KG
11365
561

138

KG 11365.561

KG 11365.561

HARVARD
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MAY 8 1956

Wednesday May 20, 1903.

7 05 24.5   7 02 00

C's watch = 5s slow at 7:03

Nova Geminorum

Phot T. 6 36 + 29.1   W Obs.
11 20
4 44

C's Watch used 6 36 + 29.1
11 59
5 23

Left
357.4   2 comp * obs
8 17.5 97.6   100.2
187.9   79.1
267.0   179.3 + 0.01
6.7
87.5   80.8 + 0.02
177.9   97.8
275.7   178.6 + 0.03
Right
272.5   Mean = + 0.17
359.6   87.1
98.8   76.5
175.3   163.6 + 0.31
281.0   + 0.02
8 254 357.0   75.0
429 94.3   87.8
8 21.4
13 21.5 182.1   162.8 + 0.33
6255.

May 20, 1903

Same again.

Right

271.8

8 28.2 359.0 87.2

98.6 78.3

176.9 165.5 + 0.27

~~281.4~~ 270.9 + 0.30

~~359.4~~ 361.9 91.0

100.5 71.4

171.9 162.4 + 0.33

~~Left~~ Mean = + 0.13

185.8

266.9 81.1

356.0 100.4

96.4 181.5 − 0.03

178.5

177.3 − 0.04

8 39.0 274.9 97.6

67.7 2.2 85.2

8 33.6 87.4 182.8 * − 0.05

13 33.7 177.2

6255.

PA. ~~HA~~ = 57.8 Var 13

~~H~~A = + 6:14 Final M = + 0.15

S.T. = 0:50

Dec. = +29.9

Spacket { B 6.5
C 7.3

May 20, 1903

R Gem. Wdb.

6 56 6 + 22.9
13 06
6 10

9 20 t 0.5, H u

12.13
12.11
12.12

~~Plot f.~~ R Coronae Wdb

15 43 + 26.5
13 30
2 13
9 47

[illegible]

~~Left~~

102.0 ∠ radius

9 38.6 171.0 69.0
275.3 81.5
356.8 150.5 − 0.57

96.0 − 0.56
178.5 82.5
282.1 69.0
351.1 151.5 − 0.55

mean = − 0.35

Below
8.1 75.9
84.0 94.1
180.2 170.0 − 0.19
274.3

359.2 − 0.14
9 46.2 95.0 95.8
848 186.1 79.1
9 42.4 265.2 174.9 − 0.09
14 42.5
6255.

May 20, 1903

Name again.

Right.

8.1

9 48.6 84.9 76.8

181.5 91.4

272.9 168.2 − 0.22

359.4 − 0.18

93.7 94.3

188.2 78.1

266.3 172.4 − 0.14

Mean = − 0.33

~~Left~~

282.7

350.7 68.0

93.6 86.8

180.4 154.8 − 0.48

274.0 − 0.48

9 ~~10~~ 56.2 358.4 84.4

194.8 101.7 70.0

~~10~~ 9 52.4 171.7 154.4 − 0.49

14 ~~15~~ 52.5

6255.

P.A. 15 ~~38~~ [illegible] Final Mean = 0.34

H.A. − 1:37

Dec. + 28.6

S.T. 2:04

Sprocket = { B 3.5 / C 4.5

May 20, 1903

R Lyrae Wells.

6 50 +55.1
14 25
7 35

13.23
13.16
13.20

10 40 s 1, 3t

Rliot t. SS Cygni Wells.

21 34 +42.6
Co' Watch. 14 50
Above 6 44
1821 5 ~~1~~26
11 05.8 271.6 {Vardis. 89.5
3.7
88.2 84.5
188.8 174.0 − 0.11
265.8
1.0 77.0
93.4 92.4 − 0.16
169.4 − 0.20
Below
94.0 Mean = −0.16
176.0
268.7 79.0
361.9 93.2
172.2 − 0.15
90.3
11 14.8 182.8 92.5 − 0.16
20.6 276.2 78.8
11 10.3
16 10.4 355.0 171.3 −0.17
6255

~~R.A.~~
~~Dec~~
~~[illegible]~~
3:25

May 20, 1903

Nova again

Below

90.8

11 26.0 178.9 88.1

280.0 80.6

360.6 168.7 — 0.20

98.2 — 0.23

176.2 78.0

270.8 88.3

359.1 166.3 — 0.26

Above Mean = — 0.20

359.3

93.8 94.5

187.2 78.4

265.6 172.9 — 0.13

87.2 — 0.16

11 34.4 84.7 77.5

11 30.2 178.8 92.3

16 30.3 271.1 169.8 — 0.19

6255. P.a. = 58.0 Ver. B. Final Mean = — 0.18

HA = 5:51 East

Dec = +6 3.2 North

S.T. = 3:48

Sprocket { 3.5 B

11 50 4.5 C

May 21, 1903 (Thursday)

~~C's Watch = 10s fast 7:53~~

~~BAC 1182~~ ~~Ball 10 3~~

7 57 47.5 7 54 5.0

Nova Gem. Will.

~~Plot T.~~

C' Watch used. 6 36 +29.1

12 12

5 36

Left

4.6 < comp + dis.

δ 28.0 77.9 73.3

193.7 68.0

261.7 141.3 + 0.75

15.2

80.7 65.5 + 0.70

186.6 80.3

266.9 145.8 + 0.66

Right

282.2 Mean = + 0.80

355.6 73.4

107.4 59.2

166.6 132.6 + 0.92

287.0 0.90

δ 38.0 346.1 59.1

δ 33.0 101.6 75.2

13 328 176.8 134.3 + 0.89

6256.565

May 21, 1903

Same Again

Right

276.8

8 40.0 348.8 72.0

104.8 61.9

166.7 133.9 + 0.90

285.6 5 + 0.88

345.3 79.7

97.6 76.6

174.2 136.3 + 0.85

Left mean = + 0.72

190.6

264.2 73.6

4.4 82.8

87.2 156.4 + 0.45

E

186.3 + 0.56

8 50.0 264.0 77.7

8 45.0 10.6 68.2

13 45.8 78.8 145.9 + 0.66

6256. 572

P.A. 528 Volt Weighted Mean = + 0.78

H.A. 6:32 West

Dec. + 29.9 North

S.T. 1.08 B 65

Sprocket C 73

May 21, 1903

~~Same Again~~

In first group Nova well seen. In last group altitude quite low seeing at this altitude a little hazy & rather more unsteady. Observation in last group very difficult, but extreme care exercised.

Last group 1/3 wright.

R Coronae Wells.

Phot 1. 15 43 + 26.5
13 23
2 20
9 260

Left
281.2 < Vardis.
9 27.0 349.5 68.3
91.9 85.6
177.5 153.9 −0.50
272.5
359.0 86.5 −0.52
103.2 65.4
168.6 Right 151.9 −0.54
188.9 Mean = −0.33
260.6 71.7
354.0 101.0
95.0 172.7 −0.14
178.1
9 344 274.0 95.9 −0.14
61.4 8.1 76.5
9 30.7 84.6 172.4 −0.14
625 6.604

May 21, 1903

Same Again.

Right

189.0

9 37.0 260.2 71.2

354.3 102.3

96.6 173.5 − 0.13

177.2 − 0.14

274.0 96.8

9.1 74.6

83.7 171.4 − 0.16

Left Mean = − 0.30

103.8

167.1 63.3

270.0 91.4

361.4 154.7 — 0.48

89.8 − 0.46

9 45.6 182.0 92.2

82.6 284.7 64.5

9 41.3 349.2 156.7 − 0.42

44 41.1 S.M.T.

6256.612

Final Mean = − 0.32

Pl. 1530 Ver B

H.a. − 1:44 East

Dec. + 28.5

S.T. 1.59

Sprocket { 35 B
145 C

May 21, 1903

Doubtful Var u Her.

Wells

17 12 +33.2
14 37
2 35
C. Watch used 9 25

Left <var cho

27.0
10 35.0 66.5 39.5
209.0 33.2
242.2 72.7 — 2.42
29.8
63.7 33.9 — 2.37
204.9 42.1
247.0 76.0 — 2.32

Right. Median — 2.48

297.4
335.1 37.7
121.2 30.0
151.2 67.7 — 2.59

301.0 — 2.58
10424 ~~328.8~~
774 116.6 27.8
40.1
10 38.7
15 38.5 9 156.7 67.9 — 2.58
6256.651 G.M.T.

May 21, 1903

Same again

Right

296.4

10 44.6 334.7 38.3

121.5 28.9

~~149.~~ 150.4 67.2 — 2.60

~~4~~ 301.7 — 2.60

329.0 27.3

117.3 40.0

157.3 67.3 — 2.60

Left Mean = — 2.52

209.8

242.1 32.3

26.8 39.5

66.3 71.8 — 2.45

204.9 — 2.45

10 53.4 245.0 40.1

98.0 30.0 31.6

10 49.0 61.6 71.7 — 2.45

15 — 48.8

62 56 659

Final = — 2.50

Ra = 13 20 VerB

11 05 — Ha = — 2.04

Dec = +33.3

S.T = 3 08 / St pocket of C 3.5 4.3

May 22, 1903 (Friday)

BDC 1182 Ball 103
7 28 24.0 7 24 0.0

Cs watch = 20s fast 7:25

Plot 1 Nova Geminorum ~~⊕~~ W.Ob.

6 36 6 36 +29.1
12 23 11 56
5 47 5 20 Cs watch

Left
188.3 < comp + dis.

8 40.0 269.8 81.5
15.6 59.0
74.6 140.5 + 0.76
195.4
257.0 61.6 + 0.70
2.7 84.8
87.5 146.4 + 0.65
Right mean = + 0.90
101.1
175.1 74.0
283.0 54.7
337.7 128.7 + 1.00
114.2
9 00.0 167.4 53.2 + 1.10
8 50.0 28.28 66.2
13 49.7 349.0 119.4 + 1.21
62 57.576

May 22, 1903.

Pa = 232.3
H.A. = 6:40
Dec = 29.8
S.T. = 1:20
Sprocket = {6.5 B
7.3 C

Impossible to take a second group. ~~Last half of~~ Sky in this region hazy and progressively becoming more so. In first half of group images quite well seen but rather faint at Equalization. In last half of group settings more difficult and most of all in last set, but all possible care exercised and group considered good

R Coronae WCb.

Plot T.

C's watch,

15 43 +26.5
13 43
2 00
10 00

May 22, 1903

R Coronae I

Left

100.4 ∠ Vardis

9 41.0 168.0 67.6

273.4 86.3

359.7 153.9 — 0.50

—0.53

92.3

178.3 86.0

283.9 64.8

348.4 150.8 —0.56

Right mean = —0.44

9.3

80.6 71.3

179.9 91.4

271.3 162.7 —0.33

—0.34

0.0

9 50.0 92.5 92.5

9 45.5 191.3 69.3

14 44.2 260.6 161.8 —0.35

6257.614

May 22, 1903

Same again

9.6
9 5 20 81.9 72.3
179.1 91.8
270.9 164.1 − 0.30

− 0.26

357.5
93.5 96.0
189.6 71.9
261.5 167.9 − 0.23

Left Mean = − 0.38
287.3
348.7 61.4
91.7 88.1
179.8 149.5 − 0.58

271.2 − 0.51
9 59.8 362.0 90.8
11.8 102.3 66.0
9 55.9 168.3 156.8 − 0.44
14 55.6 ~~Final Mean =~~

6257. 623

May 22, 1903

Same Oven IV

~~Left~~

286.3

10 09.0 348.3 62.0

92.4 89.0

181.4 151.0 −0.56

271.7 −0.54

360.0 88.3

102.9 65.0

167.9 153.3 −0.51

Right Mean = −0.40

190.2

261.2 71.0

358.2 96.4

94.6 167.4 −0.24

178.6 −0.25

10 18.2 273.0 94.4

27.2

10 13.6 10.3 71.7

15 13.3 82.0 166.1 −0.26

6257.634 Final Mn = −0.41

PA 333.0 Ver β

HA −1.08 East

Dec +28.5 North

S.T. = 2.3K Spocket = { β 3.5 C 4.5

May 22, 1903

Doubtful Var = τ Cygni Wells

Phot T. 20 00 +335
14 50
5 50
6 10

Cs' Watch used

Above
120.2 < var dis
10 46.0 152.1 31.9
301.4 271
328.5 59.0 — 290
121.0
149.6 28.6 — 280
296.0 ~~35.5~~
331.5 64.1 — 271
Below Mean = — 266
24.2
66.0 41.8
211.1 28.5
239.6 70.3 — 250

29.4
10 53.0 59.4 30.0 — 252
10 49.5
15 49.2 206.0 ~~39.0~~
6257. 659 245.0 69.0 — 254

May 22, 1903

Same

Below

242

10 55.0 65.7 41.5 :

210.7 28.6

239.3 70.1 − 2.50

27.8 − 2.48

58.9 31.1

205.0 40.6

245.6 71.7 − 2.45

Above Mean = − 2.67

295.2

330.3 35.1

120.6 26.0

146.6 61.1 − 2.82

301.2 − 2.86

11 03.0 326.9 25.7

10 59.0 114.6 33.1

15.58.7 150.7 58.8 − 2.91

6257.666 r.a. = 9.4 Vn B Actual Mn = − 2.66

H.a. = 5:27 East

Dec. = + 33.8

S.T. = 3:19

Sprocket = { 3.5 a
4.5 B
5.1 C

L. P. D.

May 23, 1903 (Saturday)

C's watch = 3^s fast 7:18

~~Do~~ C183 Ball 103
7 23 37.5 7 19 0.0

Nova Gem. W.Ob.
Plot T. 6 36 +29.1 C. Rec.
C's watch 11 49
5 13

Left
6.3 < comp ✱ dis

8 28.4 87.6 81.3
194.5 61.3
255.8 142.6 +0.72
15.0
78.9 63.9 +0.69
185.2 81.7
266.9 145.6 +0.66
Right
281.5 Mean = +0.88
350.8 69.3
107.4 55.8
163.2 125.1 +1.08
285.1
8 38.0 340.8 55.7 +1.08
8 33.2 100.4 69.4
13 33.2 169.8 125.1 +1.08
6258.565ˣ

May 23, 1903

Same Again

Right.

279.2 69.8″

8 41.5 349.0 54.6″

107.3 124.4 +1.10″

161.9

+1.04″

286.0

342.7 56.7″

98.8 72.6″

171.4 129.3 +0.99″

Left Mean = +0.89″

185.3

262.9 77.6″

12.0 63.4

75.4 141.0″ +0.75″

193.4 +0.74″

8 58.4 254.3 60.9″

99.9 2.8 81.1″

8 50.0 83.9 142.0″ +0.73″

13 50.0

6258.576 P.A. 520 Ver. B. Final mean = +0.88″

H.A. 6:46 West. 9.26″

Dec. +29 8 North. 10.14

S.T. ~~F~~ 1:23

Sprocket Wheel { B. 6.5

C. 7.3

May 23, 1903

R Coronae   wOb.

Phot T.   C. Rec

Cs' Watch   15 43   +26.5
13 38
2 05
~~9 55~~

Left   < var dis
282.0
9 30.0   346.73   65.3
90.3   89.7
180.0   155.0 − 0.48
270.0
360.0   90.0   − 0.50
103.5   63.4
166.9   153.4 − 0.51
Right   Mean = − 0.34
~~266.1~~
~~369.4~~
9.8   73.5
83.3   95.3
177.8   168.8 − 0.21
273.1
− 0.19
358.8
9 40.0   93.8   95.0
14 35.0   188.5   75.8
6258.608   264.3   170.8 − 0.17

May 23, 1903

Same again

Right

9.8

9 44.0 79.0 69.2

178.2 95.9

274.1 165.1 − 0.28

358.8

− 0.28

94.1 96.0

192.4 69.6

262.0 165.6 − 0.27

Left

Mean = − 0.35

281.8

347.8 66.0

88.4 93.6

182.0 159.6 − 0.39

270.0

9 55.0 362.2 92.2 − 0.42

99.0 103.2 64.8

14 49.5 168.0 157.0 − 0.44

6258.618x

Final M = − 0.34

P.A. VarB 1530

H.A. 1:24 East

Dec. +28.4

S.T. 2:19

Spectra of B 3.5

C 4.5

May 23, 1903

S Cygni Wells

20 8 +57.2
14. 40
5 28
6 32

10 46 r 1.5, 3.5 s 13.66
13.53
13.60

R Cygni Wells

19 33 +50.0
15 10
4 23
7 37

11 08 Var. thought to be seen but very faint.
Estimate z 4, 1 α. 13.94
13.83
13.88

Estimate a little uncertain from extreme faintness of the variable.

May 25, 1903 (Monday)
Reset B D C 1182
~~B~~ D C 1182 Ball 103
7 21 9.5 7 21 0.0

~~C's watch = 11 secs slow @ 7:22~~
No C's watch used
Nova Geminorum
Phot I. 20 Obs.

6 36 +29.1
12 10
5 34

~~Left~~
188.3 L comp ✱ dis.
8 30.0 268.0
13.2
78.8

79.7
65.6
145.3 + 0.67

195.7
~~254.2~~ 258.6
4.9
88.1

+ 0.66
62.9
83.2
146.1 + 0.65

Mean = + 0.84

Right
95.2
170.1
286.3
344.4

74.9
58.1
133.0 + 0.92

107.4
8 40.4 163.6
8 35.2 278.9
13 35.4 346.6
6260.

+ 1.02
56.2
67.7
123.9 + 1.11

May 25, 1903

Same again

Right

100.2

8 44.0 172.0 71.8

28~~6~~7.1 55.8

342.9 127.6 + 1.03

107.1 + 1.07

161.3 54.2

278.0 69.8

347.8 12[illegible].0 + 1.11

8.1

3.5 Mean = + 0.86

86.1 82.6

190.9 63.9

254.8 146.6 + 0.64

+ 0.66

8.1

~~8~~855.6 74.3 66.2

184.8 78.5

26~~8~~3.3 144.7 + 0.68

8 49.8 ~~F~~ Final Mean = 0.85

13 50.0 P.a. = 51.8 Ver 13

62 60. H.a. = 6:52

Dec. = +29.9

S.T. = 1:26

S' product = { B 6.5
{ C 7.3

May 25, 1903

Phot. R Coronae with

15 44 3 +26.5
13 43
2 00
10 00

Left
For dis.

98.5
9 28.0 165.4 66.9
267.9 185.1
356.0 152.0 + 0.54
89.8
175.8 86.0 − 0.55
280.8 64.8
345.6 150.8 − 0.56
Right
7.8 Mean = − 0.44
80.0 72.2
179.2 91.8
271.0 164.0 − 0.30

358.5 −

9 37.0 90.2 91.7 − 0.32
65.0 188.3 69.7
9 32.5 258.0 167.4 − 0.35
14 32.7
6260.

May 25, 1903

Same again

Right.

8.2

9 40.6 77.2 69.0

177.5 91.5

269.0 160.5 – 0.37

– 0.34

358.0

89.5 ^{2} 91.2

188.3 72.4

260.4 163.6 – 0.31

Mean = – 0.42

Left

281.1

346.3 65.2

89.5 88.8

178.3 154.0 – 0.50

269.5

9 50.0 358.0 88.5 – 0.30

9 45.3 101.2 66.0

14 45.5 167.2 154.5 – 0.49

6 2 60.

PA. = 153.0 Vert B.H. Final = – 0.43

HA. = – 1:23 East

Dec. = + 28.4

S.T. = 2:17

Sprocket = { B 3.5
C 4.5

May 25, 1903

χ Cygni Wells

19 41 + 33.~~4~~
14 41
5 00
7 00

10 50 l 3.5, 1.5 k
13.16
13.00
13.08

R Herculis Wells.

15 56 +18.5
15 18
0 38
11 22

10 13 t 4, 1 u
13.67
13.65
13.66

L. P. P.

May 26, 1903 (Tuesday)

BAC1182 Ball 103
7 24 24.5 7 24 0.8

C's watch = 16m slow 7·25

Nova Gem. with

Phot T.

6 36 +29.1
C's Watch 12 06
5 30

Twilight ~~strong~~

Left
5.3 < comp ✱ dis
8 30.0 82.3 80.0
196.0 69.9
255.9 149.9 + 0.58
15.0 + 0.64
78.2 63.2
188.0 76.3
264.3 143.5 + 0.70
Right mean = + 0.87
279.9
347.6 67.7
106.3 56.3
162.6 124.0 + 1.11
286.6
8 40.8 342.0 55.4 +1.10
8 35.4 98.7 70.0
13 35.7 168.7 125.4 + 1.08
6261.

May 26 1903

Same Again

2nd group
½ wt.

Right
279.2
~~282~~
8 44.0 346.5
106.2
162.2

67.3
56.0
123.3 + 1.12

+1.13

286.8
342.8
99.4
167.8

54.0
68.4
122.4 + 1.14

Left
186.2
262.1
12.0
43.8

Mean = + 0.94

75.9
61.8
137.7 + 0.82

+ 0.76

8 54.4 189.9
253.8
101.4 2.8
8 50.7 83.8
13 51.0

63.9
80.0
143.9 + 0.70

P.a. = 520 rev B
H.A. = 7:01 East
Dec + 29.8
S.T. 1:36
Spectr { B 6.5
C 7.3

6261.

Final m = +0.89

Last group quite difficult & progressively so towards end.
Region very low.

May 26, 1903.

Plot I. 41.1903 Draconis W Ob.

B&C mad. 11 46 +74.6
13 46
2 00

Left < comp + dis.
200.8
9 47 40 250.3 49.5
245 41.6
66.1 91.1 + 1.88
205.9
51 05 244.7 38.8 + 1.80
16.7 58.1
74.8 96.9 + 1.73
Right mean = + 1.94
111.9
55 15 160.0 48.1
296.7 35.2
331.9 83.3 + 2.10

117.4 + 2.09
9 58 45 153.2 35.8
12 45 291.1 48.1
9 53 11 339.2 83.9 + 2.08
5 0 24
14 52 47 G.M.T.
6261.6200
6261.5534
+0.0666

May 26, 1903

~~II~~

Right

10 112,5
~~9~~ 02 10 159,2 46.7″
295.2 38.8″
334.0 85.5″ + 2.04″

116,3 + ~~1.90~~ 2.02″
05 28 154.5 38.2″
290.6 48.9″
339.5 87.1″ + 1.99″

Left Mean = + 1.81″

15.3
10 09 50 74.1 58.8″
202.4 42.7″
245.4 101.5″ + 1.62″

23.8 + 1.60″
10 13 18 67.3 43.5″
30 46 ~~2~~ 195.1 59.7″
10 07 42 25~~4.1~~8 103.2″ + 1.58″
5 - 24
15 7 18 G.M.T.
6261.6301
6261.5534
+ 0.0767

May 26, 1903

III

Left

15.5
10 20 50 75.8 60.3
200.8 46.7
247.5 107.0 + 1.49″

208 + 1.56″
24 00 68.8 48.0
193.2 53.0
246.2 101.0 + 1.63″

Right

Mean = + 1.66″

286.1
27 45 340.6 54.5
114.0 43.6
157.6 98.1 + 1.70

293.9 + 1.76
10 31 47 335.7 41.8
24 22 109.7 51.3
10 26 06 161.0 93.1 + 1.83
5 -11
15 25 55 G.M.T.
6261.6430+
6261.5530
0.0896

May 26, 1903

IV

Right.

283.7
10 35 00 341.2
113.8
156.6

55.5″
42.8″
98.3″ + 1.70″

293.1
3 8 00 336.1
107.5
160.6

+1.72″
43.0″
53.1″
96.1″ + 1.75″

Left
194.0
43 40 255.5
20.7
69.0

Mean = +1.53″

61.5″
48.3″
109.8″ + 1.42″

199.1
10 48 00 250.2
~~[illegible] 40~~ 11.2
10 41 10 76.6
5 — −11
15 40 09 G.M.T.
6261.6535
6261.5534
+0.1001

+1.34″
51.1″
65.4″
116.5″ + 1.27″

May 26, 1903.

V

Left

193.1
10 59 40 267.3 — 74.2
19.2 — 50.0
69.2 — 124.2 +1.10

199.6 — +1.22
11 02 30 249.6 — 50.0
11.8 — 63.1
74.9 — 113.1 +1.35

Right — Mean = +1.41
186.0
11 05 50 243.7 — 57.7
290.1 — 47.7
337.8 — 105.4 +1.53

113.1 — +1.60
11 09 20 157.5 — 44.4
17 20 286.0 — 54.8
11 04 20 340.8 — 99.2 +1.68
5 −11
16 04 9
6261.6695
6261.5534
+0.1161

May 26, 1903.

VI

Right

105.7
11 12 00 164.1 — 58.4
291.4 — 45.0
336.4 — 103.4 +1.57

+1.58

113.3
14 40 157.6 — 44.3
285.5 — 58.7
342.2 — 103.0 +1.58

Left — Mean = +1.46

11.5
17 ~~12~~ 42 46.8 — 65.3
199.3 — 47.3
246.6 — 112.6 +1.36

18.4 — +1.32
11 20 40 69.5 — 51.1
25 02 191.4 — 65.1
11 16 16 256.5 — 116.2 +1.28

5 −11
16 16 5 P.A. = 170.5 [illegible]
6261.6779 S.T. = 3.56
6261.5534 Dec = 72.6
+0.1245 Alt = 4.20
11 30 Spectral vol = { 75 B, 85 C }

L. P. P.

May 27, 1903 (Wednesday)

BOC 1182 Ball 103
7 23 32.5 7 23.00

C's watch = 1^s slow 7:24

Nova Gem. W.C.B.

Phot T. 6 36 +29.1
C's watch. 12 06
Left 5 30
17.7 < comp ~~*~~ ch.
8 38.0 74.5 56.8
185.6 79.2
264.8 136.0 +0.86
5.7
8~~4~~5.2 79.5 +0.80
194.5 62.3
256.8 141.8 +0.74
Right mean = +0.98
286.6
339.4 52.8
101.2 69.8
171.0 122.6 +1.14

280.0 +1.16
8 52.0 347.0 67.0
8 45.0 108.5 53.2
13 45.2 161.~~8~~7 120.2 +1.19
6262,073

May 27, 1903.

at time of beginning group sky in this to the eye & in the telescope pretty clear during the progress of the observations settings became rather more difficult from low altitude and possibly from a little cloud which was approaching this region in a general way. The last set was the most difficult and the next to last set a little less so. But ~~ll~~ extreme care exercised and observations thought to be good. A second group however could not be taken.

P.A = 232.5 for B
H.A = 7.10
Dec = 29.8
S.T. = 1:35
Sprocket = {6.5 B, 7.5 C}

9 22 Clouds

May 27, 1903

Σ 1062 Wells

Phot R

7 13 +50 5.5

Cs' Watch 14 13

7 00

P.a. 40° Dist 14"

Magns. 5.3 – 6.6

Right

107.4 < br. dis

9 46.6 162.8 55.4

278.3 70.5

348.8 125.9 ÷ 1.07

95.5

164.3 68.8 – 0.96

245.8 67.1

342.9 135.9 – 0.86

Right Mean = – 0.815

5.8

76.5 70.7

183.0 76.2

259.2 146.9 – 0.64

91

9 58.0 46.4 74.6 – 0.74

1046 187.8 62.8

9 52.3 250.6 137.4 – 0.83

14 52.5

6262.620 x

May 27, 1903

Observations a little difficult probably some dust on prism.

Phot T. Comp ✱ d. (T Her.) Wells

comp ✱ = DM + 29° 3198 (7.5)

18 6 +31.4
14 50

C's Watch
3 16
8 44

Comp. Star = +29° 3198 (7.5)

Above
195,5 < comp ✱ dis
10 37,0 253,5 58.0
6,2 76.2
82,4 134.2 +0.89
188.0
261,2 73.2 +0.90
16,0 59,8
75.8 133.0 +0.92
Below mean = +1.06
110,2
160.7 50.5
282.4 67.6
350.0 118.1 +1.23

100.5 +1.21
10 45.4 170,0 69.5
1041.2 290.0 50.5
1541.4 340.5 120.0 +1.19
6262,653

May 27, 1903

Same again.

Below

11 1.5

10 48.0 15 : stars practically gone

:

Sky so cloudy in this region that second group cannot be taken –

:

~~Above~~

P.A. 187.5 Ver B

R.A. 2h.36 East

Dec. +29.8

S.T. 3h.30

Sprocket = 6.5 B
7.5 C

The reading of P.A. & Sprocket Wheel are quite close ~~although~~ on account of clouds and ~~extreme~~ 11 05 faintness of stars in clouds it was perhaps impossible to adjust the settings quite as closely as usual

L. P.

May 29, 1903 (Friday)

B OC 1182　　Ball 103
δ 23 22.0　　δ 22 00.

Rs watch = 9s fast 8:23

9 20 Sky Generally cloudy & apparently growing worse. No chance for any work

May 30, 1903 (Saturday)

BOC 1182 Ball 6 B
7 19 39.5 7 18 00

Cs Watch = 6s slow 7:19

Phot. Nova Gem. Wells.

6 36 + 29.1
12 16
5 40

Very careful attempt made to get ~~the~~ Nova tonight, but on account of some moonlight in this part of sky, some haze also as well as very low altitude it is impossible to do anything with
8 43 it. In fact impossible to find it with certainty in photometer on large telescope.

Phot T. Comp ★ d susp var. Wells
T Hercules Region
18 6 + 31.4
13 53
4 13
7 47

May 30, 1903

Comp *d see prev. page

C. Watch.

Above

196.8 ∠ comp *d is

9 21.4 253.4 56.6

6.6 80.0

86.6 136.6 +0.84

186.9 +0.87

263.5 76.6

17.1 57.4

74.5 134.0 +0.90

Below Mean = +1.10

111.6

160.4 48.8

282.3 66.4

348.7 115.2 +1.30

103.0 +1.32

9 30.0 168.9 65.9

51.4 292.2 47.8

9 25.7 346.0 113.7 +1.33

~~14~~ 5 +.1

14 25.8 G.M.T.

6265.601

May 30, 1903

Same Obs.

Below

111.8

9 32.0 160.3 48.5

283.1 63.3

346.4 111.8 + 1.38

102.5 + 1.34

169.3 66.8

291.9 48.6

339.9 115.8 + 1.31

Above Mean = + 1.12

16.3

73.4 57.1

188.3 76.2

264.5 133.3 + 0.91

8.4

9 39.6 85.3 76.9 + 0.90

11.6 196.4 57.2

9 35.8 253.~~4~~6 134.1 + 0.89

14 35.9

6265.608

PA = 88 Ver. B.

H.A. = 3:37 East

Dec. = + 30.0

S.T. = 14:27

Sp.Wh. = {B = 65
α = 75

May 30, 1905

~~Doubtful~~ Var. +1°.2694
Pilot #1 20 Obs

C's Watch 12 12 +0.1
14 42
2 30

R O Above

295.1 < Var dis

10 13.0 334.6 39.5
120.5 132.2
152.7 71.7 −2.45

300.0 −2.44
333.0 33.0
116.0 39.0
155.0 72.0 * −2.44

L O Below Mean − * − 2.22

201.8
250.4 48.6
25.5 37.4
62.9 86.0 −2.02

206.5 −2.00
10 21.4 245.6 39.1
34.4 20.4 48.7
~~18~~ 10 17.2 69.4 87.8 −1.97
15 17.3

May 30, 1903

Same Door

Kop

202.3

10 23.0 251.1 48.8

24.8 40.3

65.1 89.1 −1.94

−1.94

206.7

246.7 40.0

20.4 49.4

69.8 89.4 −1.93

RoAbor Mean = −2.12

114.2

156.0 41.8

297.6 35.2

332.8 77.0 −2.28

119.5 −2.30

10 30.0 152.5 33.0

53.0 294.6 62.4

10 26.5 336.4 75.4 −2.33

15 26.6

6265.

May 30, 1903

Name Obsr.   II

RA Above =

115.3
10 38.0   156.1   40.8
297.9   34.9
332.8   75.7 — 2.32

119.6   — 2.33
154.2   34.6
295.1   40.5
335.6   75.1 — 2.34

RA Below   Mean = — 2.14

21.4
70.7   49.3
206.2   38.8
245.0   88.1 — 1.96

26.4
10 45.4   65.9   — 1.96
23.4   201.3   39.5
10 41.7   250.0   48.7
15 44.8   88.2 — 1.96
6265

P.A. = 82.7 Ver B
H.A. = 3.17 West
Dec = +1.1
S.T. = 3:35
Sprocket = { 6.5 B / 7.2 C

Note over

May 30, 1903

Sky somewhat hazy and seeing
somewhat poor. The stars
at equalizations somewhat faint
in photometer. Images a little
10 50 unsteady but extreme care
exercised and final x value of
observations considered alright

L. P.

Dr June 1 1903 Monday

BOC 1182 Ball 183
7 24 27.5 7 23 05

C's Watch = 37s slow at 7.24

μ Herculis 20 Obs

Pliot T. 17 14 +33.2
C's Watch - 12 34
4 ~~4~~40
Right 7 20

297.4 < radii

7 55.6 333.8 36.4

118.1 36.4

154.5 72.8 — 2.42

296.5

334.2 37.7 — 2.38

118.1 37.2

155.3 74.9 — 2.35

Left mean = — 2.22

205.2

247.1 41.9

240 63.0

64.0 84.9 — 2.05

204.7 — 2.05

8 03.4 244.3 42.6

7 59.5 24.8 62.3

13 0.1 67.1 84.9 — 2.05

6267.

~~Int~~ June 1, 1903

Same Ovar

Left

204.6

8 05.0 247.0 — 42.4

24.7 — 39.0

66.7 — 81.4 — 2.15

204.4

247.3 — 42.9 — 2.08

23.6 — 63.3

66.9 — 86.2 — 2.02

Right — Mean = — 2.24

117.0

154.6 — 37.6

297.3 — 35.5

332.8 — 73.1 — 2.41

117.8

8 11.6 — 153.5 — 35.7 — 2.60

8 08.3 — 295.2 — 37.8

13 8.9 — 333.0 — 73.5 — 2.39

6267.

P.A. = 313.5 V n, B. Final m = — 2.23

H.A. = 4:03 East

Dec. = +30.1 North

S.T. = 1:11

Spectra of B = 3.5 B

C = 4.2 C

June 1, 1903

Nova Gem Wells

8 28 It is perfectly useless to try the Nova tonight, Probably on account of moonlight, and low altitude it could not be measured any-way, but additionally to this, there is a heavy cloud in this region, which is almost stationary as regards motion

T Her. Comp * d Wells

Phot T.

Cs Watch 18 6 +31.4

R.O.A. 13 46

17.2 < comp dis 4 20

9 03.4 72.2 clds. 7 40 55.0

188.3 73.5

128.5 +1.01

261.8

+0.96

5.8 78.0

83.8 64.7

187.2 132.7 +0.92

254.9

mean = +1.11

290.8

~~338.~~ 340.3

101.0 49.5

169.5 68.5

118.0 +1.24

279.8

9 17.6 348.6

9 10.5 110.6 68.8 +1.26

14 11.1 158.3 47.7

62 67.591 116.5 +1.27

June 1, 1903

Same Obser

~~Lift OB.~~

~~291.6~~

9 20.4 ~~339.5~~

~~101.2~~

~~168.7~~ Cloudy

~~2 .~~

~~3 .~~

~~1 .~~

~~1 .~~

R.D. Above ~~Mean = +~~

P.a. 187.7 Vert

9 45 Ha. = − 3:29 East

Dec. = + 30.0

St. T. = 2!37

Sp. wh. = { 6.5 / B

~~9~~ { 7.5 C

Note:- Stopped by clouds. ~~Although~~ clouds preceded the taking of first group, ~~the a little~~ these clouds went by and group taken before clouds came in second group. During first group the sky was practically clear although

June 4 1903

once or twice very slight amounts of cloud drifted, yet observer kept sharp watch of sky so that he is certain that settings were unaffected by any clouds.

9.50 Clouds now thick so second group can not be taken

Phot T T Cygni Wells

20 40 + 334
Cs ~~Watch~~ 15 00
KB Above
5 40
6 20

297.7
10 17.4 331.5 < Vardis 33.8
121.5 27.8
149.3 61.6 − 2.80
301.1
328.8 27.7 − 2.81
118.8 33.5
152.3 61.2 − 2.82
443 Mean = − 2.64
205.0
245.3 40.3
30.0 29.4
59.4 69.7 − 2.52
210.6
10 25.0 240.8 − 2.48
10 21.2 30.2
15 21.8 23.3 41.7
6267 65.0 71.9 − 244

June 1, 1903

Name Clover

L & B

2032

10 27.4 246.1 42.9

30.5 28.2

58.7 71.1 − 2.47

− 2.48

2122

239.9 27.7

23.1 42.9

66.0 70.6 − 2.49

P.D.a. Mean = − 2.64

117.5

153.2 35.7

301.5 26.1

327.6 61.8 − 2.79

122.6

10 35.4 148.3 25.7 − 2.79

10 31.4 296.9 35.5

15 32.0 332.4 61.2 − 279

6267

R.a. 9.5 Var B Final M = − 264

H.a. 5.08 ~~East~~

Dec +33. A Var B

S.T. 3:33

Sprocket of 3.5 a
4.5 B
5 C

June 11 1903 F

R Cassiop W Obs

23	52	+44 9.7
16	12	
7	40	
4	20	

11.81
11.68
11.74

11 57 r 4.5 Var. 1 5 4 w. obs.
Sky hazy. Obs. a little difficult but thought to be pretty good.

L.P.

June 2, 1903 (Tuesday)

B O C 1182 Ball 103

7 20 35.0 7 19 00

O's watch = 6s fast 7:20

Variable 130802 (~~No Cat~~)
Phot T. (Prov. Cat. Var. Stars) Ulb

13 6 − 1.5

O's Watch used ~~tonight~~
12 52
0 14
11 46

Comp ✱ = −1.0 2786 (8.0)

~~Lt a~~

350.2 < comp ✱ dis.

8 25.4 101.6 111.4
174.8 99.5
274.3 210.9 − 0.59
149.1

355.2
95.4 100.2 − 0.57
140.2 108.6
279.8 208.8 − 0.55
RTB 151.2
mean − 0.50

6268.562

2648
367.4 102.9
89.0 93.8
182.8
269.0 206.7 − 0.51
153.3

8 35.0
362.0 930 − 0.42
8 30.2 84.7 104.1
13 30.1 G.M.T. 188.8 1971 162.9 − 0.32

June 2, 1903.

Same Over

RTB

262.8

8 37.0 366.3 103.5

86.9 95.3

182.2 198.8

161.2 − 0.36

271.3

361.9 90.6 − 0.36

83.0 107.9

190.9 198.5

161.5 − 0.35

LT Above mean = − 0.43

176.6

272.4 95.8

351.3 109.7

101.0 205.5

154.5 − 0.49

170.2

8 46.5 279.0 109.1 − 0.50

83.5 356.6 98.2

~~[illegible]~~

A 41.8 207.3

B 41.7 94.8 152.7 − 0.52

6268.571

PA 324 V Var B Final M = − 0.46

Ha +0:43 West

Dec − 2.2

ST 1:49 over

Sprocket ~~[illegible]~~ 45886.52

June 2, 1903. ~~Tuesday~~

Note:- Considerably windy and air has become somewhat suddenly cooler making seeing somewhat poor, but observations considered good.

R Urs Min. Wells

16 34 +72.9
Above 14 04
1995 < comp 2 30
9 22.2 | 222 9 30 52.7
10.6 68.6
79.2 121.3 + 1.16
193.2
256.9 63.7 +1.21
18.8 53.2
72.0 116.9 +1.26
Below Mean = + ~~1.18~~ 1.36
112.4
157.8 45.4
284.6 60.2
344.8 105.6 +1.52

106.2 +1.52
9 32.0 | 165.6 59.4
9 27.1 | 292.2 46.6
14 27.0 | 338.8 106.0 +1.51
6268.602 +

June 7, 1903
Same Obser

Below
111.7
9 35.0 159.0 47.3
285.4 60.4
345.8 107.7 + 1.47

105.3
166.0 60.7 + 1.47
291.6 47.1
338.7 107.8 + 1.47

Above Mean = + 1.38
20.9
70.8 49.9
192.3 63.6
255.9 113.5 + 1.34

10.3 + 1.30
9 43.0 78.2 67.9
9 39.0 200.3 49.5
14 38.9 249.8 117.4 + 1.35
6 26.8 61.0

PA 322.2 V[illegible] Mean = +1.37
HA 2:48 East
Dec +72.6 North
ST 2:45
Spectral 25 B
3.5 C

June 2, 1903

Plot T. μ Cephei Wells

21 39 +58.1
15 39
6 00
6 00

Pf 03.

297.7 Wardus
10 50.0 333.6
113.6
157.3

359
437
796 − 2.21

293.6 − 2.20
338.0 444
117.6 356
153.2 800 − 2.19

Roa.

Mean = − 2.06

204.6
244.4 398
20.8 494
70.2 892 − 1.94

200.3 − 1.93
10 58.0 249.6 493
15 53.9 26.0 403
626 8.662 66.3 896 − 1.92

= June 2, 1903

Same Over

R & A

206.0

11 000 244.8 38.8

20.4 52.0

72.4 90.8 — 1.89

199.3 — 1.90

250.0 50.7

24.2 40.0

64.2 90.7 — 1.90

L & B Mean = — 1.99

117.8

154.4 36.6

291.1 49.2

340.3 85.8 — 2.03

111.9

11 06.4 158.5 46.6 — 2.08

16 03.1 296.7 36.1

6268.669 332.8 82.7 — 2.12

PA = 174.0 Ver B Final M = — 2.02

HA = 5:29 East

Dec = +58.4

ST = 4:10

Sprocket = { 0.5 A, 1.5 B, 2.1 C

(Over)

June 2, 1903

Sky progressively growing
more murky and hazy especially
11 29 towards latter part of evening.
The seeing also unsteady &
somewhat blurry from freshness
of the wind.
Observations on μ Cephei
a little difficult not so much
from faintness of images
at equalization as from murky
conditions & rather poor seeing.
But observations considered good.

L. P. P.

~~June 13~~

~~BOC 1182~~ ~~Ball 103~~
~~7 18 57.5~~ ~~7 15 0.0~~

~~C's watch = 32^s fast 7:16~~

Recorded here by mistake see page 68.

June 5, 1903 (Friday)

8 00 Sky somewhat covered with light cloud, but moon pretty well visible, and of rather a coppery color. This is one of the nights for the Seniors

Quite a number of Seniors came tonight showed them the moon and explained other matters connected with celestial object and the ~~of~~ working of the apparatus in general.

10 25 Night rather poor. Sky somewhat hazy foggy and smoky in general ~~stars~~ were not visible; but the moon & details on its surface very well seen. The presence of cloud smoke & fog makes it slightly of a coppery color.

10 30 No stars visible in telescope at present time and only α Lyrae faintly visible occasionally to naked eye

June 6, 1903 (Saturday)

7 45 This is one of the evenings when the seniors are effected.

A goodly number of seniors came tonight. Showed them the moon, and various things
1045 connected with the classes and work of the observatory. The night ~~although~~ was somewhat poor on account of smoke and fog and some cloud, yet moon very well seen and details fairly well marked.
Night however too poor for further work.

June 13, 1903 Saturday

BDC 1182 Ball 103
7 18 57.5 7 15 55

Cs watch = 32s fast 7.16

Meas. of Comp ★ for Wells

Phot T. Tercidina =
= DM − 2.° 3462 (9.5)

12 4	11 58	−2.3
14 12	13 48	
2 8	1 50	

52 08.5	22	19.0
52 41.5	47	20.5

see next page

Cs watch used.

June 13, 1903.

S'DM − 2.3462 (9.5) comp with
the 6.5 = (−2°.3460 (6.5))

LDA.

38.3 < 6.5 this

9 11.0 52.3 14.0 ~~14.0~~

215.8 19.1 ~~19.1~~

234.9 33.1 ~~43.1~~ + 4.19

36.4 +4.17

54.9 18.5

218.1 15.1

233.2 33.6 + 4.15

RDB Mean = +4.22

308.5

322.7 14.2

127.2 17.4

144.6 31.6 + 4.29

306.8 + 4.26

9 17.4 324.2 17.4

9 14.2 128.4 15.0

14 13.7 143.4 32.4 + 4.23

6279.

June 13, 1903

Name Over

R.O.B.

308.7

9 19.6 321.8 13.1

126.8 17.4

144.2 30.5 + 4.37

+ 4.36

306.3

323.8 17.5

129.4 13.4

142.8 30.9 + 4.34

L.D.A. Mean = + 4.26

218.4

233.4 15.0

35.5 19.1

54.6 34.1 + 4.12

216.2 + 4.16

9 26.0 235.7 19.5

9 45.6 39.0 13.5

9 22.8 52.25 33.0 + 4.19

10.9

14 ~~11.4~~ 22.3

6279.

Final Mean = + 4.24

June 19, 1903.

−3°.3231 comp with −2°.3462

Left

11 58 −2.3

~~280.8~~ ~~<−3°. dis~~

15 38

~~9 49.0 349.1~~ Pivot off track 3 40

283.8 <−3°. dis

350.8

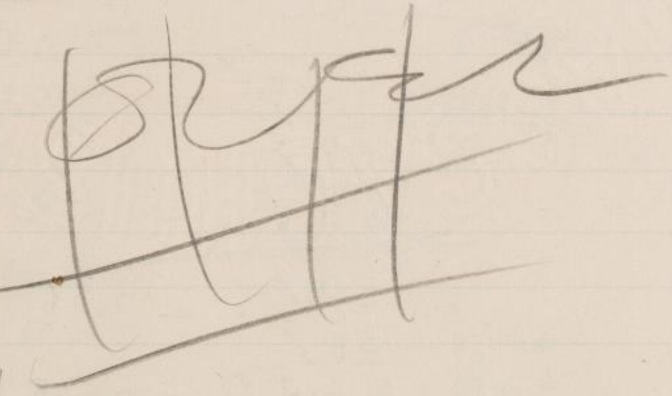
933

182.4

271.9

354.9 pivot off track

Right



10.34 prisms came off tracks and prisms readjusted, region however so low that it impossible to do anything with second star moon up also,

June 13, 1903.

~~3.° comp with 2.°~~

~~Left < 3.° dis~~

Sky too hazy to do anything
about 14th magns in region
of δ Bootis. Moon up also.

T Cygni Webb

Plot T.

	20	40	33.4
C's watch	16	30	
Var dis.	4	10	
Index Above	7	50	

120.3
10 58.4 153.2 329
302.1 30.7
332.8 63.6 − 2.73
122.8
149.9 27.1 − 2.76
297.6 34.9
332.5 62.0 − 2.79

Index Below Mean = − 2.62

24.6
66.2 41.6
211.3 29.6
240.9 71.2 − 2.47

29.0
11 04.6 62.0 33.0 − 2.47
11 123.0 205.6 38.0
01.5
16 01.0 G.M.T. 243.6 71.0 − 2.47
6279.

June 13, 1903.

Same Over

Below

26.3

11 06.6 66.0 39.7″

210.0 31.4″

241.4 71.1″ − 2.47″

−2.50

31.2

61.2 30.0″

206.1 39.3″

245.4 69.3″ − 2.53″

Mean = −2.66″

Above

298.4

331.8 33.4″

120.9 28.2″

~~15~~ 149.1 61.6″ − 2.80″

301.8 −2.82″

11 12.4 328.4 26.6″

19.0 118.4 34.3″

11 9.5 152.47 60.9″ − 2.83″

16 9.0

6=7.9 P.a = 9.0 ver B Final M = −2.64

S. T. = 16:56

H.A. = −3:47

Dec = +33.6

Spaket Wh = 3.5 a.
4.5 B.
5.1 C.

over

June 13. 1903.

Fog on object glass. This was suspected early in the evening. Balconies reeking with moisture.

L. P. P.

June 17, 1903 (Wednesday)

Reset B&C 1182

B&C 182	Ball 103
7 34 14.2	7 34 05

C's watch – 24^s fast at 7.35

7 40 Sky cloudy

8 07 Sky thickly cloudy

8 25 Clouds thick everywhere no chance for any work.

June 18, 1903 (Thursday)

Exam of Region of Wells.
R Leo. Min.

9 34 +35.8
16 10
6 36

10 15 Region low, and sky a little hazy especially in this quarter so that it is utterly impossible to do anything on faint stars for R Leo. Min.

S Bootis Wells.

14 17 +54.2
16 17
2 00

Sky lacking in transparancy evidently much moisture in air (balconies wet) so that ~~presence~~ with presence of electric lights about impossible
10 45 to do anything with 14th magnitudes

June 18, 1903

R Coronae Wells.

15 37 +26.8
16 47

1 10

~~16 14~~

1 14 +16.1
16 58

15 44

16.

15 42 +28.9
17 05

1 23

Over

June 18, 1903

R Coronae 2 obs.

Plot T.

Above

197.1 < Comp * dis

11 20.4 258.5 61.4

7.7 clouds 74.9

82.6 136.3 +0.85

188.0 +0.84

265.7 clds thick. 77.7

16.4 59.7

76.1 137.4 +0.83

Below Mean = +0.94

108.6

163.7 55.1

279.2 74.0

353.2 129.1 +1.00

97.4 +1.04

10 37.0 171.6 74.2

57 4 287.8 51.0

10 28.7 338.8 125.2 +1.08

15 28.5

6284. 644 P.A. 153.2 Vert B

H.A. 1:58 West

Dec. +28.4

S.T. 5:39

Sprocket 3.5 B & 4.5 C

June 19 1903.

C's watch used t = 12^s fast.

11 H8 Troubled by ~~it~~ a low sort of fog cloud from west during latter observations, but waited for intervals when images were pretty steady, and group considered good. It was impossible to get a second as sky is becoming thickly cloudy.

Apparently slight dew on object-glass.

L. P. P.

June 19, 1903 (Friday)

BDC 1182 Ball 103
δ 19 33.2 δ 19 00

C's watch = 3^s slow at P. 20

Var. i Librae (150619)

C's watch used.

15 4 −19.2
15 4
0 0

Comp star = −19°.4055 (6.5)

9 07 Clouds thick also in this region
Var & comp. star have disappeared

9 12 Clouds thick everywhere no stars
visible.

9 25 Sky thickly cloudy, & becoming
worse, no stars visible
No chance for anything
further

June 23. 1903 (Tues, morn.)

B. + C. 1182.			Ballou 103.		
12	26	43.2	12	24	0.0
	27	43.2		25	0.0

Dis of Jup III W. Obs. Phot R.
Colson Recorder

Compared with sat. next beyond sat. III, on same preceding side = sat. II.

	12	39	35		238.3
				53.2	
12 40 14		40	12	59.7	291.5
2 -41					
12 37 33			27	56.4	239.3
				123.6	
			40		289.0
41 52		41	16		237.8
-2 -41			35	55.2	293.0
~~41~~ 39 11				57.8 2	
		42	12	56.5	338.0
			25	123.5	295.8
			44		238.0
43 09		43	01	54.0	292.0
-2 41				56.5 3	
40 28			16	55.2	237.0
			36	124.8	293.5
		~~44~~	~~07~~		~~294.8~~
45 07		44	37	118.4	115.8
-2 40		44	57	117.1 4	234.2
42 27				117.8	
		45	14		116.9
			41		234.0
			59		118.5

In these observations sat. III disappears. After these observations, sat. II (comparison sat.) was made to disappear.

June 23. 1903.

12 46 23 12 46 18 116.5 235.0
-2 -40 31 116.5 118.5
12 4~~3~~3 43 43. 115.5 233.0
47 08 119.1 < Sky more hazy.
111.7
12 47 55 34 112.7 230.8
-2 -40 112.2
4~~7~~5 15 57 119.3 6
48 20 Sats dim
28 " gone
38 Jup. dim to naked eye

12 49 02 232.0
20 120.1
12 49 52 47 111.9 232.0 7
-2 -40
4~~9~~7 12 50 01 108.9 122.0
~~110.4~~
20 230.9
37 123.7
12 51 04 51 107.0 230.7
-2 -39 51 05 109.2 123.0 8
12 48 25 108.1
41 232.2
52 08 121.9
12 52 47 35 110.1 232.0 9
-2 39 53 03 109.5 122.5
12 50 08 21 109.8 232.0
42 123.4
12 54 09 58 109.6 233.0
-2 39 54 17 110.3 123.0
51 30 39 110.0 233.3
~~12 52 17~~ 56 120.2

June 23. 1903

		~~55~~	~~17~~		~~234.8~~
12 55 30×	12	55	28	109.0✓	229.2
− 2 39			42	104.6	124.2
12 52 51×				106.8✓	
			54		228.8
		56	05		124.6
12 56 32×			25	105.4✓	230.0
− 2 39×			41	107.0	123.0
12 53 53				106.4	
			59		230.0
		57	13		124.7
12 57 43×			35	104.3	229.0
− 2 38			53	102.0	124.0
12 55 05×				103.2	
		58	10		226.0
			23		126.0
12 58 42×			35	98.1✓	224.1
− 2 38			49	97.0	126.0
12 56 4×		59	01	97.6	223.0
			20		129.0
12 59 42×			33	89.3✓	218.3
− 2 38			49	84.0✓	133.0
12 57 04×	13	00	06	86.6	217.0
			~~19~~		~~133.0~~
12 57 56×			34	76.7✓	134.8
58 9×			47	70.8✓	211.5
58 23×		01	01	70.2✓	140.7
33×			11	66.9	210.9
45×			23	66.0✓	144.0
59 3×			41	65.0✓	210.0
			~~00~~		~~143.0~~
32×		02	10	58.0	145.0

June 23. 1903

12	59	47	13	02	25	51.2	203.0
	59	58			36	49.0	155.8
13	0	12			50	49.8	200.8
	0	28		03	06	49.0	155.0
	0	45			23	44.2	200.0
	1	02			39	37.2	155.8
13	1	17			54		193.0

Not seen later.

Limit of visibility

13	4	46	13	04	17		157.0
	−2	37			42	39.0	196.0
13	02	09			53	37.5	157.3
				05	11	38.2	194.8

Observations rather difficult throughout. Jupiter low at beginning. Atmospheric conditions rather poor. Some fog and light clouds. Jup. sats a little better seen in latter part of observations but settings had to be made slowly and with as much care as possible. Storm condition clearing up only a little while before eclipse,

June 23. 1903.

B. + C. 1182.			Ballou 103.		
13	18	35.0	13	16	0.0
	19	35.0		17	0.0

June 26, 1903 (Friday)

B & C 1182 Ball 103

7 34 23.0 7 34 0.0

Of watch = 14s slow 7:3v

The 9.3 (intermediate star) is S'D − 2° 34v9 (9.3)

Meas. of Comp. *s for Tercidina.
phot T. Wells

11 58 −2.5

11 v−8 14 28

2 30

−2.3462 ~~8~~ (9.3) = −2° 34v9

Left,

100.6 < 9.3 dio

9 15.0 169.8 69.2

274.5 80.9

355.4 150.1 × 0.57

94.6 × 0.57

174.7 80.1

280.7 70.3

351.0 150.4 × 0.57

Right mean = × 0.46

~~81.9~~ 9.9

~~82.0~~ 83.7 73.8

177.3 91.2

268.5 165.0 × − 0.29

9 21.4 41

~~088.0~~ 83.9 × 0.34

9 18.2

147.8 76.2

14 18.49 MT 262.0 160.1 × 0.38

6292 596

June 26, 1903

−3°.32 31 (9.5) with (9.3) = −2° 34 59

R. o. a.

274'.4 < 9.3 dis

9 29.0 357.5 86.1

96.0 78.3

174.3 164.4 + 0.30

278.6 +0.30

354.6 76.0

91.2 88.0

179.2 164.0 +0.30

L o B Mean = +0.11

176.3

274.8 98.5

1.6 84.4

86.0 182.9

177.1 − 0.05

182.0

9 39.0 268.3 86.3 − 0.08

356.2 99.5

9 34.0 95.7 185.8

14 34.2 G.M.T. 174.2 − 0.11

6292-607

P.a. = 820 Ver B ~~over~~

~~D.a.~~ = +4.1

Dec. = −3.3

S.T. = 4.15 Sprocket { 5.5 B, 6.5 C

June 26, 1903.

Exam of 14th Magns.
Standards for WCl
S Bootis

14 17 54.2
16 35
2 18

12.39
12.35
12.37

16 17 m 3,5 var 1.5 n

For Star No 2 in list, ~~a star~~ a 14th magn. preceding Var 5s and 4.2 South is substituted. As regards star No 3 there seems to be a faint star about in position indicated the star is very faint and nothing like 12th magn, as Mr. Parkhurst said it seemed to be on photograph. In fact the star is so faint that it is with considerable difficulty seen and if it is 12th magn. it must be blue to the difference between visual and photographic scales. As regards star No 2 another is substituted since there is another

June 26, 1903

star not far distant from it
11 50 although not close.

A little fog on object glass found at end of observation. This, combined with the effect of the electric lights, was one of the principal reasons why the 14 mag. were so very diff. to night.

L. P. P.

June 27, 1903 (Saturday)

B&C 1182 Ball 103
7 37 55.0 7 33 0.0

C's watch = correct at 7:34

Plot T. Z Herculis W.Obs

17 54 +16.8
14 50
3 4
8 56

17 52 +15.1
14 42
3 10
8 50

LOA.

I

25.3 < vardis.
8 32 10 66.6 41.3
210.8 31.1
241.1 72.4 − 2.43
30.2
34 00 60.6 30.4 − 2.41
203.9 43.2
247.1 73.6 − 2.39
RDB mean = −2.56
297.0
37 00 333.5 36.5
121.4 28.9
150.3 65.4 − 2.66
301.4
8 39 00 328.8 27.4 − 2.70
22 10 118.8 35.8
8 35 32 154.6 63.2 − 2.74
13 35.5 4 WT

6293.5664
6292.5449
1.0215

June 27, 1903

II

R.O.B.
298.7
8 41 25 332.9 — 34.2
121.5 — 27.5
149.0 — 61.7 — 2.80

301.6 — 2.74
43 10 328.4 — 26.8
116.6 — 38.0
154.6 — 64.8 — 2.68

L.O.A. — Mean = — 2.58
211.4
45 50 241.4 — 300
23.7 — 43.2
66.9 — 73.2 — 2.40

204.3 — 2.42
8 48 08 246.6 — 42.3

18 33 30.6 — 29.3
A. 44 38 59.9 — 71.6 — 2.45
13 44.6
6293.5726
6292.5449

1.0277

June 27, 1903

III

LOA.
211.2
8 59 30 240.9 29.7 ✓
23.4 43.1
66.5 72.8 ✓ — 2.42 ✓

205.4 — 2.44 ✓
9 02 15 240.4 41.0 ✓
29.7 30.0 ✓
59.7 71.0 ✓ — 2.47 ✓

ROB. Mean = — 2.61 ✓
118.8
05 00 152.9 34.1
301.3 26.6
327.9 60.7 ✓ — 2.84 ✓

121.9 — 2.78 ✓
9 ~~12~~ 07 13 149.2 27.3 ✓
13 58 297.0 36.3 ✓
9 03 30 333.3 63.6 ✓ — 2.73 ✓
14 03.5 G.M.T.
6293.5858
6292.54~~65~~ 49
~~1.0433~~
1.0409

June 27, 1903

IV

R.O.B.

118.8
9 17 00 154.3 35.5
302.0 26.3
328.3 61.8 — 2.79

122.2 — 2.78
19 10 ~~150.~~ 149.2 27.0
296.7 35.8
332.5 62.8 — 2.76

L.O.a. Mean = — 2.62
24.1
21 45 65.6 41.5
210.7 30.8
241.5 72.3 — 2.53

28.8 — 2.56
9 24 42 59.8 31.0
2 37 206.7 39.1
9 20 39 245.8 70.1 — 2.50
14 20.6 G.M.T.
6293.5976
6292.5449
+1.0527

Cs watch used to here
Cs watch = 1s fast at 9:35
B.O.C. used henceforth.

June 27, 1903

V

LOC

~~23.8~~ 30.1

~~9 32 50~~ ~~64.4 Add~~ 59.5 29.4

9 44 00 205.9 39.9

245.8 69.3 2.53

23.7 (−2.52)

46 26 ~~65.0~~ 64.4 40.7

212.0 28.9

240.9 69.6 — 2.52

RDB Mean = −2.64

302.4

49 16 330.4 28.0

117.9 35.5

153.4 63.5 2.73

(−2.77)

298.3 34.5

9 51 05 332.8

30 47 122.0 26.9 2.81

9 47 42 148.9 61.4

5 −4 55 Mean −2.64

14 42 47 G.M.T.

6293.6131

6292.5449

+1.0682

June 27, 1903

VI

RDB

301.7
10 01 38 329.1 27.4
117.8 36.9
154.7 64.3 — 2.70

297.2 — 2.72
04 04 332.8 35.6
122.2 27.3
149.5 62.9 — 2.75

LDA Mean = — 2.64
210.7
08 32 240.9 302
25.6 39.4
65.0 69.6 — 2.52

207.0
10 11 15 243.8 36.8 — 2.56
25 29 29.5 30.0
10 06 22 59.5 66.8 — 2 61
5 — 4 55
15 01 27 G.M.T.
6293.6260
6292.5449
+1.0811

omitted by

Mistake

June 27, 1903

VII

LOO.

30.4
10 22 22 61.4 31.0 ✓
205.2 39.7 ✓
244.9 70.7 — 2.48 ✓

21.1
25 18 65.7 40.6 ✓ — 2.50 ✓
210.6 28.9 ✓
239.5 69.5 — 2.52 ✓
RTB. Mean = — 258

296.9 Clouds.
28 25 334.9 38.0 ✓
121.8 27.3
149.1 65.3 — 2.67 ✓

301.8 — 2.66 ✓
10 30 50 329.3 27.5 ~~27.5~~ ✓
26 55 117.1 38.7 ~~37.1~~
10 26 44 ~~154.2~~ 66.2 ~~64.6 — 2.59~~ 2.64 ✓
5 — 4 55 155.8
15 21 49 Clouds
6293.6402
6297.5449 Somewhat troubled by clouds in above groups"
+1.0953

June 27, 1903

~~VIII~~

P.O.B.

117.5

11 36 15 150.2 32.7

302.7 clouds

329.1 26.4

121.9

39 20 14

3

3

L.O.a

Mean =

P.A. = 290.7 [illegible]

S.T. 6.11

H.A. 0.20

D.C = 15.1

Sp Wl = 5.5, 6.5 [illegible]

11 55

L.P.

June 28. 1903. (Sunday)

B.+C. 1182.			Ballou 103.		
12	6	14.5	12	1	0.0
	7	14.7		2	0.0

Dis Jup. I. W. obs. Brasch rec.

12	34	7	12h	39	20	Cloudy S.I invisible
	35	4		40	17	Cloudy SI seen
	35	32		40	45	Sky Clear I seen
	36	13		41	26	Sky little Clear S, I seen
	36	48		42	01	S. I seen
	37	25		42	38	Sky little clear SI seen
	37	52		43	5	SI seen
	38	17		43	30	Sky little clear SI seen
	38	32		43	45	SI seen
	38	42		43	55	Sky little Cloudy SI nearly invisible
	39	21		44	34	" " " SI not seen
	40	00		45	13	" Clearer SI not seen. others visible
	40	40		45	53	" more Cloudy others seen I not seen
	41	22		46	35	Sky Clear other sat. bright I not seen

~~To~~ Eclipse taken with ring micrometer eye piece No. 1. Troubled somewhat by clouds.

June 28. 1903.

B+C. 1182 Ballou 103.

~~12~~ 13	0	11.7	12	55	0.0
	1	11.7		56	0.0

June 30, 1903 (Tuesday)

BDC 1182 Ball 103.
9 32 54.5 9 27 0.0

C's watch = 35s fast at 9:28

δ Librae

Phot T. Wdk:

15 ~~44~~ −19.1
16 54
1 50

Comp ✱ = DM −19° 4055 (6.5)

R.D.A. < var. dis

20.0
10 20.8 70.8 50.8✓
193.1 65.4✓
258.5 116.2✓ − 1.28
11.8 clouds.
76.2 64.4✓ − (1.34)
201.6 46.8✓
248.4 111.2✓ − 1.39
L.D.B. mean = − (1.52)
293.4
337.1 43.7✓
107.1 55.8✓
162.9 99.5✓ − 1.67
286.7
10 28.5 341.9 55.2✓ − (1.70).
9.3 115.8 41.5✓
10 24.6 157.3 96.7✓ − 1.74
15 25.0

June 30, 1903

LDB

294.5
10 30.0 334.9 40.4 ✓
107.6 55.8 ✓
162.4 96.2 ✓ — 1.75

290.9 — 1.74
342.5 51.6 ✓
~~115~~ 113.3 45.6 ✓
158.9 97.2 ✓ — 1.73

RDA Mean = — 1.57
200.5
252.2 51.7 ✓
14.3 59.4 ✓
73.7 111.1 ✓ — 1.39

197.8 — 1.40
10 36.0 254.5 56.7 ✓
1° 33.0 18.8 53.0 ✓
71.8 109.7 ✓ — 1.42

P.A. 245.5 Final Mean = — 1.54
S.T. 5h 26
H.A. 2:21 West
Dec. — 19.4
Sprocket { 4.5 a
5.5 b
6.1 c

RER

June 30, 1903

Region a little low, some cloud passing and images varying a little but extreme care exercised and observations considered good.

T Cygni Wclb.

20 40 +33.4

Plot T. 17 40

3.00

9 00

Below

206.0 < Var. dis.

11 11,0 247.0 41.0

29.4 29.2

58.6 70.2 − 2.50

211.1

240.0 28.9 −2.54

26.0 39.1

65.1 68.0 − 2.57

above Mean = −2.54

117.0

153.5 36.5

299.7 32.3

332.0 68.8 − 2.55

118.4

11 # 16,8 151.5 33.1 −.2.54

13.9 296.3 36.3

16 13.3 332.6 69.4 − 2.53

June 30, 1903

Name Over

Above
112.8
1′ α 18.4 154.3 41.5 ✓
299.3 30.7 ✓
330.0 72.2 ✓ — 2.43

120.4 — 2.46
151.9 31.2 ✓
294.2 39.1 ✓
333.3 70.3 ✓ — 2.50
Below Mean = — 2.48
23.9
65.0 41.1 ✓
211.0 29.3 ✓
240.3 70.4 ✓ — 2.49

29.8 — 2.50
10′ 24.6 60.3 30.5 ✓
43.0 206.4 39.5 ✓
1″ 21.5 246.2 #2 70.0 ✓ — 2.51
16 19.9

P.A. = 148.3 Var B Final M = — 2.51
S.T. = 6:15
H.A. = 2:28 West alt. rather high.
Dec. = +33.6
Sprocket { 3.5 a.
4.5 B.
5.1 C.

July 1. 1903. (Wednesday).

R Lyrae. Phot. T. W. obs.

18 52 +43.8
15 13
−3 39
8 21

Cloudy. Abandoned.

Var. 130802. W. obs. Phot. T.

13 5 −1.°5
16 10
+3 5

Abandoned.

Var. 185905 Phot. T. W. obs.
This variable is V. Aquilae
18 58 −5,°1
16 29
−2 29
9 31

∴ Comp. Star = B.D. −5° 4848 (7.0)

~~Hot~~ For observations, see next page.

July 1. 1903.

Index left & above

- ~~17.0~~
- 10.8 < ~~#~~ Comp. star dis.

10h 9m - 77.0

- 183.3   66.2 ✓

266.2   82.9 ✓

149.1 ✓   +0.59

-

- 3.2   83.1 ✓   +0.60
- 86.3   64.5 ✓
- 193.7   147.6 ✓

~~257.3~~ 258.2   +0.62

Index right & below

- 283.8   62.3 ✓
- 346.1
- 99.8   71.9 ✓

171.7   134.2 ✓   +0.89

-

+0.94

- 280.8   70.2 ✓
- ~~349.6~~ 351.0
- 105.8   59.9 ✓

165.7   130.1 ✓ +0.96

10 18

10 13.5

mean +0.77

~~S. F.~~

~~f.~~

Same again
July 1. 1903

~~287.8~~ 289.2
10 24 345.7 56.5 ✓
~~96.4~~ 99.5 73.1 ✓
172.6 129.6 ✓ +0.99 ✓

277.5 +0.94 ✓
350.4 72.9 ✓
105.8 62.1 ✓
167.9 135.0 ✓ +0.88 ✓

Left & above
193.6 58.6 ✓
252.2
3.3 89.1 ✓
92.4 147.7 ✓ +0.62 ✓
~~182.9~~
~~265.0~~ 182.9 +0.59 ✓
10 34 265.0 82.1 ✓
10 29 9.3 68.9 ✓
78.2 151.0 ✓ +0.56 ✓

mean +0.76
Gen. mean +0.76

S. T. 17.33
~~H~~. A. 10.37 = −1.33
Dec. −5.5
P. A. 298.7
Sprocket 4.5 A
" 5.5 B
" 6.0 C

July 1, 1903.

μ Cephei. Phot. T. W. obs.

21 39 +58.1
17 45
3 54
8 6

~~Abov~~
Above

~~23.8~~ 26.2 < Var. dis.
11 06 67.6
205.2 41.4
~~248.1~~ 246.2 41.0
82.4 −2.12

26.8 (−2.18)
66.0 39.2
207.0 38.9
245.9 78.1 −2.25

Below
299.2
333.0 33.8
115.6 36.6
152.2 70.4 −2.49

298.7 34.2 (−2.50)
11 13 ± 332.9
11 9.5 116.6 35.8
152.4 70.0 −2.51

mean −2.34

July 1. 1903.

S.T.	18.08	
H.A.	8.30 = −3.30	
Dec.	+58.5	
P.A.	173.8	
Sprocket	0.5	A
"	1.5	B
"	2.1	C

Night poor with much cloudiness at the first, but ~~somewhat~~ better later, during observations. Observations considered good.

L. P. P.

July ~~2~~, 1903 (Thursday)

W's watch is 14 secs. fast. at 7h 30m P.M.

Z Herculis. Phot. I. H. obs.

17 52 + 14.5
14 54
-2 58
9 2

17 52
15 12
2 40
9 20

Index left & above

8 25 45
~~8h. 45m. 7~~
23.0 ← Var. dis. 38.1 ✓
61.8′
~~210.7~~ 209.9 32.2 ✓
242.1 70.3 ✓ −2.50 ✓

(−2.43) ✓

30 12
~~29 18~~
27.0
~~60.4~~ 62.3 35.3 ✓
205.7 39.4 ✓
245.1 74.7 ✓ −2.36 ✓

Right & below I

34 45
295.2 39.7 ✓
334.9
120.5 30.9 ✓
151.4 70.6 ✓ −2.49 ✓

July 2, 1903.

300.3

~~38 07~~ 50 ~~331.5~~ 30.5 ✓ (-2.54) ✓

38 50 330.8

129 32 117.6 37.1 ✓

8 32 23 154.7 67.6 ✓ -2.59 ✓

mean -2.48 ✓

5 - 14

13 32 9 G.M.T.

6298

Same again

297.3 37.9 ✓

47 15 335.5

120.7 29.8 ✓

150.5 67.7 ✓ -2.59 ✓

II

(-2.56) ✓

299.7 29.8 ✓

51 05 329.5

116.2 39.4 ✓

155.6 69.2 ✓ -2.53 ✓

left + above

204.6 36.6 ✓

55 10 241.2

26.9 35.7 ✓

62.6 72.3 ✓ -2.43 ✓

~~208.3~~

~~208.3~~

~~58 40~~ ~~242.6~~ (-2.36) ✓

21.8 43.1 ✓

~~9 00 05~~ 5 ~~64.3~~

9 00 50 64.9 34.6 ✓

214 20 209.2 77.1 ✓ -2.26 ✓

8 53 35 13 53 21 G.M.T. 243.2 mean -2.46 ✓

July 7 1903

Same again.

27.9 33.9
9 14 00 61.8
204.9 40.5
245.4 74.4 -2.36

(-2.45)

24.2 36.9
16 35 61.1
209.6 32.2
241.8 69.1 -2.54 III

Right & below

295.9

~~20 15~~
20 40 332.0 36.1
120.6 29.7
150.3 65.8 -2.65

299.1 29.9 -2.55
23 30 329.0
117.2 41.7
7 4 45 158.9 71.6 -2.45

9 18 41 Mean -2.50
5 -14
14 18 27 G.M.T.
6298

July ~~1~~ 2. 1903.

Same again

300.4

9

~~27~~ ~~50~~ ~~335.3~~

34.4 ✓

9 30 40 334.8

120.0 30.3 ✓

150.3 64.7 ✓ -2.69 ✓

(-2.64) ✓

IV

299.7 28.7 ✓

33 50 328.4

116.0 39.0 ✓

155.0 67.7 ✓ -2.59 ✓

left + above

203.9 42.5 ✓

38 10 246.4

29.3 31.2 ✓

60.5 73.7 ✓ -2.39 ✓

(-2.37) ✓

210.2 31.4 ✓

41 10 241.6

22 50 22.9 43.4 ✓

9 35 42 66.3 74.8 ✓ -2.35 ✓

5 -15

Mean -2.50 ✓

14 35 27 ~~G.M.T.~~

6298.

July 2, 1903
Same Again

	204.8	40.7		
9 47 30	245.5			
	28.0	31.5		
	59.5	72.2	-2.43	
				(-2.48)
	209.8	31.9		
51 05	241.~~4~~7			
	29.8	37.6		
	67.4	69.5	-2.52	V

Right + below

	117.3	37.5		
56 10	154.8			
	299.7	29.5		
	329.2	67.0	-2.61	
				(-2.64)
	120.3	30.2		
59 05	150.5			
2/3 50	296.9	35.4		
9 53 28	332.3	65.6	-2.66	
5 -15				mean -2.56
14 53 13 G.M.T.				
629ft.				

July 2, 1903.

Same again

116.1 39.5

10 07 10 155.6

300.2 28.8

329.0 68.3 −2.56

(−2.62)

~~11 08~~ 121.5 29.3

11 08 150.8

296.5 35.3

~~332.9~~ 331.8 64.6 −2.69

VI

left + above

23.1 44.3

19 50 67.4

210.5 30.2

240.7 74.5 −2.36

~~28.9~~

(−2.37)

~~23 35 60.6~~

209.5 31.3

25 50 240.8

63 58 22.7 42.6

10 16 00 65.3 73.9 −2.38

15 15 ~~45~~ G.M.T.

6298.

mean −2.50

July 2, 1903.

Same again

205.6 38.8 ✓
10 39 45 244.4
28.7 32.5 ✓
61.2 71.3 ✓ −2.46 ✓

(−2.46) ✓

209.9 31.2 ✓
45 10 241.1 39.9 ✓
25.0 71.1 ✓ −2.47 ✓
~~65.2~~ 64.9

VII

Right & below

117.4 35.4 ✓
51 05 152.8
~~300.6~~ 29.6 ✓
330.2 65.0 ✓ −2.68 ✓

(−2.68) ✓

120.5 30.0 ✓
55 35 150.5
34.6 ✓
193 35 297.7 64.6 ✓ −2.69 ✓ mean −2.57 ✓
332.3

10 47 54 ~~G.M.T.~~
15 47 39 G.M.T.
6 298

S.T. 17 55
H.A. +0h 1m
Dec +15.0
P.A. 292.0
Sprocket ~~292.0 B~~ 5.5 B
6.5 C

W's watch used to night.
Watch 15 secs. fast at 11h 15m P.M.

July 3, 1903 (Friday)

Z Herculis Phot T W. obs.

17 52 +14.5
15 00
−2 52
9 08

Sky somewhat cloudy in this region at present time.

17 52
15 07
−2 45
9 15

17 52
15 20
−2 32
9 28

July 3, 1903.

Index left & above

24.3
8 51 15 ~~64.7~~ 65.2 40.9 ✓
209.3 32.7 ✓
242.0 73.6 ✓ ~~−2.44~~ −2.39 ✓

28.7 32.3 ✓ (−2.40 ✓)
61.0
204.1 40.7
244.8 73.0 ✓ −2.41 ✓

Right & below
297.8 34.2 ✓
332.0
121.4 28.9 ✓
150.3 63.1 ✓ −2.74 ✓

299.8 26.9 ✓ (−2.71 ✓)
9 01 10 228.7
116 25 118.3 36.0 ✓
8 58 12 154.3 64.9 −2.68 ✓
5 −~~48~~
13 57 24
6299.

mean −2.56 ✓

July 3, 1903.

Same again

296.4 35.6 ✓
9 07 05 332.0
122.5 27.3 ✓
149.8 62.9 ✓ −2.75 ✓

300.6 26.8 ✓ (−2.78) ✓
327.4

Clouds. Stars gone.

118.2 34.5 ✓
152.7 61.3 ✓ −2.41 ✓

~~left~~

left + above

203.4 41.4 ✓
244.8
29.6 31.3 ✓
60.9 72.7 ✓ −2.42 ✓

209.5 32.0 ✓ −2.42 ✓
22 30 241.5
29 35 ~~23.7~~ 24.3 40.8 ✓
9 14 48 65.1 72.8 ✓ −2.42 ✓
14 14 00 S.M.T.
.6299.

Mean −2.60 ✓
Gen. mean −2.58 ✓

202.9
27 20 244.2 41.3
28.1 34.2
62.3 75.5

July 3, 1903

S. T. 16 34
H. A. -1h 18 m.
Dec +15.0
P. A. 111.3 Ver V.
Sprocket 5.5 B
6.5 C

Region ~~thoroly~~ identified again to-night. Transit between var. & comp. star also taken. Comp. star used to-night, ~~same as~~ last night, & ~~prev~~ on a previous night recently, is ~~the~~ regular comparison star. It looks as if comp. star had changed a little in brightness.

July 3, 1903

150619 ι Librae. Phot. T. L.W. obsr

15 4 −19.3
16 53
+1 49

15 4
16 57
1 5$\overset{3}{\text{X}}$

For observations, see next page.

July 3, 1903

Right & above

15.5 < Far dis.

10 09 00 76.3 60.8✓

197.0 54.8✓

251.8 115.6✓ −1.29✓

18.3 57.2✓ (−1.27)✓

75.5 60.4✓

196.5

256.9 117.6✓ −1.25✓

left & below

290.6 49.6✓

340.2

112.3 48.5✓

160.8 98.1✓ −1.70✓

290.9 47.2✓ (−1.70)✓

16 58 338.1

25 50 112.2 50.9✓

10 12 55 163.1 98.1✓ −1.70✓

15 12 7 G.M.T. mean −1.48✓

6299

July 3, 1903.

~~292~~ Same again

292.2

10 19 10 338.1 45.9✓

~~19~~ ~~10~~ 111.~~8~~4 49.9✓

161.3 95.8✓ -1.76✓

290.5 48.1✓ (-1.71✓)

338.6

110.5 51.7✓

162.2 99.8✓ -1.66✓

Right + above

197.7 55.2✓

252.9

17.3 54.2✓

71.5 109.4✓ -1.43✓

199.8 52.0✓ (-1.42✓)

28 10 251.8

15.7 58.6✓

10 47 20ˢ 74.3 110.6✓ -1.40✓

15 46 32ˢ G.M.T.

6299.

Mean -1.56

Gen. Mean -1.52✓

S.T. 17.30

H.A. + 2 23

Dec. -19.4

P.A. 66.4

Sprocket 4.5 A

5.5 B

6.0 C

July 3, 1903.

184408 δ Scuti. Pr. obs. Phot. I.

18 42 -8.1
17 49
-0 53
11 07

18 42
17 54
-0 48
11 12

18 36 -8.5
17 59
-0 37
11 21

Comp. Star = B.D. -8° 4732 (8.2)

For obs, see next page.

July 3, 1903,

left + above

13.9 ∠ var. dis

11 09 00	75.3	61.4 ✓		
	191.3			
	258.2	66.9 ✓		
		128.3 ✓	−1.01 ✓	
	11.9	67.5 ✓		(−1.02 ✓)
	79.4			
	195.4	59.8 ✓		
	255.2	127.3 ✓	−1.04 ✓	

Right + below

	289.3	52.3 ✓		
	341.6			
	103.7	61.7 ✓		
	165.4	114.0 ✓	−1.33 ✓	
	285.2	61.0 ✓		(−1.32 ✓)
16 40	346.2			
25 40	108.7	54.0 ✓		
11 12 50	162.7	115.0 ✓	−1.30 ✓	
5 48				mean −1.17 ✓
16 12 02				
6299.				

July 3. 1903.
Same again

287.7 54.1 ✓
19 10 341.8
106.6 56.6 ✓
163.2 110.7 ✓ −1.40 ✓

285.7 59.3 ✓ (−1.38 ✓)
345.0
108.7 53.7 ✓
162.4 113.0 ✓ −1.35 ✓

left & above
196.7 56.5 ✓
253.2
12.2 65.1 ✓
77.3 121.6 ✓ −1.16 ✓

195.7 60.5 ✓ (−1.12 ✓)
28 30 256.2 64.4 ✓
47 40 12.1 124.9 ✓ −1.09 ✓
16 23 50 76.5
5 ~~4~~8 mean −1.25 ✓
16 23 02 S. T. 18. ~~29~~ 31 Gen. mean. −1.21 ✓
~~16~~ H. A. −0 h 14 m.
6299 Dec. −8.1
P. A. 104.8 Var. a
Sprocket 6.5 B
7.5 C

W's watch used to night on all the obs.
Watch is 48s fast.

July 4. 1903. (Sunday morn.)

B. & C. 11 A 2.
13 12 43.0
13 43.0

Ballou 103.
13 13 0.0
14 0.0

Dis. Jup. II. Plot. R. H. obs. Brasch rec.
Comp. with nearest sat. of two on fol. side
= Sat. I.

	13 ~~41 5~~	~~197.2~~ abandon		
	41 35	102.0		
13 42 14 +21	~~41 55~~	~~1~~		
13 42 39	42 18	203.5	101.5	1
	42 32	100.2	102.0 101.8	
	42 47	202.2		
	42 58	103.0		
13 43 17	43 10	201.3	98.3	2
21	43 23	101.0	103.0 100.6	
13 43 38	43 36	204.0		
	43 52	101.5		
13 44 12	44 05	204.5	103.0	3
+21 13 44 33	44 19	102.5	100.1	
	44 33	202.6	101.6	
	44 47	101.3		
13 45 19	45 15	205.9	104.6	4
21	45 30	103.7	100.5	
13 45 40	45 44	204.2	102.6	
	46 4	101.0		
13 46 36	46 24	202.6	101.6	
22	46 53	101.8	101.2	5
13 46 58	47 03	203.0	101.4	
	47 15	101.5		

July 4. 1903.

13 47 25 203.7 ⑥ 102.2
13 47 31 x 47 34 101.8 10 ~~0~~ 2
+22 10.3.2
13 47 53 47 49 206.0

Stopped for Mr. Brasch to go down to Photographic instrument.

♀'

13 ~~55~~ 56 00 Clouds
56 30 Clouds
57 40 Clouds
57 55 Clouds Phot. removed and ordinary eye piece put on

13 58 43 x 58 20 Sat II seen
59 13 x 58 50 Clouds
59 51 x 59 28 Sat II not seen, somewhat cloudy
14 00 39 x 00 16 → Sat II not seen others sats. seen ~~other sats. seen~~
00 53 x 30 → Sat II not ~~seeing~~ ~~sky clear~~ other sats. seen. Sky considerable clear

1 27 x 1 04 Clouds thicker other sats. gone
2 11 x 1 48 Sky somewhat clear Sat II not seen
3 03 x 2 40 other Sats. seen Sat II not seen sky much clearer
3 28 x 3 05 other sat. ~~not~~ seen Sat II not seen sky clearer

About 8 or 10 m before the occu sky became somewhat cloudy

July 4. 1903.

in region of Jupiter. After waiting until within 3 or 4 min of eclipse time, found it could not be found phot. so that ordinary eye piece was put in

B. + C. 1182.
14 28 34.7
29 34.6

Ballou 103.
14 29 0.0
30 0.0

July 6, 1903

Z Hercules Phot T. W. obs.

17.52 +14.5
15.07
— 2 45
9 15

17 52
15 12
— 2 40
9 20

W's watch used throughout evening for times.
Watch is 45 secs. fast.

July 6, 1903

Index left & above

23.2
8 24 30 66.9 43.7
209.6 31.2
240.8 74.9 -2.35

27.3 34.3 -2.34
61.6
204.5 41.5
246.0 75.8 -2.32

Right & below

297.0
334.7 37.7
120.6 30.6
151.2 68.3 -2.56

299.9 30.4 -2.54
330.3
38 30 116.8 39.5
156.3 69.9 -2.51

Mean -2.44

8 31 30
5 - 45

13 30 45 = G.M.T.
~~6 2~~ 6302.

July 6, 1903

Same again

296.6 37.4
8 46 50 334.0
120.6 30.1
150.7 67.5 −2.59

299.6 31.1 −2.48
330.7
116.4 43.1
159.5 74.2 −2.37

left & above

204.1 41.1
245.2
28.5 32.5
61.0 73.6 −2.39

208.0 32.8 −2.32
57 40 240.8
~~70~~ 22.9 45.6
104 30 66.7 ~~68.5~~ 78.4 −2.24

mean −2.40 ~~−2.38~~

8 52 15
5 −45
13 51 30 G.M.T.

63 az.

July 6, 1903
Same again

203.8
9 11 55 244.1 40.3
28.1 32.3
60.4 72.6 -2.42

209.8 31.6 (-2.38)
9 17 20 241.4
27.5 43.5
66.0 75.1 -2.34

Right + below

116.7 39.1
22 20 155.8
300.2 30.3
330.5 69.4 -2.53

121.1 30.6 (-2.54)
26 00 151.7
77 35 296.4 38.2
9 19 24 334.6 68.8 -2.55
5 - 45
mean -2.46
14 18 39.9 M.T.
6302.

July 6, 1903

Same again

117.2
9 36 00 153.7 36.5
300.3 29.5
329.8 66.0 −2.64

120.9 30.0 (−2.62)
39 45 150.9
295.3 37.6
332.9 67.6 −2.59

left & above

23.8 41.6
44 50 65.4
209.2 31.1
240.3 72.7 −2.42

27.1 33.6 (−2.42)
48 10 60.7
8 45 205.0 39.5 −2.41
9 42 11 244.5 73.1
5 45 mean −2.52
14 41 26 G.M.T.
6302.

July 6, 1903.

Same again

25.0
9 58 00 60.4 35.4

210.1 34.8
244.9 70.2 −2.50

28.1 ~~30~~
33.5 (−2.46)
10 02 40 61.6

206.1 34.7
244.8 72.2 −2.43

Right & below.

297.1 35.7
10 09 40 332.8

121.7 28.4
150.1 64.1 −2.71

121.7 ~~300.0~~ (−2.69)
16 10 150.3 28.6
~~256 30~~ 296.7 36.6
19 04 08 333.3 65.2 −2.67
5 −45 mean −2.58
~~15 03 23 M.T.~~ S.T. 17.36
6 30 2. 11 45 H. A. −0h 18m.
Dec +15.0
P.A. 290.0 Vern. B
Sprocket 5.5 B
6.5 C

July 6, 1903.

Comet c 1903 Borrelly H. obs.

$21^h\ 15^m$ +19°
17 58
−3 23
8 37

21 15
17 55
−3 20
8 40

21 h 14^m +19° = Computed place of c

18 02
−3 12
8 48

21 h 14 m Approx. Corr. to Eph. is +8m −3°.6

18 07
−3 07
8 53

Approx place of Comet below

S. T. $18^h.22^m$

11 h 13 m ~~H. A. −3 h 5~~ -2^h. ~~5~~ h 59.5^m m.

Dec +15°.6

~~P. A.~~

~~Spracket~~

$18^h\ 22^m$ S. T.
−3 0
21 22 Setting on
+15°.6 .. ..

July 6, 1903.

At 11.32 E.T. comet precedes bright star 23.5 secs. & is 7.7′ South of it.

Brt. star above mentioned is +15° 4416 (6.5)

At 11.45 E.T. Comet precedes bright star mentioned above by 37.5 secs. & is in same dec. as bright star.

Comp. Star used in phot. measts. of ☄ on next page (139) is +15° 4420 (8.5)

Meast. of light of ☄ c (Borrelly) with Phot. T.
Pr. 800.

measts. recorded on p. 139.
" were those of nucleus.

Nucleus is rather stellar and light surrounding it fades away into a sort of flare. No very definite coma in large telescope. Haziness rather more pronounced in finder. Moon rather bright. (and will be full on the 9th.

July 6, 1903.

Comet c (Borrelly) Fr. obs.
meast. of Nucleus Phot. J.

Above
289.9 ⟨ Comp star dix
115450 341.5
113.7 51.6
157.3 43.6
95.2 +1.78

291.3 46.1 (+1.71)
337.4
107.3 54.5
161.8 100.6 +1.64

Below
194.4 60.9
255.3
19.6 50.4
70.0 111.3 +1.39

201.5 50.8 (+1.37)
120340 252.3
118 30 13.0 62.3
11 59 15 75.3 113.1 +1.35
5 -45 mean +1.54
16 58 30

S.T. 19.17
6302. H.A. - 2 h 5 m
12 9 Dec + 15.8
P.A. 231.7° Dev. B
Sprickit 5.5 A
6.5 B

Comp. Star used in above phot. measts.
is + 15° 4420 (A.5)

July 7, 1903 (Tuesday)

Var. 130802 Phot I. W. obs.

13 5 −2,8
15 29
2 24

13 5
15 37
2 32

W's watch used for times to-night.
Watch 44 secs. fast.

For measts, see fol. pages.
Comp. star = −1° 2786 (8.0). Same c.v.
as on June 2. '03.

July 7, 1903.

Index ~~left~~ above.

277.~~8~~4 2 radis

8 45 00 352.8

92.0 75.4 ✓

182.7 90.7 ✓

166.1 ✓ −0.26 ✓

270.1 89.1 ✓ (−0.26) ✓

359.2

96.4 77.7 ✓

174.1 166.8 ✓ −0.25 ✓

Below

185.0 21.3 ✓

266.3

355.3 99.7 ✓

95.0 121.0 ✓ +0.02 ✓

178.3 95.2 ✓ (0.00) ✓

~~9~~8 55 00 273.5

8 50 00 2.7 84.0 ✓

5 — 44 86.7 179.2 ✓ −0.02 ✓

13 49 16 G.M.T.

6303.

mean −0.13 ✓

July 7, 1903

Same again

185.1 far dis.

8 58 45 267.8 82.7 ✓

354.4

97.2 102.8 ✓

185.5 ✓ +0.10 ✓

176.8 98.3 ✓ (+0.08 ✓) ~~+0.04~~

275.1

1.8 84.7 ✓

86.5 183.0 ✓ +0.06 ✓

Above

96.4 79.1 ✓

175.5

266.6 95.5 ✓

2.1 174.6 ✓ −0.10 ✓

86.6 97.1 ✓ −0.10 ✓

9 07 50 183.7

126 35 275.7 76.9 ✓

9 03 18 352.6 174.0 ✓ −0.11 ✓

5 − 44 mean −0.01 ✓ ~~−0.03~~

14 02 34 G.M.T.

6303.

July 7, 1903

Same again

94.2
9 17 175.1 80.9
270.6
357.6 87.0
167.9 −0.23

91.7 88.3
180.0 (−0.24)
275.7 78.1
353.8 166.4 −0.26

Below

4.4 83.6
88.0

177.7 94.7
272.4 178.3 −0.03

353.4 102.0 (+0.03)
9 26 45 95.4
43 45 183.7 82.6
9 21 52 266.3 184.6 +0.09
5 .44
14 21 08 G.M.T. mean −0.10
6303.

S.T. 16.54
H.A. ~~3.45~~ +3h 45m.
Dec. −2.4°
P.A. 145.0 Ver. B
Spreckd 4.5 B
5.5 C

July 7. 1903.

Cloudy.

Comet c (Borrelly) W. ob.

21 16 +19.0
17 07
− 4 09
7 51

Approx. position of Comet.
S.T. 17.15 ∴ setting over ⊕ is
H.A. − 4 h 2 m 21h 17m +18°.6
Dec +18.6 Approx. Corr. to Eph. +9m −3°.8

Comp. Star in fol. measts. is

+18° 4772 (A.G.)

At 10.40 Comet precedes Comp star 64.5 secs
& is 1.5' north of it.

July 7, 1903

Left + above — Meast. of Nucleus.
Phot. T. H. obs.
Nucleus rather stellar.

296.0 < Comp Star dis

10 53 40 — 336.3

110.6 — 7

164.2 — 40.3 / 53.6 / 93.9 — +1.81

285.9 — 55.2 — (+1.72)

341.1 Clouds — 46.2

112.9 — 101.4 — +1.62

~~153.0~~ 159.1

Right + below

198.2

252.3 — 54.1

20.7 — 46.7 / 100.8 — 1.64

67.4

(+1.55)

202.3 — 48.1

11 24 15 — 250.4 — 59.9

1 38 05 — 14.5 — 108.0 — 1.46

11 09 02 — 74.4 — mean +1.64

6 08 24 G.M.T.

6303.

S.T. 18.42

11 27 10 — H.A. −2h 36m

Dec. +18.7

P.A. 297.5

Sprocket 4.5 & 5.5 – B & C

Obs. rather diff. – made through some cloud. Extreme care exercised. Obs. ½ wt.

over

July 7. 1903.

Obs. on Comet difficult and through more or less cloud. All possible care exercised. but obs. difficult. and ½ wt.

Although it is rather cloudy, and more so at times, it would seem as if there was a little more coma clustering about the nucleus of the ☄ to night, in large telescope as well as finder. The coma in the moonlight, is not very pronounced, however.

July 8, 1903

Var 125705 R. T. Virginis
Phot. T. W. obs.

12.54 + 5.1
15.30
2.36

12.54
15.35
2.41
12.48 + 4.1
15.38
2.50

Comp. star = +5° 2710 (8.6)

W's watch used for times to right.
Watch 42 secs. fast.

July 8, 1903

Right r above

91.7 ← Comp. star dis.

8 50 40 178.5 86.8

280.1 68.8 ✓

348.9 155.6 ✓ +0.47 ✓

102.6 66.6 ✓ (+0.52 ✓)

169.2

274.6 83.0 ✓

357.6 149.6 ✓ +0.58 ✓

left r below

354.8 98.8 ✓

93.6

184.4 82.3 ✓

266.7 181.1 ✓ − 0.02 ✓

3.7 80.9 ✓ [+0.02 ✓]

9 10 20 84.6

A 55 30 177.3 95.7 ✓

~~5 — 4~~ 273.0 176.6 ✓ +0.06 ✓

13 ~~55.4~~ 54.8 G.M.T. mean +0.2~~5~~7

6304.

July 8, 1903.

Same again

9 02 40 3~~56.4~~ 357.4
90.4 93.0
184.0 83.9
267.9 176.9 +0.06

5.1 82.3
87.4
177.5 94.5
272.0 176.8 +0.06

(+0.06)

Right & above
271.6 83.9
355.5
101.2 69.0
170.2 152.9 +0.52

280.8 67.3
348.1
89.8 86.8
176.6 154.1 +0.50

(+0.51)

9 10 30
9 06 35
~~14 06.6~~
14 05.9
6304.

Mean +0.26
Gen. Mean +0.28

S.T. 16.37
H.A. + 3 h 39 m
Dec + 5.4
P.A. 275.0 Tow B
Sprocket 3.5 A
4.5 B

July 8, 1903.

Comet c (Borrelly) G. B.

21 5 +23.9
16 48
-4 17
7 43

21 5
16 52
-4 13
7 47

21 7 +23.9
17 6
-4 1
7 59

Cloudy

"

Clouds, thick" everywhere. No chance for anything further. Tried a long time to get the comet but atmospheric conditions are so bad & moon so bright that it can not be found to-night.

July 9, 1903. (Thursday)

Var 20036 Phot T. W. Obs

20 1 +36.5
15 35
4 26
abandoned,

~~V.~~ Var 185905 V. Aquilae
W. Obs. Phot T.

18 58 −5.1
15 55
−3 3
8 57

July 9, 1903,

Index left & above

8 53 20

356.6 < Cross st dis

94.6

179.8 98.0

272.8 93.0

191.0 −0.21

169.0

359.7 90.8

90.5 (−0.18)

176.4 97.0

273.4 187.8 −0.15

172.2

Right & below

269.9 87.8

357.7

94.1 84.0

178.1 171.8 +0.16

271.8 86.0 (+0.14)

9 02 20

357.8

115 40

92.7 87.0

8. 57 50

179.7 173.0 +0.13

5 −41

13 57 09

mean = −0.02

6305.

S.T. 16.31

H.A. −2 h 28 m.

Dec. −5.8°

P.A. 300.4

Sprocket 4.5 A

5.5 B

6.0 C

July 9, 1903

Var 130837 S. Canum Ven.
Phot. T. W. obs.

13 3 + 38.2
16 45
3 42

abandoned for present

Comet c Borrelly W. obs.
measᵗ. of Nucleus.
20 57 +29.6
16 52
− 4 5
7 55

Approx position of Comet
9.48 S.T. 17.10
H.A. − 3h 56m.
Dec. 25.70

17.10
− 3.56
~~14~~
21.06 = R.A.

Comp. Star in fol. group. on ≡ is
+25° 4475 (8.5)

July 9, 1903

Index left & above

288.7

Comp st div

10 15 15 344.4

112.1 55.7 ✓

157.6 45.5 ✓

101.2 ✓ +1.63 ✓

293.0 45.0 ✓ +1.66 ✓

338.0

107.7 53.8 ✓

161.5 98.8 ✓ +1.69 ✓

Right & below

193.6 62.2 ✓

255.8

6.7 63.4 ✓

70.1 125.6 ✓ +1.07 ✓

200.3 60.8 ✓ +1.04 ✓

10.25 25 261.1

10 20 20 9.9 67.4 ✓

~~15~~ 77.3 128.2 +1.02 ✓

15 19 39. G.M.T. mean +1.35 ✓

63035

S.T. 17.51

H.A. − 3h 15m

Dec + 25.9

P.A. 269.6 ver. B

Sprocket 5.5 A

6.5 B

7.0 C

July 9, 1903
var 138837 S Canum Ven.
Phot T. W. Obs.

13	3	+ 38.2
17	56	
−4	53	
7	7	
13	3	+38.2
18	7	
−5	4	
13	3	+ 38.2
18	14	
5	11	

July 9, 1903.

Left & above

92.6 Comp. St. dis.

11 ~~08~~ 10 45 181.1 88.5 ✓

279.3

354.2 74.9 ✓

163.4 ✓ +0.32 ✓

98.5 70.4 ✓ +0.35 ✓

168.9

270.3 89.9 ✓

0.2 160.3 ✓ +0.38 ✓

Right & below

354.6

92.4 97.8 ✓

184.1 78.5 ✓

262.6 176.3 ✓ +0.07 ✓

1.9 86.2 ✓ +0.02 ✓

11 20 20 88.1

11 15 32 178.5 95.9 ✓

16 14 51ˣ 4.m.T 274.4 182.1 ✓ −0.04 ✓

mean +0.18 ✓

6305.

S.T. 18.48

H.A. + 5h.38m.

Decl +37.5

P.A. 190.6

Sprocket 6.5 B

7.5 C

July 9. 1903.

Rather Low altitude and full moon prevented obs. of second group.

W's watch used to night for times.
Watch 41 secs. fast.

July 10, 1903 (Friday)

Var 18 59 0-5 V. Aquilae
Phot I. W. obs.

18 58 — 5.1
15 32
− 3 26
8 34

18 58
15 35
−3 23
8 37

July 10. 1903.

Left & above

Var. dis.

90.3 ← 91.0

8 26 45 181.3

270.2 89.0

359.2 180.0 0.00

91.1 89.3 -0.04

180.4 86.2

271.2 175.5 -0.08

357.4

~~Right & below~~

~~355.9~~ ~~176.2~~

~~95.1~~ 99.2

~~179.5~~ 91.6

~~271.x~~ 190.8

~~355.0~~

~~97.0~~

Right & below

176.2

275.4 99.2

355.4 96.9

92.3 196.1 +0.30

163.9

177.7 93.5 +0.30

839.10 271.2

103.0

65 55 353.2

196.5 +0.31

8 32 29 96.2

5 -44 163.5 Mean +0.13

13 36 45 GMT

July 10, 1903

Same again
174.7
8 41 00   275.6

S.T. 16.14
H.A. -2h44 m.
Dec -5.8
P.A. 300.4 TEWB
Sprocket 4.5 A
5.5 B
6.0 C

As clouds are approaching slowly from the north, abandoned 2d set on above var. in order to get the comet if possible.

July 10, 1903

Comet c Borrelly Phot T. W. Obs

20 55 + 31.3
16 22
-4 33
7 27

20 55
16 24
-4 31
7 29

Approx position of Comet
9 02 S.T. 16.27
H.A. -4h 29m
Dec +29.7°

16.27
4.29
20.56 = R.A.

Star B follows Star A 10 secs.
& is ~~16.5~~ 1'.70 ~~minutes~~ north of it
9 19 15 Comet precedes Star B 17 secs.
& is 4.9' north of it.
Star A mentioned above is +29° 4577 (8.4)

July 10. 1903.

∴ ☄ prec. star A by 7 secs. and is 21.9 north of it at $9^h\ 19^m$ East. T.

21 00
17 23
−3 34
8 26

Comp Star for Fr photo-metric meast on Comet is
+39° 42 53 (6.7)

July 10, 1903.

Left + above

209.6 < Cramp Studies

10 56 00 240.4 <

33.2 30.8 ✓

56.2 23.0 ✓

$\overline{\;\;\;\;}$ 53.8 ✓ + 3.11 ✓

214.4 22.0 ✓ (+ 3.12 ✓)

236.4

28.5 31.0 ✓

59.5 $\overline{\;\;\;\;}$ 53.0 ✓ + 3.14 ✓

~~by~~ Right + below

121.9 25.5

147.4

304.4 21.0

325.4 $\overline{\;\;\;\;}$ 46.5 + 3.43

125.5 (+ 3.44)

11 03 00 146.8 21.3

10 59 30 301.5 24.9

5 −44 326.4 $\overline{\;\;\;\;}$ 46.2 + 3.45

15 58 46 G.M.T. Mean + 3.2[illegible]

6306.

S.T. 18.30

H.A. − 2 h 4 m

Dec + 30.0

P.A. ~~26.5~~ 265.5 Tev. B

Sprocket 1.5 A

2.5 B

3.0 C

July 10, 1903.

U. Z. Cygni

21 h 55 m +43.9°
18 35
−3 20
8 40

Impossible to do anything with variable to-night. Moon one day past full sky very bright var. faint, light clouds also.

W's watch used throughout to-night for ~~two~~ times.
Watch 44 secs. fast.

July 11, 1903. (Saturday)

Williams' new Antalgol Var.

18 38 +39.7
15 17
-3 21
8 39

Arandrud

~~Z Hercules~~ Phot. T. W. obs.
Arandrud

Var. 185905 V. Aquilae
Phot. T. W. obs.

18 58 -5.1
15 47
-3 11
8 49

18 58
15 53
-3 05
8 55

W's watch used for times to night.
Watch 45 secs. fast.

Right ascens. July 11, 1903.

183.0

8 33 00 272.2 Comp Star dec

0.6 89.1

91.7 91.1

180.2 0.00

182.1 87.1 (+0.07)

269.2

1.1 90.9

92.0 178.0 +0.04

legs & follow

91.9 86.5

178.4

275.6 79.3

354.9 165.8 +0.27

93.9 82.4 (+0.30)

8 41 20 176.3

74 20 273.1 80.2

353.3 162.6 +0.33

8 18 35

mean +0.16

5 45

13 17 40 G.M.T. S.T. 16.20

6 30' H.A. − 2h ~~50~~ 37 m

Dec − 5.8

P.A. 300.8 Ver B

Sprocket 4.5 A

5.5 B

6.0 C

July 11, 1903.

Comet c Borrelly. — Sr. obs.

20 56 +29.7
-11 +5.5
20 45 +35.2
16 25
-4 20
7 40

20 45
16 28
-4 17
7 43

S. T. 16, 29
9 02 H. A. -4 h. 16 m
Dec + 34.2°

R. A. = 16 29
4 16
20 45

~~Star B~~ follows ~~Star a~~ 1 m 7 secs.
& is ~~about~~ 6' south of it. Mag-
nitude of a 5.8, of B 7.~~2~~5
~~Star C follows Star~~ B 60 secs &
~~is about~~ 6' north of it.
Star D follows ~~Star~~ C 28 secs &
is 0.5' South of it. Magn. of C 8.2,

July 11, 1903.

of D, 8.6. Star E precedes Star C
about ±50 secs & is 2.2' north of it.
Magn. of E, 8.7.
Star B is comp star for
photometric measts.
Star B follows comet a little
less than a minute & is about
4.0' north of comet.
9 14 45 Star H precedes the comet 6 secs
& is 6.0' south of it.

20 45 +34.2
16 44
−4 01
7 49

July 11. 1903.

Left & above

299.7 Comp St dis
9 21 05   332.3   32.6 ✓
120.8
151.3   30.5 ✓
63.1 ✓   +2.74 ✓

300.7   29.5 ✓   (+2.74 ✓)
330.2
117.8   33.4 ✓
151.2   62.9 ✓   +2.75 ✓

Right & below

205.8
245.5   39.7 ✓
28.6   33.8 ✓
62.4   73.5 ✓   +2.39 ✓

211.2   32.2 ✓   (+2.39 ✓)
9 28 45   243.4
9 50   23.5   41.3 ✓
64.8   73.5 ✓   +2.39 ✓ mean +2.56 ✓
9 22 55
14 22 10 G.M.T.
6307.

S.T. 16.59
H.A. − 3.46
Dec. + 34.2
P.A. 271.5 Ver B
Sprocket 6.5 B
7.5 C

July 11. 1903.

9.42 Comet precedes star a 2.5 secs & is 4.5' so. of it.

Comp. star for comet in preceding photometric measts is +34°. 4184 (7.5). This comp star turns out to be Y. Cygni.

Phot. measts of Comet made thro approaching cloud which was not very dense but somewhat broken & feathery.

Clouds everywhere. No chance for anything farther.

July 14. 1903. (Tuesday.)

Var 185905 V. Aquilae

abandoned

19 37

Comet c ~~b~~ (Borrelly) c 1903
Phot. T. W. obs.

19 37 + 50.°
15 48
—3 49
8 15

19 37
15 51
—3 46
8 14 Clouds

8 10 Sky pretty cloudy
Clouds ~~thick~~ everywhere & growing worse. Swept for comet for a long time but twilight so strong at first with approaching cloudiness that it could not be found then; and clouds steadily growing thicker prevented its being found afterwards.

July 15, 1903 (Wednesday)

Comet (Borrelly) c 1903

19 8 + 55.°
15 48
−3 20
8 40

19 8
15 50
−3 18
8 42

Approximate position
S.T. 16.14
8.28 H.a. +53.6°
Dec. −3h 27 min.

16.14
3 27
19 41 = R.a.

At 9h 8m. E.T. comet precedes +53° 2297 (8.5) by 7m. 3 secs & is 7.5' north of it.

July 15 1903.

Left & ~~above~~ below

108.9 < Comp Star dis

9 31 30 161.7 52.8

278.0 71.0

~~9 3~~ 348.0 123.8 +1.11

100.3 69.8 1.14

170.1

289.8 50.7

340.5 120.5 +1.18

+ Right & above

12.9 66.6

79.5

185.1 78.7 +0.67

263.8 145.3

+

1.6 ~~84.4~~ +0.66

9 47 86.0

7 8 30 194.0 61.8

9 39 15 255.8 146.2 +0.65

5 ×3

12 38 32 G.M.T.

6301.

mean +0.90

S.T. 17.35

H.A. −2h 6m.

Dec. +53.7°

P.A. 315.0 Ver. B

Sprocket 2.5 A

3.5 B

R.A. = 19h 41m. 4.0 C

July 15, 1903.

In large telescope, nucleus rather stellar with no particularly well-defined coma, but light gradually fading off in all directions & filling the whole field. In finder, coma is somewhat more pronounced, total nebulosity being about 10' or 15' of arc in diameter. Some signs of a short tail extending to south & a little following. This sign of tail in the finder can be traced for perhaps about 0.5°. To the naked eye, comet seems like about a 3.5 magnitude star, with short tail extending to south & a little following.

Comp. star used in preceding photometric measts is +53° 2297 (8.5)

Approx setting on Comet.

10 06 S.T 17.52

H.A -1h 48 m

Dec +53.9

R.A = 19h40 m.

July 15, 1903.

Var. 174406 R. S. Ophiuchi
Phot. T. W. obs.

17 45 −6.1
18 15
0 30

17 45
18 21
0 36

For measts. see pp. 176 + 177.

Comp. Star = −6° 4664 (A.G.)

July 15, 1903.

left & above

109.2 Comp 5t dec

10 55 00 162.5

294.9 53.3

336.6 41.7

95.0 +1.78

114.7 40.5

155.2 (+1.86)

288.4 48.5 +1.94

336.9 89.0

~~15~~ right & below

15.2

71.8 56.6

204.2 43.6

247.8 100.2 +1.65

(+1.62)

20.4 44.8

11 09 00 65.2

12 4 00 196.7 57.8

11 02 00 254.5 102.6 +1.59

5 43

16 01 17

6311.

mean +1.74

July 1~~3~~5 1903

Same again

15.0
11 11 30 74.5 59.5
204.9 43.1
248.0 102.6 +1.59

19.9 48.5 (+1.52)
68.4
195.3 60.0
255.3 108.5 +1.45

& left & above

289.2 52.2
341.4
113.9 42.4
156.3 94.6 +1.79

294.3 42.2 (+1.82)
336.5
108.9 50.0
11 20 00 158.9 92.2 +1.86

mean +1.67
Gen. mean +1.70

31 30
11 15 45
5 - 43
16 15 02

S.T. 19.09
H.A. +1h 23m
~~Decl~~ -6.9°
P.A. 319.5 for B
Sprocket 5.5 B
6.5 C

July 15. 1903.

Troubled by light cloud in last set, especially in first part of set.

Var. rather faint, hence ref. and obs. a little difficult.

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

July 16, 1903 (Thursday)

Comet 1903 c (Borrelly) Sr. obs.
Phot. T.

19 11 +54.1
15 43
−3 18
8 42

Approx. position of comet
S.T. 16.00
8 09 H.A. −3 h 14 m

Dec. +58.1°

Comp star for photometric meas'ts
is +58° 1880 (7.8)

Meast. of Nucleus. (See next page)

July 16, 1903

Left & above.

194.2 61.6 Comp. Star dis.

8 54 30 255.8

19.5 52.1

71.6 113.7 +1.33

(+1.36)

198.0 52.6

250.6

59.1

18.2

77.3 111.7 +1.38

Right & below

110.7 51.1

161.8

293.9 41.2

335.1 92.3 +1.85

116.3 39.9 +1.90

9 07 20 156.2

289.9 48.8

1 21 50 338.7 88.7 +1.95

9 00 55

5 -4

14 00.9 G.M.T.

Mean +1.63

6312.

9 18

S.T. 17:08

H.A. -2h 4m

Dec +58.2

P.A. 241.0 Rev. B

Sprocket 5.5 B

6.4 C

July 16, 1903.

Nucleus rather stellar in large telescope. There is not much closely clustering coma, but a general bright light fading off from the nucleus. In the finder, this clus general bright light about nucleus, seems rather more like a large coma. The total diameter of this coma would be perhaps about a fifth or sixth of a degree. A faint tail can be traced for perhaps a half a degree or a little more, extending to south, & a little to following. In field-glass, the comet looks brighter than last night, with a short tail, the light of course being more packed together.

Approx. position of comet
S.T. 17.40
9 50 H.A. -1h 31m.

Dec + 58.3°

Sky is now a little more transparent, & tail of comet can be traced in finder for about ~~1/3~~ 3/4 of a deg.

July 16, 1903,

Var. 20 48 34 Y Cygni Phot. T. W. obs.

20 40   + 33.5°
18 4
− 1 36
9 24

10 40 ~~30~~

For measts. on Y Cygni, see two fol. pages.

July 16. 1903.

Right + above

115.6 < var. dis.

10 40 30 157.4 41.8

297.3 33.9

331.2 75.7 -2.32

120.0 34.0 -2.30

10 43 00. 154.0 43.6

292.8 77.6 -2.27

336.4

left + below

20.1 50.2

10 48 50 70.3 34.7

171.9

206.6 84.9 -2.05

~~10 53 30~~ ~~243.9~~

~~27.6~~

~~62.3~~ -2.02

17.9 52.1

10 55 50 70.0 35.0

28 10 208.0

10 47 02 243.0 87.1 -1.99

15 47.0 G.M.T.

mean - 2.16

July 16, 1903

Same again

~~41.7~~
10 58 40 ~~64.0~~ 62.3
~~200.9~~ 50.4
~~251.3~~

{ Mr. Thibault says he is sure he read circle wrong in 1st reading of this set. Set Rejected and taken again at bottom of this page.

18.5
51.5
11 00 50 70.0
207.9 36.8
244.7 88.3 −1.96

Right + above (−1.98)

299.8
32.3
11 04 40 ~~331.8~~ 332.1
113.9 44.0
157.9 76.3 −2.31

293.4 42.8 (−2.34)
11 07 55 336.~~7~~2
119.1 31.9
151.0 74.7 −2.36

307.4
11 19 20 244.1 36.7
19.1 50.5
32 45 69.6 87.2 −1.99
11 08 11
16 08.2 G.M.T.

mean −2.16

Gen. mean −2.16

July 16, 1903.

S. T. 19 17
H. A. -1h 32m.
Dec. +34.1°
P. A. 184.5 Ver B
Sprocket 5.5 A
6.5 B
$7.\overset{a}{5}$ C

July 17, 1903. (Friday)

Comet 1903 c (Borrelly)
Phot. J. W. obs

18 42 +62.6
15 46
-2 56
9 4

Approx position of comet
S.T. 16 03
8 05 H.A. -2h 36m.
R.A 18 39
Dec. +62.1°

Comet, follows bright (a) star 33 secs. & is 2.4' so. of it.
Star b precedes star a 52 secs & is 9.0' so. of it.
Star c precedes star b 2 mins 54 secs. & is 4.0' no. of it.
Star d follows star c 37 secs & is 13.8' North of it.

Star d is comp. star used to-night for photometric meas'ts, magn. 9.4, star not in D.M. Nucleus fairly well defined but not quite as sharp as last night. Coma is rather more abundant & pronounced,
see next page

July 17, 1903

list & below Reject.

~~129.0~~ An attempt was made to meas-
8 33 55 ~~142.2~~ ure the light of a star as the
~~306.5~~ comet went over it, but the comet
~~323.4~~ did not go near enough to the
nucleus, the pencils were some-
~~176.2~~ what out of adjustment, the al-
~~143.2~~ titude high, and as the case was
~~308.8~~ not a good one, the attempt
~~321.1~~ was abandoned for another night.

both in large telescope & finder making obs. more difficult. Tail can be traced in finder probably for over a deg. extending to South & a little following. Comet brighter to-night, altho' Coma in large telescope is not packed closely around the nucleus, yet, around nucleus and for some distance the Coma is pretty bright.- Comet brighter in field-glass, with a short tail.

Meast. of Nucleus.

July 17, 1903

Meast of Nucleus
Right + below

8 48 20 275.4 < Comet dis
355.2
89.4 79.8
90.0
179.4 169.8 −0.19

270.3 87.9
358.2
99.0 70.2
158.1 −0.42
169.2

left + above Reject. See below.
184.5 85.7
270.5
354.5 101.2
95.7 186.9 + 0.13
173.1

176.1 97.7
9 00 00 273.8
9 54 10 359.7 94.5
94.2 192.2 +0.23
167.8

Reject above. Found that the comet was not in focus and nucleus not well defined at all. Refocussed and took following group.

July 17. 1903.

Same again meast. of Nucleus.

353.2 ← Comet dis.

9 13 20 99.9 106.7 ✓

183.6 84.7 ✓

268.3 191.4 ✓

168.6 ✓ +0.22 ✓

357.3

91.1 93.8 ✓ (+0.24 ✓)

175.8 99.9 ✓

275.7 193.7 ✓

166.3 ✓ +0.26 ✓

Right & below

273.9 83.6 ✓

357.5

101.9 66.8 ✓

168.7 150.4 ✓ −0.57 ✓

~~168.7~~

281.2 67.3 ✓ −0.54 ✓

9 23 05 348.5

91.0 86.6

36 25

9 18 12 177.6 153.9 ✓ −0.50 ✓

−44

14 17 24 G.M.T.

mean −0.15 ✓

6313.

S. T. 17. 28

9 37 H A. −1h 7m.

Dec. +62.2°

P.A. 86.3 var. B

Sprocket 7.5, 8.5, 9.0, a, b, c,

July 17, 1903

Star a is +62° 1637 (5.7) ✓
" c " +62° 1631 (8.5) ✓
Comp. Star d for phot. meas'ts. follows star c 37 secs. and is 13'.8 north of it.

Stars b and d are not in the D.M.

July 17, 1903

Var. 150619 ι Librae   Phot. T. W. obs.

15	6	−19.4
18	5	
2	59	

For measures, see next two pages.

July 17. 1903.

Left & below

113.0 } Rar. dis.

10 22 00 158.4

290.0 45.4

340.5 50.5

95.9 1.76

109.7 52.6

162.3 1.72

292.6 46.8

339.4 99.4 1.67

Right & above

17.8 55.6

73.4

194.3 60.9

255.2 116.5 1.27

12.7 61.6 1.19

10 30 00 74.3

10 26 00 193.4 62.4 1.11

15 25 16.9 m.t. 255.8 124.0

6313.

mean -1.46

July 17. 1903.

Same again

17.7 < rad. dis.

10 32 20 72.6 54.9

193.3 61.1

254.4 116.0 1.28

12.8

73.7 60.9 1.30

197.8 53.1

250.9 114.0 1.33

left & below

295.1 41.2

336.3

108.5 58.6

167.1 99.8 1.66

1.64

286.9 54.8

10 43 25 341.7

111.1 46.4

157.5 101.2 1.63

75 45

10 38 52

15 38 08 G.M.T.

6313.

Mean -1.47

Gen Mean -1.46

S.T. 18.51

HA +3h 39 m,

Dec. -19.4°

P.A. 64.0 Dir. B

Sprocket 4.5 A

5.5 B

6.0 C

July 17. 1903.

Emergent pencils gave trouble, thro out evening Rather difficult in getting hold of light, so that had to force the eyes some to get hold of things satisfactorily. Comet being pretty high up difficulty was experienced on this account.

Achromatic prisms also considerably dirty especially between the prisms. After finishing work took achromatic prisms apart, & cleaned them.

W's watch used for times throughout evening. Watch 44 secs. fast.

July 20, 1903 (Monday)

Comet 1903 c (Borrelly)
Phot. S. W. obs.

16 14 +68.6°
15 58
−0 16

Approx position of Comet

8 11 S.T. 16h 15m.
H.A + 0h 06m. Clouds
R.A 16. ~~24~~ 09
Dec + 68.3° } Pos. ≈ by circles.

8.13 Clouds, ~~Stars gone & Comet gone~~

16 ~~24~~ 09 +68.3
16 20
0h 11m

8.19 Clouds. Thick. Stars & Comet invisible.

8.56 Clouds thick everywhere. No ~~clouds~~ stars visible

8.48 Clouds thick again.

9.02 Clouds thick. No stars visible

9.06 It is now beginning to rain
No chance for anything further.

July 23, 1903 (Thursday)

Comet C 1903 (Borrelly)
Phot. T. W. obs

13 59 +66.3
16 07
+ 2 8

8 02 Clouds

Approx. position of Comet
S. T. 16.41
H.A. +2h 45m
R.A. 13.56
Dec. +65.8°

Comp. star for photometric meas'ts of Comet is +66° 825 (7.5)

July 23, 1903

~~Right~~ Left above   Meast of light of nucleus.

244.4 Comp st des

9.0000   271.1   26.7

58.4   29.1   Reject

87.5   55.8   3.02

23~~8~~7.9   29.3

267.2

51.8   41.7

93.5   71.0   2.47

Right below

138.7

188.5   49.8

326.1   35.7

1.8   85.5   2.04

+

145.6   36.1

9 13 15   181.7

9 6 38x   313.9   55.1

5 +18   9.0   91.2   1.88

14 06 56 G.M.T.

6319.

Reject above group. Troubled greatly by clouds especially in first set. Settings uncertain, especially on such an object as a comet. Became clear and took group on next page.

July 23, 1903.

Same again   measts. of Nucleus.

9 21 15   139.6 < Comp. st. dis
188.7
~~325.0~~ 324.4   49.1 ✓
3.6   39.2 ✓
88.3 ✓ +1.96 ✓

144.3   38.4 ✓   (+1.98 ✓)
182.7   48.7 ✓
319.5   87.1 ✓   +1.99 ✓
~~7.8~~ 8.2

Left & above
54.7   38.3 ✓
93.0
238.9   28.9 ✓
267.8   67.2 ✓   +2.60 ✓

56.8   32.1 ✓   (+2.52)
9 34 30   88.9
55 45   232.4
9 28 52   273.0   39.6   +2.45
5 +18   71.7   mean +2.25
14 29 10 G.M.T.
6319.

July 23, 1903.

Comet ~~s~~brighter in finder to-night as well as in large telescope. There is more coma & it is more closely packed about the nucleus so that photometric observations are rather difficult.

Comet brighter in field glass as well as to naked eye to-night. Quite perceptible tail. ~~extending to south & a little following.~~

In photometric measts to-night, altho the nucleus is somewhat stellar, the surrounding light of coma is so bright & somewhat closely packed about nucleus, that meast of nucleus is rather difficult, but all possible care exercised.

S.T. 18.07
9.51 H.A. +4h, 4m
13h 53m
Dec. +65.7°
P.A. 175.7 Ter. a
Sprocket 7.5 B
8.3 C
8

Tail of Comet can be traced in finder for nearly a deg. extending to following & a little south.

July 23, 1903.

(Chi) X Cygni Phot, T W, obs,

19 44 + 32,7
18 31
— 1 13

For measts. see next page.

July 23, 1903.

Above

331.2
10 35 20 357.2 26.0✓
151.6 24.2✓
176.8 50.2 +3.26✓

332.8 23.9✓ (+3.21✓)
356.7
148.1 28.7✓
176.8 52.6✓ +3.16✓

Below

241.4 26.2✓
267.6
63.8 21.4✓
85.2 47.6✓ +3.38✓

242.4 21.2✓ (+3.48✓)
10 46 30 263.6
81 50 67.2
10 40 55 89.7 22.5✓
+5 +18 43.7✓ +3.57✓

15 41 13 G.M.T.

mean +3.34✓

S.T. 19.09
H.A. -1h 39 m.
Dec. +32.3°
P.A. 505.6 ~~207.0~~ per B
Sprocket 4.5 a
5.5 B
6.0 C

July 23, 1903.

Altitude very high, observer down on his knees on pier. Last settings somewhat difficult. Wire connected with electric light from back of chair, had given out & was ~~very~~ taut pulling telescope, in last setting ~~so that tele-~~ scope had to be constantly pressed opposite the pull of wire, but star was kept in center of field ~~as me~~ pretty closely during last settings.

As altitude was so extremely high & wire had given out, only one group taken.

W's watch altered to day and used for all times to night. Watch is 12 secs. slow.

July 24, 1903 (Friday)

Comet 1903 c (Borrelly)
Phot. J. W. obs.

13 29 64.6
16 06
+ 2 35

S.T. 16 24
8 03 H.A 2h 57m
R.A 13.27
Dec +64.2°

For phot. results, see next page

July 24, 1903

Above — Meast. of nucleus

221.9
8 39 20 249.9 < Comp Star ✓

32.4 28.0 ✓
75.8 43.4 ✓
~~214.5~~ 71.4 ✓ +2.46 ✓
~~255.0~~

+2.46 ✓

214.5 40.5 ✓
255.0
40.5 30.8 ✓
71.3 71.3 ✓ +2.46 ✓

Below

133.1 26.0 ✓
159.1
311.1 30.7 ✓
341.8 56.7 ✓ +2.99 ✓

128.0 34.0 ✓ +2.92 ✓
8 50 30 162.0
313.3 26.1 ✓ +2.86 ✓
~~8~~9 40
8 ~~2~~4 50 339.4 60.1 ✓ mean +2.69 ✓
13 ~~45~~ 08 G.M.T.
6320. Comp. Star = +64° 9 v 1 (7.0)

July 24, 1903.

Tail of comet can be traced for about a deg. in finder. Considerable coma, nucleus rather stellar.

Same again

312.5
9 12 15 338.1
129.0
161.9

S.T. 17.43
H.A. + 4h 16 m
9 21 R.A. 13 27
Dec + 64.30
P.A. 206.5 Ter. B
Sprocket 2.5 B
3.5 C

Alth. nucleus is fairly well defined in large telescope with ordinary eye-piece it is not quite so sharp in photometer. The coma as seen with ordinary eye-piece & in photometer, is not exactly a closely packed coma but is abundant around nucleus, running up to a maximum of light at nucleus, so that the nucleus, especially as seen in the

July 24 1903.
Photometer is involved in a
good deal of bright light
making observations a lit
the difficult, but extreme care
exercised & observations con-
sidered good.

Messier 15 Phot. I W. obs.

Meas't of +11° 4580 with

21 53 +11.5°
18 11
3 12
8 48

Meas'ts on next page.

July 24, 1903.

right & above

221.0 Brightness (+11° 4583 (6.0) dir.)

10 22 30 250.9

36.2 29.9 ✓

77.7 41.5 ✓

71.4 ✓ +2.46 ✓

214.7 41.1 ✓ (+2.47 ✓)

255.8

42.0 29.7 ✓

71.7 70.8 ✓ +2.48 ✓

left & below

131.8 28.2 ✓

~~159.~~ 160.0

307.4 38.6 ✓

346.0 66.8 ✓ +2.61 ✓

125.3 40.3 ✓ (+2.62 ✓)

165.6

10 31 00

10 26 45 ✓ 313.7 25.8 ✓

+5 0 18 ✓ 339.5 66.1 ✓ +2.64 ✓

15 27 3 ✓

mean +2.54 ✓

6320.644 ✓ In the above groups and the one next following on p. 208, +11° 4582 (8.2) was compared with +11° 4583 (6.0)

July 24, 1903

Same again

130.45 Brighter dis

10 42 00 159.6

307.4 29.1

347.8 40.4 / 69.5 +2.52

125.9 39.8 (+2.56)

165.7

312.8 27.6

340.4 67.4 +2.59

Right + above

41.3 30.6

71.9

217.3 36.1

253.4 66.7 +2.62

35.3 40.1 (+2.61)

10 49 45 75.4

10 45 52. 222.6 27.1

+5 18. 249.67 67.2 +2.60

15 46 10

Mean +2.58

6320.657

Gen mean +2.56

July 24, 1903.

Comp. star with 8.2 mag.

Right & above

301.9 ∠ Bright sides (+11° 4582 (8.2) dia.)

1.1 0340. 350.3

124.8 48.4

167.6 42.8

91.2 +1.86

305.0 40.9 (+1.89)

345.9

121.9 49.7

171.6 90.6 +1.90

Left & below

210.7 53.2

263.9

34.7 42.6

77.3 95.8 +1.76

216.6 40.9 (+1.81)

11 12 20 257.5

11 8 0. 29.7 51.0

45 0 18. 80.7 91.9 +1.86

16 8 18.

mean +1.85

6320.672 In the above group and the one next following comp. 210, + 11° 4580 (9.5) was compared with +11° 4582 (8.2)

July 24, 1903.

Same again

212.1 < Bright end dis

11 14 35 267.4

33.9 50.3 ✓

76.8 42.9 ✓

93.2 ✓ +1.83 ✓

215.5 42.4 ✓ (+1.82 ✓)

257.9

30.2 51.9 ✓

82.1 94.3 ✓ +1.80 ✓

Right + above

121.3 51.7 ✓

173.0

305.6 38.7 ✓

344.3 90.4 ✓ +1.90 ✓

(+1.92 ✓)

126.3 39.4 ✓

165.~~3~~7

300.8 49.8 ✓

350.6 89.2 ✓ +1.9~~3~~4

mean +1.87 ✓

Gen. mean +1.86 ✓

11 24 30

11 19 32. ✓

+5 0 18. ✓

16 19 50. ✓

6320.680 ✓

July 24, 1903
S.T. 19 58
H.A. -1h 29m
Dec. +11.9°
P.A. 19.5 Ver. B
Sprocket 6.5 B
7.5 C

Pencils not yet in complete adjustment altho fairly good. Pencils gave a little trouble in observations on last 4 groups but extreme care exercised and observations considered good.

W's watch used for times to-night.
Watch is 18 secs. slow.

July 25, 1903 (Saturday)

Comet 1903 c (Borrelly)
Phot. T, W. obs.

13 5 +62.7°
16 10
+3h 5

Approx position
S.T. 16.41
H.A. +3h 37m.
8 16 R.A. 13h 4m
Dec +62.3°

8 17 Comet now gone. Back of heavy clouds, Observation of comet hopeless. Heavy + continuous clouds rising.

γ Cygni Phot. T. W. obs.

20 48 +34.3°
16 46
-4 0 2
7 5 8

8 24 Sky too cloudy,

8 45 Clouds thick everywhere, No stars visible. Drops of rain falling. No chance for work

July 27, 1903 (Monday

Comet 1903 c Borrelly ▽ Phot. T. W. obs.

12 31 +59.1°
16 11
+ 3h 40

Approx position of Comet
S. T. 16 30
H. A. + 4h 1m
R. A. 12h 29m
Dec +58.7°

Comp Star for photometric measts = ~~+3~~
+59°
~~+50°~~ 1452 (9.5)

For measts of nucleus, see next page.

July 27, 1903.

Meast of nucleus.
left & above

8 49 15 — 15.4 Comp St dis.
94.9
183.3 — 79.5
285.4 — $\frac{102.1}{181.6}$ — −0.03
178.4

5.9
107.0 — 101.1 — −0.04

193.3 — $\frac{81.0}{182.1}$
274.3 — 177.9 — −0.04

Right & below.

270.5 — 105.3
15.8

102.2 — $\frac{88.2}{193.5}$
190.4 — 166.5 — −0.25

282.5
9 00 40 — 12.0 — 89.5 — −0.28
90.2
196.7 — $\frac{106.5}{196.0}$ — −0.30
164.0

9	00	40
109	55	
8	54	34
5		23
13	54	57 G.M.T.

mean −0.16

S.T. 17 43
H.A. + 5h 12m
R.A. = 12 31
Dec +58.7°
P.A. 263.0 Terr B
Sprocket 1.5 B
2.5 C

July 27, 1903

Tail of comet can be faintly traced for some over a deg. to following & a little north, in finder. Nucleus rather stellar, but the light of coma being rather abundant ~~close to~~ near nucleus, renders observation in photometer a little difficult, but extreme care exercised & observations considered good.

Faint variables W. obs.

T. Ursae Majoris

12 ~~32~~ 28 60.0
18 03
5h 35

9 45 p 1, 2 q

U Cephei. Phot. T. W. obs.
0 50 +81.1
18 24
-6h 26m
5 34

Meas'ts on next page.

July 27, 1903

Above

202.4 Cardis.

10 06 05 269.1 66.7 ✓

13.0 ✓

101.3 88.3 ✓

155.0 ✓ −0.48 ✓

191.0 90.0 ✓

10 08 25 281.0 −0.44 ✓

22.4 68.7 ✓

91.1 158.7 ✓ −0.41 ✓

Below

117.0 62.4 ✓

10 13 10 179.4

2~~X~~84.7 82.8 ✓

7.5 145.2 ✓ −0.67 ✓

102.5 86.2 ✓ −0.62 ✓

10 15 40 188.7

43 20 293.3 64.2 ✓

10 10 50 357.3 150.4 ✓ −0.57 ✓

5 + 23

15 11 13 G.M.T.

6323.

mean −0.53 ✓

July 27, 1903

Same again

112.9
10 18 20 180.6 67.7 ✓
282.0 86.3 ✓
8.3 154.0 ✓ −0.50

101.8 87.1 ✓ −0.50
10 20 40 188.9
293.2 67.1 ✓
0.3 154.2 ✓ −0.49

Above ~~Biela~~

18.4 74.3 ✓
10 23 30 92.7
188.2 95.0 ✓
283.2 169.3 ✓ −0.20

þ

7.1 96.6 ✓ −0.18
10 26 05 103.7
88 35 198.3 75.6 ✓
10 44 18 273.~~4~~9 172.2 ✓ −0.15
5 23
15 43 55 G.M.T.
6323.

Mean −0.34

July 27, 1903

Same again

10.3
10 28 05 94.3 84.0
185.6 100.4
286.0 184.4 +0.08
175.6

6.1 98.0 +0.08
10 31 40 104.1 86.7
187.0 184.7
273.7 175.3 +0.09

~~58~~ Below
589.3
10 35 45 2.3 73.0

97.8 98.0
195.8 171.0 −0.17

275.7
10 38 40 11.8 96.1 −0.11
14 10 108.0 81.2
10 33 32 189.2 177.3 −0.05
5 + 23
15 33 55 G.M.T. mean −0.02
6323.

July 27, 1903

Same again

287.3
10 41 35 5.8 78.5
94.8 101.2
196.0 179.7 −0.01

274.6 99.4 +0.04
10 44 25 14.0
103.9 85.7
189.6 185.1 +0.09
174.9

Above
189.3
10 49 25 280.8 91.5
1.2 107.7
108.9 199.2 +0.37
160.8

181.2 109.4 +0.38
10 53 00 290.6
28 25 9.2 91.8
10 47 06 101.0 201.2 +0.40
5 +23 148.8
15 47 29 G.M.T. mean +0.21
6323.

July 27, 1903

Same again,

189.2
10 55 50 280.9 91.7 ✓
358.6 111.3 ✓
109.9 2030 ✓
157.0 ✓ +0.44 ✓

182.1 108.7 ✓
10 57 35 290.8 +0.43 ✓
9.5 93.2 ✓
102.7 201.9 ✓
158.1 ✓ +0.42 ✓

Below

99.9 92.0 ✓
11 01 30 191.89
272.2 108.8 ✓
21.0 200.8 ✓
159.2 ✓ +0.40 ✓

91.6 109.4 ✓
11 04 05 201.0 +0.44 ✓
238 30 278.3 95.1 ✓
10 59 38 13.4 204.5 ✓
5 +23 155.5 ✓ +0.47 ✓
16 00 01 mean +0.44

S.T. 19 47
H.A. +6h 51m
Dec +81.5°
P.A. 196.5 TWB
Sprocket 6.5 B
7.5 C

July 2~~8~~7, 1903

S. Herculis Phot. T W. obs.

16 47 +15.1°
19 53
+3 h 6 m

11.30 S 1, 4 ~~3~~ t.

(S 1, 4t) (Copy of above)

W's watch used for times to night ~~through~~ throughout. Watch 23 secs. ~~fast~~. slow.

L. P. P. to here.