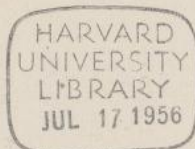


KG
11366
144

Pickering Regime
Accident Book.

KG 11366 .144

KQ 11366.174



7

7

7
5

12

Dec. 26, 1905 (Tuesday)

& Unlabeled Phot 3 H. Ok. Brown Rec

20 31 + 26.0

25 50

+5 19 Index led

9.5 bap

142.9 ← b.s. dis

233.7 90.8

334.1 67.3

41.4 158.1 + 0.42

153.8

+ 0.42

221.8

68.0

322.4

90.5

52.9

158.5 + 0.41

Index R & B

48.7

146.2

97.5

240.5

74.1

314.6

171.6 + 0.16

61.0

+ 0.14

134.5

73.5

227.2

100.5

327.7

174.0 + 0.11

Mean + 0.28

7 36 34

60 60

7 30 30

5 -28

12 30 2

Dec. 26, 1905

S.I. 2 20

H.A. +5 47

Dec. +26.2

P.A. 189.5 Ver. B

Sprocket - 0.5 B

" + 0.5 B

Regular record book equals = R 154, mis-
 placed so that preceding object was
 taken in this book for balance of
 evening work see R. 154

Dec. 1, 1906 (Saturday)

E. Airiage

4	55
0	45
4	10
7	50

Phot. J. H. Obs. Bowie Rec.

+ 43.7

7" bap used

Index Red

260.6 ← var. dis

283.0

22.4[^]

84.2

15.1[^]

99.3

37.5[^] - 3.91[^]

A

264.1

- 3.92[^]

279.0

81.0

14.9[^]

102.83.5

22.5[^]

37.4[^] - 3.92[^]

Index LeB

173.6

191.9

18.3[^]

354.1

14.4[^]

8.5

32.7[^] - 4.21[^]

B

175.5

- 4.22[^]

189.2

13.7[^]

351.9

18.6[^]

10.5

32.3[^] - 4.24[^]

mean - 4.07[^]

8 12 40

8 31 50

43 90[^]

8 21 75[^]

5 - 12[^]

13 22 3[^]

7546.5569

Dec. 1, 1906

S.S. 1 43

H. A. -3 14

Dec. +43.2

G. A. 177.5 Ver B

Sprockets -8.5 d

" -7.5 B

" -7.0 b

o beti Phot. R. H. Obs. Bowie Rec.

2 12 -3.6

1	52

0 20

11 40

Dec. 1, 1906

Index Left

9 5 57

176.4	var. dis	
180.8	4.4 [^]	
356.6	4.4 [^]	
1.0	<u>8.8</u> [^]	-7.08 [^]

176.2		-7.00 [^]
181.0	4.8 [^]	
356.3	4.6 [^]	
0.9	<u>9.4</u> [^]	-6.93 [^]

Index Right

87.4		
91.2	3.8 [^]	
266.3	5.2 [^]	
271.5	<u>9.0</u> [^]	-7.03 [^]

87.4		-7.02 [^]
92.0	4.6 [^]	
266.5	4.5 [^]	
271.0	<u>9.1</u> [^]	-7.00 [^]

9	16	22
9	21	79
9	10	70
5		-12
14	10	58

Mean -7.01[^]

7546.5910 S.J. 2 27
 H.A. +0 12
 Dec. -4 0

It's watch used for times
 Watch 12 sec slow

Somewhat troubled at times by rather blurry seeing
 during above group but great care exercised.

Dec. 3, 1906. (Monday)

Became somewhat clear rather suddenly
Fourth Type Star $+17^{\circ} 979$

5	24	+18.5
1	19	
4	5	
7	55	

Abandoned, too cloudy in this region

Fourth Type Star $+11^{\circ} 305$

2	11	+12.3
1	26	
0	45	
11	15	

Abandoned clouds now overspreading the whole sky

8 45 0 Heavy clouds now overspreading the whole sky again and backing in from the north to northeast. Evidently no chance for another night

June 7 1907 (Friday)

Double Star No. 147 (barnstock's List) = 43 Heron's

$$\begin{array}{r} 16 \quad 39 \quad +8.8 \\ 12 \quad 59 \\ \hline 3 \quad 40 \\ 8 \quad 20 \end{array}$$

Abandoned

Double Star No. 158 (barnstock's List) = ~~154~~^{+64°} 1253

$$\begin{array}{r} 18 \quad 13 \quad +64.4 \\ 13 \quad 23 \\ \hline 4 \quad 50 \\ 7 \quad 10 \end{array}$$

Phot. Q It Obs Some Rec

P.A. 280 Dist 5.0 ± Magns. 6.7 + 8.5

Measurements on fol. page

June 7, 1907

Index Left B.

45.7 ← 3rd, a brighter dis
 93.7 48.0[^]
 228.3 40.7[~]
 269.0 88.7[^] 1.95[^]

52.8 1.88[^]
 86.8 34.0[^]
 218.0 59.8[^]
 277.8 93.8[^] 1.81[^]

Index Right A.

306.5
 15.0 68.5[^]
 141.4 34.4[^]
 175.8 102.9[^] 1.59[^]

315.8 1.64[^]

4.1 48.3[^]
 134.1 50.8[^]
 184.9 99.1[^] 1.68[^]

Mean 1.76[^]

8	21	36	
	35	36	[^]
8	17	48	[^]
5		+18	[^]
13	18	6	[^]

June 7 1907

Double Star No. 157 (Comstock's List) = 36 Draconis

P.A. 265° Dist 4.9 5.0 9.0

Phot. R H Obs Bourne Bee

Index Right

$$\begin{array}{r} 42\ 30 \\ \hline 36\ 18 \end{array}$$

$$\begin{array}{r} 334.4 \quad 334.8 \\ \hline 344.8 \quad 346.1 \\ 156.5 \quad 156.0 \\ 161.6 \quad 162.0 \end{array}$$

$$\begin{array}{r} 10.4^\wedge \\ 5.1^\wedge \\ \hline 15.5^\wedge \end{array} \quad 5.85^\wedge$$

337.0

5.93

342.6

5.6[^]

154.8

8.8[^]

163.6

14.4[^]6.01[^]

Index Left

247.4

252.2

66.3

71.5

4.8[^]

5.2

10.0

6.80[^]6.84[^]

$$\begin{array}{r} 58\ 22 \\ \hline 48\ 10 \end{array}$$

246.0

252.4

66.7

70.0

244.0

254.3

68.3

6.4[^]3.3[^]9.7[^]6.87[^]

$$\begin{array}{r} 100\ 52 \\ 50\ 26 \\ \hline 50\ 26 \end{array}$$

$$\begin{array}{r} 50\ 26 \\ +18 \\ \hline 50\ 44 \end{array}$$

Image, especially after reversal of Phot. will not disappear, so that it is impossible to finish group and what was taken considered of no value

But, Image would not disappear (possibly from some slight real-adjustment of 2 prisms) especially in last half of above group. This group considered of no value.

June 7, 1907

U. Sapher

Phot. J. H. Obs. Bowie Rec.

$$\begin{array}{r} 0 \quad 50 \\ 14 \quad 25 \\ \hline 13 \quad 35 \end{array}$$

+81.1

9.5 in bap

Index LeB

174.2 var. dis

I

254.4

80.2[^]

B

3.0

64.3[^]

67.3

144.5[^] -0.68[^]

182.9

-0.66[^]

245.0

6.2.1[^]

353.0

84.3[^]

77.3

146.4[^] -0.65[^]

Index Red

80.6

169.6

89.0[^]

A

273.1

63.0[^]

336.1

152.0[^] -0.54[^]

92.9

-0.48[^]

162.4

69.5[^]

260.2

88.0[^]

348.2

157.5[^] -0.43[^]Mean -0.57[^]

$$\begin{array}{r} 9 \quad 34 \quad 0 \\ 7 \quad 59 \quad 12 \quad ^\wedge \\ 9 \quad 29 \quad 36 \quad ^\wedge \\ 5 \quad \quad \quad +18 \quad ^\wedge \\ \hline 14 \quad 29 \quad 54 \quad ^\wedge \end{array}$$

7734.6041[^]

June 7, 1907

Index Re A

9 36 45

$$\begin{array}{r} 81.6 \\ 171.5 \\ 270.6 \\ 336.9 \end{array}$$

$$\begin{array}{r} 89.9^{\wedge} \\ 66.3^{\wedge} \\ \hline 156.2^{\wedge} - 0.45^{\wedge} \end{array} \quad \text{II} \quad \text{A}$$

9 40 28

$$\begin{array}{r} 90.0 \\ 160.5 \\ 259.6 \\ 351.9 \end{array}$$

$$\begin{array}{r} 70.5^{\wedge} \\ 92.3^{\wedge} \\ \hline 162.8^{\wedge} - 0.33^{\wedge} \end{array} \quad -0.39^{\wedge}$$

Index Le B

9 44 2

$$\begin{array}{r} 352.2 \\ 81.1 \\ 180.5 \\ 249.8 \end{array}$$

$$\begin{array}{r} 88.9^{\wedge} \\ 69.3^{\wedge} \\ \hline 158.2^{\wedge} - 0.42^{\wedge} \end{array} \quad \text{B}$$

9 45 35

$$\begin{array}{r} 3.2 \\ 71.0 \\ 167.8 \\ 259.3 \end{array}$$

$$\begin{array}{r} 67.8^{\wedge} \\ 91.5^{\wedge} \\ \hline 159.3^{\wedge} - 0.39^{\wedge} \end{array} \quad -0.40^{\wedge}$$

$$\begin{array}{r} 165 \ 110^{\wedge} \\ 9 \ 41 \ 42^{\wedge} \\ 5 \quad \quad +18^{\wedge} \\ \hline 14 \ 42 \ 0^{\wedge} \end{array}$$
7734.6125[^]Mean - 0.40[^]

June 7, 1907

Index LeB

9 47 40

348.2

87.0

180.9

249.3

$$\begin{array}{r} 92.8^{\wedge} \\ 68.4^{\wedge} \\ \hline 161.2^{\wedge} \end{array}$$

-0.36^

III

B

2.3

-0.36^

9 50 6

71.5

168.0

259.8

$$\begin{array}{r} 69.2^{\wedge} \\ 91.8^{\wedge} \\ \hline 161.0^{\wedge} \end{array}$$

-0.36^

Index ReB

9 53 20

256.4

350.4

83.9

165.6

$$\begin{array}{r} 94.0^{\wedge} \\ 81.7^{\wedge} \\ \hline 175.7^{\wedge} \end{array}$$

-0.08^

A

267.5

-0.08^

342.8

75.3

175.0

$$\begin{array}{r} 75.3^{\wedge} \\ 99.7^{\wedge} \\ \hline 175.0^{\wedge} \end{array}$$

-0.09^

9 55 18

$$\begin{array}{r} 205 \quad 84^{\wedge} \\ 9 \quad 51 \quad 36^{\wedge} \\ 5 \quad \quad +18^{\wedge} \\ \hline 14 \quad 51 \quad 54^{\wedge} \end{array}$$

7734.6193^

Mean -0.22^

June 7, 1907

Index Card

IV

9 58 38

254.7

353.2

86.1

164.2

98.5[^]78.1[^]176.6[^] - 0.06[^]

d

10 2 10

264.0

345.0

72.5

178.5

81.0[^]+ 0.04[^]106.0[^]187.0[^]173.0[^] + 0.13[^]

Index Card

10 6 20

165.5

264.5

356.0

74.0

99.0[^]78.0[^]177.0[^] - 0.06[^]

B

175.0

- 0.02

255.3

344.0

84.26

80.3[^]100.6[^]180.9[^]179.1[^] + 0.02[^]

Mean + 0.01

10 9 25

39 75 93[^]9 63 68[^]5 + 18[^]15 4 26[^]7734.6281[^]

June 7 1907

Index L & B

10 14 26

162.4
265.0
356.0
77.0

102.6[^]
81.0[^]

183.6[^]
176.4[^] + 0.07[^]

V

B

10 17 48

171.7
257.1
343.0
86.3

85.4[^] + 0.12[^]
103.3[^]

188.7[^]
171.3[^] + 0.16[^]

Index Q & A

10 20 56

2

67.8
180.0
261.0
346.6

112.2[^]
85.6[^]

197.8[^]
162.2[^] + 0.34[^]

A

10 23 43

74 183[^]
10 18 76[^]
5 + 18[^]

15 19 34[^]7734.6386[^]

77.1
175.0
249.4
0.0

97.9[^] + 0.44[^]
110.6[^]

208.5[^]
151.5 + 0.55[^]

Mean + 0.28[^]

June 7, 1907

Index Rod

VI

		67.5		
10	26	44	182.6	115.1 [^]
			259.0	92.5 [^]
			351.5	207.6 [^]
				152.4 [^] + 0.53 [^]
		76.9		
10	30	25	172.0	95.1 [^] + 0.55 [^]
			246.3	114.8 [^]
			1.1	209.9 [^]
				150.1 [^] + 0.57 [^]

Index Lab

		338.0		
10	33	30	88.0	110.0 [^]
			168.0	93.0 [^]
			261.0	203.0 [^]
				157.0 [^] + 0.44 [^]
		347.5		
10	36	45	83.5	96.0 [^]
			157.5	113.7 [^]
10	31	51 [^]	271.2	209.7 [^]
5		+18 [^]		150.3 [^] + 0.57 [^]
15	32	9 [^]		

7734.6473 S.I. 16² 15^m
 B.A. -8 45

Dec. +81.0

P.A. 16.0

Sprockets -1.5 B

,, -0.5 b

Mean +0.52[^]

June 7, 1907

Miss Leavitt's New Var. = $+45^{\circ} 38' 13''$ (6.2)

$$\begin{array}{r} 22 \\ 16 \\ \hline 5 \\ 6 \end{array} \quad \begin{array}{r} 3 \\ 28 \\ \hline 25 \\ 25 \end{array}$$

+45.0

Phot. 3 H. Obs. Bowie Rec.

Comp. Star $+45^{\circ} 38' 16''$ (9.1)

Index L & B

111.5 var. dis

13 9.1

29 5.0

31 4.2

27.6[^]19.2[^]46.8[^] - 3.42[^]

B

114.3

135.2

289.9

317.6

20.9[^]27.7[^]48.6[^] - 3.33[^]- 3.38[^]

Index R & B

20.0

47.8

204.2

225.4

27.8[^]21.2[^]49.0[^] - 3.32[^]

A

24.2

43.9

201.0

230.0

19.7[^]29.0[^]48.7[^] - 3.33[^]- 3.32[^]Mean - 3.35[^]

$$\begin{array}{r} 11 \quad 27 \quad 2 \\ \hline 44 \quad 12 \\ 11 \quad 22 \quad 6 \\ 5 \quad \quad \quad +18 \\ \hline 16 \quad 22 \quad 24 \end{array}$$

7734.6822

June 7 1907

S.J. 16 56

H.A. -5 10

Dec. 44.8

P.A. 262.8 var. 8

Sprockets - 0.5 B

" +0.5 b

It's watch used for times.
Watch 10 sec, slow

Nov. 1 1907 (Friday)

Saturn

$$\begin{array}{r}
 23 \qquad 30 \qquad -5.4 \\
 22 \qquad 25 \\
 \hline
 1 \qquad 5 \\
 10 \qquad 55
 \end{array}$$

Seeing fairly good. Sky slightly hazy.

W. E.

RR Draconis

$$\begin{array}{r}
 18 \qquad 38 \qquad +62.5 \\
 23 \qquad 25 \\
 \hline
 4 \qquad 47
 \end{array}$$

Phot I

W Obs Hershey Rec

Nov. 1 1907.

I

Index B + A ~~A~~

8 51 0
 184.1 → Comp. Star dis.
 249.8 65.7[✓]
 12.4 52.3[✓] +1.24[✓]
 64.7 118.0[✓]

+1.19[✓]

8 53 10
 192.0 52.7[✓]
 244.7 69.9[✓] +1.14[✓]
 1.1 122.6[✓]
 71.0

Index L + B. B.

8 56 0
 92.0
 160.8 65.8[✓]
 284.2 48.4[✓] +1.25[✓]
 332.6 117.2[✓]

+1.2[✓]

8 58 0
 21 A 10.[✓]
 A 54 32.[✓]
 +5 +24.[✓]
 13 54 56.[✓]
 722.5792[✓]

105.1

152.1

274.1

241.3

47.0[✓]67.2[✓]114.2[✓]

+1.32

Mean +1.24[✓]

Nov. 1 1907.

II

Index L + B. B.

9	1	45	94.4	66.9 ^v	
			161.3	45.6 ^v	+1.36 ^v
			284.9	112.5 ^v	
			330.5		

9	4	10	108.1	43.5 ^v	+1.42 ^v
			151.6	63.7 ^v	+1.45 ^v
			274.2	107.2 ^v	
			337.9		

Index A + B. A.

9	6	40	2.8	64.0 ^v	
			66.8	47.7 ^v	+1.38 ^v
			194.9	111.7 ^v	
			242.6		

9	8	50	14.4	47.5 ^v	+1.34 ^v
			61.9	67.8 ^v	+1.30 ^v
			183.4	115.3 ^v	
			251.2		
9	5	21			
45		24			
14	5	45			
					Mean +1.35 ^v
			7221.5274 ^v		

Nov. 1 1907.

III

Index R + A. A.

$$\begin{array}{r}
 9 \quad 11 \quad 50 \\
 2.6 \\
 72.2 \quad 69.6^{\circ} \\
 195.8 \quad 46.7^{\circ} \\
 242.5 \quad \underline{116.3^{\circ}} \quad +1.27
 \end{array}$$

$$\begin{array}{r}
 9 \quad 14 \quad 5 \\
 16.4 \\
 59.8 \quad 43.4^{\circ} \quad +1.36 \\
 186.4 \quad 65.3^{\circ} \\
 251.7 \quad \underline{102.7^{\circ}} \quad +1.45
 \end{array}$$

Index L + B. B.

$$\begin{array}{r}
 9 \quad 17 \quad 10 \\
 277.7 \quad 59.3^{\circ} \\
 337.0 \\
 109.3 \quad 34.0^{\circ} \\
 147.3 \quad \underline{97.3^{\circ}} \quad +1.72
 \end{array}$$

$$\begin{array}{r}
 9 \quad 19 \quad 15 \\
 329.4 \quad 39.4^{\circ} \quad +1.69 \\
 98.5 \quad 60.3^{\circ} \\
 158.8 \quad \underline{99.7^{\circ}} \quad +1.66
 \end{array}$$

$$\begin{array}{r}
 9 \quad 15 \quad 34. \\
 +5 \quad +24. \\
 \hline
 14 \quad 15 \quad 58. \\
 722.5944^{\circ}
 \end{array}$$

Mean $+1.54^{\circ}$

Nov. 1 1907.

IV

Index L + B. B.

$$\begin{array}{r}
 280.0 \\
 337.5 \quad 57.5^{\checkmark} \\
 107.0 \\
 148.8 \quad \frac{41.2^{\checkmark}}{99.3^{\checkmark}} \quad +1.67^{\checkmark}
 \end{array}$$

$$\begin{array}{r}
 290.8 \quad 36.4^{\checkmark} \quad +1.71^{\checkmark} \\
 327.2 \\
 98.0 \quad 59.2^{\checkmark} \\
 157.8 \quad \frac{96.2^{\checkmark}}{96.2^{\checkmark}} \quad +1.75^{\checkmark}
 \end{array}$$

Index R + A. A.

$$\begin{array}{r}
 188.0 \\
 245.2 \quad 57.2^{\checkmark} \\
 17.7 \\
 57.5 \quad \frac{39.2^{\checkmark}}{97.0^{\checkmark}} \quad +1.73^{\checkmark}
 \end{array}$$

$$\begin{array}{r}
 198.6 \quad 39.4^{\checkmark} \quad +1.76^{\checkmark} \\
 238.0 \\
 8.6 \quad 55.1^{\checkmark} \\
 63.7 \quad \frac{94.5^{\checkmark}}{94.5^{\checkmark}} \quad +1.20^{\checkmark} \\
 \\
 14 \quad 26 \quad 10. \quad \text{Mean} \quad +1.74^{\checkmark} \\
 7228.6015^{\checkmark}
 \end{array}$$

Nov. 1 1907.

V.

Index R + a A.

$$\begin{array}{r}
 192.8 \\
 247.1 \\
 17.7 \\
 56.8 \\
 \hline
 39.1 \\
 93.4 \\
 \hline
 \end{array}
 \begin{array}{l}
 \checkmark 4.3 \\
 \checkmark \\
 \checkmark \\
 \checkmark
 \end{array}
 \begin{array}{l}
 \\
 \\
 \\
 +1.22 \checkmark
 \end{array}$$

$$\begin{array}{r}
 199.5 \\
 235.6 \\
 11.6 \\
 63.4 \\
 \hline
 36.1 \\
 51.4 \\
 27.9 \\
 \hline
 \end{array}
 \begin{array}{l}
 \checkmark \\
 \checkmark \\
 \checkmark \\
 \checkmark
 \end{array}
 \begin{array}{l}
 \\
 \\
 +1.90 \checkmark \\
 +1.97 \checkmark
 \end{array}$$

Index L + B. B.

$$\begin{array}{r}
 104.7 \\
 155.8 \\
 293.3 \\
 325.2 \\
 \hline
 31.9 \\
 23.0 \\
 \hline
 \end{array}
 \begin{array}{l}
 \checkmark \\
 \checkmark \\
 \checkmark \\
 \checkmark
 \end{array}
 \begin{array}{l}
 \\
 \\
 \\
 +2.11 \checkmark
 \end{array}$$

$$\begin{array}{r}
 114.2 \\
 145.1 \\
 281.9 \\
 332.3 \\
 \hline
 30.9 \\
 50.4 \\
 21.3 \\
 \hline
 \end{array}
 \begin{array}{l}
 \checkmark \\
 \checkmark \\
 \checkmark \\
 \checkmark
 \end{array}
 \begin{array}{l}
 +2.14 \checkmark \\
 \\
 +2.16 \checkmark \\
 \\
 \text{Mean } +2.02 \checkmark
 \end{array}$$

Nov. 1 1907

Index L+B. B.

VI

9 46 10	104.0		
	152.0	48.0 [✓]	
	292.8	30.0 [✓]	+2.25 [✓]
	322.8	78.0 [✓]	

9 49 15	113.2		+2.26 [✓]
	141.4	28.2 [✓]	
	283.4	49.1 [✓]	+2.28
	332.5	77.3 [✓]	

~~Index~~ R + A A.

9 52 20	15.4		
	58.0	42.6 [✓]	
	203.2	30.0 [✓]	+2.42 [✓]
	233.2	72.6 [✓]	
			+2.38 [✓]

9 54 40	23.3		
202 25 [✓]	54.6	31.3 [✓]	
9 50 36 [✓]	195.0	44.0 [✓]	+2.34
+5	239.0	75.3 [✓]	
+24 [✓]			Mean +2.32 [✓]
14 51 0 [✓]			
7221.6127 [✓]			

Nov. 1 1907.

VII

Index R+A. A.

10	0	0	14.6		
			61.1	46.5 ^v	
			204.9	26.1 ^v	+2.42 ^v
			231.0	72.6 ^v	

10	2	40	25.0		+2.54 ^v
			52.8	27.8 ^v	
			198.0	38.0 ^v	+2.65 ^v
			236.0	65.8 ^v	

Index L+B. B.

10	7	20	289.4		
			327.8	38.4 ^v	
			117.5	21.8 ^v	+2.85 ^v
			139.3	60.2 ^v	
					+3.04 ^v

10	11	15	297.2		
			317.8	20.6 ^v	
	21	15.	113.6	30.2 ^v	+3.24 ^v
10	✓	19.	143.8	50.8 ^v	

+5		+24.
----	--	------

15	✓	43.
----	---	-----

7226.6290^v

S.T. 1 15

H.S. + 6 33

Dec. +63.0

P.A. 94.9 Ver B.

Sprocked. - 2.5 B.

- 1.5 C.

Mean +2.72^{9v}W's watch used
for timesWatch 24. sec. slow.
L. A. P.

Nov. 4 1907 (Monday)

R. R. Draconis.

18	38	+ 62.5
22	20	
3	42	

Phot. J.

W. Obs. Hornsby Rec.

For results, see fol. pages.

Nov. 4 1907.

I

Index R A.

7 42 50
 203.7
 233.5 → Comp. São dis.
 27.2 29.8^v
 49.6 22.4^v + 3.17^v
 52.2^v

207.0 + 3.06^v
 7 45 55
 230.9 23.9^v
 22.6 33.9^v + 2.94^v
 56.5 57.8^v

Index L B.

7 50 10
 110.5
 143.5 33.0^v
 294.8 25.9^v + 2.90^v
 320.7 58.9^v

7 53 10
 192 5.1^v
 7 42 1.1^v
 +5 +3.1^v
 12 42 4.1^v
 7224.5334^v

116.5 + 2.87^v
 141.4 24.9^v
 290.3 35.8^v + 2.84^v
 326.1 60.7^v
 Mean + 2.96^v

Nov. 4 1907.

II

Index L B.

$$\begin{array}{r}
 109.6 \\
 148.9 \\
 294.0 \\
 321.5 \\
 \hline
 27.5 \checkmark \\
 66.4 \checkmark
 \end{array}
 \begin{array}{r}
 39.3 \checkmark \\
 \\
 \\
 + 2.61 \checkmark
 \end{array}$$

$$\begin{array}{r}
 115.3 \\
 142.9 \\
 286.8 \\
 331.0 \\
 \hline
 27.6 \checkmark \\
 44.2 \checkmark \\
 71.4 \checkmark
 \end{array}
 \begin{array}{r}
 \\
 \\
 + 2.4 \checkmark \checkmark \\
 + 2.53 \checkmark
 \end{array}$$

Index R A.

$$\begin{array}{r}
 16.5 \\
 59.0 \\
 203.7 \\
 237.6 \\
 \hline
 42.5 \checkmark \\
 30.9 \checkmark \\
 73.4 \checkmark
 \end{array}
 \begin{array}{r}
 \\
 \\
 + 2.40 \checkmark \\
 \\
 \end{array}$$

$$\begin{array}{r}
 25.1 \\
 53.1 \\
 196.0 \\
 243.6 \\
 \hline
 24.0 \checkmark \\
 47.6 \checkmark \\
 75.6 \checkmark
 \end{array}
 \begin{array}{r}
 \\
 + 2.36 \\
 + 2.33 \checkmark \\
 \\
 \end{array}$$

mean + 2.44

Nov. 4 1907.

III

Index B. A.

8 9 35

$$\begin{array}{r}
 14.2 \\
 60.4 \\
 \hline
 200.9 \\
 235.8 \quad 34.9^{\checkmark} \\
 \hline
 21.1^{\checkmark} \quad +2.16^{\checkmark}
 \end{array}$$

8 12 5

$$\begin{array}{r}
 220.2 \\
 54.8 \\
 \hline
 193.9 \\
 243.0 \quad 32.6^{\checkmark} \\
 \hline
 21.7^{\checkmark} \quad +2.14^{\checkmark}
 \end{array}$$

Index L B.

8 15 10

$$\begin{array}{r}
 282.8 \\
 333.8 \\
 \hline
 112.8 \\
 146.8 \quad 51.0^{\checkmark} \\
 \hline
 45.0^{\checkmark} \quad +2.05^{\checkmark}
 \end{array}$$

$$\begin{array}{r}
 8 \quad 18 \quad 20 \\
 \hline
 55 \quad 10.2^{\checkmark} \\
 2 \quad 13 \quad 42.1^{\checkmark} \\
 +5 \quad +3.1^{\checkmark} \\
 \hline
 13 \quad 13 \quad 51.1^{\checkmark} \\
 7224.5513^{\checkmark}
 \end{array}$$

$$\begin{array}{r}
 293.0 \\
 325.7 \\
 \hline
 102.8 \\
 154.0 \quad 32.7^{\checkmark} \\
 \hline
 51.2^{\checkmark} \\
 23.9^{\checkmark} \quad +2.02^{\checkmark}
 \end{array}$$

mean +2.10[✓]

Nov. 4 1907.

IV

Index L B.

8 22 0
 283.2
 334.6 $\sqrt{1.4}^{\checkmark}$
 110.9
 148.0 $\frac{37.1}{22.5}^{\checkmark}$ $+1.95^{\checkmark}$

8 24 55
 290.9 34.1 $\checkmark$
 325.0 $+1.96^{\checkmark}$
 103.0 $\sqrt{3.4}^{\checkmark}$
 156.4 $\frac{27.5}{27.5}^{\checkmark}$ $+1.92^{\checkmark}$

Index R A.

8 28 5
 187.9
 249.5 $\sqrt{9.6}^{\checkmark}$
 18.2
 57.0 $\frac{34.2}{92.8}^{\checkmark}$ $+1.70^{\checkmark}$

8 31 25
 106 25 $\checkmark$
 2 26 36 $\checkmark$
 +5 +3 $\checkmark$
 13 26 39 $\checkmark$
 7224.5601 $\checkmark$

199.1
 237.0 37.9 $\checkmark$ $+1.62$
 7.4
 69.6 $\frac{62.2}{100.1}^{\checkmark}$ $+1.65^{\checkmark}$

mean $+1.22^{\checkmark}$

Nov. 4 1907.

V.

Index R A.

8	36	0	188.4		
			249.0	60.6 [✓]	
			18.2	43.0 [✓]	+1.57 [✓]
			61.2	103.6 [✓]	
					+1.52 [✓]
8	40	5	199.0		
			238.8	39.8 [✓]	
			5.6	64.8 [✓]	+1.54 [✓]
			70.4	104.6 [✓]	

Index L B.

8	42	30	93.9		
			157.0	63.1 [✓]	
			286.5	41.8 [✓]	+1.54 [✓]
			328.3	104.9 [✓]	
					+1.44 [✓]
8	45	30	108.0		
			151.5	43.5 [✓]	
			273.2	70.3 [✓]	+1.33 [✓]
			343.5	113.8 [✓]	
					Mean +1.50
8	45	30			
	164	5.1 [✓]			
A	41	1.1 [✓]			
+5		+3.1 [✓]			
13	41	4.			
7444.5702 [✓]					

Nov. 4 1907.

VI

Index L B.

8 51 50	93.5		
	159.2	65.7 ✓	
	285.8	44.1 ✓	+1.42 ✓
	329.9	109.8 ✓	

8 55 15	105.2		+1.34 ✓
	151.8	46.6 ✓	
	273.8	70.2 ✓	+1.26 ✓
	344.0	116.8 ✓	

Index R A.

8 58 30	2.1		
	73.7	71.6 ✓	
	194.6	48.1 ✓	+1.20 ✓
	242.7	119.7 ✓	

9 1 40	12.8		+1.12 ✓
227.15 ✓	64.7	51.9 ✓	
2 56 49 ✓	181.1	74.9 ✓	+1.05 ✓
+5 +3. ✓	256.0	126.8 ✓	
13 56 52 ✓			Mean +1.23 ✓
7224.5211 ✓			

Nov. 4 1907.

VII

Index R A.

9	8	15	357.8		
			73.0	75.2 ^v	
			193.9	48.4 ^v	+1.11 ^v
			242.3	<u>123.6^v</u>	

			12.0		+1.03 ^v
9	11	30	66.5	54.5 ^v	
			181.0	76.9 ^v	+0.95 ^v
			257.9	<u>131.4^v</u>	

Index L B.

			279.8		
9	14	35	333.2	53.4 ^v	
			88.8	77.3 ^v	+0.96 ^v
			166.1	<u>130.7^v</u>	

			270.6		+0.95 ^v
9	17	20	347.5	76.9 ^v	
	51	40. ^v	101.5	55.2 ^v	+0.94 ^v
9	12	55. ^v	156.7	<u>132.1^v</u>	
+5		+3. ^v			Mean +0.99 ^v
14	12	52. ^v			
		7224.5924 ^v			

Nov. 4 1907

VIII

Index L. B.

	100.0		
9 41 50	161.5	61.5 [✓]	
	268.7	80.3 [✓]	+0.74 [✓]
	349.0	141.8 [✓]	

	88.1		+0.80 [✓]
9 44 40	168.2	80.1 [✓]	
	280.5	55.3 [✓]	+0.87
	335.8	135.4 [✓]	

Index R. A.

	355.6		
9 48 5	78.0	82.4 [✓]	
	187.9	62.1 [✓]	+0.68 [✓]
	250.0	144.5 [✓]	

	5.6		+0.61 [✓]
9 51 20	69.0	63.4 [✓]	
125 55 [✓]	174.9	88.5 [✓]	+0.54 [✓]
9 46 29 [✓]	263.4	151.9 [✓]	
+5 +3 [✓]			
14 46 32 [✓]			
7024.6157 [✓]			

Mean +0.70[✓]

Nov. 4 1907.

18

Index R A.

10	2	20	356.5		
			78.5	82.0 [✓]	
			187.1	64.4 [✓]	+0.65 [✓]
			251.5	146.4 [✓]	

10	5	25	5.3		+0.58 [✓]
			70.0	64.7 [✓]	
			173.5	89.4 [✓]	+0.50 [✓]
			262.9	154.1 [✓]	

Index L B.

10	9	35	264.1		
			350.0	85.9 [✓]	
			96.3	64.4 [✓]	+0.57 [✓]
			160.7	150.3 [✓]	

0.53

10	13	5	274.6		
			341.6	67.0 [✓]	
			84.8	87.3 [✓]	+0.49 [✓]
			172.1	154.3 [✓]	

10	7	36.			
+5		+3.	S. J.	1	32
15	7	39.	H. A.	+6	53
7224.6303			Dec.	+62.9	

P.B. 95.0 Ver B.

Sprocket.

L. P. P.

Sprocket not read as region was thoroughly identified and obs. did

Nov. 4 1907.

not wish to move telescope as he
wished to make a sketch of
this region after taking Phot. out.

W's watch used for times
Watch 3. sec. slow,

Nov. 20 1907 (Wednesday)

Double Star #6 (Comstock's List) = 49 Piscium

24	21	+15.7
23	30	
11	51	
	9	

Phot R

W. Obs. Hornsby Rec

Companion too faint in this state
of sky. Sky more or less cloudy.

Double Star $\approx 13'$ (In old D.S. Bk) = 11 + 12
Camelopard

28	55	+58.8
23	43	
5	12	
6	48	

P. A. 10°

Dist 3.0' ±

Magn. 5.0-5.6

Nov. 20 1907.

Index B

7 45 10
 183.5 → South + brts. dis.
 263.0 79.5 ✓
 4.9 75.1 ✓ 0.49 ✓
 80.0 154.6 ✓

187.2

261.0

4.3

82.1

73.8 ✓

77.8 ✓

151.6 ✓

0.54 ✓

0.57 ✓

Index A

91.7

174.1

278.8

349.5

82.4 ✓

70.7 ✓

153.1 ✓

0.51 ✓

95.5

169.4

275.4

350.8

73.9 ✓

75.4 ✓

149.3 ✓

0.59 ✓

0.55 ✓

Mean 0.53⁴ ✓

Nov. 20 1907.

Fourth Type Star $+61^{\circ} 667$

~~27~~ 3	44
0	20
3	24
8	36

$+62.7$

Phot T

H. Obs. Hornsby Rec.

Color 5 in large telescope
Moonlight very bright.

Nov. 20 1907.

Index A

8 21 10
 3.3 → 4th type dis.
 72.2 68.9[✓]
 191.5 54.1[✓] -1.13[✓]
 245.6 123.0[✓]

-1.10[✓]
~~1.09~~

12.0
 66.5 54.5[✓]
 182.6 71.7[✓] -1.06[✓]
 254.3 126.2[✓]

Index B.

275.5
 341.2 65.7[✓]
 104.1 49.1[✓] -1.31[✓]
 153.2 114.8[✓]

-1.30[✓]
~~1.29~~

8 28 0
 284.0
 333.8 49.8[✓]
 95.0 66.4[✓] -1.28[✓]
 161.4 116.2[✓]

-1.20

Mean. 7.19

S.T. 0 45
 H.A. -3 13
 Dec. +61.2
 P.A. 183.2 Ver B.
 Sprocket. -4.5 A.
 -3.5 B.
 -3.0 C.

Nov. 20 1907.

Double Star Σ 634 (In old D. S. Bk) = Camelo
19 Her

5	2	+79.1
1	2	
4	0	Phos R
8	0	W. Obs. Hornsby Rec.

P.A. 25° Dist. Mags.

In old D. S. Bk the distance seems to read $34.0''$ and the Mags. seem to be about right, however. It would seem off hand as if the distance in the book was scheduled too large. Everything else however is all right. There is a $7.5 \pm$ star at P.A. 325° Dist. $3.6'$

Nov. 20 1907

Index L + A

9 0 20
 118.3 → South prec. + brtr. dis.
 144.7 26.4 ✓
 298.8 26.2 ✓ 3.16 ✓
 325.0 52.6 ✓

119.6 3.28 ✓
 143.8 24.2 ✓
 301.5 23.3 ✓ 3.39 ✓
 324.8 47.5 ✓

Index R + B.

29.5
 53.6 24.1 ✓
 210.6 24.2 ✓ 3.35 ✓
 234.8 48.3 ✓

3.34 ✓

9 6 40
 31.0
 55.2 24.2 ✓
 210.0 24.8 ✓ 3.32 ✓
 234.8 49.0 ✓

Mean 3.31 ✓

It's watch used for times
 Watch 1 m 27 sec. fast.

9 20 Clouds now becoming very thick
 No chance for any thing further.

Wednesday, Dec. 25, 1907.

W's watch used for times

Re. Jup. Sat. IV W. obs. Shaw rec.
 Phot. R. Compared with
 more of two Sats. (before Eclipse) of
 same preceding = Sat III

Seen

16	2	54 ^v	11	09	03	24.0 ^v	122.5	+3.4 ^v
9	17 ^v		09	26		24.7 ^v	146.5	+3.3 ^v
9	33 ^v		09	42		29.1 ^v	121.8	+2.9 ^v
9	52 ^v		10	01		30.2 ^v	150.9	+2.8 ^v
10	9 ^v		10	18		31.2 ^v	120.7	+2.7 ^v
10	25 ^v		10	34		35.5 ^v	152.5	+2.5 ^v
10	43 ^v		10	52		39.1 ^v	117.0	+2.2 ^v
11	1 ^v		11	10		43.5 ^v	156.1	+2.0 ^v
11	12 ^v		11	27		45.4 ^v	112.6	+1.9 ^v
11	35 ^v		11	44		46.0 ^v	158.0	+1.9 ^v
11	54 ^v		12	03		48.1 ^v	113.0	+1.8 ^v
12	13 ^v		12	22		50.2 ^v	160.1	+1.6 ^v
12	27 ^v		12	36		51.6 ^v	109.9	+1.6 ^v
12	44 ^v		12	53			167.5	+1.6 ^v
			<u>13</u>	<u>21</u>			<u>109.5</u>	
16	13	46.1 ^v	13	34		52.2 ^v	162.3	+1.5 ^v
		-9.1 ^v	13	56		53.3 ^v	109.0	
16	13	37.1 ^v	14	15		53.9 ^v	162.3	
			<u>14</u>	<u>47</u>			<u>109.5</u>	
16	15	7.1 ^v	14	59		54.5 ^v	164.0	+1.4 ^v
		-9.1 ^v	15	13		55.0 ^v	109.0	
16	14	52.1 ^v				54.4 ^v		

Dec. 25, 1907

11	15	28		164.0
	<u>15</u>	41		<u>108.2</u>
16 16 2.✓	16	00	54.8✓	163.0
<u>-9.✓</u>	16	21	<u>54.9✓</u>	107.3 +1.4✓
16 15 59✓	16	32	55.4✓	<u>163.2</u>
	<u>16</u>	45		<u>105.0</u>
16 17 6.✓	16	58	61.5✓	166.5 +1.1✓
<u>-9.✓</u>	17	15	<u>64.4✓</u>	102.6
16 16 59.✓	17	26	63.0✓	<u>167.0</u>
	<u>17</u>	54		<u>103.8</u>
16 12 29.✓	18	11	61.2✓	164.8
<u>-9.✓</u>	18	49	<u>59.9✓</u>	106.2 +1.2✓
16 12 20.✓	19	03	60.0✓	<u>165.1</u>
	<u>19</u>	21		<u>104.8</u>
16 19 46.✓	19	37	62.2✓	167.0
<u>-9.✓</u>	19	56	<u>62.4✓</u>	104.8 +1.1✓
16 19 37.✓	20	11	62.3	<u>167.2</u>
	<u>20</u>	27		<u>105.5</u>
16 20 51.✓	20	41	62.5✓	168.0 +1.1✓
<u>-9.✓</u>	21	02	<u>61.6✓</u>	105.2
16 20 42.✓	21	15	62.0	<u>166.8</u>
	<u>21</u>	29		<u>104.8</u>
16 22 5.✓	21	50	64.0✓	168.0 +1.0✓
<u>-9.✓</u>	22	26	<u>63.4✓</u>	104.5
16 21 56.✓	22	36	63.7✓	<u>167.9</u>
	<u>23</u>	05 ⁴		<u>104.5</u>
16 23 20.✓	23	21	62.0✓	167.3 +1.1✓
<u>-9.✓</u>	23	37	<u>62.7✓</u>	103.8
16 23 19.✓	23	50	62.0✓	<u>166.5</u>

Dec. 25. 1907.

$$\begin{array}{r}
 16 \quad 24 \quad 36. \\
 \hline
 -9. \\
 16 \quad 24 \quad 27.
 \end{array}$$

$$\begin{array}{r}
 16 \quad 25 \quad 22. \\
 \hline
 -9. \\
 16 \quad 25 \quad 13.
 \end{array}$$

$$\begin{array}{r}
 16 \quad 26 \quad 12. \\
 \hline
 -9. \\
 16 \quad 26 \quad 9.
 \end{array}$$

$$\begin{array}{r}
 16 \quad 27 \quad 20. \\
 \hline
 -9. \\
 16 \quad 27 \quad 11.
 \end{array}$$

$$\begin{array}{r}
 16 \quad 28 \quad 14. \\
 \hline
 -9. \\
 16 \quad 28 \quad 5.
 \end{array}$$

$$\begin{array}{r}
 16 \quad 29 \quad 10. \\
 \hline
 -9. \\
 16 \quad 29 \quad 1.
 \end{array}$$

$$\begin{array}{r}
 16 \quad 30 \quad 4. \\
 \hline
 -9. \\
 16 \quad 29 \quad 55.
 \end{array}$$

$$\begin{array}{r}
 24 \quad 13 \\
 24 \quad 27 \\
 24 \quad 46 \\
 24 \quad 56
 \end{array}$$

$$\begin{array}{r}
 25 \quad 05 \\
 25 \quad 15 \\
 25 \quad 30 \\
 25 \quad 39 \\
 25 \quad 53
 \end{array}$$

$$\begin{array}{r}
 26 \quad 08 \\
 26 \quad 24 \\
 26 \quad 46 \\
 27 \quad 02
 \end{array}$$

$$\begin{array}{r}
 27 \quad 12 \\
 27 \quad 24 \\
 27 \quad 40 \\
 27 \quad 56
 \end{array}$$

$$\begin{array}{r}
 28 \quad 06 \\
 28 \quad 20 \\
 28 \quad 33 \\
 28 \quad 49
 \end{array}$$

$$\begin{array}{r}
 29 \quad 01 \\
 29 \quad 17 \\
 29 \quad 34 \\
 29 \quad 46
 \end{array}$$

$$\begin{array}{r}
 29 \quad 55 \\
 30 \quad 12 \\
 30 \quad 24 \\
 30 \quad 35
 \end{array}$$

$$\begin{array}{r}
 64.2 \\
 62.7 \\
 \hline
 63.4
 \end{array}$$

$$\begin{array}{r}
 63.2 \\
 62.6 \\
 \hline
 62.9
 \end{array}$$

$$\begin{array}{r}
 62.0 \\
 62.2 \\
 \hline
 62.4
 \end{array}$$

$$\begin{array}{r}
 63.6 \\
 63.9 \\
 \hline
 63.2
 \end{array}$$

$$\begin{array}{r}
 64.0 \\
 62.9 \\
 \hline
 63.4
 \end{array}$$

$$\begin{array}{r}
 63.3 \\
 63.7 \\
 \hline
 63.5
 \end{array}$$

$$\begin{array}{r}
 63.2 \\
 65.9 \\
 \hline
 64.2
 \end{array}$$

$$\begin{array}{r}
 104.2 \rightarrow
 \end{array}$$

$$\begin{array}{r}
 169.0 \\
 104.3 \\
 \hline
 167.0
 \end{array}$$

$$\begin{array}{r}
 104.0
 \end{array}$$

$$\begin{array}{r}
 167.2 \\
 104.2 \\
 \hline
 166.8
 \end{array}$$

$$\begin{array}{r}
 104.8
 \end{array}$$

$$\begin{array}{r}
 166.8 \\
 103.7 \\
 \hline
 166.5
 \end{array}$$

$$\begin{array}{r}
 103.1
 \end{array}$$

$$\begin{array}{r}
 166.7 \\
 104.1 \\
 \hline
 168.0
 \end{array}$$

$$\begin{array}{r}
 103.5 \quad 103.5 \text{ assumed}
 \end{array}$$

$$\begin{array}{r}
 167.5 \\
 104.0 \\
 \hline
 166.9
 \end{array}$$

$$\begin{array}{r}
 104.5
 \end{array}$$

$$\begin{array}{r}
 167.8 \\
 102.3 \\
 \hline
 166.0
 \end{array}$$

$$\begin{array}{r}
 104.0
 \end{array}$$

$$\begin{array}{r}
 167.8 \\
 102.3 \\
 \hline
 168.2
 \end{array}$$

$$\begin{array}{r}
 104.0
 \end{array}$$

Dec. 25, 1907.

16 30 53. ^v	11 30 47	63.5 ^v	167.5	
<u>-9. ^v</u>	30 59	63.4 ^v	103.8	+1.0 ^v
16 30 44. ^v	31 11	63.4 ^v	167.2	
	<u>31 36</u>		<u>103.0</u>	
16 32 47. ^v	31 47	64.5 ^v	167.5	+1.0 ^v
<u>-9. ^v</u>	33 41	66.7 ^v	101.8	
16 32 38. ^v	34 04	65.6 ^v	168.5	
	<u>34 04</u>		<u>168.5</u>	

Limit of visibility

16 35 29. ^v	11 34 56	22.2 ^v	123.2	
<u>-9. ^v</u>	35 26	21.1 ^v	146.0	+3.6 ^v
16 35 20. ^v	35 40	<u>22.0 ^v</u>	124.0	
	35 53		145.1	

Seeing a little blurry but yet fairly good.

W's watch used for times in above eclipse.
Watch 9 sec. fast.

Watch running well, so there would be no rate.

April 2, 1908 (Thursday)

R. W. Tawne

$$\begin{array}{r} 3 \quad 58 \\ 8 \quad 28 \\ \hline 4 \quad 30 \end{array} \quad +27.2$$

26. Obs Rowe Rec Phot T.

Index R + A

98.4 ← Var. Dis

$$\begin{array}{r} 161.0 \quad 62.6^{\vee} \\ 284.0 \quad 46.4^{\vee} \\ \hline 330.4 \quad 109.0^{\vee} - 1.48^{\vee} \end{array}$$

7 45 50

$$\begin{array}{r} 163.8 \quad 47.0^{\vee} \quad -1.42^{\vee} \\ 150.8 \quad 64.2^{\vee} \\ 274.6 \quad 111.2^{\vee} - 1.39^{\vee} \\ 338.8 \end{array}$$

Index L + B

$$\begin{array}{r} 358.8 \quad 72.5^{\vee} \\ 71.3 \quad 53.7^{\vee} \\ 189.2 \quad 126.2^{\vee} - 1.06^{\vee} \\ 242.9 \end{array}$$

-1.08

$$\begin{array}{r} 7 \quad 54 \quad 0 \\ 99 \quad 50. \\ 7 \quad 49 \quad 55. \\ +5 \quad -35. \\ \hline 12 \quad 49 \quad 20. \\ 2034.5342^{\vee} \end{array}$$

$$\begin{array}{r} 11.1 \quad 53.3^{\vee} \\ 64.4 \quad 71.5^{\vee} \\ 181.5 \quad 124.8^{\vee} - 1.09^{\vee} \\ 253.0 \end{array}$$

Mean -1.25

April 2, 1908.

8 1 15

Index	L+B	B.	
358.8		71.1 ✓	II
69.1		58.8 ✓	
188.8		129.9 ✓ - 0.98 ✓	
247.6			

-0.97 ✓

7.4	56.5 ✓
63.9	74.3 ✓
178.7	130.8 ✓ - 0.96 ✓
253.0	

Index R+a A.

274.7	63.7 ✓
338.4	54.6 ✓
100.4	118.3 ✓ - 1.23 ✓
155.0	

-1.13 ✓

278.7	54.5 ✓
333.2	73.8 ✓
91.3	127.8 ✓ - 1.03 ✓
164.6	

Mean -1.05 ✓

8	8	40
9	✓✓✓	
A	4	✓✓✓
+5		-3 ✓
13	4	23 ✓
2034.5447 ✓		

8150

Index R+a A.

269.2	72.0 ✓
341.2	59.1 ✓
95.9	131.1 ✓ - 0.96 ✓
155.0	

III

April 2, 1908

-0.92 ✓

277.5	57.1 ✓
334.6	<u>77.9</u> ✓
85.6	135.0 - 0.88 ✓
163.5	

Index Lt B B.

177.2	79.8 ✓
257.0	<u>63.5</u> ✓
3.8	143.3 - 0.71 ✓
67.3	

-0.67 ✓

8	22	20
	37	20. ✓
A	1A	40. ✓
tr		43 ✓

13	1A	✓
A034. ✓✓43 ✓		

8 25 20

187.4	61.3 ✓
248.7	<u>86.0</u> ✓
352.7	147.3 - 0.63 ✓
78.7	

Mean -0.80 ✓

Index Lt B B.

175.8	86.9 ✓
262.7	<u>65.7</u> ✓
2.4	152.6 - 0.52 ✓
68.1	

-0.49 ✓

183.8	66.1 ✓
249.9	<u>89.9</u> ✓
349.5	156.0 - 0.46 ✓
79.4	

April 2, 1908

Index R+A A.

85.0	84.0 [✓]	
169.0	64.8 [✓]	
275.4	148.8 [✓]	-0.60 [✓]
340.2		

-0.56[✓]

93.4	68.4 [✓]	
161.8	84.4 [✓]	
264.9	152.8 [✓]	-0.52 [✓]
349.3		

Mean -0.52[✓]

Index R+A A.

83.8	87.3 [✓]	
171.1	69.0 [✓]	
273.0	156.3 [✓]	-0.45 [✓]
342.0		

-0.44[✓]

95.8	66.9 [✓]	
162.7	91.1 [✓]	
261.4	158.0 [✓]	-0.42 [✓]
352.5		

Index L+B B.

346.8	100.8 [✓]	
268	72.3 [✓]	
186.9	173.1 [✓]	-0.13 [✓]
253.2		

8 33 10
 52 30.5[✓]
 2 29 15.5[✓]
 +5 -35.5[✓]
 13 22 40.5[✓]
 2034.5616[✓]

8 36 10

April 2, 1908

-0.14^v

8	43	40
	79	50. ✓
±	39	55. ✓
+v		-35. ✓
13	39	20. ✓
4034.5690		✓

8 47 30

357.5

727

1761

266.9

75.2^v96.8^v172.0^v -0.15^vMean -0.29^v

Index Lt B

B.

345.8

87.4

179.9

256.9

101.6^v77.0^v178.6^v -0.03^v

356.4

77.9

165.4

272.5

81.5^v107.1^v188.6^v171.4^v +0.16^v+0.06^v

Index R+a L.

256.4

356.5

86.2

164.3

100.1^v78.1^v178.2^v -0.03^v

267.8

348.7

75.4

179.3

80.9^v103.9^v184.8^v175.2^v +0.09^v+0.03^v+0.04^v

8	55	40
	103	10. ✓
±	51	35. ✓
+v		-35. ✓
13	51	0. ✓
4034.5771		✓

April 2, 1908.

S. T. 9 59

H. A. +6 6

Dec. +28.2

P. A. 310.2 Verner B.

Sprocket -2.5A, -1.5B, -1.0C.

Comparison Star is the North Following
of two stars of about equal brightness
which two stars are both north of the
variable

Double Star No. 153 (Constock's List) =
4 Draconis AC.

17	42	+72.2
10	47	
6	55	
12		
5	5	

P. A. 122° Dist 1.6 Mags

U. Obs. Rowe. Rec. Phot. R.

April 2, 1908

B+C 1182

10 0 17.0

10 1 17.0

B 394

10 0 0.0

10 1 0.0

Reap. Jup. I Phot R 26. Abs. Roue Rec.
 Compared with nearer of two Sats. on pre-
 ceding side = Sat II.

15	21	42	✓	10	22	4			
	22	46	✓		22	59			
	23	11	✓		23	23			
	23	41	✓		23	53	91.2	88.0	-0.1
					~~24~~	~~16~~			
	24	17	✓		24	29	95.2	179.8	-0.2
	24	33	✓		24	45	106.5	84.0	-0.6
					~~25~~	~~0~~			
	25	0	✓		25	12	107.4	190.5	-0.7
	25	16	✓		25	28	109.0	83.1	-0.7
	25	32	✓		25	44	109.9	192.1	-0.2
	25	44	✓		26	0	112.6	82.2	-0.9
	26	1	✓		26	13	119.3	194.8	-1.2
	26	17	✓		26	29	117.0	75.5	-1.1

April 2, 1908

15 26 34. ✓ 10	26 46		192.5	
15	27 0	117.1 ✓	75.9	
15 27 24. ✓	27 16	115.1 ✓	193.0	
15 27 16 ✓	27 41	116.1 ✓ -1.0 ✓	79.0 ~~81.0~~	1
	27 56		194.1	
	28 10		80.1	
15 28 30 ✓	28 25	113.4 ✓	193.5	
15 28 19 ✓	28 36	114.7 ✓	79.2	2
	28 48	114.0 ✓ -0.9 ✓	193.9	
	28 57		76.5	
15 29 19 ✓	29 11	116.2 ✓	192.7	
15 29 4. ✓	29 28	111.5 ✓	79.5	3
	29 41	113.4 ✓ -0.9 ✓	191.0	
	29 51		79.5	
15 30 18 ✓	30 9	112.7 ✓	192.2	
15 30 7. ✓	30 28	111.9 ✓	80.1	4
	30 43	112.3 ✓ -0.9 ✓	192.0	
	30 55		79.5	
15 32 6 ✓	31 13	111.5 ✓	190.0	
15 31 5 ✓	33 4	112.2 ✓	80.0	✓
	33 13	111.2 ✓ -0.2 ✓	192.2	
	33 32		81.0	
15 33 51 ✓	33 45	112.0 ✓	193.0 192.5	
15 33 41 ✓	33 58	111.6 ✓ -0.2 ✓	81.0	6
	34 8		192.6	
15 37 19 ✓	34 28	108.2 ✓	82.2	
15 37 9 ✓	34 54	110.0 ✓	191.0	7
	39 49	109.4 ✓ -0.7 ✓	81.0	
15 40 30 ✓	40 41		191.0	
15 40 29 ✓	40 19	110.2 ✓	81.5	
	40 33	108.0 ✓	191.7	
	40 44	109.1 ✓ -0.7 ✓	82.0	8
	40 56		190.8	

April 2, 1908

Limit of Visibility

15	35	56.	10	35	31	14.5	113.5	7
		-10.		35	57	12.2	158.8	
				36	5	43.6	114.4	
15	35	46.		36	13		157.2	

B+C 1182
 10 46 8.0
 10 47 7.8

B 394
 10 46 0.0
 10 47 0.0

U's watch used for times
 Watch 35 secs. fast.

L. A. P.

The above eclipse not considered as of any value.
 Sat. I reappeared in juxtaposition with Sat. III and
~~did~~ could not be observed and was not certainly seen,
 until it moved a little ^{away} from III, at which time it was
 at about full brightness.

Dec. 10, 1908 (Thursday)

R. N. Tauri

3	55
0	55
3	0
9	

+277

W. Obs. Pour Rec. Phot T

Index L+A. A.

110.6 ← Var Dis

199.4 AAA^v

300.8

11.4

$$\frac{70.6^v}{159.4^v} - 0.39^v$$

117.1

74.2^v

$$\frac{-0.30^v}{-0.40^v}$$

191.9

288.9

22.6

$$\frac{93.7^v}{162.5^v} - 0.22^v$$

Index L+B. B.

15.8

115.0

211.4

277.7

99.2^v66.3^v

$$\frac{165.5^v}{165.5^v} - 0.27^v$$

28.2

99.8

71.6^v-0.24^v

197.0

293.6

96.6^v

$$\frac{162.2^v}{162.2^v} - 0.22^v$$

$$\frac{-0.27^v}{-0.36^v}$$

7 50 10

124 ^v7 46 1. ^v+5 +24. ^v12 46 29. ^v2246.5322^v

Dec. 10, 1908

Same Again.
Index Lt B B. 4

7 52 45

$$\begin{array}{r}
 15.8 \\
 112.2 \\
 205.9 \\
 284.1 \\
 \hline
 78.2 \\
 174.6 \\
 \hline
 -0.10''
 \end{array}$$

7 55 6

$$\begin{array}{r}
 24.9 \\
 104.3 \\
 193.8 \\
 296.5 \\
 \hline
 102.7 \\
 182.1 \\
 \hline
 177.9 \\
 \hline
 +0.04''
 \end{array}$$

-0.03''

Index R+a A.

7 57 45

$$\begin{array}{r}
 282.8 \\
 26.8 \\
 113.9 \\
 197.5 \\
 \hline
 106.0 \\
 236 \\
 147.6 \\
 172.4 \\
 \hline
 +0.14''
 \end{array}$$

293.0

19.8 26.2''

+0.27''

99.3

$$\begin{array}{r}
 114.0 \\
 200.2 \\
 \hline
 159.2 \\
 \hline
 +0.40''
 \end{array}$$

$$\begin{array}{r}
 8 \quad 0 \quad 0 \\
 \hline
 225 \quad 35. \\
 7 \quad 56 \quad 24. \\
 +5 \quad +22. \\
 \hline
 12 \quad 56 \quad 52. \\
 2226.5395+
 \end{array}$$

mean +0.12''

Dec. 10, 1908

Same Again. III

Index Rta

32.0

98.9

203.8

292.4

← Comp Star bis

8 3 0

20.6

110.5

215.5

276.3

8 5 30

Index LTB

308.2

360.5

119.5

189.7

8 15 30

Clouds.

302.0

10.1

8 22 25

Stopped by clouds + bright moonlight.

S T 2 2

H.A. -1 58

Dec +27.3

P.A. 131.0 former B

Sprocket -4.5A, -3.5B, -3.0C

Greatly troubled and delayed by clouds in above group.
Stopped by clouds. Above group rejected.

Dec. 10, 1908.

5 Orionis

5	27	-0.4
<u>2</u>	<u>37</u>	
2	50	
9	10	

W. Obs. Bowe Rec. Phot W.

9.5 in caps used

Dec 10, 1908.

Index R+a A. I

9 4 50

304.2
 318.1 13.9^v
 124.4 $\frac{13.7^v}{27.6^v}$ -4.59^v
 138.1

304.2 13.6^v -4.62^v
 317.8
 124.5 $\frac{13.5^v}{27.1^v}$ -4.64^v
 138.0

Index L+B B.

214.8 13.0^v
 227.8
 34.2 $\frac{13.2^v}{26.2^v}$ -4.65^v
 48.0

214.3 14.0^v -4.62^v
 228.3
 34.4 $\frac{13.7^v}{27.7^v}$ -4.52^v
 48.1

Mean -4.62^v

9 12 50
 17 40.^v
 9 A 50.^v
 +12 A.^v
 14 9 1 A.^v
 22 26.5 29 A.^v

Dec. 10, 1908.

Same Again II
Index A+B B.

9 15 0

214.6	13.4 ^v	
228.0		
34.3	$\frac{13.9^v}{27.3^v}$	
48.2		-4.61 ^v

214.4	13.4 ^v	-4.59 ^v
228.2		
34.1	$\frac{14.0^v}{27.2^v}$	
48.1		-4.57 ^v

Index R+a A.

124.3	13.7 ^v	
138.0		
304.2	$\frac{13.2^v}{27.5^v}$	
318.0		-4.59 ^v

124.4	13.2 ^v	-4.62
138.2		
304.6	$\frac{13.3^v}{27.1^v}$	
317.9		-4.64 ^v

Mean -4.60^v

9	21	10
	36	10. ^v
9	12	5. ^v
+5		+22. ^v
14	12	33. ^v
2226.5962 ^v		

Dec 10, 1908

Same Again. III

Index R + A it.

124.3

138.2

304.2

318.0

13.9^v13.2^v27.7^v-4.52^v

124.3

138.2

304.4

318.0

13.9^v13.6^v27.5^v-4.52^v-4.59^v

Index L + B B.

34.4

48.2

214.6

228.1

13.2^v13.5^v27.3^v-4.61^v

34.4

48.1

214.5

228.0

13.7^v13.5^v27.2^v-4.62^v-4.62^vMean -4.60^vGen. " -4.61^v

9 24 55

9 33 20

52 15^v9 29 20^v+r +20^v14 29 36^v22 26.6039^v

Dec. 10, 1908.

Doublestar (New list) = Burnham's Cat 4949

9	3	+62.0
3	53	W. Obs. Rowe Rec. Phot W
5	10	
6	50	

P.A. 26° Dist $25''$

Index R+B

0.6 South, Prec. + Betr. Dis.

10 26 0

79.6	79.0 $''$	
182.4	77.5 $''$	
259.9	156.5 $''$	0.45 $''$

0.8		
80.7	79.9 $''$	0.42 $''$
180.9	20.4 $''$	
261.3	160.3 $''$	0.32 $''$

Index L+A

271.9	76.9 $''$	
348.8		
90.3	21.6 $''$	
171.9	152.5 $''$	0.41 $''$

270.9		
349.6	76.7 $''$	0.42 $''$
92.0		
171.3	79.3 $''$	0.42
	152.0 $''$	

Mean 0.42 $''$

10	32	10
	52	10.
10	29	5.
+5		+22.
15	29	33.
	22	26.6455+

Dec. 10, 1985

W's watch used for times
watch 28 secs slow.

L. P. P.

Dec. 12, 1908. (Saturday)

R. Z. Draconis

18 21
25 1
6 40

58.8

W. obs. Boue Rec. Phot T.

Sky pretty cloudy everywhere.

Index Right A.

387.2 ← Comp. Star Dis

7 46 25

3.2 56.0
134.9
178.2 $\frac{43.3}{99.3}$ +1.67

7 49 5

315.9 40.7 +1.52
356.6
123.9
190.2 $\frac{66.3}{107.0}$ +1.49

Index Left. B.

7 54 10

214.6 58.4
273.0
45.8
87.9 $\frac{42.1}{100.5}$ +1.64

7 56 45
206 25
7 1 36
+5 +27
12 52 3
2222.5361

225.2 39.2 +1.62
265.0
35.4 58.0
934 $\frac{97.2}{97.2}$ +1.71

mean +1.63

Dec. 12, 1908.

Same Again II
Index Left. B.

8 2 30

$$\begin{array}{r} 214.8 \\ 271.0 \\ 47.4 \\ 84.8 \end{array} \quad \begin{array}{r} \sqrt{6.2}^{\vee} \\ \\ \frac{37.4}{93.6}^{\vee} \end{array} \quad +1.22^{\vee}$$

8 50

$$\begin{array}{r} 226.0 \\ 263.9 \\ 35.0 \\ 92.5 \end{array} \quad \begin{array}{r} \sqrt{37.9}^{\vee} \\ \\ \frac{57.5}{95.4}^{\vee} \end{array} \quad \begin{array}{r} +1.20^{\vee} \\ \\ +1.77^{\vee} \end{array}$$

Index Right A.

8 9 0

$$\begin{array}{r} 128.4 \\ 183.0 \\ 317.2 \\ 354.4 \end{array} \quad \begin{array}{r} \sqrt{46}^{\vee} \\ \\ \frac{37.2}{91.2}^{\vee} \end{array} \quad \begin{array}{r} \\ \\ +1.27^{\vee} \end{array}$$

$$\begin{array}{r} 8 \quad 12 \quad 10 \\ \hline 22 \quad 40. \\ 2 \quad 7 \quad 10. \\ +5 \quad \quad +27. \\ \hline 13 \quad 7 \quad 37. \\ 2200. \sqrt{46}^{\vee} \end{array}$$

$$\begin{array}{r} 139.2 \\ 177.6 \\ 308.1 \\ 3.7 \end{array} \quad \begin{array}{r} \sqrt{30.4}^{\vee} \\ \\ \frac{55.6}{94.0}^{\vee} \end{array} \quad \begin{array}{r} +1.24^{\vee} \\ \\ +1.21^{\vee} \\ \text{Mean } +1.22^{\vee} \end{array}$$

87 1 59

4A +7 36

Dec +59.2

P.A. 2617 Vernier B

Sprocket -3.5A, -2.5B, -2.0C

Dec. 12. 1908.

The two preceding groups made with much difficulty on account of cloud and haze as well as rather low altitude. The storm cleared off rather suddenly and the barometer is still low. When, during the observations, there was definite perceptible cloud in the air, there was, nevertheless, a good deal of a hazy condition, so that, the variable being rather faint, the observations were difficult. The settings, however, were made very slowly and with as much care as possible. It is not best, however, to continue the observations further. Pencils and eye stops give trouble.

 δ Orionis

5	27	-0.4
<u>2</u>	<u>27</u>	
3	0	
9	0	

W. Obs. Four Rec. Phot 16.

9.5 in cap used.

Dec. 12, 1908.

Index R+a A.

8 55 50

304.1 ← Southern + Beta Dis

318.3 14.2^v

124.2

138.2 $\frac{14.0^v}{24.2^v} - 4.54^v$ 304.3 13.7^v

318.0

-4.55^v124.1 $\frac{14.2^v}{27.9^v}$ 138.3 -4.56^v

Index L+B B.

214.5 14.0^v

228.5

34.3

 $\frac{13.3^v}{27.3^v} - 4.61^v$

47.6

214.5 13.2^v

228.3

-4.60^v34.4 $\frac{13.9^v}{27.7^v}$

48.3

-4.52^vMean -4.54^v

9 3 0
 112 50.^v
 A 59 25.^v
 + 27.^v
13 59 52.^v
 228.5 52.^v

Dec. 12, 1908

Same Again. II
Index StB B.

9 4 50

$$\begin{array}{r} 214.4 \\ 228.2 \\ 34.3 \\ 47.8 \end{array} \quad \begin{array}{r} 13.2^v \\ \\ \frac{13.5^v}{27.3^v} \end{array} \quad -4.61^v$$

$$\begin{array}{r} 214.2 \\ 228.1 \\ 34.4 \\ 48.3 \end{array} \quad \begin{array}{r} 13.9^v \\ \\ \frac{13.9^v}{27.2^v} \end{array} \quad \begin{array}{r} -4.59^v \\ \\ -4.57^v \end{array}$$

Index R+a A.

$$\begin{array}{r} 124.2 \\ 138.3 \\ 304.1 \\ 318.2 \end{array} \quad \begin{array}{r} 14.1^v \\ \\ \frac{14.1^v}{22.2^v} \end{array} \quad -4.54^v$$

$$\begin{array}{r} 124.3 \\ 138.1 \\ 304.3 \\ 318.1 \end{array} \quad \begin{array}{r} 13.2^v \\ \\ \frac{13.2^v}{27.6^v} \end{array} \quad \begin{array}{r} -4.56^v \\ \\ -4.59^v \end{array}$$
mean -4.52^v

$$\begin{array}{r} 9 \quad 11 \quad 0 \\ \hline 15 \quad 50. \\ 9 \quad 7 \quad 55. \\ +5 \quad \quad +27. \\ \hline 14 \quad 2 \quad 22. \\ 222.592^v \end{array}$$

Dec. 12, 1908

Same Again
Index R+A A.

III

124.2

14.0^v

138.2

304.2

 $\frac{14.1^v}{22.1^v}$

318.3

-4.55^v

124.1

14.1^v-4.54^v

138.2

304.1

 $\frac{14.1^v}{22.2^v}$ -4.54^v

318.2

Index L+B. B.

34.0

14.1^v

48.1

214.2

14.0^v

228.2

 $\frac{14.0^v}{22.1^v}$ -4.55^v

34.2

14.1^v-4.56^v

48.3

214.4

 $\frac{13.7^v}{27.2^v}$ -4.57^v

228.1

9 19 45

32 55.5^v9 16 22.5^vto +27.5^v14 16 55.5^v+200.5950^vmean -4.55^v

Dec. 12, 1908.

Double Star (New List) = Burnham's Cat. No. 2662

5	14	-10.9
3	54	
1	20	
10	40	

 W. C. B. Poor Rec. Phot IV

P.A. 274° Dist 10" Magn 7.0, 7.2

Index R+B

267.9 ← Foll. + Bth. Dis

354.8 46.9"

88.2 24.2"

172.4 171.1" 0.17"

267.1 27.1"

0.16"

354.2

90.2 25.0"

175.2 172.1" 0.15"

Index Lta

177.0 25.0"

262.0

357.3 26.4"

83.7 171.4" 0.16"

178.0 24.6"

0.14"

262.6

357.0 24.3"

85.3 172.9" 0.13"

mean 0.15"

10	26	0
45	25.1"	
10	22	42.1"
45		22.7"
15	23	9.1"
8222.6411"		

Dec. 12, 1908.

W's watch used for times
Watch 27 sec. slow.

L. P. P.

Dec. 14, 1908 (Monday)

W. Lapher.

0	30	81.2
---	----	------

$\frac{1}{0}$	$\frac{0}{10}$
---------------	----------------

W. Obs. Pour Rec. Phot. T.

Full Aperture Used

Index R+A. A.

24.2 ← Var. Dis

108.3 24.1^v

215.5

$$\frac{61.1^v}{145.2^v} - 0.67^v$$

7 21 40

36.2

6.2^v-0.62^v

97.0

200.2

43.1^v

283.3

$$\frac{143.9^v}{143.9^v} - 0.70^v$$

7 23 50

Index L+B B.

304.5

61.3^v

5.8

108.8

93.1^v

201.9

$$\frac{154.4^v}{154.4^v} - 0.49^v$$

288.3

91.3^v-0.42^v

19.6

125.2

64.4^v

189.6

$$\frac{155.7^v}{155.7^v} - 0.46^v$$

7 28 40

7 25 10.1^v+5 +27.1^v12 25 37.1^v2290.5172^vmean -0.52^v

Dec. 14, 1908

Same Again. II
Index Lt B. B.

7 31 15

$$\begin{array}{r}
 303.7 \\
 77 \quad 64.0^{\vee} \\
 108.9 \\
 202.8 \quad \frac{93.9^{\vee}}{157.9^{\vee}} \quad -0.42^{\vee}
 \end{array}$$

7 32 55

$$\begin{array}{r}
 290.8 \quad 29.6^{\vee} \\
 20.4 \\
 119.1 \\
 190.4 \quad \frac{71.3^{\vee}}{160.9^{\vee}} \quad -0.36^{\vee}
 \end{array}
 \quad -0.39^{\vee}$$

Index R + A A.

7 36 0

$$\begin{array}{r}
 197.2 \\
 295.2 \quad 92.0^{\vee} \\
 32.0 \\
 102.4 \quad \frac{70.4^{\vee}}{162.4^{\vee}} \quad -0.22^{\vee}
 \end{array}$$

$$\begin{array}{r}
 212.0 \quad 71.1^{\vee} \\
 283.1
 \end{array}
 \quad -0.24^{\vee}$$

$$\begin{array}{r}
 7 \quad 37 \quad 55 \\
 \hline
 12 \quad \checkmark^{\vee} \\
 7 \quad 34 \quad 31. \quad \checkmark^{\vee} \\
 + \checkmark^{\vee} \quad + 27. \quad \checkmark^{\vee} \\
 \hline
 12 \quad 34 \quad \checkmark^{\vee} \\
 290.5243^{\vee}
 \end{array}$$

$$\begin{array}{r}
 17.8 \quad 94.2^{\vee} \\
 112.6 \quad \frac{94.2^{\vee}}{165.9^{\vee}} \quad -0.27^{\vee}
 \end{array}$$

$$\text{Mean} \quad -0.32^{\vee}$$

Dec. 14, 1908.

Same Again. III
Index R+a 4.

7 40 10

$$\begin{array}{r}
 196.8 \\
 295.6 \quad 92.2^{\vee} \\
 29.9 \quad 69.6^{\vee} \\
 99.5 \quad \underline{162.4^{\vee}} \quad -0.22^{\vee}
 \end{array}$$

7 42 0

$$\begin{array}{r}
 210.5 \\
 281.6 \quad 71.1^{\vee} \quad -0.20^{\vee} \\
 16.5 \\
 115.4 \quad \underline{92.9^{\vee}} \quad -0.19^{\vee} \\
 170.0^{\vee}
 \end{array}$$

Index L+B B.

7 44 45

$$\begin{array}{r}
 116.2 \\
 206.9 \quad 90.7^{\vee} \\
 300.2 \\
 9.1 \quad \underline{62.9^{\vee}} \quad -0.39^{\vee} \\
 159.6^{\vee}
 \end{array}$$

$$\begin{array}{r}
 7 \quad 47 \quad 10 \\
 \hline
 14 \quad \vee^{\vee} \\
 7 \quad 43 \quad 31. \vee \\
 +5 \quad \quad +27. \vee \\
 \hline
 12 \quad 48 \quad 52 \vee \\
 290.5306^{\vee}
 \end{array}$$

$$\begin{array}{r}
 118.8 \\
 195.2 \quad 76.4^{\vee} \quad -0.24 \\
 2847 \\
 23.8 \quad \underline{99.1^{\vee}} \quad -0.02^{\vee} \\
 175.5^{\vee}
 \end{array}$$

$$\text{Mean} -0.24^{\vee}$$

Dec. 14, 1908

Same Again
Index I+B B.

IV

7 50 30

$$\begin{array}{r} 100.9 \\ 207.5 \\ 297.0 \\ 10.1 \end{array} \quad \begin{array}{r} 106.6^{\vee} \\ \\ \frac{73.1^{\vee}}{179.7^{\vee}} \end{array} \quad -0.01^{\vee}$$

7 52 50

$$\begin{array}{r} 117.3 \\ 195.5 \\ 281.6 \\ 28.3 \end{array} \quad \begin{array}{r} 72.2^{\vee} \\ \\ \frac{106.7^{\vee}}{124.9^{\vee}} \\ 175.1^{\vee} \end{array} \quad \begin{array}{l} +0.04^{\vee} \\ \\ +0.09^{\vee} \end{array}$$

Index R+A A.

7 56 20

$$\begin{array}{r} 13.5 \\ 115.8 \\ 208.0 \\ 287.4 \end{array} \quad \begin{array}{r} 102.3^{\vee} \\ \\ \frac{79.4^{\vee}}{121.7^{\vee}} \\ 172.3^{\vee} \end{array} \quad \begin{array}{l} \\ \\ +0.03^{\vee} \end{array}$$

$$\begin{array}{r} 25.2 \\ 106.2 \\ 191.2 \end{array} \quad \begin{array}{r} 21.0^{\vee} \\ \\ \frac{107.9^{\vee}}{122.9^{\vee}} \\ 171.1^{\vee} \end{array} \quad \begin{array}{l} +0.10^{\vee} \\ \\ +0.17^{\vee} \end{array}$$

$$\begin{array}{r} 299.1 \end{array} \quad \begin{array}{r} \\ \\ 171.1^{\vee} \end{array} \quad \begin{array}{l} \\ \\ \text{Mean } +0.07^{\vee} \end{array}$$

$$\begin{array}{r} 7 \ 58 \ 45 \\ \hline 12 \ 25 \ 36 \\ +5 \quad +27 \\ \hline 12 \ 55 \ 3 \\ 290.5302 \end{array}$$

Dec. 14, 1908.

Same again. V
Index R + A A.

8 2 40

$$\begin{array}{r}
 10.7 \\
 119.2 \\
 \hline
 201.2 \\
 289.3 \\
 \hline
 221.1^v \\
 196.6^v \\
 \hline
 163.4^v
 \end{array}
 \quad
 \begin{array}{l}
 102.5^v \\
 +0.32^v
 \end{array}$$

8 5 30

$$\begin{array}{r}
 23.1 \\
 110.6 \\
 190.1 \\
 302.3 \\
 \hline
 112.2^v \\
 199.7^v \\
 \hline
 160.3^v
 \end{array}
 \quad
 \begin{array}{l}
 47.5^v \\
 +0.35^v \\
 +0.32^v
 \end{array}$$

8 9 15

$$\begin{array}{r}
 279.4 \\
 31.2 \\
 115.0 \\
 219.0 \\
 \hline
 108.0^v \\
 215.2^v \\
 \hline
 144.2^v
 \end{array}
 \quad
 \begin{array}{l}
 111.2^v \\
 +0.69^v
 \end{array}$$

$$\begin{array}{r}
 8 \quad 11 \quad 50 \\
 \hline
 29 \quad 15. \\
 7 \quad 19. \\
 +5 \quad +27. \\
 \hline
 13 \quad 7 \quad 46. \\
 2290.5471^v
 \end{array}$$

$$\begin{array}{r}
 290.0 \\
 17.2 \\
 95.7 \\
 214.2 \\
 \hline
 27.2^v \\
 112.5^v \\
 \hline
 205.7^v \\
 154.3^v
 \end{array}
 \quad
 \begin{array}{l}
 +0.59^v \\
 +0.49^v \\
 +0.47^v
 \end{array}$$

S.T. 2 5

H.A. 1 7

Dec +81.8

P.A. 15.5 former A

Sprockel. - 3.5 B, - 2.5 C

Dec. 14, 1908.

Observations made under difficult conditions, altitude rather high, variable only slightly west of meridian at time of starting, and troubled by cloud and haze especially in the latter part of series. The last group of all was the most troubled by cloud and haze and the group before that was very perceptibly so, images varying relatively and somewhat difficult at equalization especially in the last two groups but care exercised in observations.

During the observations. Obs. was compelled to stand on his feet most of the time, and part of the time on tip-toe craning the neck.

δ Orionis

5	27
2	27
3	0
9	0

-0.4

W. Obs. Bouz Rec. Phot. IV

9.5 in cap. used.

Dec. 14, 1908

Index R+a

304.9 ← Southerne + Bile Dis

317.6

123.9

137.9

303.8

317.7

124.2

137.7

Index L+B

214.7

228.3

34.1

47.8

Clouds

~~214.7~~~~228.3~~

33.7

Clouds

8 36 55

~~8 50 45~~

Dec. 14, 1908

Slow start. A little easier for the moment.

Same Again II

Index L+B

214.6

227.6

34.4

48.0

9 10 55

214.2

228.2

34.5

47.8

Index R+A

124.6

138.0

304.6

317.7

9 16 35

Clouds

Impossible to get a group to right on δ Orionis
on account of clouds. Troubled continually by clouds and
stopped by clouds. Reject above partial groups. Settings
very uncertain.

W's watch used for times
Watch 27 sec slow

L. P. P.

Dec. 15, 1908. (Tuesday)

R. 2. Draconis

18	21	+ 58.8
<u>25</u>	<u>21</u>	
7	0	

Sky too murky to observe above variable ^{successfully} to-
night at this altitude.

Sprocket -3.5A, -2.5B, -2.0C

I Orionis

5	27	-0.4
<u>1</u>	<u>47</u>	
3	40	
8	20	

U. obs. Rowe Rec. Phot W.

9.5 in cap. used.

Dec. 15, 1908

Index R+A

303.8

317.8

Clouds.

124.4

138.2

Clouds thick

Index R+A A.

304.2 Southern + Bete Dec.

318.2 14.0[✓]

124.1

137.8 $\frac{13.7}{27.7}$ [✓]-4.52[✓]304.1 13.2[✓]

317.9

-4.60[✓]124.2 13.5[✓]137.7 $\frac{27.3}{27.3}$ [✓] -4.61[✓]

Index R+B B.

214.6 13.4[✓]

228.0

34.2

48.1 $\frac{13.9}{27.3}$ [✓] -4.61[✓]214.5 13.5[✓]

228.0

-4.62[✓]

34.5

48.2 $\frac{13.7}{27.2}$ [✓] -4.62[✓]mean -4.61[✓]

8 50

8 45 35

8 56 0

101 55.5[✓]50 52.5[✓]+27.5[✓]13 51 25.5[✓]2291.5774[✓]

Dec. 15, 1908

Same Again $\frac{17}{17}$
Index LHB B.

$$\begin{array}{r}
 214.4 \\
 228.1 \\
 34.5 \\
 48.2 \\
 \hline
 27.7^\circ
 \end{array}
 \begin{array}{r}
 13.7^\circ \\
 13.7^\circ \\
 13.7^\circ \\
 13.7^\circ \\
 \hline
 27.7^\circ
 \end{array}
 - 4.60^\circ$$

$$\begin{array}{r}
 214.9 \\
 227.7 \\
 34.7 \\
 48.3 \\
 \hline
 26.4^\circ
 \end{array}
 \begin{array}{r}
 12.2^\circ \\
 12.2^\circ \\
 13.6^\circ \\
 13.6^\circ \\
 \hline
 26.4^\circ
 \end{array}
 - 4.62^\circ$$

Index R+a A.

$$\begin{array}{r}
 124.2 \\
 138.1 \\
 304.2 \\
 318.0 \\
 \hline
 27.7^\circ
 \end{array}
 \begin{array}{r}
 13.9^\circ \\
 13.9^\circ \\
 13.2^\circ \\
 13.2^\circ \\
 \hline
 27.7^\circ
 \end{array}
 - 4.52^\circ$$

$$\begin{array}{r}
 124.3 \\
 138.3 \\
 304.5 \\
 318.0 \\
 \hline
 27.5^\circ
 \end{array}
 \begin{array}{r}
 14.0^\circ \\
 14.0^\circ \\
 13.5^\circ \\
 13.5^\circ \\
 \hline
 27.5^\circ
 \end{array}
 - 4.59^\circ$$

Mean -4.61°

$$\begin{array}{r}
 9 \quad 11 \quad 35 \\
 \hline
 10 \quad 40.^\circ \\
 9 \quad \checkmark \quad 20.^\circ \\
 +5 \quad \quad +27.^\circ \\
 \hline
 14 \quad \checkmark \quad 47.^\circ \\
 291.5274^\circ
 \end{array}$$

Dec 15 1908.

Same Again III
Index R + a A.

9 14 55

$$\begin{array}{r}
 124.3 \\
 138.2 \quad 13.9^{\checkmark} \\
 304.4 \\
 318.1 \quad \frac{13.7^{\checkmark}}{27.6^{\checkmark}} \quad -4.59^{\checkmark}
 \end{array}$$

$$\begin{array}{r}
 124.2 \\
 138.0 \quad 13.2^{\checkmark} \quad -4.52^{\checkmark} \\
 304.2 \\
 318.2 \quad \frac{14.0^{\checkmark}}{27.2^{\checkmark}} \quad -4.57^{\checkmark}
 \end{array}$$

Index L + B. B.

$$\begin{array}{r}
 34.5 \\
 48.3 \quad 13.2^{\checkmark} \\
 214.6 \\
 227.6 \quad \frac{13.0^{\checkmark}}{26.2^{\checkmark}} \quad -4.65^{\checkmark}
 \end{array}$$

$$\begin{array}{r}
 34.5 \\
 47.9 \quad 13.4^{\checkmark} \quad -4.64^{\checkmark} \\
 214.3 \\
 228.1 \quad \frac{13.2^{\checkmark}}{27.2^{\checkmark}} \quad -4.62^{\checkmark} \\
 \text{mean} -4.61^{\checkmark}
 \end{array}$$

$$\begin{array}{r}
 9 \quad 20 \quad 35 \\
 \hline
 35 \quad 50. \quad \checkmark \\
 9 \quad 17 \quad 55. \quad \checkmark \\
 +5 \quad \quad +27. \quad \checkmark \\
 \hline
 14 \quad 12 \quad 22. \quad \checkmark \\
 2291.5961^{\checkmark}
 \end{array}$$

Dec. 16, 1908.

Double Star (New list) = Burnham's Cat., 2833

5	29	-6.1
3	29	
2	0	
10	0	W. Alb. Rowe Rec. Phot. IV.

Stopped by clouds. Clouds now thick
everywhere

W's watch used for times
Watch 27 secs slow

L. A. P.

Dec. 16, 1908 (Wednesday)

~~R. Z. Cassiope~~ Wrong Pair. (see note bottom p. 29.)

2	36	+69.0
1	16	
1	28	
10	40	

W. Abs. Four Rec. Phot T

Index ~~Right~~ Par. Dec

2.5
124.8 122.3
192.5 103.3
295.8 225.6

7 30 40

12.6
115.0 102.4
182.5 126.6
309.1 229.0

Index Left

244.3
10.8 126.5
82.6 96.4
179.0 222.9

7 37 10

259.9
359.1 99.2
65.4 128.3
193.7 227.5

7 39 30

Dec. 16, 1908.

Same Again II
Index Left

246.2

11.0

799

180.4

258.9

357.1

66.0

194.2

Index Right.

155.6

283.3

352.0

88.4

171.5

267.9

334.9

101.3

Dec. 16, 1908

Same Again 1th
Index Bright

7 53 30

158.1

282.7

348.2

87.6

7 56 10

168.6

270.3

336.4

103.2

Index Left.

8 0 10

65.4

192.9

256.0

358.8

8 2 20

76.6

183.6

245.1

13.2

The three preceding groups do not belong to R.Z. Cassiope.
There is another pair of stars a part of a field foll. Var. which
agree very closely in P.A. By accident, due to fact that tele-
scope was near pier, altitude rather high, Obs. position cramped,
field of Phot. small, Var. starting up, Obs. hurriedly got on
this wrong pair but became conscious of error in last group, al-
though suspected before. The two foll. groups are observations of
R.Z. Cassiope

Dec. 16, 1908

R. Z. Cassiope. Phot. J. W. A. Rowe rec.

Index Left + Below β IV

8 16 25

107.2 $\leftarrow$ Var. Dis
 154.3 47.1 $\checkmark$
 293.7
 321.0 $\frac{27.3\checkmark}{74.4\checkmark} - 2.36\checkmark$

8 18 5

116.8 22.4 $\checkmark$ -2.42 $\checkmark$
 145.2
 285.1
 327.6 $\frac{42.5\checkmark}{70.9\checkmark} - 2.42\checkmark$

Index R + a A.

8 20 50

18.2 44.5 $\checkmark$
 62.7
 265.0 2.26 $\checkmark$
 233.6 $\frac{73.1\checkmark}{73.1\checkmark} - 2.41$

8 23 0

72 20. $\checkmark$
 19 35. $\checkmark$
 + $\checkmark$ +2 $\checkmark$
 13 20 0
 292.5556 $\checkmark$

27.6 25.7 $\checkmark$ -2.44
 53.3
 196.4 45.2 $\checkmark$
 241.6 $\frac{70.9\checkmark}{70.9\checkmark} - 2.42$
 Mean -2.43 $\checkmark$

Dec. 16, 1908

Same Again
Index A + a A. ∇

8 26 10

18.4	42.4 $^{\circ}$	
60.8		
206.8	$\frac{26.9^{\circ}}{69.3^{\circ}}$	
2337		-2.53 $^{\circ}$

8 28 10

27.0	24.3 $^{\circ}$	-2.52 $^{\circ}$
51.3		
199.0	$\frac{41.9^{\circ}}{66.2^{\circ}}$	
240.9		-2.64 $^{\circ}$

Index L + B. B.

8 31 15

286.0	42.2 $^{\circ}$	
328.8		
118.2	$\frac{25.0^{\circ}}{67.2^{\circ}}$	
143.2		-2.52 $^{\circ}$

8 33 50

-	119	25 $^{\circ}$
a	29	51 $^{\circ}$
+5		+25 $^{\circ}$
13	30	16 $^{\circ}$
2292.5627 $^{\circ}$		

294.0	24.0 $^{\circ}$	-2.56 $^{\circ}$
318.0		
108.9	$\frac{45.1^{\circ}}{69.1^{\circ}}$	
154.0		-2.54 $^{\circ}$
		mean -2.57 $^{\circ}$

S.T. 3 33
H.A. -0 7
Dec. +68.5

P.A. 28.5 Vermin B
Sprocket -4.5A, -3.5B, -3.0C.

Dec. 16, 1908.

 δ Orionis.

5	27
3	7
2	20
9	40

-0.4

W. Obs. Bouc. Rec. Phot. ~~W~~

9.5 in cap. used

Index L+B B

34.5

13.3^v

47.8

214.6

13.2^v

227.8

26.5^v-4.67^v

34.6

13.4^v

48.0

215.0

12.6^v

227.6

26.0^v-4.72^v-4.70^v

Index R+a. A

304.4

13.5^v

317.9

124.4

137.9

13.5^v27.0^v-4.63^v

304.1

13.2^v

317.9

124.3

138.1

13.2^v27.6^v-4.59^vmean = -4.66^v-4.61^v

9	20	50
9	33	40.5 ^v
9	16	50.5 ^v
+5		+25.5 ^v
14	17	15.5 ^v
292.5952 ^v		

Dec. 16, 1908

Same Again. II

Index R + A +

$$\begin{array}{r}
 304.3 \\
 317.8 \\
 124.3 \\
 137.9 \\
 \hline
 13.5^{\checkmark} \\
 13.6^{\checkmark} \\
 27.1^{\checkmark}
 \end{array}
 \quad -4.64^{\checkmark}$$

$$\begin{array}{r}
 304.2 \\
 318.1 \\
 124.3 \\
 138.0 \\
 \hline
 13.9^{\checkmark} \\
 13.7^{\checkmark} \\
 27.6^{\checkmark}
 \end{array}
 \quad -4.62^{\checkmark}$$

Index L + B B.

$$\begin{array}{r}
 214.5 \\
 227.8 \\
 34.4 \\
 47.9 \\
 \hline
 13.3^{\checkmark} \\
 13.5^{\checkmark} \\
 26.8^{\checkmark}
 \end{array}
 \quad -4.65^{\checkmark}$$

$$\begin{array}{r}
 214.7 \\
 227.8 \\
 34.6 \\
 47.8 \\
 \hline
 13.1^{\checkmark} \\
 13.2^{\checkmark} \\
 26.3^{\checkmark}
 \end{array}
 \quad -4.67^{\checkmark}$$

mean $-4.64^{\checkmark}$

$$\begin{array}{r}
 9 \quad 28 \quad 55 \\
 \hline
 50 \quad 20^{\checkmark} \\
 9 \quad 25^{\checkmark} \quad 10^{\checkmark} \\
 +5^{\checkmark} \quad +25^{\checkmark} \\
 \hline
 14 \quad 25^{\checkmark} \quad 35^{\checkmark} \\
 292.6011^{\checkmark}
 \end{array}$$

Dec. 16, 1908

Same Again

III

Index StB B

214.4 13.2^v

227.6

34.5 13.3^v47.8 $\frac{26.5^v}{-4.67^v}$ 214.5 13.2^v227.7 -4.66^v34.4 13.6^v48.0 $\frac{26.2^v}{-4.65^v}$

Index Rt a A.

124.4 13.4^v

137.8

304.2 13.2^v318.0 $\frac{27.2^v}{-4.62^v}$ 124.5 13.5^v138.0 -4.62^v304.2 13.5^v317.7 $\frac{27.0^v}{-4.63}$ Mean -4.64^v

9	39	30
	71	30.✓
9	35	45.✓
tr		+25.✓
14	36	10.✓
292.6024 ^v		

Dec. 16, 1908

Double Star (New list) = Burnham's list 2838

5	29
3	59
1	30
10	30

-6.1

W. Lbs. Rowe Rec. Phot. W.

P.A. 223° Dist 36" Magn. 5.8, 6.7

Index L+B

277.8 North, Foll, + Br. Dec.

343.4 65.6 ✓

96.8

163.9 67.1 ✓

132.7 ✓

0.92

278.0

64.1 ✓

342.1

0.93

96.8

67.9 ✓

164.7

132.0 ✓

0.94

Index R+A

186.0

69.2 ✓

255.2

8.6

63.2 ✓

71.8

132.4 ✓

0.93

189.8

64.1 ✓

253.9

0.94

8.0

66.9 ✓

74.9

131.0 ✓

0.96

True 0.94 ✓

10	13	40
	20	30. ✓

10	10	15. ✓
----	----	-------

15		20. ✓
----	--	-------

15	10	40. ✓
----	----	-------

292.6324 ✓

Dec. 16, 1908

W's watch used for times
Watch 25 secs slow.

10 28 Sky now becoming cloudy.

L. A. P.

Dec. 17, 1908. (Thursday)

I Orionis

5	27
2	7
3	20
8	40

-0.4

W. Obs. Bour Rec Phot. VI

9.5 in cap. used

Index R+A A.

124.6

12.2^v

137.4

304.2

13.6^v

317.8

26.4^v-4.62^v

124.8

12.9^v

137.7

304.2

14.0^v

318.2

26.9^v-4.64^v-4.66^v

Index L+B. B.

346

13.2^v

47.8

214.7

12.9^v

227.6

26.1^v-4.71^v

34.5

13.1^v

47.6

215.0

12.7^v

227.7

25.8^v-4.73^v-4.72^v~~mean -4.79^v~~mean -4.69^v

8 6 20

8 14 50

21 10.1^vA 10 35.1^v+1^v +25^v13 11 0.1^v2293.5493^v

98

Dec. 17, 1908 -

Same Again

II

Index L+B

Clouds

34.4

47.8

214.7

Clouds thick

227.5

34.5

47.8

214.6

227.9

Index R+a

304.6

Clouds thick.

Dec. 17, 1908

Same Again ^{III}
Index A.

8, 54 55

304.3	13.3 ^v	
317.6		
124.6	13.0 ^v	
137.6	<u>26.3^v</u>	-4.69 ^v

304.6	13.0 ^v	-4.62 ^v
317.6		
124.4	13.4 ^v	
137.8	<u>26.4^v</u>	-4.62 ^v

Index B + B B.

214.5	13.1 ^v	
227.6		
34.4	13.3 ^v	
47.7	<u>26.4^v</u>	-4.62 ^v

214.6	13.0 ^v	-4.62 ^v
227.6		
34.5	13.3 ^v	
47.8	<u>26.3^v</u>	-4.69 ^v

Mean -4.62^v

9	4	55
119	50.	^v
A 59	57.	^v
+5	+25.	^v
14	0	20.
293.52354 ^v		

U's watch used for times.
Watch 25 secs slow.

Y. A. P.

Dec. 19, 1908 (Saturday)

RT Aurigae = 48 Aurigae

6	19	+ 30.6
1	29	
4	50	
7	10	

W. Clbs. Boue Rec. Phot T.

Index R+B A.

61.8 ← Van Dis

87.1 25.3

249.5

266.8

$$\frac{17.3}{42.6}$$
-3.63^v

65.0

83.8

243.6

270.5

12.2

$$\frac{26.9}{45.7}$$
-3.47^v-3.55^v

Index L+A B.

331.8

358.4

157.2

173.8

26.6

$$\frac{16.6}{43.2}$$
-3.60^v

336.7

353.9

153.4

178.1

17.2

$$\frac{24.7}{41.9}$$
-3.67^v

-3.64

mean -3.60^v

7	38	40
67	50	
7	33	55
+5		+21
12	34	16
229	55	232

Dec. 19, 1908.

Same again II
Index L+A B.
$$\begin{array}{r} 333.2 \\ 357.4 \end{array} \quad 24.2$$

$$\begin{array}{r} 157.0 \\ 174.5 \end{array} \quad \begin{array}{r} 17.5 \\ 41.7 \end{array} \quad -3.6A^{\circ}$$

$$\begin{array}{r} 336.4 \\ 355.4 \end{array} \quad 19.0 \quad -3.59^{\circ}$$

$$\begin{array}{r} 152.8 \\ 179.0 \end{array} \quad \begin{array}{r} 26.2 \\ 45.2 \end{array} \quad -3.50^{\circ}$$

Index R+B. A.

$$\begin{array}{r} 271.4 \\ 272.0 \end{array} \quad 30.6$$

$$\begin{array}{r} 66.4 \\ 84.0 \end{array} \quad \begin{array}{r} 17.6 \\ 44.2 \end{array} \quad -3.35^{\circ}$$

$$\begin{array}{r} 248.4 \\ 266.7 \end{array} \quad 12.3 \quad -3.46^{\circ}$$

$$\begin{array}{r} 62.3 \\ 88.0 \end{array} \quad \begin{array}{r} 25.7 \\ 44.0 \end{array} \quad -3.56^{\circ}$$

$$\begin{array}{r} 7 \ 52 \ 25 \\ 95 \ 45^{\circ} \\ 7 \ 47 \ 52^{\circ} \\ 75 \ +21^{\circ} \end{array}$$

As clouds were coming somewhat mean -3.52°
 rapidly, Obs. concluded not to read H.A., Sprocket, etc, in-
 order to obtain δ Orionis before clouds should reach
 that region but region of R.T. Aurigae thoroughly iden-
 tified before beginning

Dec. 19, 1988

8 Cronis

5	27	-0.4
2	7	
3	20	
8	40	

W. obs. Rowe Rec. Phot V
9.5m cap used

8 2 35

Index R+A A.

124.8	12.6 ^v	
137.4		
304.1	13.7 ^v	
317.8	26.3 ^v	-4.69 ^v

124.7	13.4 ^v	-4.62 ^v
138.1		
304.4	13.0 ^v	
317.4	26.4 ^v	-4.62 ^v

Index L+B B.

34.6	12.9 ^v	
47.5		
214.8	13.2 ^v	
228.0	26.1 ^v	-4.71 ^v

34.3	13.6 ^v	
47.9		
215.0	13.0 ^v	
228.0	26.6 ^v	-4.67 ^v

mean -4.62^v

8	10	30	
	13	✓	✓
A	6	32	✓
+✓		+21	✓
13	6	53	✓
229	54	64	✓

Dec. 19, 1908.

Same Again II

Index L+B A.

8 12 35

$$\begin{array}{r}
 34.6 \\
 47.8 \quad 13.2^{\vee} \\
 214.8 \\
 227.7 \quad \frac{12.9^{\vee}}{26.1^{\vee}} \quad -4.71^{\vee}
 \end{array}$$

$$\begin{array}{r}
 34.6 \\
 48.1 \quad 13.5^{\vee} \quad -4.70^{\vee} \\
 215.0 \\
 227.8 \quad \frac{12.2^{\vee}}{26.3^{\vee}} \quad -4.69^{\vee}
 \end{array}$$

Index R+a. A.

$$\begin{array}{r}
 304.7 \quad 12.6^{\vee} \\
 317.3 \\
 124.4 \quad 13.5^{\vee} \\
 137.9 \quad \frac{13.5^{\vee}}{26.1^{\vee}} \quad -4.71^{\vee}
 \end{array}$$

$$\begin{array}{r}
 304.3 \quad 13.7^{\vee} \quad -4.66^{\vee} \\
 318.0 \\
 124.3 \\
 137.8 \quad \frac{13.5^{\vee}}{27.2^{\vee}} \quad -4.62^{\vee}
 \end{array}$$

$$\begin{array}{r}
 8 \quad 18 \quad 55 \\
 \hline
 31 \quad 30.^{\vee} \\
 A \quad 15 \quad 45.^{\vee} \\
 +5 \quad +21.^{\vee} \\
 \hline
 13 \quad 16 \quad 6.^{\vee} \\
 \hline
 295.^{\vee} \vee \vee 29^{\vee}
 \end{array}$$

$$\begin{array}{r}
 \text{Mean} \quad -4.62^{\vee} \\
 \text{Gen.} \quad \text{"} \quad -4.62^{\vee}
 \end{array}$$

Dec. 19, 1908

Same Again III
Index R 4 A

8 24 0

304.4

317.8

124.8

137.9

304.4

318.0

124.4

137.8

Stopped by clouds.

The two complete groups on ♄ Orionis were taken very carefully with no clouds in that region. The third partial group, however, was hurried a little so that it not only could not be completed [as clouds came] but also, the partial group is not considered quite as critical as the other two full groups. Reject partial group as it could not be completed

W's watch used for times
Watch 21 secs. slow.

L. P. P.

June 22, 1910. (Tuesday).

Too cloudy for Halley's Comet.

R Z Opheuchi.

Too cloudy for above.

Double Star (new list) = Burnham's Cat. 9005.

$$\begin{array}{r}
 12 \quad 59 \quad -4.2 \\
 15 \quad 31 \\
 \hline
 -3 \quad 29 \\
 +2 \quad 31
 \end{array}$$

c Libras. W. obs. in. Corcoran rec.
Phot. V.

$$\begin{array}{r}
 15 \quad 4 \quad -19.2 \\
 16 \quad 4 \\
 \hline
 +1 \quad 0
 \end{array}$$

June 28, 1910
Index Right + Alve

96.0

153.5

277.0

331.0

Clouds; abandoned.

Y Camel op.
W. obs. Mr. Corcoran rec.

7	24	+76.3
16	37	
+9	13	

For measts see pp. 107-108.

June 28, 1910
Index Left Above B.

10 11 5

$$\begin{array}{r}
 99.0 \rightarrow \text{Comp Star dis.} \\
 148.0 \quad 49.0^{\vee} \\
 286.0 \quad 31.0^{\vee} \\
 317.0 \quad \underline{20.0^{\vee}} \quad +2.19^{\vee}
 \end{array}$$

$$\begin{array}{r}
 \cancel{107.2} \quad 99.2 \quad \sqrt{1.3^{\vee}} \quad +2.14^{\vee} \\
 \cancel{140.0} \quad 150.5 \\
 288.2 \quad 32.3^{\vee} \\
 320.5 \quad \underline{23.6^{\vee}} \quad +2.09^{\vee}
 \end{array}$$

Index Right Below A.

$$\begin{array}{r}
 198.0 \quad 31.0^{\vee} \\
 229.0 \\
 11.0 \quad 44.0^{\vee} \\
 55.0 \quad \underline{75.0^{\vee}} \quad +2.35^{\vee}
 \end{array}$$

$$\begin{array}{r}
 194.2 \quad 39.5^{\vee} \quad +2.42^{\vee} \\
 233.7 \quad 30.8^{\vee} \\
 16.0 \quad 70.3^{\vee} \quad +2.50^{\vee} \\
 46.8 \quad 46.8
 \end{array}$$

$$\begin{array}{r}
 10 \quad 24 \quad 30 \\
 \hline
 35 \quad 35.5^{\vee} \\
 10 \quad 17 \quad 40.5^{\vee} \\
 +5 \quad -26.5^{\vee} \\
 \hline
 15 \quad 17 \quad 22.5^{\vee} \\
 2251.6371^{\vee}
 \end{array}$$

$$\text{Mean} \quad +2.22^{\vee}$$

June 28 1910
Index Right & Below A.

10 29 35

198.0 30.5^v
228.5
8.8 46.6^v
55.4 77.1^v +2.22^v

188.2 47.3^v +2.30^v
235.5

19.2 24.7^v
47.9 76.0^v +2.32^v

Index Left & Above B.

106.2 32.3^v
138.5
276.4 52.1^v
328.5 24.4^v +2.07^v

99.2 46.2^v +2.15^v
146.0
286.0 32.0^v
318.0 74.2^v +2.23^v

10 40 40
70 15.5^v
10 35 2.
+5 -26.

~~10 34 36.~~
15 34 42.
2251.6491^v

P.A. 165

+2.22^v

W's watch used for times 26 sec. past

June 28, 1910
Index left + above

Observations difficult.
+ cloudy
Sky hazy, and seeing poor.

June 22, 1910.

24		
2	41	+6.2
20	2	
-4	33	
+7	27	

Abandoned

L. A. P.

July 7, 1910. (Thursday).

St. H. Aphinchig, H. obs. ^{me.} Corcoran rec.
Phot. J.

$$\begin{array}{r}
 16 \quad 11 \quad - 4.3 \\
 15 \quad 33 \\
 \hline
 - 0 \quad 30 \\
 11 \quad 22 \\
 \hline
 15 \quad 50 \\
 0 \quad 21 \\
 11 \quad 39
 \end{array}$$

Comp. Star = $-6^{\circ} 4392 (9.2)$

For measts. of Var. see pgs. 112 - 3.

July 7, 1910

Index Left B.

~~298.4~~ → ~~Comp. Star dis.~~
~~290.7~~

8 46 10

8 47 50

218.9 → Van der

I

285.6 66.7[✓]24.7 96.1[✓]120.8 162.8[✓] - 0.33[✓]

206.5

91.9[✓]- 0.30[✓]

298.4

35.0

73.5[✓]

108.5

165.4[✓]- 0.24[✓]

Index Right A.

124.0

198.8

74.2[✓]

291.5

29.6

92.1[✓]
172.9[✓]- 0.13[✓]

114.0

96.0[✓]- 0.12[✓]

210.0

307.0

71.5[✓]167.5[✓]- 0.24[✓]

16.818.5

Mean - 0.24[✓]

8 53 35

101 25[✓]A 50 42[✓]+5 +31[✓]13 51 13[✓]2260.5772[✓]

July 7, 1910
Index Right A.

II

8 59 5

127.6 70.4^v
198.0
293.8 95.9^v
29.7 166.3^v -0.26

112.6 94.9^v -0.22
207.5 75.2^v
302.5 170.1^v -0.19
17.7

Index Left B.

35.1 72.1^v
107.2
202.0 95.2^v
297.2 167.3^v -0.24

27.0 29.0^v -0.20

116.0
211.5 74.0^v
285.5 163.0^v -0.32

9 4 30
3 35^v

9 1 42^v
45 +31^v

14 2 19^v P. A. (circa) 169.5

45 +31^v
2 50^v

2260.5 449^v

Mean -0.25
Sec. " -0.24

July 7, 1910

recast. of a faint star in field of
 S. H. Ophiuchi, - with same comp. star as that
 used for S. H. Ophiuchi, - C. S. = $-6^{\circ} 43' 92''$ (9.2)

Index Left & Above B.

9 34 50

141.6		
181.5	39.9 ^v	
322.0	32.6 ^v	
354.6	72.5 ^v	+2.43 ^v

143.7	33.0 ^v	+2.31 ^v
-------	-------------------	--------------------

176.7		
312.5	47.0 ^v	
	20.0 ^v	+2.19 ^v

359.5

Index Right & Below A.

47.0	46.5 ^v
------	-------------------

93.5

229.0	33.7 ^v	
262.7	20.2 ^v	+2.19 ^v

235.0	26.2 ^v	+2.24 ^v
-------	-------------------	--------------------

261.8

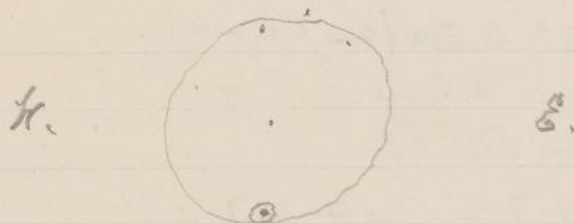
44.0	50.0 ^v	
94.0	76.2 ^v	+2.29 ^v

mean +2.22^v

9	41	0
75	50.	^v
9	37	55. ^v
75		+31. ^v
14	32	26.
2260.	6100	^v

W₂ watch used for times 31 secs. slow

July 7, 1910.




 C. V. = $-6^{\circ} 43' 92''$ (9.2)

The ~~meast~~ ^{meast} ~~of~~ ^{of} ~~the~~ ^{of} ~~star~~ ^{star} in the above sketch (in the centre of the field above) merely to prove that the object measured on ~~July~~ June 30, 1910, was the variable δ Ophiuchi and not this faint star. This faint star measured (see previous page) 2.2^d magn. ~~for~~ ^{for} ~~them~~ ^{them} $-6^{\circ} 43' 92''$ (9.2), so that the star observed for the variable on June 30, 1910 was the variable and not this star.

L. A. P.

Nov. 30. 1910. (Wednesday).

B D + 3° 33.0 (9.0) (v")

0	40	
2	17	+ 3.3
-1	37	
+10	23	

Abandoned.

♂ Orionis,

v	20	0.0
1	v	
-4	15	
+7	45	

For measts. $\frac{7}{8}$ see fol. pages.

Nov. 30. 1910.

Index left + below B.

8.15.20

$$\begin{array}{r}
 13.2 \\
 28.0 \\
 194.1 \\
 \hline
 207.5
 \end{array}
 \begin{array}{r}
 14.0^{\circ} \\
 \\
 13.4^{\circ} \\
 \hline
 20.2^{\circ}
 \end{array}
 \begin{array}{r}
 \\
 \\
 -4.8^{\circ} - 4^{\circ}
 \end{array}$$

$$\begin{array}{r}
 14.2 \\
 27.7 \\
 195.0 \\
 \hline
 207.7
 \end{array}
 \begin{array}{r}
 13.5^{\circ} \\
 \\
 12.7^{\circ} \\
 \hline
 26.2^{\circ}
 \end{array}
 \begin{array}{r}
 -4.62^{\circ} \\
 \\
 -4.70^{\circ}
 \end{array}$$

Index right + above. f.

$$\begin{array}{r}
 285.6 \\
 298.3 \\
 105.0 \\
 \hline
 118.7
 \end{array}
 \begin{array}{r}
 12.7^{\circ} \\
 \\
 13.7^{\circ} \\
 \hline
 26.4^{\circ}
 \end{array}
 \begin{array}{r}
 \\
 \\
 -4.62^{\circ}
 \end{array}$$

$$\begin{array}{r}
 284.4 \\
 298.7 \\
 106.0 \\
 \hline
 119.3
 \end{array}
 \begin{array}{r}
 14.3^{\circ} \\
 \\
 13.3^{\circ} \\
 \hline
 27.6^{\circ}
 \end{array}
 \begin{array}{r}
 -4.64^{\circ} \\
 \\
 -4.59^{\circ}
 \end{array}$$

mean - 4.63

$$\begin{array}{r}
 8.21.20 \\
 \hline
 36 \ 40.^{\circ} \\
 12 \ 20.^{\circ} \\
 +5 \quad +4.5.^{\circ} \\
 \hline
 13 \ 19 \ 5.^{\circ} \\
 9006.5550^{\circ}
 \end{array}$$

Nov. 30, 1910.

Index Right 285.0 + above A.

299.4 144

105.7

119.7

140

259.4 - 4.52 ✓

285.7

299.7

106.2

119.0

140

12.2

26.6

- 4.65 ✓

Index Left + below B.

196.1

210.5

16.1 ~~17~~

30.3

144

14.2

28.6

- 4.51 ✓

196.0

210.1

16.1

30.1

14.1

140

28.1

- 4.55 ✓

mean - 4.56 ✓

8.28.55

52 0. ✓

A 26 0. ✓

+5 +45. ✓

13 26 45. ✓

9006.5603 ✓

Nov. 30, 1910.

Index Sept + below B.

8.34.45

$$\begin{array}{r}
 197.4 \\
 210.1 \quad 12.7 \\
 15.5 \\
 3+29.8 \quad \frac{14.3}{27.0} \quad -463^{\checkmark}
 \end{array}$$

$$\begin{array}{r}
 196.8 \quad 13.9 \\
 210.7 \quad -456^{\checkmark}
 \end{array}$$

$$\begin{array}{r}
 16.8 \\
 31.7 \quad \frac{14.3}{27.0} \quad -449^{\checkmark}
 \end{array}$$

Index Right + below A.

$$\begin{array}{r}
 107.0 \quad 14.3 \\
 121.3 \\
 286.8 \quad \frac{14.2}{24.5} \quad -452^{\checkmark} \\
 301.0
 \end{array}$$

$$\begin{array}{r}
 106.8 \quad 14.2 \\
 121.0 \quad -452^{\checkmark}
 \end{array}$$

$$\begin{array}{r}
 287.1 \quad \frac{14.2}{24.4} \quad -452^{\checkmark} \\
 301.3
 \end{array}$$

mean -454[✓]

L. P. P.

$$\begin{array}{r}
 8.40.0 \\
 74 \quad 45. \quad \checkmark \\
 A \quad 37 \quad 22. \quad \checkmark \\
 +5 \quad +45. \quad \checkmark \\
 \hline
 13 \quad 3A \quad 7. \quad \checkmark \\
 9006.5622^{\checkmark}
 \end{array}$$

Nov. 30. 1910.

+3' 33.0

$$\begin{array}{r}
 2 \quad 20 \quad +3.0 \\
 1 \quad 50 \\
 \hline
 0 \quad 30 \\
 11 \quad 30
 \end{array}$$

2 10 +1.0
 Abandoned.

W's watch used for times.
 Watch 45 seconds slow

L. P. P.

Mar. 4, 1911 (Saturday)

Nova Lacertae

22	1A	~~#61.5~~	51.5
30	20		
4A	2		

Mar. 4 1911

Index Right + Below

7.13.10

$$\begin{array}{r}
 170.9 \\
 265.5 \quad \text{Comp. of tardis} \\
 0.8 \quad 94.6 \\
 \hline
 74.1 \quad 73.3 \\
 167.9 \quad +0.23
 \end{array}$$

$$\begin{array}{r}
 183.8 \\
 255.5 \quad 71.7 \\
 \hline
 350.5 \quad 96.5 \\
 87.0 \quad 162.2 \quad +0.22
 \end{array}$$

Index Left + Above

$$\begin{array}{r}
 81.5 \\
 175.8 \quad 94.3 \\
 273.8 \quad 67.2 \\
 \hline
 341.6 \quad 162.1 \quad +0.34
 \end{array}$$

7.19.10

$$\begin{array}{r}
 95.7 \quad 69.2 \\
 164.9 \quad 91.4 \\
 262.8 \quad 160.6 \quad +0.37 \\
 354.2
 \end{array}$$

$$\begin{array}{r}
 +0.29 \\
 2.56 \\
 \hline
 2.6
 \end{array}$$

Mar. 4. 1911.

R. W. Lauri.

Fol. pair of two.

$$\begin{array}{r} 3 \quad \sqrt{2} \quad + 27.2 \\ 6 \quad 35 \\ \hline + 2 \quad 37 \end{array}$$

Mar. 4, 1911

I

Index Right + Above

7.46.35

7.46.35

$$\begin{array}{r}
 58.5 \\
 114.5 \quad \checkmark \text{ var. dis.} \\
 245.8 \quad \sqrt{60} \\
 285.4 \quad \frac{39.6}{95.6} - 1.77
 \end{array}$$

$$\begin{array}{r}
 67.9 \quad 32.7 \quad -1.62 \\
 106.6 \\
 235.0 \quad \frac{64.1}{102.6} - 1.59 \\
 299.1
 \end{array}$$

Index Left + Below

$$\begin{array}{r}
 323.4 \quad 66.5 \\
 29.9 \\
 155.1 \quad \frac{88.3}{110.4} - 1.42 \\
 199.4
 \end{array}$$

7.53.20

$$\begin{array}{r}
 334.8 \quad 41.4 \checkmark \quad -1.42 \\
 16.2 \\
 144.9 \quad \frac{63.5}{104.9} - 1.54 \\
 208.4
 \end{array}$$

-1.52

Mar. 4, 1911

Luna again

II

Index Left + Below

8.0.0

$$\begin{array}{r}
 322.8 \\
 26.9 \\
 154.2 \\
 199.9
 \end{array}
 \begin{array}{r}
 64.1 \\
 \\
 45.7 \\
 109.8
 \end{array}
 \begin{array}{r}
 \\
 \\
 \\
 -1.42
 \end{array}$$

$$\begin{array}{r}
 334.0 \\
 16.9 \\
 145.7 \\
 208.4
 \end{array}
 \begin{array}{r}
 42.9 \\
 62.7 \\
 105.6
 \end{array}
 \begin{array}{r}
 -1.47 \\
 \\
 -1.52
 \end{array}$$

Index Right + Above

$$\begin{array}{r}
 232.9 \\
 295.5 \\
 64.5 \\
 108.2
 \end{array}
 \begin{array}{r}
 62.6 \\
 43.7 \\
 106.3
 \end{array}
 \begin{array}{r}
 \\
 \\
 -1.50
 \end{array}$$

8.8.35

$$\begin{array}{r}
 243.9 \\
 289.1 \\
 54.8 \\
 119.7
 \end{array}
 \begin{array}{r}
 45.2 \\
 64.9 \\
 110.1
 \end{array}
 \begin{array}{r}
 -1.46 \\
 -1.42
 \end{array}$$

-1.46

Mar. 4, 1911

Same again

Index right + Atom

III

8.16.40

$$\begin{array}{r}
 236.2 \\
 295.9 \\
 64.1 \\
 108.3 \\
 \hline
 59.7 \\
 44.2 \\
 103.9 \\
 -1.56
 \end{array}$$

$$\begin{array}{r}
 242.3 \\
 291.7 \\
 56.0 \\
 119.1 \\
 \hline
 49.4 \\
 63.1 \\
 109.5 \\
 -1.43
 \end{array}$$

Index left + Below

$$\begin{array}{r}
 320.6 \\
 29.4 \\
 151.1 \\
 200.0 \\
 \hline
 62.2 \\
 48.9 \\
 117.7 \\
 -1.24
 \end{array}$$

8.25.0

$$\begin{array}{r}
 322.0 \\
 22.5 \\
 139.4 \\
 213.5 \\
 \hline
 60.5 \\
 74.1 \\
 134.6 \\
 -0.22 \\
 -1.22 \\
 -1.06
 \end{array}$$

Mar. 4. 1911

Same Again

Index Left + Below

IV

8.32.45

320.2

33.9 73.7"

149.8

 $\sqrt{32.5}$

203.3

 $\frac{127.2}{127.2}$

-1.04"

330.0

 $\sqrt{20}$

-1.04"

22.0

136.1

75.3"

211.4

 $\frac{127.3}{127.3}$

-1.04"

Index Right + Above

229.8

73.1"

302.9

61.0

 $\sqrt{0.2}$

111.8

 $\frac{123.9}{123.9}$

-1.11"

238.5

 $\sqrt{5.7}$

-1.04

294.2

48.4

75.0"

123.4

 $\frac{13.0}{13.0}$

-0.96"

-1.04

~~1.04~~

8.40.45

8.43.45

Mar 4/1911

Same Again

Index Right to Atom

V

227.0

304.0

77.0^v

62.3

 $\sqrt{1.4}$ ^v

113.7

 $\frac{128.4}{128.4}$ ^v-1.01^v

239.8

 $\sqrt{3.7}$ ^v-0.94^v

293.5

47.5

77.4^v

124.9

 $\frac{131.1}{131.1}$ ^v-0.96^v

Index Left to Below

135.0

219.3

AK3^v

327.6

21.9

 $\sqrt{4.3}$ ^v $\frac{132.6}{132.6}$ ^v-0.40^v

150.0

 $\sqrt{K.3}$ ^v-0.44^v

204.3

21.1^v

317.5

38.6

 $\frac{135.4}{135.4}$ ^v-0.44^v-0.91^v

8.50.5

P.A. 126° 8' Ver. B.

W's watch used for times
 Watch 8 sec's slow.

1005phae.proj.1146P