KG
11365
555

KG11365,555

KG 1136.5.555

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May 17, 1902 Cont from B 131.

Phot I. X Cancri W Obs.
8 48 +17.8
14 03 9.5" cap
5 15

Abandoned.

Phot I. U Ophiuchi W Obs.
17 9 -0.2 6" cap
14 15
2 54 17 9 +1.4
Above 9 06 14 21
347.5 < vardis. 2 48
104740 47.7 60.2 9 12
160.8 73.1
233.9 133.3 − 0.91 ✓
341.3 ✓
50 00 54.4 − 0.88
166.2 73.1
63.1
229.3 136.2 − 0.85 ✓
Below mean = − 1.10 ✓
261.4
5412 31~~6~~7 53.7
77.2 60.8
138.0 114.5 − 1.32 ✓

257.3 ✓
105700 ~~314.5~~ 315.7 58.4 − 1.31
8 52 80.2 ✓
1052 13 5887.6564 55.5
5 7 6 135.7 5887.3238 113.9 − 1.31
15 45 07 G.M.T. + 0.3326
5887.6564

May 17, 1902

II

Below

260.9
~~10 5~~ 313.7 52.8
11 00 10 +74.4 62.2
1~~4~~366 115.0 — 1.30

256.8 — 1.26
03 25 317.3 60.5
80.0 57.8
137.8 118.3 — 1.23

Above Mean — 1.10

167.1
06 40 227.0 59.9
340.4 72.8
53.2 132.7 — 0.92

160.2 — 0.94
11 08 35 233.2 73.0
18 50 349.2 58.4
11 04 42 47.~~3~~6 131.4 — 0.95
5 - 7 06 P.A. 33.3 Ver. B.
15 57 36 H.A. 2:08 East
5887.6650 Dec. +1.4
5887.3238 S.T. 15:02
+0.3412 Spch. -0.5B + 0.2C

May 17, 1902

R Cassiop W Obs

23 52 +49.6
15 08
8 44
3 16

23 54 +49.1
15 12
8 42
3 18

15 13
8 43
23 56

11 45 Abandoned as stars close to region of variable cannot be identified with certainty.

Bfc 1182
11 53 06.2

Ball 103
11 46 0.0

L. P. V.

May 20, 1902 (Tuesday)

Cs Watch = ~~15~~ 9 secs. fast at 7:02

BoC, 1182 was Reset at 7:02±

BoC, 1182 | Ball 103
7 0 ~~4~~³ 49.5 | 7 03 0.0

Σ 29 I | W C Obs.

Phot R, 16 18 +34.0
11 18
PA 165° 5 00
Dist 6'± 7 00 Cs watch

Magns. 4.9–5.1

85.7 < N.+ bi dis
7 ~~4~~0 169.~~7~~³ 83.6
267.1 80.4
347.5 164.0 – 0.30
87.8
168.0 80.2 –0.32
265.7 81.2
346.9 ~~161~~.4 – 0.35
Reversed. Mean = –
347.6
76.6 89.0
171.8 89.4
261.2 178.4 – 0.03

~~on~~ next Page

May 20, 1902

Cont. from previous page

351.7

7 48 82.5 90.8 -0.01

172.0 89.6

744 261.6 180.4

179.6 +0.01

12.7 GMT. Mean = -0.16

5890

~~Moonlight & twilight rather strong~~
Moon nearly full. Images a little poor due to ~~strong~~ East wind.

X Cancri W. Obs

Phot I. 9.5" cap.

8 48 +17.8
12 18

3 30
~~8 30~~

over

May 20, 1902.

X Cancri.
see prev page

L.O.A. C. watch used.

829 ← var dis
8 20.0 | 131.2 48.3
266.5 42.8
309.3 91.1 − 1.88

85.6 − 1.90
127.1 41.5
263.5 48.8
312.3 90.3 − 1.91

R.H.B. Mean = −1.74
351.0
46.3 55.3
174.3 47.2
221.5 102.5 − 1.60

354.1
8 27.0 44.1 60.0 −1.57
168.2 54.9
8 23.5 223.1 104.9 − 1.54
5 − 0.2
13 23.3 G.M.T.

May 20, 1902

Same Again

R.M.B.

353.8

8 29.2 | 46.0 | 52.2

175.2 | 46.1

221.3 | 98.3 — 1.70 ✓

✓

355.3 | — 1.62

41.9 | 46.6

166.6 | 58.7

225.3 | 105.3 — 1.53 ✓

L.D.A. | Mean = — 1.72 ✓

265.3

309.7 | 44.4

74.5 | 57.6

132.1 | 92.0 — 1.86 ✓

✓

262.5 | — 1.81

8 35.6 | 312.3 | 49.8

64.8 | 85.0 | 45.9

8 32.4 | 130.9 | 95.7 — 1.76

5 — 0.2

13 32.2 | P.A. = 19.5 Ver B   Final Mean = — 1.73

Ha. = +3.57 West

Dec. = +17.7

S.T. = 12.47

Sp.wl. = 1.5a. 2.5B & 3.1 C

May 20, 1902

Phot. 71 Ophiuchi W.Cb.
6" cap.

17 9 + 1.4
12 49
4 20

Above 7 40
BOC 1182 used.

340.0 < readin
8 54 57 54.7 74.7 Clouds.
153.6 88.7
242.3 163.4 − 0.32

335.0 − 0.32
58 10 62.3 87.3
159.2 76.3
235.5 163.6 − 0.31
Below Mean = − 0.51

251.2
9 01 00 321.3 70.1
71.5 71.1
142.6 141.2 − 0.75
Clouds

253.0 − 0.70
9 02 43 323.9 70.9
~~8~~ 23 7 00 69.6 74.6
~~9~~ 59 15 144.2 145.5 − 0.66
5 = 0 49 5890.5822 Troubled by clouds.
18 58 26 5889.8397
+ 0.7425 cf. 907

May 20, 1902
7" cap.

Below
73.3
9 10 47 141.8 68.5
246.6 80.1
326.7 148.6 − 0.60

66.7 −0.57
13 00 149.3 82.6
252.6 69.4
322.0 152.0 −0.54

Above Mean = −0.44

342.7
17 15 55.2 72.5
152.5 90.4
242.9 162.9 − 0.32

334.0 − 0.30
9 20 15 58.9 84.9
21 17 157.0 80.2
9 15 19 237.~~8~~2 165.1 −0.28.
5 0 49
14 14 30
5890.5934
5889.8397
+0.7537

May 20, 1902

7" Cap

VII

Above

340.~~7~~0

9 23 15 55.8 758

151.4 87.8

239.2 163.6 − 0.31

3340 − 0.28

25 16 59.5 85.5

156.3 81.4

237.7 166.9 − 0.25

Below Mean − 0,37

252.1

28 50 323.4 71.3

65.2 83.4

148.6 154.7 − 0.48

249.$\cancel{4}^{2}$ − 0.46

9 31 42 3$\overset{3}{\cancel{2}}$3.8 84.4

29 03 70.9 72.3

9 27 16 143.2 156.7 − 0.44

5 − 0 49

1426 27

5890.6017

5889.8397

+ 0.7620

May 20, 1902

IV

Below

253.4
9 37 50 321.5 68.1
68.9 75.4
144.3 143.5 − 0.70

Clouds.

251.4
41 33 323.1 71.7 −0.76
75.4 66.6
142.0 138.3 − 0.81

Above Mean = −0.55

158.7
44 48 235.9 77.2
333.5 85.6
59.1 162.8 − 0.33

154.0 −0.36
9 47 06 240.8 86.8
11 17 339.6 clds. 75.2
9 42 49 54.8 162.0 −0.36
5 = 0 49
14 42 0 Troubled somewhat by approaching cloudiness in above group.
5890.6125 Clouds thick here now
5889.8397 Fragments of clouds passing over region.
+0.7728

May 20, 1902

10 15 Cloudy

About
162.2

10 25 36 Clds thicker

Ha = −2.12 East
Dec + 1.4
PA = 33.9 VrB
S.T = 15.0
SpWh −0.5B +0.4 C

10 55 Too cloudy for anything farther
Stopped by clouds

B & C 11 A2
11 01 55.5

Ball 03
11 01 05

L.P.P.

May 21, 1902 (Wednesday)

BDC 1182 Ball 103
7 04 03.5 7 03 00.0

C's Watch = 2 sec. slow at 7.03
Σ. 29 I
2 w Obs

Prot R.

16 18 + 34.0
P.A. 165 11 ~~24~~
Dist. 6″ ± 4 54
Magn. ~~4.9~~ – 5.1 7 06

351.1 N obs. do.
7 39 86.6 95.5 C's watch used
168.0 99.8
267.8 190.0 ~~+ 0.33~~
346.7 162.7
86.0 99.3 ~~+ 0.32~~
167.9 96.7
264.6 196.0 + 0.30
164.0
Reversed
261.2 ~~mean = + 0.10~~

7 46 348.1 86.9
82.2 87.4
169.6 174.3 – 0.11

263.7
~~7 48~~ 348.5 84.8 – 0.11
81.6 89.2
170.8 174.0 – 0.11
see remark over

May 21, 1902.

Note on previous group on double:-
The seeing is very bad, images out of shape and alternately varying in light, first one brighter then the other.
Will try this again another night.

Reversed plot

267.0 N Obidis
345.4 78.4
88.7 77.0
164.7 155.4 -0.47

267.3 -0.47
8 01 345.3 78.0
87.0 77.6
7 54 164.6 155.6 -0.47

Mean = -0.29

Reject first two sets of previous group as probably ~~[illegible]~~ wrong image was made part of the time to disappear. It was noticed at end of ~~these~~ two sets ~~[illegible]~~ after reversal that was called the leading image was fainter than the other so that the two sets were taken to replace them & to complete the group.

May 21, 1902

Phot T. R Lyrae W Obs
18 51 +43.8
12 41
6 10 7" cap.
5 50

above c's watch
359.5 < rardis ½ wt.
8 40.6 34.1 34.6
176.1 43.4
219.5 78.0 − 2.25

356.7 −228
38.8 42.1
180.6 34.3
214.9 76.4 − 2.30

Below Ids thicker Mean = −2.46
274.1
301.8 27.7
89.5 39.1
128.6 66.8 − 2.61

268.3 −2.64
8 49.2 306.6 38.3
98
8 44.9 93.7 27.1
5 − 0.0 120.8 65.4 −266
13 449 G.M.T.
5891.573
5848.900
42.673 Ep.14

May 21, 1902

Same Again

Below
273.6
8 52.8 301.7 28.1
88.6 35.5
124.1 63.6 - 2.73

269,3
304.4 35.1 - 272
93.5 clds thicker
122.3 28.8
63.9 - 2.72
Above mean = - 2.56
182,2
214.2 32.0
356,3 41.9
38,2 73.9 - 2.38

177.1 - 2.39
8 59,2 218,5 41.4
~~3~~ 1,2 31.8
8 56.0 33.0 73.2 - 2.40
5
13 56.0 G.M.T.
5891.581
5848.900
42.681

May 21, 1902

III

Above
181.3
9 04.8 214.8 33.5
356.2 42.1
38.3 77.6 − 2.27

176.2
218.2 420 − 2.34
~~3~~2.2 30.7
32.9 72.7 − 2.42

Below Mean = − 2.54
93.4 clouds thicker
121.7 28.3
268.7 35.4
304.1 63.7 − 2.73

90.2 − 2.74
9 12.2 126.5 36.3
9 08.6 274.4 26.4
5 300.8 62.7 − 2.76
14 08.6 G.M.T. Final Mean = −2.53 ~~−2.52~~
5 891.590 P.A. 206.6 Vis B
5 848.900 Dec. +44.0 | Troubled by clouds ~~throughout~~
42.690 H.A. 5:25 East | and rather more especially in first
S.T. 13:27 | group. First group ½ wt.
Sp Wh. 4.5 B
5.5 C

May 21, 1902

X Herculis

Phot T. W Ob.

15 58 +46.5
13 35 7" cap
2 23
C's watch 9 37

above
265.3 < var. dis.
9 35.0 311.0 45.7
87.0 ~~89~~ 39.6
126.6 85.3 - 2.04

268.6 Haze thicker
308.5 39.9 - 2.00
82.2 48.3
130.5 88.2 - 1.96
Below Mean = -1.71
168.2
225.8 57.6
359.4 52.7
43.1 110.3 - 1.41
F
173.5 -1.42
9 41.8 225.5 52.0
76.8 350.4 57.2
9 38.4 47.6 109.2 -1.44
5
14 38.4 G.M.T. 5891.610 Ep 46
5891.610 5808.000
+83.610

May 21, 1902

Same again

Below

168.0

9 43.8 225.1 57.1 ✓

350.8 52.6 ✓

43.4 109.7 ✓ − 1.42

172.3 ✓ − 1.42

224.8 52.5

348.8 56.8 ✓

45.6 109.3 − 1.43

Above Mean = − 1.69 ✓

84.9

131.0 more hazy 46.1 ✓

266.3 42.1 ✓

308.4 88.2 ✓ − 1.96 ✓

86.2 − 1.96 ✓

9 52.0 127.1 40.9

95.8 265.0 47.6 ✓

9 47.9 312.6 88.5 − 1.95

5

14 47.9 P.A. 03.4 Ver B. Final Mean = − 1.70

5891.617 H.a. = − 1.52 East

5808.800 Dec. + 46.7

83.617 S.T. 14.08

Sp wh a 5~~a~~8 1.5 B

May 21, 1902

β Lyrae Wolb.
18 45 +32.6 Phot T.
14 35 6" Cap
4 10 C's watch

7 50

Above
88.1 < var dis.
10 31.0 125.4 37.3
273.5 30.3
303.8 67.6 − 2.59

92.6 −2.58
121.6 29.0
269.1 38.8
307.9 67.8 − 2.58
Below mean = − 2.43
355.9
36.9 41.0
181.0 34.6
215.6 75.6 − 2.33

358.6
10 37.4 33.9 35.3 − 2.28
15 34.2* 176.2 43.3
8 219.5 78.6 − 2.24
5891.649*
5880.472
+11.177

May 21, 1902

Same again.

Below

354.8

10 39.5 38.0 43.2

182.3 34.2

216.5 77.4 − 2.26

359.2

35.8 36.6 − 2.24

177.0 42.6

219.6 79.2 − 2.22

Above Mean = − 2.42

269.8

306.4 36.6

91.5 31.3

122.8 67.9 − 258

272.4 2.61

10 47.0 303.6 31.2

~~86.5~~ 88.5 34.9

10 43.5 123.4 66.1 − 2.64

5

10 43.8 P.A. = 13.0 Var B Final Mean = − 2.42

5891.656 H.A. = − 3.43 East

5880.472 Dec. = + 33.1

+11.184 S.T. = 15.04

Sp Wh. = − 0.5 + 0.5 + 0.1

a B c

11 25

L. P. P.

May 22, 1902 (Thursday)

B&C 1182 Ball 105
7 07 47.0 7 06 00

C's watch = 17.5 slow at 7:07

Σ 1888 ξ Bootis WCOb
Phot R. 14 46 +19.6
11 36
3 10
8 50

7 24 Sky considerably cloudy.

7 34 Atmospheric conditions too bad & air to unsteady for close doubles.

Σ 1919 WCds
Phot R 15 7 +19.8
11 53
3 14
8 46

7 41 clouds C's watch used

7 45 clouds thicker

PA 15°
Dist 0.4±
magns 6, 7.0 see next page.

May 22, 1902

ξ 1919

Somewhat cloudier see prev. page

1.3 < St. & br. dis

7 49 73.8 — 72.5
183.6 — 70.2
253.8 — 142.7 −0.72

0.6 clouds thicker −0.71
73.8 clds. — 73.2
183.2 — 71.1
254.3 — 144.3 −0.69

Reversed. Mean = −0.73
273.8
343.8 — 70.0
92.5 — 71.7
164.2 — 141.7 −0.74

273.6 −0.75
7 57 343.6 — 70.0
7 53 91.9 — 71.1
5 163.0 — 141.1 −0.75
12.9

May 22, 1902

24 Camelop. W Obs

Phot R 3 33 +62.3

12 27

8 5 4

Cs Watch

Above

190.0 < var dis

8 2 30 248.6 58.6

12.1 50.3

62.4 108.9 — 1.44

191.6 —1.42

243.7 52.1

6.8 59.0

65.8 111.1 —1.39

Below Mean = —1.41

96.3

156.8 60.5

280.4 50.7

331.1 111.2 —1.39

99.2 —1.40 [illegible]

8 31.0 151.1 51.9

8 27.0 277.6 58.4

5 + .3 336.0 110.3 —1.41

13 27.3

5892.560

May 22, 1902

Same Again

Below

94.7
8 33.0 153.4 58.7
277.6 53.9
331.5 112.6 −1.36 ✓

−1.36 ✓

99.1
148.5 49.4
271.7 62.7
334.4 112.1 − 1.37 ✓

above

Mean = −1.38

5.0
64.3 59.3
188.7 52.5
241.2 111.8 −1.38 ✓

9.1 −1.40 ✓
8 39.0 59.7 50.6
8 36.0 184.3 59.2
5 + 3 243.5 109.8 −1.42
13 86.3 G.M.T.
0792.067 PA 316.5 V&B
Dec. +62.4
H.a. 9:24 West
S.T. 12:57
~~8~~

Final Mean = −1.40
9.18
Magn = 7.78

May 22, 1902

δ Librae W Ob.

Phot T. 14 55 −8.1 6" cap
13 15
1 40
10 20

Below B & C used
89.4 ∠ var dis

9 12 20 127.2 37.8
264.2 43.3
307.5 81.1 − 2.16
87.4 − 2.13
14 55 131.6 44.2
268.4 39.0
307.4 83.2 210
Above Mean = −1.94
354.8
18 27 38.3 43.5
170.8 53.8
224.6 97.3 − 1.72 ✓

352.4 − 1.76 ✓
9 20 24 42.4 50.0
26 06 176.3 44.5 ✓
9 16 32 220.8 94.5 − 1.80
5 −1 7
14 15 25 G.M.T.
5892.5940

May 22, 1902

Same Again.

Above

354.7
9 23 05 38.7 44.0
172.0 52.2
224.2 96.2 - 1.75✓

350.6 -1.74✓
25 17 41.5 50.9
175.2 46.1 ✓
221.3 97.0 - 1.73

Below Mean = -1.92

267.7
28 05 306.1 38.4
84.1 44.7
128.8 83.1 - 2.10

263.~~4~~5
9 30 23 310.0 46.5 - 2.09
26 50 89.2 37.3
9 26 42 26.5 83.8 - 2.08
5 - 1 7
14 25 35 P.A. = 242.5 Ver B Final Mean = -1.93
5892.6010 H.A. - 1.07 East
S.T. = 13.49
Dec = -7.1
Spect. = 4.5 B & 5.5 C

May 22, 1902

U Ophiuchi Wells.

Phot T. 17 9 +1.4 6" cap
14 07
3 2
8 58

Above B O C used

348.9 < var dis
10 06 24 47.9 59.0
161.0 69.4
~~230~~.4 128.4 − 1.01
343.7
09 56 51.4 67.7 − 1.02
168.8 59.2
228.0 126.9 − 1.04
Below
260.1 − 1.18
12 17 315.0 54.9
79.9 57.4
~~137.3~~ 112.3 − 1.36
258.0
10 14 00 317.5 59.5 1.35
42 37 81.4 53.9
10 10 39 135.3 113.4 − 1.34
5 1 7
10 09 32
5892.

May 2$\overset{2}{1}$, 1902

Same Again.

Below

259.5

1016 30 315.4 55.9

x 78.8 59.4

138.2

115.3 — 1.30

259.1 — 1.30

1905 317.1 58.0

78.8 57.1

135.9

115.1 — 1.30

Above Mean = — 1.15

165.3

2 3 00 229.2 63.9

347.1 66.2

53.3

130.1 0.98

168.9 — 1.00

10 25 55 236.0 67.1

8 4 30 348.9 60.7

10 21 08 49.6

5 — 1 7

127.8 1.03

15 20 01 P.A. = 333 Ver B.

5892. H.A. = -2:26 East

S.T. = 14:46

Dec. = +1.4

Spwl. = -1.4a

-0.5B

+0.2d

Final Mean = -1.16

Somewhat troubled throughout meas. of above by rather light clouds but extreme care exercised

Obs. only 1/2 wt.

May 22, 1902

β Lyrae — Webb
Phot T

6" Cap 18 45 + 332
14 55
3 50
8 10

1105 Too cloudy to take β Lyrae
more or less cloud everywhere

May 24, 1902 (Saturday)

B&C 1182 Ball 123
7 19 42.5 7 1.8 0.0

C's watch 0.5 sec slow. at 7:19

Phot R. Σ 2032
16 11 +34.1 wCOb
12 00
4 11
7 69

7 37 Clouds thick

8 05 " "

9 10 Sky clearer. but considerable cloud passing

Phot # X Virginis WCOb
11 58 +9.5
13 34
1 36
~~9 35 1A~~

9 20 Clouds

100 Her. wCOb.
Σ 2280
18 3 +26.1
14 33
3 36
8 30

10 15 Clouds

May 24, 1902

Phot R Σ 2280 Cont. WCB.
Northern star assumed to be slightly
the brighter
P.O. 185° Dist 14" Magn 5.9-6.0
Clouds everywhere although a
10 18 little broken

10 20 Abandoned, cloudy

β Lyrae WCB.
Phot T. 18 45 +33.2 6" cap.
14 45
Above 4 00 C's watch
82.7 8 00
10 26.0 131.4 48.7
266.0 43.4
309.4 92.1 - 186
86.7 -1.88
129.1 42.4
263.8 48.5 Mean = -1.66
312.3 90.9 - 1.89
Below
348.5
46.8 58.3
171.3
225.1 53.8
350.9 112.1 - 1.37
10 368
40.9 50.0 -1.43 5894.647
10 31.4 170.7 57.0 5893.388
5
15 31.4 G.M.T. 227.7 107.0 - 149 +1.259
5894.647

May 24, 1902

Same again

Below

349.6 55.0

10 39.0 44.6 53.9

169.2 108.9 – 1.44

221.1

352.1 –1.43

46.5 54.4

140.8 55.4

226.2 109.8 –1.42

Above mean = – 1.60

262.7

312.7 50.0

82.8 46.1

128.9 96.1 – 1.75

264.5 – 1.77

10 47.0 310.5 46.0

82.0 48.7

10 43.0 130.7 94.7 – 1.79

15 43.0 G.M.T.

Final mean – 1.63

5894.655

5798.388

+1 267

R.a. 12.8 Vir B

H.a. -3.28

Dec. +33.1

S.T. 15.18

Sp Wh -0.5 a

+0.5 B

+1.2 C

11 00

More or less light cloud in the air which caused ~~the~~ images to vary ~~considerably~~ a little, but all possible care exercised.

L. P.

May 26, 1902 (Monday)

BOC 18 2 Ball 1 03
8 21 41.5 8 19 00

C's watch = 15 secs. slow at 8 20

Phot. T. U Sagittae W.O.s.

19 20 +20.0
12 53
6 27
5 33

Cloudy

9 00 clouds thick

9 05 Var. invisible on account of clouds

925 All cloudy

950 " "

19 20
14 35
4 45
7 15

19 12 +19.2
15 02
4 10
7 50

10 25 Still cloudy here

May 26, 1902

U Sagittae I

Left

340.2 ∠var. dis

10 48 40 43.6 53.4

173.6 47.7

221.3 101.1 − 1.63

3 54.0 − 1.56

5022 41.2 47.2

166.3 59.6

225.9 106.8 − 1.49

Right Mean = − 1.66

259.1

5235 317.8 58.7

85.4 43.0

128.4 101.7 − 1.61

266.4 − 1.66

10 54 30 311.1 44.7

20607 82.1 52.7

10 51 32 134.8 97.4 − 1.72

5 − 2 45

15 48 47 G.M.T.

5896.6589

5896 4300

02289

May, 26, 1902

II

Right

267.7

10 56 35 315.2 54.5

86.2 42.4

128.6 96.9 -1.73

267.5 -1.72

10 58 35 309.7 42.2

79.2 56.0

135.2 98.2 -1.70

Left Mean = 1.63

167.3

11 01 23 226.0 58.7

353.0 46.8

39.8 105.5 -1.52

175.0 -1.54

11 03 27 ~~198~~ 220.2 45.2

239 50 346.8 58.4

10 59 58 45.2 103.6 -1.57

5 - 2 45

15 57 13 G. M. T.

5896. ~~6467~~

.6647

5896.4300

0.2347

May 26, 1902

III

Left

349.7
11 10 55 42.3 — 52.6
177.7 — 45.2
219.9 — 97.8 − 1.71

353.7 — −1.62
13 10 40.9 — 47.2
167.4 — 58.2
225.6 — 105.4 − 1.53

Right — Mean = −1.72

263.3
16 00 311.8 — 51.5
86.8 — 41.5
128.3 — 93.0 − 1.83

267.9
11 18 35 309.9 — 42.0 — −1.82
18 40 80.3 — 52.5
11 14 40 132.8 — 94.5 − 1.80
5 − 2 46
16 11 54 G.M.T.
5896.6749 ×
5896.4300
0.2449

May 26, 1902

IV

Right

262.5

11 25 45 313.5 51.0

87.0 42.7

129.7 93.7 − 1.82

266.7 − 1.82

11 27 05 309.5 42.8

82.1 50.3

132.4 93.1 − 1.83

Left.

Mean = − 1.76

171.5

11 29 30 223.2 51.7

354.8 45.2

40.0 96.9 − 1.73

177.1 − 1.71

11 32 10 219.2 42.1

110 30 347.7 56.5

11 27 38 44.2 98.6 − 1.69

5 − 2 46

16 24 52 G.M.T.

5896.6839

5896.4300

+0.2539

May 26, 1902

V

Left
169.6
11 39 00 224.6 55.0
355.2 43.5
38.7 98.5 — 1.69

178.0 ~~1.63~~ 1.72
41 15 219.6 41.6
348.9 5.42
43.1 95.8 — 1.76

Right Mean = — 1.82
82.0
44 10 131.1 49.1
268.0 41.6
309.6 90.7 — 1.90

87.1 — 1.92
127.8 40.7
11 46 25 264.9 48.7
17 0 50 313.6 89.4 — 1.93
11 42 58
5 — 2 46
16 40 12 G.M.T.
5896.6945
5896.4300
+ 0.2645

May 26, 1902

VI

Right

83.5
11 52 55 131.0 47.5
268.0 40.5
308.5 88.0 – 1.97
89.0
54 55. 128.6 39.6 – 1.96
263.1 49.5
312.6 89.1 – 1.94

Left

Mean = –1.91

350.1
11 58 00 41.6 51.5
177.0 41.1
218.1 92.6 – 1.84

355.9
12 60 00 39.4 43.5 – 1.86
225 50 174.6 47.6
11 56 28 222.2 91.1 – 1.88
5 – 2 47 Ha = 133.0 Van B.
16 53 41 Dec +19.0
6896.7040 Ha – 2!40 East
6896.4300 S.T. 16.32
0.2740 Sp. wl. 3.5 BOHOC

Seeing rather poor; and observation somewhat difficult; but extreme care exercised

May 26, 1902

BOCu82	Ball 103
12 1347.0	12 11 0.0

L. P. P.

May 28, 1902 (Wednesday)

B & C 1182 Ball 103

7 26 36.0 7 23 00

C's watch = 2 secs fast at 7:23

Σ 33' W Obs

Photo R 16.58 +138

12 12

4 46

7 14

7 50 Seeing is so bad & twilight rather strong that it a little difficult to estimate the brightness of the two components.

North prec. comp. seems however to be a little the brighter on the average. South fol. comp. is orange red, while other one is white.

P.A. = 120

Dist = 5.0 ±

Magns. 5.8 – 6.1

see next page

May 28, 1902

Σ 33

C's watch used.

175.2 ∠ N.pr.dls R + A. A.
7 55 259.3 84.1
350.5 90.3
80.8 174.4 −0.11

172.1 −0.08
259.4 87.3
321.2 89.2
80.4 176.5 −0.06

Reversed B. Mean = −0.12

262.5
348.6 86.1
81.0 88.6
169.6 174.7 −0.10

262.0
8 05 350.0 88.0 −0.16
85.4 80.0
13 0.07/M.T. 165.4 168.0 −0.23

5898. Seeing very bad; but much care exercised.

May 28, 1902

X Virginis W Obs.

Phot T 11 58 +9.5
1~~2~~3 08
1 10

Comp ✱ = 9.4 + DM+9° 2575 (9.4)

Above

261.8 < comp ✱ dio

8 56.0 317.2 55.4^{L}
82.1 50.7^{L}
132.8 106.1^{L} + 1.51 ×

264.3 + 1.56 ×
310.3 46.0^{L}
79.8 56.1^{L}
135.9 102.1^{L} + 1.61 ×

Below Mean = + 1.48

167.2
226.6 59.4^{L}
353.2 51.2^{L}
4~~5~~4.4 110.6^{L} + 1.40 ×

170.9 + 1.40^{L}
9 07.0 222.4 51.5^{L}
123.0 348.1 59.4^{L}
9 01.5 47.5 110.9^{L} + 1.40^{L}
5 0.0

14 01.5^{L} G.M.T.
5898.585^{L}

May 28, 1902

~~St~~
Same Again

Below
165.9
9 10.0 226.2 60.3
352.0 50.1
42.1 110.4 + 1.41

172.4 + 1.40
222.4 50.0
347.8 60.8
48.6 110.8 + 1.40
Above Mean = + 1.45
79.2
137.2 58.0
262.6 49.6
312.2 107.6 + 1.47

83.2 + 1.50
9 20.0 132.0 48.8
9 15.0 257.9 56.3
5 314.2 105.1 + 1.53
14 15.0 P.A. 317.1 Ven B
58 ~~9~~.594 Dec. +9.4 Final Mean = + 1.46
S.T. 14.03
H.A. = 2.07
Spwl = 3.5 B 0 C 45 C

May 28, 1902

δ Librae   W Ob
Phot I   14 55 - 8.1   6" Cap
14 25
30

Below   11 30   BOC 1182 used

89.9
10 01 15   124.6 < var dis   34.7
262.6   48.5
317.1   83.2   -210

840   -206
03 12   134.8   50.8
270.3   34.8
305.~~8~~1   85.6   -2.03
Above   mean = - 1.94
357.0
07 23   36.4   39.4
171.7   53.5
225.2   92.9   -1.84

351.6
10 09 30   44.0   52.4   -1.82
21 20   1~~8~~77.5   42.0
10 05 20   219.5   94.4 - 1.80
5 - 3 39
15 01 41
5898.6262
5898.2234
0.4028

May 28, 1902

II

Above

358.5
10 12 30 377 — 39.2
170.9 — 52.9
223.8 — 92.1 − 1.86

350.0 — − 1.82
14 15 44.1 — 54.1
177.0 — 41.6
218.6 — 95.6 − 1.77

Below — Mean = − 1.94

253
18 15 63.3 — 38.0
200.9 — 46.6
247.5 — 84.6 − 2.06

− 2.06

18.9
10 20 50 70.0 — 51.1
25 50 208.3 — 33.6
10 16 27 241.8 — 84.7 − 2.06

5 − 3 39 RA = 6 28 Vir a.
15 12 48 HA = 0.05 West — Final Mean = − 1.94
5 59 6 39 S.T. = 15.02
5 59 2 23 8 Dec = 8.1
0.41 01 Sp Wt = 45 B 8 5.5 C

May 28, 1902

43.4101 W Obs.

Phot T

21 57 +44.0
15 17
6 40
5 20

34
~~57~~ 49 15
11
19 45

275
32.5 5.0
41.0 8.5

11 08 27
10 06 99
10 39
10 42

Comp ~~star~~ = +43° 4105 (8.6)

May 28, 1902

43.4101

BOC 118 = used.

Right
140.4 < comp * dis
11 22 40 217.4 77.0
324.5 67.6
32.1 144.6 + 0.68

142.3 0.67
24 30 210.8 68.5
320.1 77.3
37.4 145.8 + 0.66
Mean = + 0.79
Left
51.2
27 55 124.8 73.6
236.1 60.7
296.8 134.3 + 0.89

55.8 + 0.91
11 30 00 117.6 61.8
25 05 231.0 70.6
11 26 16 301.6 132.4 + 0.93
5 - 3 41
16 22 35 G.M.T.
5898.6823
5868.8980
29.7843

May 28, 1902

Same Again

Left

52.2
11 3228 123.9   71.7
236.7   60.3
297.0   132.0 + 0.94

56.0   + 088
34 32 122.3   66.5
230.2   71.0
301.2   137.3 + 083

Right   Mean + +0.8~~4~~
320.8
37 17 35.6   74.8
145.1   62.7
207.8   137.5 + 0.82

326.5   +081
11 39 43 30.4   63.9
25 00 140.6   75.0
11 36 15 215.6   138.9 + 0.80
5 -3 41
16 32 34 PA 324.5 VvB   Final Mean = +0.82
5898.6893 Ha = -5:33 East
58688.980 S.T. = 16:19
+29 79,13 Dec = +43.8
Sp Wb 6.5 B 7.5 C

1902phae.proj..55GW

May 28, 1902

1/58 Seeing very bad. images blurry & crawling stars somewhat alternating in brightness but extreme ~~great~~ care ~~[illegible]~~ exercised

Bf C 1182	Bade 103
12 03 41.5	12 00 0.0
12 04 41.5	12 01 0.0

L. P. B.

May 29, 1902 (Thursday)

BOC 1182 Ball 103
7 27 01.8 7 23 00

C's watch = 33 secs slow at 7.24

Phot R. Σ 33' W.O.L.
16 58 +13.8
PA 120 12 15
Dist 5.0± 4 43 R + a. A.
Mags 5.8 − 6.1 7 17
84.9 C's watch used
7 48 166.4 < N. pr. dir 81.5
263.2 84.6
347.8 166.1 −0.26
~~8~~
81.3 −0.22
168.5 87.2
263.0 83.5
346.5 170.7 − 0.17
Reversed B. Mean = −0.21
354.1
75.2 81.1
170.0 88.2
258.2 169.3 −0.20
349.8
7 57 77.8 88.0 −0.20
173.2 81.5
12.99 m. 254.7 169.5 −0.20
5899.

May 29, 1902

R Gem. W Cb.

6 52 6 54 + 24.3
13 30
6 36

6 56 229
13 ~~40~~
6 44

Too low now

C's watch stopped & reset correct.

R Aurigae W Cb.
5 3 45 3.0
13 43
8 40

9 18 ~~R~~ r 1.5 var 3 s

13 41
13.32
13.36

43.4101
21 57 +44.0
14 03
7 54
4 06

Phot T.

W Cb

Over

May 29, 1902

+3.4101

I

Left

243.1 < comp & di

9 38 18 291.7 48.6

68.6 37.1

105.7 85.7 + 2.03

249.9 + 2.10

41 14 285.3 35.4

63.1 46.2

109.3 81.6 + 2.16

Right

Mean = + 1.91

151.9

46 27 201.2 49.3

335.6 45.9

21.5 95.2 + 1.78

155.1 + 1.72

9 49 47 200.1 45.0

175 46 331.6 54.5

9 43 56 26.1 99.5 + 1.67

5 - 4 3

14 39 53 G.M.T.

5899.6110

5900.2020

- 0.5910

May 29, 1902

II

Right

9 153.4
~~10~~ 52 40 200.5 57.1
336.8 41.5
18.4 98.6 + 1.69

156.8 +1.78
55 20 197.0 40.2
331.8 51.0
~~241~~ 91.2 + 1.88
22.8
~~Left~~

Mean = +1.90

65.2
10 00 43 110.9 45.7
245.1 40.8
285.9 86.5 + 2.01

66.5
10 04 10 105.3 38.8 + 2.04
9 23 2 53 244.3 45.3
~~10~~ 58 12 289.6 84.1 + 2.07
5 - 4 3
14 54 10 Pa = 143.2 VuB. Mean = +1.90
5899.6209 Ha = -7 07 East
5900 2020 Dec = +44.0
-0.5811 ST = 14:49
Seeing = 6.5 B, 7.5 C

May 29, 1902

43.4101
21 57 +44.0
15 14
6 43
5 17

11.20 clouds thick scarcely any stars visible here.

21 57   21 57 +44.0
17 17   16 33
4 40   5 24
7 20   6 36

12.35 Clouds thick everywhere no stars visible apparently closed in for the night

BO C1182   Ball 103
12 40 04.8   12 36 00

L. P.

May 30, 1902 (Friday)

Ball 103 — BOC 118.2

7 28 0.0 — 7 32 22.0

C's watch = 24 secs slow at 7.28

Σ 1962 — w Ob.

Phot R. — 15 32 − 8.3
PA 200 — 12 32
Dist 14" — 3 00
magn. 6.1-6.2 — 9 00

Northern comp. assumed to be slightly the brighter. Index left. B.

C's watch used.

260.2
7 53 345.6 ⟨North obs. dis.
82.8
163.1

85.4
80.3
165.7 − 0.27

261.8
344.3
80.6
166.2

82.5 − 0.24
85.6
168.1 − 0.22

Reversed right. A.

Mean = − 0.23

168.6
256.9
352.3
74.3

88.3
82.0
170.3 − 0.18

7 173.1
~~8~~ 59 252.8
350.7
7 56 77.9
12 56.4

79.7 − 0.22
87.2
166.9 − 0.25

May 30, 1902

Phot T δ Librae 20 Obs
6" cap

14 55 - 8.1
13 02
1 53
10 07

Above

1190 < var. dis.
8 28 30 183.4 64.4
293.4 76.8
370.2 141.2 - 075

111.3 - 0.78
3210 187.8 76.5
302.6 62.3
364.9 138.8 - 0.80

Below Mean - 1.01

34.4
35 20 90.0 55.6
210.2 62.4
272.6 118.0 - 1.24

30.3 - 1.24
8 37 00 96.0 65.7
13 00 215.4 51.8
8 33 15 267.2 117.5 - 1.25
5 - 4 23
13 28 52
5900.5617
5900.5510
0.0107

May 30, 1902

♃

Below

35.7
8 38 50 ~~#~~91.3 55.6
209.0 63.1
272.1 118.7 −1.22

24.2 −1.18
40 35 96.7 69.5
216.82 52.3
268.5 121.8 −1.15

Above Mean = −1.04

302.1
44 10 363.7 61.6
113.6 75.3
188.9 136.9 −0.84

295.6 −0.88
8 46 20 369.6 74.0
9 55 120.0 59.5
8 42 29 179.5 133.5 −0.91
5 – 4 23
13 38 06 G.M.T.

5900.5682
5900.5510
0.0172

May 30, 1902

III

Above

301.6
9 13 10 358.2 566
117.4 70.4
187.8 127.0 − 1.04

396.0 − 1.03
15 30 367.1 71.1
124.3 56.8
181.1 127.9 * − 1.02

Below Mean = −1.18

221.5
18 45 272.7 51.2
39.1 64.7
103.8 115.9 − 1.28

217.1 1.32
9 21 20 278.5 61.4
45.4 51.7
28 45 97.1 113.1 − 1.30
9 17 11
5 − 4 24
14 12 47 G.M.T.
~~300~~ 5900. 59²³
5900. 5510
0.0413

May 30, 1902

~~IV~~

Below
224.7
9 28 20 271.6 46.9
337.1 61.7
98.8 108.6 — 1.45

215.7 —1.42
30 50 278.0 62.3
46.2 49.2
~~94.9~~ 111.5 — 1.38
95.4
Above Mean = —1.26
131.7
33 30 186.2 54.5
303.1 70.4
373.5 124.9 — 1.09

124.6
9 35 20 192.3 67.7 —1.11
313.0 55.1
8 00 368.1 122.8 — 1.13
9 32 00
5 = 4 24 P.Q. ×62.3 VelB
14 27 06 Ha. 0.36 East
5900.6022 Dec —8.0
5900.5510 S.T. 14.19
0.0512 S.J. Wh. 4.5 B, 5.5 C

May 30, 1902

43.4101. W Ob.

Phot T.

21 57 +44.0
14 27
7 30
4 30

BOC used

Left
55.2
~~9 54 45 82.8 27.5~~
~~231.3 30.8~~
~~262.1 58.3~~

~~51.0~~
~~58 20 91.4 40.4~~
~~229.2 hazy 33.6~~
~~262.8± 74.0~~
Right.

~~Impossible to finish group on account of low altitude and haze. Sky very hazy now.~~

10 17 g 3, 1.5 h 11.6 W Obs. c̄ watch ✓
est. made with all possible care but through haze var. faint

10 31 g 2, 2.5 h 11.5 W Ob c̄ watch ✓
~~these last est. are better than the preceding as sky was somewhat clearer.~~

May 30. 1902

I

Left

233.8 < Comp + dis

10 57 30 260.5

52.3

89.2

26.7
36.9
63.6 + 2.73 ✓

231.8

11 02 20 263.0

54.0

84.0

+2.77 ✓

31.2
30.0
61.2 + 2.81 ✓

Right

Mean = +2.64 ✓

142.7

05 48 174.4

320.9

358.4

31.7
37.5
69.2 + 2.53

138.7

11.09 05 178.3

14 43 324.8

11 03 41 355.6

5 − 4 25

15 59 16 G.M.T.

+2.51 ✓

39.6
30.8
70.4 + 2.49

5900. 6662
5900. 2020
+0. 4642

May 30, 1902

II

	Right		
	145.6		
11 12 30	172.8	27.2	
	320.8	37.2	
	358.0	64.4	+2.70
	139.9		+2.63
15 40	177.2	37.3	
	325.2	31.0	
	356.2	68.3	+2.56
	~~Left~~		Mean = +2.72
	55.3		
21 30	85.0	29.7	
	233.1	31.4	
	264.5	61.1	+2.82
	52.2		+2.82
11 25 30	85.8	33.6	
7 5 10	234.3	27.6	
11 18 48	261.9	61.2	+2.81
5 - 4 26			
16 14 22	G.M.T.		Final Mean +2.68

5900.6767
5900.2020
+0.4747

Measurements made with extreme difficulty on account of variable haze, proximity of star C & faintness of variable, but extreme care exercised. Probably the first group may be a little more accurate than the last, as sky seemed to be a little clearer in the former.

May 30, 1902

and a little less difficult, although very difficult throughout.

Pa 141.2 vert

Ha -5.32 East

Dec +44.0

S.T. 16:21

Sp.th. 6.5 B & 7.5 C

C's watch 12 49 l 5 var 11.7 0.5 m WO6 in final notation of tonight

21 57 · +44.0
18 07
3 50
8 10

Second series

— see next page.

May 30, 1902

HC 3.4401.

III

~~Left~~

538

13 30 45 82.8 29.0

229.8 35.0

264.8 64.0 + 271

~~5~~

52.4 + 271

33 57 88.6 36.2

234.7 28.0

262.7 64.2 + 271

Mean = + 260

Right

322.6

38 07 356.2 33.6

139.2 35.9

175.1 69.5 + 252

319.0

13 40 35 360.7 41.7 + 250

23 24 143.7 29.0

13 35 51 172.7 70.7 + 248

5-4 27

18 31 24 G.M.T.

~~609~~ 5900.7718

5900.2020

0.5698

May 30, 1902

IV

Right

322.0
13 43 30 357.3
138.8
178.5

35.3
39.7
75.0 + 2.35

+ 2.42

321.2
45 30 357.8
143.3
176.8

36.6
33.5
70.1 + 2.50

Mean = + 2.50

Left

230.6
49 00 261.9
49.2
85.2

31.3
36.0
67.3 + 2.60

+ 2.58

228.8
13 51 25 265.4
29 25 52.6
13 47 21 84.0
5 - 4 28
18 42 53
5900.7778
5900.2020
0.5778

36.6
31.4
68.0 + 2.57

Final mean = + 2.55

~~G.M.T. =~~
~~Dec. =~~
~~S.T. =~~
~~S.H.A. =~~
~~Ha. =~~

May 30, 1902

V

Left
232.8
14 07 37 262.8 30.0
51.3 35.1
86.4 65.1 + 2.67

229.8 + 2.68
10 25 265.8 36.0
52.1 28.6
80.7 64.6 + 2.69

Mean = + 2.56

Right
143.1
14 30 174.8 31.7
321.2 38.6
359.8 70.3 + 2.50

139.1 2.44
14 19.00 177.8 38.7
51 32 322.3 35.1
14 12 53 357.4 73.8 + 2.38
5 - 4 28 Final M = 2.55
G.M.T.
19 08 25 P.a. = 322.6 Var B.
5900.7975 H.a. = -2:47 East
5900 2020 Dec. = +43.8
+0.5955 S.T. = 19:09
Spark = 65~~80~~ 7.5C

May 30, 1902

Meas. made with considerable difficulty on account of the propinquity of star c and rather
14 25 bright moonlight, the moon having risen before beginning these last three groups

B & C 11 f 2
14 35 27.8

Ball 103
14 31 00

L. P. P.

May 31, 1902 (Saturday).

BDC 1182 Bull 103
7 27 46.1 7 23 55

C's watch = 32 secs slow at 7.24

Phot R Σ 1904 wt Ob
14 58 +60
PA 340° 12 22
Dist 0.2± 2 36 C's watch used
Magns 7.0-7.1 9 24

Southern Comp. assumed to be
slightly ~~the~~ brighter.
81.7 < ~~southern~~ & brighter dis
8 00 164.3 82.6
260.7 86.5
347.2 171.1 − 0.17
76.9 − 0.12
169.0 92.1
262.1 84.1
346.2 176.2 − 0.07
Reversed. [illegible]. Mean = − 0.14
351.7
75.0 83.3
170.9 86.8
257.7 170.1 − 0.19
348.6 − 0.16
8 08 78.2 89.6
13.1 G.M.T. 173.2 83.3
5901 256.5 172.9 − 0.13

May 31, 1902.

U Ophiuchi W Obs.
~~W~~ Phot T 6" cap.

17 9 +14
13.19
3 50
8 10

Above
103.2 < vanda
8 4900 167.0 63.8
27~~6~~.8 78.0
35~~4~~.8 141.8 − 0.74
96.2
5250 174.2 78.0 −0.72
282.1 65.5
347.6 143.5 − 0.70
Below Mean = −0.82
15.8
5600 74.~~4~~ 58.6
185.9 74.8
260.7 133.4 −0.91
~~8 5800~~
8.1
8 5800 81.9 −0.92
15 50 194.5 73.8
8 5358 253.2 58.7
132.5 − 0.93
5 4 46
13 49 12 = G.M.T.
5901.5758
5900.7425
+ 0.8333
0.8387
−

May 31, 1902

II

Below

~~18~~ 16.1
9 01 20 72.3 56.2
185.8 70.0
255.8 126.2 − 1.06

5.9 − 1.00
05 40 81.8 75.9
195.2 55.9
256.1 131.8 − 0.94

Above Mean = − 0.84

279.4
11 00 347.6 68.2
93.7 78.4
172.1 146.6 − 0.64

276.2 − 0.68
9 14 17 351.2 79.0
31 17 101.6 64.4
9 07 49 166.0 143.4 − 0.71
5 − 14 26
14 03 03 P.a. 32.2
5901.5854 H.a. 3:16 East
5901.5818 Dec − 1.3
0.0036 S.T. 14:01
Sp. Wh. − 0.5 B + 0.2 C

May 31, 1902

H 3.4101 WOb

Phot T. 21 57 +44.0
14 17

7 40
4 20

I

Left
191.7 < comp * dis
9 43 38 256.5 64.8
11.3 61.8
73.1 126.6 + 1.05

195.9 +1.06
46 53 254.3 58.4
9.7 67.5
77.2 125.9 + 1.07 Mean = +0.86
Right
~~40~~ 99.0
5045 163.9 64.9
274.4 79.9
354.3 144.8 + 0.68

91.7
9 53 25 174.3 82.6 +0.65
19 44 41 280.7 64.9
9 48 40 345.6 147.5 +0.62
5-4 47
14 43 53 G.M.T.

5901.6138
5900.2020
+ 1.4118

May 31, 1902

II

Right

100.6
9 56 25 165.2 64.6
275.9 77.1
353.0 141.7 + 0.74

95.9 +0.72
9 58 58 172.8 76.9
282.1 67.0
349.1 143.9 + 0.70

Left Mean = +0.87

13.6
10 03 00 74.~~1~~3 60.7
191.1 66.2
257.3 126.9 +1.04

18.8 +1.02
10 06 27 88.3 69.5
24 4 50 195.3 59.6
10 01 12 254.9 129.1 1.00
5 - 4 47
14 56 25 Ra 142.3 Final Mean = +0.86
5901.6225 HA -6:57 East
5900.2020 Dec = + 4 38
1.4205 St. T = 14:58
Sp Wh = 6.5B 87.5C

May 31, 1902

Phot T. U Ophiuchi Resumed W Obs

179 +1.4 6" caps

1520

1.49

10 11

III

Above

284.7 < rardio

104605 343.6 58.9

94.8 77.9

172.7 136.8 - 0.84

276.2 -0.84

4800 352.5 76.3

102.3 60.3

162.6 136.6 - 0.84

Below Mean = - 1.00

197.0

5210 250.1 53.1

9.6 68.7

78.3 121.8 - 1.15

191.4

10 5425 259.4 68.0 - 1.16

200 40 17.3 53.3

10 58 10 70.6 121.3 - 1.16

5 - 4 47

1545 23 G.M.T.

5901.6565

5901.5818

+0.0747

May 31, 1902

IV

Below

195.8
11 16 20 248.9 53.1
10.2 68.9
79.1 122.0 – 1.15

189.3 – 1.12
17 45 260.1 70.8
16.8 54.5
71.3 125.3 – 1.08

Above mean = – 1.00
103.4
20 55 163.8 60.4
277.3 75.7
353.0 136.1 – 0.85

92.1
168.6 76.5 – 0.89
11 23 40 286.4 55.8
78 40
11 19 40 342.2 132.3 – 0.93
5 – 4 47
16 14 53 P.a = 32.6 Ver B
5 901.6770 Ha. = – 0:58 East
5 901.5818
11 30 Dec. = +14
+0.0952 S.T. = 16:12
Sp. Wh. = – 0.5B θ + 0.2C

May 31, 1902

B8C 1182	Bell
11 41 47.1	11 37 00.

L. P. D.

June 1. 1902. (Sunday.)

B + C. 1182.			Ballow 103.		
11	54	56.0	11	50	0.0
	55	55.8		51	0.0

21 20
16 53
4 27
7 33

12 07 Clouds thick; Jupiter invisible.

12 22 Clouds thick in this region: No stars visible

Dis of Jup. III.

W. Obs.
Colson Recorder

12 29 It is now several minutes after the true time of disappearance ~~and~~ Jupiter is invisible in finder, large telescope, and also to the nacked eye. Clouds thick throughout the entire time of eclipse over this region, Jup. not seen.

Ledgered, Plotted, Posted.

June 2, 1902 (Monday)

Reset BDC1182 ~~B~~   J.D. 5903

BDC1182   Ball 103
7 23 00   7 23 00

C's watch = 7 secs. ~~slow~~ fast at 7:24

Phot R   Σ 1833   W Ob.
14 16   -7.2
12 36
Abandoned. 1 40
10 20

ν Scorpii   W Ob
Phot R   16 6   -19.2
12 56
3 10
8 50

Pa 33.0
Dist 0.7±
Magns 4.0 - 7.0

June 2, 1902

ν Scorpii

16 6 − 19.2

cs ~~watch~~

see prev page

280.0 ∠ br. dis

8 10 323.9 43.9

102.5 37.0

139.~~8~~5 80.9 − 2.17

283.7 − 2.20

319.6 35.9

99.8 43.4

143.2 79.3 − 2.22

Reversed mean = − 2.18

190.2

233.1 42.9

12.7 37.7

50.4 80.6 − 2.18

190.8

8 16 230.0 39.2 − 2.17

9.6 42.0

8 13 51.6 81.2 − 2.16

13.2 G.M.T.

5903.

June 2, 1902

Phot T   u Herculis   2566

17 12 +33.2
14 02
3 10
8 50

~~9 snap~~

Full Aperture

9 15 Clouds quite thick

Comp with +33° 2871 (7.8)

Left < variable
~~116.2~~
~~9 26.0 130.8~~
293.7 clouds
9 28.0 332.8   39.1
116.7   34.6
151.3   73.7 — 2.32
297.7
329.2   31.5 — 2.34
112.6   43.5
156.1 clouds thicker   75.0 — 2.35   Mean = — 2.53
Right
209.8
240.0   30.2
20.7   32.0
58.7   62.2 — 2.78
~~207.9 clds thick~~
~~9 36.0 214.3 stars gone 30.8~~   — 2.72
30.6
10 20.0   59.0   28.4
9 54.0   205.8   37.0
5 40.1   242.8   5903.621   65.4 — 2.66

June 3, 1902

Same again

Right
~~25.7~~
~~61.7~~ 360
10 22.0 ~~209.8~~ 29.7
~~239.5~~ ~~65.7~~ – 2.65

~~31.1~~ – 2.66
~~58.2~~ ~~27.1~~
~~206.0~~ ~~37.9~~
~~243.9~~ ~~65.0~~ – 2.68

~~Left clouds thick.~~ ~~Mean = –~~
~~294.2~~
332.0
~~115.~~ Reject last partial group
1 impossible to finish it.

7 . Will hold first group
3 giving it only 1/3 wt.
1
10 45 1 ~~Continually troubled by clouds~~
~~in first group but extreme~~
~~care used.~~

LPP.

P∠ 132.5 Var B
H.A. –1.32 East
S.T. 15.41
Dec. +33.1
Sp Wt. 2.5 a 3.5 B + H. 1 C

June 24, 1902

BOC 1182 Ball 103

7 25 00.5 7 24 0.0

C's watch = 11.5 sec. slow at 7.25

7 25 Cloudy

8 00 Too thick ~~to~~ do anything wind NE.

June 5, 1902 (Thursday)

BDC 1182 Ball 103
7 20 15.0 7 19 00

C's watch = 24 sec. slow at 7-20

Phot T. β Lyrae W Obs.
18 45 + 33.2
12 37
6 08 6" cap used.
5 52

C's ~~watch used.~~
above
202.9
8 00.0 246.8 < var dis 43.9

22.0 43.6
65.6 87.5 − 1.98 ✓
201.6
247.1 43.5 − 2.00 ✓
24.9 40.9
65.8 86.4 − 2.01 ✓
Below Mean = − 1.74 ✓
109.9
159.6 49.7
286.0 55.3
341.3 105.0 − 1.54 ✓
106.6 ✓
8 11.4 164.6 58.0 − 1.48
8 05.7 289.1 51.8 ✓
5 +04 349.9 5906.546 109.8 − 1.42
13 06.1 G.M.T. 5906.304
5906.546 0.222

June 5, 1902

Same Again

Below

106.0

8 15.0 157.8 — 52.8

285.4 — 54.9

340.3 — 107.7 − 1.47✓

106.5

161.6 — 55.1 — −1.46✓

284.7 — 54.0 ✓

338.7 — 109.1 − 1.44

Above — Mean = − 1.70

24.6

64.2 — 39.6

201.2 — 46.2

24~~8~~7.4 — 85.8 − 2.03✓

20.3 — −1.94✓

8 25.0 — 69.~~4~~1 — 48.8

20~~4~~2.2 — 43.1 ✓

8 20.0 — 24~~4~~5.3 — 91.9 − 1.86

5 +0.4

13 20.4 G.M.T. P.A. − 11.9 Vert B. Final = −1.72

5906.556

5906.304

+0.252

H.A. = −5 04 East

Dec. = +33.0

S.T. = 13:43

Skul = −0.5 B + 0.5 B₁ + 1.1 C

June 5, 1902.

U Puppis w Ob.

7 56 -12.6
13 56
6 0 0

Too low

T Hydrae w Ob.

8 42 -8.1
13 58
5 16

too low

V Cancri w Ob

8 18 +17.6
14 02
5 44

abandoned

U Sagittae w Ob.

Phot Full aperture

19 20 +20.0
14 05
5 15
6 45

June 5, 1902

U Sagittae I

Right BGC 1182

3469 < var dis

9 10 14 100.9 114.0

172.9 102.9

275.8 216.9

143.1 +0.71

~~355.4~~ 168.3

~~1346~~ ~~96.6~~ → 282.2 113.9 +068

15 20 ~~171.5~~ 354.7 100.3

2 95.0 214.2

145.8 +066

Mean = +0.75

Left

80.0

1750 184.8 104.8

255.6 116.4

372.0 221.2

138.8 +080

72.2

9 19 35 194.9 122.7 +082

22 59 264.0 101.0

9 15 45 365.0 123.7

5 - 1 15 136.3 +085

14 14 30 G.M.T.

5906 5934

5906. 5700

0.0234

June 5, 1902

II

Left

824
9 21 25 185.1 102.7
254.5 120.2
374.7 222.9 + 0.83
137.1

71.7 +0.83
23 30 194.7 123.0
262.9 100.0
362.9 223.0 +0.83
137.0

Right Mean = +0.78

354.8
26 00 95.4 100.6
167.5 115.3
2828 215.9
144.1 + 0.69

346.4
9 28 05 101.9 115.5 +0.72
19 00 173.3 103.1
9 24 45 276.4 218.6
5 - 1 15 141.4 + 0.75
14 23 30 - G.M.T.
5906.5996
06.5700
0.0296

June 5, 1902

Right
355.8 <
9 35 35 93.4
167.0
282.9

345.5
37 15 101.3
174.4
277.8

Left
252.3
10 05 375.3
82.0
185.7

263.1
9 42 15 364.3
55 10 71.2
9 38 48 195.4
5 - 1 15
14 37 33 G. M. T.
5906.6094
5906.5700
0.0394

III

97.6
115.9
213.5
146.5 + 0.64

115.8 + 0.70
103.4
219.2
140.8 + 0.76

Mean = + 0.80

123.0
103.7
226.7
~~1~~333 + 0.91

103
101.2 + 0.90
1012
124.2
225.4
~~1~~34.6 + 0.88

June 5, 1902

IV

Left

254.6
9 52 05 374.5
78.9
189.2

119.9
110.3
230.2
129.6 + 0.98

259.6
55 10 366.6
72.4
193.7

107.0 + 0.96
121.3
228.3
131.7 + 0.94

Right

Mean = +.085

165.4
57 55 284.4
3~~5~~4.4
93.4

119.0
99.0
218.0
142.0 + 0.73

175.4
9 59 40 276.8
24 50 346.5
9 56 12 104.5
5 -1 15
14 54 57 G.M.T.

101.4 + 0.74
118.0
219.4
140.6 + 0.76

5906.6215
06.5700
0.0515

June 5, 1902

V

Right

166.4
1006 10 284.3 1179
354.4 97.4
± 91.8 215.3
1447 + 0.68

175.3 + 0.68
~~13~~ 08 15 275.8 1005
346.3 1141
100.4 214.6 + 0.67
145.4

Left Mean = + 0.80
72.6
11 30 194.6 1220
261.4 1043
365.7 226.3 + 0.90
133.7

81.~~8~~2 + 0.91
10 14 20 186.3 1051
10 15 252.7 122.3
10 10 04 375.0 227.4 + 0.92
5 -1 15 1326
1508 49 G.M.T.
5906.6311
06.5700
0.0611

June 5, 1902

VI

Left

723

10 25 05 194.7 1224.

262.1 103.3

365.4 2254 + 0.88

1346

820 + 0.91

187.4 105.4

28 20 253.2 122.6

375.8 228.0 + 0.94

132.0

Right Mean = + 0.78

345.7

32 11 102.4 116.7

175.3 99.7

275.0 216.4

143.6 + 0.70

355.6

10 34 44 91.7 96.1

120 20 167.2 115.6 + 0.66

10 30 05 282.8 211.7

5 - 1 15 148.3 + 0.61

15 28 50 G.M.T.

5906.6450

06.5700

0.0750

June 5, 1902

Right VII

347.1
10 44 20 101.4 114.3
17~~8~~5.7 99.8
275.5 214.1
145.9 + 0.66

355.7
46 35 94.8 97.1 + 0.68
164.7 118.9
283.6 216.0
1550 + 0.69

Left
mean = + 0.78

253.7
50 30 374.6 120.9
82.0 105.3
187.3 226.2
133.8 + 0.90

263.0 + 0.87
10 53 35 365.3 102.3
195 00 73.2 120.8
10 48 45 +94.0 123.1
5 - 1 10 136.9 + 0.84
15 47 30 G.M.T.
5906.6580
5906.5700
0.0880

June 5, 1902

VIII

Left

255.7
11 03 50 372.7 117.0
84.9 98.1
183.0 215.1
1449 +0.68

267.0
07 10 361.5 94.5 +0.64
74.3 117.2
191.5 211.7 +0.61
148.3

Right
168.7 Mean = +0.46
10 10 281.1 112.4
1.0 86.3
87.3 198.7 +0.34
161.3

180.0
11 12 50 269.6 89.6 +0.28
34 00 354.9 102.1
11 08 30 97.0 191.7
5 -1 15 168.3 +0.22
16 07 15 G.M.T.
5906.6716
06.5700
0.1016

June 5, 1902

IX

Right

175.6
11 19 25 275.0   99.4
4.2   79.6
83.8   179.0   − 0.02

184.8   −0.02
22 35 265.8   81.0
354.7   97.7
92.04   178.7   − 0.02

Mean = +0.05

Left
79.9
26 15 185.7   105.8
274.5   79.7
354.2   185.5
174.5   + 0.10

92.7
11 29 00 180.0   87.3   +0.12
64.8   99.4
97 15   186.7
11 24 44 364.2   173.3   +0.13
5 = 1 15
16 23 29 G.M.T.
5906.6830
5906.5700
0.1130

~~Th~~ June 5, 1902

X

	Left		
	84.3		
11 36 35	181.8	97.5	
	278.1	73.2	
	351.3	170.7	* − 0.17
	# 96.4		−0.22
39 55	172.0	75.6	
	267.7	90.0	
	357.7	165.6	− 0.27
	Right.		Mean = − 0.32
	1.0		
43 00	87.8	86.8	
	188.8	73.0	
	261.8	159.8	− 0.38
	9.3		− 0.41
11 45 20	76.7	67.4	
165 50	180.35	89.5	
11 41 28	70.0	156.9	− 0.44
5 1 15			
16 40 13 G.M.T.			
5906.6945			
06.5700			
0.1245			

June 5, 1902

XI

Right
3.8
11 50 40 86.0 A22
190.3
261.4
71.1
153.3 — 0.51
~~261.4~~
5 3 17 ↘ 10.2
74.8 646
183.0 870 −0.52
270.0 151.6 − 0.54

Left Mean = −0.46
270.0
5 6 10 360.4 90.4
98.3 71.7
170.0 162.1 − 0.34

280.2
11 58 14 349.0 68.8 −0.40
18 21 91.3 87.6
11 54 35 178.9 156.4 − 0.45
5 – 1 15
16 53 20 PA = ~~17.13~~ 131.5 Ver B
5906.7037 HA = −2:02 East
5906.5700 Dec = +19.2
0.1337 S.T. = 17:13
S/M = Accidently ran prisms part way down before reading of wh.

June 5, 1902

BOCut 2 Ball 103

12 14 15.4 12 13 00

L. P. P.

June 6, 1902 (Friday)

B&C 118 2 Ball 103
7 26 49.2 7 25 55

C's watch = 6.5 secs slow at 7 26

Phot T. β Lyrae WCh
6" cap.

18 45 + 33.2
12 53
5 52
6 08

Note:-
Electric light signals above Prof. Pickering's house (responsive to beats of clocks) started tonight for the first time.

see next page for
measurements of β Lyrae

June 6, 1902

β Lyrae W Obs / 1

Above Co' ~~watch~~.

21.8. < var. dis.
8 58.4 66.7 44.9:
203.4 45.1
248.5 90.0 − 1.91 ✓

✓
230 − 1.94
66.2 43.2 ✓
203.0 45.1 ✓ ✓
248.1 88.3 ✓ − 1.96

Below Mean = − 1.69 ✓
286.2
342.6 56.4 ✓
107.2 52.7 ✓ ✓
159.9 109.1 ✓ − 1.44

✓
287.3 − 1.44
8 12.2 341.3 54.0
1306 107.1 54.5
8 05.3 161.6 108.5 − 1.45
5 + 0.1
1305.4
5907 545
5906 ~~3.04~~
1.241

June 6, 1902

II

Below

286.7
8 15.0 341.9 55.2
106.1 54.7
160.8 109.9 − 1.42

286.9
340.3 53.4 − 1.43
106.1 55.7
161.8 109.1 − 1.44

Above Mean = − 1.65 ✓
201.9
248.7 46.8
20.0 46.3 ✓
66.3 93.1 − 1.83

204.2
8 22.0 250.4 46.2 − 1.87 ✓
370 20.5 44.0
8 18.5 64.5 90.2 − 1.91 ✓
540.1
1318.6 P.A. = 11.5 Vert Final Mean = − 1.67
5907.551 S.T. = 13:41
5906.304 Dec. = + 33.1
1.251 H.A. = − 5.04 East
Sp. Wh. = − 0.5 a, + 0.5 B + 1.1 C

June 6, 1902

T Hydrae WCB
8 42 - 8.1
13 52
5 10

8 38 Lost in clouds

V Cancri
8 18 +17.6
13 52
5 34

8 46 Clouds in this region at start
Star a in finder has now
disappeared

R Leo. Min WCB
~~9 40 +34.8~~
9 34 +35.8
14 11
4 37

Cloud in this region
Hagens faint stars not seen

~~F~~ W Leonis WCB
Clouds in this region.

June 6 1902
δ Librae

Phot T. 14 55 -8.1 W Obs
14 45 6" cap.
0 10 I
11 50

BOC 1.82 used

Right
281.8 < var dis
9 43 20 342.0 60.2
100.3 55.1
155.4 115.3 — 1.30

285.3 -1.31
46 10 344.7 59.4
104.9 54.7
159.6 114.1 -1.32
Left mean = -1.48
204.2
49 50 250.5 46.3
17.7 53.1
70.8 99.4 -1.67

197.1 -1.66
9 55 40 249.6 52.5
195 00 21.0 47.2
9 48 45 68.2 99.7 -1.66
5-1 49
14 46 56

5907.6159
5907.5332
0.0827

June 6, 1902

II

Left

5 204.5
10 02 00 245.0 40.5 ✓
19.1 51.6
70.7 92.1 −1.86

198.4 −1.80^{2}
08 30 250.7 52.3
22.7 43.1
65.8 95.4 177

Right Mean = −1.69

109.1
13 40 159.1 50.0
286.9 clouds 56.7
343.6 106.7 −1.49

105.6
10 18 00 160.9 55.3 −1.56
45 10 292.6 45 2
10 11 18 337.8 100.5 −1.64
5 −1 49
15 09 29
10 25 Sky cloudy everywhere
5907.6316 P.a. = 60.5 Ver. a.
5907.5333
0.0984 St wh. = 4.5 B & 5.5 C

June 6, 1902

Clouds came somewhat suddenly so that images ~~were~~ ~~are~~ ~~///~~ are not exactly superposed in ~~the~~ ~~///~~ readings of P.A. but very closely so. St. ~~wh is practically~~ correct. In adjusting eye end of telescope, telescope moves of region so that RA + Dec. are not rapid.

10 37 In the two previous groups on δ Librae eye end of phot. gave much trouble. The sodering by which it was held in the phot. is lose, so that eye end tend to tip down by its own weight. ~~The~~ By wiring on a previous night this was partly ~~[illegible]~~ obviated temporaly but wiring had become slack so ~~that~~ much trouble occurred. The screws also which held on the eyepiece are somewhat worn ~~and~~ so that circle revolves rather hard. By reason of the previous difficulties, ~~the~~ emergent pencils had also become cramped. When observations were partly ~~through~~ eyestop was removed and eye end held up to its bearings during equalizations. Much trouble however was experienced in the settings. Observations made with as great care as possible under the circumstances.

10 45 Cloudy everywhere no chance for anything farther

BFC 1182 Ball 103

10 58 49.6 10 56 00

June 6. 1902.

B. + C. 1182.			Ballou 103.		
13	35	51.6	13	34	0.0
	36	51.5		35	0.0

Dis. of Jup. Sat IV. Phot R.

Compared with sat. on preceding side = sat. III } W. Obs. Colson, Recorder.

			~~25~~		~~19.0~~	
13 58 49	14	00	35		89.2	
59 04	13 59 10		50	61.5	150.7	1
16		01	02	63.5	89.0	
31			17	62.5	152.5	
40			26		89.2	
48	13 59 53		34	62.9	152.1	
56			42	59.2	91.0	2
14 00 09			55	61.0	150.2	
28		02	14		91.3	
38	14 00 48		24	60.3	151.6	
59			45	58.0	92.0	3
01 09			55	59.2	150.0	
22		03	08		90.0	
35	14 01 44		21	60.9	150.9	
50			36	59.5	92.0	4
02 08			54	60.2	151.5	
28		04	14		90.0	
38	14 02 43		24	60.0	151.0	
48			34	59.6	92.5	5
59			45	59.8	152.1	
03 12			57		92.0	

June 6. 1902.

14 03 23	14	05	08	59.5	151.5	
34	14 03 29		19	62.0	90.0	6
46			31	60.8	152.0	
04 01			46		89.9	
11	14 04 20		56	61.3	151.2	
			~~07~~		~~92.5~~	7
29		06	14	61.3	90.2	
41			26	61.3	151.5	→
51			36		92.1	
05 02	14 05 08		47	60.1	152.2	
15		07	00	60.5	91.0	
24			09	60.3	151.5	
38			23		91.8	
55	14 06 00		40	59.2	151.0	
06 08			53	60.1	90.9	
21		08	06	59.6	151.0	
33			18		90.5	
47	14 06 54		32	60.5	151.0	
57			42	58.0	92.0	
07 17		09	02	59.2	150.0	
33			18		90.6	
08 00	14 08 04		44	60.4	151.0	
12			56	60.0	91.5	
29		10	13	60.2	151.5	
49			33		91.5	
09 26		11	10	60.0	151.5	
10 12	14 09 50		56	61.0 60.5	90.2	
36		12	20	Clouds		
52			36		151.2	

June 6, 1902.

14 11 16	14	13	00		

Clds.

Sat. nearly gone

11 26	14	13	10		91.5
42	14 11 58		26	59.7	151.2
12 09			53	60.0 59.8	92.5
34		14	17		152.5
13 43		15	26		92.0
14 24	14 14 38	16	07	57.2	149.2
15 01			44	53.2	93.5
25		17	08	55.2	146.7
15 41			24	58.3	97.7
16 00			43	49.0	148.0
20		18	03	44.9	99.0
38			21	43.7	143.9
56			39	42.8	100.2
17 17			59	38.0	143.0
~~40~~		19	22	—	Clouds.
19 08		20	50	30.5	105.0
38		21	20		135.5

Not seen later

14 25 27 Sky somewhat clearer

Sat IV not seen

Limit of Visibility

14 24 15	14	25	56		108.9
24 29		26	10	23.8	132.2
24 44	14 24 37		25	23.0	109.0
24 59		26	40	22.6	131.0

June 6. 1902.

During about all the observations for constant brightness clouds were not noticed and apparently were not over Jupiter, but just about ~~as~~ sat. began to grow fainter clouds began to appear and render observations slow and difficult. The sat IV brightening up a little at times but most of the time faint and difficult. Last two settings rather more uncertain than the previous ones. During Limit of Visibility sky somewhat clearer. After the last setting on Sat IV before the limit of visibility sat IV disappeared entirely owing to clds. which prevented any further settings being taken.

B.+C. 1182,			Ballou 103,		
14	45	36.7	14	44	0.0
	46	36.5		45	0.0

B&C 1182			Ball 103		
21	12	42.5	21	11	00
	13	42.5		12	00

L. P. P.

Chron. lost 1 sec. in $16^m 40^s$

June 8. 1902. (Sunday)

B. + C. 1182			Ballou 103		
14	17	40.2	14	15	0.0
	18	40.0		16	0.0

Dis. of Jup. II Phot. R. W. Obs. Colson Recorder.
Compared with other sat. on same western side = sat III.

14	24	56	14	27	35	64.1	86.8	-
	25	11			50	57.7	150.9	-
		39		28	18	55.8	93.2	-
		48			27	51.8	149.0	-
	26	08			~~3~~47	49.3	97.2	-
		16			55	45.2	146.5	-
		24		29	03	3 26.6	101.3	
		31			10	3 23.9	127.9	137.9 assumed
		41			20	26.0	104.0	-
		51			30	23.8	130.0	
	27	00			39	24.8	106.2	
		10			49	19.5	131.0	
		17			56	14.5	111.5	
		27		30	06	11.0	126.0	
		38			17	06.5	115.0	
		46			25		121.5	

Not seen later

Limit of Visibility –

28	08			47		113.0
	36		31	15	14.0	127.0
	47	14 28 38		26	11.1	114.0
29	00		31	39	12.6	125.1

June 8. 1902.

Sat. disappeared several (about 9 minutes) minutes ahead of theorical time. When observations were begun Sat. was evidently begining to disappear so that no constant was obtained.

Seeing very blurry especially at intervals. Last two settings were the most uncertain of any. The others thought to be pretty good.

B. + C. 1182.			Ballou 103.		
14	43	37.5	14	41	0.0
	44	37.2		42	0.0

Chron. lost 1^{sec} in $9^{m}0^{s}$.

Corr. during eclipse = $-2^{m}39^{s}$

June 9, 1902 (Monday)

BOC1182 Ball 103
7 29 41.0 7 27 00

C's watch = 33 sec. slow at 7.28

β Lyrae
Phot T. 18 45 +33.2 w Ob
1 3 1 5 6" cap.
5 30 C's watch used
6 30

Abandoned β Lyrae not needed tonight w Ob.

Σ 2202
Phot R. 17 38 +2.6
13 22
P.A. 95° 4 16
Dist 20" 7 44 C's watch.
Magn. 5.5 & 5.8
84.1
8 02 160.2 < br. dir 76.1
260.6 81.4
342.0 157.5 −0.43
78.9
163.1 84.2 −0.40
262.7 76.5
339.2 160.7 −0.37
Revised
#351.2
68.6 77.4
168.0 83.3
251.3 160.7 −0.37

June ~~x~~9, 1902

~~Same Again~~
Σ 2202 Cont. from prev. page

348.3 −0.42
8 08.4 70.8 82.5
175.6 72.3
8 05.2 248.1 155.0 − 0.48
5 + 0.4
13 05.6 G.M.T.
5910. Mean = − 0.41

T Hydrae w OG.

8 42 − 8.1
Region very low, two very strong
impossible to get 14th magn. of
T Hydrae.

~~Phot~~ V Cancri w OG
8 18 + 17.5
13 54
5 36
Impossible to get 14th magn.
for V Cancri.
Region low, & Telescope
not interfering with lowest
of smaller shutters.
A number of the Hagen Stars
not seen.

June 9 1902

W Lewis W.C.B.

~~P~~

10 44 +14.4
14 40
3 56

~~9 53 52.5~~

Var 9 54 48
no 1 55 10 22
" 2 55 11 01
" 3 55 26 15

Var 56 12
no 1 56 33 21
no 2 56 34 01
no 3 56 49 15

10 04 08.5 Var
04 21.0 1 25 no 4
04 29.5 8.5 no 5

04 55.5 Var
05 08.0 1 25 no 4
05 17.0 9.0 no 5

~~57 3~~

21.5 57 46 Var
1.0 58 07.5 no 1
58 08.5 no 2

~~59 17.5 var~~

~~5.~~

10 00 17.5 var
10 00 55.0 37.5 no 3

June 9, 1902

Star 1 fols var by 21.5 secs & is 3.7' North of var.

Star 2 fols var by 22.0 secs & is 6.2' North of var

Star 3 fols var by 37.5 secs & is 5.3' North of var.

Star 4 fols ~~Hag. 18~~ var by 1m 21.5 secs ~~12.5 secs~~ & is 5.8' North of var.

Star 5 fols ~~Hag. 18~~ var ~~by 21.2~~ 1m 30.2 secs & is 6.3' North of var.

R Leonis Minoris W Obs

9 40 +34.8
15 35
5 55

9 34 33.7
15 40
6 06

9 +

~~10 30 46~~
~~10 31 01~~ ~~15~~

10 33 01.5
33 23.0 21.5

~~31 53.0~~
~~14.0~~ 21.0

~~10 34 07.5~~
34 21.5
34 43.5 22.0

June 9, 1902

R Leonis Minoris

No 1 prec. var by 21.5 secs. & is 2.7′
~~North~~ of it.

Var ~~10 42 57 Var~~ | 10 44 40.5 ~~Var~~ 54.5 Var
No 2 ~~43 51~~ 54.0 | 45 35.0 No 2
~~44~~

~~46 11.5~~

No 2 fols. var by 54.2 secs & is 1.5′
South of it

No 2 47 10.5 13.5 | 10 47 45.5 No 2
No 3 47 24.0 | 59.0 13.5 No 3

No. 3 fols var by $1^m 07.7^s$ & is 7.0′
South of it.

1053 Region has got rather low, and it is impossible to finish the selection ~~satisfactorily~~

Phot T. χ Cygni W Obs

19 41 +33.4
16 33
3 08
8 52

June 9, 1902

Phot T. χ Cygni W Ob

C's watch used

Above

91.4 < comp * dis
11 25.0 133.0 41.6
269.2 46.4
315.6 88.0 + 1.96

84.0
135.4 + 1.94
274.0 51.4
312.6 38.6 + 1.91
90.0

Below

Mean = + 2.12

6.9
40.0 33.1
179.4 43.8
223.2 76.9 + 2.29

1.8 + 2.30
11 32.0 44.2 42.4
57.0 185.4 33.8
11 28.5 219.2 76.2 + 2.31
5 +0.4
16 28.9 G.M.T.
5910.687

June 9, 1902

Same Again

Below

5.6

11 33.7 41.6 36.0

180.9 43.3

224.2 79.3 + 2.22✓

3.0 +2.28✓

44.1 41.1

185.5 33.8

219.3 74.9 + 2.35✓

Above mean = + 2.17

273.1

313.1 40.0

87.2 50.3

137.5 90.3 + 1.91

269.2 +1.94

11 40.6 317.2 48.0

93.2 39.8

7 4.0

11 37.0 133.0 87.8 + 197

5 ~~+0.x~~

16 37.4 P.a. = 24.6 Ver Final mean +2.12

5920.692 Ha = -2.34 East 8.10

S.T. = 17:12 magn. 10.22

Dec = +32.4

11 50 Sp Wh = 4.5a, 5.5B, 6.1C

L.P.

June 10, 1902 (Tuesday)

BD C H 8 2 Ball 103
8 54 35.0 8 52 00
Cloudy early part of evening.
C's watch = 7 sec. slow at 8:52

R Leonis Minoris W Obs.
9 40 +34.8
14 30
Selection 14th magn. Standards.
4 50

9 10 Clouds in this region

9 33 +33.7
14 39
5 06

9 20 Clouds, heavy from W & NW

9 30 All cloudy

10 00 Cloudy

β Lyrae W Obs.
Phot.

6" Caf. 18 45 +33.2
15 50
2 55
9 05

June 10, 1902

β Lyrae

C's watch used.

Above

3.4

10 31.4 38.1 347

332.0 37.6

369.6 72.3 −2.43

191.6 2.44

223.1 315

8.9 401

149.0 71.6 −2.45

Below Mean = −2.29

94.6

137.4 428

279.2 390

318.2 81.8 −2.14

101.5 −2.14

1041.4 139.4 379

277.3 435

10 320.8 81.4 −2.15

June 10, 1902

Same Again

Below

96.4
10-44.4 139.2 — 42.8
279.6 — 38.7
318.3 — 81.5 — 2.15

98.4 — −2.16
135.9 — 37.5
271.5 — 43.6
321.1 — 81.1 — 2.16

Mean = — 2.32

Above

7.3
46.7 — 39.4
192.3 — 30.7
223.0 — 70.1 — 2.50

9.0 — 2.48
10 52.6 43.7 — 34.7
189.9 — 36.5
226.4 — 71.2 — 247

P.A = 12.2 Vert
H.A = −20.4 East — Final Mean = −2.30
S.T = 16.4 Reject above, something must
Dec = +32.8 have hit eye end of phot. for
Sp. Ht = pencils are all out of adjustment
and it is almost impossible to get
hold of the light, when observer shifts

a −0.5
B ∓0.5
C +1.1

June 10, 1902

his eye in the attempt to do so,
the brightness of the images vary
11 20 relatively and supplementary images
come out so strongly also, ~~that~~ it gives
serious trouble Altitude very high
Much fog in air and evidently
more or less remaining from
cloudiness

Object glass fogged.

L. P. C.

June 12, 1902 (Thursday)

At 7:25 Co's watch = 10 sec. fast.

moon

11 22 +0.3
13 42
2 20

Students night, the sky was so cloudy ~~that~~ practically nothing could be done at the way of showing celestial objects but explained to them instruments & methods of work.

June 13, 1902 (Friday)

J.D. 5914 ~~#00~~

7 30 All cloudy.

7 35 C's watch is 3 secs. slow at 7.35

Phot T. R Urs. Min Wells
16 34 + 7 2.9
16 26
~~#~~0 08
11 52

11 10 Sky too cloudy for var Region cannot be identified with ~~certainty~~

Some students ~~here this~~ evening, showed ~~them~~ instruments & ~~methods~~ of work. Sky ~~thickly~~ cloudy ~~most of time~~ ~~cleared~~ became somewhat clearer a ~~little~~ before 10 and ~~after~~ showed ~~the~~ the moon

June 14, 1902 (Saturday)

C's watch = 01.5 fast at 7:34

R hrs. min   w-006.

Phot T.   16 34 +72.9
14 34
2 00

Below
~~Left~~   10 00   C's watch used.

7.0 < comp * dis

9 02.0   47.5   40.5
182.9   49.5
232.4   90.0   + 1.91✓

2.3   +1.98✓
50.8   48.5
189.8   37.0
226.8   85.5   + 2.04✓

Above   mean = + 1.78✓

27 4.56
321.0   45.4
89.2   64.0   ✓
149.2   105.6   + 1.53.

270.1   +1.57✓

9 11.0   326.8   56.7
9 06.5   96.6   45.1   ✓
5   141.7   101.8   + 1.61

14 06.5 G.M.T.

5915.5 A

June 14, 1902

Above Same again

275.0

9 13.0 321.5 46.5

89.7 55.5

145.2 102.0 + 1.61 ✓

270.6 +1.60 ✓

325.2 54.6

93.7 48.0 ✓

141.7 102.6 +1.59

Below Mean = +1.75 ✓

188.7

226.9 38.2

1.6 57.1

52.7 89.3 + 1.93 ✓

182.6 ✓

9 18.6 234.8 52.2 +1.90

7.7 39.2 ✓

31.6 46.9 91.4 + 1.88

9 15.8

5 -

R.A. 14.10 Vert B Final Mean = +1.76

14 15.8 S.T. = 15:18

5915.594 H.A. = − 1.14 East

Dec = + 72.7

Sp Wh = 2.5 B 8 3.5 C

June 14, 1902.

Several students came this evening at different times, showed them the moon and saturn
11 05 although somewhat troubled by clouds views obtained were very good.

Ledgered, Plotted, Posted to here.

June 17. 1902 (Tuesday)

~~B~~
C's watch = 40 sec. slow at 7:35

Phot T. β Lyrae w Ob. 6" cap.

18 45 +32.6
13 45
5 00

Above ∑ 00

13.1 < var dis
8 06.0 41.1 28.0
190.1 35.9
63.9 –2.72
226.0
10.7 –2.66
44.8 34.1
191.6 33.0
224.6 67.1 – 2.60
Below Mean = 2.41
275.7
316.9 41.2
97.0 41.2
138.2 82.4 – 2.12

276.2 –2.16
A 13.0 317.2 41.0
8 09.5 98.0 38.4
5 +0.7 136.4 79.4 –2.21
13 10.2 G. M. T.
5918.549 5918.549
5906.304
12.245

June 17, 1902.

Same Again

Below

276.4
8 15.6 316.4 400
97.8 41.8 2
139.0 81.2 -2.16

275.2 -2.15
317.1 41.9
98.0 39.9
137.9 81.8 - 2.14

Above Mean = -2.36
194.0
224.4 384
9.1 36.8
45.9 67.2 - 2.60

-2.58
191.5
A 23.0 226.0 34.5
386 9.0 34.0
8 19.3 43.0 68.5 - 2.51
5 +7
13 20.0 G.M.T.
5918.556
5906.304
12.252

June, 17, 1902

III

Above

193.1
8 26.4 223.6 — 30.5
8.6 — 35.8
44.4 — 66.3 – 2.63

– 2.61

190.5
225.9 — 35.4
10.6 — 32.2
42.8 — 67.6 – 2.59

Mean = – 2.6

Below
96.3
138.3 — 42.0
275.7 — 40.4
316.1 — 82.4 – 2.12

97.0 — – 2.12
8 35.6 138.3 — 41.3
62.0 276.1 — 40.9
8 31.0 317.0 — 82.2 – 2.13
5 +.7

Final Mean = – 2.38

13 31.7 h m

5918.564
5906.304
12.260

P.A. 192.2 Ver B
A.a. – 4.09
Dec + 33.1
S.T. 14:34
Sp.Wh. –0.5a, +0.3 B+1.1C

Twilight somewhat strong in first group.

June 17, 1902

S Cygni W Obs

20 8 +57.2
15 00
5 08
6 52

Var. susp & at times thought to be seen,
although cannot be absolutely sure of it.
If actually seen est. would be 14.23
10 22 s 3.5 var, var 1 t 14.21
14.22
~~In~~ t extremely faint and only seen at
intervals. Bright moonlight

R Cassiop — W Obs

23 52 +49.7
15 32
8 20
3 40

Var not certainly seen, ~~[illegible]~~

9 50 u 2 N 12.6

Region rather low moon very bright ~~but~~
and region thought to be identified
correctly

June 17, 1902

w Delphini w Cbs.

Phot T. 20 31 +17.8
15 56
4 35
7 25

~~Co watch [illegible] 8 = 9sec. slow [illegible]~~ 10 02

Co watch used. 8 9sec slow now if being reset

Above

73.4 < comp + dis

10 10.0 160.0 86.6

249.3 97.9

347.2 184.6 −0.09

69.7 175.4

165.7 96.0 −0.08

253.4 88.0

341.4 184.0

Below 176.0 −0.08 Mean = ~~+ 0.22~~ 0.14

350.7

64.2 73.5

162.4 86.8

249.2 160.3 + 0.39

342.5 +0.37

10 17.0 70.0 87.5

7.0 169.9 73.7

10 13.5 243.6 161.2 + 0.36

5 +2

15 13.7 G.M.T.

5918.6345
5914.7695
+ 3.8650

June 17, 1902

II

Below

351.2

10 ~~2~~ 19.0 65.5 — 74.3

164.7 — 85.5

250.2 — 159.8 + 0.38

344.0

69.1 — 85.1 +0.38

170.3 — 75.0

245.3 — 160.1 + 0.38

Above — Mean = + 0.18

254.3

343.4 — 89.1

~~1~~76.3 — ~~9~~ 2.7

169.0 — 1~~8~~ 18

178.2 − 0.03

248.7

10 26.0 346.5 — 95.8 −0.02

741 — 85.4

45.0 159.5 — 181.2

10 22.5 — 178.8 −0.02

5 + 2

~~Final Mean = + 0.16~~

15 22.7 9. M. T.

5918.6408

4

5918.7695

3.8713

June 17, 1902

III

Above
253.2
10 36.0 340.9 87.7
70.9 95.1
166.0 182.8
177.2 − 0.05

249.6
347.7 −00.6
74.4 98.1
159.7 85.3
183.4
176.6 −0.06

Below Mean = +0.13
169.0
246.7 77.7
343.0 87.6
70.6 165.3 +0.28

163.6 +0.32
10 42.0 249.4 85.8
350.3 76.0
10 39.0 66.3 161.8 + 0.35
5 +.2
15 39.2 G.M.T. H.A. 167.2 Ver B Final Mean = +0.15
5918.6522 P-A −3.48
5914.7695 S.T. 16:43
+3.8827 Dec +17.8
Sp Wh 6.5 a
7.5 B
8.1 C

June 17, 1902

U Coronae W Ob

15 9 +33.8

Phot T. 16 59

1 50

〃 20 Abandoned ~~too~~

June 18 1902 Wednesday

Reset BOC
BOC 118 2 Ball 10 3
) 38 55.4) 39 00

C's watch = 4 sec. fast at 7:40

Phot T. β Lyrae W Ob
18 45 + 33.2 6" cap.
13 50
4 55
Above
7.2 7 05 C's watch used
8 01.0 47.8 < var dis 40.6
186.3 43.8
230.1 84.4 − 2.07
5.6
46.7 41.1 − 2.14
189.5 38.1
227.6 79.2 − 2.22
Below mean = − 1.88
271.6
321.0 49.4
91.6 52.3
143.9 101.7 − 1.61

270.9 − 1.62
8 09.0 321.3 50.4
8 05.0 92.4 51.0
5 − 0.1 143.4 5919.545 101.4 − 1.62 13.241
5906.304 12.916
13 04.9 13.241 + 0.325

June 18, 1902

Same again.

Below
270.1
8 10.4 320.9 50.8
93.0 50.8
143.8 101.6 – 1.62

270.5 – 1.60
323.4 52.9
93.1 50.4
143.5 103.3 – 1.58

Above Mean = – 1.88
188.9
228.1 39.2
4.7 42.3
47.0 81.5 – 2.15

187.2
8 17.6 229.2 42.0 – 2.15
48.2 39.4
8 14.0 47.6 81.4 – 2.15.
5 ×0.1
– 3 13.9, R.A. = 12.9
5919.555 HA = – 4.21 East
5906.304 Dec + 33.0
+13.247 S.T. 14.25
12.916
+ 0.331 Sp.Wh. { – 0.5 a
+ 0.5 B
+ 1.1 C

Final Mean = – 1.88

June 18, 1902

U Cephei W Obs.

Phot T. ~~24~~ 50 +81.1
14 30 B O C used.
10 20
~~9 40~~
1 40

Abandoned not ~~wanted~~

Y Cygni W Obs.

Phot T. 20 40 + 33.4
15 35
abov 5 05
~~Belo~~ 6 55 B O C used

2.3 < vardis
9 46 46 51.3 49.0
185.6 43.1
~~228.7~~ 92.1 — 1.86
~~Below~~
45 1 — 1.83
48 33 48.8 43.7
183.1 50.8
233.9 94.5 — 1.80

Mean = — 1.58

Below
265.2 Ep. 3785
50 45 327.3 62.1
91.8 51.8 9 49 48
143.6 113.9 — 1.33 5 40 1
14 49 49 G.M.T.
272.1 50.3 — 1.34 5919.6180
9 53 06 322.4 63.3 5919.5942
19 10 85.3
9 49 48 148.6 113.6 — 1.34 0.02 38

June 18, 1902

Y Cygni. con't II

Below

~~148.2~~ 271.4
~~9 58 43~~ ~~267.5~~ 324.0 52.6
10 01 35 ~~326.8~~ 86.7 61.5
~~90.0~~ 148.2 114.1 −1.32

266.1
03 45 328.4 62.3 −1.34
92.0 50.0
142.0 112.3 −1.36

above Mean = −1.60
186.1
06 48 229.7 43.6
3.6 48.6
52.2 92.2 −1.86

182.8 −1.86
10 09 10 232.6 49.8
21 18 6.4 42.2
10 05 20 48.8 92.0 −1.86
5 0 0 Clouds.
15 05 20 Sky pretty cloudy now everywhere and
5919.6287 stars very dim in photometer. Troubled
5919.5942 in both previous groups throughout by
0.0345 bad seeing, poor images and approaching
cloudiness. Obs made with as much care

June 18/1902.

as possible but settings rather difficult throughout. Moon also very bright. Full aperture used.

10 18 Stars now practically gone and impossible to make any farther settings at present ~~time~~

P.a. = 5.0 Vert B
S.T. = 16:20
H.a. = -4:28 East
Dec. = 34.1
Sp. Wh. = 5.5 a
6.5 B
7.1 C

10 30 Impossible to get anything farther on this variable due to increasing cloudiness

BOC 1182 Ball 103
10 31 00.4 10 31 08

w O6

Σ 53'
Phot R. 20 32 +31.1
16 38
3 54
8 06 C's watch

P.a 175°
Dist 3' ±
Magns 6.0—6.1

June 18, 1902
Σ 53^{I} see prev. page

256.4
1.0460 346.2 <N. & bi. dis 89.8
82.9 75.2
158.1 165.0 − 029 ✓

254.8 − 0.18 ✓
344.4 89.6 ✓
76.3 85.9
162.2 175.5 − 008

Mean = − 0.10

Reversed
166.3
254.7 88.4
346.3 90.9
77.2 179.3 − 0.01

164.8 − 0.02
10 54.0 255.6 90.8
10 50.0 347.4 87.6
5 − 0.1 75.0 178.4 − 003
15 49.9
59.9.

L. P. P.

11 00

June 19, 1902 (Thursday)

RO C1182 Ball, 03

7 32 06.0 7 32 55

C's watch = 32 sec. slow at 7.33

β Lyrae

Phot T W-Obs

18 45 + 33 = 6" cap

13 50

4 55

Above 7 05 C's watch used.

7.6 ∠ vardis

P 03.6 48.8 41.2

187.7 40.0

229.7 81.2 -

5,

.

1 .

2 .

Below

see next page

June 19, 1902

I

	Above		
	50		
8 08.4	49.2	44.2	
	180.0	44.2	
	229.2	88.4	− 1.96
	5.8		− 2.00
	49.7	43.9	
	187.7	41.5	
	229.4	85.4	− 2.04
			Mean = −1.71
	Below		
	270.2		
	323.9	53.7	
	~~1~~89.2	56.6	
	145.8	110.3	− 1.41
	268.8		−1.42
8 16.0	323.4	54.6	
	90.1	55.4	
8 12.2	145.5	110.0	−1.42
5 +0.5			
13 12.7			

5920.551
5919.220
+1.331

June 19, 1902

Same Again II

Below

.271.2
8 18.0 323.4 52.2
90.5 54.9
145.4 107.1 − 1.48

269.3
324.0 54.7 − 1.46
89.6. 54.8
144.4 109.5 − 1.43

Above Mean = − 1.70
185.1
229.3 44.2
3.6 45.5
49.1 89.7 − 1.92

185.8
8 26.0 230.6 44.8 − 1.9~~8~~4
~~7~~5.1 43.2
8 22.0 48.3 88.0 − 1.97
5 +0.5
13 22.5 P.A. = 13.1 Ver B Final Mean = − 1.70
H.A. = −4.07 East
5920.558 S.T. = 14.40
5919.220 Dec. = +33.0
+1.338 Spectr. = { a − 0.5
B +0.5
C +1.1

June 19, 1902

Phot T. Y Cygni W.C.B.

20 40 +33.4
15 02
5 38
6 22

Clear phot.

C's ~~watch~~

Above
8.0
9 08.0 47.0 Lrardis
199.1
225.2

39.0
35.1
74.1 — 2.37

— 2.32

9.2
45.4
184.2
228.8

36.2
41.6
77.8 — 2.26

Below

mean = — 2.10

271.4
321.2
96.5
137.2

49.8
40.7
90.7 — 1.90

247.0
9 16.0 318.0
9 12.0 92.6
5 +0.5 144.4
14 12.5 G.M.T.

— 1.87

41.0
51.8
92.8 — 1.84

5920.5920
5919.5941
+0.9979

June 19, 1902

Same again

Below

271.4
9 18.4 322.5 51.1
96.~~2~~0 40.9
136.9 92.0 −1.86

278.2 −1.87
318.6 40.4
~~90.9~~ 91.2 50.8
142.0 91.1. − 1.88

Above Mean = −2.14
187.6
227.7 40.1
10.4 33.3
4~~4~~37 73.4 − 2.40

191.6 −2.41
9 29.0 225.9 34.3
9 47.4 7.5 38.8
9 23.7 46.3 72.7 −2.42
54 6.5
14 24.2 G.M.T.

~~Final Mean −2.13~~

5920.6001
5919.5941
+1.0060

June 19, 1902

III

Above
188.2
9 44.0 227.4 39.2
10.0 34.0
44.0 73.2 — 2.40 ✓

190.6 — 2.36 ✓
46.4 225.6 35.0
7.4 40.5
47.9 75.5 — 2.33 ✓
Below Mean = — 2.11
91.6
50.0 142.6 51.0
276.1 42.2
318.4 93.2 — 1.83

96.7 — 1.86
9 52.4 137.8 41.1
472.3 49.3
192.8 321.6 90.4 — 1.99
9 48.2
5 + 0.5
14 48.7 G.M.T.

5920.6172
5919.5941
+1.0231

June 19, 1902

IV

BOC now used henceforth on this variable.

Below

93.3
9 58 55 142.1 48.8
275.7 41.0
316.7 89.8 — 1.92

96.9
10 01 30 139.1 42.2 — 1.88
274.8 50.7
322.5 92.9 — 1.84
mean = — 2.14

Above
7.8
02 05 46.1 38.3
191.3 34.6
225.9 72.9 — 2.41

10.2
10 06 30 44.4 34.2 — 2.39
11 00 187.4 40.0
10 02 45 227.4 74.2 — 2.37
5 — 0 05
15 02 40 G.M.T.
5920.6269
5919.5941
1.0328

June 19, 1902

V

Above

7.4
10 28 00 48.9 40.6
189.8 36.0
225.8 76.6 — 2.30

9.2 — 2.30
30 25 45.3 361
186.3 40.7
227.0 76.8 — 229

Below Mean = — 211

272.1
33 20 322.3 50.2
97.4 40.0
137.4 90.2 — 191

277.2 — 1.92
10 36 15 317.3 40.1
8 00 93.3 49.5
10 32 00 142.8 89.6 — 1.92
5 — 0 04
15 31 56
5920 6476
5919 5941
+1.0530

June 19, 1902

VI

Below

273.2
10 51 15 321.7 — 48.5
97.1 — 40.1
137.2 — 88.6 − 1.95

276.4 — − 1.94
53 40 317.1 — 40.7
93.0 — 49.2
142.2 — 89.9 − 1.92

Above — mean = 2.1~~4~~6
187.5
56 45 227.2 — 39.7
~~3~~ 10.1 — 32.5
42.6 — 72.2 − 2.43

190.4 — − 2.39
10 59 30 224.8 — 34.4
21 10 ~~3~~ 7.1 — 40.5
10 54 18 47.6 — 74.9 − 2.35
5 − 0 04
15 54 14 P.A. − 45 Ev B
~~At~~ S.T. = 17:08
59 20.6625
59 19.5941 HA = − 3:39 East Sp. W. { 5.5 a / 6.5 B / 7.5 C
+1.0684 Dec. + 34 2

June 19, 1902

BOC, #2
11 07 04.0

Ball 103
~~10 3~~
11 07 0.0

L. P. P.

June 20, 1902 (Friday)

BOC 1182 Ball 103
7 32 27.5 7 32 00

O's watch = 8 sec. slow at 7.33

δ Librae W Obs.
Phot T. 14 55 − 8.1 6" cap.
13 55
1 00 BOC used.

Above
264.6 < var. dis
8 05 58 331.0 66.4
82.5 70.9
159.4 137.3 − 0.83

261.7 − 0.81
08 36 333.8 72.1
82.1 67.2
149.3 139.3 − 0.79
~~Below~~ Mean = − 1.04
181.0
12 12 232.8 51.8
358.5 57.3
55.8 119.1 − 1.21

178.6 − 1.26
8 14 34 236.6 58.0
8 41 20 359.1 57.2
8 10 20 56.3 115.2 − 1.30
5

June 20, 1902

II

Below
180.1
8 17 07 235.6 — 55.5
359.4 — 57.2
56.6 — 112.7 — 1.36

179.1 — 1.37
19 08 237.0 — 57.9
0.0 — 53.6
53.6 — 111.5 — 1.38
Above — Mean = —1.08
83.9
22 50 ~~52.7~~ 153.1 — 69.2
261.5 — 71.3
332.8 — 140.5 — 0.76

81.8 — 0.78
8 26 45 | 53.4 — 71.6
~~8 6 50~~ 263.2 — 66.9
8 21 42 330.1 — 138.5 — 0.80
5 —
13 21

June 19. 1902.

III

Above
858
8 38 00 150.1 64.3
269.8 60.6
330.4 124.9 = 1.09

835
41 33 145.4 61.9 – 1.12
267.0 60.5
327.5 122.4 – 1.14

Below mean = – 1.26
1.4
45 40 53.4 52.0
178.3 56.9
235.2 108.9 – 1.44

358.7
8 47 22 57.0 58.3 – 1.42
180.4 52.4
232.8 110.7 – 1.40

June ~~11~~ 20, 1902

Below IV

2.8
8 59 ~~28~~ 52.9 50.1
176.0 58.3
234.3 108.4 − 1.45

0.5 − 1.48
9 01 45 57.6 57.1
183.0 48.6
231.6 105.7 − 1.52

Mean = − 1.14

Above
266.3
04 37 336.8 70.5
~~1~~81.6 71.4
153.0 141.9 − 0.74

264.3 − 0.80
9 07 20 333.0 68.7
13 10 88.8 66.4
145.2 135.1 − 0.87

9 03 18 Reject four preceding groups. Clock gave
5 ~~continual~~ trouble in them, observer pressing ~~telescope~~
14 with his arm while making settings, even then
it was impossible to keep images in any
one place or in the centre of the field.
~~So that~~ images were constantly changing their
brightness as they dodged about in the different
parts of the field. Before the next group

succeeding in adjusting clock so that the images could be kept in the centre of the field. ~~Clock~~ Images from ~~that~~ this time onwards quite steady in the centre of the field. Observer had no confidence in these four groups and practically concluded to reject them before succeeding ~~in adjusting clock~~

June 20, 1902

~~IV~~ I

Above
270.9
9 20 08 326.2 55.3
86.3 60.4
146.7 115.7 − 1.29✓

268.3
21 57 328.2 −1.34✓
59.9
91.2 51.4
142.6 111.3 − 1.39✓

Below Mean = −1.62✓
185.8
22 05 227.4 41.6
3.3 47.1
50.4 88.7 − 1.95✓

182.4
−1.90✓
9 27 15 233.7 51.3
11 25 6.9 41.2
9 22 51 48.1 92.5 − 1.85✓
5 − 0 28
14 22 23 G.M.T.
5921.5989
5921.4986
0.1003

June 20, 1902

II

Below
185.8
9 35 15 229.2 43.4
3.6 47.6
51.2 91.0 − 1.89″

183.4
37 40 232.0 48.6 − 1.91″
7.9 40.7
48.6 89.3 − 1.93″

Above
Mean = − 1.70″

98.2
42 25 143.4 52.2
269.5 55.9
325.4 108.1 − 1.46″

89.4
9 44 05 144.0 54.6 − 1.49″
159 25 272.8 57.1
9 39 51 323.9 105.7 − 1.52″
5 − 0 28
14 39 23 G.M.T.
5921.6107
5921.4986
+ 0.1121

June 20, 1902

~~[illegible]~~
IV

Above
92.4
9 52 45 140.7 48.3
270.0 54.8
324.8 103.1 −1.58 ✓

89.8
55 58 144.2 54.4 − 1.60 ✓
274.2 47.4
321.6 101.8 − 1.61 ✓

Below Mean = − 1.77 ✓
7.0
9 58 52 47.8 40.8
181.4 50.3
231.7 91.1 − 1.88 ✓

−1.94 ✓
2.8
10 00 55 51.2 48.4 ✓
228 2~~1~~0 3 188.3 38.1
9 57 08 226.4 86.5 − 2.01 ✓
5 − 0 28
14 56 40 G.M.T.
5921.6227 ×
5921.4986
+0.1241

June 20, 1902

~~VIII~~

IV

Below
7.9
10 12 22 47.6 39.7
182.6 50.8
233.4 90.5 − 1.90

2.6
15 17 51.1 48.5 − 1.94
187.2 39.3
226.5 87.8 − 1.97

Above mean = − 1.78
273.4
18 21 321.6 48.2
89.8 55.0
144.8 103.2 − 1.58

271.1
10 21 30 323.1 52.0 − 1.63
93.2 47.1
27 30 140.3 99.1 − 1.68
10 16 52
5 − 0 28
15 16 24 GMT.
5921.6364
5921.4986
0.1378

June 20, 1902

~~IV~~ V

Above

272.2
10 31 55 323.0 50.8
93.4 46.4
139.8 97.2 – 1.73

274.2 –177
34 50 321.2 47.0
93.6 46.8
140.4 93.8 – 1.81

Below Mean = –1.91

186.6
37 45 227.0 40.4
4.7 44.3
49.2 84.7 – 206

183.6 – 205
10 39 55 230.4 46.8
24 25 7.5 38.5
~~45.5~~ 85.3 – 204
10 38 06 46.0
5 – 0 28
15 37 38 G.M.T.
5921.6511
5921.4986
0.1525

June 20, 1902

Below — VI

187.2
10 54 06 226.~~8~~6 — 39.4
4.6 — 45.0
49.6 — 84.4 — 2.07

185.2
10 56 42 2~~2~~30.2 — 45.0 — 2.07
~~4~~7.5 — 39.3
46.8 — 84.3 — 2.07

Above — Mean = — 1.82

92.9
10 59 55 141.0 — 48.1
267.2 — 57.9
325.1 — 106.0 — 1.51

90.2 — 1.58
11 01 50 144.3 — 54.1
32 33 274.6 — 46.3
11 58 08 320.~~6~~9 — 100.4 — 1.65
5 - 0 29
10 57 39 G.M.T.
5921.6650+
5921.4986
+0.1664

June 20, 1902

Above VII

93.0
11 11 25 142.8 49.8
276.4 46.7
323.1 96.5 − 1.74

97.3
15 35 143.6 51.3 − 1.74
276.0 45.4
321.4 96.7 − 174

Below Mean = −1.86

8.8
17 50 47.7 38.9
183.4 48.7
232.1 87.6 − 1.98

3.6 − 1.99
11 19 45 51.9 48.3
188.4 38.7
24 35 227.1 87.0 − 200

11 16 09 Heavy clouds now coming over this region
5 −0 29 P.A. 60.3 Ver B.
16 15 40 H.A. 2:38 West
5921.6776 Dec. −8.3
5921.4986 S.T. 17.31
+0.1790 Sk Wh. 45B 05.5

June 20, 1902

BOC 1182
11 37 28.8

Ball 163
11 37 00

Ledgered.

Plotted.

Posted.

June 23, 1902 (Monday)

BBC 1182 Ball 103
7 37 25.0 7 35 00

Cs watch = 5 secs fast at 7.36

β Lyrae wOfz.
Phot T. 18 45 +33.2 6" cap
14 10
4 35

Above 7 25 Cs watch used.

190.9 <var dis.
8 05.8 222.8 31.9 ✓
10.5 32.8
43.3 64.7 − 2.69
190.0
223.2 33.2 −2.68
11.2 32.1
43.3 65.3 − 2.67
Below mean = − 2.42
96.5
136.8 40.3
276.6 41.5
318.1 81.8 − 2.14

96.3 −2.16
8 13.8 137.3 41.0
19.6 276.7 40.0
8 09.8 316.7 81.0 − 2.17
5 − 0.1
13 09.7 G.M.T.
5 24.549
5 19.220

June 23, 1902

Same again

Below

97.3
8 15.8 137.3 40.0
276.8 40.2
317.0 80.2 - 2.19

97.4 - 2.18
137.5 40.1
276.2 41.0
317.2 81.1 - 2.16

Above Mean = - 2.43

11.0
43.2 32.2
190.4 32.7
223.1 64.9 - 2.68

23.0 11.0 - 2.68
A ~~18.0~~ 42.2 31.2
388 190.2 33.8
8 19.4 224.0 65.0 - 2.68
5-0-1 P.A. = 12.9 Vu. B.
13 19.3 HA = -3:52 East
5924.555 Dec. = + 32.9
5919.220 S.T. = 14:52
5.335 Spwl. = { -0.5 a
+0.5 B
+1.1 C

June 23, 1902.

R Leonis Minoris W Obs
~~Pt~~ Selection of 14th Magn. Stands.

9 31 +35.8
15 01
5 30

Twilight not yet past.
Moon rising, impossible to get
14th magns tonight, the 14ths already
selected 'invisible'

S Cass W Obs

25 27 +72.2
15 37
9 50
2 10

✓

9 35 U 3.5 var 1 w

13.55
13.46
13.50

Phot ~~R~~T χ Cygni W Obs

19 45 +32.6
16 15
3 30
8 30

C's watch used

June 23, 1902

X Cygni.

Above

~~87.2 < comp. * dis~~

~~1013.4 144.8~~ ~~57.6~~ Troubled by clouds. Reject. New start. below.

~~265.8 clouds~~ ~~63.8~~

~~329.6~~ ~~121.4~~ +

82.0 <

10 18.0 149.8 67.8

267.2 57.6

324.8 125.4 + 1.08

~~Below~~

88.8 +1.10

145.7 56.9

264.5 clouds 66.3

330.8 123.2 + 1.12

Below Mean = + 1.34

357.8

54.8 57.0

184.4 46.9

231.3 103.9 + 1.56

3.1 +1.58

10 30.0 50.8 47.7

48.0 180.2 55.1

10 24.0 235.3 102.8 + 1.59

5 – 0.1

15 23.9 G.M.T.

5924.642

June 23, 1902

Plane Again

Below

358.0

10 35.4 58.2 600

184.6 46.2

230.8 106.2 + 151

4.0

50.7 46.7 +1.52

148.8 58.3

237.1 105.0 + 154

Above Mean = +1.32

264.1

329.6 65.5

87.7 56.4

144.1 121.9 + 115

268.3 + 1.12

10 40.6 324.8 56.5

82.0 68.4

10 38.0 150.4 124.9 + 1.09

5 - 0.1

15 37.9 PA = 25.6 Var B Final Mean = +1.33

5924.651 HA = -3.38 East

Dec. = +32.4

S.T. = 17.11

Spark {4.5 a
{5.5 B
{6.1 C

June 23, 1902

U Camelop. Wells

Phot R. 3 33 +62.9

15 10

17 37

11 23

27 33 3 33

17 18 17 23

19 15 13 56

1 45 12 00 C' watch used

Above 1 50

3,5 < var dis

11 14.0 56,6 53.1

179.9 58.5

238.4 111.6 − 1.38

358.9

58.3 59.4 − 1.40

183.5 50.8

234.3 110.2 − 1.41

Below

271.8 Mean = − 1.36

325.2

88.1 53.4

147.9 59.8

113.2 − 1.34

267.2

11 20.0 330.5 63.3 − 1.32

11 17.0 92.0 52.1

5 − 0.1 144.1 115.4 − 1.29

16 16.9 G.M.T.

5924 678

June 23, 1902

Same Again.

Below

271.4
11 22.4 326.4 55.0
88.2 61.1
149.3 116.3 − 1.27

267.3 − 1.30
329.1 61.8
91.1 52.4
143.5 114.2 − 1.32

Above Mean = − 1.34
182.6
232.6 50.0
356.4 62.2
58.6 112.2 − 1.37

177.0 − 1.37
11 28.6 239.1 62.1
~~3~~ 1.8 50.0
11 25.5 51.8 112.1 − 1.37
5 − 0.1 PA = 316.6 Var B.
~~[illegible]~~
16 25.4
5924.684 Dec. = + 62.1
S.T. = 17:52

June 23. 1902:

B. & C. 11 A 2.			Ballou 103.		
12	8	24.5	12	6	0.0
	9	24.5		7	0.0

Ec. Jup. III Re. Phot R
W. Obs.
Colson Recorder.

Compared with ~~sat. on~~ with more remote of two sats. on following side = sat II.

Limit of visibility

	12	47	55		192.1	
12 48 16		48	09	31.9	224.0	
−2 20			24	29.0	193.5	+2.8
12 45 56		48	38	30.4	222.5	
57 40	12	59	58	Seen		
59	13	00	17	Seen		
58 07			25	35.0	189.5	2.5
21			39	34.3	224.5	2.6
36			54	37.8	198.2	2.3
50		01	08	41.0	228.0	2.1
59 09			27	42.1	187.0	2.1
31			49	46.0	229.1	1.9
43		02	01	49.2	183.1	+ 1.7

June 23. 1902

1259 51		19	50.0	232.3	+1.7
13 00 02		20	50.7	182.3	1.6
18		36	53.2	233.0	1.5
40		58	53.5	179.8	1.5
52 13	03	10	54.3	233.3	1.5
01 05		23	55.1	~~179.0~~	1.4
16		34		234.1	
		55		180.1	
13 04 13	04	07	53.4	233.5	
-2 18		20	58.1 55.8	176.0	1.4
13 01 55		30		234.1	
	05	02		180.9	
13 05 18		11	59.0	239.9	1.2
-2 17		21	58.8 58.9	179.8	
13 03 01		~~30~~		~~238.1~~	
		37		238.6	
		~~51~~		~~171.2~~	
1306 30	06	02		178.8	
2 17		21	59.2	238.0	
13 04 13		39	64.0	176.0	1.1
		56	61.6	240.0	
13 07 54	07	~~15~~			
2 17		32		175.9	
13 05 37		46	65.9	241.8	
	08	02	71.4	170.6	0.8
		15	68.8	242.0	
1309 03		42		172.0	
2 17		58	68.5	240.5	0.8
13 06 46	09	10	70.1 69.3	169.9	

June 23. 1902

	13	09	23		240.0	
13 10 12			47		173.0	
-2 17			57	700	24~~1~~3.0	
13 07 55		10	26	69.9	174.0	0.8
			40	70.0	243.9	
13 11 16			54		~~70~~ 169.6	
2 17		11	07	74.3	243.9	
13 08 59			23	72.9	169.9	0.6
			42	73.6	242.8	
13 12 26			57		172.0	
-2 16		12	08	70.0	242.0	
13 10 10			43	65.9	174.1	0.9
			56	68.0	240.0	
13 33		13	15		173.0	
2 16			27	69.1	242.1	0.8
13 11 17			39	68.5	174.5	
			50	68.8	243.0	
14 16		14	00		174.4	
2 16			11	695	243.9	0.8
13 12 00			22	68.6	174.6	
			31	69.0	243.2	
			50		172.2	
15 06		15	01	70.8	243.0	0.7
2 16			12	71.5	172.5	
13 12 50			23	71.2	244.0	
			38		172.5	
13 15 56			48	71.1	243.6	
2 16		16	05	70.2	172.2	0.7
13 13 40			14	70.6	242.4	

June 23. 1902

13 16 36		20		171.7	
-2 16		31	73.3	245.0	2
13 14 20		43	72.5	172.5	
		51	72.9	245.0	0.7
17 23	13 17	00		171.0	
2 16		15	71.5	242.5	3
15 07		29	68.5	173.5	0.8
		50	70.0	242.0	
18 21	18	03		169.5	
2 16		13	72.9	242.4	0.6
16 05		24	74.0	170.5	(4
		44	73.4	244.5	
		57		171.0	
19 30	19	16	73.0	244.0	0.7
2 16		47	71.5	172.0	5
17 14		58	72.2	24~~2~~3.5	
	20	15		172.0	
22 28 5	20	27	70.8	242.8	
2 16 5	24	26	68.5	172.0	0.8 6
20 1~~2~~3		43	69.6	240.5	
25 10		52		173.1	
2 1~~6~~5	25	03	68.9	242.0	0.8
22 5~~4~~5		12	68.4	173.1	7
		22	68.6	241.5	
13 25 55		40		173.2	
2 1~~6~~5		49	68.9	242.1	
13 23 ~~39~~ 40		58	70.0	172.5	0.8 6
	26	14	69.4	242.5	
		25		173.0	

June 23. 1902

13 26 41
- 2 15
13 24 26

13 ~~25 56~~
- 2 15
13 ~~23~~ 41

	34	68.5	241.5
	46	69.5	172.5 9
26	59	69.0 +0.8	242.0

Sat IV reappeared very close to sat. I and gradually approached it still more closely. Comparison sat. placed symmetically with respect to sat I. ~~th~~ The seeing, however, being somewhat blurry and sat sat IV being so close ~~to sat~~ I that settings could not be made quite a acurately as usual, They were, however, taken somewhat slowly and with as much care as possible. At end of eclipse sat IV almost joins sat I.

B. + C. 1162.
13 37 13.5
38 13.0

Ballou 103.
13 35 0.0
36 0.0

June 23, 1902.

B & L. 1182			Ballou 103.		
14	20	2.5	14	18	0.0
	21	2.0		19	0.0.

~~Dis.~~ Jup. Sat I. Phot. R.

W. Obs.
Colson. Recorder

Compared with nearer of two sats on following side = Sat III.

14	35	36		164.9	Reject
		54		247.2	
	36	18		165.3	
		36		247.1	
		47		167.5	
	37				
	38	26		167.8	
		43	80.2	248.0	1
		58	81.2	166.0	
	39	15	80.7	247.2	+0.4
		30		168.5	
		42	79.8	248.3	+0.4
			79.8		
			79.8		

14 38 50
-1 58
14 36 52

14 39 52
-1 58
14 37 54

June 23. 1902

	14 40	00		167.5	
		17		248.3	2
14 40 51		31		169.0	
−1 58		44	80.0	249.0	+0.4
14 38 53		57	79.4	167.9	3
	41	13	79.7	247.3	
42 20	42	02		~~170.1~~ 169.1	
−1 58		15	76.8	245.9	
14 40 22		25	75.5	171.0	+0.5 4
		39	76.2	246.5	
		50		171.9	
43 10	43	02	73.9	245.8	+0.6
−1 57		13	74.2	170.9	5
14 41 13		34	74.0	245.1	
		46		169.0	
44 15	44	05	77.5	246.5	+0.5
−1 57		22	79.0	169.0	6
14 42 18		46	78.2	248.0	
45 34	45	06		168.0	
−1 57		27	76.0	244.0	+0.6
14 43 37		44	71.5	171.2	7
		58	73.8	242.7	
44 16	46	13	65.4	~~174.8~~ 175.0	+1.0
44 31		28	61.4	240.4	1.1
43		40	56.0	179.0	1.4
55		52	57.2	235.0	1.6
45 08	47	05	46.2	183.8	1.9
17		14	61.0	230.0	2.1

June 23. 1902

14 45 27	14	47	24		35.1	189.0	2.5
45 36			33	31.1	~~30.1~~	224.1	2.8
45 50			47	23.8	~~62~~	193.0	3.4
46 0~~6~~7		48	03			216.8	

Not seen later

Limit of visibility

14 48 50	14	48	35		197.0	
−1 56			45	19.9	216.9	3.9
14 46 54			54	18.5	198.0	
		49	04	19.2	216.5	

When W. began prepared to observe this last eclipse it was found that sats I + IV which were very close to each other in the previous eclipse were exactly superposed upon each other so that only one object was visible. When observations of this eclipse were begun ~~they began~~ two sats ~~[illegible]~~ were visible although in juxta-position. They separated very slightly during the progress of the eclipse

Settings made with as much

June 23. 1902

Care as possible and a little slowly but troubled throughout by the closeness of the two sets.

B. + C. 1182			Ballou 103		
15	12	51.5	15	11	0.0
	13	51.4		12	0.0

Ledgered
Plotted
Posted

June 24, 1902 (Tuesday)

BOC 1182 Ball 103
7 31 52.5 7 30 08.

C's ~~watch~~ = 12 sec. fast at 7: 31

β Lyrae 6" caf.
Phot T. 18 45 +33.2 W Obs.
14 15
4 30 C's watch used
7 30

Above
11.6 < var. dis
8 07.0 44.7 33.1
190.1 33.7
223.8 66.8 − 2.61
11.3
44.2 32.9 − 2.60
189.3 34.5
223.8 67.4 − 2.59
Below Mean = − 2.33
275.0
317.4 42.4
97.0 41.7
138.7 84.1 − 2.08

276.2 − 2:06
8 15.6 318.7 42,5 5925.549
95.8 43,2 5919.220
139.0 85,7 − 2.03 +6.329

8 11.3
5 − 0.2
13 11.1
5

June 24, 1902

Same Again

Below

274.9
8 18.0 317.7 43.8
97.8 43.5
141.3 86.3 — 2.01

274.2 — 2.02
317.6 43.4
96.7 42.0
138.7 85.4 — 2.04

Above Mean = — 2.30 —

189.2
224.6 35.4
10.8 32.4
43.2 67.8 — 2.58 —

190.2 — 2.58
8 27.4 224.0 33.8
45.4 10.3 34.4
8 22.7 44.7 ~~67.9~~ — 2.57
5 — 0.2
13 22.5 HA = 3.44 East 68.2 Final Mean = — 2.32
S.T. = 15.00
5925.558 Dec. = + 33.1
5919.220
+ 6.338 PA = 13.0 Ver B
Sp. Wh. = { -0.5 a
+0.5 B
+1.1 C

June 24, 1902

R Leo. min. WOb.

9 31 +35 f
15 11
5 40
14th magn.

~~9 15 45~~

~~9 21 38.4~~
~~21 44.0~~

~~22~~
About 11 secs. fol. star s and a little over 1/3 ~~the~~ dist, from s to var in dec. there seems to be a faint star Call ~~this~~ No 4

~~About 10 sec. fol var. and about 4.0' South possibly a good star prov. called No 5~~

It looks as if there was a star about 2/3 the way from comp ✱ s to ✱ t and nearly in line. Possibly this if certainly real would be No. 5
WOb.

9 20 Est of Var = s 4 var, 1 s 11.39
11.48
11.44

9 50 Clouds

June 24, 1902

Phot R Σ 2594 Wells

19 48 – 8.6
16 18
3 30 ~~C's watch~~
8 30

PQ 170°
Dist 0.5±
Magn. 5.2 – 6.2

9 57 Clouds
9 58 Stars gone

10 00 Clouds thick everywhere

10 10 Clouds thick no stars visible

10 35 Clouds thick

80.3 ∠ for dis

10 55 154.2

257.8

338.0

77.4

154.2

264.3

331.7

Reverse

353.2

58.6

171.1

246.12

351.2

64.2

178.4

240.9

592.5.

73.9
80.2
154.1 – 0.50

– 0.60

96.8
67.4
144.2 – 0.69

mean = – 0.68

65.4
75.1
140.5 – 0.76

– 0.76 This latter in a temporary gap.

73.0
67.5
140.5 0.76

Cloudier again at 11 00

L. P. P.

10 59.0

10 57.0
5 – 0.2
15 56.8

June 26, 1902 (Thursday)

Ball 1.03 BOC 11.82
7 30 0.0 7 32 09.0

C's watch = 3 sec. slow at 7.30

β Lyrae W Obs.
Phot T. 18 45 +33.2 6" cap
14 15
4 30
7 30

7 48 Clouds
Above
190.1 < var dis
7 59.0 223.1 clouds. 33.0
9.18 35.4
45.2 68.4 −2.56
189.1
8 10.0 225.3 36.2 −2.54
10.6 33.7
44.3 69.9 −2.51
Below mean = −2.36
96.5 278.5
8 41.0 138.6 stars dim. 316.3 37.8
276.8 cloudy 95.1 44.3
31 139.4 82.1 −2.13
276.1
8 44.0 319.1 −2.18
99.1 43.0
134.5 35.4
78.4 −2.24

June 26, 1902

Same Again

Below

279.6
8 46.4 315.6 — 36.0
96.1 — 43.9
140.0 — 79.9 — 2.20

274.1
318.4 — 44.3 — 2.14
98.3 — 39.7
138.0 — 84.0 — 2.07

Mean = −2.34

Above

191.2
224.3 — 33.1
7.2 — 38.0
45.2 — 71.1 — 2.47

— 2.55

189.3
P 55.0 224.5 — 35.2
10.9 — 31.2
42.1 — 66.4 — 2.63

Reject: taken ~~through~~ clouds continually passing images poor & stars alternatedly varying. Concluded to reject before finishing.

Final mean = −2.30

V.A. = 13.0 Var. VB.
HA = −3.11 East
Dec. = +33.0
S.T. = 15.34
SpWt = −0.5 Q, +0.5 VB, +1.1 C,

June 26, 1902

S Virg. W Obs

13 27 +67

15 57

2 30

Sky all thick west of meridian

9 25 Hazy everywhere no chance for 14th mag

9 28. Too cloudy for faint work anyway

Phot T. R. Urs Min W Obs

16 34 +72.9

16 00

34

11 26

No stars visible in finder

Abandoned.

Σ 57' W Obs

Phot R. 21 32 +66.2

16 07

PA 30° 5 25

Dist 3' ± 6 35

Magns. 6.3-6.4

see next page

June 26, 1902

Σ 57' W. Obs.

see prev. page

C̊s. watch

Right + below. A.

167.4 < br. dis

9 41 258.1 83.7

343.2 88.6

71.8 172.3 − 0.14

162.0 stars gone

255.8 93.8 − 0.14

346.3 78.9

65.2 172.7 − 0.14

Reversed. Left + Above B. Mean = − 0.14

77.6 clouds thicker

158.8 81.2

251.4 95.8

347.2 177.0 − 0.06

72.0

9 51 165.7 clds thicker 93.7 − 0.08

9 46 258.8 stars gone 80.6

5 339.4 174.3 − 0.11

14.8 G.M.T.

5927

June 26, 1902

H3. 4101 w OG

Phot I

22 0 +44.2
16 30
5 30
6 30

10 00 Cloudy

40 41.5
41 28.0

~~Right~~
263.8
10 46.0 331.9 < comp * dis
79.5
157.4

258.6
335.8
84.4
151.1
~~Below~~
~~Left~~
171.7
240.2
358.4
54.6

178.7
10 54.8 284.2
352.2
10 50.4 61.3
5
15 50.4

22 0 +44.2
16 45
5 15
6 45 Chr watch used

68.1
77.9
146.0 + 0.65

+ 0.68
77.2
66.7
143.9 + 0.70

mean = + 0.88

68.5
56.2
124.7 + 1.09

55.5 + 1.09
69.1
124.6 + 1.09

5927.6600
5900.2014
+ 27.4586

June 26, 1902

Same Again

Left

174.4

10 57.2 243.0 Clouds   68.6

358.1   57.6

55.7   126.2 + 1.06

178.5   + 1.06

234.2   55.7

352.3   70.1

62.4   125.8 + 1.07

Right   Mean = −0.82

78.4

156.3   77.9

262.4   71.3

333.7   149.2 + 0.59

Sat   + 0.59

11 05.4 151.7   70.9

12 2.6 254.1   78.1 + 0.59

11 01.3 335.5   149.0

5

16 01.3   Final Mean = −0.815

5927.6676   P.A. = 324.0 Vert B

5900.2014   HA = − 4:53 East

+27.4662   S.T. = 18:00

Dec = +43 8

Sp Wh = 6.5 B ~~0~~ 7.5 C

June 26, 1902

Same again..

Clouds B&C now used on this.

~~260.4~~

11 26 08 ~~333.4~~ ~~$7^{3.0}$~~

~~7 .~~

~~1 .~~ ~~+~~

~~2 .~~

~~3 .~~

.

1 .

11 30

(June 27, 1902 Friday)

B D C 1182 ~~B. 394~~

7 39 32.0 7 3~~2~~7 00

C's watch = ~~8~~ 4 sec. slow at 7:37

Phot T. β Lyrae W.C.L.

18 45 +33.2 6" cap

14 20

4 25

7 35

Clouds

Above C's watch

11-3 wards

8 04.4	43.0	31.7	
	191.2	32.2	
	223.4	63.9	− 2.72
	10.6		
	43.5	32.9	− 2.72
	190.5	30.9	
	221.4	63.8	− 2.72
	Below		
	276.8		Mean = −2.49
	315.4	38.6	
	98.2	39.9	− 2.24
	138.1	78.5	
	277.3		− 2.26
8 13.6	315.~~4~~2	37.9	
	98.2	38.8	− 2.29
	137.0	76.7	

June 27, 1902

Same again

Below

277.6
8 16.0 315.6 38.0
98.6 38.1
~~128~~ 76.1 — 2.31
136.7
276.1 — 2.27
316.6 40.5
98.2 38.4
136.6 78.9 — 2.23

Above Mean = — 2.48
192.1
224.0 31.9
10.2 32.3
42.5 64.2 — 2.71

190.6 — 2.68
8 26.6 223.4 32.8
10.3 32.7
43.0 65.5 — 2.66

June 27, 1902

Same Again

Above
191.8
8 33.0 221.8 30.0
10.31 3.
43.

The previous groups on β Lyrae were merely experimental. There is an irregular patch of darkness right in the centre of the field, so that it is not at all safe to measure in the center of the field so delicate an object, especially as the images are seen to vary relatively when slightly moved. Nearly all the previous measurements were taken out at one side of the field, which is not at all safe for a definite result ~~safe for each~~ and considered as only experimental.

June 27, 1902

R Leonis Main w Obs.

9 31 +35.9
15 21
5 50

T Virginis

12 8 -6.5 12 7 -4.9
15 40
3 33

15 46
3 38

9 00 clouds

12 8 -6.5
16 12
4 4

9 35 Clouds

R Urs. Maj w Obs.

10 32 +69.9
16 18
5 46

9 40 clouds

June 27, 1902

Σ 1657 W Obs.

Phot R. 12 29 +19.1
16 21
3 52

Clouds. Abandoned clds thick.

β Scorpii W Obs.

Pa ~~340~~
Dist
16 00 −19.5
16 30
0 30

ν Scorpii W Obs.

Phot R.
Pa = 340
Dist = 0.7′±
magn = 4.0 − 7.0

97.2 ∠ fr. dis
10.0 138.0 clds thick. 40.8
278.6 43.6
322.2 84.4 − 2.07

99.2 clds.
137.6 38.4 − 2.11
275.9 43.2
319.1 81.6 − 2.15

Reversed OVER

June 27, 1902

√ δ Scorpii cont.

7.6
47.8 40.2
187.3 36.5
223.8 76.7 −2.29

~~201~~
9.6 −2.20
10 10 47.6 38.0
185.0 45.3
15.1 GMT 239.3 83.3 −2.10
5928.

Mean = −2.16

Measured with much difficulty through clouds but extreme care exercised

Same again

8.6
10 20 44.2
187.3
228.2

7.3
47.3
186.4 clouds thick
227.4 stars gone

Reject this partial group. ~~troubled~~ by clouds impossible to finish and Conditions when sec. group was started was better than in first but became cloudy

see next page

unused
10 30 all cloudy

June 27, 1902

45. 4101 W Obs

22 0 +44.2
17 10
450
2 10

10 38 Clouds thick no stars visible bec
és watch

Right
8 3.3 < comp + dis
~~10 530~~ . clouds
. stars gone

Right
83.8 < comp + dis
11 16.0 152.1 68.3
260.4 72.6
333.0 140.9 + 0.76
81.3
154.6 73.3 + 0.76
264.1 67.2
331.3 140.5 + 0.76
Left Mean = +.090
359.4
55.5 56.1
72.1
170.8 128.2 + 1.02
242.9
350.6 71.4 +1.04
11 26.0 62.0
181.0 55.1
11 21.0 230.1 126.5 + 1.05
16 20.9 G.m.T.

5928.6812
5900.2013
28.4799

June 27, 1902

Same Again

~~Left~~

357.2
11 28.4 56.4 59.2
170.3 71.6
241.9 130.8 + 0.96

350.0
63.9 73.9 + 0.96
177.0 57.3
234.3 131.2 + 0.95

Right

258.8
335.7 76.9
~~Right~~ 84.2 66.0 Mean = + 0.85
140.2 142.9 + 0.72

266.2 +0.74
11 38.0 328.8 62.6
11 33.2 78.4 78.8
5 - 0.1 ~~156.8~~ 157.2 141.4 + 0.75
16 33.1 G.M.T. P.A. 323.7 Ver B Final M = + 0.88
5928.6896 H.A. = +3 33 ~~8~~ Meas. made with extreme
5900. 2013 S.T. = 18:20 care, but troubled by slight
28.4883 Dec. = +43.8 cloudiness as a remainder
Sp Wh {63 B from floating clouds a
75 C short time previous Obs
~~thought to be~~ all right

L P.

[illegible] however, Sky looked pretty clear

was visible in tel. minute effect on the images

June 2~~7~~8 1902 (Saturday)

BDC 1182 — Ball 103
7 30 49.0 — 7 28 00

C's watch = 11 sec. fast at 7:29

42 I — WCObs.

Phot R. — 19 24 +24.5
14 34
4 50
7 10

P.A. 35°
Dist 6.6±
Magns 4.8 − 5.7 | Dist between components too great for reversal of images with photometer.

8 10

Phot R. — Σ 43' — WObs

19 26 +27.7
14 50
4 36
7 24

P.A.=65°
Dist= 0.6±
Magns. 3.0 − 5.3

C's watch used.

see next page

June 28, 1902

Σ 43' Webb.

see bottom of previous page

Right

~~279.2~~ < br. dis

~~8~~ 18 ~~315.1~~

~~92.5~~ Reject

~~1~~

Right focus ~~bettered~~

273.1 < br. dis

8 21 319.6

98.8

139.1

465

403

86.8 = 2.00

~~Left~~

276.7

316.8

94.6

141.8

40.1 - 2.00

472

87.3 - 1.99

Reversed

185.7

Mean - 2.10

227.8

421

8.7

374

46.1

79.5 - 2.21

187.0

2.20

8 29 224.8

378

8 25 41

621 - 2.20

5 46.2

799

13.14

Images somewhat flaring and rather difficult

June 28, 1902

for this reason and also from the strongly marked difference of colour in the two objects, but extreme care exercised

R Leonis Min 20 Obs.

9 31 +35.9
15 21
5 50

Clouds becoming thick in this
9 08 region no stars visible
Abandoned on account of clouds.

R Camelop 20 Obs.

15 10 +84.5
15 55
0 45

clouds.

15 0 +8 3.0
16 04
1 04

S Cygni 20 Obs

20 8 +57.2
16 16
3 52
8 08

June 28, 1902

S Cygni W Obs

S Cygni ~~thought to be certainly seen~~ s seen & t faintly seen x

9 52 s 2, 3 t 14.08
14.01
14.04

sky a little hazy in this region

V Cygni W Obs

20 63 +47.3
16 33
4 10
7 50

13.18
13.07
10 12 t 1, 4 u 13.13

R Delphini W Obs

20 8
16 55
3 13
8 47

20 10 +8.5
16 54
3 16
8 44

11.99
11.93
q 1.5, 3.5 r 11.96

sky hazy

June 28, 1902

R Cass. Wells.

23 52 + 49.7
17 17
6 35
5 25

1048 w 2, 2 X

13.01
12.93
12.97

43.4101

Wells
Phot T.
C's watch.

22 00 + 44.2
17 30
4 30
5 30

Right

257.5 < comp * dis
11 00.0 336.2
85.0
153.6
262.3
330.7
76.4
150.0
Left
173.3
240.3
0.6
55.6
179.1
1108.6 235.2
11 04.3
5 - 0.2 353.1
1604.1 67.0

78.7
68.6
147.3 + 0.63

68.4 + 0.62
79.6
148.0 + 0.61

67.0 mean + 0.87
55.0
122.0 + 1.15

56.1 + 1.12
68.9
125.0 + 1.08

59296695
5500-2012
+ 2946683

June 28, 1902

Same Again

Left

172.6 | 67.8

11 11.6 | 240.4

359.4 | 56.6

56.0 | 124.4

+ 1.10

178.8

235.5 | 56.7 + 1.10

354.4 | 67.2

61.6 | 123.9 + 1.11

Right. | Mean = + 0.85

~~155.3~~

~~256.~~

264.4

334.0 | 69.6

77.2 | 79.4

156.6 | 149.0 + 0.59

256.0

11 22.0 | 337.6 | 81.6 + 0.60

33.6 | 83.6 | 67.1

11 16.8

5 — 0.2 | 150.7 | 148.7 + 0.60

16 16.6 | P.A = 323.9 Ver B | ~~Final~~ Mean +.086

5929.6782 | H.A. = − 3:48 East

5900.2012 | Dec. = +43.8

29.4770 | S.T. = 18:08

11 35 | Sp. Wh = 6583~~0~~7.5 C

L. V. P.

June 29. 1902 (Sunday)

~~+43° 4101.~~ ~~W. obs.~~

B + C. 11 f 2.
10 41 52.3
42 52.0

B. 39 F.
10 39 0.0
40 0.0

Var. +43° 4101 W. obs.
22 0 +44.2
17 30
−4 30
7 30

Index to right and above
268.0 57.0
11 16.1 325.0
[83.0] 85.0 68.1
153.1 125.1 1.08 ✓

1.13 ✓

[263.9] 264.2
11 19.9 329.1 64.9
89.2 55.9 1.18 ✓.
145.1 120.8

Index to left and below
182.3
11 23.0 230.1 47.8
[358.4] 359.9 55.2
55.1 103.0 1.58 ✓

1.57 ✓

Sun, June 29, 1902

[177.3] 178.2

11 25.5 236.5 58.3

855 3.8

11 21.4 57.9 48.1

5 -2.8 106.4 1.50

16 18.6 mean +1.34

5930.6796 Same as last

5900.2012

+30.4784

[183.0] 182.1

11 28.1 232.2 50.1

357.5 58.4

55.9 108.5 1.45

178.1 58.8 1.46

11 30.4 236.9

2.9 48.4 1.48

51.3 107.2

Index to right and above

[89.9] 89.5 55.7

11 33.5 145.2 1.14

[261.0] 262.2 66.9

329.1 122.6

1.15

82.0 69.0

11 35.9 151.0 1.16

1279 270.7 52.5

11 32.0 323.2 121.5

5 -2.8

mean +1.32

16 29.2 G.M.T. Gen. mean +1.33

5930.68~~7~~69

5900.2012

+30.4857

Sun. June 29. 1902.

S.T 18 35
H.A. 8 38
Dec. +43.9

Position angle		323.9
Sproket wheel	b	6.5
" "	c	7.5

B. + C. 1182.			B. 394.		
12	0	49.5	11	58	0.0
	1	49.2		59	0.0

L. P. P.

July 1, 1902 (Tuesday)

B. 394   DOC II 82

7 30 00   ) 32 55.1

C's watch = 9 sec. slow at 7.31

Prisms to photometer T cleaned somewhat before ~~&~~ beginning work, but will clean more thoroughly some other day

Phot T.   β Lyrae   w Ob

18 45   +33.2
14 45
C's watch med. 4 00
8 00

13 06.0 G.M.T.
5932.546
5932.136
+ 0.410

Above
6.3 < var dis

8 01.4   48.2   41.9
187.0   41.9
228.9   83.8   − 2.08
4.8   − 2.04

8 04.6   48.6   43.8
186.0   43.0
229.0   86.8 − 200
Below   mean = − 177
272.0

8 07.2   323.2   51.2
91.0   53.6
144.6   104.8   − 1.54
268.7

8 09.8   324.3   55.6   − 1.50
90.9   52.7
8 23.0
8 05.8   143.6   108.3   − 146

July 1, 1902

Same again

Below

11.6 271.8
~~12.6~~ 322.8 51.0
91.3 52.9
14~~4~~2 105.9 − 1.56 ✓

269.5 − 1.52 ✓
13.4 323.9 54.4
90.8 53.0 ✓
14~~3~~.8 107.4 − 1.48

Above Mean = − 1.78 ✓
185.7
16.8 227.5 41.8
5.0 43.1 ✓
48.1 84.9 − 2.05 ✓

186.0
18.8 229.0 43.0 − 2.04 ✓
~~8~~ 20.6 5.5 42.7
8 15.2 48.2 85.7 − 2.03 ✓
5 + 0.2

13 15.4 P.A. = 12.5 Var B
5932.552 H.A. = −3:23
5932.136 S.T. = 15:25
0.416 Dec. = +33.1
Sp. Wh. = +0.5 a
+0.5 B
+1.1 C

Final mean = −1.78

~~Images~~ Wind NE. somewhat sudden clearing. images not quite ~~right~~ sharp, but extreme care exercised.

July 1, 1902

T Virginis Wells

12 7 -5.1

15 37

3 30

Too much fog & bad atmospheric conditions to see even Hagen's faint ~~charts~~ stars

S Virginis Wells

13 25 -5.5

16 10

2 45

Too much fog and bad atmospheric conditions to see even Hagen's faint stars

Phot T. 43.H101 Wells

22 0 +44.2

16 25

5 35

6 25

see next page

July 1, 1902

43.H01 Wells

BOC used.

Right

-9 82.6 <comp x dis

~~10 44~~ 10 153.2 70.6

266.7 60.7

327.4 131.3 + 0.95

87.0 + 0.92

47 20 149.3 62.3

259.7 72.1

331.8 134.4 + 0.89

Left

Mean = + 0.98

352.2

50 40 60.6 68.4

177.2 59.2

236.4 127.6 + 1.03

359.6

~~9 56 55~~ 56.6 57.0 + 1.04

199 05 174.2 68.1

9 49 46 242.3 125.1 + 1.06

5 - 2 55

14 46 51 G.M.T.

5932.6159

5931.5051

+1.1108

July 1, 1902

Name Again

Left

353.2
9 59 30 61.1 '67.9
176.4 59.7
236.1 126.6 + 1,05

358.1
10 01 55 54.9 56.8 +1.07
173.5 68.0
241.5 124.8 + 1.09

Right
261.4 Mean = +1.00
08 20 332.7 71.3
85.9 60.7
146.6 132.0 + 0.94

266.3
10 11 15 326.9 60.6 + 0.93
11 00 81.0 72.4
10 02 45 153.4 133.0 + 0.92
5 - 2 55 PA = 323.5 Ver B
14 59 50 HA = - 4:47 Final m = +1.99
5932 6249 S.T = 17:07
5931 5051 Dec = +4.39
+1.1198 St Wh = 6.5 B
7.5 C

July 4 1902

R Scorpii Wells

16 11 − 22.7
17 16
1 00

Selection of 14th magns.

47 — 40
27

42 — 40
22

No 1 fol R by 40 sec. & is 0'.2 N of it.

16.0 — 19.5
35.5

52.5 — 20.5
13.0

39.0 20.5
59.5

No 2 fols R by 20.2 secs & is 2'.1 S of it.

54 — 48
42

58 — 48.5
46.5

No 3 fols R by 48.2 secs. & is 2'.2 N of it

33.0 25.5
58.5

11.0 25.0
36.0

No 4 fols R by 25.2 secs & is 3'.8 N of it.

27.0 — 27.5
54.5

~~10.5~~ 11.0 27.5
38.5

No 5 fols R by 27.5 secs & is 4'.6 N of it

July 1, 1902

S¹ Scorpii WCdb-

11 25 α 3 var 1.5 β

13.27
13.05
13.16

R Urs. Maj. WCdb-

10 32 +69.8
18 22
7 50

11 43 u 1 var 2.5 w

13.22
13.26
13.24

L. P.

July 3, 1902 (Wednesday)

BDC 1182 Bond 384

7 31 06.5 7 28 0.0

C's watch = 14 sec. slow at 7:29

Phot T. β Lyrae w Ob. 6" Cap

18 45 + 33 2

14 52

3 53

Above - 8 07

7.1 C's watch used

8 01.5 47.9 < var dis 40.8

186.6 40.8

~~227.4~~ 81.6 - 2.15

6.0

03.5 48.5 42.5 - 2.10

186.0 ~~4~~2.0

228.0 84.5 - 2.06

Below Mean = - 1.83

271.1

06.5 323.0 51.9

91.5 51.1

142.6 103.0 - 1.58

270.9 - ~~X~~1.56

8 08.5 323.~~8~~2 52.3

200 91.9 51.9

8 05.0 143.8 104.2 - 1.55

540.2

13 05.2

5933.545

5932.136

+1.409

July 2, 1902

Below

271.6

8 10.6 322.5 50.9*

91.8 52.6*

144.4 103.5* — 1.57*

271.1 51.5* — 1.58*

12.6 322.6 51.7*

92.3 103.2* — 1.58*

144.0

Above Mean = −1.82*

184.4

15.0 228.0 43.6*

40 39.6*

43.6 83.2* — 2.10*

184.2 — 2.06*

8 17.0 227.4 43.9*

15.2 4.5 43.2*

8 13.8* 47.7 86.4* — 2.01*

5 +0.2 PA 12.8 Ver B

13 14.0* HA − 3:26 East Final Mean = −1.82*

5933.551* S.T. 15:21

5932.136 Dec. +33!

+1.415* Sf Wh. −0.5 A

+0.5 B

+1.1 C

July 2 1902.

Phot T. U Sagittae WCG.

19 20 + 20.0

15 35

3 45

8 15

BOC used

Right

~~Above~~

69.3 < comp + dis

9 13 45 164.6

242.9

351.1

63.5

1650 171.1

253.4

343.2

~~Below~~ Left

~~338.4~~ more hazy

~~21 18~~ ~~16.5.6~~ clds thicker

16. stars dim.

stars varying radically impossible to proceed at present.

Reject above, impossible to finish group.

(over)

July 2, 1902

I

9 30 stars very faint

Left practically invisible in finder.

171.4 < comp * dis.

9 39 56 243.7 stars entirely gone in photometer.

343.3

69.0

72.3"

85.7"

158.0 +

164.7

43 40 24

3

~~Right~~ Mean

New start.

I

Left

170.9 < comp * dis.

10 07 30 242.6

358.2

Reject above

July 2, 1902

I

Left

356.4

10 13 47 57.0

171.3

242.2

351.3 clds thicker

16 37 62.4

178.8

Clouds thick impossible to finish

Reject above

Left New Start I

355.9

10 27 37 55.4

171.4

242.6

348.9

30 11 63.5

179.5 haze thicker

237.2 stars faint.

Right.

stars practically gone

Impossible to finish got

10 38 Reject above

(over)

July 2, 1902

Greatly troubled by clouds
throughout evening after setting
on U Sagittae. Impossible to do
anything satisfactorily or even to
obtain one complete group.
Clouds now thick everywhere
no stars visible evidently no
10 55 chance for anything further

Ledgered, Plotted, Posted.

July 3, 1902 Thursday

BOC 1182	B 39 C
7 38 15	7 35 00

C's watch = 38.5^s fast at 7:36

transfered to new book.
see new book.

30 52.5   27 00   +8.5