above

243.7 51.9 ✓
295.6
54.4 68.8 ✓
123.2 120.7 ✓ +1.18 ✓

232.8 69.5 ✓ +1.18 ✓
10 54.4 302.3
98.1 62.1 51.3 ✓
10 49.0 ✓ 113.4 120.8 ✓ +1.18 ✓
45 -0.5 ✓
15 48.5 ✓
6670.658 ✓

mean 1.24 ✓

July 8 04

L. and above

233.2
11 16.0 293.7 50.5 ✓
54.0 65.2 ✓
119.2 115.7 ✓ +1.29 ✓

233.4 67.6 ✓ +1.26 ✓
301.0
62.1 51.1 ✓
113.2 118.7 ✓ +1.22 ✓

R and below

152.9 48.7 ✓
201.6
327.4 60.8 ✓
282. 109.5 ✓ +1.43 ✓

11 144.1 67.0 ✓ +1.38 ✓
+0 25.9 211.1
41.9 ✓ 336.8 47.2 ✓
11 21.0 ✓ 23.3 114.2 ✓ +1.32 ✓ mean +1.32 ✓
+5 -0.5 ✓ S. T. 16 52
16 20.5 ✓
6670.681 ✓

Dec ~~+1.05~~ +6.7

~~R~~ a +1.06

P.a. 138.0 Vu B

Sprocket -2.5 a, -1.5 b, -0.9 c,

1904phae.proj..57OW

July 8. 1904.

H's watch used for times to-night.
Watch 30 secs. fast.

July 9th 1904 (Sat)

ι Librae

15 03 −19 2
15 15
12 W

15 03
16 26
1 23

Too cloudy for ι Librae

Double W Obs
16 03 −32.2 Phot R
16 44
41

16 03
16 52
49

Impossible to see double on acc't of clouds

July 9, 1904

2 Libræ 9½" cap

15 03 −19.½
17 01
11 58

R + above var this

9 42 337.3 48.6
25.9
153.6
206.5 52.9
101.5 1.62

353.6
52.0 1.56
25.6
153.7 54.1
207.8 106.1 1.51

L + Below

246.3
293.5 47.2
66.0 50.7 1.71
116.7 97.9

245.8 1.70
9:49:30 294.5 48.7
11 30 66.1 49.7
9 45 45 115.8 98.4 1.70
5 −28
14 45 17

mean −1.63

July 9, 1904

During the proceedings obs. of δ Librae. sky clear in this region As it is desireable to take another var. and these obs. run well a second group was not taken.-

S.T. 17 43
H.a 2 15
Dec −19.6
P.a 66.5 Vernier B
Sprocket A — B −2.5 C −1.5

R.S Ophiuchi

17 45 −6.0
17 26
19

July 9, 1904

L + Above

I

Comp Star this

56.5

10 07 40 123.0 66.5 ✓

245.5 49.6 ✓

295.1 116.1 ✓ 1.28 ✓

64.3 53.4 ✓ 1.30 ✓

117.7

239.7 61.5 ✓

301.2 114.9 ✓ 1.31 ✓

R + Below

329.6

32.3 62.7 ✓

154.5 50.4 ✓

204.9 113.1 ✓ 1.35 ✓

336.5 48.5 ✓ 1.36 ✓

10 16 03 25.0

23 43 146.8 64.0 ✓

10 11 52 210.8 112.5 ✓ 1.36 ✓

-28

10 11 24

mean +1.33 ✓

OEW

July 9, 1904

II

R & Below

329.4 62.0 ✓

10 19 30 314

155.5 48.7 ✓

204.2 110.7 ✓ 1.40 ✓

2

337.3 47.1 ✓ 1.34 ✓

24.4

145.8 65.4 ✓

211.2 112.5 ✓ 1.36 ✓

L. & Above

248.8 44.9 ✓

293.7

59.0 63.3 ✓

122.3 108.2 ✓ 1.46 ✓

238.8 65.1 ✓ 1.34 ✓

10 30 40 303.9

64.5 50.1 ✓

50 ~~40~~ 114.6 115.2 ✓ 1.30 ✓

Mean +1.34 ✓

10 25 05
5 - 28
15 24 37

July 9, 1904

III

247.0
296.0 49.0 ✓
10 46 40 56.7 66.5 ✓
123.2 115.5 ✓ 1.29 ✓

~~238.9 64.5 ✓~~
~~303.4~~
~~59.9~~ ~~59.7~~ − 62.8 ✓
~~122.5~~ ~~157.3~~ ✓ +1.31 ✓
~~R + Below~~

239.8 63.1 ✓
302.9
65.3 50.8 ✓
116.1 113.9 ✓ 1.33 ✓
R + B elow

151.9 56.9 ✓
10 52 20 208.8
338.8 46.3 ✓
10 49 30 25.1 103.2 ✓ 1.58 ✓

(over)

July 9, 1904

	155.8			
10:54 10	204.6	48.8 ✓		1.49 ✓
	329.2	61.8 ✓		
	31.0	110.6 ✓	1.40 ✓	Mean +1.40 ✓
				IV
	149.7			
10 59 45	209.2	59.5 ✓		
	338.6	45.1 ✓		
	23.7	104.6 ✓	1.54 ✓	
	157.5	46.8 ✓		1.49 ✓
	204.3			
	328.7	62.2 ✓		
	30.9	109.0 ✓	1.44 ✓	

Left & above.

	55.2	68.2 ✓		
	123.4			
	247.2	48.4 ✓		
	295.6.	116.6 ✓	1.27 ✓	
	64.3	52.0 ✓		1.26 ✓
11 10 00	116.3			
29 45	237.8	65.0 ✓	1.26 ✓	
" 8 4 52	302.8	117.0 ✓		Mean 1.38 ✓

July 9. 1904.

S.T. 18 40
H.A. 54
Dec. −7.0
P.A. 317.0 Vernier B
Sprocket A −2.5 B −1.5 C −0.9

W's watch used for times to night.
Watch 24 secs. fast.

July 11 1904 (Monday)

T. Cygni   Phot T
W. obs.

20 41 +33.8
15 31
5 10 ε

R. and above

ε.T
δ 13.4

72.4 < var dis
104.6 32.2✓
255.9 30.6✓
286.6 62.8✓ −2.76✓

76.2 28.3✓ −2.78✓
104.5
254.0 33.6✓
287.6 61.9✓ −2.79✓

L. and below
340.4 38.8✓
19.2
166.1 32.2✓
198.3 71.0✓ −2.47✓

344.9 31.2✓ −2.47✓
16.1 40.0✓
160.2 71.2✓ −2.47✓
200.2 mean −2.62✓

δ 21.0
δ 17.2

July 11 '04

Sid T. 16 02
H. a 7 17 E
Dec + 33.9
P. a 189.5
Sprocket -3.5 b - -2.5c

July 11 04

Phot. I,
W. obs.

R. Y. Ophiuchi

17 45 -6.0
16 05
1 46 ε -6.0

I

L, and above

ε T
8 46.~~9~~54

65.2 < c.s. obs
116.3
239.3
301.5
58.6
123.4
246.2
295.7

51.1
62.2
113.3 +1.34

64.9 +1.33
49.5
114.4 +1.32

R, and below

336.0
24.0
152.4
211.3

48.0
58.9
106.9 +1.49

+1.55

333.3
28.7
158.3
204.7

55.4
46.4
101.8 +1.61

mean +1.44

ε T
9 04.19
8 55 36
5 -35
13

July 11 04
Same again

II

E T
9 05.11 338.5
28.0 49.5 ✓
153.4 57.5 ✓
210.9 107.0 ✓ +1.49 ✓

331.5
29.4 57.9 ✓ +1.54 ✓
158.6 45.3 ✓
203.9 103.2 ✓ +1.58 ✓

L. and above.

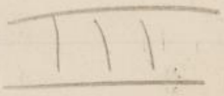
247.0
294.1 47.1 ✓
62.0 56.1 ✓
118.1 103.2 ✓ +1.58 ✓

241.0
9 29.17 299.0 58.0 ✓ +1.57 ✓
67.6 45.9 ✓
9 17.14 113.5 103.9 ✓ +1.56 ✓
5 = 35
14 16 39 G.M.T.

mean +1.56 ✓

July 11, 04

Same again



E.T.
9 34.40

247.7
292.8 45.1 ✓
59.0 61.6 ✓
120.6 106.7 ✓ +1.49 ✓

239.2 62.8 ✓ +1.44 ✓
302.0
66.8 48.6 ✓
115.4 111.4 ✓ +1.39 ✓

R. and below.

~~16~~
156.8 46.3 ✓
203.1
329.6 69.8 ✓
39.4 116.1 ✓ +1.28 ✓

151.3 60.4 ✓ +1.42 ✓
9 44.45 211.7
339.3 43.1 ✓
22.4 103.5 ✓ +1.57

9 39 42
5 – 35
14 39 07

mean +1.43 ✓

July 11, 04

Same again

IV

E.T.

9 49.50 155.5
204.1 48.6 ✓
327.0 65.3 ✓
32.3 113.9 ✓ +1.33 ✓

149.3 61.9 ✓ +1.42 ✓
211.2
339.0 44.4 ✓
23.4 106.3 ✓ +1.50 ✓

L. and above.

64.2
114.9 50.7 ✓
235.6 69.8 ✓
305.4 120.5 ✓ +1.18 ✓

55.4 69.5 ✓ +1.22 ✓
16 02.1~~08~~ 8 124.9
9 11 08 246.0 48.0 ✓
~~10~~ 5 55 59 ~~75~~ 294.~~5~~ 0 117.5 ✓ +1.25 ✓

mean +1.32 ✓

14^4 55 24 G.M.T.

6673.

July 11 04

L. and above — V

57
10 09.15 65.0
115.5 50.5 ✓
235.4 68.7 ✓
304.1 119.2 ✓ +1.21 ✓

56.5 +1.26 ✓
124.2 67.7 ✓
245.7 47.3 ✓
293.0 115.0 ✓ +1.30 ✓

R. and below —

338.6 45.0 ✓
23.6
148.5 62.9 ✓
211.4 107.9 ✓ +1.47 ✓

328.7 62.6 ✓ +1.45 ✓
10 19.45 31.3
157.7 46.9 ✓
214 30 204.~~7~~6 109.5 ✓ +1.43 ✓
10 13 55
15 13 20

mean +1.36 ✓

July 11 '04

Same again

VI

ST

10 24.45

338.0
22.8 44.8 ✓
148.6 61.3 ✓
209.9 106.1 ✓ +1.51 ✓

329.4 61.6 ✓ +1.47 ✓
31.0
157.6 47.7 ✓
205.3 109.3 ✓ +1.43 ✓

L and above

244.7
294.5 49.8 ✓
55.1 67.4 ✓
122.5 117.2 ✓ +1.25 ✓

+1.24 ✓

234.1 68.5 ✓
-38,20 302.6
10 31 32 64.2 49.5 ✓
15 30 57 113.7 118.0 ✓ +1.24 ✓

mean +1.36 ✓

July 11 '04

Same again

E.T

10 44 10

241.3

294.8 53.5

54.7 67.9

122.6 121.4

234.7 69.9

304.6

~~64.7~~

Stopped by southern fog.

July 11. '04

S.T 18.34
H.a 0h ~~42~~ 48m
Dec −6°.8
P.a 316.0 Vm. "a"
Sprocket − 2.5 a, −1.5 b $\underset{1.}{-}$ 0.9 c.

Observations ~~throughout~~ on R. S. Ophiuchi difficult throughout. In early part of series troubled by poor atmospheric conditions as well as by some twilight. In latter part of series troubled by increasing southern fog. Observations a little less difficult in the middle and towards latter part of series.

W's watch used ~~for~~ for times to-night.
Watch 35 secs. fast.

July 12 1904 (Tuesday)

μ Cephei Phot T
W Obs.

21 39 +58.1
15 51

5 48.2 +58.1

9.5" cap.

R. and above

S T
8 26.35

340.2 L var dis
19.9
155.3 39.7
208.9 53.6
93.3 -1.83

334.0 50.0 -1.84
24.0
160.2 42.6
202.8 92.6 -1.84

L. and below

253.6
287.7 34.1
72.1 36.2 -2.50
108.3 70.3
~~108.3~~
-2.50
253.3 35.6
288.9
73.2 34.8
108.6 70.4 -2.49 mean -2.17

8 36.40

8 31 ~~28~~
13 31.0

July 12, 1904

Yamagam

254.0

841,10 287.7

Second group abandoned the star to take R.S. Ophiuchi, as sky has become clearer

Sid Time 16 25
H.a ~~6 43~~ = -5.17
Dec. +58.8
P-a 175.6 Ver B.
Sprocket ~~a~~, -6.5 b, -5.5 c,

July 12 1904

R. Y. Ophiuchi

17 45 − 6.0
16 30
1 15 E

L. and above

ST 243.5 Leaf stands
9 01.09 296.3
58.2 52.8 ✓
122.1 63.9 ✓
116.7 ✓ +1.27 ✓

238.9 62.8 ✓ +1.28 ✓
301.7
64.5 52.3 ✓
116.8 115.1 ✓ +1.30 ✓

R. and below
155.7
clouds.
204.2 48.5 ✓
329.0 62.9 ✓
31.9 111.4 ✓ +1.39 ✓

149.1 60.7 ✓ +1.47 ✓
9 26.25 209.8
~~79~~ 339.0 43.6 ✓
27 34 22.6 104.3 ✓ +1.55 ✓ mean +1.38 ✓
9 13 47

July 12 1904

Same again

158.2 44.5 ✓
9 44.10 ET 202.17 60.9 ✓
329.0 105.4 ✓
29.9

152.0 57.6 ✓ Reject.
209.6 41.1 ✓
338.3 98.7 ✓
19.4

L. and above

66.4
Clouds
Stopped by clouds.

1904phae.proj..57OW

July 12, 1904

L. and above.

ET
10' 18.55

244.2 50.0
294.2 74.6
53.0 124.6
127.6

Reject.

223.7 70.2
303.9 49.0
65.6 119.2
114.0

R. and below

Stopped by clds

S.T 18 08
H. a $0^h 18^m$ W
Dec −6.8
P. a 137.5 Ver "a"
Spectat −2.5 a, −1.5 b, −0.9 c.

Impossible to finish last group. Troubled throughout evng by much light cld and southern fog. Settings on RS Ophiuchi a little difficult but

July 12. 1906.

Wanted for 9 ags and their places in dets.

W's watch used for times to night.
Watch 35 secs. fast.

July 13, 1904

T Cygni

Phot-T
W. Obs.

20 41 $+3\overset{3.}{\cancel{8}}.8$
15 55
4 46 ε

Right and above

ε.T
ф 23.0

255.2 ∠ Van dis
287.8
71.4 32.6
105.1 33.7
66.3 -2.63

255.8 31.2 -2.62
287.0
71.2 35.5
106.7 66.7 -2.62

L. and below

163.2 33.4
196.6
345.7 30.5
16.2 63.9 -2.72

165.4 29.8 -2.764
29.9
195.2
8 26.4
5 — 6
13 25.8
345.7 32.6
18.3 62.4 -2.77

mean -2.68

July 13, 1904

S. T $16^{h}16$

H. a − 4 27

Dec + 33.9

P a 189.1 V en B

Sprocket − 3.5 b − 2.5 c.

July 13 1904

R. S. Ophiuchi

17 45 − 6.0
16 20
1 25

L. and above I.

65.2 < C.S. dis
8 50.45 114.2
240.2 49.0 ✓
295.6 55.4 ✓
104.4 ✓ +1.54 ✓

59.3 60.0 ✓ +1.54 ✓
119.3
248.0 45.1 ✓
293.1 105.1 ✓ +1.53 ✓

R. and below

339.3 42.8 ✓
22.1
152.2 57.4 ✓
209.6 100.2 ✓ +1.65 ✓

333.0 54.8 ✓ +1.70 ✓
9 00 00± 27.8
9 55 22 158.7 41.9 ✓
200.6 96.7 ✓ +1.74 ✓

mean +1.62 ✓

July 13, 1904

Same again

II

E.T.
9 12.0

338.4
20.7   42.3 ✓
149.5   56.0 ✓
205.8^5 98.3 ✓   1.70 ✓

334.1   61.4 ✓   1.72 ✓
35.5
164.2   34.8 ✓
199.0   96.2 ✓   1.75 ✓

L, and abae

245.5   47.2 ✓
292.7
60.9   58.5 ✓
119.4   105.7 ✓   1.52 ✓

241.5   60.2 ✓   1.53 ✓
9 25.10   301.7
37 10   67.1   44.5 ✓
9 18 55   111.6   104.7 ✓   1.54 ✓

Mean +1.62 ✓

July 13 1904

Same again

III

249.5 43.1 ✓
9 30.45 292.6
59.0 62.5 ✓
121.5 105.6 ✓ 1.52

240.7 58.6 ✓ 1.50
299.3
64.6 49.3 ✓
113.9 107.9 ✓ 1.47

R and below

159.4 41.7 ✓
201.1
329.7 57.1 ✓
26.8 98.8 ✓ 1.69

149.8 58.4 ✓ 1.68
40.30 208.2
339.8 41.2 ✓
21.0 99.6 ✓ 1.67

mean +1.59

July 13, 1904

Same again

IV

159.6
S.T. 9 50.07 201.2 → 41.6 ✓
333.0 55.7 ✓
28.7 97.3 ✓ 1.72

152.8 54.5 ✓ 1.74
207.3
340.6 40.8 ✓ 1.77
21.4 95.3 ✓

L. and above

68.0
111.5 43.5 ✓
242.8
299.3 56.5 ✓
100.0 ✓ 1.66

~~57.8~~
10 01.40 ~~120.7~~ ~~62.9~~
~~247.5~~
~~292.8~~ ~~45.3~~
~~108.2~~

Trouble with images, also troubled with clouds. Reject
New set taken.

1.6~~4~~3

69.4
10 07.30 113.0 43.6 ✓
241.3 58.9 ✓ 1.60
300.2 102.5 ✓ mean +1.69^{A}

July 13 .'04

Same again V

58.9
~~117.9~~
10 14.25 118.3 59.4
247.5 43.7
291.2 103.1 1.58

67.3 44.1 1.54
111.4
239.0 61.8
300.8 105.9 1.51

R. and below

341.8 38.7
20.5
15~~8~~3.~~7~~8 52.2
206.0 90.9 1.89

332.8 55.3 1.83
28.30 28.1
10 21 28 159.2 40.2
−36 199.4 95.5 1.77
10 20 52 mean +1.68

July 13, 1904

Same again

VI

341.8
10 34.20 20.4 38.6
152.0
206.8 54.8
93.4 1.82

334.4
29.0 54.6 1.81
161.9 39.6
201.5 94.2 1.80

L. and alone

250.2
293.2 43.0
59.7 60.7
120.4 103.7 1.57

240.9 58.7 1.59
10 43.20 299.6
77 40
68.6 43.1
10 38 50 111.7 101.8 1.61
5 — 35.6

15 38 15.4

Mean +1.70

July 13 1904

Same again

VII

ET
10 45.50

248.8
291.9 43.1
58.4 60.5
118.9 103.6 1.57

242.8 1.63
298.7 55.9
68.9 42.6
111.5 98.5 1.69

R. and below

159.3 41.9
201.2
334.3 51.8 1.82
26.1 93.7

1.83

153.2
5 6.35 ~~205.9~~ 207.2 54.0
102 25 341.6 38.9 1.84
10 51 12 ~~19.79~~ 20.5 92.9
5 -36
15 50 36

mean +1.73

July 13, 1904

S.T 18 45
H.A + 0 58
Dec − 6.7
P.A. 135 V in "B".
Sprocket −2.5 a, −1.5 b, −0.9 c
W's watch used for times to right.
Watch 36 secs. fast.
Examination of vicinity of Saturn
by Professor Pickering and E.C.P.
Comparison of ~~with~~ stars near Disk,

W. also examined region of Phebe.
Phebe not seen.

July 14 1904 (Thursday)

ι Librae   Phot T

15 03 −19.2   W. Obs.
15 50
47 w −19.2

Abandoned.   9.5" cap

Double star

16 03 −32.4°   Phot ~~T~~ R.
16 01   W. Obs
02 E

P. a. = 95°, distance 11 sec
Mag 6.0, 6.~~6~~7.

Measurements opposite →

July 14, 1904

L. and above.

h
8 32.10 349.6 < brighter dis.
62.1 72.5
171.6
241.6 70.0
142.5 0.72
348.3 ~~0.68~~
60.8 72.5
167.8 0.70
239.8 72.0
144.5 0.68

R and below

258.2
331.0 72.8
80.0
152.7 72.7
145.5 0.66

258.0 71.6
8 42.0 329.6 0.67
79.1 73.3
152.4 144.9 0.68

mean 0.68

July 14, 1904

R. S. Ophiuchi

17 45 − 6.0
16 45
1 00 2 − 6.0

I

L. and above

S.T
9 05.30

245.4 ∠ c. s. dis
293.9
59.5 48.5
120.5 61.0
109.5 1.43

237.8 61.3 1.42
299.1
65.2 49.1
114.3 110.4 1.42

R. and below

~~166.9 38.0~~ Reject. Trouble with [illegible] pencils. Adjusted.
~~204.9~~
~~332.7 55.7~~
~~28.4 93.7 1.82~~

150.2 58.3
208.5
339.0
21.9 42.9
101.2 1.63
~~1.68~~
1.58

9 15 45
9 10 38
14 10 2

149.3 59.3
208.6
337.0 45.7 1.54
22.7 105.0

Mean 1.50

July 14, 1904.

Same again

II

155.2 46.9
9 21.15 202.1 56.7
331.6 103.6 1.57
28.3

1.42

143.8 64.2
208.0
336.6 47.2 1.39
23.8 111.4

L. and above

66.3 47.1
113.4
239.9 59.9
299.8 107.0 1.49

58.7 63.2 1.44
9 33.50 121.9
9 27 32 246.7 48.3
14 26 5~~7~~6 295.0 111.5 1.38

mean 1.46

July 14, 1904

S. T 17 5 3

H. a +0 7

Dec −6.8°

P. a 316.0 Vii B.

Sprocket −2,5 a, −1,5 b −0.9

V Aquilae

L. and above

ST

16 43.5 1 31.0 ∠c.s. dis

2 16.5

3 22.1 85.5

29.6 67.5

153.0 +0.52

I

144.2

212.1 67.9 +0.52

3 11.7 85.5

37.2 153.4 +0.51

R and below

40.0 86.7

16 50.0 126.7

232.5 65.2

297.7 151.9 +0.54

230.9 +0.51

302.3 71.4

44.2 83.5

127.7 154.9 +0.48

mean +0.52

1st number the base, 2d number next base (15)

July 14, 1904

185905 V, Aquilae

18 57 - 5.9
18 ~~4~~15

4 2 2

[First group on preceding page]

Same again

II

ET
10 53.0

51.0
125.2 74.2✓
225.0 81.6✓
306.6 155.8✓ +0.46✓

43.7 84.3✓ +0.47✓
128.0
230.0 70.6✓
300.6 154.9✓ +0.48✓

L. and above

324.3
30.8 66.5✓
131.8 87.6✓
219.4 154.1✓ +0.50✓

314.2 82.0✓ +0.50✓
11 00.50 36.2
138.4 72.6✓
211.0 154.6✓ +0.49✓

Mean +0.48✓
Gen. mean +0.50✓

July 14, - 1904

S.T 19 00
H. a 0 0
Dec − 5.8
P. a 120.0 V en a.
Sprocket − 2.5 b − 1.5 c

H's watch used for times to-night.
Watch 36 secs. fast.

July 14. 1904.

B. + C. 1122. B. 394.
14 5 11.5 14 7 0.0
6 11.5 8 0.0

Disaperance of Jupiter III Photometer R
W obs Hill recorder. Compared with sat on
same preceding side next beyond Sat III. = Sat I

14 21 7 14 20 46 105.9 146.8
+1 50 58 # 104.1 252.7 1
14 22 57 corr. 21 16 210.0 147.0 −0.6
105.0
29 251.1
43 145.5
104.7
14 22 44 22 33 106.5 250.2 2
+1 50.
14 24 34 corr. 23 13 211.2 143.0 −0.6
105.6
25 249.5
40 143.2
24 clouds
108.6
14 24 14. 02 106.7 251.8 3
+1 50.
14 26 4. corr. 18 215.3 143.3 −0.7
107.6
Sats gines clouds
55 250.0
25 28 107.4 144.1
14 25 46. 40 107.0 251.5
+1 50.
14 27 36. corr. 50 214.4 145.0 4 −0.7
107.2
26 06 252.0

July 14. 1904.

14 26 17 109.1 143.0
27 106.8 252.1 5 −0.7
14 26 33
+1 r0 37 215.9 144.2
52 108.0 251.0
14 2A 23 corr.
27 04 145.0
14 27 43. 98.5
+1 r0. 35 ~~26~~ 94.3 243 5 6
14 29 33. corr. 45 192.8 151.5 −0.2
28 28 96.4 245.8
44 145.0
14 29 7 59 96.9
+1 r1. 99.5 241.9 7 −0.3
14 30 r8 corr. 29 16 196.4 145.5
29 98.2 245.0
45 149.0
14 30 36. 30 31 98.0 247.0
+1 r1 Clouds
14 32 27. corr. 89.4 8
50 187.4 150.8 −0.1
31 20 93.7 240.2
32 37 86.2 ~~154.8~~
48 90.2 240.2
14 33 1. 33 33 176.4 148.0
+1 r1 ~~65~~ 88.2 ~~237.0~~ +0.1
14 34 r2. corr. 07 238.2
34 17 154.2
38 85.9 240.1
14 34 46. 58 81.4
+1 r1. 167.3 156.6 +0.2
14 36 37. corr. ~~35~~ 08 83.6
35 21 238.0

July 14. 1904.

	35	37	82.7	154.0	
14 36 9 ✓	36	05	72.3	236.7	+0.5
+1 51. ✓		21	155.0	161.5	
14 38 0. ✓ corr.		33	77.5	233.8	
Corrected times.		30			
14 38 41 ✓	36		72.5	163.0	+0.7
14 39 6 ✓	37	15	70.0	235.5	+0.8
14 39 21 ✓		30	67.5	165.5	+0.9
14 40 13 ✓	38	22	64.0	233.0	+1.0
14 40 30 ✓		39	56.0	169.0	+1.4
14 40 44 ✓		53	60.0	225.0	+1.2
14 41 11. ✓	39	20	59.0	165.0	+1.2
14 41 27. ✓		36	48.8	224.0	+1.7
14 42 4. ✓	40	13	35.8	175.2	+2.5
14 42 19. ✓		28	29.0	211.0	+2.9
14 42 36 ✓		45	27.6	182.0	+3.0
14 42 52 ✓	41	01		209.6	

Not seen later

Limit of visibility

		21		185.5	
		34	30.5	216.0	
14 41 54. ✓	42	08	33.5	183.0	+2.7
+1 52. ✓			64.0		
14 43 46. ✓ Corr.		35	32.0	216.5	

Observations throughout very difficult. Continually troubled by clouds and bad seeing. A ~~reflection~~ ghost of Jupiter also gave serious trouble. Consequently eclipse not as satisfactory as usual.

July 14. 1904.

B.+C. 11A2.			B. 394.		
14	59	7.0	15	1	0.0
15	0	7.0		2	0.0

∴ at	14h	6m	12s. (11A2)	chron.	1m	48.5s	slow.
" "	14	17	58.	"	"	1	49.5	"
" "	14	29	44	"	"	1	50.5	"
" "	14	41	30	"	"	1	51.5	"
" "	14	53	16	"	"	1	52.5	"
" "	14	59	7	"	"	1	53.0	"

July 16, 1904 (Saturday)

Ceres

Phot T
W. Obs.

16 24 − 21.1
16 20
04 E

Ceres follows
−22°, 4173 (7.8) by $1^m 0.5^s$ and is 9.1′ north of it.

Comparison star =
−22° 4173 (7.8)

For measurements see following pages

July 16, 1904

Ceres (measts.).

R. and above

Full app. used.

227.0 L seems dis

9 56.30 305.1 78.1

57.8 59.7

117.5 137.8 −0.82

234.2 65.5 −0.76

299.7

45.1 78.8

123.9 144.3 −0.69

L. and below

~~133.3~~

~~218.9~~

318.~~9~~5 74.1

32.6

131.9 88.5

220.4 162.6 −0.33

314.0 89.9 −0.35

43.9

stars gone

~~139.8~~ 141.~~8~~0 70.7

~~212.9~~ 211.7 160.6 −0.37

mean −0.56

10 25 12

21 42.

10 10 51.

+5 −38.

15 10 13.

6678.632

July 16, 1904

Same again

320.2

1036.15 29.5

133.0

219.5

Clouds

315.1

37.2

140.0

209.7

R. and above

233.2

Reject above. New start as the sky became clearer again.

July 16, 1904.

R and above

52.4
10 52.0 120.6 68.2
223.8 83.7
307.5 151.9 −0.54

47.0 78.7 −0.58
125.7
232.3 68.9
301.2 147.6 −0.62

L. and below

319.8 69.6
29.4
134.1 85.7
219.8 155.3 −0.47

312.8 84.7 −0.48
37.5
142.3 70.2
212.5 154.9 −0.48

11 10 0
2 0.
11 1 0.
+5 −38.
16 0 22.
6678.667

mean −0.53
Gen. mean −0.54

July 16, 1904

S.T. 19 0 5
H. a 2 40 W
Dec -22.5
P. a 60.3 fm B
Sprocket -2.5 a, -1.5 b, -0.9 c

W's watch used for times to-night.
Watch 34 secs. fast.

Much troubled by clouds in observations of Ceres.

July 18, 1904 (Monday)

Sky quite cloudy
but will try for

Ceres

Phot T
W. 6 ls

16 24 -21.1
16 10

14m

Clouds thick
Leading star not seen

Clouds still thick,

16 24 - 21.1
17 47

~~37~~
1 23 W.

Ceres follows -22°, 4173 (7.8)
by 29s and is 4.6' North of it.

Clouds

Still too cldy for Ceres
E.S.T. and steadily growing worse
10 [illegible] sky.

July 19. 1904. (Tuesday).

Double Star. Phot. R. W. obs.

16 3 −32.4
15 45
−18

R + B

7^h. 50.0

257.5 73.4 ✓
330.9 71.4 ✓
80.6 144.8 ✓ . 0.68 ✓
152.0

0.68 ✓

258.5 72.0 ✓
330.5 72.7 ✓
80.9 144.7 ✓ 0.68 ✓
153.6

L + A.

349.0
63.0 74.0 ✓
170.2 70.8 ✓
241.0 144.8 ✓ 0.68 ✓

0.66 ✓

8 4.2

347.6 73.4 ✓
61.0 72.6 ✓
168.0 146.0 ✓ 0.65 ✓
240.6

mean 0.67 ✓

W. recorded for himself, on above star.

July 19, 1904

Double star

16 04 − 33.3
16 27
23 W

Companion not seen to-night.
Seeing rather poor.
Doublet probably close.

Double star

16 09 − 25.2
16 39
30 W

No close companion seen. There is, however, a rather faint companion, following what seems to be the right star by about 2^{s} and 0.8′ North. There is another star following this one by about 5^{m}

July 19. 1904

and 7.5' south of it,
This latter star f
has a faint companion
preceding it by 1,^{s}5
slightly North.
This latter star seems
rather two far East
and too bright
Mag of this latter
star about 4.0 or 4.5
Mag. of first star
about 6.5.

Double star

16 13 − 30.7
16 53
40 W

P. a. 320, Dist. 20''
Mags. 6.0, 7.1

Measurements on

July 19, 1904

Right

ET

8 56.5 — 359.0 L brighter dis
48.6 49.6
175.7
227.9 52.2
101.8 1.61

354.2
50.0 55.8 1.58
176.0 52.0
228.0 107.8 1.47

Left.

262.4
321.9 59.5
85.6 54.2
139.8 113.7 1.33

263.4 57.1 1.32
9 04.9 — 320.5
82.4 57.9
140.3 115.0 1.30

mean 1.42

Seeing somewhat blurry.

July 19, 1904

Double

16 18 — 33.0
17 14
0 56

Utterly impossible to measure this double to-night, on acc't of bad seeing, low altitude, and apparent faintness of companion. Sky also very hazy especially at this altitude.

Double

16 18 — 29.5
17 28
1 10 W

P. A. 355° Dist 7"
Mags 6.2, 6.8.

Measurements next page.

July 19. 04

L. and below

S.T. 9 33.7

78.0 L bright dis

150.0

257.9 72.0

335.0 77.1

149.1 0.59

77.9

154.6 76.7 0.66

264.3 65.5

329.8 142.2 0.73

Right.

348.0 76.0

64.0

160.3 80.8

241.1 156.8 0.44

344.0 74.3 0.54

44.3 58.3

168.2 72.5

240.7 146.8 0.64

0.60

Observation very diffi-cult on acc't of low altitude, clouds and bad seeing.

July 19, 04

Double

17 53 - 30.2
17 53
oa

Double found but the seeing is so extremely bad that it is impossible to measure it.

July 19, 1904

R. S. Ophiuchi.

17 45 — 6.0
18 03

0 18 W

L. and above

I

E.T.
10 05.50

58.8 L comp star dis
109.3 50.5
233.8 63.7
297.5 114.2 +1.32

53.0 63.4 +1.34
116.4
241.6 49.2
290.8 112.6 +1.36

R. and below

331.0
18.7 47.7
142.4 69.9
212.3 117.6 +1.25

321.3 66.1 +1.26
27.4
150.7 49.8
200.5 115.9 +1.28

mean +1.30

16 18.0

23 50
14 12 55
5 — 35
15

July 19, 1904

R. and below

10 23.5

332.6 49.1
21.7
142.6 65.5
208.1 114.6 +1.31

321.8 66.6 +1.28
28.4
151.2 51.4
202.6 118.0 +1.24

L. and above

~~238.7 51.1~~
~~289.8~~
~~49.6 71.2~~
~~120.8 122.3~~ +1.14 Reject, see remark on fol. page.

~~229.7 75.1~~
~~304.8~~
~~55.7 56.7~~
~~112.4 131.8~~

10 35.5
10 29.5
5 .6
15 28.9

1904phae.proj..57GW

July 19, 1904

L. and above

2 3 8.8
2 9 1.5 $\quad$ 52.7
4 9.7 $\quad$ 69.7
1 1 9.4 $\quad$ 122.4 $\quad$ +1.14

2 3 2.7 $\quad$ 68.3 $\quad$ +1.$\overset{2}{3}$0
3 0 1.0
6 2.0 $\quad$ 49.1
1 1 1.1 $\quad$ 117.4 $\quad$ +1.25

Mean +1.24

10 50.20
73 25
10 36 42
5 -35
15 36 7

S. 1

The last two sets in second group very difficult, on acct of cld and faintness of images at equalizing attain. ~~as sky became~~. clear and images better seen these above mentioned two sets rejected; and the last two taken in their place.

July 19 1904

S T 19 06
H a 1.20 W
Dec -7.0
P.a 318.0 V in B
Sprocket -2.5 a, -1.5 b - -0.9c

W's watch used for times to night.
Watch 35 secs. fast.

July 20 1904 (Wednesday)

Double

16 04 − 33. 3
16 00
04 ε

This star not seen to night, even with power of 540. If this is the right star a star of about the 8th mag. precedes it by 10 sec and is 3.8' N. of it.

There is a double preceding this star by about 6 min. and a 1/2 deg. N. of it, This double is rather close the combined light would perhaps be 6.9 mag. This double has a somewhat brighter star following it about 30 sec and about 8.5' south of it.

July 20, 1904

Double

16 09 − 25.2
16 23

14 W

No close companion seen, even with power 540.

Measurement made with somewhat distant companion.
P. a 35°. Dist 0.8'

Measurements next page. Clouds.

July 20, 1904

Phat R

W. Obs.

2.1
8 25.6

182.1
199.8 17.7
356.3 24.9
21.2 42.6 3.63

172.4 27.1 3.54
199.5
354.2 17.4
11.6 44.5 3.53

78.2
97.5 19.3
250.6 27.9
278.5 47.2 3.40

67.0 3.45
94.0 27.0
34.6 249.8 18.2 3.50
268.0 45.2

This double has another star not quite so bright following it by about a 1/4 of field of finder and a 1/3 of field North.

July 20, 1904

V. Cephei Phot T
W. Obs.

0 50 + 81.1
1 ~~7~~6 50
~~10~~ 00
8

I

R and above

146.2 L Vandis
9 34.15 ~~9 03.10~~ 205.0
315.7 58.8
36.8 81.1
139.9 −0.78

138.2
6.55 216.0 77.8 −0.78
325.0 61.7
26.7 139.5 −0.78

L. and below

56.1
9.35 114.2 58.1
228.2 76.3
304.5 134.4 −0.89

49.2
~~12.54~~ 121.5 72.3 −0.94
13.25 237.9 56.8
294.7 129.1 −1.00

9 8 32.
+5 −35.
14 7 57. = 6682.5889
6680.2115

mean −0.86
5.41
7.55

July 20, 1904

Same again

II

54.0
9 18.0 116.9 62.9
228.3 76.8
305.1 139.7 −0.78

47.4
20.6 125.5 78.1 −0.79
237.3 60.5
297.8 138.6 −0.80

R. and ab—

325.2 61.0
22.10 26.2
134.2 85.8
220.0 146.8 −0.64

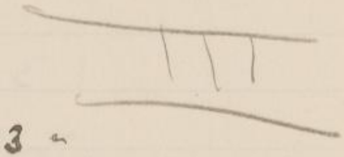
316.0
24 45 33.6 78.6 −0.70
4/84 45 145.9 62.3
9 21 11. 208.2 140.9 −0.76
+5 −35.
14 20 36.
6682.5976
6680.2115
+2.3861

mean −0.74
8.41
7.67

July 20, 1904

R. and above

322.2
26.15 25.5 63.3 ✓
133.8 83.7 ✓
217.5 147.0 ✓ −0.63



315.4 −0.70
28.15 32.0 76.6 ✓
145.2 63.4 ✓
208.6 140.0 ✓ −0.77

L. and below

234.1
9 29.55 299.8 65.7 ✓
42.0 85.2 ✓
127.2 150.9 ✓ −0.56

220.5 −0.54
33.30 309.8 89.3
54.4 63.0
117.4 152.3 −0.53

117 55
9 29 29 ✓
45 1 −35 ✓
14 28 54 ✓
6682.6034 ✓
6680.2115 ✓
+2.3919 ✓

mean −0.62 ✓
8.41 ✓
7.79 ✓

July 20 1904

L. and below

ΣT

936.0

233.8
299.6 65.8 ✓
42.0 89.9 ✓
131.9 155.7 ✓ −0.46 ✓

IV

38.15

219.0 −0.47 ✓
309.5 90.5 ✓
53.8 64.2 ✓
118.0 154.7 ✓ −0.48 ✓

R. and above

142.4
41.0
213.6 71.2 ✓
310.5 88.1 ✓
38.6 159.3 ✓ −0.39 ✓

43.10

132.9 87.1 ✓ −0.42 ✓
220.0
320.0 69.5 ✓
29.5 156.6 ✓ −0.45 ✓

15 8 25. ✓
9 39 36. ✓
+5 −35. ✓
14 39 1. ✓
6682.6104 ✓
6680.2115 ✓
+2.3989 ✓

mean −0.44
8.41 ✓
7.97 ✓

July 20 1904

R. and ~~below~~ above

V

E.T

9 46.25 139.6
213.6 74.0
309.3 92.6
41.9 166.6 −0.25

130.0
49.0 223.2 93.2 −0.26
319.6 72.9
32.5 166.1 −0.26

L. and ~~above~~ below

49.6
53.40 123.3 73.7
218.9 96.3
315.2 170.0 −0.19

38.5
55.55 131.6 93.1 −0.20
229.0 76.1
~~304.5~~ 169.2 −0.20
305.1

20 5 0
9 5 1 15.
45 −35.
14 50 40.
6682.6185
6680.2115
+2.4070

mean −0.23
8.41
8.18

July 20, '04

VI

L and below

ET
10 00.15

47.3
123.3
216.2
316.8

76.0
100.6
176.6

−0.06

3.15

38.2
134.4
229.6
306.7

96.2
77.1
173.3

−0.10
−0.13

R and above

7.10

316.6
35.9
123.4
228.5

79.3
105.1
1843
175.7

+0.08

9.10

304.3
45.1
134.5
216.9

1008
824
1832
1768

+0.07
+0.06

19 50.
10 4 58.
+5 −35.
15 4 23.

6682.6281
6680.2115
+2.4166

Mean −0.02
8.41
8.39

July 20, 1904

R. and above

VII

ST
1016.25

308.8
40.0 91.2
123.4 103.2
226.6 194.4
165.6 +0.27

302.0
18.50 49.8 107.8 +0.28
134.0 86.5
220.5 194.3
165.3 +0.28

L. and ~~above~~ below

221.4
23.15 312.8 91.4
32.5 106.4
138.9 197.8
162.2 +0.34

212.4 109.1 +0.34
25,30 321.6
84 0 42.5 89.1
10 21 0. 131.6 198.2 +0.35
+5 -35. 161.8
15 20 25.
6682.6392
6680.2115
+2.4277

mean +0.31
[illegible].41
8.72

July 20, 1904.

L. and ~~above~~ below

VIII

S T

1029.45 → 220.6
313.3 927
27.2 1144
141.6 2071
1529 +0.52

208.5 1138
32.56 322.3 +0.51
40.8 922
133.0 2060
1540 +0.50

R and above.

128.5 963
35.6 224.8
298.0 1137
51.7 2100
1500 +0.58

119.0 1154
37.51 234.4 +0.60
308.6 964
445.0 2118
1482 +0.61

mean +0.56
8.41
8.97

13 5 37
10 33 58.
+5 -25.
15 33 29
6682, 6482
6680. 2115
+2.4367

July 20 1904

R and above

IX

ST

10 43.40 126.0 225.0 299.5 54.7

99.0 ✓
115.2 ✓
214.2 ✓
145.8 ✓ +0.66 ✓

46.40 117.6 232.4 307.1 45.0

114.8 ✓
97.9 ✓
212.7 ✓
147.3 ✓ +0.63 ✓

+0.64 ✓

L. and below

49.58 35.6 136.8 206.1 325.5

101.2 ✓
119.4 ✓
220.6 ✓
139.4 ✓ +0.79 ✓

53.32 26.2 146.2 215.7 ~~317.8~~ 318.6

119.0 ✓
102.9 ✓
221.9 ✓
138.1 ✓ +0.81 ✓

+0.80 ✓

173 50 ✓
10 43 28. ✓
+5 −35. ✓
15 42 53. ✓
6682.6548 ✓
6680.2115 ✓
+2.4433 ✓

mean +0.72 ✓
8.41 ✓
9.13 ✓

July 20 1904

S. T.	19 11
H. a.	− 5 44
Dec	+ 81.6
P. a.	196.5 Ver B.
Sprocket,	−1.5 b, −0.5 c,

The time of equalization occurred a little later than was predicted.

W's watch used for times to-night.

Watch 35^s fast.

July 21, 1904 (Thursday)

UZ. Cygni

22 00 + 44.3
16 25
5 35

L. and below

I

ΣT
9 05.45
~~8 44.15~~

~~63.9~~
~~117.6~~ <6.5>
clds

245.6 40.0
285.6
61.3 51.2
112.5 91.2 +1.88

238.9
290.6 51.7
68.8 37.8
106.6 89.5 +1.93

(+1.90)

R and above
157.3 40.3
197.6
329.0 53.1
22.1 93.4 +1.82

(+1.78)

147.4
203.7 56.3
335.4 40.3
15.7 96.6 +1.74

14.20
20 05
9 10 2

+1.84

July 21, 1904

R. and above

II

9 17.50

157.2
197.2 40.0
326.6 53.7
20.3 93.7 +1.82

146.9 57.0 (+1.76)
203.9
335.0 40.8
15.8 97.8 +1.71

L. and below

67.6 37.1
104.7
239.4 53.9
293.3 91.0 +1.89

59.0 56.2 +1.81
115.2
245.3 40.7
286.0 96.9 +1.73

29.45
9 23 48

+1.78

July 21, 1904

S.T 17 57
H.a 4 00 E
Dec + 43.9"
P.a 143.2 V in 13"
Sprocket -1.5 a, -0.5 b + 0.1 c,

Double

16 18 - 33.0
18 05
1 47 W
P. a. 156° Dist 8"
Mags. 7.1 - 7.4.

Clouds right in this region & abandoned.

July 21, 1904.

Double

16 18 −29.5
18 25
2 07

L. and below

81.6 L brighter dis
10.16.6 149.3
260.6 67.7
332.1 71.5
139.2 0.79
81.6
149.9 68.3 0.77
259.5 73.0
332.5 141.3 0.75

R and above

347.5
63.2 75.7
169.2 73.0
242.2 148.7 0.60

352.6 70.1 0.63
4.1.3 62.7
166.2 75.5
241.7 145.6 0.66

The above double seems a little 0.70
better to-night, than on night of previous measurement.

July 21 1904

P.a 355°, Dist 7"

Mags 6.2 – 6.8

Double

17 53 – 30.2
19 06
2 07

Comp ann seen, but clouds, moon light, and low altitude, faint.

Double

20 24 – 18.9
19 07
1 17

Stopped by clds

Clds prevent further obs.

July 25, 1904. (Monday)

July 25, 1904

Ceres

16 24 − 21.1
16 17

07 ε

L. and below

ε. T
8 32.50

51.2 Lens dis
12~~4~~2.0 70.8
221.3 90.3
311.6 161.1 −0.36

41.4 86.8 −0.41
128.2
232.3 69.3
301.6 156.1 −0.46

R. and above

322.8 69.1
31.9
131.7 90.0
221.7 159.1 −0.40

313.2 86.7 −0.46
39.9
142.2 66.1
208.3 152.8 −0.52

42.12

75 2
8 37 31
+5 −43

13 36 48
13 36.8 =6687.567

−0.44

July 25, 1904

R. and above

E.T.
8 47.20

321.9
29.8 67.9
132.7 87.2
219.9 155.1 -0.48

311.5
39.0 87.5 -0.48
142.1 67.3
209.4 154.8 -0.48

L. and below

232.2
303.2 71.0
41.8 89.0
130.8 160.0 -0.38

221.5 -0.40
312.7 91.2
52.3 66.9
119.2 158.1 -0.42

58.15
10 5 35
8 5 2 48.
+5 -43.
13 5 2 5.
13 5 2.1 = 6687.578

-0.44
Gen. mean -0.44

July 25, 1904

~~H. T. a.~~
~~Dec.~~
~~D. a.~~
~~Sprocket~~

L. and below

230.7
9 12 0 30~~8~~0.8 70.1
41.3
13~~0~~1.~~0~~2 89.9
160.0 −0.38

221.6
312.8 91.2 −0.38
52.2 69.0
121.~~0~~2 160.2 −0.38

R. and above

143.4
210.~~6~~7 67.3
314.1 85.5
39.6 152.8 −0.52

131.9
218.8 86.9 −0.50
322.3 67.8
30.1 154.7 −0.48

20.30
32 30
9 16 35
+5 −43
14 45 32
14 37 55
= 6687.594

mean −0.44
Gen. mean −0.46

July 25, 1904

S.T	17 56
H. a.	1 28 W
Dec	−22.9
P. a.	210.5 Ver "B."
Sprocket	−1.5 b, −0.5 c.

Full aperture used to-night as well as on July 16th.

Same comparison star used to-night with Ceres as on July 16th.
= −22° 4173 (7.8)

Ceres to-night (before beginning observations) preceded comp. star by 27.5^s and was 12.5' South of it.

July 25, 1904

Phat R.

Double

16 13 − 30.7

P.a. = 320.
Dist = 20"
Mags = 6.0 & 7.1

Right

203.5 Longitudinals
ET
9 45.26 259.1
21.1 55.6
83.0 61.9
117.5 1.25
202.0
261.1 59.1 1.26
21.8 57.0
78.8 116.1 1.24

Left

110.6
167.3 56.7
293.6 55.4
349.0 112.1 1.37

107.9 58.1 1.34
52.45 166.0
291.0 56.7
347.7 114.8 1.31 mean 1.30

July 25, 1904

~~16.~~

Double

16.18 — 33.6
18 28
2 10

P a 165°
Dist 8''
Mags. 7.0 — 7.5

Left.

ET 354.2 ∠ brighter dis
10 08.0 58.4
163.5 64.7
243.2 79.7
144.4 0.69

341.5 78.7 0.71
60.2
170.9 63.3
234.2 142.0 0.73

Right
262.5 62.8
325.3
73.0 81.3
154.3 144.1 0.69

252.1 81.7 0.58
21.15 333.8
75.6 73.1
148.7 154.8 0.48

Region very low.
Observations very difficult.

mean 0.64

July 25, 1904

Double

17 53 − 30.2
19 00
1 07

P. a 105.° dist 9″ Mags. 5.7-7.7

L and below B.

E.T. 358.0 L brighter dis
10 39.7 49.3
179.7 51.3
226.5 46.8
98.1 1.70

0.0
45.8 45.8 1.81
181.1 43.8
224.9 89.6 1.92

Right A.

274.4
315.2 40.8
91.9 46.0
137.9 86.8 2.00

269.2 1.94
48.3 317.6 48.4
93.2 43.3
136.5 91.7 1.87 mean 1.88

over.

July 25, 1904

Observations of last double a little difficult, especially when seeing became somewhat blurry.

W's watch used for obs. to night.
Watch 43. secs. fast.

July 26 1904 (Tuesday)

Ceres.

16 24 — 21.1
16 27
03 W

Ceres precedes comp. star by about 33s. and is about 15' South of it.

Some light cloud in this region.

July 26, 1904

L and below

ET
8 15.55

51.8 cens dis.
121.8 70.0
223.4 88.4
311.8 158.8 −0.41

43.4 85.7 −0.46
129.1
233.7 67.5
301.2 153.2 −0.51

R. and above

321.0 73.1
34.1
129.9 91.8
221.7 164.9 −0.29

310.7 91.1 −0.34
41.8
141.7 69.1
210.8 160.2 −0.38

mean −0.40

23.07

39 02
8 19 31
5 − 43

13 18 48 G.M.T.

6688

July 26, 1904

R. and above

321.8^{4}
8 25.24 31.4 70.0
132.1 90.2
222.3 160.2 −0.38

313.4 87.2 −0.39
40.6
141.2 71.9
213.1 159.1 −0.40

L. and below,

231.8
303.6 71.8
42.3 86.7
129.0 158.5 −0.41

224.7 84.8 −0.46
33.20 309.5
8 29 22 52.3 68.5
5 −43 120.8 153.3 −0.52
13 28 39 G.M.T.
66 88.

Mean −0.42

July 26. 1904

L. and below

232.6
8 47.30 303.0 70.4
42.6 87.2
129.8 157.6 −0.43

225.7 84.5 −0.44
310.2
50.5 71.3
121.8 155.8 −0.46

R and above

129.2
221.2 92.0
322.0 71.1
33.1 163.1 −0.32
~~139.6~~

−0.32

139.6 74.1
57.37 213.7
312.5 88.9
8 52 34 41.4 163.0 −0.32
5 − 43
13 51 51 G.M.T. Mean −0.38
6698

July 26 1904

R and alan

E T 131.8
9 05.40 220.6

Clouds

S T 18 24
H a
Dec -22.8
P. a 207.1 "V on B"
Sprocket -2.5 a, -1.5 b, 0.9 c

H. a. not read as clds came up and in wait-ing to get more obs. telescope steadily drifted away from star. [That is tel. did not follow star to West]

Although the images were not exactly superposed, yet the readings of Sprocket and P. a. are quite close.

In the three preceding complete groups taken

July 26. 1904.

Tonight, sky clear and images very well seen. An attempt was made to take a fourth group: which was stopped by clouds

Clouds now thick every where; no chance for any thing further.

W's watch used for times to-night.
Watch 43 secs. fast.

July 27, 1904

Ceres

16 24 -21.1
16 34
10 W

Ceres precedes comp star about $29,5^{s}$ and is about 17,5' south of it.

July 27, 1904

L. and below

E.T.
8 26.0

51.3   68.9
120.2
221.9   90.3
312.2   159.2   −0.40

41.8   90.0   −0.41
131.8
233.2   68.2
301.4   158.2   −0.42

R. and above

310.3   89.0
39.3
141.4   71.9
213.3   160.9   −0.36

320.5   −0.34
31.8   71.3
129.6   92.0
221.6   163.3   −0.32

mean −0.38

9 37.45
63 45
8 31 52
5 − 45
13 31 07
9
6688.

July 27 1904

R. and above.

E.T. 8 43.0

311.2
41.7 90.5
141.8 68.7
210.5 159.2 −0.40

320.4
29.9 69.5 −0.38
131.4 91.0
222.4 160.5 −0.37

L. and below

222.3 89.5
311.8
52.2 70.6
122.8 160.1 −0.38

234.0 −0.38
8 55 20 304.0 70.0
8 49 10 40.7 89.5
5 — 45. 130.2 159.5 −0.39 mean −0.38
13 48 25 G.M.T.
66 8~~8~~9

July 27, 04

S.T. 17,48
H.a 1,20 W
Dec ~~+~~ − 22.8
P.a 26.0 V n B
Sprocket −3.5 a, −2.5 b −1.9 c

Region getting rather late, moon full, and sky somewhat hazy; so that it is not considered advisable to make any further measurements of Ceres.

July 27, 1904

Double

16 18 - 33.0
17 58

1 40 W

Abandoned! Too low

Double

17 53 - 30.2
18 00

07 W

P. a. 105°

dist 9"

Mags 5.7 and 7.7

OM

July 27 1904

R. and above A.

St.
935.9

~~91.5~~
~~142.3 50.8~~
~~272.6 56.8~~
~~339.0 107.2 1.70 1.48~~

93.5 47.4
140.9
273.1 47.9
321.0 95.3 1.77

L. and below B.

3.6 45.1
48.7
178.1 52.2
230.3 97.3 1.72

358.6 50.2 1.70
46.0 48.8
178.1 49.0
227.1 99.2 1.68

273.7 43.7
317.4
358.9 45.3 1.86
44.2 89.0 1.94

mean 1.78

July 27, '04

Last set on previous page supplants the first set on same page.

In first set taken seeing was very poor images blurry and two ~~co~~ components of double running together. Consequently first set was re-taken.

July 27 1904

V aquilae

18 54 — 6.0
18 55
012 — 6.0

L. and above

136.1 ∠c.s. dis
10 37.2 219.4
320.5 833
31.8 71.3
154.6 +0.49

140.3 74.2 +0.48
214.5
316.1 81.5
37.6 155.7 0.46

R and below
46.8
126.0 79.2
231.6 72.7
304.3 151.9 +0.54

51.4 72.4 +0.52
42.4 123.8
~~15/10~~ 39.8 227.4 80.8 +0.51
308.2 153.2 +0.50

July 27 1904

R. and below.

E.T. 46.7
10 52.0 129.2 82.5
234.6 66.2
300.8 148.7 +0.60

55.3 67.6 +0.62
122.9 80.7
226.8 147.3 +0.63
307.2

L. and above

317.9
33.4 75.5
142.6 68.9
211.5 144.4 +0.69

323.2 69.0 +0.61
11 00.4 32.2
10 56.2 134.8 83.2
218.0 152.2 +0.53

+0.62

July 27 '04

S. T. 19 44
H. a. 0.46 W
Dec −6.0
P. a 299.5 V in B
Sprocket − 2.5 b = −1.56

July 29 1904

Ceres

16 24 — 21.1

16 37

13 W

L and below

ET 230.8 L lens dis.

8 12.30 304.0

42.8 73.2

130.3 87.5

160.7 −0.37

222.3 −0.36

312.5 90.2

50.9 71.8

122.7 162.0 −0.34

R and above

132.0

220.2 88.2

321.8 69.8

31.6 158.0 −0.42

140.7 −0.40

23,0 213.4 72.7

35 30 313.6 86.6

8 17 45 40.0 159.3 −0.38

5 − 48 −0.38

13 16 57

July 29. 1904

R and above

133.0 88.0

8 25.0 221.0

322.8 67.7

30.5 155.7 −0.46

140.5 71.4 $-0.4x^2$

211.9

311.4 88.5

39.9 159.9 −0.38

L and below

40.8 91.4

132.2

232.7 71.0

303.7 162.4 −0.33

51.0 71.2 −0.32

34.30 122.2

59 30 220.2 92.8

8 29 45 313.0 164.0 −0.30

5 - 48 -0.36^{7}

13 28 57

July 29, 1904

L. and below

51.5 42.7
131.0 88.3
233.1
71.3
304.4 159.6 − 0.39

51.1 −0.3~~7~~8
123.5 72.4
223.1 88.9
312.0 161.3 −0.36

R and above

313.4
38.6 85.2
141.0
213.1 72.1
157.3 −0.43

322.3
9 01.20 30.8 68.5 −0.44
11 2 25 131.7
8 56 12 220.0 88.3
156.8 −0.44
5 − 48 −0.42
13 55 24

July 29, 1904

R and above

ST
9 15.50

313.0
39.5 86.5
141.7 69.4
211.1 155.9 -0.46

323.2
32.7 69.5 -0.47
134.8 85.6
220.4 155.1 -0.48

L and below

229.6
304.6 75.0
42.5 88.4
130.9 163.4 -0.32

220.5
25.50 313.2 92.7 -0.30
50.1 72.2
9 20 50 122.3 164.9 -0.29
5 -48 Mean -0.38
14 20 02

July 29 1904

L. and below

231.3
9 41.25 304.3 73.0
41.5 89.3
130.8 162.3 −0.34

222.8 89.4 −0.3~~4~~6
312.2
51.6 70.6
122.~~8~~2 — 160.0 −0.38

R and above

141.4
214.6 73.2
315.0 82.9
37.9 156.1 −0.46

133.7 85.4 −0.48
53.5 219.1
322.0 68.6
9 4 30
9 47 15 30.6 154.0 −0.50
5 −48 −0.4~~4~~2
14 46 27

July 29, 1907

R and above

Reject

E.T

10 07.50

~~1 43.0~~ ~~69.6~~ 141.5 71.3

~~2 12.6~~ 212.8

~~3 16.3~~ 80.3 313.5 84.9

~~36.6~~ ~~149.9~~ 38.4 156.2 −0.45

1 33.1 84.7

2 17.8 −0.48

3 22.6 68.8

31.4 153.5 −0.51

L. and below

40.9 91.4

1 32.3

2 32.6 71.2

30 3.8 162.6 −0.33

49.4 73.0 −0.32

10 19 ~~2~~ 10

1 22.4

2.23.1 90.2

10 13 30

3 13.3 163.2 −0.32

5 − 48

mean −0.40

15 12 42

July 29, 1904

S.T 19 20
H.a 2 52 W.
Dec -22.8.
P.a 202.0 V in B"
Sprocket -4.5 b, 3.5 c.

First set in last group retaken, as seeing was not quite so good in this set and region rather low, and observer's eye was somewhat dazzled by artificial light, having just returned from alcove.

Sky clear throughout evening and seeing generally very good.

W's watch used for times to right.
Watch 48 secs. fast.

July 29 1904.

Double

20 24 − 18.9
19 30
54

Pa = 240. Dist 25″
Mags 6.2 & 7.2 Phot. R.

R. and below

10.6 < brighter dis
10 56.1 84.3 73.7
190.8 69.8
260.6 143.5 − 0.70

10.2 − 0.65
79.6 69.4
185.9 79.1
265.0 148.5 0.60

L. and above Mean = −0.64

272.1
349.3 77.2
92.9 72.4
165.3 149.6 − 0.58

275.4 − 0.64
11 63.2 342.4 67.0
92.3 76.9
169.2 143.9 − 0.70

July 29. 1904.

B.+C. 1182. B. 394.

13 31 45.2 13 31 0.0

32 45.3 32 0.0

Dis. Jup. II. Phot. R. W. obs.

Hill rec.

Comp. with prec. and slightly northern of two ~~sat~~ sats. on fol. side = sat. III.

13h 41m 15s 65.0 3.8

13 41 49. 40 69.8 68.8 1

-45. 02 134.8 7.4 +0.9

13 41 4. Cor. T. 67.4

20 77.2

38 2.5

13 43 2 53 70.5 73.0

-45 66.4 5.0 2 +0.8

13 42 17. Cor. T. 43 10 136.9 71.4

27 68.4

43 5.0

13 44 8 44 02 66.0 71.0

-45. 17 69.0 4.2 3 +0.9

13 43 23. Cor. T. 30 135.0 73.2

46 67.5 7.4

13 45 10. 45 05 70.1 4

-45.

13 44 25. Cor. T.

Con. on p. 131.

July. 29. 1904.

	13h	45	17 ?	62.7:	6.8	4	
			33	59.4:			
				122.1:			
				61.0:	66.2		+1.1"
			58	62.6:	7.5		
13 46 11.		46	03	63.9:	70.1	5	
-45.			17	126.5:	8.0		+1.1"
13 45 26. Cor. T.				63.2:			
			33		71.9		
			46	63.1:	7.4		
13 47 10.		47	02	58.2:	70.5		
-45.			21	121.3:	7.0	6	+1.2"
13 46 25. Cor. T.			33	60.6			
Corrected times.					65.2 →		
13 47 5			58	56.4:	10.2		+1.4"
47 16		48	01	51.8:	66.6		+1.6"
47 28			13	48.7:	14.8		+1.7"
47 42			27	44.3:	63.5		+2.0"
47 56			41	38.0:	19.2		+2.3"
48 9			54	37.0:	57.2		+2.4"
48 21		49	06	33.6:	20.2		+2.6"
48 35			20	32.8:	53.8		+2.7"
48 47			32	34.4"	21.0		+2.5"
49 0			45	32.4:	55.4		+2.7"
49 13			58	29.2:	23.		+2.9"

Con. on p. 133.

~~Con. on p. 133.~~

July. 29. 1904

Corrected times.✓

13 49 26 | 13^h 50 11 27.1· 52.2 +3.1″
13 49 41✓ 26 21.4· 25.1 +3.6″
13 50 4✓ 49 46.5
13 50 17✓ 51 02 not seen later

Limit of Visibility.

13 15.8· 34.2
13 51 38.✓ 31 16.0· 47.0
−45.✓ 45 31.8· 32.0 +4.3″
13 50 53.✓ Corr. 15.9·
52 02 48.0

Correction to B. & C. 1182 throughout whole eclipse is −45. secs.

B. & C. 1182.			B. 394.		
13	56	45.4	13	56	0.0
	57	45.5		57	0.0

As electric light failed, Mr. Hill not only recorded but also read circles. For this reason settings were taken a little more slowly than usual, of necessity.

Sat. II on one of the ghosts of Jupiter. Comparison Sat. put quite close to it, but could not well be put upon the same ghost. Settings made with as much care as possible. Seeing fairly good.

July 30. 1904. (Saturday.)

Double, 20 24 −14.9 Yr. obs.
Right + below. Phot. R.

10.8
9 11.0 86.0 75.2
69.5
191.5 144.7
261.0 −0.68

−0.65
11.0
80.0 69.0
78.5
186.6 147.5 −0.62
265.1

Left + above. Mean = −0.61

270.0
350.8 80.8
91.1 74.9
166.0 155.7 −0.46

274.8 −0.57
9 22.0 345.0 70.2
93.3 74.7
168.0 144.9 0.68

P.A. 245° Dist. 25"
Mags. 6.3, 7.4

July 30. 1904.

Double 16 18 -33.0 H. obs.
P.A. 160°; Dist 8" Phot. R.
mags. 7.1, 7.5

8 48.6 Right
261.0
324.6 63.6
72.1 83.4
155.5 147.0 — 0.63

253.3 -0.58
331.7 78.4
75.0 73.2
148.2 151.6 — 0.54
Left Mean = -0.64
356.1
58.9 62.8
162.0 80.8
242.8 143.6 — 0.70

340.2 0.70
9 5.3 62.1 81.9
171.8 61.4
233.2 143.3 — 0.71

This page accidentally used before the previous, as observer recorded for himself and it was somewhat dark.

July 30. 1904.

Double 20 59 −6.2 W. obs.
18 20 Phot. R.
−2 39

Clouds.

Σ 2769 = Double 21 6 +22.1
18 35
−2 31

Pos. Ang. 309° Dist. 20" Mags. 6.3, 7.2
Index left & below. Phot. R. W. obs.
~~4.0~~ 5.0 < Brtr. dis.
10 10.2 61.8
182.2 56.8
246.2 64.0
120.8 −1.18

352.9 68.3 −1.05
61.2
180.0 64.5
244.5 132.8 −0.92

Index right & above.
271.2 64.8
336.0

85.1 70.6
155.7 135.4 −0.87

Corr. on next page.

July 30. 1904.

269.1
10 26.8 336.8 67.7 ✓ −0.91 ✓
92.1 63.5 ✓
155.6 131.2 ✓ −0.95 ✓
mean = −0.93 ✓

Double. 22 21 −17.2 Gr. Ls.
19 21 Phot. R.
−3 0

Clouds.

Pos. Ang. 300°; Dist 8.″ mags. 6.4, 6.7
Index right & below. A.
253.2 bttr. dis.
10 53.2 338.0 84.8 ✓
74.0 82.2 ✓
156.2 167.0 ✓ −0.25 ✓

251.9 84.0 ✓ −0.27 ✓
335.9
74.5 80.7 ✓
155.2 164.7 ✓ −0.29 ✓

over.

July 30. 1904.

Left + above. β.

162.2
246.0 83.8 ✓
343.8
71.0 87.2 ✓
171.0 ✓ −0.17 ✓

163.1 −0.16
11 13.0 249.2 86.1 ✓
341.8 86.2 ✓
68.0 172.3 ✓ −0.14 ✓
mean −0.22 ✓

H's watch used for times to night, Watch 48 secs. fast.

Observer recorded for himself to night, as recorder did not come.
Cloudy the first of the evening and troubled by clouds considerably during evening.

Aug. 4, 1904 (Thursday)

U Cephei W Obs.
C. Rec
Phot. T.

24
0 50 +8 11
17 08
67 42
54 18

7 55 C's ~~watch 4m fast 07~~ β 394
C's ~~watch~~ used

Above
320.0 var dis clds
8 24 30 29.5 clds thick.
133.0
222.2
308.6
27 07 412
145.3
211.1
Below
235.0
8 30 00 300.4
40.2
127.5
~~219.0~~
221.8
8 33 00 310.0
52.7
117.5

11 4 37
8 28 39
5 − 4
13 28 35

69.5
89.2
158.7 − 0.41

− 0.41

92.6
65.8
158.4 − 0.41

6697.5615
6695.1683
+2.3932

Mean − − 0.46
8.41
mag = 7.95

65.4
87.3
152.7 − 0.52

~~Clds thicker~~
Star gone

~~6697.5615~~
~~97.6631~~
~~− 0.1016~~
~~2.4928~~
~~2.3912~~

88.2 − 0.52
64.8
153.0 − 0.52

August 4, 1904

II

Below
235.0
8 35 10 298.3 clds thick.
41.2
131.8

222.5
38 40 314.0 Stars gone.
48.8
~~119.1~~ 120.5
Above

mean = –

Abandoned

August 4, 1904

II

above
313.6
9 9.10 39.8 — 86.2
122.1 — 108.9
230.0 — 195.1
164.9 — + 0.29

301.9
11 30 48.6 — 106.7 — + 0.28
131.3 — 87.9
219.2 — 194.6
165.4 — + 0.28

Below — Mean = + 0.30
8.41
~~8.11~~
8.71
223.4
9 14 00 309.0 — 85.6
31.2 — 110.3
141.5 — 195.9
164.1 — + 0.30

211.8
9 16 00 32~~8~~. 23 — 110.5 — + 0.32
10 40 — 42.6 — 87.2
9 12 40 — 129.8 — 197.7 — + 0.34
5 — 4 — 162.3
16 12 36

~~6697.5921~~
~~6695.1683~~
~~-0.0710~~
~~2.4929~~
~~+2.4219~~

6697.5921
6695.1683
+2.4238

August 4, 1904.

III

Below.

221.4

9 17 45 313.4 — 92.0

31.5 — 109.9

141.4 — 201.9

158.1 +0.41

213.8 — +0.36

19 00 320.2 — 1064

42.2 — 89.7

131.9 — 196.1

163.9 +0.30

Above — Mean = +0.42

0.41

0.03

128.8

22 00 223.4 — 94.6

300.8 — 111.8

32.6 — 206.4

153.6 +0.50

121.4

9 23 30 230.6 — 1092 +0.48

2 15 — 308.8 — 95.4

9 20 34 — 44.2 — 204.6

5 — 4 — 155.4 +0.47

14 20 30

~~6697.5976~~

~~.6631~~

~~0.0655~~

~~2.4929~~

~~2.4274~~

6697.5976

6695.1683

2.4293

1904phae.proj..57OW

August 4, 1904

Above ~~130~~ IV

129.2

9 25 40 223.8 94.6

300.0 113.4

534 208.0 + 0.54

152.0

+ 0.60

117.2 < lds

27 30 236.6 119.4

308.8 95.0 + 0.66

43.8 214.4

145.6

Below mean = + 0.63

39.0 8.41

9.04

29 43 135.2 96.2

207.2 117.6

324.8 213.8 + 0.65

146.2

29.0

+ 0.66

9 31 34 142.8 113.8

34 27 218.0 101.2

9 28 37 319.2 215.0

145.0 + 0.67

5 − 4

14 28 33

~~6697.6032~~

~~6631~~

~~0.0399~~

~~2.4929~~

~~2.4330~~

6697.6032

6695.1683

+2.4349

August 4, 1904

V

Below

35.4
9 33 02 133.1 97.7
207.8 118.4
326.2 216.1 +0.70
143.9

28.6 +0.68
35 00 144.2 115.6
218.2 99.2
317.4 214.8 +0.67
165.2

Above

Mean = +0.70
8.41
9.11

304.3
37 15 47.3 103.8
118.4 114.8
233.2 217.8
142.2 +0.73

296.6
9 38 50 54.6 118.0 +0.72
24 07 129.7 98.2
9 36 02 227.9 216.2
5 .4 143.8 +0.70

14 35 58 G.M.T.
6697.6083
.6631
0.0548
2.4929
2.4381

P.A. = 17.0 V a B
Dec = +81.7
H.A. = ~~5.5~~ -6:06 East
S.T. = 18:50
Spect. = { -1.5 B
{ -0.5 C

August 4, 1904

Troubled more in second partial group by fog than in first full group. In fact had to wait so long in middle of second, that same abandoned. Of the last four groups, in first two it was perhaps the clearest and in third fairly clear. In fourth group began to grow more foggy again, hence observations throughout made in somewhat varying conditions and with some difficulty.

Altho at times the fog now clears a little yet only for a few
1000 moments & right away it is all foggy & thick again.

Aug. 5. 1904 (Friday)

Cloudy throughout evening and night.

August 6, 1904 (Saturday)

Ests of Variables 15"
L. Campbell Obs.

8 00 Quite hazy!

R Bootis

14 37 + 27.1
17 25
2 48

17 61
18 1
2 47
15 14

8!18 S 3, 2 ±

12.56
12.43
12.50

S Coronae

15 16 + 33.4
17 40
2 24

15 16
17 47
2 31

Abandoned for the present.

(over)

Aug. 6, 1904.

S Serpentis

15 19   +15.9
18 10
2 51

9:00 Clouds.

9:20 Tried for several variables but clouds & haze too thick to do anything satisfactorily. Clouds now becoming thick everywhere.

Aug. 8, 1904 (Monday)

R Delphini. 15" C. Obs.

20 10 +8.5
19 10
1 00
11 00

10 02 — f 2, 3 g 8.49
8.48
8.48

SX Aquarii

22 48 — 20.9
19 28
3 20
~~0~~
8 60

Abandoned too hazy

R Aquilae

18 55 +8.1
19 30
0 35

10 15 Too cloudy to continue.

Aug 22 1904 (Monday)

15" L.C.Ob.

Est. of Variables & asteroids

R Virginis

12 34 +7.6
17 18
4 44

8 06 g 3, 2 h 8.18
8.00
8.09

W Virginis

12 38 +8.4
17 38
5

8 16 o 4, 1 p 10.48
10.34
10.41

R Comae Ber

11 53 +20.1
17 48
5 55

11 58 +20.0
18 54
5 56

8 31 c 0, 2 d 7.80
7.87
7.84

Aug. 9, 1904

V Virginis

13 23 — 2.3
18 1
4 38

837 k 3, 2 l

9.58
9.64
9.61

S Virginis

-6.1
-~~6.8~~

13 25
18 06
4 41

844 l 2, 2 m

9.21
9.06
9.14

Ceres
846 abandoned no chart at hand.

U Librae

15 12 -19.6
18 17
3 05

9.00 Hazy

over

Aug. 9, 1904

δ Librae

15 12   −19.6
18 31
3 19

9 07   l 2,2 m   9.84
9.68
9.76

Z Bootis
Photog Not.

~~14~~
13 59   +14.0
18 39
4 40

13 45   +17.1
18 47
5 2

see other book

R Herculis

15 56 +18.9
19 06
3 10

Aug 9, 1904

R Her.

16 3 +18.0
19 9
3 6

1~~6~~ 3 16.8
19 11
3 8

11.88
11.95
11.92

9 48 g 0, 4 r

U Her.

16 17 +18.9
19 20
3 3

11.18
11.40
58
11.29

9 54 δ 3, 2 t

W Serpentis

16 3 +9.7
19 23
3 20

Cas Not = photog

9 57 f 5, 0 g

Aug. 9, 1904

T Ophiuchi

16 25 — 17.0

19 28

3 3

11.2
11.2
11.2

10 12 l 3, 0 m Cir 74-2

S Oph. cir 74-2

13.0

10 17 r 5, 0 s

very faint

S Sagittarii

cir 74-II

19 11 - 19.0

20 31

1 20

10.3
9.9
10.1

11 10 h 3, 3 k

11 20 closed up

L. P.

Aug. 11, 1904 (Thursday)

15" Est of Variables L.C. Obs.
+ Asteroids.
JD. 6704

R T Virg.

12 48 ~~+4.1~~ +3.5
17 38
4 50 Photog Not.

8 10 >> a 3,3 c

R S Virginis

14 23 +4.9
17 49
3 26 Photog Not

8 24 b 3,2 k

Ceres
16 23 −26.7
18 10
1 47 see Cor. DM.

8 38 α 3, 2 β

α = −24.12690 (7.6)
β = −24.12691 (7.8) } ± ~~[illegible]~~ ~~[illegible]~~

Aug. 11, 1904

RR Virginis

Not. Cir 74 ~~H~~

13 59 − 9.2
18 19
4 20

f 5 3 f 3, 0 g

10.8
10.9
10.85

R S Librae Photog Not.

15 17 − 22.0
18 41
3 24

15 4 − 19.8
18 41
3 37

9:17 Abandoned. Chain controlling seat came off. Stopped to reset.

Aug. 11, 1904.

W Boötis

14 45 +19.1
19 1

4 16 Ai 74 – II

9 30 9.8 / 9.8 / 9.8 a 3, 2 l

Z Sagittarii

19 14 – 21.5
19 10

0 4
11.56

9 45 10.2 / 9.9 / 10.05 f 3, 2 g Ai 74 – II

R Aquilae.

19 0 +6.1
19 25

25 Ai 74 – II

9 55 9.6 / 9.2 / 9.4 k 3, 2 l

Aug 11, 1904

W Her

16 36 +36.0
19 36
3 0

1004 S 0,5 t 13.19
13.00
13.10

T Sagittarii

19 13 -18.7
19 43
0 30

1007 clouds here

T Androm.
~~20~~ 12 +26.2
21 03
8 09
8 51

1138 Z 3,2 α 13.60
13.49
13.54

1200 closed up

L. P. P.

Aug. 12, 1904 (Friday)

A 55 Worked at 5" till 1100 too cloudy to continue

Aug. 15, 1904 (Monday).

T Persei +57.2 Phot. T. W Obs.

2 08
17 46
15 38

26 08
17 46
8 22

12 00
8 22
3 38

26 08
18 15
7 53

12
7 53
4 7

Aug 15, 1904

ζ Persei.

Right + above

54.1 ↙ vandrs.

8 ~~9~~34	117.5	63.4		
	244.4	44.9		
	289.3	108.3	1.46	
	~~&~~			
	63.3	47.8		1.44
	111.1			
	236.1	62.1		
	298.2	109.9	1.42	
	Left + Below.			
	323.6	67.4		Reject this group.
	31.0			
	152.2	51.8		
	204.0	119.2		
8 ~~9~~41	331.7	53.1		
	24.8			
	144.9	56		
	240.5			

Aug 15, 1904.

Same again.

8
~~8~~ 43 30 322.7 68.9
31.6
151.2 51.7
202.9 120.6

332.2
22.0 49.8
144.4 99.8
244.2

Reject this group.

Right + Above.

236.0 64.5
300.5
62.5 47.8
110.3 112.3 1.36

8
~~8~~ 51 30 242.3 50.6 1.34
292.3
52.9 65.3
118.2 115.3 1.30

Reject above two previous groups. Something wrong. It is probable that the circles may have accidentally been read wrongly. I Persei remeasured on pages 163 and 164. and come out all right.

Aug. 15, 1904.

Same again.

Right + Above.

A

236.0 ← Var. dis.
902 ~~.11~~ .2 299.0 63.0^r
63.2 46.6^r
109.8 109.6^r −1.43^r

241.8 48.6^r
290.4 −1.39^r
52.3 64.5^r
116.8 ~~122.1~~
113.1^r −1.35^r

Left + Below.

B

142.8
69.6^r
212.4
332.2 50.6^r
22.8 120.2^r −1.19^r

149.3 55.6^r −1.18^r
912.0 204.9
9 7.1^r 324.2 65.3^r
+5 −0.9^r 29.5 120.9^r −1.17^r
14 6.2^r

mean −1.28^r

Aug 15, 1904
Same again.

9 14 ~~10~~ .2

141.3 70.0 ✓
211.3
331.7 49.7 ✓
21.4 119.7 ✓ −1.20 ✓ B

151.0 50.0 ✓ −1.26 ✓
201.0
324.2 64.8 ✓
29.0 114.8 ✓ −1.31 ✓

Right & Above

53.0 64.2 ✓
117.2
241.3 50.7 ✓
292.0 114.9 ✓ −1.31 ✓ A

62.8 56.1 ✓ −1.25 ✓
118.9
235.1 64.2 ✓
299.3 120.3 ✓ −1.19 ✓

9 25 ~~50~~ .8

9 20.0 ✓
+5 −0.9 ✓
14 19.1 ✓

mean −1.26 ✓
Gen. mean −1.27 ✓

~~These~~ This result (−1.27) agrees within 0.01 mag., with the value when this star was last measured on 1904.2.8.

Aug. 15, 1904.

P.A. 341.5 Vern. B.
Dec +58.4
H.A. −6 33
S.T. 19 42
Sp. Wheel. — A −4.5 B −3.5 C

Error of Watch. 55.s. fast.

Same comp. star used as before.
= star K on old chart.

Aug. 18, 190x. (Thursday)

Ests of Vars L. C. Ob.

T Librae 15"

✓ 15 4 −19.9

L. 17 40

2 36 Est 13.5

7 47 12.0 g 5, 1 h

12.1

12.0 Cir 74−II

x Librae Est 11.5

15 30 −21.1

✓ 17 55

2 25 L.

7 54 11.0 f 2, 3 g Cir 74=II

11.0

11.0

R. R. Librae

15 46 −19.6

18 00 Est 13.5

2 14

8 04 Cir 74−II

13.0

0 4.0 f L.

Aug. 18, 1904

U Librae

15 30 - 21.1 Est. = 10.0
18 12

✓ 2 42 Cir 74 - II

8 12 9.7
9.7
9.7 d 3, 2 e

Z Librae

Cir 74 = II

✓ 15 42 - 21.6
18 20
2 38

8 27 Var not seen for certain fainter than 13.5

9 3 N

Z Scorpii 15"

Cir 74 - II

✓ 16 00 - 21.0
18 35
2 35

8 34 9.3
9.2
9.25 d 3, 3 e Est 9.0

Cir 74 = II

Aug. 18. 1904

X Scorpii

Cir 74 – H

8 37 ✓ 10.4 10.7 11.1 10.7 e 4, 0 f, 3 g Est 11.0

W Scorpii

Cir 74 – 4

✓ 16 4 – 19.7

18 5-6

2 5-2 Est 13

9 02 11.3 11.1 11.2 near moon

k 3, 2 l

~~T Sagittarii~~

T Delph. Cir 74 – 4

20 40 + 15.0

✓ 19 16

1 24

10 36 Est 10.8

9 26 11.0 10.6 10.8 m 5, 0 n L

Aug 18, 1904

R Capric.

Cir 74 – II

✓

L6 20 0 – 14.8

19 35

0 25 Est 13.5

12.5

9 37 fp 3 var

W Capric. Cir 74 – II

✓ L 20 10 – 22.4

19 45

0 25

11 30

9 45 13.5 w 5,00 Est 14.0

U Capric. Cir 74 – II

✓

20 40 – 15.0

L1 19 52

0 48 Est 14.0

13.5 11 12

9 53 ni 3 var

Aug 18, 1908.

X Capric. 15"

Cir 74 – II

✓

21 ~~00~~ – 21.

20 ~~00~~

1 00

9 59 10.0
9.9
9.95 d 4, 2 e. Est 10.0

Y Capric. 15"

Cir 74 = II

✓ 21 23 – 15.0

20 6

1 17

10 43 L

10 07 < 13.0 n 4 N

U Aquarii Cir 74 – II

✓ 21 54 – 17.6

20 14 L

1 40 Est 10.5

10 20

9.9
9.9
10 14 9.9 c 4, 2 d

Aug 18, 1904.

S Pegasi 15"

2 3 20 + 8.0

✓ 20 30

2 5 0

9 1 0

12.79
12.74
12.76

10 36 m 3, 2 w Est 13.0

V Delph.

✓ 20 36 +19.2

20 46 Est 12.0

0 10

ℓ

var 3 e

10 58 See Campbell's Chart.

S Aquarii

✓ 22 48 -21.0

21 6

~~3 8~~

1 42

10 18

22 48 -20.4

21 16

1 32

10 28

22 58 -21.6

21 13

1 42

10 18

(over)

Aug. 18, 1914

✓ S Aquarii

11 18 12.15
12.11
12.13
m 3, 1 w Est. 12.0

T Capricorni.

✓ 21 8 − 15.8
21 28 Est. 12.5
0 28
Ci > K = II

11.2
10.8
11.0 l 5, 2 m

11 33

R Aquarii

23 35 −16.5
21 40
1 45
10 15

23 35 −15.3
21 48
1 47
10 13

see "book"

Aug. 18, 1904.

S Ceti 15"

24
8 12 -9.6
22 15
1 47
10 13

see 5" book

S Pisc 15"

25 6 +7.4
✓ 22 26
2 40
9 20

Cu 74 — II

10.9
10.7
10.8

12 40

l 3,0 m

U Piscium

✓ 25 14 +12.1
22 48
2 26
9 34

10.8
10.6
10.7

Cu 74 — II

1252 g 3,3 h

Aug. 18, 1904.

R Piscium

15''

✓ 25 20 + 3.0
23 00
2 20
9 40

7.69
7.68
7.68

1300 d 1, 3 e

SX Arietis

15''

✓ 25 54 +12.0
23 07
2 47
9 13

1310 Var N.S.
<14.
4 4 N.S.

T Arietis,

1317 ✓ Abandoned
no good chart

Aug. 18 1904

U Arietis 15''

27 00 +14.8
23 23
3 37
8 23

26 58 +12.6
23 30
3 28
13.0 8 32 Est 13.8

13 37 0 5 Var

o Ceti finder 15''

✓ 26 17 − 3.6
23 44
✓ 2 33
9 27

8 32
8.28
8.30

13 47 13 3, 3 ~~4~~ ✓

✓ R Ceti

8 72
8.60
8.66

13 57 26 14 − 0.3
23 54
2 20 f 3.1 g

Aug 18, 1904

U Ceti 15"

✓ 2 32 -12.5
0 05
2 27
11.35 9 35

14 06 9 3 var

R Tauri 15"
4 16 +9.1
0 14
✓ 4 02
7 58

13.31
13.14
14 16 13.22 a 3, 3 w

W Tauri 15"

✓

14 22 13.9 w 5 R

V Tauri
4 43 +18.6
0 40
4 03
7 57

Aug. 18/1904

V Tauri

4 31 +15.6 15''
✓ 0 50
3 41 Air >4 ~ 4
8 19

11.9

15 00 g 3 var

U Orionis 15''

✓

5 46 +20,2
1 06
4 40
7 20

8.67
8.68
8.68

15 07 l 4,2 m

15 20 Quit for tonight

L. P.

Aug. 19. 1904. (Friday)

11 0 Too cloudy to observe Disap. of Jupiter III. Cloudy at time of eclipse.

Reap. Jupiter III. W. obs.
Phot. R.

B.+C. 1182			B 394.		
12	12	29.7	12	11	0.0
	13	29.8		12	0.0

12 26 Opened dome and set on Jupiter. Jupiter visible to naked eye and also visible in telescope but rather dim. No sats visible with ordinary eye piece. Clouds thick.

12 37 Clouds rather thicker. Jupiter faintly seen in telescope but not sats visible with ordinary eye piece.

Aug 19 1904

12 45 Same remark as above.

12 48 Same remarks as above.

12 50 Clouds thicker than before. No sats visible.

12 52 Clouds thick, no sats visible. Jupiter rather faint in telescope with ordinary eye piece.

12 56 Clouds thicker. No sats visible

13 00 Clouds still thick no sats visible. no trace of any sat. has been seen thoughout, although Jupiter itself was faintly seen in large telescope with ordinary eye piece.
It is now over ten minutes after theoretical time of reapearance

Aug. 21, 1904 (Sunday)

R Aurigae 15" L.C. Obs.

29
~~5~~ 3 + 53.0
21 35

28~~7~~
L 4 32

12.46
12.52
12.49

11 31 p 1.3 q

S Camelop. 15"

29
5 36 + 68.5
L 21 56
40 8 30 2 + 69.5
4 20 22 0
8 2
3 58

8.5
8.9
8.6

11 51 b 3.1 c Cir 74 – 11

R Lyncis 15"

30
8 5 – 3 + 54.4
22 10
8 43
3 17

Aug. 21, 1904.

R Lyncis 15"

30
~~6~~ 45 + 58.0
22 15
L. 8 30
3 30

10.07
10.13
10.10

2
13 08 h 3, 0 k

V Aurigae 15"

30 9 + 46.9
L. 22 29
7 40
4 20 ci 74 – II

9.4
9.5
9.2
12 23 9.4 a 2, 0 d, 5 e

δ Aurigae
29
L ~~5~~ 18 + 34.4
22 43
6 35
5 25 ci 74 – II

10.4
10.3
12 36 10.35 m 3, 2 n.

U Aurigae
29 ~~5~~ 31 + 31.2
ci 74 – II 22 56
12 52 L. 6 35
5 25 h 2, 2 k

9.8
9.7
9.75

Aug 21, 1904.

T Herculis 15"

18 2 +30.5
23 12
5 10

L

11.85
12.11
11.98

13 04 q 2, 3 r

R Vulpec.

20 52 +22.3
23 22
2 30

Abandoned for the present.

X Cygni 15"

L 19 41 +34.0
23 26
3 45

9.96
9.68
9.82

13 20 x 4, 2 y

L. Z Cygni ai 74-II

10.0
9.8
9.9

13 27 19 57 +49.6
23 37
3 40 m 3, 2 n

Aug. 21, 1904

R Cygni 15^{9}

19 33 +49.6
23 43
4 10

13.84
13.63
13.74

13 3~~7~~4 L z 3, 3 α

RT Cygni.

13 40 Could not identify region correctly

13 50 Dew quite troublesome now so observer will quit work for tonight.

L. P. P.

(Monday) August 22, 1904.

9 00 Wee C's Record Books for tonight's work.

Aug. 22. 1904.

o Ceti Phot. R. W. obs.

11 15 Sky all cloudy.

11 30 " " "

12 0 All cloudy and raining.

12 15 " " " "

12 30 " " " " a little.

13 0 " " with no prospect of clearing.

Aug. 23, 1904 (Tuesday)

15″ Z.C. Obs

Ceres.

16 21 −26.0

$\alpha = -25.11\overset{5}{3}87$ (9.1) 18 06

$\beta = -24.12753$ (9.4) 1 45

9.0

Reject.
Chart doubtful

8 13 α 0, 5 β

see S. DM. chart

Moon nearly full & region difficult

Juno

20 40 − 5.6

19 00

1 40

10 20

8.5

$\gamma = -6.5578$ (8.6)

$\delta = -7.5398$ (9.8) γ ~~α~~ 1, 5 δ ~~β~~

M

8 40 see DM chart

8 50 haze in South

Aug. 23, 1904

1935 Examination of Plato (Moon)
to confirm crater announced by Bulletin 156.

New crater seen on left-hand
(preceding) side of Plato

Hebe

20 21 − 18.3
19 43
0 38
11 22

9 42 Asteroid not found, sky
hazy, moon quite bright.

δ Herculis 15"

16 46 +15.2
20 10
3 24

7.13
6.22
2.00

9 53 d 2, 3

Aug 23, 1904

Jupiter

26 0 + 10
20 20
5 40
6 20

Bond 236
10 08 51.5
09 51.5

Bond 394
10 09 0.0
10 0.0

Dis. Jup II. Phot R. E. Eq.
L. Campbell Observer.
C. D. Campbell Recorder.

Comp. with ~~same~~ sat on same side = Sat IV ?

~~10. 15 45 2 30 4 2 3 0 0 4~~
~~10. 15 56 3 32 8~~
~~10. 15 16~~
10 ~~1 0 0 2~~
10 15 45 1 0 0 2
10 15 50 1.5 2 - 2
10 16 5 1 0 0 -0
10 16 18 1.5 1 - 2

Above only ~~=~~ experimental

10
10
10
10

Aug. 23, 1904

Limit of Visibility

	~~10 16 22~~		~~144 - 8~~		
	~~10 18 9~~		~~145 - 8~~		
	17 30	Reticf.	110 - 2	28.6	
	24 0		138 - 8		
	" 30		99 - 4	40.6	2,5
	" 40		140 - 0	34.6	
	~~25 9~~				
	25 - 9		180 - 2	72.6	
10 25 32	" 27		252 - 8	66.3	0.8
+5	" 40		180 - 1	69.4	
10 25 37	" 52		246 - 4		
	26 3		181 - 8	~~3.4~~	
	" 15		249 - 0	67.2	
26 22 +5	" 31		184 - 4	65.4 66.3	0.9
26 27	" 40		249 - 8		
	" 54		185 - 1	62.3	
27 30 +5	27 5		247 - 4	61.2	1.1
27 35	" 24		188 - 4	61.8	
	28 40		249.6		
	51		185.8	64.0	
29 10 4	29 2		249.8	59.4	1.1
29 14	17		183.8	62.7	
	30		243 - 2		
	45		188 - 8	72.5	
30 05 4	55		256 - 3	67.8	0.8
30 09	30 11		178 - 4	70.2	
			~~2[illegible]~~		

Aug 23, 1904

10.	30 28	246.2		
	38	181.8	66.4	
30 57	50	248.2	75.0	0.7
4	37 5	176.2	70.7	
31 01	15	251.2		
	33	174.8	75.0	
31 50	46	248.8	72.0	0.6
4	55	178.2	73.5	
31 54	32 05	250.2		
	17	176.3	75.9	
32 36	27	252.2	70.9	0.6
4	44	181.4	73.4	
32 40	55	252.3		
	33 8	183.2	64.0	
33 32	19	247.2	73.5	0.8
3	46	174.4	68.8	
33 35	55	247.9		
	34 7	178.7	69.5	
34 26	19	248.2	74.4	0.7
3	30	177.8	72.0	
34 29	46	252.2		
	35 29	178.8		
35 43	39	248.2	69.4	
3	48	177.2	74.0	
35 46	56	251.2	144.4 71.7	0.7
	~~36 7~~			
37 06	3~~7~~6 45	178.8	69.0	
3	55	247.8	79.2	0.6
37 09			74.1	

Aug 23, 1904

10	38 7	14		171.2	
		32		250.4	
		50		176.2	
			75.2		
38 12	3~~8~~ 8	4	73.6	251.4	
2					
38 14		19	74.4	177.8	0.6
		35		251.4	
	39	46		177.4	0.9
			71.0		
39 06	~~40~~	1	61.2	248.4	
2			132.2		
39 08		10	66.1	184.6	
		29		245.8	
		48		182.4	
			66.4		
40 12	4~~1~~ 0	4	65.6	248.8	0.9
2					
		23	66.0	184.8	
40 14					
		35		250.4	
		47		178.7	
			71.1		
41 07	4~~1~~ 1	1	72.3	248.8	0.7
2			71.7		
		15		176.6	
41 09		24		248.9	
		35		178.4	0.7
			73.5		
41 59		46	71.6	251.9	
			72.2		
2		~~57~~		~~180.2~~	
42 01	48 2	12		178.8	
		24		249.8	
		35		180.7	
42 58			66.3		
1	3	53		247.0	1.0
42 59	4~~4~~	7	64.8	181.2	
			65.6		
		17		246.0	
		31		178.2	
43 51		45	74.6	252.8	0.6
1			72.8		
43 52		57	73.7	178.4	

Aug 23, 1904

10	44 10		251.2 —		
	25	68.0	180.4		
44 59	35	68.0	248.4		
1 44 51	45. 1	68.0	182.8	0.9	
	17		250.8		
	~~51~~		~~2.8~~		
	~~46~~				
	46 59		186.4 —		
47 18	47.10	61.8	248.2	0.9	
0 47 18	,26	70.0 65.9	180.0		
	38		250.0 —		
	46		182.8		
48 06	48. 1	70.8 67.8	253.6	0.8	
0 48 06	,13	138.6 69.3	182.2		
	,23		250.0 —		
	44		183.7		
49 05	59	64.1	247.8	1.1	
0	49 13	60.3	185.9		
49 05	23	62.2	246.2		
49 35	35		−1$\overset{8}{5}$8.0	49.8	1.7
54	54	~~79.8~~	237.8	43.0	2.0
50 15	50 15		−1$\overset{9}{6}$4.8	44.2	2.0
24	24		2$_9$39.0	46.6	1.8
39	39		−162.4	44.6	1.9
49	49		237.0	40.2	2.2
59	59		196.8	38.2	2.3
51 16	51 17		235.0	33.2	2.6
31	32		201.8	24.4	3.3
46	47		226.2	23.8	3.4
54	55		202.4	20.0	3.8

Electric light weak so Obs. troubled in reading settings at this point.

Recorded wrong. Changed by Obs. next morning

Aug 23, 1904

10 52 3.0	52 4	222.4	15.8	4.3
10	11	206.8	13.0	4.7
23	24	219.8	11.0	5.1
37	38	208.8		
49	50	Not Seen Later.		

Bond 236	B 394
11 12 05.0	11 12 oo
13 05.1	13 oo.

Seeing not extra good but images fairly well seen at intervals

A large number of settings for constant were taken for the experience ~~both~~ for L. Campbell's observing and C. D. Campbell's Recording

Limit of Visibility probably not worth much so perhaps should be rejected. L.C.

omitted by

mistake

(Wednesday)

Aug 24, 1904 ~~Tuesday~~

L. C. Obs.

RS Librae 15"

15 8 -22.4
18 8
3 0

8.8

7 52 d 2, 2 e Photog. Not.

Ceres 15"

16 21 -26.0
α=-24.12762 (8.4) 18 26 =8.7
2 05

8 20 Asteroid not in correct place.
Est = α 3 asteroid see Reed next day.

E. C. P.'s New Var. +24°

18 24 +23.2
18 54
0 30

9.5

8 37 α 5, 3 β

NS Serpentis 5"

8 48 8.37 8.18 8.28 c 4, 2 d

Aug 24, 1904

S Coronae 5"

11.43

var 4 r

8 57 p & q too bright to compare well

U Serpentis 15"

16 1 +9.7
19 28
3 27

10.5

9 08 k 3, 3 l

V Coronae 15"

15 30 +39.0
19 45
4 15

10.1
9.9
10.0

9 23 h 2, 5 k

R Sagittarii 15"

9.57
9.73
9.65

19 9 — 19.9
19 57
0 48

9 40 var 3 p, 5 q

Aug 24, 1904

RW Sag. Cas Not.

9 42 c 3, 2 d 10.0

SX Sagittarii ~~Phot~~

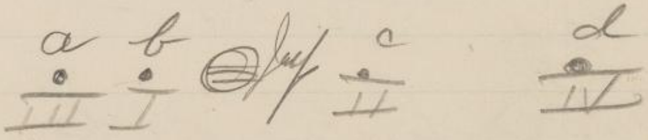
9 47 10.5 k 3, 3 l Cir 14 II
10.3
10.4

Meas of Jup's Sats.

Phot P.
L. C. Obs

25 5 4 +10.2
20 24
5 30
6 30

10 08



Appearance of field.

1904phae.proj..57OW

Aug. 24, 1904.

III I

Stat a comp. with b

Right Phot R

348.6 < b dis

10.13.30 81.9

93.3

170.6

93.0

188.3

265.6

171.7 - 0.06

346.3 - 0.29

101530 85.8

99.5

164.1

102.7

266.8

202.2

157.8 - 0.42

Left < a dis now Mean = -0.24

354.8.

101910 78.4

83.6

171.2.

88.6

259.8

172.2 - 0.15

353.8 - 0.18

102050 79.6

85.8

29 00 173.1

83.7

10 17 15 256.8

169.5 - 0.20

5

15 17.2 G.M.T.

Aug 24, 1904

Sat $\overset{III}{\underline{a}}$ with $\overset{II}{\underline{c}}$

Phot R

Left.

353.8 < C. Ilis.

10 26 30 70.8 77.5

169.6 92.2

261.8 169.7 + 0.20

344.6 + 0.24

10 28 10 73.8 99.2

183.2 66.4

249.6 165.6 + 0.27

Right.

~~10 30 20~~ 258.0 Mean + 0.36

10 30 20 333.4 75.4

84.3 83.5

167.8 158.9 + 0.40

256.0 + 0.49

10 32 00 341.7 85.7

~~20~~ 89.4 64.3

11$_{3}$7 00 163.7 150.0 + 0.58

10 29 15

15 29.2

Aug 24, 1904

Sat. a with D.

Phot. cannot reach sats.

Sat B with C.

Right. I II Phot R

~~16~~3.2 < C. Dis.

10380 257.8 84.6

342.5 82.6

65.1 167.2 +0.24

168.2 +0.24

104030 250.3 82.1

343.8 85.0

68.8 167.1 +0.24

Left.

7~~4~~.8 Mean = +0.1~~4~~

104220 162.7 87.9

256.7 83.5

340.2 171.4 +0.16

69.2 +0.04

104840 169.6 100.4

1.6430 253.6 83.6

10 41 08 337.2 184.0 −0.08

15 41.1 176.0

Aug 24, 1904

~~Sat. B with D.~~

Phot. cannot reach Sats.

Sat. C with D.

Phot. R

	Left.	II	IV
	163.6 < C. Dis.		
10 51 0	245.3	81.7	
	344.8	78.6	
	63.4	160.3	−0.38
	166.8		−0.48
10 53 30	249.8	83.0	
	353.8	66.0	
	59.8	1490	−0.59
	Right.		
	74.7		Mean = −0.52
10 54 0	157.1	82.4	
	259.6	74.2	
	333.8	156.6	−0.45
~~10 55 10~~	73.2		−0.54
10 55 10	151.2	78.0	
12 40	260.0	68.8	
10 53 10	328.8	146.8	−0.64
15 53.2			

Aug. 24, 1904

Phot T put on now.

Stars a & b too near to measure.

Sat. $\overset{III}{a}$ comp. with ~~II~~ $\overset{II}{c}$

Above — Phot T

318.4
11 12 0 — 29.3 < a Dis. — 70.9
148.9 — 69.2
213.1 — 140.1 – 0.77

321.8 — – 0.66
11 13 10 — 34.7 — 72.9
188.8 — 79.0
217.8 — 151.9 – 0.54

Below
233.6 — Mean = – 0.43
11 15 10 — 310.2 — 76.6
43.9 — 87.4
131.3 — 164.0 – 0.30

216.6 — – 0.20
11 16 30 — 310.2 — 93.6
16 50 — 41.3 — 80.5
11 14 12 — 121.8 — 174.1 – 0.11
16 14.2

Aug 24, 1904
III IV
Sat. a with D.
Below Plot T
116.0 < D. Dis.
11 18 50 237.2 121.2
293.4 126.4
59.8 247.6
112.4 -1.36

114.1
11 20 10 232.6 118.5 -1.35
292.9 127.9
60.8 246.4 -1.34
113 6
Above Mean = -1.30
22.2
11 21 40 143.8 121.6
202.4 125.8
328.2 247.4 -1.36
112.6

24.2 -1.24
11 22 50 142.3 118.1
3 30 208.5 118.2
11 20 52 326.7 236.3 -1.11
16 20.9 123.7

Aug 24, 1904
Sat. B with C.

Above I II

Plot T

320.0 < B.D.s.
11 28 20 38.4 78.4
141.8 71.9
213.7 150.3 - 0.57

330.7
11 30 30 32.2 61.5 - 0.74^{3}
142.2 72.6
214.8 134.1 - 0.89

Below.
228.2 Mean = -0.38
11 31 40 310.2 82.0
41.8 90.4
132.20 172.4 - 0.14

218.9 - 0.03
11 32 50 312.6 93.7
3 20 39.9 90.3
11 30 50 130.2 184.0
16 30.8 176.0 + 0.08

Aug 24 1904
Sat. B. with L6.
Below, I IV
Plot T

~~111.7 < D. Dis.~~
# 125.3 < D. Dis.
11 38 0 228.3 103.0
291.3 110.4
51.7 213.4
146.4 − 0.65.

# 119.8
11 40 40 234.9 115.1 − 0.84
298.8 117.6
56.4 232.7
Above 127.3 − 1.04
30.3 Mean = −0.92
11 42 30 140.3 110.0
211.4 114.2
325.6 224.2 − 0.86
135.8

27.7 − 1.01
11 43 30 145.4 117.7
4 40 207.8 120.6
11 41 10 328.4 238.3
16 41.2 121.7 − 1.16

Aug. 24, 1904

Sat. 6. with ~~IV~~

Above II Plot T

306.6 ∠ 6. Dis.

11 46 30 36.2 89.6

140.4 74.2

214.6 163.8 −0.31

326.4 −0.38

11 48 20 36.3 69.9

129.8 86.5

216.3 156.4 −0.45

Below.

~~235.2~~ Mean = −0.56

~~##~~ 221.8

11 51 40 302.8 81.0

58.4 63.6

122.0 144.6 −0.68

$2\overset{0}{8}9.0$ −0.74

11 53 40 285.6 76.6

0 10 55.3 62.0

11 50 02 117.3 138.6 −0.80

16 50.0

Aug. 24, 190✗.

Bond 236	Bond 394
12 28 03.1	12 28 0.0
29 03.4	29 0.0

Dis. Jup I Phot R.
L. Campbell Ob.
C.D. Campbell Rec

Comp. with Sat. on same side = Sat III

1st Limit of Visibility

12.40 22
46 44
4.26 04
.20

~~19.0~~
~~21.9~~
~~20.4~~ ?

9.0

287.4
106.4
285.2
107.1
~~286.~~
286.4
108.1
286.8
107.2

2nd Limit of Visibility

12.43.23
40
54
44.14

44.50
45.04
.14
.29

75.8
71.2
73.5

165.8
241.6
166.8
238.0

0.6

12 45 09
-7.
12 45 2.

Aug 24, 1908

	45 39		164.0	
✓				
12 45 55 ✓	48	78.2	~~242.2~~	
-7		77.0	165.0	0.5
12 45 48.	46.01	77.6		
	.11		242.0	
	.19		166.8	
46 35 ✓	.30	76.2	~~243.0~~	
-7. ✓	.40	74.7	168.6	0.6
12 46 28.	.50	75.4	243.3	
	46.60		164.6	
47 14	47.11	75.8	~~240.4~~	
-7 ✓	.19	78.4	163.4	0.5
12 47 7. ✓		77.1 ~~78.6~~	241.8	
	.27			
	.34		168.0	
47 48 ✓	.43	75.6	~~243.6~~	0.5
-7 ✓		80.9		
12 47 41. ✓	.52	78.2	162.4	
	48.01		243.3	
	.14		165.1	
48 29		76.8	~~241.9~~	0.5
-8 ✓	.26	78.8		
12 48 21.	.33	77.8	167.4	
	.42		246.2	
	.54	81.7	164.1	
49 08	49.04	77.9	~~245.8~~	0.4
-8 ✓		79.8		
	13		165.3	
12 49 0.				
	21		243.2	
	30		162.2	
		86.8		
49 44	38	79.2	~~249.0~~	0.3
-8 ✓		83.0		
12 49 36.	48		166.0	
	58		245.2	
	506	83.8	164.2	
50 18	14	81.6	~~248.0~~	0.3
-8 ✓		82.7		
12 50 10 ✓				

Aug 24, 1904

12 50 56
-8
12 50 48.

51 40
-8
12 51 32.

52 16
-8
12 52 8.

52 55
-8
12 52 47.

53 29
-9
12 53 20.

54 08
-9
12 53 59

54 48
-9
12 54 39.

50 21
31
40
49
50 60
51 13
25
33
44
57
52 03
12
21
29
39
49
53 02
09
17
24
33 clouds
42
53
54 02
14
24
33
43
52

164,2
245,8
167,0
75.9
78.7
77.3
242,9
164,2 0.5
242,9
166,2
73.4
77.9
75.6
239,6 0.6
168,3
241,7
164,8
82.1
79.1
161.2
80.6
246,9 0.4
163,1
242,2
167,2
75.2
79.7
77.4
242,4 0.5
165,5
245,2
172,8
68.5
69.2
137.7
68.8
241,3
168,7 0.8
237,9
163,3
79.5
82.4
161.9
81.0
242,8 0.3
164,4
246,8
164,0
79.5
78.6
158.1
79.0
243.5 0.4
165.8

Aug 24, 1904

		55 03			244.4	
12 55	3. ✓	55 12		80.3	165.6	0.4 ✓
	15. ✓	24		78.5	245.9	0.4 ✓
	24. ✓	33		79.0	167.4	0.4 ✓
	32. ✓	41		75.3	246.4	0.6
	41. ✓	50		67.9	171.1	0.9
	50. ✓	59		71.0	239.0	0.7
56	3 ✓	56 12		74.2	168.0	0.6
	13 ✓	22		73.5	242.2	0.6
	21 ✓	30	9 secs. fast.	73.3	168.7	0.6
	30 ✓	39		70.7	242.0	0.7
	38 ✓	47		65.9	171.3	0.9
	49 ✓	58		59.0	237.2	1.2
57	0 ✓	57. 09		52.2	178.2	1.5
	9 ✓	18		49.7	230.4	1.7
	16 ✓	25		48.1	180.7	1.8
	28 ✓	37		43.0	228.8	2.0
	~~38~~ 37 ✓	47		39.4	185.8	2.2
	~~46~~ 45 ✓	55		37.8	225.2	2.3
57	~~53~~ 52 ✓	58 02		30.4	187.9	2.8
5~~8~~	59 ✓	09	10 secs. fast.	24.5	217.8	3.3
58	~~6~~ 5 ✓	15		21.5	193.3	3.6
	~~15~~ 14 ✓	24		17.4	214.8	4.1
	~~24~~ 23 ✓	33			197.4	
	~~31~~ 30 ✓	40				

Not seen later

Seeing fairly good and observations considered good.

Bond 236 B 39 K

13 13 12.8 13 13 00

13 14 1~~8~~3.0 13 14 00

Aug 25, 1904 (Thursday)

15" telescope L.C. Ob

R Comae Ber.

11 52 + 19.7
18 12
6 20

m

~~Region too low.~~

R. Bootis.

14 37 + 26.6
18 20
3 43

7, 58 s 3, 1 E 12.56
12.53
12.58 ✓ m

U Herculis.

16 15 + 19.0
18 35
2 20

8.15 S 3, 2 T 11.18
11.40
11.29 m

R Herculis.

15 54 + 17.6
18 49
2 55 10.30
10.17
10.24 m

8, 21 M4.1N

Aug. 25, 1904

U. Bootis,

14.45 + 19.1

18.59

4.14

m

8
~~9~~. 32 B.b, 2 C. 9.1 / 9.0 / 9.05

T. Ophiuchi,

16 23 + 16.9

19 08

2 45

8.50 Var. not seen. m

g ~~S~~. seen 10.3

~~S~~

S Ophiuchi

Var. not seen 10.3 m

9.00 f seen

Moon very bright

Clouds in north.

R. Sagittarii,

19 10 ~~*~~ — 19.8

19.40

00.30

9 12 σ 3.3 f 9.81 / 9.57 / 9.69

m

Aug 25 1904

E.C.P's New Var.

18 24 +23.2
19 54
1 30 2m

9 27 α 4, 4 β 9.4

W Herculis.
16.29 +37.8
20.00
3.31

9.33 Too cloudy

9.35 All cloudy in north in zenith

~~9~~

9.45 Sky still more cloudy and now in the west

10.00 Too cloudy and strong moonlight to continue

L.P.

Aug 26. 1904 (Friday)

JD 6719 15" tel L.C. Ob.

Ceres

16 21 − 260
18 01
1 40

α = −24.~~1?~~ 12762 (8.4)
β = −24°.12799 (9.3)

8.8

7 39 α4, 4β

see C.D.M. chart

S, Librae

15 11 − 19.6
18 20
3 09

10.75
10.80
10.78

7.57 O4, OP

U Librae

15 30 − 21.2
18 35
~~2 03~~
3 05 Ci 74-II

99

8.10 ⁺e5, 1f M

Z Librae.

8.20 e4, 2f 10.5 m

Ci 74-II

Aug. 26, 1904.

Z Scorpii.

1558 − 20.8

1858

3.00

8.25 d 3, 2 e 9.3 M

bir. 74 − II

8 30 X Scorpii

f 3, 2 f′ 11.0

m

bir. 74 − II

W. Scorpii.

1558 − 20.8

1908

3 10

m

12.0

8 38 m 3 N bir. 74 − II

T Sagittarii

1906 − 18.0

1916 m bir 74 − II

0.10

11.2

8.57 m 3, 2 n

Z Sagittarii

9.01 9.3 l e 4, 4 d m bir. 74 − II

X Ophiuchi.

1830 + 8.8

1940 m. bir. 74 − II

1.10

9 20 ± 7.5 a′ 2, 2 a ~~See~~ C's chart.

Aug 26 1904.

V Cygni.

20 43 +47,4

20.05

0 38

11 22

12 05
11.85
11.95

9.45 9 3, 3r.

S Cygni.

20 10 +56 1

20 22

0 12

9 50 Abandoned

Meas. of Sats. of Jupiter.

L. Campbell Obs
Plot R.

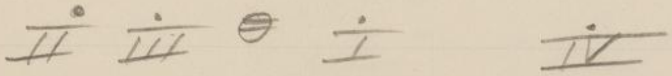
Jupiter.

25 55 +10.0

20.30

5 25

6 35



Aug 26, 1905

Sat II with III

	Left		
	152.1 ← II Dis		
10.27.~~25~~ 30	259.5	107.4	
	328.8	113.1	
	81.9	220.5	+ 0.78
		139.5	
	152.6		+0.72
	257.1	104.5	
	326.6	110.2	
	76.8	214.7	
	Right	145.3	+ 0.67
	58.8		Mean = +0.71
	171.5	112.7	
	249.6	103.0	
	352.6	215.7	
		144.3	+0.69
10 13 20	57.6		
20 50	170.8	113.2	+0.70
10 10 25	44.6	103.2	
15 10 20	347.8	216.4	
		143.6	+0.70

Aug 26, 1904,

Sat II with I
Phot. does not reach.
~~Sat. III with I.~~
Phot I. now used,
Sat II with I

Above
102905 215.4 < I Dis.
314.6
33.6
140.6

89.2
107.0
196.2
163.8 — 0.31

213.6
317.4
~~31.3~~
39.0
136.2

103.8 — 0.36
97.2
201.0
159.0 — 0.40

Below.
129.8
225.5
306.8
49.4

mean = — 0.36

95.7
102.6
198.3
161.7 — 0.35

127.4
10 34,00 227.2
6 3 0 5 308.8
10 32 32 48.3
15 32 27

99.8 — 0.36
99.5
199.3
160.7 — 0.37

see B 147 for
cont. of tonight's work

Aug. 26, 1904.