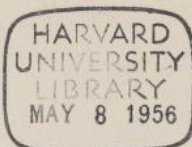


KG
11365
552

KG 11365.552



KG 11325.552



Dec. 29, 1901. (Friday)

6 55 cloudy

Phot T.

$$\begin{array}{r} \text{Dist} + 42^{\circ} 3338 \\ 19 \quad 20 \quad +43.0 \\ \hline 20 \quad 15 \\ \hline 5 \quad 55 \end{array}$$

20062

clouds.

735 Clouds & var. faintly seen in phot taken at full brightness, but comp & invis.

738 clouds thicker var itself gone.

8 05 Tried during about the whole time of variation of the variable to make a run but utterly impossible on account of clouds to get anything.

$$\begin{array}{r} \text{Phot W} \quad \text{Cito} \quad \text{W 062} \\ 2 \quad 12 \quad - 3.6 \\ 2 \quad 22 \\ \hline 0 \quad 10 \end{array}$$

clearer

(over)

2

Dec. 20, 1901.

o Ceto

830.6

Left

~~26~~ 176.8

264.7

358.6

78.0

87.9

~~79.4~~~~177.3~~ - 0.24

167.3

179.2

257.5

353.2

83.7

78.3

90.3

168.8 - 0.21

-0.22

Right

86.1

171.2

268.2

347.2

85.1

79.0

164.1 - 0.30

Mean = -0.24

-0.26

8 41.4

72.0

8 36.0

5 - 3.1

13 32.9

57 39.565

79.3

165.1

266.4

349.0

85.8

82.8

168.6 - 0.22

Dr. M. T. Time.

Dec. 20, 1901.

Same Again

Right.

86.1

844.0 170.86

268.7

346.4

84.5"

77.7"

162.2" - 0.34"

879.4

165.9

267.2

349.2

86.5

82.0

168.5" - 0.22"

0.28"

Left

352.5

81.3

177.2

256.1

88.8"

78.9

167.7" - 0.23"

Mean = -0.26"

358.9

855.0 77.0

99.0 73.2

849.5 261.1

78.1"

87.9

166.0" - 0.21"

- 0.25"

5-31

1346.4 92 M. Time.

5739.54 Alt = 46° 2' Ver 3

HA = 150° West

ST = 3:12

Dec = -3.6

Final Mean = -0.25"

9.19

Mag = 8.94

Dec. 20, 1901.

Phot. $+40^{\circ} 4393$ 2062
 $20 \sqrt{2} + 40,6$
 $\frac{27 \ 27}{6 \ 35}$

Below Left Comp $\times = \frac{19.2}{10.92} + 41^{\circ} 3976 (S.D.)$

9 42.4 $\frac{335.6}{84.8} \times$ $\frac{10.92}{97.2}$
 154.4 $\frac{206.4}{153.6} - 0.50$
 251.6

340.6 $\frac{101.0}{102.2} - 0.47$
 81.6 $\frac{203.2}{156.8} - 0.44$
 162.0 $\frac{156.8}{156.8} \text{ mean} = -0.36$
 264.2

Below Right $\frac{156.8}{156.8} \text{ mean} = -0.36$

251.2 $\frac{101.1}{92.6} - 0.26$
 352.3 $\frac{193.7}{166.3} - 0.26$
 75.0
 167.6

255.9 $\frac{91.9}{101.6} - 0.25$
 347.8 $\frac{193.5}{166.5}$
 69.2
 170.8

9 51.6
 $\frac{94.0}{94.0}$
 947.0^{\times}
 $5 - 21$

14 43.9* $\frac{1739.614^{\times}}{M. Time.}$

Dec. 20, 1901

Same Again

~~Below~~ Right

251.7
 9 54.2 353.7
 72.7
 168.7

102.0[✓]
 96.0[✓]
 198.0[✓]
162.0

- 0.34[✓]

255.3

348.7

71.1

170.8

93.4[✓]- 0.29[✓]99.2[✓]192.6[✓]- 0.24[✓]

167.4

~~Below~~ Leftmean = -0.36[✓]

154.2

262.6

343.5

79.1

105.4[✓]95.6[✓]201.0[✓]159.0[✓]- 0.40[✓]

2
 168.0

- 0.43[✓]

1004.0 258.2

96.2[✓]

118.2 336.6

107.7[✓]

8959.1 * 84.3

203.9[✓]

5-3.1

156.1[✓]- 0.46 Final mean = -0.36^x1456.0^x

M.T. = 199.3 Ver R

5739.6^x

H.A. = 7:28 West

N.T. = 4:26

Dec. = +423

Sp. Wh. = 2598358

Dec. 20, 1901

P'anne. Again with (2.0)
experimental

Left

10 07.0

1890
234.0

11.2

449.2

comp & dis

45.0^v

38.0

83.0

+211^v

1921.0

231.8

7.0

52.2

+208

39.8^v45.2^v85.0^v +205^v

Right

97.6

142.2

283.8

320.4

Mean = +2.14^v44.6^v36.6^v81.2^v - 216^v

10 15.0

102.4

138.7

281.1

324.0

36.3^v - 219^v42.9^v79.2^v - 222^v

The comp & 41° 39' 73 (9.2) was
abandoned tonight as a comp
star as being too faint under
some circumstances, and

Dec. 20, 1901.

DM+41°39'76(P.6) selected instead.
 Then comparison made tonight.
 with the DM+41°39'87(7.0) was is not
 to be held but was simply made
 in order to compare a photo with
 the group taken the previous time
 to see if var. had varied perceptibly.
 When the comp. with the (7.0) was
 made the region was pretty low
 and seeing unsteady so that it could
 be made quite as critical as desired
 but it thought to be pretty good.

$$\begin{array}{r}
 \text{Phot W} \quad \Sigma 131 \\
 125 + 600 \quad \text{W Ob} \\
 455 \\
 \hline
 330
 \end{array}$$

Abandoned too faint in
 moonlight

$$\begin{array}{r}
 \text{Phot W} \quad \Sigma 422 \quad \text{W Ob} \\
 330 + 0.2 \\
 500 \\
 \hline
 130
 \end{array}$$

Ca. 210 Dist 6" Magn. 5.8-8.2

(Over)

Dec. 20, 1901.

2422

see prev page

Right < 61. dis

204.4

11 00.4

230.6

25.6

50.6

26.2

25.0

57.2 - 3.22

205.0

231.5

24.2

52.1

26.5

3.15

27.9

54.4 - 3.08

Left

110.9

143.5

292.4

322.1

mean = - 2.9.6

326

29.7

62.3 - 277

2.76

11 06.4

111.6

143.1

291.1

11 03.4

322.8

31.5

31.7

63.2

Edgwood
Plotted
Posted.

Ball 103

21 09 00

Ball 103

21 10 00

103451

15 22 01.0

13701122

21 13 09.0

Dec. 24, 1901 (Saturday)

Boc 142

B ad 103

5 31 19.2

5 28 00

McPherson

0 50
23 50

811 wob

Phot T.

1 00

Above

83.2 sample & dis.

54450 157.0

73.8

258.7

84.5

343.2

148.3

+ 0.42

+ 0.46

46 10 79.2
162.3

83.1

265.8

70.0

335.8

153.1

+ 0.51

Below

Mean = + 0.36

353.1

48 40 68.4

75.3

165.2

91.4

256.6

166.7

+ 0.25

346.5

+ 0.26

55020 77.6

91.1

190 00 175.7

74.4

54730 250.1

165.5

+ 0.27

5-319

10 44 11 2nd time

5760.4473

5740.1447

+ 0.3024

Dec 21, 1901.

H

Below

355.4

5 52 17

69.9

165.2

258.5

74.5

93.3

167.8

+0.23

346.5

54 28

78.8

172.4

252.0

92.3

78.6

171.9

+0.19

+0.15

Above

mean = 0.21

263.8

57 07

337.7

73.5

166.3

73.9

92.8

166.7

+0.25

254.0

5 59 00

347.4

82.3

158.0

93.0

75.7

168.7

+0.23

+0.21

5-3 19

10 52 24 Ch. M. Trice

5740.4531

5740.1447

+0.0044

Dec. 21, 1901

III

Above

256.8
6 0145 340.9
72.3
166.5

84.1 ✓
94.3 ✓
178.3 ✓ + 0.03 ✓

252.0
0345 346.7
80.3
158.7

94.7 ✓ + 0.08 ✓
78.4 ✓
173.1 ✓ + 0.13 ✓

Below

Mean = +0.00

168.2
0635 257.2
340.9
81.0

89.0 ✓
90.1 ✓
179.1 ✓ - 0.02 -

162.9
6 0800 262.2

20 00 347.3

6 05 01 740

5-3 19

11 01 42 GMT

5740.4595⁺

5740.1447⁺

+0.3148^T

99.3 ✓ + 0.08 ✓
129.7 ✓
189.0
171.0 + 0.17 ✓

Dec. 21, 1901

IV

Below

6	10	30	256.5	898	
			340.1	100.2	
			80.3	1900	
				1700	-0.19

			159.3		
12	45	26	34	104.1	-0.25
			345.3	91.3	
			76.6	195.4	
				164.6	-0.29

Mean = -0.22

Above

16	00		75.6	878.	
			163.4	1025	
			249.1	190.3	
			351.6	169.7	-0.20

			67.6		
6	18	10	172.2	1046	-0.20
				85.3	
6	17	25	258.5	190.1	
6	14	21	344.0	169.9	-0.19

11	11	02	40.4660		
			740.1447		
			0.3213		

Dec. 21, 1901

Above

77.1
 619 33 162.8
 248.3
 352.1 3

85.7 ✓
 1040
 189.7
170.3

- 0.18 ✓

68.1
 2119 172.7
 268.8
 343.5

104.6
 84.7
 189.3
170.7

- 0.18 ✓

- 0.17 ✓

Below

336.6
 2451 86.9
 161.5
 261.3

110.3
 99.8
210.1
 149.9

mean = -0.38 ✓

- 0.58 ✓

344.1
 62745 80.3
 9328 154.0
 62344 268.1
 5-319

96.2
 114.1
210.3
 149.7 - 0.58 ✓

- 0.58 ✓

11 20 25 1/2 M.T. PA - 194.1 Per B

740.4725 HA - 0.04 East

5740.1447 ST - 0.46

+0.3278 Dec = +81.2

SpWh - 6.5-03 + 7.2 C

Dec. 21, 1901.

Phot T. X Cygni w Ob

$$\begin{array}{r} 19 \quad 45 \quad +32.6 \\ 25 \quad 05 \\ \hline 5 \quad 20 \end{array}$$

Above < comp + dis

$$\begin{array}{r} 276.9 \\ 7 \quad 10.4 \quad 323.5 \quad 46.6 \\ 98.4 \\ \hline 142.8 \quad 44.4 \\ 91.0 \quad + 1.89 \end{array}$$

$$378.5 \quad +1.87$$

$$\begin{array}{r} 322.3 \quad 43.8 \\ 96.4 \quad 48.6 \\ \hline 1450 \quad 92.4 \quad +1.85 \end{array}$$

Below

$$\text{mean} = +1.76$$

$$185.6$$

$$\begin{array}{r} 239.5 \quad 53.9 \\ 8.7 \quad 47.0 \\ \hline 55.7 \quad 100.9 \quad +1.63 \end{array}$$

$$187.8$$

$$+1.64$$

$$\begin{array}{r} 7 \quad 19.4 \quad 235.3 \quad 47.5 \\ 9.8 \quad 5.9 \\ \hline 7 \quad 19.9 \quad 58.3 \quad 52.4 \\ 5 \quad -3.3 \quad 99.9 \quad +1.66 \end{array}$$

12 11.6 P.M. Time

$$5740.$$

Dec 21, 1901

Same Again

Below

184.8
 7 22.023.1
 8.3
 54.4

53.3
46.1
 99.4 + 1.67

+1.68

188.8
 285.5
 6.2
 58.0

46.7
57.8
 98.5 + 1.69

Above

Mean = +1.78

94.5
~~146.3~~ 145.5
 279.4
 320.8

51.0
41.4
 92.4 + 1.85

1.88

99.7
 7 31.4 142.2
 534 276.0
 726.7 320.2
 5-33
 12 22.4 7.0 M.T.
 5740.

42.5
47.2
 89.7 + 1.92 Final M = +1.77
 8.11

PA 24.1 Ver B
 HA + 6.03 Ver A
 S.T. 1.50
 Dec. +32.4
 Sp. W. 4.5 A + 5.5 B 6.1 C

Magn = 9.88

Dec. 21, 1901.

Phot T. R. Mrs. Mini W. O. B.

16	34	+72.9
26	10	
<hr/>		
9	36	

Above < comp x dis

8	10.0	91.0	
		150.6	59.6
		274.1	<u>53.3</u> ✓
		327.4	112.9 ✓ + 1.35 ✓

	93.6	
	148.4	54.8 ✓ + 1.33 ✓
	270.9	<u>57.8</u> ✓
	330.7	114.6 ✓ + 1.31 ✓

Below

mean = +1.26 ✓

	359.4	
	60.6	61.2
	183.0	<u>52.0</u> ✓
	241.0	119.2 + 1.21 ✓

8	18.4	83.7	
		59.3	55.6 ✓ + 1.22 ✓
	8.4	179.3	<u>62.7</u> ✓
8	14.2	242.0	118.3 + 1.23 ✓

5 - 3.3
 1310.9 h m. t.
 5740.

Dec. 21, 1901.

Below

$\begin{array}{r} 359.2 \\ 63.1 \\ 184.5 \\ \hline 240.3 \end{array}$

$\begin{array}{r} 63.9 \\ 55.8 \\ \hline 119.7 + 1.20 \end{array}$

4.4

$\begin{array}{r} 58.7 \\ 180.8 \\ \hline 244.2 \end{array}$

$\begin{array}{r} 54.3 \\ 63.4 \\ \hline 114.7 + 1.24 \end{array}$

+1.22

Above

$\begin{array}{r} 269.15 \\ 330.9 \\ 94.2 \\ \hline 147.12 \end{array}$

$\begin{array}{r} 61.4 \\ 53.0 \\ \hline 114.4 + 1.32 \end{array}$

Mean = +1.28

274.3

$\begin{array}{r} 29.4328.3 \\ 300 \\ \hline 20.0750.40 \end{array}$

$\begin{array}{r} 54.0 \\ 59.6 \\ \hline 113.62 \end{array}$

+1.33

+1.34

Final M = +1.28

5-3.3

13 21.7 92 m. P.A. = 319.3

5740.

H.A. = 10:16 West

S.T. = 2449

Spwh 2.513 & 3.60

Dec +72.5

Dec. 21, 1901.

~~Oct 20 06~~

+40 4397(84)

Phot T.

20 52 +40.6

27 22

6 30

R & B.

Comp. with (8.6)

257.6 < comp + dis.

347.2

89.6^v~~167.6~~ 8.5104.0^v

172.5

193.6^v166.4^v-0.26^v

250.7

103.8^v

354.5

90.4^v

-0.26

75.6

194.2^v

166.0

165.8^v-0.27^v

L & A.

Mean = -0.34

~~264.3~~ 342.8~~335.4~~ 78.9 96.1^v157.3 108.0^v265.3 204.1^v155.9^v -0.46^v

336.5

84.3

107.8^v-0.42^v

9 31.0

9 26.0

164.5

92.7^v

5 - 3.3

257.2

200.5^v

14 22.7

in m.t.

159.5^v-0.39^v

5740.

Dec 21, 1901.

Same Again

Lra.

9 33.6 344.1
 89.2
 1639.0
 263.0

338.5

81.1

161.5

259.0

105.1 ✓
 1040 ✓
 209.1 ✓
 1509 ✓

- 0.56 ✓

102.6

97.5

200.1 - 0.38 ✓

1599

- 0.47 ✓

R.P.B

Mean = ~~11~~ - 0.36 ✓~~352.1~~~~41.3~~

75.0

167.6

251.1

3352.1

92.6 ✓
 101.0 ✓
 193.6 ✓

1664 - 0.26 ✓

~~127~~

- 0.26 ✓

944.4 70.6
 78.0 172.7

256.6

939.0 348.5

5 = 3.3 gr m.

102.1 ✓
 91.9 ✓
 194.0 ✓ - 0.27 ✓
 166.0 ✓

F.M. = - 0.30 ✓

1430.7 PA - 1980 KTB

5740. HA - 7.02 West

Dec + 40.8

S.T. = 4.00

Sp Wh = 252036 B

Dec 21, 1901

Phot w

$$\begin{array}{r}
 0 \text{ Ceto. } 20 \text{ lbs} \\
 212 \\
 427 \\
 \hline
 215
 \end{array}$$

Left

$$\begin{array}{r}
 10 \ 23.0 \\
 357.1 \quad \leftarrow \text{varies} \\
 80.2 \quad 83.1 \\
 176.3 \quad 83.6 \\
 259.9 \quad \hline
 166.7^v \quad -0.25
 \end{array}$$

$$356.8 \quad -0.28$$

$$\begin{array}{r}
 79.6 \quad 82.8 \\
 176.7 \quad 87.3 \\
 258.0 \quad \hline
 164.1^v \quad -0.30
 \end{array}$$

Right

$$\text{mean} = -0.28^v$$

268.0

349.2

85.9

169.3

81.2

83.4

$$164.6^v \quad -0.29^v$$

$$-0.29^v$$

10 31.4

54.4

10 27.2

5-3.3

15 23.9

0740

265.3

346.6

87.0

167.4

84.3

80.4

$$164.7^v \quad -0.29^v$$

Dec. 21, 1901

Same Again

Right

260.8
CO 340 347.3
85.5
169.4

80.5 ✓
83.9 ✓
164.4 - 0.30

265.4

348.4

87.2

166.7

83.0 ✓ - 0.32
79.5 ✓
162.5 ✓ - 0.33

Left

1707.2

257.6

353.9

78.9

80.4 ✓
85.0 ✓
165.4 - 0.27

Mean = -0.29 ✓

174.4

-0.26 ✓

10 430 261.2

86.8 ✓

770 357.2

80.5

10 38.5 77.7

167.3 - 0.24 ✓

5 - 3.3

F Mean = -0.29

10 35.2

H. A. = 43.2 Vert B

Magn = $\frac{2.49}{8.90}$

57.10

H. A. = 2:46 West

M.T. = 4:58

Dec. = -3.6

over

10 50

Dec. 21, 1901

Phyreny right moon not
very far distant & obs rather
diff.

Dec. 22, 1901 (Sunday)

F 34v1
W 30 v2.6

Ball 103
21 10 00

Ledgered
Plotted
Posted

Dec 24 1901 (Tuesday)

Phot T. $\Delta m + 42^{\circ} 33.3^{\circ}$ W Obs.
 $\begin{array}{r} 19 \quad 20 \quad +43.0 \\ 24 \quad 40 \\ \hline 5-20 \end{array}$

B & C reset & is now 15 sec. fast
 Left

6 27 30 99.3 Δ tardis
 $\begin{array}{r} 144.3 \\ 275.5 \\ \hline 325.3 \end{array}$
 $\begin{array}{r} 45.0^{\times} \\ 49.8^{\times} \\ \hline 94.8^{\times} \end{array}$ - 1.79^y

29 00 94.4
 $\begin{array}{r} 146.8 \\ 277.4 \\ 321.8 \end{array}$
 $\begin{array}{r} 52.4^{\times} \\ 44.4^{\times} \\ \hline 96.8^{\times} \end{array}$ - 1.76^x
 Right. - 1.74^x
 Mean = - 1.66^x

32 00 9.4
 $\begin{array}{r} 55.4 \\ 183.1 \\ 239.6 \end{array}$
 $\begin{array}{r} 46.0^{\times} \\ 56.5^{\times} \\ \hline 102.5^{\times} \end{array}$ - 1.60^x

6 34 00 29
 $\begin{array}{r} 6 \quad 0.0 \\ 122 \quad 30 \quad 18 \quad 6.2 \\ 6 \quad 30 \quad 38 \quad 23 \quad 4.2 \\ 5 \quad -0 \quad 2 \end{array}$
 $\begin{array}{r} 57.1^{\times} \\ 48.0^{\times} \\ \hline 105.1^{\times} \end{array}$ - 1.56^x
 - 1.53^x

11 30 36 S. M. Time
 $\begin{array}{r} 5743.4796^{\times} \\ 5742.9731 \\ \hline +0.5065 \end{array}$

Dec. 24, 1901.

II

Right

6.9

6 36 55 55.4

184.3

239.2

4.7

39 00 59.5

189.5

235.8

Left

277.8

42 00 321.9

95.1

147.6

274.8

6 44 15 323.9

162 10 99.2

6 40 32 141.9

5-0 2

11 40 30 Gr. M. Trice

5743.4644

5743.9731

+0.5153

48.5*

54.9*

103.4*

1.57*

- 1.60*

54.8*

46.3*

101.1*

- 1.63*

Mean = -1.72*

43.1*

52.5*

94.6*

- 1.79*

- 1.83*

49.1*

42.7*

91.8*

- 1.87*

Dec. 24, 1901.

III

Left

6 46 51 322.4
93.0
145.0

49 25 2750
323.8
100.6
144.0

Right

53 37 234.80
5.1
55.1

6 56 03 238.0
206 00 8.2

6 51 30 53.2

5 - 0 2

11 51 28 Gr. M. Time.

5743.4940⁺

5746.9731

+ 0.5209

42.9^{*}
52.0[✓]
94.9⁺ - 179⁺

488^x
41.4^x
90.2^x - 191⁺

Mean = -180^x

44.5^x
50.0^x
94.5^x - 180[✓]

53.8^x
145.0^x
98.8^x - 169⁺

Dec 24 1901

IV

Right

189.3

65925-232.5

45

57.8

43.2^{*}53.3^{*}96.5^{*}-1.74^{*}

184.6

70230 236.6

8.5

52.1

Left

97.9

70520 141.4

244.6

324.6

52.0^{*}-1.76^{*}43.6^{*}95.6^{*}-1.77^{*}mean = -1.82^{*}43.5^{*}50.0^{*}93.5^{*}-1.82^{*}

95.8

70738 143.7

1453^{*}

279.0

70344 320.0

520 2

120342 Gr. M.T.

5743.5026^{*}

2

5745.9701

+0.5295

47.9^{*}-1.88^{*}41.0^{*}88.9^{*}-1.94^{*}

Dec. 24, 1901.

V

Left

~~100.9~~

100.9

141.7

277.6

322.1

7 16 45

40.8*

44.5*

85.3* - 2.04*

97.4

18 15

141.6

281.4

319.4

Right

11.5

20 08

49.6

186.8

236.8

44.2* - 2.08*

38.0*

82.2* - 2.13*

Incons = -2.02*

38.1*

50.0*

88.1* - 1.96*

6.6

7 22 05

54.8

77 73

191.8

232.5

48.2* - 1.95*

40.7*

88.9* - 1.94*

7 19 18

5-0 2

12 19 16 82 M. Time

5743. 5134

5743 9731

+0.5403

Dec. 24, 1901

VI

Dec.

Right

72440 12.0
51.7
185.8
234.8

7.4
2630 55.4
191.8
232.1

39.7^{*}
49.0^{*}
88.7^{*} - 1.95^{*}

48.0^{*} - 1.96^{*}
40.3^{*}
88.3^{*} - 1.96^{*}

Mean = -2.05^{*}

Left

72950 283.5⁻
319.5⁻
96.3
142.9

36.0^{*}
46.9^{*}
82.9^{*} - 2.11^{*}

248.8,

7 3130 321.4^{*}
3230 101.8^{*}
72808 140.8^{*}
5-02

42.8^{*}
39.0^{*}
81.3^{*} - 2.16^{*}

122806 Ch. M. Times

5742.518^{*}
5195

5742.9931
+0.5464

Dec. 24, 1901.

VII

Left

282.4
 7 33 50 318.8
~~100~~ 101.3
 142.5

36.4^{*}
 $\frac{41.2^*}{77.6^*} - 2.2^*$

36 20 281.3
 321.0
 102.8
 139.5

$\frac{39.7^*}{36.7^*} - 2.28^*$
 $\frac{76.4^*}{76.4^*} - 2.30^*$

Right.

mean = -2.20^{*}

~~39 45~~
 40 20 53.6 53.1
 192.5
 $\frac{231.5}{11.8}$

~~38.0~~
 $\frac{45.5^*}{39.0^*} - 2.06^*$

7 43 20 50.2
 153 50 189.7
 7 38 28 232.6

38.4^{*} - 2.11^{*}
 $\frac{42.9^*}{81.3^*} - 2.16^*$

5-0 2

12 38 26⁺ M. Time.5743.5267⁺

5742.9731

+0.5536⁺

Dec. 24, 1901

VIII

Right

10.2
 74700 58.21
 190.6
 231.8

41.9^{*}
41.2^{*}
 83.1^{*} - 2.10^{*}

18.5
 5000 50.6
 188.6
 233.0

38.1^{*} - 2.11^{*}
44.4^{*}
 82.5^{*} - 2.12^{*}

Left

281.6
 5345318.5
 10 3.1
 141.9

mean = -2.24^{*}
 36.9^{*}
38.2^{*}
 75.1^{*} - 2.34^{*}

282.4
 75646379.9
731102.7
 75153138.7
 5-0 2

-2.36^{*}
 37.5^{*}
36.0^{*}
 73.5^{*} 2.39^{*}

125751 Dr m. T.
 5743.5360^{*}
57429731
 +0.5629^{*}

Dec. 24, 1901.

Left

IX

284.2
 8 01 40 317.5
 101.3
 138.8

33.3^{*}
 37.5^{*}
 70.8^{*} - 2.48^{*}

270.5
 04 30 318.3
 104.6
 138.5

37.8^{*} - 2.46^{*}
 339^{*}
 71.7^{*} - 2.45^{*}

Right

Mean = -2.34^{*}

192.7
 07 40 230.4
 9.9
 52.5

37.7^{*}
 42.6^{*}
 80.3^{*} - 2.19^{*}

190.0
 8 10 30 232.0

-2.20^{*}

13.2
 8 24 20 51.0
 5 06 03
 5 0 02

42.0^{*}
 37.8^{*}
 79.8^{*} - 2.20^{*}

13 06 03 S.M.T. P.A. = 212.7 Ver B

5743.5458^{*}

H.A. +7.17 West

5743.5399
 +0.0059

S.T. 2.40

Dec. +42.8

S/pwh. 4.5B to 5.5C.

Dec. 24, 1901.

Proceeding Observations extremely difficult throughout. moon full, sky very bright, ~~apparently~~ atmospheric conditions not very good although sky moderately clear.

Images at equalization faint throughout and a little uncertain, although var. increased somewhat in brightness as time progressed, yet region steadily grew lower and obs. more & more difficult. At time of ending object glass was in the middle of the three low small shutters.

Above Observations $\frac{1}{2}$ weight.

Dinner Var. +40 4393 (A4)
w Obs

FLS clds.

Dec. 24, 1901

+40° 439 3

Left RA.

see prev page

258.5 < var dis.

8 58.0

340.7

82.2[✓]

84.8

73.8[✓]

158.6

156.0[✓] - 0.46[✓]

264.0

338.6

840.5

160.6

74.6[✓]80.1[✓]154.7[✓] - 0.48[✓]

RAB.

Mean = -0.42[✓]

172.3

250.6

351.4

72.6

78.3[✓]81.2[✓]159.5[✓] - 0.39[✓]

171.1

252.8

354.2

72.2

81.7[✓]79.0[✓]160.7[✓] - 0.37[✓]

9 04.8

122.8⁺9 01.4⁺5-0.0⁺14 01.4⁺ 1/2 MT.5743.584⁺

Dec. 24, 1901

Same Again.

R & B.

9 — ~~171.0~~ clde.
 ~~2~~ clouds thick.

Troubled a little by clouds during
 above especially towards end.

Clouds prevented second group
 being taken.

P.A. = 197.8 Var B.

H.A. = 6.48 West.

Dec. = +41.3

S.T. = 3.47

Sp. Wh. = 2.0-A & 3.4-B

Photo	Cets	W Cls
2	12	-3.6
3	49	
<hr/>		
1	37	

cloudy

9 31 Clouds thick

2	12
4	32
<hr/>	
2	20

Dec. 24, 1901.

Left

e ceto

175.5 < < var ché

261.7

86.2[✓]

10 230 358.2

80.8

79.0

167.0[✓] - 0.25[✓]

173.5

260.5

87.0[✓] - 0.18[✓]

354.3

87.1

81.4

174.1[✓] - 0.11[✓]

Right

85.3

mean = -0.20[✓]

172.7

87.4[✓]

266.0

83.3[✓]

349.3

170.7[✓] - 0.17[✓]

88.0

81.1[✓] - 0.24[✓]

10 29.0

169.1

81.1

10 26.0^x

266.7

85.9[✓]

5 0.0

352.6

167.0[✓] - 0.25[✓]15 26.0^x g.m.t.5743.643^x

Dec. 24, 1901

Right

10 32.0
 85.7
 170.3
 265.4
 349.8

84.6
 84.4
 169.0 ✓ - 0.21 ✓

A

84.8
 167.1
 264.6
 348.5

82.3 ✓
 83.9 ✓
 166.2 ✓ - 0.25 ✓

-0.23 ✓

Left

354.4
 82.4
 175.8
 257.6

82.0 ✓
 81.8 ✓
 163.8 ✓ - 0.19 ✓

mean = -0.20 ✓

10 39.6
 11.6
 10 35.8
 0 - 0.0

81.3 - 0.18 ✓
 89.1 ✓
 170.4 - 0.18 ✓

Final mean = -0.20 *

10 30.8 42 m.t.
 0743.650 *

P.A. = 44.5 K.B.

H.A. = 2.5 A West Magn = 8.99 ✓

S.T. 5.10

Dec. -3.6

10 50 All cloudy again

Dec. 25, 1901. (Wednesday)

F3451
15 ³⁸ 40.0

Ball 103
21 06 00

Ledgered, Plotted, Posted

Dec. 26, 1901 (Thursday)

3451

15 51 36.6

Ball 103

21 14-00

Dec 27, 1901 (Friday)

B&C 1182

5 36 00

Ball 103

5 36 00

Phot T.

Above

W Delphin

W Ob

20

31 +17.8

24

21

3

50

I

27 5.1

5 50 56 32 9.1 Comp * dis.

5 40

96.8

46.7

143.5

100.7 + 1.64

27 6.3

5 2 54 32 3.5

9 3.0

148.4

47.2 + 1.62

53.4

102.6 + 1.59

Below

Mean = +1.48

17 6.8

5 5 40 24 1.6

6.5

64.8

58.8

49.3

114.1 + 1.32

18 6.7

5 57 55 2 3 6.2

+1.34

49.5

17 25 358.5

62.5

5 54 21 61.0

112.0 + 1.37

5 0 0

10 54 21 M.M.T.

5746.4545

5741.7564

+46981

Dec 27, 1901

Below

II

180.3

6 00 28 241.0
 6.8
 56.8

6 0.7[✓]
50.0[✓]
 110.7[✓] + 1.40[✓]

188.9

02 47 234.4
 1.7
 60.2

45.5[✓]
58.5[✓]
 104.0[✓] + 1.56[✓]

+ 1.48[✓]

Above

Mean = + 1.62[✓]

93.5

05 58 147.7
 277.8
 322.0

54.2[✓]
44.2[✓]
 98.4[✓] + 1.70[✓]

98.8

6 08 42 144.1
17 55 277.2
 6 04 39 325.3
 5 0 0

45.3[✓]
48.1[✓]
 93.4[✓] + 1.82[✓]

+ 1.76[✓]

11.04 39⁺ 2 M.T.
 5746.4615⁺
5841.7564⁺
 + 047051⁺

Dec. 27, 1901

Above

III

6 12 35
 97.3
 145.3
 278.9
 322.0

48.0
 43.1
 91.1[✓] + 1.48[✓]

15 30
 99.7
 142.9
 277.8
 323.3

+ 1.92[✓]
 43.2[✓]
 45.5[✓]
 88.7[✓] + 1.95[✓]

Below

mean = + 1.83[✓]

19 15
 4.1
 56.8
 189.1
 234.1

52.7
 45.0
 97.7 + 1.71[✓]

6 22 20 10.0
 54.0
 29 40 184.9
 6 17 25* 236.4
 5 0 0

+ 1.74[✓]
 44.0[✓]
 51.5[✓]
 95.5[✓] + 1.77[✓]

11 17 24* 42 M. Time.

5746.4704⁺
 5741.7564⁺
 + 4.7140⁺

Dec. 27, 1901

IV

Below

6 2713 6.8
 55.8
 189.9
 231.8

49.0
~~41.9~~
 90.9 + 1.89 ✓

31 00 12.7
 52.5
 186.8
 234.6

39.8 ✓ + 1.94 ✓
~~47.8~~
 87.6 + 1.98 ✓

Above

Mean = + 2.06 ✓

2 77.7
 33 52 321.5
 102.5
 141.8

43.8 ✓
~~39.3~~
 83.1 + 2.10 ✓

282.8

+ 2.18 ✓

6 36 45 318.1
 850 98.8
 6 32 12 141.5
 0 0 0

35.3
~~42.7~~
 78.0 + 2.25 ✓

11 32 12 9. M. Time.

5746.4807

5741.7364

+ 4.7243

Dec 27, 1901

V

Above

280.6

6 40 15 322.0

10 3.0

140.3

41.4 ✓

373 ✓

78.7 ✓

+ 2.23 ✓

283.6

43 15 317.6

99.0

140.3

+ 2.28 ✓

34.0 ✓

41.3 ✓

75.3 ✓

+ 2.34 ✓

Below

189.6

48 38 232.6

13.9

49.2

mean = + 2.27 ✓

43.0 ✓

353 ✓

78.3 ✓

+ 2.20 ✓

194.1

6 51 00 229.2

22 08 10.1

6 45 32 52.5

5 0 0

11 45 32 G.M.T.

5746.4900

5741.7564

+ 4.7336

+ 2.26 ✓

35.1 ✓

42.4 ✓

77.5 ✓

+ 2.27 ✓

P.A. = 166.0 Ver B

H.A. = 5:04 West

S.T. = 136

Dec = +17.8

Sp Wh = 6.7a 17.5 B + 8.1 C

Dec. 27, 1901

93.1901

wcb.

19 14 +134

26 10

6 56

Too low

Phot T.

R. Ms. Min.

wcb

18⁶ 34 +72926 14

9 40

60.2 ✓

52.5

112.7 ✓ + 1.36 ✓

53.8 ✓

+ 1.34 ✓

60.2

114.0 ✓

+ 1.33 ✓

Mean = + 1.25 ✓

Below

357.9

64.0

184.5

239.9

66.1 ✓

55.4

121.5 ✓

+ 1.16 ✓

+ 1.16 ✓

3.6

67 53.0 59.2

7 49.0 177.3

5. 242.7

12 49.0 R. Ms. Min.

5746. 534

55.6 ✓

65.4

121.0 ✓

+ 1.17 ✓

Dec. 27, 1901

Same Again

Below

7 55.0

358.7

63.4

183.8

238.5

64.7 ✓

54.7 ✓

119.4 ✓

+ 1.21 ✓

4.8

58.1

178.5

243.0

53.3 ✓

+ 1.22 ✓

64.5 ✓

117.8 ✓

+ 1.24 ✓

Above

268.4

333.2

94.8

146.8

64.8 ✓

52.0 ✓

116.8 ✓

+ 1.26 ✓

+ 1.30 ✓

~~+ 1.28~~

8 02.6

117.6

7 52.8 ✓

54.0

2 74.4

328.2

119.1

151.63

53.8 ✓

60.2 ✓

114.0 ✓

+ 1.33 ✓

P.A. = 3188 hrs B

H.A. = +10.15 West

S.T. = ~~11~~ 2.46

Dec. = +72.6

S/p. Wh. = 2.13 + 3.5 C

Final mean = +1.26

12 58.8 ✓
5746.541 ✓
92 mt.

Dec 27, 1901

Same Again. ~~III~~

Above

$$\begin{array}{r}
 271.8 \\
 8 \ 18.0 \ 330.9 \\
 92.5 \\
 \hline
 147.4^2
 \end{array}$$

$$\begin{array}{r}
 59.1 \checkmark \\
 57.7 \checkmark \\
 \hline
 113.8 \checkmark + 1.33 \checkmark
 \end{array}$$

$$273.0$$

$$328.0$$

$$88.0$$

$$151.4$$

$$\begin{array}{r}
 55.0 \checkmark \\
 63.4 \checkmark \\
 \hline
 118.4 \checkmark + 1.23 \checkmark
 \end{array}$$

Below

$$180.6$$

$$242.2$$

$$4.4$$

$$57.5$$

$$\begin{array}{r}
 61.6 \checkmark \\
 53.1 \checkmark \\
 \hline
 114.7 \checkmark + 1.31 \checkmark
 \end{array}$$

$$\text{Mean} = +1.26 \checkmark$$

$$185.0$$

$$+1.25 \checkmark$$

$$\begin{array}{r}
 826.8 \\
 239.5 \\
 \hline
 358.6
 \end{array}$$

$$488$$

$$64.4$$

$$\begin{array}{r}
 54.5 \checkmark \\
 65.8 \checkmark \\
 \hline
 120.3 \checkmark + 1.19 \checkmark
 \end{array}$$

$$\text{Final Mean} = +1.26$$

$$\begin{array}{r}
 8 \ 224 \\
 5 \ 00 \\
 \hline
 13 \ 224
 \end{array}$$

Gr. M. Time.

$$5746.557^+$$

Dec. 27, 1901

Photo 9 Ceti W 662

$$\begin{array}{r} 212-36 \\ 312 \\ \hline 100 \end{array}$$

Right

$$\begin{array}{r} 859 \\ 176.0 \\ 270.0 \\ 352.8 \\ \hline 172.9 \end{array} \quad \begin{array}{r} 90.1 \\ 82.8 \\ \hline -0.13 \end{array}$$

$$\begin{array}{r} 90.3 \\ 172.4 \\ 265.6 \\ 355.3 \\ \hline 171.8 \end{array} \quad \begin{array}{r} 82.1 \\ 89.7 \\ \hline -0.16 \end{array}$$

mean = -0.14

Left

$$\begin{array}{r} 354.2 \\ 82.4 \\ 175.7 \\ 257.7 \\ \hline 170.2 \end{array} \quad \begin{array}{r} 88.2 \\ 82.0 \\ \hline -0.19 \end{array}$$

-0.15

$$\begin{array}{r} 851.0 \\ 93.4 \\ \hline 846.7 \\ 54.0 \\ \hline 1346.7 \end{array} \quad \begin{array}{r} 356.7 \\ 78.9 \\ 172.1 \\ 263.9 \\ \hline 174.0 \end{array}$$

$$\begin{array}{r} 82.2 \\ 91.8 \\ \hline -0.11 \end{array}$$

$$\begin{array}{r} 1346.7 \\ 5746.574 \end{array}$$

Dec. 27, 1901

Same Again.

Left

$\begin{array}{r} 351.8 \\ 83.1 \\ 177.0 \\ 258.7 \end{array}$
 $\begin{array}{r} 854.0 \\ 83.1 \\ 177.0 \\ 258.7 \end{array}$

$\begin{array}{r} 91.3 \\ 81.7 \\ \hline 173.0 \end{array} - 0.13$

355.0

77.8

169.7

261.0

$\begin{array}{r} 82.8 \\ 91.3 \\ \hline 174.1 \end{array} - 0.11$

Right

$\begin{array}{r} 82.2 \\ 187.2 \\ 263.0 \\ 347.3 \end{array}$

$\begin{array}{r} 89.0 \\ 84.3 \\ \hline 173.3 \end{array} - 0.13$

Mean = -0.13

-0.14

$\begin{array}{r} 85.9 \\ 902.0 \\ 858.0 \\ 50.0 \\ \hline 1358.0 \end{array}$
 $\begin{array}{r} 166.7 \\ 259.4 \\ 351.1 \end{array}$

$\begin{array}{r} 80.8 \\ 91.7 \\ \hline 172.5 \end{array} - 0.14$

Final Mean = -0.14

$\begin{array}{r} 1358.0 \\ 50.0 \\ \hline 1408.0 \end{array}$

P.A. = 223.2 Ver. B
 H.A. = +1.32 Vert Magn = 9.05
 S.T. = 3.44
 Dec. = -3.7

Dec. 27, 1901

Phot R $\Sigma 5$ wcbz
 0 4 +10.4
 $\frac{44}{40}$

P.A. 150° Dist 7" Magn. 5.9-10.5
 Moon too bright too much wind

Phot R. $\Sigma 61$ wcbz
 0 4 3 +27.0
 $\frac{413}{330}$

P.A. 300° Dist 4.5" Magn. 6.0-6.1
~~Below~~ Right

347.8 < br. dis. = S.F.

9 426

76.0

88.2

165.8

 $\frac{940}{182.2}$

259.8

 $\frac{177.8}{177.8} + 0.04$

346.8

78.8

+0.01

170.4

 $\frac{920}{868} - 0.02$

257.2

~~Below~~ Above Left Mean = -0.04

259.1

85.1

344.2

 $\frac{90.8}{175.9}$

76.8

-0.08

167.4

257.8

-0.10

343.9

86.1

78.2

88.2

166.4

 $\frac{174.3}{174.3} - 0.11$

9 526

95.2

9 49.6

5 14.8

Dec. 27, 1901

Phot R

 $\Sigma 422$

206

3 31 + 0.2

4 35

PA. 255° Dist $6''^{0.4}$ Magn. 6.0-8.2

Above

286.4 \angle br dis

10 04.0 318.2

31.8

111.0

25.3

136.3

57.1

- 297

288.8

2.88

316.1

27.3

106.4

34.3

140.7

61.6

- 280

Below

mean - 2.83

197.0

231.3

34.3

18.2

28.2

46.4

62.5

- 277

200

197.3

2.78

10 11.0 226.4

26.1

15.0

14.2

35.6

10 07.5

49.8

61.6

- 280

Dec. 27, 1901

Phot R. *U Camelopard = M P 441*
2006

$$\begin{array}{r} 3 \quad 33 \quad + 62.3 \\ \hline 4 \quad 53 \\ \hline 1 \quad 20 \end{array}$$

Right

189.0

10 22.0

236.7

12.7

52.8

L. vander

49.7 ✓

40.1 ✓

87.8 ✓ - 1.97

192.7

232.3

7.8

58.0

Left

97.6

148.1

282.7

324.7 323.7

- 1.94

39.6 ✓

50.2 ✓

89.8 ✓

- 1.92 ✓

mean = - 1.97 ✓

50.5 ✓

41.0 ✓

91.5 ✓

- 1.87 ✓

- 2.00 ✓

10 28.3

1031

1438

50.3

278.2

10 25.2

319.2

5 0.0

40.7 ✓

41.0 ✓

81.7 ✓

- 2.14 ✓

15 20.2 M.T.

5746.642

Dec. 27, 1901

Same Again

Left

986

10 31.4

147.3

282.5

323.4

48.7^v40.9^v89.6^v- 1.92^v

102.2

143.6

278.3

326.8

41.4^v48.5^v89.9^v- 1.92^v- 1.92^vMean = - 1.90^v

Right

81.4

57.6

192.7

233.4

49.2^v40.7^v89.9^v- 1.92^v

120

10 37.0

54.9

10 34.2

18.3

5 0.0

237.0

42.0^v50.7^v92.7^v1.28^v- 1.24^v15 34.2^v 42 m. Time.5746649^xP.A. = 315.8^v K B

H.A. = 1.47 West

S.T. = 5.16

Dec. = +62.2

F 3451

Ball 103

15 49 30.5

Ball 2109.05

Ledgered, Plotted, Posted.

Dec. 30, 1901. (Monday)

Cleared off

BCC 1182

Ball 103

9 4459.7

9 44 00

Shot W o Ceto w 06

4 34 - 36

2 12

2 26

Left above

~~78.4~~ 350.6~~78.4~~ 78.4

87.8 ✓

~~35.~~ 166.5

92.2 ✓

258.7

180.0 - 0.00 ✓

348.1

78.6

90.5 ✓

- 0.03 ✓

170.5

86.3 ✓

256.8

176.8

- 0.06 ✓

Right Below

Mean = - 0.06 ✓

261.1

346.5

85.4 ✓

78.7

89.8 ✓

168.5

175.2 ✓

- 0.09 ✓

257.5

- 0.08 ✓

10 16.5

350.0

92.5 ✓

22.0

82.1

84.3 ✓

10 11.0

166.4

176.8 ✓

- 0.06 ✓

5 - 1.0

15 10.0

3749.632*

Dec. 30, 1901.

ST

R 773.

10 20.0 260.6
 346.2[✓]
 77.3
 168.1

85.8[✓]
 90.8[✓]
 176.6[✓] - 0.06[✓]

258.6

347.6

800

166.3

890[✓]
 86.3[✓]
 175.3[✓] - 0.09[✓]

L 7. A.

170.8

256.2

347.2

79.4

Mean = -0.08[✓]

85.4⁺
 92.2⁺
 177.6⁺ - 0.05[✓]
 - 0.14[✓]
 = 0.09[✓]
 - 0.14[✓]

10 30.0 167.6
 258.4

10 25.0⁺ 350.0

5 - 1.0 74.6

15 24.0⁺ M.T.

5747.642⁺ PA = 46.5⁺ Ver B.

14.9 - +3.12 West

Dec. - 3.6

ST 5-19

90.8⁺
 84.6⁺
 175.4⁺ - 0.09[✓]
 - 0.14[✓]

Mean = -0.07[✓]
 9.49
 Magn? = 9.12

Dec. 30, 1901

Phot R $\Sigma 422$ wob.
 3 31 +0.2
 $\underline{531}$

PA. 20th Dist 6" 60-22

L. 4a.

102.6 < b. dis

10 49.0

135.1

32.5

280.1

39.6

319.7

72.1 - 244 ✓

102.3

2.26'

143.8

41.5

279.3

42.4

321.7

83.9 - 2.08 ✓

R + B

Mean = 2.36

8.15

45.9

37.8

193.8

32.3

226.1

70.1 - 2.50

11.2

2.46

11 00.0

48.1

36.9

10 54.5

181.3

386.2

227.5

73.1 - 2.46

Rapid clearing. seeing extremely
 bad. obs. of above double
 11 05 $\frac{1}{2}$ w.

Dec. 30, 1901.

F3451
x 14 01 15.7

Ball 103
21 09 00

Ledger
Plotted
Posted.

Dec. 31, 1901 (Tuesday)

B 8 C
70412.2

Ball 103

70305

R Draconis W Ob.

16 28 +67.3

26 18

9 50

10.91 ✓

10.92 ✓

10.92 ✓

7 41

n 3.5 var 0.50

R Tauri

W Ob.

4 19 +10.9

2 36

1 43

10 17

4 18 +9.6

2 36

1 43

8 10 17

S Tauri

W Ob.

8 07

n 1 var, var 4 w

13.11

13.12

13.12

8 30

R Tauri

x 2 var 1 y 14.04
14.02 W Ob.
14.03

T. Nisee. Map.

12 24 +59.5

3 24

Obs

9 00

3 00

8 52

n 1 var, var 4 t

12.87 ✓

12.44 ✓

12.66 ✓

Dec. 31, 1901

R Leo. Min - W Ob.

$$\begin{array}{r}
 940 + 34. A \\
 400 \\
 \hline
 540 \\
 620
 \end{array}$$

9 2A Clouds 0 1 var 2 $\frac{9.69}{9.78}$ $\frac{9.74}{9.78}$ finder W

R Can. Min W Ob.

$$\begin{array}{r}
 720 + 9.5 \\
 420 \\
 \hline
 300 \\
 900
 \end{array}$$

9 50 0 1 var 3 $\frac{11.32}{11.32}$ W large telescope

R Cancri. W Ob.

$$\begin{array}{r}
 809 + 11.5 \\
 445 \\
 \hline
 324 \\
 836
 \end{array}
 \quad
 \begin{array}{r}
 8.5 + 11.6 \\
 448 \\
 317 \\
 843
 \end{array}$$

10 10 Clouds 2.5 0 1 var 2 m 8.78 W
 clds.

Dec 31, 1901.

T Hydrae W Ob.

A 48 -7.4

5 08

3 40

8 20

10 15 cloudy

Repair light.

A 48 -7.4

5 34

3 14

8 46

W

11 10

22, 32

1/2 W.

1309

Made through passing
 somewhat dense passing clouds

Ledger, Plotted, Posted.

Jan. 1, 1902.

5 47 32.6 5 46 55
 Phot T. W. Delphin. W. Obs.
 20 31 +17.8
 24 47
 4 16

Above
 277.6 < comp & dis
 6 02 00 322.8 45.2 ✓
 100.3 41.9 ✓
 142.2 87.1 ✓ + 1.99 ✓

04 30 280.7
 321.7 41.0 ✓ + 1.99 ✓
 98.7 46.3 ✓
 145.0 87.3 ✓ + 1.99 ✓
 Below
 122.9
 3 07 58 238.3
 7.6
 54.2 55.4 ✓
 46.6 ✓
 102.0 ✓ + 161 ✓
 Mean = + 1.78 ✓

186.2
 6 10 32 234.8
 25 00 2.5
 6 06 15* 58.8
 5- 1 33
 4 88.6 ✓ + 1.58
 56.3 ✓
 104.9 ✓ + 154 ✓

11 04 42* Cr. M. Time.
 5751.4616*
 5751.3629*
 + 0.0927*

Jan. 1, 1902

II

Below

6 13 40 183.6
240.2
8.2
55.0

56.6 ✓
46.8 ✓
103.4 ✓ + 1.57 ✓

16 20 187.5
235.8
2.2
61.3

48.3 ✓ + 1.52 ✓
59.1 ✓
107.4 ✓ + 1.48 ✓

also

mean = +1.63 ✓

19 00 96.0
146.0
280.6
322.4

50.0 ✓
41.8 ✓
91.8 ✓ + 1.87 ✓

~~98.0~~ 97.1
6 21 50 145.1

30 50 275.6

6 17 42 329.3

5-1 33

11 16 09^x Gr. M. Tunc.

5751.4695^x

5751.3689

+0.1006

48.0 ✓ + 1.74 ✓
53.7 ✓
101.7 ✓ + 1.61 ✓

January 1, 1902

III

Above

6 25 40 93.5
 147.0
 278.5
 323.9

53.5
 45.4^v
 98.9^v + 1.68^v

2840 97.2
 144.6
 274.6
~~329.2~~
 328.4

47.4^v + 1.66^v
 54.3^v
 101.2^v + 1.63^v

Below

Mean = +1.50^v

3345 2.0
 59.6
 185.5
 238.6

57.6^v
 53.1^v
 110.7^v + 1.40^v

6 36 25 5.4
 59.7
 124 30 181.7
 6 31 08^x 242.8
 5-1 33

54.3^v + 1.34^v
 61.1^v
 115.4^v + 1.29^v

11 29 30⁵ Dr. M. Time5757.4789^x5751.3689^x+ 0.1100^x

January 1, 1901²
IV

Below

6.39 00
 1.0
 62.7
 185.1
 237.2

61.7 ✓
 52.1 ✓
 113.8 ✓ + 1.33 ✓

42 30
 5.8
 59.3
 178.8
 241.9

53.5 ✓ + 1.30 ✓
 63.1 ✓
 116.6 ✓ + 1.27 ✓

Above

45 30
 270.6
 329.0
 95.4
 146.7

Mean = + 1.36 ✓
 58.4 ✓
 51.0 ✓
 109.4 ✓ + 1.43 ✓

6 48 40
 274.8
 327.4
 91.2
 449.9

52.6 ✓ + 1.41 ✓
 58.7 ✓
 111.3 ✓ + 1.39 ✓

5- 1 33

11 42 22 Gr. M. Time

5751.4878⁺

5751.3689⁺

+ 0.1189⁺

January 1, 1902

Above

V

6 51 40 3 31.3
 92.7
 147.5

58.5 ✓
 54.8 ✓
 113.3 ✓ + 1.34 ✓

53 30 275.1
~~327.4~~ 333.4
 92.7
 149.5

58.3 ✓
 56.8 ✓
 115.1 ✓ + 1.30 ✓

Below

Mean = + 1.19 ✓

6 58 10 182.2
 238.6
 357.4
 66.8

56.4 ✓
 68.4 ✓
 124.8 ✓ + 1.09 ✓

7 00 20 176.2
 245.7
 223 40 2.2
 6 55 55^x 59.9
 5-1 33^x

69.5 ✓ + 1.06 ✓
 57.7 ✓
 127.2 ✓ + 1.04 ✓

11 54 22^x G.M.T.
 5751.4961^x
 5751.3689
 + 0.1272

PA = 166.2 ✓
 HA = 5.29 West
 Dec = + 1.78
 S.T. = 2.02
 Right Asc. = 6.707513 8.1 C

Jan. 1, 1902

2 Regasi. w. Ob.

dot R

21 39 + 9.4

26 41

5.02

PA. 32.0 Dist 2.2 Magn. 2.5-8.3

Right

24.8

Length of day

8 00

30.9

6.1 ✓

20 3.5

(8.1) ✓

21 1.6

14.2 - 6.04

22.9

✓ - 6.08

32.3

9.4

20 5.6

4.1 ✓

20 9.7

13.5 * - 6.13

Left

mean = * - 6.08

29 14.5

30 0.6

6.1 ✓

11 1.8

(8.7) ✓

120.5

14.8 * - 6.95

8 08

29 1.8

8 04

30 0.7

8.9 ✓

- 6.08

11 4.6

4.2 ✓

118.8

13.1 ✓ - 6.21

January 1, 1902

Phot R ≤ 2824 WCB.
 $\begin{array}{r} 21 \ 39 \\ 27 \ 09 \\ \hline \end{array} + 25.1$

PA. 340 Dist 10" Magn. 3.9 - 10.8

Too faint in present unsteady seeing

in Cygni ≤ 2822 WCB.

$\begin{array}{r} 21 \ 38 \\ 27 \ 18 \\ \hline \end{array} + 28.2$
 $\begin{array}{r} 5 \ 40 \end{array}$

Too close in this seeing to measure satisfactorily

Phot R $\leq 59'$ WCB.
 $\begin{array}{r} 22 \ 59 \\ 27 \ 24 \\ \hline \end{array} - 2.2$
 $\begin{array}{r} 4 \ 25 \end{array}$

PA. 140 Dist. 4.5" Magn. 5.6 - 7.0

over

Jan 1, 1902.

≤ 59' see surface

Left

8 34
 4.3
 48.2
 181.7
 231.8

brighter dis

43.9
 50.1
 94.0 + 1.21

1.2
 51.6
 183.4
 228.8

50.4 + 1.78
 45.4
 95.8 + 176

Right

275.0
 318.2
 93.0
 139.1

mean = + 1.89

43.2
 46.1
 89.3 + 193

8 40

274.3
 317.9
 96.0
 136.8

43.6 + 200
 40.8
 84.4 + 207

Jan. 1, 1902
Phot w. Ceto wld

clouds
Lea.

~~9 14.4~~ ~~341.8~~ ~~various~~
~~69.1~~ ~~27.3~~
~~156.7~~ ~~97.0~~
~~253.1~~ ~~184.3~~ +

Lea.

9 37 340.2
9 1.0 73.2
163.1
249.2
343.8
70.2 clde
159.3
251.8
RMB
249.3 clde
343.6
69.6
160.9

253.3

9 55.0 338.0

9 46.0 68.5

5 1.6 163.3

14 44.4 Grm. Time.

5751.614

175.7 clde
Repeat.
settings uncertain.
clearer new start.

930
861
179.1 - 0.02

86.4 - 0.02

925
178.9 - 0.02

mean = +0.02

943
91.3
1856
1744 + 0.11

85.2 +0.06

948
1800 - 0.00

Jan. 1, 1908²

Same Again

R.A.B.

2488

9 57.0 342.2

72.1

158.5

93.4

86.4

179.8

0.00

251.2

339.0

67.4

163.6

87.8

+0.04

96.2

184.0

176.0

+0.08

L.A.

158.5

254.0

343.3

69.6

95.5

86.3

181.8

178.2

+0.03

163.0

10 03.0 249.3

10 00.0 336.7

5 -1.3 676.2

14 58.7

86.3

-0.02

89.5

175.8

-0.08

Or M. Time

5751.624

RA. = 22 38.8

HA. = +2.51 West

Dec. = -3.6

S.T. = 5.03

Final mean = +0.02

9.19

Magn = 9.21

Jan. 1, 1901.²

W. X Casinop = Double
 Phot ~~11~~ 0 35 + 56 wells

$$\begin{array}{r} 5 \ 10 \\ 4 \ 30 \\ \hline \end{array}$$

PA 280 Dist 1.1 ±

magn = 2.5 - 9.2

Above

113.8 Lbr. dis

10 24 118.0

293.8

298.2

4.2 ✓

4.4 ✓

8.6 ✓

- 7.13

113.1

118.5

293.0

298.4

Below

213.2

27.5

202.7

208.4

5.4 ✓

5.4 ✓

10.8 ✓

- 6.88

- 6.63

Mean = 6.84

4.3 ✓

5.7 ✓

10.0 ✓

- 6.80

23.4

28.5

203.3

10 26.0 208.1

5 - 1.3

15 28.2

5.1 ✓

4.8 ✓

9.9 ✓

- 6.81

- 6.82

Observations difficult on account of brightness
 of primary and large interval in range.

Jan. 1, 1902

Phot W $\Sigma 145$ WCB
 $\frac{134}{529} + 25.1$
 $\frac{355}{}$

PA 60 Dist 11" Magnitude 6.0-10.6

~~Right~~ Above

10 40 197.2 \angle br dis
 211.6 14.4 \checkmark
 16.6 16.8 \checkmark
 33.4 31.2 \checkmark - 4.32 \checkmark

197.3
 213.1 15.8 \checkmark - 4.34 \checkmark
 17.3 14.6 \checkmark
 31.9 30.4 \checkmark - 4.37 \checkmark
 Below Mean = - 4.38 \checkmark

107.3
 123.0 14.7 \checkmark
 287.5 13.3 \checkmark
 300.8 28.0 \checkmark - 4.55 \checkmark

10 48 106.5
 122.5 16.0 \checkmark - 4.42 \checkmark
 285.4 15.6 \checkmark
 10 44.0 301.0 31.6 - 4.39 \checkmark
 5 -1.

Seeing somewhat poor
 Companion faint in plot so so they
 vary difficult & a little uncertain.

Jan. 1, 1901²

F 3451 ~~07.2~~
16 15 07.2

Ball 103,
21 15 00

Ledgered, Plotted, Posted.

Jan. 2, 1902 (Thursday)

BQ.C 1182 Ball 103

7⁰⁰ 5-43.6 7⁰⁴ 08
Somewhat cloudy.
Phot Σ 131 w. Ob
1 25 +60

2 15

50

Phot w Σ 845 w. Ob
6 2 +48.7
2 15

3 47^v

8 13

PA 350
Dist 8" Magn 5.5-6.4

Left

7 30

42.1 < br dis.

56.7

74.6^v

164.0

73.6

2 37.6

148.2^v - 0.61

343.7

56.2

72.5^v - 0.58

160.2 clds.

78.8^v

2 39.0

151.3^v - 0.55

Right

Mean = - 0.61

257.0

77.2^v

328.2

68.7^v

72.6

145.9^v - 0.66

141.3

255.7

70.3^v - 0.64

326.0

72.6

71.2

147.9^v - 0.62

148.8

7 30

January 2, 1901²

Phot T.

DM +42° 333P WCB
 19 20
 26 40 +43.0

 7 20

Left

P 1240 95.8 L var dis
 148.2 52.4
 277.7 46.1
 323.8 98.5 -

97.9
 15 45 143.1 45.2^v
 2 75.7 49.7^v
 32 51.4 94.9 -
 Right Leon Campbell Mean = -

2.8
 2135 60.0 57.2^v
 147.3
 234

Compi star has entirely disappeared.

1
 2

Jan. 2, 1902.

I

~~Right~~~~18.8~~

clouds.

8 ——— ~~2~~ clouds thick stars gone.~~Right~~~~184.8~~~~8 146 to 237.9~~~~0.4~~~~58.6~~

More cloudy again.

Impossible to carry on obs.
 Region very low and range
 clouds settings wholly undisturbed
 and stars dim.

9 15 cloudy

Quite impossible to move down
 packed it up. adjusted camera
 all, swept grooves.

9 35 Clouds thick everywhere no stars visible

9 45 ~~Clouds~~ Clouds thick everywhere
 sky growing worse

Jan. 3, 190^x (Friday)

13801122
5 36 31.0

Ball 103
✓ 34 00

R Delfhin WOb

20 10 +8.6
2445
4 35

600 2 3, 22

Phot T RT x Cygni. WOb

19 4 ✓ 32.6
26 20
5 35

289.4
6 56.5 320.1 ← complex dno 37.7

103.9
137.8
289.2
34.2 ✓
39.1 ✓
71.6 ✓ + 2.45 ✓

317.4
101.5
140.6
194.8
231.5
34.2 ✓
39.1 ✓
3.3 ✓ + 2.40 ✓

mean = + 2.32 ✓

140.6 right
194.8
231.5
111.6
55.0
36.7 ✓
43.4 ✓
80.1 ✓ + 2.19 ✓

190.0
234.5
44.5 ✓ + 2.20 ✓
330 ✓

706.5
123.0
701.5
3-1.5
48.3
77.5 ✓ + 2.27 ✓

Jan 3³, 1902

X Cygni again

Right

195.5

230.2

11.0

54.2

34.7

43.2

77.9 + 2.26

190.3

235.7

15.1

49.3

Left

101.4

140.5

284.0

317.0

+ 2.24

45.4

34.2

79.6 + 2.21

mean = + 2.33

39.1

33.0

72.1 + 2.44

104.1

137.6

220.2

319.6

33.5

39.4

72.9 + 2.41

Final M = + 2.32

4 19.2

7 14.5

5 - 1.5

12 13.0 + 9. m. time

5753.509

P.A. 23.6 km B

H.A. 6.47 West

N.T. 2.31

D.A. + 32.5

P.P.H. 4.5 a 5.173 6.5 c

f. 10
10.42

Jan. 3, 1902

$$\begin{array}{r} \Sigma 147 \\ 134 - 11.9 \\ \hline 30K \\ 130 \end{array} \quad \text{W Ob.}$$

PA 110 Dist 3.5" Magn 5.3 - 66

Abandoned, seeing too bad for so close a double.

$$\begin{array}{r} \text{Phot} \quad \Sigma 5 \\ 04 + 10.4 \\ \hline 324 \\ 310 \end{array} \quad \text{W Ob.}$$

Seeing too poor for faint companion.

$$\begin{array}{r} \text{Phot R} \quad \Sigma 145 \\ 134 + 25.1 \\ \hline 334 \end{array} \quad \text{W Ob.}$$

PA 40 Dist 11" Magn 6.0 - 10.4

Jan. 3, 1902

Below Σ 145 see previous page

Right

8

38.0

282.9 < b.c. dis

299.4

16.5^v

100.4

20.0^v

120.4

36.5^v

- 3.97^v

282.6

4.04^v

299.7

17.1^v

102.6

17.2^v

119.8

34.3^v

- 4.11^v

Clear

mean = 4.04^v

191.6

210.5

18.9^v

11.8

18.2^v

30.0

37.1^v

- 3.93^v

192.3

- 4.04^v

209.1

16.8^v

11.7

17.0^v

28.7

33.8^v

- 4.14^v

8 52.0

8 45.0

5 -1.5

13 43.5

Seeing rather poor & unsteady
and on this account as well as
extreme faintness of ~~ex.~~ companion
in photometric obs. very difficult.

January 3, 1902.

Phot w. N 0 Ceto W-06.

$$\begin{array}{r} 2 \ 12 \ -36 \\ \hline 4 \ 12 \\ \hline 2 \ 00 \end{array}$$

Above

168.3 \angle varilis

9 23.0

252.3

342.4

79.4

$$\begin{array}{r} 240 \\ 90.1 \\ \hline 174.1 \end{array}$$

$$\begin{array}{r} 240 \\ 90.1 \\ \hline 181.0 \\ \hline 179.0 \end{array} \quad +0.02 \checkmark$$

163.1

257.8

347.7

73.4

Below

76.6

164.3

251.6

348.3

$$\begin{array}{r} 94.7 \\ 85.7 \\ \hline 180.4 \\ \hline 179.6 \end{array}$$
+0.02 \checkmark +0.01 \checkmark
mean = +0.05 \checkmark

$$\begin{array}{r} 87.7 \\ 96.7 \\ \hline 184.4 \\ \hline 175.6 \end{array}$$
+0.08 \checkmark

9 30.8

53.8

9 26.9

5-6.5

14 25.4

5753.601 \times

73.2

169.2

256.2

344.6

$$\begin{array}{r} 96.0 \\ 88.4 \\ \hline 184.4 \\ \hline 175.6 \end{array}$$
+0.08 \checkmark +0.08 \checkmark

January 3, 1902.
Same Again

Below

9 35.0
1631.0
252.4
347.6

73.4
168.3
256.4
343.2

85.7 ✓
95.2 ✓
180.9 ✓
179.1 + 0.02 ✓

94.9 ✓
86.8 ✓ + 0.02 ✓
181.7 ✓
178.3 ✓ + 0.03 ✓

Above

~~35~~ 349.7

74.5
161.7
258.6

84.8 ✓
96.9 ✓
181.7 + 0.03 ✓
178.3 ✓
Mean = +0.02 ✓

9 45.0
80.0
9 40.0
5 1.5

343.3
79.2
169.2
253.6

5 + 0.02 ✓
98.9
84.4
180.3 ✓
179.7 + 0.01 ✓

14 38.5
57.53.610⁺

Mr. Pa.

H.A.

St.

Dec.

227.7

2.42

4.54

-3.5

Final M = +0.04 ✓

9.18

Magn = 8.23

Jan 3, 1902.

$$\begin{array}{r} \cancel{182} \\ + \cancel{48} \quad 160.7 \end{array}$$

$$\begin{array}{r} \text{Phot W} \quad \cancel{131} \\ 1325 - 160.0 \\ \hline 500 \end{array}$$

WLB

Pa. 300 Dist 13" Magn. 6.5-9.2

Right & Below

198.2 L to dis.

1012.0 228.1

7.0

53.0

189.2

234.8

198

46.3

L to A.

110.0

135.4

277.5

324.3

29.9

46.0

75.9

- 2.32

45.6

- 2.38

26.5

72.1

- 2.44

Mean = - 2.36

25.4

46.8

72.2

- 2.43

72.2

- 2.33

1020.0

98.3

147.4

287.4

317.0

49.1

29.6

78.7

- 2.23

1576

Of stars high & seeing very bad
O to very difficult

Jan. 3, 1902.

Phot w $\Sigma 452$ w-6h.
 $\begin{array}{r} 341 + 10.8 \\ 531 \\ \hline 150 \end{array}$

PA = $\frac{2}{3} 50$ Dist = 10" Magn. = 49-95
 Left

10 33.0 $\begin{array}{r} 290.5 \\ 309.7 \\ 102.0 \\ 139.2 \end{array}$ $\begin{array}{r} 19.2 \\ 37.2 \\ \hline 56.4 \end{array}$ $\begin{array}{r} < \text{tr. dis} \\ \\ \\ \end{array}$ - 3.43

$\begin{array}{r} 283.0 \\ 316.6 \\ 110.0 \\ 132.2 \end{array}$ $\begin{array}{r} 236 \\ 222 \\ \hline 558 \end{array}$ - 3.22
 - 302

Right.
 $\begin{array}{r} 202.6 \\ 228.8 \\ 11.9 \\ 46.2 \end{array}$ $\begin{array}{r} 26.2 \\ 34.3 \\ \hline 60.5 \end{array}$ Mean = -304
 - 284

10 40.0 $\begin{array}{r} 194.5 \\ 228.0 \\ 21.1 \\ 42.9 \end{array}$ $\begin{array}{r} 33.5 \\ 21.8 \\ \hline 55.3 \end{array}$ - 2.84
 - 304

Seems extremely bad obs very diff

10 40.0

Jan 3. 1908²

F3457

16 19 58.5

Ball 103

21 12 08.

Ledgered, Plotted, Posted,

Jan. 4, 1902. (Saturday)

93. 1901. Schwabe. L. ds.

$$\begin{array}{r} 19 \quad 14 \quad +19.4 \\ 26 \quad 24 \\ \hline +7 \quad 10 \end{array}$$

7 23 Var. considerably below horizon.
Only houses and lights and trees visible in
telescope.

$$\begin{array}{r} \Sigma 2992 \quad \text{Phot. L.} \quad \text{L. ds.} \\ 23 \quad 12 \quad -14.1 \\ 26 \quad 50 \\ \hline +3 \quad 32 \end{array}$$

Position angle 350°

Distances $13''$

Magn. 5.2 & 7.2

Index below

283.1

318.3

101.5

141.8

< betw dis. 35.2

40.3

75.5

+ 2.33

279.8

+ 2.30

319.7

39.9

37.3

77.2

+ 2.28

103.0 101.0

138.3

Jan. 8, 1902.
Index above

192.1
226.5
~~228~~ 11.3
47.2

$$\begin{array}{r} 344 \\ \underline{309} \\ 70.3 \end{array} \quad + 2.50$$

8104 191.3
227.2
11.1
49.3

$$\begin{array}{r} 35.9 \\ \underline{38.2} \\ 74.1 \end{array} \quad + 2.37$$

Mean = + 2.37

51 Piscium. Phot. H. H. obs.

$\Sigma 36$ 0 26 +6.2
3 1A
 $\underline{+2 \quad 52}$

B. C. 90° 21.27" 5.0 x 9.0

Index above

21.7 < Betelgeuse
f 24 ~~37.2~~ 39.0
~~197.4~~ 197.0
221.2

$$\begin{array}{r} 17.3 \\ \underline{24.2} \\ 41.5 \end{array} \quad - 3.69$$

181
40.9
~~202.0~~ 201.7
217.3

-37.8
22.8
 $\underline{15.6}$
38.4

Jan. 4, 1902.

Index below

Final $\Sigma = 376^x$

291.3

306.4

286.0

312.0

157 ✓

260

41.1 ✓ - 371 ✓

106.2

130.5

292.2

307.3

243

151

396 - 378 ✓

A 34 ±

13.5

Wd watch, used before this, was 3.0^m fast;
 i. Subtract 3.0^m from above times.

B. + C. 1182.

Ballou. 103.

A 39 49.0

40 49.0

A 34 0.0

39 0.0

Σ 2422. μ Cygni. Phot. H. Prob.

21 34 +242

24 10

+6 32

Seeing too bad to measure this double.

Jan. 4. 1902.

 $\Sigma 59'$

$$\begin{array}{r}
 22 \quad 59 \quad -2.2 \\
 24 \quad 15 \\
 \hline
 +5 \quad 16
 \end{array}$$

Low low.

N. Arietis. Phot. Yr. W. do.

$$\begin{array}{r}
 1 \quad 52 \quad +23.1 \\
 4 \quad 20 \\
 \hline
 +2 \quad 22
 \end{array}$$

~~Abandoned for present~~o Ceti. Phot. Yr. W. do.

$$\begin{array}{r}
 2 \quad 14 \quad -3.6 \\
 4 \quad 20 \\
 \hline
 +2 \quad 6
 \end{array}$$

Index right & below

$$\begin{array}{r}
 92^{\circ} 5' 31'' \\
 \times 55.0 \\
 306.4 \\
 170.7 \\
 \hline
 170.0
 \end{array}$$

$$\begin{array}{r}
 \times \text{Var. Ariz.} \quad 164.9 \quad 29.4 \\
 91.4 \\
 99.3 \\
 \hline
 190.7 \\
 169.3 \\
 \hline
 \text{This wrong.}
 \end{array}$$

$$\begin{array}{r}
 254.3 \\
 343.3 \\
 77.0 \\
 \hline
 93.7 \\
 123.1 \\
 \hline
 176.9 \quad +0.06
 \end{array}$$

Retaken above.

Index Jan. 4. 1902.

252.7 96.3 +0.06

349.0 26.4

17.2 122.7 +0.05

163.6 177.3 above

Index left & below

168.2

253.5 25.3

344.1

17.8 93.7 -0.02

179.0
171.4

163.3

-0.04

9 4105

255.9

92.6

~~9 4105~~

348.5

23.6

66 36

172.1

176.2 -0.07

mean +0.01

9 33 18

5- 1 49

14 31 29

57 54 606

943 35

168.1

26.9

255.0

342.6

80.2

97.6

124.5

175.5

+0.02

162.7

+0.02

261.6

94.9

347.9

73.2

25.3

124.2

175.6

+0.02

Jan. 4, 1902.
 Under right & below.

77.0	26.9	
163.9		
258.3	94.7	
348.0	121.6	+0.03
	172.4	

	72.4	95.6	+0.06
417 ^m 20 ^e	168.0		
55	256.0	29.2	
9 45 22	345.2	124.4	+0.09
5-1 49		175.2	mean +0.07

14 43 39 $\frac{1}{2}$ M. Time.

5754.614⁺

Gen. mean +0.08

Sid Time = 5h 20m.

Hour circle reads 3h 6m.

Dec. " " -3.4°

Pos. Circle 46.8° - Vernier B.

Jan. 4. 1902

 $\Sigma 79.$ Phot. W. W. obs.

$$\begin{array}{r} 0 \quad \sqrt{3} \quad +44.1 \\ \sqrt{40} \\ +4 \quad 47 \end{array}$$

D.C. 210° Lhs. $8''$ Magn 5.9 & 6.886.6 \angle Bortolotto.

154.3

267.4

334.6

67.7 ✓

67.2

134.9

-0.84 ✓

88.2

155.9

266.0

336.0

67.7 ✓

71.0

138.7

-0.82 ✓

-0.80 ✓

Mean = -0.81 ✓

355.7

65.7

174.7

245.2

70.0 ✓

70.5

140.5

-0.76 ✓

356.8

63.9

174.8

244.7

67.1 ✓

67.9 ✓

135.0

-0.80 ✓

-0.83 ✓

10th 47.2

Jan. 5. 1902. (Sunday)

~~19 14 + 19.4~~

B. + C. 1122.
 5 26 20.0
 27 20.0

Balloons 103.
 5 24 0.0
 25 0.0

Schmalb. Var. 93. 1901.

W. do.

19 14 + 19.4
 25 0
 + 5 46

Index above

6 0530 11.7
 50.5
~~184.4~~ 186.7
 239.3

38.2^v

50.6^v
 69.5^v - 1.93^v

-1.94^v

08 15 8.0
 56.3
 192.0
 232.3

42.3^v
 40.3^v
 22.6^v - 1.95^v

Index below,

11 10

283.1
~~284.0~~
 320.9
 96.5
 144.6

37.2^v

47.5^v
 25.3^v - 2.04^v

Jan. 5, 1901.

278.9

-2.06

14^{min} 20^{sec}

324.6

45.2^v

39 10 101.9

39.1^v-2.07^v

6 09 49 141.0

24.3^vMean -2.00^v

5-2 20

Same again

11 07 29^{min} 283.437.6^v57 55.4636^x 321.049.0^v-2.01^v

96.0

26.6^v

6 22 00

145.0

-2.02^v23 45^v

279.2

45.1^v

324.3

36.2^v

102.9

21.3^v-2.16^v

139.1

Index above

27^{min} 20^{sec}

190.4

41.2^v

232.2

42.6^v

6.4

90.8^v-1.90^v

55.0

6 29 55

187.2

49.6^v

-1.88

236.8

41.9^v

23 00

10.8

91.5^v-1.87^v

6 25 45

52.7

5-2 20

11 20 25 G.M. Time.

Mean -1.88

57 55.4746^xGen. Mean -1.99^vSid Time = 1 hr 54^{min}H.R. 6 hr 38^{min}. Dec +19.2° R.A. 310.5°

Dinner B

Jan. 5. 1901.
Continued.

Sprocket wheel reads 3.5, 4.5 B. + C.

F3451
16 26 50.0

Ball 103
21 11 00

B+C 1182
21 14 34.7

Ball 103
21 12 00

Jan. 6, 1901² (Monday)

Bell 103

6 59 00

BPC 1182

7 01 37.5

Ceto

Phot w

WOB

Right ~~43.0~~

253.0 < rands

7 24.2

342.2

69.8

169.1

87.2

99.3

186.5

173.5 + 0.12^v

252.1

349.4

74.1

163.6

Left

167.3

250.2

341.2

79.1

82.9^v

97.9

180.8^v179.2 + 0.02^v9.19
9.25 = Magn.

162.9

257.0

347.4

71.2

94.1^v - 0.01^v

83.8

177.9 - 0.04^v

7 35.0

59.2

7 28.6^x

5 - 2.6

12 26.0⁺ Ch. M. Time.5756.518⁺

January 6, 1902.

Same Again

Left

7 38.0 170.0
 252.5 82.5 ✓
 340.5 Haze thick. 97.6 ✓
 78.1 180.1 * 0.00 ✓

179.9

163.6

258.2

344.1

71.7

Right

77.3

164.8 clds. thick.

2 clds thick.

3

94.6 ✓ - 0.01 ✓
 84.6 ✓
 179.2 - 0.02 ✓

Mean = -

87.5 ✓

P.A.

+7.7 Ver B.

S.P.

3.20

Dec.

- 3.0

Clde Ro thick that it is impossible
 to finish second group.

Reject first half of second group.

January 6, 1902.

Σ 1224 WLB

~~122~~

8 19 + 24.9

3 26

4 53

7 07

A 10 cloudy

A 15 clouds thick

A 40 clouds everywhere; & sky growing worse.

F3451

Ball 103

146 30 45.5

21 11 00

Ledger d, Plotted, Posted.

January 7, 1902 (Tuesday)

F 3451

16 34 41.2

Ball 103

21 11 00

January 8, 1902 (Wednesday)

Ball 103

21 07 00

F 3457

16 34 36.0

Ball 103

21 08 00

B & C 1182

21 10 56.8

Jan. 9, 1902 (Thursday)
 Reset B.C.

~~Ball~~

W-Ob

Phot T. 1901 Cygni.

20 14 +42.5

20 - 48

✓ 30

Left

351.8 < comp * dis

6 32 20

69.3

177.5

245.7

77.5 ✓

68.2 ✓

145.7 ✓

+ 0.66 ✓

354.7

+ 0.66 ✓

34 25

64.9

173.3

249.0

Right

70.2 ✓

75.7 ✓

145.9 ✓

+ 0.66

Mean = + 0.85 ✓

38

277.2

43 30

336.6

88.2

152.7

59.4 ✓

64.5 ✓

123.9 ✓

+ 1.11 ✓

272.3

6 40 45

332.4

60.1 ✓

+ 1.04 ✓

26 00

84.0

70.4 ✓

+ 0.97 ✓

6 36 30

154.4

5 + 0 8

11 36 38 G. M. Time.

5759.4239 ✓

5756.1784

+ 3.2453

Jan 9, 1902

ID

Right

270.1

6 44 10

334.7

90.2 hazy

~~175.0~~

153.0

64.6[✓]62.8[✓]130.4 + 0.97[✓]+1.00[✓]

273.4

48 00

334.1

85.8

152.4

Left

172.8

50'

05247.0

357.9

63.2

60.7^x66.6^x127.3 + 1.04[✓]mean = +0.90[~]74.2[✓]65.3[✓]139.5[✓] + 0.78[✓]

180.0

+0.80[✓]

6 53 55

243.8

x 37 10

352.5

6 49 18^x

64.65

5+ 0 A

63.8[✓]74.0[✓]137.8[✓] + 0.82[✓]11 49 26[✓] G.M. Time.5759.4927^x5756.1774[✓]+23133^x

Jan 7 1902

B9C1122
6 5 A V 1.5B9C1123
6 5 900

} 00- Hagethick. III
 } 10 " "

7 3 ~~B9 Left~~
 176.1 ~~Hagethick.~~
 Hag thicker

P.A. ~~230~~ 48.1 K13

H.A. = 7.17

~~7.17~~

Dic + 42.9

Sp. Wt. = 6.5 A 7.5 B P.1 C.

S/T = 3.34

troubled by progressively increasing

8.00 Stopped by variable and
 increasing haze. Haze now thicker
 Stars in Cygnus thicker

Jan. 9, 1902.

Phot 20 $\frac{0}{2}$ Cato WCB
 $\frac{3}{1}$ $\frac{42}{32}$

R. 0.13

8 27.0 2 52.2 < var dis
 3 44.7
 75.1
 163.6

92.5
 88.5
 181.0
 179.0 ± 0.02

2 56.1

0.00

3 43.7

87.6

73.4

91.6

1 65.0

179.2 - 0.02

2 + A

Mean = -0.04

163.6

2 56.4

92.8

3 47.6

84.1

71.7

176.9

-0.06

16 7.5

-0.08

8 36.0 2 50.8

83.3

63.0 3 45.5

90.6

8 32.5 76.1

173.9

-0.11

5 + 0.1

13 32.6

5759.565

January 9, 1922.
 Dave Agam

290.
 163.1
 238.0 256.3
 348.2
 472.4

93.2[✓]
242
 177.4[✓] - 0.05[✓]

168.2
 250.8
 348.1
 77.0

22.6[✓] - 0.06[✓]
939
 176.5[✓] - 0.06[✓]

RDK
 72.8
 165.2
 254.8
 343.5

Mean - - 0.02[✓]

91.4[✓]
22.7[✓]
 120.1[✓]
172.9[✓] + 0.02[✓]

14.9
246.01 62.6
 253.1
 842.0 345.9

27.7[✓]
92.2[✓]
 120.5[✓]
179.5[✓] + 0.01[✓]

540.1
 1342.1 G.M. Time.
 5759.591[✓]

179.5[✓] + 0.01[✓]
 Final Mean

22.3
 22.2
 22.1
 22.0
 21.9

over
 See note on page 113.

Jan. 9, 1902
 Same Again III

R 873 dds.

8 58.0
 75.7
 163.4
 256.3
 344.0

87.7 ✓
~~87.7~~
 175.4 - 0.09

76.9
 164.5
 257.1
 344.7

87.6 ✓ - 0.09
~~87.6~~
 175.2 - 0.09

L. 89.

342.8

77.0
 167.8
 250.9

94.2 ✓
~~83.1~~
 177.3 - 0.05

- 0.08

9 08.0
 9 03.0
 15 + 0.1

349.8
 741.6
 163.46
 256.1

81.8
 92.5 ✓
 174.3 - 0.11

Final Mean = - 0.05

14 3.1 G.M.T.
 759.585
 P.L. 49.3 = V.B.
 Ha. 2.20
 Sec - 3.6

Magn $\frac{9.19}{9.14}$

Jan. 9, 1902

E 93 L Mrs Hunt

W. O. O.

Phot W 1 33 + 88.6
 4 58

P.A. 220⁰ 3 25" Dist 18" Magn 2.2-9.0
 Right

299.3 L br dis
 9 45.0 304.2 4.9"
 118.4 6.9"
 125.3 11.8" - 6.44"

299.0
 303.8 4.8" - 6.59"
 118.8 5.5"
 124.3 10.3" - 6.74"

Left
 Mean = -6.66"

209.0
 213.6 4.6"
 28.2 5.8"
 34.0 10.3" - 6.74"

208.5
 9 55.0 213.8 5.3" - 6.72"
 9 50 28.7 5.1"
 33.8 10.4" - 6.71"

Jan. 9, 1902.

Phot ~~26~~ R Σ 470 Wllb.

$$\begin{array}{r} 3 \quad 44 \quad -3.318 \\ \hline \quad \quad \quad \sqrt{-28} \end{array}$$

R_a 350° Dist ^{1.40} 7" Magn 4.3 -6.0
Right

10 15

356.4 L br. dis

65.8

89.45

186.4

439

230.3

113.3

Oil

-1.34

6.2

-1.36

53.9

4775

176.9

638

240.7

111.5

-down

-1.38

Lift

Mean = -1.31

266.7

330.7

94.8

145.1

640

50.3

114.3

Z

-1.32

273.8

-1.26

323.7

50.9

83.0

69.3

152.3

120.2

-1.19

10 23

10 19

Jan. 9, 1902

$\Sigma 131$ W-LOG
 Phot W-1 25 + 60.
 $\frac{5 \quad 15}{4 \quad 30}$

PA 300 Dist 13" Magnitude 6.0 - 9.4

This double spec. a cluster by about 1/5
 of a field of finder & 2/5 field N of it
 abandoned. Companion ft.
 & shy not transparent enough
 to measure. Some clod. don't

$\Sigma 516$ W-LOG
 Phot 4 8 - 10.6
 $\frac{6 \quad 8}{\quad}$

PA 160 Dist 6" Magnitude 6.2 - 9.2
 stars zone
 clod
 stars zone

Covd

10 55 - Stopped by clod

PA 3451
 16 35 30.8

Ball 103
 21 04 00

Ledgered, Plotted, Posted.

Jan. 10. 1902. (Friday)

7 30 cleared suddenly
+ 420 3338. Phot. J. H. M.

$$\begin{array}{r} 19 \quad 21 \quad + 425 \\ 26 \quad 49 \\ \hline + 7 \quad 24 \end{array}$$

$$\begin{array}{r} \leq 295 \text{ Phot} \quad \text{Wob} \\ 2 \quad 35 - 1.2 \\ 3 \quad 25 \\ \hline 0 \quad 50 \end{array}$$

8 00 Too much haze: comp. too faint
and close to be measured in
so much haze.

Phot R Double f. lidam. ~~FF~~
3 45 - 37.9 Wob

Pa. 210' Dist 9" Magns 5.0 - 5.3
North following component seems to
be the brighter & so assumed
left & above

8 15 78.8 < br. dis

$$\begin{array}{r} 154.2 \\ 256.4 \\ 336.1 \\ \hline 78.6 \end{array}$$

$$\begin{array}{r} 155.1 \\ 255.0 \\ 334.8 \end{array}$$

$$\begin{array}{r} 75.4 \\ 79.7 \\ \hline 155.1 - 0.48 \end{array}$$

$$\begin{array}{r} 76.5 \\ 81.8 \\ \hline 158.3 - 0.41 \end{array}$$

see next page

January 10, 1902.
cont. from prev. page.

R 913.
346.6
66.6⁶
187.03
242.9

80.0[✓]
72.6[✓]
152.6[✓] - 0.52[✓]

73.5[✓] - 0.48[✓]

831[✓]
156.6[✓] - 0.45[✓]

Mean = - 0.46[✓]

R 30 348.8
62.3
45 165.2
R 22.5 248.3

63 22.5

Above double about on Meridian but
to very low, and after a sudden
clearing together with the fact that
there is considerable haze at this
alt. renders obs. a little difficult.
Much care used however.

Phot W O Cuts Wills
2 12 - 36
4 12
2 00

JUR

Jan. 10, 1902.
e Ceto

R 713

8 56.0

251.9	89.2 [✓]	
341.1	93.5 [✓]	
70.6	182.7 [✓]	+ 0.05 [✓]
164.1	<u>177.3[✓]</u>	

251.6		+ 0.00 [✓]
343.5	91.9 [✓]	
74.0	86.1 [✓]	
160.1	178.0 [✓]	- 0.04 [✓]

L 70a.

Mean = +0.06[✓]

162.9		
251.1	88.2 [✓]	
338.2	98.0 [✓]	
76.2	186.2 [✓]	+ 0.12 [✓]
	<u>173.8</u>	

160.1		+ 0.12 [✓]
-------	--	---------------------

9 04.8	257.9	97.8	
9 00.4	342.6	87.9	
15	70.5	185.7 [✓]	+ 0.07 0.11 [✓]
14 00.4 ⁺		<u>174.3</u>	
5760.583 ⁺			

Jan. 10, 1902.

Same Again

Loa

163.6

9 08.0 253.6

339.9

78.0

158.2

258.0

343.8

71.4

RDR3

73.5

160.4⁶

252.0

342.7

72.1

9 16.0

163.1

9 12.0

253.1

5

339.9

14 12.0

5760.592

46.5 P.A. VerB.

4.57 = S.T.

2.46 = H.A.

-3.6 = Dec

Gumerson seen to be fainter than companion to night in both large telescope + finder, with photometer off

90.0^v98.1^v188.1^v171.9^v+ 0.15^v99.8^v87.6^v187.4^v172.6^v+ 0.14^vMean = + 0.04^v87.1^v90.7^v177.8^v- 0.04^v- 0.06^v

91.0

24.8

175.8

- 0.08

Mean = + 0.05^v9.19^vMagn = 9.24^v

→ Last night it was seen to be a little brighter than ans. in large tel. + finder

Jan 19, 1902.

Double π Androm.

Phot 25 0 32 + 33.2 Wells
 5 00

PA. 190° Dist. 0.6± Magns. 4.5-9.0
 4 33

Right

289.0 L br dis.

305.1

109.5

125.4

16.1"

15.9"

32.0"

- 4.26"

288.7

306.1

109.1

125.2

17.4"

16.1"

33.5"

- 4.16"

Left

Mean = - 4.24"

199.5

215.2

19.2

35.3

15.7"

16.1"

31.8"

- 4.27"

- 4.28"

199.3

214.8

19.2

35.1

15.5"

15.9"

31.4"

- 4.30"

9 45

9 41

14 41

Jan. 10, 1902

$$\begin{array}{r}
 \text{Phot} \quad \Sigma 99 \quad \text{wob} \\
 \quad \quad 1 \quad 7 \quad +23.9 \\
 \quad \quad \hline \quad \quad \sqrt{27} \\
 \quad \quad \hline \quad \quad 420
 \end{array}$$

Abandoned; sky & seeing not good enough.

$$\begin{array}{r}
 \text{Phot} \quad \Sigma 5 \quad \text{wob} \\
 \quad \quad 0 \quad 4 \quad +10.4 \\
 \quad \quad \hline \quad \quad \sqrt{34} \\
 \quad \quad \hline \quad \quad \sqrt{30}
 \end{array}$$

Abandoned too low

$$\begin{array}{r}
 \text{Phot w} \quad \Sigma 93 \quad \text{wob} \\
 \quad \quad 1 \quad 13 \quad +88.6 \\
 \quad \quad \hline \quad \quad \sqrt{32} \\
 \quad \quad \hline \quad \quad 425
 \end{array}$$

PA 220 Dist 18" Magn 2.2-9.0
Left

25.4 < 6.0 dia

10 11

$$\begin{array}{r}
 29.5 \quad 4.1 \\
 204.5 \quad 4.7 \\
 209.2 \quad \hline 8.8 - 7.08
 \end{array}$$

243

285

204.4

209.8

$$\begin{array}{r}
 4.2 \\
 5.3 \\
 \hline 9.5 - 6.91 \\
 \text{over}
 \end{array}$$

Jan. 10, 1902

493 cont.

dobs

Right

294.8² dobs

299.1

114.8

119.8

4.9^v5.09.9^v - 6.82^v

294.2

299.6

114.7

119.4

5.4^v - 6.80^v4.7^v10.1^v - 6.78^vMean = - 6.90^v

10 30

10 21

515 21 *Qm T.*

Troubled by clobs, seeing very poor
pole star at times, so blurry
that it would reach & overlap
the companion, and then again
would retire. The companion was
faint & difficult throughout but care
exercised. Above obs. $\frac{1}{3}$ wt.

phot W 4318 W Obs
246 + 37.8
612
326
P.A. 250 Dist 14" Magn 5.5 - 9.8

Jan. 10, 1902

see prev page.

10 44 cldz

R 7A.

10 47 107.1 < br. dis.
12 cldz

Abandoned:

10 V V Stopped by cldz

~~2713~~

F 3451
16 43 27.0

Ball 103
21 08 00

L. P. P.

Jan. 12, 1902 (Sunday)

F3451

Ball. 103

165218.6

21 09 00

BXC11A2

Ball 103

21 11 19.2

21 10 00

Jan. 19 1902 (Monday)

Baell 103
6 22 00BPC 1182
6 23 10.2

Phot T. X Cygn W-O 62
 19 45 - 732.6
26 20
 6 30

Abandoned for
 R Ursae Minoris with.

Phot T. 16 34 + 729

above 26 34

270.3 < comp x elis 10 00

6 53.2

333.0

62.7 ✓

53.9 ✓

118.6 ✓ + 1.22 ✓

91.9

647.8

274.4

327.4

87.6

151.7

Below

177.6

243.7

33.5

58.8

183.1

7 04.2 238.7

117.4 358.8

6 58.7 63.5

5-1.2

11 57.5 g.m.t.

5763.498

53.0 ✓ + 1.22

65.1 ✓

118.1 ✓ + 1.23

Mean = +1.20 ✓

66.1 ✓

55.3 ✓

121.4 ✓ + 1.16 ✓

55.6 ✓ + 1.18 ✓

64.7 ✓

120.3 ✓ + 1.19

Jan. 13, 1902

Below

7 06.0

147.3

242.9

3.2

57.6

65.6^v54.4^v120.0 + 1.19^v

184.4

240.3

357.6

64.4

53.9^v66.8^v122.7^v + 1.13

+ 1.16

Above

88.6

154.6

273.8

327.8

66.0^v54.0^v120.0^v + 1.19^vmean + 1.19^v

92.8

7 15.4

147.9

21.4

240.6

7 10.7

332.8

5-1.3

50.7

62.2^v117.3 + 1.20^v+ 1.22^v~~mean + 1.20~~

12 9.5 P.M.T.

5763.506

Jan. 13, 1902

Same Again ~~III~~

Above

90.1

7 26.8 / 53.6

273.9

328.2

63.5^v54.3^v117.8^v + 1.24^v

93.2

149.9

271.2

331.9

56.7^v + 1.24^v60.7^v117.4^v + 1.25^v

Below

358.6

62.7

182.4

238.3

64.1^v55.9^v120.0^v + 1.19^vMean = +1.20^v~~15~~ 15

7 35.4

59.1

61.4

145.7

7 30.7

242.1

5-1.2

57.6^v+1.15^v66.4^v124.0^v + 1.11^v

Mean = +1.20

12 29.5

5763.520

PA ~~140.5~~ 140.5^v Ver BHA = +10.5^v 2 West

Dec = +72.7

St. = 3:28

Sp. Wh = 2.5 B + 3.5 C

Jan 13, 1902

S Cygni. w Ob.

20 2 + 57.0

27 58

7 50

8 32

~~0 1.5 - var, 3.5 - k~~

0 1.5 - var, 3.5 - k

12.43
12.43
12.43
12.43

This is thought to be certainly the var. as it comes in correct position with 9th magn. star.

S Bootis w Ob.

1.4 14 + 55.5

4 34

9 40

2 20

Too cloudy in this region at present.

Phot w S Ceto w Ob

2 12 - 36

4 42

2 30

See next page.

Jan. 13, 1901.

Ceto

Lra

341.1 Lwardis.

9 01.4

62.8

156.8

246.8

81.7[✓]90.0171.7[✓] - 0.16[✓]

338.4

64.9

159.7

244.2

89.5[✓]84.5[✓]174.0[✓] - 0.11[✓]Mean = -0.08[✓]

RTB.

248.9

335.4

64.8

158.4

86.5[✓]93.6

180.1

0.00[✓]179.9

245.8

9 10.0

339.5

11.4

69.8

9 05.7

154.8

0-1.293.7[✓]85.0178.7[✓]- 0.02[✓]

14 4.5 2.222.1

0760. 586*

Jan. 13, 1902.

RTB

Same Again

9 12.6

251.9

334.8

67.7

159.7

82.9 ✓

92.0 ✓

174.9 ✓

- 0.09 ✓

- 0.06 ✓

245.8

338.8

70.3

155.3

93.0 ✓

85.0 ✓

178.0 ✓

- 0.04 ✓

LRA

Mean = - 0.08 ✓

162.9

244.9

337.6

68.4

82.0 ✓

90.8 ✓

172.8 ✓

- 0.14 ✓

157.2

248.8

342.0

65.9

91.6 ✓

- 0.12 ✓

83.9

175.5 ✓

- 0.08 ✓

9 20.0

32.6

9 16.3

5 - 1.2

14 10.1

5763, 594

Thomp * 9.19

P.A. = 225.86 Diff = - 0.08

H.A. = 2:57 West Magn = 9.11

Dec. 3 - 3.6

S.T. = 5:15

Cometion looks slightly brighter than
comp * tonight in finder. Large bluish
and also in phot. on large telescope

Jan. 13, 1902,

R Gem. W Ob

6 56 + 22.9

5 20

1 3610 24

2 00

+ 22.3

5 28

1 32

10 28

9 53

+ 2 var, var 3 u

R Bootis W Ob

14 8 + 52.5 14 14 + 50.3

5 48

8 20

9 405 44

8 30

3 30

Oildome

10 1 A

0 3.5 var 1 p

Region a little low, sky pretty
clear but seeing very poor.

Jan. 13, 1902

T Mrs May. Wolbach

$$\begin{array}{r}
 12 \quad 24 \quad + 59.6 \\
 6 \quad 20 \\
 \hline
 6 \quad 04 \\
 5 \quad 56 \\
 \hline
 \hline
 \end{array}$$

10 45

225 var 2.5 - 6

X FT 3451

16 57 14.5

Ball 103

21 10 00

Ledgered, Plotted, Posted.

Jan. 14, 1902 (Tuesday),
 Dm. +42° 3338

$$\begin{array}{r} 19 \ 20 + 43.0 \\ 2 \ 85 \ 45 \\ \hline 86 \ 15 \end{array}$$

WOB

6 00 clouds

6 10 cldz stars gone.
 LPA.

281.2 \leftarrow clouds

6 22.00 323.1

95.4

147.8

~~270~~

279.0

2400 323.0

100.7

142.2

R 873.

186.8

2630 235.5

4.3

59.3

181.5

6 2900 238.0

21 30 7.2

6 2522 54.4

5 - 0 41

11 24 41 9 2 m Time

419

52.4

94.3

- 180

-1.92

44.0

41.5

85.5

- 2.04

mean = -1.74

48.7

55.0

103.7

-1.57

56.5

-1.57

47.2

103.7

-1.57

5764.4755

5763.8422

5333

4770

0563

Jan. 14. 1902.

Cldr thicker

II

RTB.

6 40 Clouds thick

7 00 "

7 10

$PA = 214.0 \text{ Ver } B$
 $HA = 7:37 \text{ West}$
 $Dec. = +42.8$
 $S.T. = 3:00$
 $Sph = 4RTB + 5TC$

After taking the ^{known} ~~star~~ group cldr
 became so thick & continued so
 that it was impossible to do any
 thing further

The clouds are not of a
 massy character but rather of
 a fleecy filamentous structure
 yet became so thick due to the
 approaching storm that they
 stopped observations and nothing
 further could be done although
 region watch during the whole
 theoriticed hrs of variation

Jan. 14 1902

while above the ^{previous} group observer
was troubled somewhat by cloud espec-
ially in the latter part of group.
Images varying a little alternately
making observations a little difficult.
~~Because~~ This group is held giving
it only $\frac{2}{3}$ weight.

O Ceto Phot. W. 20.06.

2 12 - 3.6

3 27

1 15 -

85.6 ✓

91.7 ✓

177.3 - 0.05 ✓

89.5 ✓

- 0.09 ✓

83.7 ✓

173.2 - 0.13 ✓

Mean = - 0.04 ✓

R 913

72.7

158.3

249.6

341.3

40.4

159.9

251.4

335.1

200.

342.2

64.6

156.8

252.6

338.6

72.8 ✓

162.5

249.9

5 - 0.7

12 52.3 A.M.T.

5764586x

85.4 ✓

95.8 ✓

181.2 ✓

178.8 + 0.02 ✓

93.7 ✓

87.4 + 0.02 ✓

181.1 ✓

178.9 + 0.02 ✓

Jan. 14, 1902.

Same Again.

L.O.A.

8 00.0

~~342.2~~

67.0

156.5

252.8

~~337.2~~

337.2

72.5

162.3

247.5

84.8

96.3

181.1

178.9

+ 0.02 ✓

95.3 ✓

25.2 ✓

180.5 ✓

179.5

+ 0.01 ✓

Mean = -0.04 ✓

R.O.B.

253.4

337.7

70.0

160.5

84.3 ✓

90.5 ✓

174.8 ✓

- 0.10 ✓

248.8

8 07.0

340.0

8 08.5

74.2

5-0.7

157.0

91.2 ✓

82.8 ✓

174.0 ✓

- 0.10 ✓

- 0.11 ✓

Final Mean = -0.04 ✓

C.P.T. = 9.19

Magn = 9.15

13 02.8⁺ 8⁺ M. Time5764.544⁺

V.A. = 453 V.B.

H.A. = 1149 West

S.T. = 4.02

Decl. = -3.6

Jan 14, 1902

$$\begin{array}{r}
 \leq 295 \quad \text{w Ols} \\
 230 - 1.2 \\
 408 \\
 \hline
 133
 \end{array}$$

Abandoned clds counting

$$\begin{array}{r}
 \leq 1223 \quad \text{w Ols} \\
 819 + 27.4 \\
 409 \\
 \hline
 410 \\
 750
 \end{array}$$

Experiments with higher power eye-piece on Phot R to see if closer doubles can be measured satisfactorily, apparently they can be in good seeing.

8 40

$$\begin{array}{r}
 \text{Phot} \quad \leq 1224 \quad \text{w Ols} \\
 819 + 24.9 \\
 434 \\
 \hline
 345 \\
 815
 \end{array}$$

8 45 clds too thick

Jan. 14 1902.

 $\Sigma 919$

w Ols

6 23 - 6.9

$$\begin{array}{r} 4 \ 43 \\ \hline 1 \ 40 \end{array}$$

10 20

Faintly seen with ordinary eyepiece
but impossible to measure.

 $\Sigma 1268$

w Ols

8 39 + 29.2

$$\begin{array}{r} 4 \ 49 \\ \hline 3 \ 10 \end{array}$$
210

Comp very faintly seen in
ordinary eyepiece but impos-
sible to measure it

9 05 Deep invisible in phot. & principal stars
very dim.

9 10 Close thick everywhere, no stars
visible impossible to do any
thing further

VBC 1182

V Ball 103

9 12. 41.0

9 12 00

Jan. 14, 1902.

B. + C. 1122,

9	21	40.5
	22	40.5

Bulson 103,

9	21	0.0
	22	0.0

F3451

1458 09.3

Ball 103

21 07 00

Ledgered, Plotted, Potted.

Jan. 15, 1902 (Wednesday)

6 55 Cleared suddenly at 6:40 PM
 159C11P2 J Ball 103
 7 03 43.5 70300
 +45° 3062 W 062
 Phot T. 20 & +46.3

270
 652

7 15 Sky cloudy
 pto magn about 9 or at full-
 brightness.

7 31 Comp * nearly invisible in
 ordinary eyepiece without
 photometer on.

7 32 Var. not seen and only one or two
 associated stars seen at times.

7 38 Var invisible in eyepiece without phot. on

7 39 ~~over~~ Cloudier again

7 50 Var invisible with power 270 & phot
 off

7 52 Var thought to be very faintly seen
 at intervals with Power 270.
 8 02 clde. thicker.

Jan. 14-1902.

f 05 No stars visible in field

f 10 Cldz f ~~the~~ magn stars invisible.

f 20 Utterly impossible to do anything
with this res. tonight
Region low and sky more cloudy


$\Sigma 982$ w Cldz.

Phot R $\begin{array}{r} 648 + 13.4 \\ 418 \\ \hline 230 \end{array}$

PA. 150° Dist $\frac{9.30}{1.5}$

Magns V.T. = 7.8

Seeing blurry
~~Left Below~~

f 42  $\begin{array}{r} 162.8 < br. dis \\ 192.8 \\ 343.8 \\ 16.5 \end{array} \quad \begin{array}{r} 30.0 \\ 32.7 \\ 62.7 \end{array} \quad \begin{array}{l} \checkmark \\ \checkmark \\ - 276 \checkmark \end{array}$

$\begin{array}{r} 162.4 \\ 196.3 \\ 343.1 \\ 15.4 \end{array} \quad \begin{array}{r} 33.6 \\ 32.3 \\ 65.9 \end{array} \quad \begin{array}{l} \checkmark \\ \checkmark \\ - 2.70 \\ - 2.65 \end{array}$
(over)

Jan. 18⁵ 1902.
Cont. from prev. page
clds.

Above

71.8

107.8

252.0

284.2

36.0

32.2

cld. thicker. 68.2' - 2.57

72.4

- 2.60

8 58

105.8

33.4

262.8

33.0

8 50.0

295.8

66.4

- 2.63

5 - 0.7

mean = - 2.65

1349.34m

5765.

Above observed through more or
less varying cloud, but much
care exercised

$\Sigma 1273$

W.C.B.

840 + 6.9

500

340

820

913

Abandoned; seeing no poor that
observer cannot be certain of comp.

$\Sigma 1224$

W.C.B.

Phot R

819

+ 24.9

Pa 45"

509

Dist 5.5

310

Magn 6.0-7.0

850

Jan. 15, 1902

cldz

L 1224
see prev page.

abar

9 25 cldz stars about gone.

~~9 42 151.3~~ L br. dis
~~9 57 226.5~~ cldz pretty thick
 cldz thick

Impossible to finish as cldz
 are so thick

9 50 cldz thick everywhere &
 growing worse

Ledged, Plotted, Posted.

Jan. 16, 1902 (Thursday)

B 9 C 1182
 8 44 49.6

Ball 103
 8 44 00

7 00 cloudy

8 00 cloudy

8 40 clearer

8 45 cloudier.

Phot R

Σ 1224 WCB
 8 19 + 24.9

RQ 4v⁰

4 49
 3 30

Dist v^r

8 30

Magn 6.0-7.0

9 00 clouds thick

Σ 1223 WCB

8 19 + 27.4

4 59

3 20

8 40

9 03 clouds thick stars invisible.

Jan. 16/1902

Σ 1273

Wells.

Σ 40 + 6.9

500300200

9 of Clds that

9 15 -
9 20 " Stopped by " clouds.Ball 103
20 5-8 00F 3451
16 56 07.5 -

Jan. 17, 1902. (Friday)

Phot. T. γ Cygni H W Obs.

19 lev - + 326

L. 8A

6 17.6 16 3.9 < comp & dis
 19 5.6 31.7 ✓
 34 6.8 25.4 ✓
 12.2 57.1 ✓ + 2.97 ✓

166.3 26.5 ✓ + 2.97 ✓
 192.8 30.7 ✓
 344.5 57.2 + 2.97 ✓
 15.2 Mean = + 2.88 ✓
 R.T.B.

72.5
 104.6 32.1 ✓
 254.9 29.3 ✓
 284.2 61.4 + 2.81 ✓

73.4
 6 25.8 104.2 30.8 ✓ + 2.78 ✓
 43.4 254.1 32.4 ✓
 6 21.7 286.5 62.9 ✓ + 2.74 ✓
 5 - 0.8 63.2 ✓

11 20.9^x y.m. Time.
 5767.473^x

Jan. 17, 1902.

Same Again

R#3

* 69.7

6 28.4
10 87.0
255.4
284.0

37.3 ✓

28.6 ✓

65.9 ✓ + 260 ✓

74.8

104.8

251.6

287.2

30.0 ✓

31.6 ✓

65.6 ✓ + 266 ✓

+ 2.66 ✓

L.O.A.

345.6

120

16 42.4

19 4.7

Mean = +2.82 ✓

26.4 ✓

31.0 ✓

57.4 ✓ + 2.96 ✓

344.6

14.9

16 5.4

19 1.5

+2.98 ✓

6 37.6

66.0

6 33.0

5-0.8

11 32.2 g.m.t.

5767.481

30.3 ✓

26.1

56.4 ✓ + 3.00 ✓

Final mean = +2.85 ✓

Jan. 17, 1902

HH

~~Lea~~~~346.4~~

6 51.4

~~12.2~~~~25.8~~~~164.0~~~~31.2~~~~195.2~~~~57.0 +~~~~343.8~~~~16.0~~~~32.2~~~~166.3~~~~26.6~~~~192.9~~~~58.8 +~~

RHS

POA

202.3 Van B.

Hay

7:15 West

St. J.

3:00

Dec.

+33.0

Spr. wh.

45a 55-B 6.1 C

Ryest above partial graft
impossible to finish

Region now low moon
rather bright

BDC 1182

7064.5

Ball 103

706.00

Jan. 17, 1902

Phot W

$$\begin{array}{r}
 0 \text{ Ceto } W \text{ lke} \\
 2 \quad 12 - 36 \\
 3 \quad 27 \\
 \hline
 1 \quad 15
 \end{array}$$

RTB

 $\sqrt{2.2}$ \leftarrow var. dis.

$$\begin{array}{r}
 743.0 \\
 141.7 \\
 229.3 \\
 323.3
 \end{array}$$

$$\begin{array}{r}
 89.5 \\
 94.0 \\
 \hline
 183.5 \\
 176.5 + 0.06
 \end{array}$$

$$\begin{array}{r}
 48.3 \\
 141.9 \\
 232.5 \\
 317.6 \\
 L.O.A. \\
 323.2
 \end{array}$$

$$\begin{array}{r}
 93.6 \\
 80.1 \\
 \hline
 178.7 - 0.02 \\
 \text{mean} \pm + 0.04
 \end{array}$$

$$\begin{array}{r}
 51.4 \\
 139.0 \\
 236.8 \\
 5
 \end{array}$$

$$\begin{array}{r}
 88.2 \\
 97.8 \\
 \hline
 186.0 + 0.11 \\
 174.0
 \end{array}$$

$$319.3$$

$$\begin{array}{r}
 752.0 \\
 95.0 \\
 \hline
 747.5 \\
 5 - 0.8
 \end{array}$$

$$\begin{array}{r}
 94.9 \\
 84.7 \\
 \hline
 179.6 - 0.01
 \end{array}$$

$$\begin{array}{r}
 1246.7^+ \text{ Gr. M.T.} \\
 5767.533^+
 \end{array}$$

Jan. 17. 1902.

Same Again

LRA.

32.3.2

7 55.0

49.7

138.9

237.4

86.5

98.5

185.0

175.0

+ 0.09

319.5

54.5

144.4

229.8

95.0

8.5

180.4

179.6

+ 0.01

RDRB

mean = +0.02

234.4

318.4

50.2

144.0

84.0

93.8

177.8 - 0.04

229.3

- 0.02

8 06.0

121.0

8 00.5

5 - 0.8

12 59.7 Or Mt.

5767.542

PA = 48.0 Ver B.

S.T. = 4.10

Har = +1.58 West

Dec = -3.6

95.1

85.1

180.2 + 0.00

179.8

Final mean = +0.03

C.S. = 9.19

Magn = 9.22

Jan. 17, 1904.

2 Orionis

work

$$\begin{array}{r} 5 \quad 46 \quad +20.1 \\ 4 \quad 16 \\ \hline 1 \quad 30 \end{array}$$

8 31

2 3 var, var 2

$$\begin{array}{r} 10.86 \\ 10.85 \\ \hline 10.86 \end{array}$$

Phot T. X Canceri

work

$$\begin{array}{r} 8 \quad 47 \quad +17.8 \\ 4 \quad 52 \\ \hline 3 \quad 55 \end{array}$$

$$\begin{array}{r} 9.5 \text{ in cap} \\ 3 \quad 55 \\ \hline 8 \quad 05 \end{array}$$

RRA.

Comp $\star = +18^{\circ} 20' 2''$ (A.V.)

64.1 < var dia

9 120

113.2

241.0

296.0

61.5

118.7 116.9

245.7

293.0

2813

338.7

21.4

154.0

205.0

334.8

9 22.0

24.3

49.5

157.7

43.3

201.0

92.8

9.5 in cap

57.7

49.1

55.0

104.1

- 156

55.4

- 158

47.3

102.7

- 159

Mean = - 170

42.7

57.0

93.7

- 182

- 183

49.5

43.3

92.8

57.7

57.7

Jan. 17, 1902.

Same Again.

L. 200B.

338.3

9 26.0

19.2

40.9 ✓

152.6

52.1 ✓

204.7

93.0 - 1.23 ✓

335.0

- 1.26 ✓

24.3

49.3

158.8

41.4 ✓

200.2

90.7 - 1.90 ✓

RPA.

mean = -1.69 ✓

245.5

292.4

46.9 ✓

58.5

61.3 ✓

149.8

108.2 - 1.46 ✓

239.9

296.6

56.7 - 1.52 ✓

60.8

66.3

46.3 ✓

112.6

103.0 - 1.58 ✓

5 - 0.8

Final Mean = -1.70

14 29.6 being very bad but extreme are expressed
 5767.604 and equalizations made as much as
 possible in intervals of better seeing,
 Observations considered good.

P. A. = 17.3 Var B

H. A. = 3:08 East

N. T. = 5:39

Dec. = 17.8

Sp. Wh. = 1.6 as B & C
~~84.5 B 6.7 C~~

Jan. 17, 1902

R Camelopard. W Obs.

$$\begin{array}{r}
 15-10 \quad +84.5 \\
 \underline{6 \quad 20} \\
 8 \quad 50 \\
 \underline{3 \quad 60}
 \end{array}$$

$$\begin{array}{r}
 14 \quad 25 \quad +84.3 \\
 \underline{6 \quad 33} \\
 7 \quad 52 \\
 \underline{4 \quad 08}
 \end{array}$$

R Draconis W Obs.

$$\begin{array}{r}
 16 \quad 26 \quad +67.4 \\
 \underline{6 \quad 40} \\
 9 \quad 46 \\
 \underline{12 \quad 14}
 \end{array}$$

$$10 \quad 50 \quad h \quad 3.5, \quad 2l \quad \begin{array}{r} 9.75 \\ 9.60 \\ \underline{9.68} \end{array}$$

Ledgered, Plotted, Posted,

Jan. 18, 1902. (Saturday)

7 00 Cloudy

7 43 All cloudy & growing worse
no stars visible

9 05 Cleared suddenly but now
all cloudy again

9 40 Clearer again

Phot R \pm 982 38 km. W. Ch

$$\begin{array}{r} 648 + 13.4 \\ 548 \\ \hline 100 \end{array}$$

PA 150° Dist 6" Magn 15-17

9 50 ~~Olds.~~

10 00 ~~Right asc. Olds. 248.4~~

~~248.4~~ ~~66.4~~

10 01

~~284.1~~

~~69.6~~

~~100.3~~

35.7

30.9

66.4 -

see next page

Jan. 18, 1902

Continued

249.3

243.3

69.4

101.0 old thicker comp. gone

$$\begin{array}{r} 340 \\ 30.6 \\ \hline 64.6 \end{array}$$

Below

159.5

140.5

33.

3

31.0

old thicker

both stars gone

1

1

Repeat impossible
to finish group Last things
a little uncertain

1820 all cloudy

Jan. 19, 1902. (Sunday)

Frodo. 1327
17 16 43.0

Ballon 102
21 06 00

Jan. 20, 1902 (Monday)

Photo R $\Sigma 59'$ W. Ch.
 $22 \ 59 - 8.2$
 $26 \ 39$

$3 \ 40$
 P.A. 150° Dist $4.5 \pm$ Magna. $5.5 - 7.0$

Left

6 36 334.8 \angle bidis
 15.8

148.8

202.3

329.3

~~314.3~~

21.4

153.6

296.0

Right

243.0

285.8

59.6

110.3

239.7

6 48 291.2

6 42 64.9

5-2 106.9

11 40 9. m. T.

5770.

41.0

$\sqrt{3.5}$

94.5 - 180

52.1

42.4

94.5 - 180

Mean = -181

42.8

50.7

93.5 - 182

51.5

42.0

93.5 - 182

Jan 20, 1902

Wob.

$$\begin{array}{r} \text{PhotoR} \quad \Sigma 12^{\text{II}} \\ 239 - 9.4 \\ \hline 272 \\ 353 \end{array}$$

P.A. 320° Dist 98 \pm Magn 4.5, 4.0
Right

168.9

181.1

348.4

2.1

12.2

13.7

25.9

- 473

168.4

182.4

347.5

3.2

Left

78.3

91.48

258.9

272.2

140

15.7

29.7

- 442

Mean = - 4.52

13.5

13.3

26.8

- 4.65

79.4

92.0

258.2

273.1

- 462

126

14.9

27.5

- 4.59

$$\begin{array}{r} 7 \\ 10 \\ \hline 17 \\ 5 \end{array}$$

$$\begin{array}{r} 12 \\ 2 \\ \hline 14 \end{array}$$

mm.T.

5770

Region rather low; seeing
rather poor. Measurement
made with much difficulty

Jan. 29, 1902

Phot w 0 Ceto wolo
 2 12 - 3.6
 3 32

 1 20

LOR

314.5

← var dis

85.4^v95.5^v180.9^v179.1^v+ 0.02^v

311.5

48.0

134.6

222.4

RDB,

222.8

311.0

41.1

136.4

96.5^v+ 0.06^v87.8^v184.3^v179.7^v

+ 0.09

mean = + 0.04^v88.2^v95.3^v183.5^v176.5^v+ 0.06^v

222.8

+ 0.03^v

7 45.0 318.2

770 45.5

7 36.5 121.1

5-2.1 130.4

95.4

84.9

180.3

179.7

+ 0.01^v

12 34.4 Ch. m. t.

5770.524^x

Jan. 20, 1902
Name Again

R.P.B.

7 48.5 228.0 ✓
311.0 83.0
42.3 93.9 ✓
136.2 176.9 - 0.06

221.5
319.0 97.5 ✓ +0.01
46.0 86.8
132.8 184.3 + 0.08
175.7

L.P.A.

136.4
228.4 2
312.1 87.8 ✓
47.3 90.2 ✓
183.0 ✓ +0.06 ✓
177.0 ✓

Mean = +0.02 ✓

131.7
8 0.30227.3
111.5 317.5
7 55.8 43.4
5 - 2.1
13 53.7 92.4 m.t.
95.6 ✓ +0.04
85.9 ✓
181.5 ✓
178.5 ✓ +0.03

Final Mean = +0.03

5770.537 P.A. 48.8 ✓ V.E.R.B.
H.A. 2:09 West
Dec = -3.6
S.T. 4:23

9.19
Magn = *9.22

Jan. 20, 1902

Double π Andromedae
Phot W

$$\begin{array}{r} 032 + 33.2 \\ 432 \\ \hline 400 \end{array}$$

WOB

PA 125° . Dist. $0.6 \pm$ Magn. $4.5 - 8.8$
~~Above~~ Right A.

P2.3 < br. clus

8 24

99.5

263.0

279.5

17.2 \checkmark 16.5 \checkmark 33.7 \checkmark - 4.15 \checkmark

84.0

99.5 \checkmark

262.5

279.6

Left

B.

352.0

8.7

172.5

188.6

15.2 \checkmark 17.1 \checkmark 32.3 \checkmark - 4.24 \checkmark

Mean = - 4.21

16.5 \checkmark 16.1 \checkmark 32.8 \checkmark - 4.21 \checkmark

353.1

836

8.7

172.6

189.4

832

52

15.6 \checkmark 16.8 \checkmark

X

32.4 \checkmark - 4.23 \checkmark

13.30 4-M.T.

5770

Jan. 20, 1902.

Phot R

Σ 516 39 end

W.C.G.

Σ 8 - 10.6

454

046

PA 140° Dist 6" Magn 6.0 - 9.0

L & Below

8 51

350.3

2.6

164.6

1876.8

< br. dia. ✓

12.3

22.2

344.5

346.1

6.4

169.2

184.9

R & Above

260.0

275.6

73.8

9

20.3

15.7

36.0

Mean - -

15.6

2

3

9

2/ R & Above, seeing
 2/ so bad, that it is
 impossible to measure it

January 20, 1902.

X Cancer

9.5 in cap.
W Ols

Phot 7-

$$\begin{array}{r} 47 + 17.4 \\ \sqrt{\quad} \quad 37 \end{array}$$

3 16

Above 47 50

246.6, 246.6, 246.6

9 38.0

292.6

46.0 ✓

61.9

53.0 ✓

114.9

99.0 ✓ - 1.68 ✓

244.0

- 1.71 ✓

294.0

50.0 ✓

65.7

46.5 ✓

112.2

96.5 - 1.74 ✓

Below

Mean = -1.72 ✓

159.1

199.7

40.6 ✓

329.6

56.3 ✓

25.9

96.9 ✓ - 1.73 ✓

152.7

- 1.74 ✓

9 46.0 206.3

53.6 ✓

9 42.0 336.9

42.8 ✓

5-21 19.7

96.4 ✓ - 1.75 ✓

14 39.9 322.7

5770-661+

Jan. 20, 1902.

Same Again,

Below

9 48.0

159.5

199.1

331.2

25.8

396

546

94.2 - 1.80

151.7

205.5

338.2

20.2

338

420

95.8 - 1.76

- 1.78

Above

66.2

112.2

242.4

296.2

46.0

53.8

99.8 - 1.66

61.4

9 59.0

111.6

107.0

9 53.5

247.0

~~290.8~~

5-21

291.6

14 51.4

9 mt.

5770.619

A. 17.5

Ver B

ST. 6.20

H-A-2.28

East

Dec +17.7

Spk

1.6

50.2

- 1.74

44.6

94.8

- 1.79

Mean = -1.74

Jan. 20, 1902

Phot. X Pearl wldz
 $3 \times 6 + 30.6$
 $\frac{6 \ 36}{2 \ 50}$
 9.5 cap used
 Comp \times = $2m + 30^\circ 586$ (2.9)

Left

248.8 \leftarrow var. dis.
 10 42.0 288.2 39.4 ✓
 74.6 $\frac{29.7}{69.1^\circ} - 2.54^\circ$
 104.3

254.1

283.7

70.4

109.2

29.6 ✓ - 2.55 ✓
 $\frac{38.8^\circ}{68.4^\circ} - 2.56$

Right

mean = -2.73 ✓

163.5

194.4

345.4

11.4

30.9 ✓
 $\frac{26.0^\circ}{56.9^\circ} - 2.94^\circ$

48.6 165.8

10 5 194.3

342.6

10 45.3 14.6

5 - 2.1

28.5 ✓ - 2.91 ✓
 $\frac{32.0^\circ}{60.5^\circ} - 2.84^\circ$

15 43.2 $\frac{1}{2}$ m.T.0770.655⁺

Jan. 20, 1902.

Same Again

Right

163.6

196.7

345.3

11.4

33.1

26.1

59.2

- 2.92

166.2

194.5

343.6

13.9

28.3

- 2.90

30.3

58.6

- 2.91

Left

69.7

106.3

258.7

284.2

36.6

27.5

64.1

- 2.71

73.2

103.4

252.8

287.2

30.2

34.2

64.4

- 2.70

10 56.0

6.8

10 53.4

5 2.1

15 51.3

5770.660

RA = 2380 B

HA = +3.32

S.T. = 7.20

Dec. = +30.4

Sp. Wh = 1.5 B 2.6 B H

Jan. 20, 1902

~~III~~

Left

11 00.0	69.9	36.8	
	106.7	<u>30.0</u>	
	255.0	66.8	- 2.61
	285.0		

74.0	82.0	- 2.60
106.0	<u>35.5</u>	
250.9	67.5	- 2.59
286.4		

Right

Mean = - 2.76

344.3	29.7	
14.0	<u>27.4</u>	
165.9	57.1	- 2.97
293.3		

344.3		- 2.92
11 06.0	13.6	29.3
	164.6	<u>30.8</u>
11 03.0	195.4	60.1
5 - 2.1		- 2.86

Mean = - 2.76

16 00.9 4. wt.
 5770.667 Obv diff moon very bright
 and not far dist
 11 10 fog also extreme case used
 obs. considered good.

Jan. 20, 1902.

F3451
 17 25' 43.0
 17 23 43.5
 B&C 1182
 21 1208.8

Ballou 103
 21 07 00
 21 09 00
 Ballou 103
 21 10 00

Ledgered
 Plotted
 Posted

Jan. 21, 1902. (Tuesday)

F 3451
17 23 39.0

Ball 103
21 05 0.0

Jan. 22, 1902 (Wednesday)

BPC 1142

746 27.5

Phot ~~ATR~~

o Ceto

2 12

4 12

2 00

Ball 103

744 55

w-Ob.

-3.6

RWB

A 03.0

2239 < vardis

305.9

40.8

130.8

219.1

302.3

43.9

126.2

L & Q.

132.8

217.5

312.0

42.7

82.0 ✓

90.0 ✓

172.0 - 0.15 ✓

93.2 ✓ - 0.12 ✓

82.3 ✓

175.5 - 0.08 ✓

mean = -0.10 ✓

84.7 ✓

90.7 ✓

175.4 - 0.09 ✓

132.8

8 11.0

221.6

88.8 ✓

- 0.09 ✓

8 07.0

312.6

86.2 ✓

175.0 - 0.09 ✓

5-24

39.8

1304.6 Gr. M. Time.

5772.545

Jan. 22, 1902
Same Again.

L9A

133.1
A 13.0 218.1
313.1
43.2

85.0 ✓
90.1 ✓
175.1 ✓ - 0.09 ✓

132.3
222.3
312.2
39.1

90.0 ✓
86.3 ✓
176.3 ✓ - 0.07 ✓

R9B

Mean = - 0.10 ✓

~~47.2~~ 37.2
128.8
224.8 old
308.8

91.6 ✓
84.0 ✓
175.6 ✓ - 0.08 ✓

43.0

- 0.11

223.8 132.4
228.4 225.2
5-24 308.3

89.4 ✓
83.1 ✓
172.5 ✓ - 0.14 ✓

1326.0 G.M. Time.

Final Mean - 0.10 ✓

5772.560 P.A. = Ver B

H.A. = 2:36 West

Magn 9.09 ✓

S.T. = 14:48

Dec. = - 3.6

omission about a grade brighter than comp*
both in plot with images at field brightness
and in ordinary eyepiece or telescope

January 22, 1902.

Phot T. X Cancri W Ob.
95 in cep.

\$ 47 + 17.8
5 00

3 47
8 13

Above

A 53.0

~~245.8~~~~293.1~~~~61.8~~~~146.5~~

var. dis

~~47.3~~~~54.7~~~~102.0~~~~243.3~~~~294.3~~~~66.1~~~~111.6~~~~Below~~~~160.4~~~~99.2~~~~336.7~~~~20.0~~~~51.0~~~~43.5~~~~96.5~~

mean = -

~~38.9~~~~43.3~~~~82.2~~~~9~~~~158.4~~

clds

~~200.4~~

stars gone

~~41.0~~~~3~~

clds

stars gone

Refert impossible to finish
with cap on.
Will try with cap off

Jan. 22, 1902

* Cancri.

Full aperture

~~Below~~

~~3 29.7
 9 21.0 18.2
 15 9.2
 20 0.0~~

32.5

408

79.3

- 2.22"

339.2

18.3

161.6

198.2

391

36.6

75.7"

- 2.32"

- 2.27"

~~Above~~

2446

294.1 obs.

63.2 stars gone

113.7 fog rather thick

stars gone

fog thicker.

mean = -

49.5

50.5

100.0" - 1.66"

9 39.0
 2

243.7

fog thick
stars gone

1 fog thick.

Reject above fog became very
 thick impossible to finish
 100V group. fog growing thicker
 no chance for anything farther.

Jan. 22, 1902.

F 3445.1
17 30 35.6

Ball 103
21 08 0.8

Ledged, Plotted, Posted.

Jan. 23, 1902 (Thursday)

B 801182
7 08 40.5

Ball 103
7 06 00

Phot 20 0 Cts Wobs
2 12 - 2.6
3 31
1 23

Below

52.9 < var. dis.

7 25.0 136.3

227.8

321.0

48.3

141.8

233.6

316.7

Above

322.3

47.0

132.3

232.9

5

317.4

7 33.0

58.0

143.6

7 29.0

227.5

U=2.7

12 26.3

I.M.T.

83.4 ✓

93.2 ✓

176.6 - 0.06

93.5 ✓

- 0.06

83.1 ✓

176.6

- 0.06

Mean = - 0.04 ✓

84.7 ✓

94.6 ✓

179.3

- 0.01 ✓

- 0.02 ✓

94.0 ✓

83.9 ✓

177.9

- 0.04 ✓

January 23, 1902.

Same Again.

Above

321.2

7 35.0

45.8

138.3

232.7

846 ✓

94.4

179.0 ✓

- 0.02 ✓

315.9

50.3

142.6

237.5

94.4 ✓

84.9

179.3 ✓

- 0.01 ✓

Below

Mean = -0.05

232.2

317.9

49.8

138.3

857 ✓

885 ✓

1742 ✓

- 0.11 ✓

229.8

318.0

51.4

136.5

88.2 ✓

85.1

173.3 ✓

- 0.12 ✓

- 0.13 ✓

Mean = -0.06

7 44.0

79.0

7 39.5

7 5 - 2.7

12 36.8

m P.A.

H.A.

N.T.

Dec.

= 228.0 ✓

= 42.01 ✓

= 4.13

= -3.6

C.P. = 9.19

Mag = 9.13

January 23, 1902.

Phot T. δ Canori. W. 66.
~~95 caps.~~
 δ 47 + 178
 $\frac{417}{430}$ Full aperture
 $\frac{730}{730}$

Above
 δ 080 244.3 \leftarrow v. archi
 292.6 48.3 \checkmark
 63.2 48.4 \checkmark
 111.6 96.7 - 1.74 \checkmark

244.5 - 1.76 \checkmark
 292.5 48.0
 64.2 47.0 \checkmark
 111.2 95.0 - 1.78 \checkmark

Below Mean = - 1.99 \checkmark
 160.4
 199.8 39.4 \checkmark
 341.1 39.1 \checkmark
 20.2 78.5 - 2.24 \checkmark

159.7 - 2.22 \checkmark
 δ 18.0 200.8 41.1 \checkmark
 δ 13.0 341.0 38.4 \checkmark
 $\frac{V-2.7}{1310.3}$ 19.4 79.5 - 2.21 \checkmark
 In M Time.

January 23, 1902

Same Again

Below

δ 21.0
 159.9
 200.3 40.4^v
 340.4 39.4^v
 19.8 79.8^v - 220^v

160.1 - 222^v
 200.0 39.9^v
 340.9 38.2^v
 19.1 78.1^v - 225^v

Above

Mean = -200^v

66.9
 110.6 43.7^v
 245.8 46.6^v
 292.4 90.3^v + 1.91^v

64.4⁴
 111.4 47.0^v - 1.88^v

δ 31.8
 δ 26.4
 δ 2.7
 246.9 45.2^v
 292.1 92.2^v - 1.86^v

Final mean = -200

δ 23.7⁴ P.A. = 17.0 Ver B.

H.A. = -1.48 East

S.T. = 5.01

Dec. = +17.8

S.P. wh. = 1.6a, 2.5B, 3.1C

January 23, 1902

Moon rather near region field
 bright ~~and~~ but sky very clear.
 Extreme care exercised and images
 well seen by waiting and resting eye.
 Observations considered very good.

U. Camelopard WOb

Phot RP 3 33 +62.3

Below 5 15

350.2 < varying 1 42

9 06.6

35.8 45.6 ✓

167.1 51.1 ✓

218.2 96.7 - 1.74 ✓

346.1 - 1.76 ✓

39.2 53.1 ✓

140.7 42.4 ✓

213.1 95.5 - 1.77 ✓

Above mean = -1.75 ✓

2609

304.7 43.8 ✓

45.1 52.9 ✓

128.0 96.7 - 1.74 ✓

255.1 - 1.74 ✓

9 16.4 309.2 54.1 ✓

9 11.5 81.2 42.3 ✓

5 -2.7 123.5 96.4 - 1.75 ✓

1408.8 9 WT

January 23, 1902.

Same Again.

Above

9 20.0

260.8

304.8

76.2

130.1

44.0

53.9

97.9

-1.71

253.8

309.8

80.7

123.8

56.0

43.1

99.1

-1.70

-1.68

Below

Mean = -1.74

172.2

214.9

347.0

39.3

42.7

52.3

95.0

-1.78

164.8

220.8

354.6

34.3

4 mt.

56.0

39.7

95.7

-1.77

-1.76

Final mean = -1.74

9 29.0

9 24.5

5 - 2.7

14 21.8

5773.

p.a. = 313.6 hr B

H.A. = +22.4 West

S.T. = 5.55

Dec. = +62.1

C.S. = 9.18

Magn = 7.44

January 23, 1902.

Phot T. Nova Persei W-Ob

$$\begin{array}{r} 3 \ 24 \ 143.6 \\ 6 \ 10 \\ \hline 2 \ 46 \end{array} \quad 9.5 \text{ cap}$$

L D A

21⁷/₄ varchs

9.58.5

323, 3

105.9

No. 6

95.2^r

1358

201.1

158. 9

 $+ 0.40 \checkmark$

22 0.6

314.7

94.1²

+0.3A

369

103.0

141.9

199.1

160.9

+ 0.36✓

R. B.

Mean = +0.34 ✓

125, 3

236, 3

111.0 ✓

3164

(P 4.3 ✓

460, 7

1953

1647

+ C. 29^v

135,2

+ 0.30 ✓

10806.5-235.2

100,000

12.50 3051

971

100254822

197.1⁴

4032

v-27

1629

14 09.84 MT.

January 23, 1902

Same Again

RHK

124.7

10 09.0

232.4

316.3

42.1

107.7

85.8

193.5

166.5

+ 0.25

135.4

222.9

305.0

52.3

L. 4A

33.3

87.5

107.3

194.8

165.2

+ 0.26

+ 0.28

Mean = + 0.34

142.2

222.4

316.0

108.9

93.6

202.5

157.5

+ 0.43

42.4

10 18.0

137.1

94.7

+ 0.42

27.0

215.8

106.4

10 18.5

322.2

201.1

5-27

158.9

+ 0.40

N 10.8

9 MT.

Final Mean = + 0.34

5773.

PA = 75. N. 1 B

HA. = + 3:23

S.T. = 6:43

Dec = + 43.4

Sp. W. = 0.5 A 1532.0 C

725
Magn = 7.59

January 23, 1902

Phot T.
9.5 Cap.
$$\begin{array}{r} \text{X Persei W Ob} \\ 346 + 30.6 \\ \underline{646} \\ 300 \end{array}$$
~~Left~~

10 36.0 734 < var dis ✓
 106.86 33.2 ✓
 254.7 ✓
 283.1 $\underline{28.4}$
 61.6 ✓ - 2.50 ✓

75.1 ✓
 105.7 30.6 ✓ - 2.82 ✓
 253.1 $\underline{29.9}$
 283.0 60.5 ✓ - 2.84 ✓

Right

Mean = 2.88 ✓

343.9
 13.5 29.6 ✓
 166.8 $\underline{27.1}$
 193.9 56.7 ✓ - 2.99 ✓

345.3 ✓
 18 44.0 12.0 26.7 - 2.94 ✓
 10 40.0 164.2 $\underline{323}$
 $\sqrt{-2.7}$ 196.5 59.0 - 2.90 ✓
 15 39.3

January 23, 1902
Same Again.

Right

1045.6
342.8
114.9
167.0
193.0

32.1[✓]
26.0[✓]
58.1 - 293[✓]

345.5

- 294[✓]

11.6
163.5
195.3

26.1[✓]
31.8[✓]
57.9 - 294[✓]

Left

Mean = 2.83[✓]

252.0
285.8
74.6
104.2

33.8
29.6
63.4 - 273[✓]
- 272[✓]

10 52.0
97.6

254.8
284.3
73.1

29.5[✓]
34.5[✓]

10 48.8

~~108.1~~ 107.6

64.0 - 271[✓]

5 - 2.7

PA. 574 R B Earth Mean = -2.86

10 46.1

H.A. 3.32 West

11 00

S.T. +30.6

Dec. 7:18

Spl. Wh. 1.5 B & 2.5 C

January 23, 1902

pointing Parhelias beside the sun at 46°
 Tel. East -1 $\sqrt{46}$ +32.2 17 45.0 East. Extran.
 East West -0 $\sqrt{46}$ +20.8 17 47.0 West. "
 East -0 47 +22.2 17 49.0 Centre
 East -0 $\sqrt{46}$ +23.6 17 52.5 " again

Tel. pointing Halo of 46° radius
 East -3 34 +24.0 18 00.0 Eastern extran.
 West East -1 12 +15.2 18 01.7 Western extran.
 -15.2 ?

pointing Star Western Sun Dog.
 telescope East

-0 $\sqrt{2}$ $\sqrt{25.1}$ 18 03.1

Eastern Sun Dog telescope East

Tel. pointing East 0 42 +2.0 18 04.3
 " " 3 38 -2.0 18 05.8

F3451
 18 26 40.0

Ball 103
 22 00 00

F3451
 18 28 27.1

1327
 18 29 00

Jan 24 1902 (Friday)

B9C 1182
7 05 58.5

Ball 103
7 03 00

Drummers Var. in Cygnus =
+40° 4393

Phot. T.

W. Ch.

$$\begin{array}{r} 20 \quad 52 \quad +40.6 \\ 27 \quad 38 \\ \hline 6 \quad 46 \end{array}$$

L. O. A.

7 45.0

137.2 L. var. dis. v
224.4 87.2 v

319.0

77.1 v

36.1

164.3 v - 0.30 v

142.3

219.2

76.9 v - 0.31 v

315.7

86.4 v

42.1

163.3 - 0.32 v

R. T. B.

Mean = -0.34 v

51.4

128.0

76.6 v

228.2

83.2 v

311.4

159.8 - 0.38 v

47.5

-0.38 v

7 53.0

131.5

84.0

7 49.0

231.3

76.6

7 46.0

309.9

160.6 - 0.37

12 46.0

309.9

5774.532

January 24, 1902
Same Again

R773

51.4
7 56.0 126.9
235.6
313.7

75.5 ✓
88.1 ✓
163.6 ✓ - 0.31 ✓

45.7
134.0
232.6
308.1

88.3 ✓
75.5 ✓
163.8 ✓ - 0.31 ✓

Mean = -0.34 ✓

L0A

321.7
35.36
136.4
222.4

73.9 ✓
86.0 ✓
159.9 ✓ - 0.38 ✓

-0.38 ✓

8 05.0
1210 148.2
8 00.5⁺ 215.3
3-3.0

872.5
721
1593 ✓ - 0.39 ✓
Final mean - 0.34

1257.5⁺ PA = 18.3 VerB
5774.540⁺ HA = +7.37 West
P.T. = 4.35
Dec. = +41.1
Spwh. = 2.02 + 3.0-B

Jan. 24/1902

O Ceti w Obs

$$\begin{array}{r} \text{Photo w} \quad 212 - 3.6 \\ \quad \quad \quad 455 \\ \hline \quad \quad \quad 243 \end{array}$$

~~See~~

Above

$$\begin{array}{r} 339.1 \\ 62.3 \quad \text{< var. dis} \\ 159.1 \quad \quad \quad 83.2^x \\ 242.5 \quad \quad \quad 83.4^x \\ \hline \quad \quad \quad 166.6^x - 0.25^x \end{array}$$

$$337.3 \quad -0.26$$

$$\begin{array}{r} 62.7 \quad 85.4^x \\ 158.2 \quad 80.5^x \\ \hline \end{array}$$

$$238.7 \quad 165.9^x - 0.27^x$$

Below

$$\text{mean} = -0.25^x$$

$$248.9$$

$$331.1$$

$$66.8$$

$$152.5$$

$$\begin{array}{r} 82.2^x \\ 85.7^x \\ \hline 167.9^x - 0.23^x \end{array}$$

$$247.7$$

$$847.0$$

$$8430$$

$$53.0$$

$$1340.0$$

$$5774.069$$

$$333.2$$

$$69.0$$

$$149.8$$

$$\begin{array}{r} 85.5^x \\ 80.8^x \\ \hline 166.3^x - 0.26 \end{array}$$

Jan. 24/1902.
Same Again.

Below

249.3
+ 49.6 329.3
65.7
150.5

80.0^x
84.8^x
164.8^x - 0.29^x

247.2
330.7
68.0
148.7

83.5^x
80.7^x
164.2^x - 0.30^x

- 0.30^x

Above

159.7

237.7

332.7

61.6

78.0^x
89.1^x
167.1^x - 0.24^x

Mean = - 0.27^x

153.2⁶

+ 56.6 241.8

106.2 338.4

+ 53.1 57.4

√ - 3.0

88.2^x - 0.24^x
79.0^x
167.2^x - 0.24^x

Final mean = - 0.26^x

13 58.1 P.A. = +3.0 Ver B

774.576 H.A. = +3.16 West

S.T. = 5.28

Dec. = -3.6

C.P. = 9.19^x

Magn = 2.93^x

Jan. 24, 1902.

X Cancri. W Obs.

$$\begin{array}{r}
 \text{Phot T.} \quad 8 \quad 48 \quad +178 \\
 \quad \quad \quad 5 \quad 30 \\
 \hline
 \quad \quad \quad 3 \quad 18 \\
 \quad \quad \quad 8 \quad 42 \\
 \hline
 \hline
 \end{array}$$

above

$$\begin{array}{r}
 245.9 < \text{var. dis.} \\
 9 \quad 16.0 \quad 292.0 \quad 46.1^{\checkmark} \\
 \quad \quad \quad 63.1 \quad 51.9^{\checkmark} \\
 \quad \quad \quad 115.0 \quad 98.0^{\checkmark} \quad -171^{\times}
 \end{array}$$

$$\begin{array}{r}
 244.8 \\
 293.8 \quad 490^{\checkmark} \quad -173^{\times} \\
 \quad \quad \quad 47.1^{\checkmark} \\
 65.2 \quad 96.1^{\checkmark} \quad -175^{\times} \\
 112.3 \\
 \text{Below} \quad \text{Mean} = -198^{\checkmark}
 \end{array}$$

$$\begin{array}{r}
 161.3 \\
 198.1 \quad 36.8^{\times} \\
 339.2 \quad 39.0^{\checkmark} \\
 18.2 \quad 75.8^{\times} \quad -2.32^{\times}
 \end{array}$$

$$\begin{array}{r}
 158.3 \\
 9 \quad 26.0 \quad 202.1 \\
 \quad \quad \quad 340.0 \\
 9 \quad 21.0 \quad 179 \\
 5 \quad -3.0 \\
 \hline
 14 \quad 180 \quad \text{SMT.} \\
 5774.596
 \end{array}$$

$$\begin{array}{r}
 43.8^{\times} \quad -2.23^{\times} \\
 379^{\times} \\
 \hline
 81.7^{\times} \quad -2.14^{\times}
 \end{array}$$

Jan. 24, 1902

Same Again

Below

9 29.0

159.5

198.5

339.2

18.3

390^x391^x $\frac{391}{78.1}^x - 2.25^x$

158.5

201.2

339.6

18.2

42.7^x38.6^x $\frac{38.6}{81.3}^x - 2.20^x$ - 2.20^x

Above

66.2

111.7

244.4

294.7

45.3^x50.3^x $\frac{50.3}{95.8}^x - 1.76$

62.5

9 37.0

114.0

66.0

246.3

9 33.0

292.8

5 3.0

17.8

1430.0

HA = -2.42 East.

5774.6

T = 6.07

Dec. = +17.8

SpWh = 1.6 a 2.5 B 3.1 C

Mean = -1.97⁴57.5^x46.5^x $\frac{46.5}{94.0}^x - 1.71$ -1.71⁴

Final mean -1.98

January 24, 1902

Phot $\Sigma 145$ Pl. 145-
 1 34 + 25.1 WCh
 $\begin{array}{r} 6 \ 20 \\ \hline 14 \ 46 \end{array}$

PA 50° Dist $11''$ Magn $6.0 - 10.6$
 Companion too faint in moonlight
 so abandoned.

phot $\Sigma 295$ 84 Ceto WCh
 2 35 - 1.2
 $\begin{array}{r} 6 \ 25 \\ \hline 3 \ 50 \end{array}$

Abandoned: too diff in this seeing &
 moonlight

Phot $\Sigma 464 = 5$ Bese
 846 + 31.5 WCh
 $\begin{array}{r} 6 \ 30 \\ \hline 2 \ 44 \end{array}$

Too high

Phot W $\Sigma 452 = 30$ Tauri
 341 + 10.8 WCh
 $\begin{array}{r} 6 \ 31 \\ \hline 2 \ 50 \end{array}$

PA 70° Dist $9''$ Magn $4.5 - 9.5$

see next page

January 24, 1902

Left ± 4.52 wobb.

104.5 < br. dis

10 14 120.1
284.6
301.3

15.6^v
16.7^v

32.3^v - 4.24^v

104.7
121.4
284.6
301.2

16.7^x
16.7^x
17.2^x

33.9^x - 4.18^v

-4.18^v

Right

Mean = -4.08^v

13.7
30.7
193.2
212.5

17.0^x
19.3^x

36.3^x - 3.98^v

12.0

-3.97^v

10 22 32.1

10 18 194.3

5-3 211.1

10-15-4 M.T.

5774

20.1^x16.8^x36.7^x - 3.96^v

January 24, 1902.

X Persei. W O b
Phot T. Full aperture

$$\begin{array}{r} 346 + 30.6 \\ 650 \\ \hline 304 \end{array}$$

Left

< rardis

$$\begin{array}{r} 1042.0 \\ 107.4 \\ 254.9 \\ \hline 283.5 \end{array}$$

$$\begin{array}{r} 36.0 \\ 28.6 \\ \hline 64.6 - 269 \end{array}$$

$$\begin{array}{r} 74.3 \\ 1041 \\ 250.5 \\ \hline 285.3 \end{array}$$

$$\begin{array}{r} 29.8 \\ 34.8 \\ \hline 64.6 - 269 \end{array}$$

Right

Mean = - 2.80

$$\begin{array}{r} 343.2 \\ 14.3 \end{array}$$

$$31.1$$

$$166.4$$

$$27.2$$

$$193.6$$

$$58.3 - 2.93$$

$$345.2$$

$$- 2.90$$

$$\begin{array}{r} 10500 \\ 10460 \\ \hline 40 \\ 15430 \end{array}$$

$$10.2$$

$$162.5$$

$$197.5$$

$$4. M.T.$$

$$5774.655$$

$$25.0$$

$$350$$

$$600 - 2.81$$

January 24, 1902
Same Again.

Right

341.3

10 52.0

15.2

33.9

167.3

26.0

193.3

59.9

- 2.86

346.3

12.3

26.0

- 2.84

163.3

35.1

198.4

61.1

- 2.82

Left

Mean = 2.7

250.1

285.0

74.7

349

30.0

104.7

64.9

- 2.68

254.3

- 2.66

10 59.0

283.6

29.3

10 55.5

72.2

36.5

5 - 3.0

108.7

65.8

- 2.65

15 52.5

4 M.T.

Final Mean - 2.78

774.662

P.A. = 57.3

N.T. = 7.27

11 00

H.A. = +33.4 2 West

Dec. = +30.6

S.P. W. = 15.3 + 2.50

Ledgered
Plotted
Posted

192

January 25, 1902 (Saturday)

Reset B&C 1182

B&C 1182

Ballou 103

7 00 07.5

7 00 08

Phot

e Ceti

WOB

Below

253.6

< radius

7 22.0 334.8

81.2^v

69.8

89.4^v

159.2

170.6^v - 0.18^v

250.7

- 0.16^v

338.7

88.0^v

71.6

85.2^v

156.8

173.2^v - 0.13^v

Above

Mean = -0.14^v

16.1.7

244.8

83.1^v

338.6

90.7^v

69.3

173.8^v - 0.12^v

158.8

- 0.12^v

7 31.0

249.0

90.2^v

53.0

342.3

82.8^v

7 26.5

65.1

173.0^v - 0.13^v

5 - .1

12 26.4

5775

January 25, 1902.
Same Again.

Above

7 35.0
164.2
246.3
338.5
69.4

89.1
90.9
173.0 - 0.13

159.3
248.2
343.8
64.8

88.9
81.0
169.9 - 0.19

Below

Mean = -0.19

73.1
154.3
249.9
336.7

81.2
86.8
168.0 - 0.23

71.1
743.0
739.0
5-1
336.1

86.7
82.8
169.5 - 0.20

1238.9
5775.

Final Mean = -0.16

CST = 9.19

Magn = 203

PA = H.V.0 Ver B
HA = + 2.08 West
SET. 1420
Dec. - 3.6

(over)

January 25 1902

o cets is perceptibly a little fainter in
finder, ~~star~~ and large telescope ~~is~~ with
photometer & ordinary eyepiece on than
last night but still a little brighter
than comp star.

X Cancer.

W Oke

Phot 7.

9.5 cap.

X 408 + 172

440

4408

7452

Above

65.1 < var d's

P 21.0

112.1 4705

244.3 50.5

294.8 97.5 - 172

60.1

116.7 56.6 - 1.66

247.2 45.6

292.8 102.2 - 160

Below

Mean = - 1.89

339.4

119.7

40.3

157.5 42.0

199.5 22.3 - 2.13

337.6

21.8

44.2

159.3

39.1

198.4

83.3 - 2.10

P 31.0

P 26.0

5 - 1

13 25.9

January 25, 1902.
Same Again

Below
3389
P 33.0 20.4
158.2
199.7
41.5
41.5
23.0 - 2.11
- 2.10

3390
21.8
158.9
199.6
42.8
40.7
23.5 - 2.09

Mean = $\frac{1.86}{1.86}$

Above
245.6
292.5
60.4
11 ~~8.8~~
469
56.1
103.0 - 15.2

240.9
P 43.2 295.1
P 38.1 66.2
V = 1
13380 113.6
162
- 1.59
5-4.2
48.8
102.2 - 1.66
101.6 Final Mean = -1.88

P.O. = 16.6 Vents

S.T. 1.2K

Dec. +17.7

H.A. -3.2 σ_{East} 15' p.w.h. = 1.5 a 25B 31C

Jan. 24, 1902.

$\epsilon 61 = 61 - \text{Pisc.}$
 Phot R

WCh

0 48 +27

5 33

4 50

P.A. 310° Dist $4.5''$ Magn. 6.0-6.1

Comp. rather close, seeing somewhat
 blurry but ~~st~~ south following
 component seems slightly the
 brighter.

Right

327.9 St. F. & 62 dia

9 12.2

63.6

95.7^v

151.0

88.4

239.4

184.1^v175.9 + 0.08^v

336.3

61.3

85.0^v * + 0.02^v

150.4

92.7

243.1

177.7^v - 0.04^v

Left

mean = + 0.04^v

236.9

331.6

94.7^v

60.9

88.3149.2123.0^v + 0.06^v

239.3

177.0

9 24.0

329.4

90.1

+ 0.06^v

9 18.1

59.2

92.35 0.1150.0

182.4

14.1 A 2

151.5

177.6+ 0.05^v

Seeing very poor, images blurry
 & overlapping each other
 difficult.

January 25, 1902

Phot ϵ 131 W Obs
 1 25 +60.0
 6 10
 4 45

PA 310° Dist $12''$ Magns. 64-25
 Moonlight & bad seeing prevent obs. of double

R Ursae Min W Obs
 Phot 7 16 34 +729
 6 15
 10 19
 1 41

Left
 3 ~~compts~~

9 57.0

Region rather low and moon nearly full, seeing that obs. of ϵ abandoned as settings were very uncertain.

Double = ϵ Puppis W Obs

7 35 -25.6
 6 45
 0 50
 11 10

PA 310° Dist $10''$ Magns. 50-5.2
 Phot R.

over

January 25, 1902.
 N Puppis W 06.

see new page

Left + Belar ^{B.}
 63.8 < 2 ft + br. dis

10 2 1.2

149.6

85.8 ✓

246.4

78.4 ✓

324.8

164.2 - 0.30 ✓

66.8

-0.26 ✓

145.2

78.4 ✓

241.1

89.8 ✓

330.9

168.2 - 0.22 ✓

R & A.

A. Mean = -0.26 ✓

330.9

88.6 ✓

60.5

77.0 ✓

156.8

165.6 - 0.27 ✓

233.8

336.2

-0.25 ✓

10 27.0

57.3

81.1 ✓

10 24.1

152.4

86.9 ✓

5 - .1

239.3

168.0 - 0.23 ✓

15 24.0

2 MT.

5775.642

January 25, 1908²

X Persei. w Ob.

9.5 cap.
Phot T.

$$\begin{array}{r} 346 \\ 706 \\ \hline 320 \end{array} + 30.3$$

Left

251.6 < var. dis

$$\begin{array}{r} 1041.2 \\ 284.9 \\ 73.4 \\ 104.8 \end{array} \quad \begin{array}{r} 33.3 \\ 31.4 \\ \hline 64.7 \end{array} - 2.69$$

$$\begin{array}{r} 253.4 \\ 284.9 \\ 73.4 \\ 107.7 \end{array}$$

$$\begin{array}{r} 31.5 \\ 34.3 \\ \hline 65.8 \end{array} - 2.65$$

Right

$$\begin{array}{r} 164.2 \\ 194.8 \\ 345.6 \\ 11.2 \end{array}$$

$$\begin{array}{r} 30.6 \\ 25.6 \\ \hline 56.2 \end{array} - 30.1$$

2 Mean = - 2.80

$$\begin{array}{r} 167.3 \\ 1050.0 \\ 91.2 \\ 1045.6 \\ 5 - .1 \\ \hline 1545.5 \end{array} \quad \begin{array}{r} 194.3 \\ 341.6 \\ 14.6 \end{array}$$

$$\begin{array}{r} 27.0 \\ 33.0 \\ \hline 60.0 \end{array} - 2.86$$

G.M.T.

January 20/1902
Same Again

Right

164.5

10 52.0

196.5

320 ✓

345.4

255

10.9

57.5

- 2.96 ✓

167.5

193.5

260 ✓

- 2.99 ✓

343.6

300 ✓

13.6

560 ✓

- 3.02 ✓

Left

72.4

106.7

343 ✓

252.3

316 ✓

283.9

65.9 ✓

- 2.65

738

- 2.66

10 58.2

103.9

30.1 ✓

10 55.1

250.2

350

5 - .1

285.2

65.1

- 2.67

15 55.0

Final Means - 2.81

PA. = 57.6 Ver B

Ha. = + 3 47 West

Dec. = + 7.34

S.T. = + 30.6

Ledgered
Plotted
Posted

Jan. 27/1902 (Monday)

B&C 1182

7 03 44.5

Ball. 103

7 03 00

Phot w 9 Ceto w Ob.

2 12 -3.6

3 5-5

1 43

RMB

246.4 rando

7 24.0

334.5

63.9

157.8

88.1^x93.9^x182.0^x178.0^x+0.04^x

243.5

336.0

65.8

153.4

289.

157.8

242.9

334.6

866.0

92.5^x87.6^x180.1^x179.9^x+0.02^x+0.00^xmean = ~~0.04~~³85.1^x91.4^x176.5^x

-0.06

7 35.0

154.2

246.8

338.2

60.9

92.6^x82.7^x175.3^x

-0.08

-0.09

7 29.5^x

v = 0.7

12 288^x g. M.T.5977.520^x

January 27, 1902
Same Again

LTA.

7 37.0

159.6
242.2
333.6
66.7

82.6^x
93.1^x
175.7^x - 0.08^x

-0.08^x

159.1
245.4
336.7
60.2

92.3^x
83.5^x
175.8^x - 0.08^x

RTR
66.0

153.7
243.0
337.0

87.7[✓]
94.0[✓]
181.7[✓]
178.3 + 0.03

} Mean = -0.02

62.7[✓]
7 47.0 157.3
7 42.0 241.5
5-7 333.3
12 41.3 4. m. T.
5777.52^x

94.6[✓] + 0.03
86.8^x
181.4^x
178.6^x + 0.03

~~Final Mean = 0.02~~
~~= 2.18~~
Magn = 2.17

Jan. 27, 1902.

Same Again

~~III~~

R & Below

65.6

S 07.0

153.8

241.2

336.8

88.2^v95.6^v183.8 + 0.07^x176.2^x

+0.04

64.2

156.8

246.6

334.0

92.6

87.4

180.0 0.00⁺Mean = -0.01⁺

L 00.

337.5

62.9

154.2

245.1

84.7^x90.9^x

175.6 - 0.08

332.1

-0.06

S 17.4

65.4

S 12.2

156.8

V = 0.7

241.89

93.3^x85.1^x

178.4 - 0.03

1311.5^x5777.050^xP.A. = 46.5⁺ Ver B

H.A. = 2.52 West

D.T. = 5.03

Dec. = -3.6

Final Mean = -0.02⁻C.D. = 9.19⁻Magn = 9.17⁻

Star very slightly

higher than comp^x in

finder large telescope with eye

piece but for the star.

January 27, 1902.

Phot T. α Cancri WOB
 $\delta 44.8 + 17.8$
 $\frac{5-1.8}{3.30}$ 9.5caf
 $\underline{\delta 30}$

Above

$\delta 44.0$ 247.9 α Cancri
 293.1 45.2
 60.3 56.0
 $\underline{116.3}$ 101.2 - 1.63 $^{\vee}$
 242.2
 297.0 54.8 - 1.65 $^{\vee}$
 65.9 44.4
 110.3 99.3 - 1.67 $^{\vee}$
 Below Mean = -1.76 $^{\vee}$

158.0
 200.5 42.5 $^{\vee}$
 335.8 50.0 $^{\vee}$
 20.8 92.5 $^{\vee}$ - 1.85 $^{\vee}$

154.4

$\delta 51.4$ 204.0 49.6 $^{\vee}$ - 1.86 $^{\vee}$
 95.4 338.0 42.3 $^{\vee}$
 $\delta 47.2$ 20.3 91.9 $^{\vee}$ - 1.86 $^{\vee}$

~~5777~~

5 - 0.7

13 46.5 9.2m.T.

5777.574

January 27, 1902
Same Again.

Below

158.2
8 54.4 200.4
337.1
21.7

42.2 ✓
44.6 ✓
86.8 - 2.00 ✓

154.3
203.8
337.3
20.4

49.5 ✓ - 1.92 ✓
43.1 ✓
92.6 - 1.84 ✓

Above

65.6
112.0
241.1
297.1

Mean = - 1.77 ✓

46.4 ✓
56.0 ✓
102.4 - 1.60 ✓

60.0
9 04.6 114.9
246.9
8 59.5 292.47

54.9 ×
45.8 ×
100.7 - 1.64 ✓

5 - 0.7
13 58.0 × ST = 5.49
5777.80 × 11a = -2.59 East
RA = 170 Ver X3
Dec = +17.7
Sp wh = 15 a 2.5 B 3.1 @.

Final Mean = -1.76

January 27, 1902.

T. Ursae Maj.

12 35 +60.3

6 15

6 20

5 40

W Oke

9 40

225 var, var 3 t

Phot T. X Persei W Oke

9.5 caps

3 46 +30.3

6 40

2 54

L & A.

73.2

L var dis.

10 17 H 1055

32.3

254.4

28.8

283.2

61.1 - 282

74.4

1029

28.5 - 2.78

250.6

34.7

285.3

63.2 - 2.74

R9B

mean = 2.87

343.7

15.0

31.3

166.3

26.3

192.6

57.6 - 295

345.7

10 26.0

11.5

25.8 - 2.96

43.4

164.0

31.2

10 21.7

195.2

57.0 - 298 577.640*

5 0.7

195.2

January 27, 1902.
Same Again

RVB

1028.5	342.5	33.5	-
	16.0	26.0	-
	167.2	59.5	-
	193.2		2.88

346.0	26.4	-	2.90
12.4	31.8	-	
164.6	58.2	-	2.93
196.4			

LHA

Mean = -2.80

249.1	37.0	-
286.1	26.0	-
75.3	62.0	-
100.3		2.79

5038.0	255.3	270
19.3	283.8	
66.5	69.3	285
10332.1	08.0	38.0
5-0.7		67.2
1832.5		-260

Final mean = -2.84

577.64 A. = 57.4 Ver B.

S.T. = 7.21

Dec. = +30.4

H.A. = +3.36 West

Spk = 1.50382.5°C

January 27, 1902.

U. Cephei - WCh.

Phot T

0 50 +81.1

$$\begin{array}{r} 7 \ 25 \\ \hline 6 \ 35 \end{array}$$

F

Above

1475 L. v. arches

10 49 50 216.3 62.4

333.1 51.3

24.4 120.1 - 1.19

152.4

54.4

-1.12

51 35 207.2

322.7 72.2 - 1.04

127.0

34.9

Below

Mean: -

50.0

79.6

54 00 129.6

238.9

298.4 59.5 - 0.79

139.1

58.8

52.6

-0.24

10 55 50 117.4 58.6

209 152 31.8 76.1

76.1

10 52 16⁺ 307.9 134.7

134.7

0.24

5 - 0.44

15 51 32⁺ 9 M.T.

Mean - 0.92

5777.6608⁺

5777.5327

0.1231

January 27 1902

11

Below

50.5
 105745 130.8
 241.1
 300.8

50.5
 50.3
 59.7
 140.0

-0.77

59.9
 110000 118.9
 232.0
 308.8

59.0

-0.22

76.4
 135.4

-0.26

Above

Mean

325.1
 110210 35.6
 150.6
 209.0

70.5

54.4
 124.9

-1.00

329.6
 110345 48.3
 340 147.0
 110055 213.6

74.7

-0.24

66.6
 145.3

-0.67

5 - 44

1600 11 A.M.T.

mean -0.23

5777.6668

5777.5377

0.1291

January 27, 1900

HP

Above

11 05 30 32 3.9
33.1
150.0
208.6

69.2
58.6
127.8 - 1.03

07 30 32 9.6
29.0
145.6
215.0

59.4
69.4
124.4 - 1.00

-1.02

Below

Mean = -0.87

09 40 228.6
309.6
59.2
120.9

81.0
61.7
142.7 - 0.72

11 11 50 248.8
301.0
3430 50.0
11 08 38 129.0

62.2
79.0
141.2 - 0.74

5 - 044

16 07 54 + 8 M.T.

5777.6721

5777.5327

+ 0.1344

January 27, 1902

IV

Below

220.1

11 13 35 308.4

58.0

122.0

78.3

64.0

142.3

- 0.73

237.5

10 35 300.5

47.9

130.0

63.0

- 0.70

82.1

145.1

- 0.67

Above

321.2

17 35 37.0

149.2

210.2

75.8

63.0

137.8

- 0.82

329.8

11 19 10 29.6

2555148.0

11 16 29 218.9

5- 44

61.8

- 0.81

76.9

138.7

- 0.80

16 15 45 * 4 M.T.

5777.6777

5777.5377

+ 0.1400

Jan. 27, 1902

V

Above

11 24 30
 320.0
 37.6
 146.8
 213.4

77.6 ✓
 66.6 ✓
 144.2 ✓ - 0.69

26 10
 326.8
 31.6
 141.6
 219.2

64.8 ✓
 77.6 ✓
 142.4 - 0.73

-0.71

Below

Mean = - 0.60

226.4
 28 00 310.6
 54.9
 125.2

84.2 ✓
 70.3 ✓
 154.5 - 0.49

237.8

11 29 20 304.4
 28 00 46.3

11 27 00 133.0

5 - 0 44

66.6 - 0.50
 86.7
 153.3 - 0.51

16 26 16 169 mt. PA. = 194.8 - Ver B.
 5777.6849 HA. = +7.17 # West
 5227.5327 Loc. = +H.1
 11 0.1422 S.T. = 8.12
 35 S.p. wh = 6.573 x 7.50

Jan 27, 1902.

Var is not down to critical time
so abandoned for tonight

Ledgered
Plotted
Posted.

Jan. 28, 1902 (Tuesday)

B&C 1182

7 05 51.0

Ball 103

7 05 00

Phot W 0 Ceti w Ob.

2 12 - 3.6

3 15

Below

1 43

243.8

7 21.4

333.5

< variis

89.7

66.2

83.4

149.6

173.1 - 0.13

246.6

- 0.14

380.6

84.0

63.9

88.7

152.6

172.7 - 0.14

Above

Mean = - 0.08

151.5

244.3

92.8

336.1

85.2

61.3

178.0 - 0.04

153.8

- 0.02

7 29.6

239.8

86.0

11.0

331.9

94.1

7 25.5

66.0

180.1

- 0.00

5 - 0.8

179.9

12 24.7 g. w. Time.

Jan. 28, 1902

Same Again.

Above

150.2

7 32.0 243.4

337.2

~~57.~~

59.8

$$\begin{array}{r} 93.2^{\vee} \\ 82.6^{\vee} \\ \hline 175.8^{\vee} \end{array}$$

- 0.08 ✓

154.0

242.1

~~330~~

329.6

65.0

88.1

$$\begin{array}{r} 95.4^{\vee} \\ 183.5^{\vee} + 0.06^{\vee} \\ \hline 176.5^{\vee} \end{array}$$

- 0.01 ✓

Below

63.4

154.8

246.0

328.9

$$\begin{array}{r} 90.4^{\vee} \\ 82.9^{\vee} \\ \hline 173.3^{\vee} \end{array}$$

Mean = - 0.04 ✓

- 0.13 ✓

65.1

7 40.0 151.8

242.3

$$\begin{array}{r} 7 \quad 36.0 \\ 5 \quad -0.8 \\ \hline 12 \quad 35.2 \end{array}$$

334.0

$$\begin{array}{r} 86.7^{\vee} \\ 91.7^{\vee} \\ \hline 178.4^{\vee} \end{array}$$

- 0.08 ✓

- 0.03 ✓

Final Mean = - 0.06

S.T. = 4:26

P.G. = 22.8.5 Ver 13.

H.A. = 2:13 West

Dec. = - 3.6

$$\begin{array}{r} 1919 \\ \hline 913 \end{array}$$

Jan. 28, 1902.

Phot T. α Cancri w/Ob.

9.5 cal.

 $\pm 48 + 17.8$ 448

+ 00

800

Above

244.9 \leftarrow cardis. ± 0.4

294.2

49.3

62.0

52.6

114.6

101.9 - 1.61

244.5

- 1.64

294.8

50.3

64.0

49.5

113.5

99.8 - 1.66

Below

Mean = -1.78

158.1

~~17~~ 200.8

42.7

335.4

49.0

24.4

91.7 - 1.87

154.8

 ± 16.0 201.4

46.6 - 1.92

 ± 12.2 339.541.6 ± 11.4 21.1

88.2 - 1.96

13 11.4 g.m.t.

5778.

Jan 28, 1902

Same Again.

Below

200	159.1	
	201.4	42.3 ✓
	333.8	50.6 ✓
	24.4	92.9 - 1.84 ✓
	153.6	- 1.2 ✓
	203.8	50.2 ✓
	337.1	43.8 ✓
	20.9	94.0 - 1.81 ✓

Mean = -1.74 ✓

Above

	65.3	
	114.2	48.9 ✓
	241.5	49.6 ✓
	291.1	98.5 - 1.69 ✓
	61.4	
	61.4	166 ✓
300	115.2	53.8 ✓
250	246.0	47.0 ✓
50	292.6	100.8 - 1.64 ✓
13	24.2	
5778	293.0	

Final mean = -1.76

RA = 17h 5m 13s

HA = -3h 29m East

St. T. = 5.18

Dec. = +17.2

Sp. Vel. = 1.0 a 2.0 TB 3.1 C

Jan. 28, 1902.

R Tauri. W Obs,

$$\begin{array}{r} 4 \quad 16 + 9.2 \\ 5 \quad 50 \\ \hline 1 \quad 34 \end{array}$$

$$\begin{array}{r} 13.36 \\ 13.27 \\ \hline 13.32 \end{array}$$

9 28

u 3.5 var, var 1.5 w

T Hydrae W Obs

$$\begin{array}{r} 8 \quad 48 - 7.4 \\ 6 \quad 15 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \quad 33 \\ 9 \quad 27 \\ \hline \end{array}$$

$$\begin{array}{r} 12.32 \\ 12.17 \\ \hline 12.24 \end{array}$$

9 45

* t 1.5 var, var 3.5 u

Phot 7.

X Persei W Obs

9.5 caps used

$$\begin{array}{r} 3 \quad 46 + 30.8 \\ 6 \quad 36 \\ \hline 2 \quad 50 \end{array}$$

see new book = R 1.50

$$3 \quad 45 + 31.5$$

This book
Ledgered Plotted Posted
throughout

Jan. 29, 1902

1901phae.proj..53W