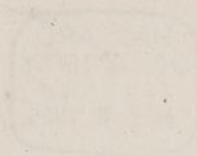


KG
11365
520

KG 11365.521



KG 11365.5 21



Nov. 24, 1893

cloudy

X bygni

W. obs.

19	46	32.7°
24	34	
+ 4	48	

Index below

8 5

11.7

184.8

173.1^{VA}

11.3

184.1

172.8^{VA}

345.9^{VA}

-4.1^V - 605^x

Index above

101.5

274.0

172.5^{VA}

102.7

274.0

171.3^{VA}

343.8^{VA}

-3.7^V

16.2^x

102.2

274.1

171.9^{VA}

-5.75^V

102.0

274.1

172.1^{VA}

344.0^{VA}

-3.8^V

16.0^x

-5.78^V

Nov. 24, 1893

Index below

192.0

5.1

173.1[✓]

192.2

4.3

172.1[✓]

$$\begin{array}{r} 345.2 \\ \underline{108.1} \\ 237.1 \end{array}$$

$$\begin{array}{r} 3.9 \\ \underline{1.1} \\ 5.95 \end{array}$$

192.5

4.1

171.6[✓]

191.8

5.1

173.3[✓]

$$\begin{array}{r} 344.9 \\ \underline{15.1} \\ 330 \end{array}$$

$$\begin{array}{r} 3.9 \\ \underline{1.1} \\ 5.95 \end{array}$$

Index above

15.1

- 5.95[✓]

281.9

94.9

173.0[✓]

282.3

A 25

13 15.0 92. M. Time - 93.7

171.4[✓]

$$\begin{array}{r} 344.4 \\ \underline{15.6} \\ 328.8 \end{array}$$

$$\begin{array}{r} 3.9 \\ \underline{1.1} \\ 5.95 \end{array}$$

8 35

e 3.5 X, X 2 f

in opera glass 46. obs.

X 2.5 X

" " " " "

B 5 X

" " " " "

5 40

e 3 X, X 3 f

in opera glass Janon obs.

X 2 a

" " " " "

B 5 X

" " " " "

Nov. 24, 1893

0 beti

W. obs.

2	14
1	10
<hr/>	
11 1	4
12	00
<hr/>	
+ 10	56

- 3.4

Index to right

136.9

240.4

136.6

238.9

103.5^{va}102.3^{va}205.8^{va}

154.2

~~+1.5~~^v

- 0.50

Index to left

224.2

332.0

223.8

331.9

223.3

331.6

223.2

332.2

107.8^{va}108.1^{va}215.9^{va}

144.1

108.3^{va}108.0^{va}216.3^{va}

143.7

~~+1.3~~^v

- 0.69

~~+1.3~~^v

- 0.70

Nov. 24, 1893

Index to right

317.9

58.5

100.6 ✓

317.1

59.2

102.1 ✓

202.7 ✓

157.8

+11.5 ✓

-0.43

315.5

58.3

102.8 ✓

317.0

61.0

104.0 ✓

206.8 ✓

+11.5 ✓

-0.51

Index to left 153.2

43.6

149.8

106.2 ✓

46.2

148.7

102.5 ✓

208.7 ✓

151.3

+11.5 ✓

-0.55

9

14

24 9.2 magn.

in finder

9

16

✓ 04.5 9.2 magn.

in large tel.

Est. 8.6

Nova Aurigae

5 25

+30.4

2 7

3 18

12 00

+8 42

Nov. 24, 1893

Moon too near. Abandoned

Moon too near region for Wedge Photometer
Zone. $\Sigma 58'$ J. L. L. L.

W. obs.

$$\begin{array}{r}
 22 \quad 24 \quad +57.8 \\
 26 \quad 17 \\
 \hline
 +3 \quad 53
 \end{array}$$

Index to right

298.5

78.3

295.8

78.2

139.8[^]142.4[^]282.2[^]-0.3[^]

Index to left

24.2

170.1

25.9

169.2

145.9[^]143.3[^]289.2[^]-0.5[^]

25.8

168.9

23.8

169.0

143.1[^]145.2[^]288.2[^]-0.5[^]

Nov. 24, 1893

Index to right

118.3

259.9

118.0

258.0

141.6[^]140.0[^]281.6[^]-0.2[✓]

117.8

257.1

116.9

258.9

139.3[^]142.0[^]281.3[^]-0.2[✓]

Index to left

205.1

349.1

204.7

349.3

144.0[^]144.6[^]288.6[^]-0.5[✓] $\Sigma 289.3$

M. obs.

22

11

+72.7⁰

26

42

+54

31

Nov 24, 1893

Index to left.

298.8

73.0

134.2 n

296.9

77.9

141.0 n

275.2 n

-0.1 n

274.2

Index to right.

27.7

167.0

139.3 n

29.0

166.6

137.6 n

276.9 n

-0.1 n

23.1

27.1

166.6

139.5 n

26.2

168.2

142.0 n

281.5 n

-0.2 n

70.5

Index to left

116.8

256.7

139.9 n

116.7

256.7

140.0 n

279.9 n

-0.2 n

20.1

119.8

256.1

136.3 n

118.9

256.5

137.6 n

273.9 n

0.0 n

26.1

2.05

2.10

2.19

2.24

2.02

2.22

26

2

2.09

2.21

2.15

Nov. 24, 1893
Index to right

207.0

348.1 141.1 \wedge

206.1

347.7 141.6 \wedge

282.7 \wedge

-0.3 \wedge

77.3

Σ 2840 147 Bepher's B.

21 48

455.2

26 70

5 22

Index right and above

312.0

62.7 110.7 \wedge

310.2

65.2 115.0 \wedge

0.89

225.7 \wedge

~~11.1~~

Index to left, below

42.1

152.4 110.3 \wedge

~~11.1~~

37.2

155.2 118.0 \wedge

0.94

228.3 \wedge

~~11.1~~

131.7

Nov. 24, 1892

$$\begin{array}{r}
 39.8 \\
 153.2 \\
 40.2 \\
 155.0 \\
 \hline
 114.8 \text{ } \wedge \\
 228.2 \text{ } \wedge \\
 \hline
 132.7 \text{ } \wedge
 \end{array}
 \begin{array}{r}
 113.4 \text{ } \wedge \\
 \\
 \\
 0.94 \\
 \hline
 228.2 \text{ } \wedge \\
 \hline
 132.7 \text{ } \wedge
 \end{array}$$

Index to right and above

$$\begin{array}{r}
 132.7 \\
 244.7 \\
 132.6 \\
 243.0 \\
 \hline
 110.4 \text{ } \wedge \\
 222.4 \text{ } \wedge \\
 \hline
 137.6 \text{ } \wedge
 \end{array}
 \begin{array}{r}
 112.0 \text{ } \wedge \\
 \\
 \\
 0.82 \\
 \hline
 222.4 \text{ } \wedge \\
 \hline
 137.6 \text{ } \wedge
 \end{array}$$

$$\begin{array}{r}
 132.2 \\
 242.3 \\
 132.5 \\
 244.1 \\
 \hline
 111.6 \text{ } \wedge \\
 221.6 \text{ } \wedge \\
 \hline
 132.2 \text{ } \wedge
 \end{array}
 \begin{array}{r}
 110.0 \text{ } \wedge \\
 \\
 \\
 0.81 \\
 \hline
 221.6 \text{ } \wedge \\
 \hline
 132.2 \text{ } \wedge
 \end{array}$$

Index to left and below

$$\begin{array}{r}
 220.2 \\
 334.2 \\
 219.9 \\
 336.1 \\
 \hline
 116.2 \text{ } \wedge \\
 230.2 \text{ } \wedge \\
 \hline
 129.2 \text{ } \wedge
 \end{array}
 \begin{array}{r}
 114.0 \text{ } \wedge \\
 \\
 \\
 1.00 \\
 \hline
 230.2 \text{ } \wedge \\
 \hline
 129.2 \text{ } \wedge
 \end{array}$$

$$\begin{array}{r}
 10.50 \\
 \hline
 10.43
 \end{array}$$

$$\begin{array}{r}
 0.89 \quad 0.94 \\
 0.82 \quad 0.94 \\
 0.81 \quad 1.00 \\
 \hline
 0.84 \quad 0.96
 \end{array}$$

-0.90

Nov. 24, 1893.

B. 236.

5 46 14.5

47 14.5

B. 394 = 0.9 fast

13 ~~14~~ ~~0.0~~

15 0.0

Peak Jup. III, Photo. R. W. abs. Clymer Rec.

Compare with Sat on preceding side = Sat II.

6, ^{h.} 12 52.0 13 40 12.8 ³ Susp.

[13] 35.5 46 15.8 170.3

0 52.0 32.3 205.1

14 18.0 48.3 168.2

18.0 58.3 204.3

29.5 42 9.8 170.9

36.5 16.8 207.0

50.5 30.8 169.5

15 7.0 47.3 211.0

20.5 43 0.8 165.8

30.0 10.2 209.7

0.5 44.5 24.2 164.2

52.5 32.3 211.0

16 5.5 48.3 162.8

19.0 58.8 213.0

27.0 44 6.8 162.0

32.5 17.3 215.1

47.0 158.0

17 5.0 17 6.9 214.0

13.5 13 44 46.7 159.8

22.0 213.5

186.3

~~47~~ ~~0.7~~ ~~1.1~~

56.0

53.7

54.8

Nov. 24, 1893.

	22.0		213.5		
	34.5		157.6		
	42.0	17 ^m 47 ^s .9	214.2	186.0	
	52.5	45 27.7	156.7	2	57.1
18	2.5		216.2		59.5
	14.0		154.9		58.3
	23.5	18 ^m 28 ^s .0	215.0	186.8	
	31.5	46 7.8	157.5	3	60.1
	43.0		220.0		62.5
	52.0		152.8		61.3
19	0.5	1.0 19 ^m 09 ^s .0	219.0	187.6	
	17.5	46 48.3	156.8	4	66.2
	25.5		222.0		65.2
Alteren focus.					
	42.5		150.0		65.7
	51.0	19 ^m 56 ^s .4	222.0	186.3	
20	11.0	47 35.7	148.1	5	72.0
	11.0		225.1		77.0
	20.5		150.0		74.5
	30.0	20 ^m 36 ^s .4	228.2	187.8	
	42.5	48 15.7	143.2	6	78.2
	52.5		230.0		86.8
	1.0		146.1		82.5
21	11.5	21 ^m 15 ^s .6	231.1	189.0	
	21.0	48 54.9	147.0	7	85.0
	29.0		231.8		84.8
					84.9

Nov. 24, 1893

6	27	35.0			148.3	186.6	
		<u>0.5</u> 47.0	21 ^m	54.9	226.2	8	77.9
	22	2.5	13	49	33.7		87.9
		12.0			230.0		82.9
		23.0			143.8		
		35.0	22 ^m	42.6	229.7	9	85.9
		51.5	50	21.4	144.2		82.8
	23	1.0			227.0		84.4
		19.0			148.0		
		28.0	23 ^m	38.6	225.2	186.7	
		38.0			136.2	10	77.2
		48.0	51	17.4	141.2		87.1
		59.5			228.5		82.2
	24	10.0			141.0		
		24.0	24 ^m	30.0	232.5	187.1	
		39.0	52	8.8	139.8		91.5
		47.0			235.0		95.2
		57.5			135.8		93.4
	25	<u>0.5</u> 8.0	25 ^m	14 ^s 29.2	237.1	185.0	
		21.0	52	52.8	134.0	12	101.3
		30.5			233.0		99.0
		43.0			141.3		99.6
		56.5	25 ^m	59.2	234.9	187.6	100.2
	26	14.5	53	37.5	144.0	43	93.6
		13.0			230.2		86.2
							89.9

Nov. 24, 1895.

26 22.5 143.8

90.5 26^m 34.5^h 232.1 186.6

98.5 54 12.8 140.2 ~~44~~ 88.3

46.0 230.3 90.1

56.0 138.0 89.2

27

10.0	27 ^m	13.8 ^s	238.0	188.1
19.0	54	52 ¹ / _x	135.3	<u>15</u>
<u>30.0</u>			241.2	
41.0			<u>134.1</u>	186.3

5

100.0
105.9
<u>103.0</u>

	<u>0.5</u>	50.5	27	56.0	236.0	+6	6
28		1.0	55	33.8	134.9		101.9
		<u>11.5</u>			<u>240.2</u>		105.3
		20.0			141.0		103.6
		28.0	28	32.9	234.0	188.5	
		37.0	56	10.8	158.1	+7	7
		<u>46.5</u>			<u>241.0</u>		92.0
		55.0			136.0	187.5	102.9
							98.0

[illegible]

5. 2.

30		59.5			175.8	
31	<u>0.5</u>	7.0	31	125.9	199.7	188.4
		19.5	58	50.2	176.3	23.9
		31.5			202.0	25.7
						24.8

Nov. 24, 1893.

Seeing rather poor not very good.
Jupr. boiling. Sat reap. very close to limb
of planet. ^{1st} obs. probably a very little
late. At times it was rather impossible to
see Satellites distinctly owing to boiling
of Jupr. & closeness of Satellites to limb.

But as Sat. came out of the shadow &
more away from Jupr. the conditions
improved somewhat.

B. 236.
6 43 23.5
44 23.5

B. 394.
14 11 0.0
12 0.0

Nov. 25, 1893

X byzui

W. obs.

7 28
20

e 3.5 X, X 2 f

in opera glass W. obs.

d 2 X

" " " " "

B 5 X

" " " " "

7 10

e 3 X, X 3 f

in opera glass Janson obs.

d 1 X

" " " " "

19

46

+ 32.7

23

65

+ 4

19

Scale of redness 4.5

Est 5.3

Index above

7 42

333.0

146.3

173.3 ✓

blonds

clouds

333.3

146.5

172.7 ✓

346.0 ✓

14.8 +

-4.1 ✓
-6.07

Nov. 25, 1892

Index below

64.0			
236.0	172.0	✓ ¹	
63.2			
236.9	173.7	✓ ¹	
	345.7	✓ ¹	-4.0 ✓
	<u>14.3</u>		-6.02
64.0			
235.2	171.2	✓ ¹	
64.0			
235.4	171.4	✓ ¹	
	342.6	✓ ¹	-2.6 ✓
	<u>17.4</u>		-5.59

Index above

153.6			
326.2	172.6	✓ ¹	
152.8			
326.0	173.2	✓ ¹	
	345.8	✓ ¹	-4.0 ✓
	<u>14.2</u>		-6.04 ✓
153.1			
326.0	172.9	✓ ¹	
153.4			
326.0	172.6	✓ ¹	
	345.5	✓ ¹	-4.0 ✓
	<u>14.5</u>		-5.99

Index below

244.0			
56.0	172.0	✓ ¹	
243.7			
55.8	172.1	✓ ¹	
	344.1	✓ ¹	-3.8 ✓
	<u>15.9</u>		-5.79

8 6
108
7 54.0
12 56.0 & mt

Nov. 25, 1893

Nova Aurigae

W. obs.

5	23	+ 30.2
0	47	
4	36	
12	00	
+ 7	24	

Moon too near. Abandoned

O beti

W. obs.

2	14	- 3.4
0	50	
1	24	
12	00	
+ 10	36	

Index to left

285.8

13.3

276.1

20.8

87.5[✓]

104.7	✓	
192.2	✓	+1.8 ✓
167.8		-0.23

Nov. 25, 1893

Index to right

10.5			
104.8	94.3 ^{va}		
4.1			
111.2	107.1 ^{va}		
	<u>201.4^{va}</u>		+1.6 ^v
6.0	158.6		-0.41
113.8	107.8 ^{va}		
11.0			
108.8	97.8 ^{va}		
	<u>205.6^{va}</u>		+1.5 ^v

Index to left 154.4 -0.49

10.7			
105.0	94.3 ^{va}		
19.2			
97.0	77.8 ^{va}		
	<u>172.1^{va}</u>		+2.1 ^v
19.9	187.9		+0.15
97.6	77.7 ^{va}		
13.1			
105.0	91.9 ^{va}		
	<u>169.6^{va}</u>		+2.2 ^v

Index to right

10.5			
106.1	95.6 ^{va}		
4.6			
113.0	108.4 ^{va}		
	<u>204.0^{va}</u>		+1.5 ^v
	156.0		-0.46

Some clouds at time of measurement

Nov. 25, 1893

o beti, again

M. obs.

8 56

Index to right

12.1

106.1

94.0[✓]

9.8

111.8

102.0[✓]196.0[✓]+117[✓]

Index to left

93.7

207.7

110.8[✓]

100.2

197.7

97.5[✓]208.3[✓]+115[✓]

100.5

151.7

-0.54

197.2

96.7[✓]

clouds

91.9

204.2

112.3[✓]209.0[✓]+114[✓]

Index to right

187.2

292.0

104.8[✓]

190.8

289.8

99.0[✓]203.8[✓]+115[✓]

156.2

-0.52

Nov. 25, 1893

1911.8

287.4

188.0

2911.0

95.6 ✓

103.0 ✓

198.6 ✓

161.4

+1.6 ✓
-0.35

Index to left

275.0

23.7

280.0

18.3

108.7 ✓

98.3 ✓

207.0 ✓

153.0

+1.5 ✓
-0.52

9 20

9 25

✓ 4.5 9.2 magn. in large tel. W. obs.
Est. 8.6
Scale of reduction 5.5.

Moon too near for Wedge zone

Prob. some trouble with first series
on 2 beti (clouds or otherwise) sky
clear at time of second series and
obs. taken slowly and with exception
at ease

Nov. 25, 1893

Photo. Measure of Double Stars - Wobs.

 $\Sigma 2806$ B. b. p. h. e. i. Wobs.

$$\begin{array}{r}
 21 \quad 27 \quad +70.0 \\
 26 \quad 24 \\
 \hline
 + 5 \quad 00 \\
 12 \quad 00 \\
 \hline
 +7 \quad 00
 \end{array}$$

955

Index below

$$\begin{array}{r}
 246.9 \\
 49.9 \quad 163.0 n \\
 245.0 \\
 53.1 \quad 168.1 n
 \end{array}$$

Index above

$$\begin{array}{r}
 335.0 \\
 142.9 \quad 167.9 n \\
 336.0 \\
 141.5 \quad 165.5 n
 \end{array}$$

$$\begin{array}{r}
 337.0 \\
 141.8 \quad 164.8 n \\
 335.4
 \end{array}$$

$$\begin{array}{r}
 143.0 \quad 167.6 n \\
 332.4 n
 \end{array}$$

$$\begin{array}{r}
 27.6 \\
 \hline
 \hline
 \end{array}$$

$$\begin{array}{r}
 -25 n \\
 4.42
 \end{array}$$

$$\begin{array}{r}
 -27 n \\
 4.67
 \end{array}$$

$$\begin{array}{r}
 -2.6 n \\
 4.59
 \end{array}$$

Nov. 25, 1893

Index below

6519

2 321.8

67.0

23210

166.91

165.01

331.91

28.1

-215.1

4.55

4.48

4.67

6576

4.54

4.59

231.2

165.61

4.43

4.55

6519

140

1

4.48

4.60

23211

166.21

4.49

331.81

-215.1

454

Index above 28.2

4.54

15517

32310

167.31

156.2

31913

163.11

330.41

29.6

-214.1

4.43

10 10

 Σ 2840

147 before 13

11 obs.

21

48

45512

26

48

5

00

Nov. 25, 1893

Index below

10 16

269.2

28.9

119.61

272.1

113.11

257.2

2.9

232.7

+7.0 ✓

Index above 127.3

1.04

3.2

116.8

112.81

1.5

115.8

113.51

226.31

+1.1 ✓

2.9

133.7

0.90

114.5

111.61

1.0

114.2

113.21

224.81

+1.1 ✓

135.2

0.87

Index below

94.6

204.2

109.61

91.0

206.0

115.01

224.61

+1.1 ✓

135.4

0.87

91.3

206.9

115.61

93.6

206.9

113.31

228.91

+1.1 ✓

131.1

0.96

1.04 0.90

0.87 0.87

0.96 0.88

20.7 26.5

0.96 0.88

0.92

Nov. 25, 1893

Index above

183.5

295.3 111.8ⁿ

182.5

295.7 113.2ⁿ225.0ⁿ135.0~~+1.1ⁿ~~

0.00

 $\Sigma 2893$

W. obs.

22

11

+72.7

26

64

+4

53

Index to right

261.0

36.3

135.3ⁿ

258.8

37.9

139.1ⁿ274.4ⁿ

Index to left

348.8

128.9

140.1ⁿ

349.3

127.8

138.5ⁿ278.6ⁿ21.4-0.2ⁿ

Nov. 25, 1893

3 50.2

1 29.1

138.91

3 49.2

1 28.7

139.51

278.4

- 0.11

21.6

Index to right

76.9

2 20.7

143.81

78.4

2 18.3

139.91

283.71

- 0.31

76.3

79.0

2 19.3

140.31

79.1

2 20.3

141.21

281.51

- 0.21

Index to left 78.5

169.8

308.0

138.21

170.7

308.0

137.31

275.51

- 0.11

84.6

2.04 2.15

2.31 2.15

2.06 2.24

41 24

2.14 2.18

2.16

10 55

Ported to here.

Nov. 28, 1893

X byggn

Mot.

9 00.5
~~8 47~~

19	46
25	34
+ 5	48

+ 32.7

Index below

227.1

40.7

173.6 ✓

227.9

39.2

171.3 ✓

344.9 ✓

15.1 ✓

- 3.9 ✓
- 5.90⁺

Index above

318.0

129.0

171.0 ✓

316.7

129.5

172.8 ✓

343.8 ✓

16.2⁺- 2.7 ✓
- 5.75⁺

317.2

129.3

172.1 ✓

317.7

129.0

171.3 ✓

343.4 ✓

16.6⁺- 3.7 ✓
- 5.70⁺

Index below

47.5

220.0

172.5 ✓

47.0

220.0

173.0 ✓

345.5 ✓

14.5

- 4.0 ✓
- 5.99⁺

14 10.5 Gr. M. T.

Nov. 28, 1893.

46.8
220.2 173.4 ✓

clouds

46.8

219.9

173.1 ✓
346.5 ✓
133.5

~~4.1~~ ✓
- 6.15 ✓

Index above

clouds

138.0

13 236

2 13 56.5

- 14 56.7

13 394 = 0.2 slow

9² 27 ~~0.3~~

28 0.0

Reap. f. up. II. P. obs. G. rec. Phot. R.
Comp. with Sat. pre. = Sat. III.

9 41 40.3
2 12.
9 49 52. App. time ed.

Nov. 24. 1893.

2	37	39.5	9 ¹	50	39.3	Susp.
		43.5			43.3	116.9
		52.5			52.3	152.4
		56.5			58.3	112.7
	38	7.0		51	6.8	155.2
		14.0			13.8	113.7
		22.0			21.8	159.4
		32.0			31.8	113.6
		41.0			40.8	166.5
		56.5			56.3	103.1
	39	8.0		52	3.8	163.5
		10.5			10.3	105.1
		16.5			16.3	163.4
		23.5			23.3	105.5
		31.5			31.3	170.1
		39.0			38.8	101.4
		45.5			45.3	166.4
		54.0			53.8	102.2
	40	1.5		53	1.3	166.6
		12.0			11.8	99.1
		19.0			18.8	170.2
		25.5			25.3	99.0
		34.0			34.8	169.4
		42.0			41.3	102.4
		50.0			49.3	171.4

0.5



Nov. 22. 1293.

word image out

2	41	7.5		77.0	92.3	547.7
		15.5	41	19.4	175.0	136.9
		22.0	54	18.5	100.7	
		32.0			173.7	176.7
		39.0				73.0
		46.0	41	223.5	92.2	74.8
			54	53.4	121.3	544.9
				52.7		136.2
				55.2		

word ^{5.1} ^{5.2} ^{5.3} ^{5.4} ^{5.5} ^{5.6} ^{5.7} ^{5.8} ^{5.9} ^{5.10} ^{5.11} ^{5.12} ^{5.13} ^{5.14} ^{5.15} ^{5.16} ^{5.17} ^{5.18} ^{5.19} ^{5.20} ^{5.21} ^{5.22} ^{5.23} ^{5.24} ^{5.25} ^{5.26} ^{5.27} ^{5.28} ^{5.29} ^{5.30} ^{5.31} ^{5.32} ^{5.33} ^{5.34} ^{5.35} ^{5.36} ^{5.37} ^{5.38} ^{5.39} ^{5.40} ^{5.41} ^{5.42} ^{5.43} ^{5.44} ^{5.45} ^{5.46} ^{5.47} ^{5.48} ^{5.49} ^{5.50} ^{5.51} ^{5.52} ^{5.53} ^{5.54} ^{5.55} ^{5.56} ^{5.57} ^{5.58} ^{5.59} ^{5.60} ^{5.61} ^{5.62} ^{5.63} ^{5.64} ^{5.65} ^{5.66} ^{5.67} ^{5.68} ^{5.69} ^{5.70} ^{5.71} ^{5.72} ^{5.73} ^{5.74} ^{5.75} ^{5.76} ^{5.77} ^{5.78} ^{5.79} ^{5.80} ^{5.81} ^{5.82} ^{5.83} ^{5.84} ^{5.85} ^{5.86} ^{5.87} ^{5.88} ^{5.89} ^{5.90} ^{5.91} ^{5.92} ^{5.93} ^{5.94} ^{5.95} ^{5.96} ^{5.97} ^{5.98} ^{5.99} ^{5.100} ^{5.101} ^{5.102} ^{5.103} ^{5.104} ^{5.105} ^{5.106} ^{5.107} ^{5.108} ^{5.109} ^{5.110} ^{5.111} ^{5.112} ^{5.113} ^{5.114} ^{5.115} ^{5.116} ^{5.117} ^{5.118} ^{5.119} ^{5.120} ^{5.121} ^{5.122} ^{5.123} ^{5.124} ^{5.125} ^{5.126} ^{5.127} ^{5.128} ^{5.129} ^{5.130} ^{5.131} ^{5.132} ^{5.133} ^{5.134} ^{5.135} ^{5.136} ^{5.137} ^{5.138} ^{5.139} ^{5.140} ^{5.141} ^{5.142} ^{5.143} ^{5.144} ^{5.145} ^{5.146} ^{5.147} ^{5.148} ^{5.149} ^{5.150} ^{5.151} ^{5.152} ^{5.153} ^{5.154} ^{5.155} ^{5.156} ^{5.157} ^{5.158} ^{5.159} ^{5.160} ^{5.161} ^{5.162} ^{5.163} ^{5.164} ^{5.165} ^{5.166} ^{5.167} ^{5.168} ^{5.169} ^{5.170} ^{5.171} ^{5.172} ^{5.173} ^{5.174} ^{5.175} ^{5.176} ^{5.177} ^{5.178} ^{5.179} ^{5.180} ^{5.181} ^{5.182} ^{5.183} ^{5.184} ^{5.185} ^{5.186} ^{5.187} ^{5.188} ^{5.189} ^{5.190} ^{5.191} ^{5.192} ^{5.193} ^{5.194} ^{5.195} ^{5.196} ^{5.197} ^{5.198} ^{5.199} ^{5.200} ^{5.201} ^{5.202} ^{5.203} ^{5.204} ^{5.205} ^{5.206} ^{5.207} ^{5.208} ^{5.209} ^{5.210} ^{5.211} ^{5.212} ^{5.213} ^{5.214} ^{5.215} ^{5.216} ^{5.217} ^{5.218} ^{5.219} ^{5.220} ^{5.221} ^{5.222} ^{5.223} ^{5.224} ^{5.225} ^{5.226} ^{5.227} ^{5.228} ^{5.229} ^{5.230} ^{5.231} ^{5.232} ^{5.233} ^{5.234} ^{5.235} ^{5.236} ^{5.237} ^{5.238} ^{5.239} ^{5.240} ^{5.241} ^{5.242} ^{5.243} ^{5.244} ^{5.245} ^{5.246} ^{5.247} ^{5.248} ^{5.249} ^{5.250} ^{5.251} ^{5.252} ^{5.253} ^{5.254} ^{5.255} ^{5.256} ^{5.257} ^{5.258} ^{5.259} ^{5.260} ^{5.261} ^{5.262} ^{5.263} ^{5.264} ^{5.265} ^{5.266} ^{5.267} ^{5.268} ^{5.269} ^{5.270} ^{5.271} ^{5.272} ^{5.273} ^{5.274} ^{5.275} ^{5.276} ^{5.277} ^{5.278} ^{5.279} ^{5.280} ^{5.281} ^{5.282} ^{5.283} ^{5.284} ^{5.285} ^{5.286} ^{5.287} ^{5.288} ^{5.289} ^{5.290} ^{5.291} ^{5.292} ^{5.293} ^{5.294} ^{5.295} ^{5.296} ^{5.297} ^{5.298} ^{5.299} ^{5.300} ^{5.301} ^{5.302} ^{5.303} ^{5.304} ^{5.305} ^{5.306} ^{5.307} ^{5.308} ^{5.309} ^{5.310} ^{5.311} ^{5.312} ^{5.313} ^{5.314} ^{5.315} ^{5.316} ^{5.317} ^{5.318} ^{5.319} ^{5.320} ^{5.321} ^{5.322} ^{5.323} ^{5.324} ^{5.325} ^{5.326} ^{5.327} ^{5.328} ^{5.329} ^{5.330} ^{5.331} ^{5.332} ^{5.333} ^{5.334} ^{5.335} ^{5.336} ^{5.337} ^{5.338} ^{5.339} ^{5.340} ^{5.341} ^{5.342} ^{5.343} ^{5.344} ^{5.345} ^{5.346} ^{5.347} ^{5.348} ^{5.349} ^{5.350} ^{5.351} ^{5.352} ^{5.353} ^{5.354} ^{5.355} ^{5.356} ^{5.357} ^{5.358} ^{5.359} ^{5.360} ^{5.361} ^{5.362} ^{5.363} ^{5.364} ^{5.365} ^{5.366} ^{5.367} ^{5.368} ^{5.369} ^{5.370} ^{5.371} ^{5.372} ^{5.373} ^{5.374} ^{5.375} ^{5.376} ^{5.377} ^{5.378} ^{5.379} ^{5.380} ^{5.381} ^{5.382}

Handwritten	Printed	Handwritten	Printed	Handwritten	Printed	Handwritten	Printed
82	15.0	42	147.0	171.6	539.4	88.5	72.4
	22.5		36.8	102.2	134.8	80.4	
	33.5			169.4	66.6		
	41.5	55	36.1	99.0	69.2		
	89.5			162.2	67.9		
	56.5			100.1	540.4		
83	6.5	43	35.5	170.3	135.1		
	12.5	56	8.9	101.6	70.2		
	20.0		8.2	162.4	66.8		
	30.5			103.2	68.5		
0.5	34.5	43	172.0	162.9	541.9		
	46.5	56	43.0	100.2	135.5		
	56.5		41.8	169.0	65.7		
	6.5			97.2	68.2		
	18.0	44	70.5	172.6	67.0		
	22.0	57	17.6	99.7	541.8		
	24.0		16.4	171.3	135.4		
					76.4		
					71.6		
					74.0		

Nov. 24, 1893.

2	KK	37.0	26	103.5	543.6
		25.0	5	746.0	135.9
		48	16.5	170.8	67.3
KV	278	58	15.3	21.1	79.1
	365			174.2	33.2
	465			94.5	551.6
	55.0	45	237.0	174.5	137.9
		58	59.2	94.4	76.0
K6	4.0	58	58.0	179.4	81.0
	11.5				78.5

Limit of Vis.

2	K6	34.4	119.7	545.3
		46	192.0	136.3
	05	44.0	15.2	32.4
		59	46.3	38.1
K7	1.0		117.7	35.2
			154.4	

Thin
Clouds during first part of
reappearance.

	13 236			13 394	
2	55	3.0	10	8	0.0
	56	3.2		9	0.0

e beti'

W. obs.

2	14	-3.4
3	00	
+0	46	

Nov. 28, 1893

Index to left and above
clouds

10 25

77.6	
198.5	112.9 [✓]
85.2	
179.2	94.0 [✓]

206.9 [✓]	+1.5 [✓]
153.1	-0.51

Index to right and below

177.2	
269.1	91.9 [✓]
189.2	
280.9	111.7 [^]

203.6 [✓]	+1.5 [✓]
156.4	-0.45

168.1	
278.5	110.4 [✓]

177.5	
271.0	93.5 [✓]

203.9 [✓]	+1.5 [✓]
156.1	-0.46

Index to left and above

268.0	
358.9	90.9 [✓]
256.0	

81.0	112.0 [✓]
	202.9 [✓]
	157.1

+1.6 [✓]
-0.44

Nov. 28, 1893

255.3

7.8

266.0

358.0

112.5[✓]

92.0[✓]

204.5[✓]

55.5

+115[✓]

Index to right and below -0.47

356.1

88.0

344.8

98.5

91.9[✓]

113.7[✓]

205.6[✓]

154.4

+115[✓]

-0.49

10 55 ✓ V. 4 9.2 magn.

all obs. and the est. made through clouds

Nov. 29, 1893.

χ byzui.

W. obs.

Estimate made through somewhat cloudy conditions, estimate not too trustworthy, but χ seems to be as much as 2 grades fainter than if with naked eye. W. obs.

7 25

ϕ betti

W. obs.

2	14	- 3.7
0	37	
1	37	
12	00	
+ 10	23	

blondy

χ byzui

W. obs.

19	46	+ 32.7
24	55	
+ 5	9	

Index below

8 10

132.8

305.7

133.1

305.0

172.9[✓]

171.9[✓]

344.8[✓]

- 3.9[✓]

152.2

- 3.29

Nov. 29, 1893

Index above

223.2

~~347~~

223.2

34.7

171.5^{va}171.5^{va}343.0^{va}170^x-2.6[✓]
-5.6^x

223.0

34.9

171.9^{va}

223.1

34.7

171.6^{va}343.5^{va}16.5^x-3.7[✓]
-5.7^x

clouds

Index below

312.7

125.0

172.3^{va}

312.0

125.7

173.7^{va}346.0^{va}140^x-4.1[✓]
-6.0^x

clouds

312.2

clouds

125.8

173.6^{va}

312.6

clouds

2 45⁺

8 27.5

13 27.5 ex M.T.

8 50

Observation Now thickly cloudy every-
where. Obs. of X by good telescope through
more or less clouds.

Dec. 2, 1893.

X bygue

W. obs.

~~* f 2.5 X . 4 4 X in opera glass~~

7 22

f 2.5 X
X X X

in opera glass. L. obs.

f 2.5 X
X X X" " " " " "
with naked eye " "
" " " " "

7 18

f 2 X
X 3 Xin opera glass Janon obs.
" " " " "

Stars obs. at request of Mr. Backhouse

18	40	+ 47.5°
24	37	
+ 5	57	

S.M. + 45° 2779

3.95

3.89

3.99

11.713

5.12

S.M. + 45° 2783

3.80

4.01

3.92

11.73

5.08

Dec. 2, 1893

Sun. $45^{\circ} 2797$ $46^{\circ} 2521$

3.58

3.59

3.60

10.77

4.66

Sun $+47^{\circ} 2674$

2.40

2.40

2.49

prec. Sun $+47^{\circ} 2675$ ~~12.5, 0.3 south~~7.29 ~~12.5, 0.3 south~~
→ 3.16Sun $+47^{\circ} 2674$

2.20

2.10

2.25

prec. Sun $+47^{\circ} 2675$

8.5, same declination

6.55

2.84

Sun. $45^{\circ} 2797$

4.42

4.37

4.48

13.27

5.75

Sun. $45^{\circ} 2846$

3.32

3.30

3.28

9.90

4.29

There is a little doubt as to which of the 2 stars is Sun $+47^{\circ} 2674$, but prob. it is the prec. of the two, which checks with 4673 although the fol. of the two agrees rather more nearly in dep.

Dec. 2, 1893

off R.A. with 4675. The prec. of the two
is also slightly brighter.

On looking out some ten or twelve m.
found there was some clouds; it is pos.
that prec. series may have been slightly
affected, although there is some doubt
of it.

<u>α beti</u>		W. obs.
2	46	- 3.4 ⁰
1	47	
0	59	
12	00	
11	1	
		clouds

Still too cloudy in this region for
 α beti

χ bygni		W. obs.
19	46	+ 32.7
25	67	
<hr/>		
+6	21	
clouds in this region also		

Dec. 2, 1893

X bygni

W. obs.

$$\begin{array}{r}
 19 \cdot 46 \\
 + 25 \cdot 70 \\
 \hline
 + 6 \cdot 24
 \end{array}$$

$$+ 32 \cdot 7$$

Index below

9 10

133.2

305.3 172.1^{va}

132.8

305.9 173.1^{va}345.2^{va}~~-3.9~~[✓]Index above ~~16.8~~~~-5.95~~^x

223.0

35.0 172.0^{va}

224.1

34.0

169.9^{va}341.9^{va}

18.1

~~-3.5~~[✓]
5.51⁺

224.0

34.0

170.0^{va}

223.3

171.7^{va}

35.0

341.7^{va}

18.3

~~-3.5~~[✓]
~~-5.48~~^x

Index below

313.3

125.0

171.7^{va}

313.0

125.0

172.0^{va}343.7^{va}

16.3

~~-3.7~~[✓]
~~-5.74~~⁺

Dec. 2, 1893

313.3

1257.0

312.8

1257.5

171.7^{va}172.7^{va}344.4^{va}

15.6

~~-3.8~~^{va}-5.23^x

Index above

44.0

214.0

44.0

214.9

170.0^{va}170.9^{va}340.9^{va}

19.1

~~-3.4~~^{va}-5.39^x

9 30

9 20

14 20^{h.m.t.}

Region rather low, and obs. through some clouds.

0 bete

V. obs.

2 14

-3.4

2 37

+0 23

Index to left

170.3

272.0

164.0

272.8

101.7^{va}108.8^{va}210.5^{va}

149.5

+1.4^{va}

-0.5P

Dec 2, 1893

Index to right

254.9

1.3

106.4 \checkmark^A

259.7

356.0

96.3 \checkmark^A 202.7 \checkmark^A +7.6 \checkmark

260.0

157.3

-0.43

356.1

96.1 \checkmark^A

254.2

4.0

109.8 \checkmark^A 205.9 \checkmark^A +1.5 \checkmark

Index to left

154.1

-0.50

162.8

274.8

112.0 \checkmark^A

170.2

266.3

96.1 \checkmark^A 208.1 \checkmark^A +1.5 \checkmark

169.8

151.9

-0.54

266.5

96.7 \checkmark^A

165.2

274.0

108.8 \checkmark^A 205.5 \checkmark^A +1.5 \checkmark

Index to right

154.5

-0.49

253.0

3.0

110.0 \checkmark^A

262.0

357.0

95.0 \checkmark^A 205.0 \checkmark^A +1.5 \checkmark

155.0

-0.48

Dec. 2, 1893

9 58 $\begin{array}{r} 0.4 \\ 0.35 \\ \hline \end{array}$ $\begin{array}{r} 9.2 \text{ mag.} \\ 9.2 \text{ mag.} \\ \hline \end{array}$ in large tel.
in finder
Est. 8.6

R Lyncis

The obs.

6	49	+55.0
3	26	
3	23	
12	00	
+8	37	

10 36 So much cloud and haze, that it is almost impossible to get a rel. est. of R Lyncis. As near as can be determined it is about equal to star γ , but this is wholly uncertain. Var only vis. by glimpses.

Clouds steadily growing worse.

10 45 Still cloudy and growing worse.

Dec. 4, 1893

Location of $\delta m + 47^{\circ} 2674$

18	39
24	23
+ 5	54

+47⁰15

X by eye

7 35

f 3 X	with	naked	eye	W.	obs.
4.5 X	"	"	"	"	"
f 3 X	"	opera	glass	"	"
4.5 X	"	"	"	"	"

Transits of 2674a, 2675 and 2681, 1893
 Location of $\delta m + 47^{\circ} 2674$

position 0 2385 45.0

0	45.2	18.0		(2674a)
		27.5		(2675)
		45.0	- 1.0	(2674a)
53	48	0.2		(2675)
55		5.4		(2681)
		26.0		(2681)

Dec. 4, 1893

55	58.0
56	7.8

56	53.7
----	------

57	3.4
----	-----

21.3

37.0

59	44.0
----	------

1	0	4.6
---	---	-----

29.1

49.0

56.0

1	11.8
---	------

3	19.3	-0.5
---	------	------

3	39.5
---	------

4	5.7
---	-----

15.8

33.4

49.1

6	55.0
---	------

7	16.0
---	------

40.5

49.6

8	8.2
---	-----

23.5

10	30.7
----	------

51.1

Dec 4, 18

2674a and 2675 in south. half

~~2681 in north. half inside outside~~Transits of 2674a and 2674b. H. L.

1	14	48.0	(2674a)
	14	49.5	(2674b)
	15	17.7	(2674a)
		24.2	(2674b)

16	16.9
	18.5
	46.6
	53.3

17	41.6
	43.3
18	11.3
	18.2

19	0.0
	1.6
	30.1
	37.1

20	23.6
	25.4
	53.6

21	0.6
----	-----

2674a and 2674b in south. half

Dec. 4, 1893
 Wedge Phot. meas. of stars for Mr. T. W. Buhlmann
 N. H.

2674a	2.77		
	2.70		
	2.78	8.25 ^c	3.57
2674b	2.58		
	2.50		
	2.40	7.48 ^c	3.24
+46° 2521	3.90		
	3.70		
	3.77	11.37 ^c	4.92
45° 2779	4.25		
	4.30		
	4.31	12.86 ^c	5.57
45° 2783	4.18		
	4.10		
	4.05	12.33 ^c	5.34
45° 2797	4.50		
	4.55		
	4.60	13.65 ^c	5.91
45° 2846	3.55		
	3.62		
	3.58	10.76 ^c	4.66

Dec. 4, 1893

X bygnis

Moston

$$\begin{array}{r}
 18^9 \\
 25 \\
 + 76 \\
 \hline
 119
 \end{array}
 \quad
 \begin{array}{r}
 46 \\
 80 \\
 34 \\
 \hline
 160
 \end{array}
 \quad
 + 32.7$$

Index below

9 18

313.9

125.5

313.3

124.3

171.6^{<1}171.0^{<1}342.6^{<1}Index above 171.4^{<1}

$$\begin{array}{r}
 3.6 \\
 - 5.59 \\
 \hline
 - 1.99
 \end{array}$$

43.2

215.3

43.8

214.4

170.6^{<1}342.7^{<1}17.3^{<1}

44.1

214.9

43.4

170.8^{<1}

215.1

171.7^{<1}342.5^{<1}Index below 17.5^{<1}

$$\begin{array}{r}
 3.6 \\
 - 5.58 \\
 \hline
 - 1.98
 \end{array}$$

133.3

305.2

133.8

304.3

171.9^{<1}170.5^{<1}342.4^{<1}17.6^{<1}

$$\begin{array}{r}
 3.6 \\
 - 5.57 \\
 \hline
 - 1.97
 \end{array}$$

Dec. 4, 1893

1342

304.7

133.2

305.0

170.5[^]

171.8[^]

342.3[^]

-3.4[^]

Index above

17.7[^]

-5.56[^]

223.0

35.2

172.2[^]

223.1

34.8

171.7[^]

343.9[^]

-3.8[^]

16.1[^]

-5.76[^]

9 39

110 28 1/2 m. time

X by eye

f 2 X in opera glass Janson obs.

7 10

3 X

"

"

"

"

"

The above obs. accidentally not recorded at beginning

o beti

W. obs.

2 14

-3.4[^]

2 48

40 34

Index to left and above

339.3

98.4

119.1[^]

351.5

88.9

97.4[^]

216.5[^]

+1.3[^]

143.5

-0.70

Dec 4, 1893

Index to right and below

256.9

6.9

110.0^{LA}

265.2

356.5

91.3^{LA}201.3^{LA}+11.6^L

158.7

-0.41

260.7

355.2

94.5^{LA}

253.0

5.9

112.9^{LA}207.4^{LA}+11.5^L

Index to left and above -0.52

342.7

97.8

115.1^{LA}

353.4

88.9

95.5^{LA}210.6^{LA}+11.4^L

354.6

88.2

93.6^{LA}-0.59^L

341.3

98.2

116.9^{LA}210.5^{LA}+11.4^L

Index to right and below -0.58

75.3

185.7

110.4^{LA}

85.0

175.0

90.0^{LA}-0.39^L200.4^{LA}+11.6^L

159.6

-0.58^L

10

5

Dec. 4, 1893

10 6

$\frac{0.4}{0.315} \frac{92}{92} \text{ mag.}$ in large tel.
 $\frac{0.315}{0.315} \frac{92}{92} \text{ mag.}$ in finder
 Est. 8.8

R. Lyne's

W. obs.

649	49	
3	30	
3	19	
12	40	
+ 8	41	+550

10 37

$\frac{9.3}{10} \frac{R}{R} \frac{1}{1} \frac{2}{2}$ in large tel.
 too faint for finder
 Est. 13.4

S. Cass.

W. obs.

1	10	
3	47	
+ 2	37	+721

10 50

$\frac{5.3}{5} \frac{S}{S} \frac{1.5}{1.5} \frac{t}{t}$ in large tel.
 too faint for finder
 Est. 13.1

Dec. 6, 1892.

5	25	+32.0
0	44	
4	41	
12	00	
+7	19	

χ bygni

7 30

$\oint 4\chi$ (?) In field glass W. obs.

clouds rising and already effecting set,
of χ bygni, so the set is not considered
very reliable.

Snow and ice in cannon ball grooves
so that some stuck; had to stop and
clear out grooves.

Prova Augizae W. obs.
Index to right

8 10

74.0 \angle northern star dis.
187.0 113.0 \checkmark

79.2

179.0

99.8 \checkmark
212.8 \checkmark
147.2 +7.4 \checkmark
-0.63

Dec. 6, 1893

Index to left

162.4

276.2

167.7

270.5

168.5

269.8

167.9

277.5

113.8[✓]102.8[✓]216.6[✓]

143.4

101.3[✓]114.3[✓]215.6[✓]

144.4

+7.3[✓]

-0.71

+7.3[✓]

-0.69

Index to right

253.0

88

258.9

359.0

262.7

358.8

256.0

4.9

115.8[✓]100.1[✓]215.9[✓]

144.1

96.1[✓]108.9[✓]205.0[✓]

156.0

+7.3[✓]

-0.69

+7.3[✓]

-0.46

Index to left

342.9

96.2

348.8

91.2

113.3[✓]102.4[✓]215.7[✓]

144.3

+7.3[✓]

-0.69

8. 20

8 20

52.

Dec. 6, 1893

Measurement somewhat troubled by high clouds and haze.

Too cloudy in region of X bygone for to measure it.

<u>α betg</u>	W. obs.
2	14
1	56
0	18
12	00
+ 11	42

Index to left

347.2

95.7

351.5

89.5

108.5[✓]98.0[✓]206.5[✓]153.5[✓]+ 7.5[✓]

- 0.51

Index to right

82.2

178.2

77.2

184.9

96.0[✓]107.7[✓]203.7[✓]

156.3

+ 7.5[✓]

- 0.43

Dec. 6, 1893

75.7			
184.9	109.2	✓	
79.9			
179.8	99.9	✓	
	<u>209.1</u>	✓	
	150.9		+1.4 ✓
Index to left			-0.56

170.1			
271.0	100.9	✓	
167.0			
271.8	104.8	✓	
	<u>205.7</u>	✓	
	154.3		+1.5 ✓
166.6			-0.49
271.7	105.1	✓	
170.3			
271.2	100.9	✓	
	<u>206.0</u>	✓	
	154.0		+1.5 ✓
Index to left			-0.50

258.0			
0.7	102.7	✓	
256.5			
3.7	107.2	✓	
	<u>209.9</u>	✓	
	150.1		+1.4 ✓
			-0.57

9 10 ✓ 0.4 9.2 mag. in large tel.
Est. 8.7

Troubled in finding a bet; measurements made through some clouds

Dec. 6, 1893

Clouds

Still quite cloudy

Σ 430

39. Lami B

W. obs.

$$\begin{array}{r}
 3 \quad 34 \quad + 4.7 \\
 3 \quad 20 \\
 \hline
 - 0 \quad 14
 \end{array}$$

Index to right.

$$\begin{array}{r}
 35.0 \\
 202.4 \\
 \hline
 \end{array}$$

$$23.0 \quad 148.0^{\wedge}$$

$$232.7$$

$$27.7 \quad 155.0^{\wedge}$$

$$303.0^{\wedge}$$

Index to left

$$57.0$$

$$321.2$$

$$112.2$$

$$151.0^{\wedge}$$

$$326.8$$

$$113.2$$

$$146.4^{\wedge}$$

$$325.7$$

$$297.4^{\wedge}$$

$$62.6$$

$$113.6$$

$$147.9^{\wedge}$$

$$325.0$$

$$115.0$$

$$150.0^{\wedge}$$

$$297.9^{\wedge}$$

$$62.1$$

clouds thicker.

Dec. 7, 1893

 X byggn

W. obs.

19	46
24	54
+ 5	8

+32°

Index above

$$\begin{array}{r} 26.2 \\ 24.1 \\ \hline \end{array}$$

34.3

168.1 ✓¹

clouds

225.0

34.9

169.9 ✓¹338.0 ✓¹22.0 ✓¹

$$\begin{array}{r} -3.1 \checkmark \\ -5.08^+ \end{array}$$

Index below

315.1

126.0

170.9 ✓¹

315.2

125.3

170.1 ✓¹

clouds

341.0 ✓¹

-3.4 ✓

clouds thick

19.0 ✓¹

-5.40 ✓

316.5

124.7

168.2 ✓¹

-3.4

314.5

126.0

171.5 ✓¹339.7 ✓¹20.3 ✓¹

$$\begin{array}{r} -3.2 \checkmark \\ -5.26^+ \end{array}$$

Dec. 7, 1893.
Index above

225.1

36.1

171.0[✓]

225.1

35.1

170.0[✓]341.0[✓]-3.4[✓]19.0^x-5.40^x

226.0

35.0

169.0[✓]

225.0

35.5

170.5[✓]339.5[✓]-3.2[✓]20.5^x-5.24^x

Index below

314.9

125.8

170.9[✓]314.9^{5.7}

125.6

169.9[✓]340.8[✓]-3.4[✓]19.2^x-5.34^x

8 15

13 07.5 H.M.T.

8 1

Much troubled and delayed by clouds

o beti

W. obs.

2

14

-3.4

1

39

-0

35

Dec. 7, 1893

Index to right

8 35-

73.5	
187.1	113.6 ✓
80.9	
180.0	99.1 ✓

212.7 ✓

~~+1.9~~ ✓

Index to left 147.3

-0.63

167.7	
269.5	101.8 ✓

165.3	
277.2	111.9 ✓

213.7 ✓
146.3

~~+1.4~~ ✓

-0.63

163.0	
279.5	116.5 ✓

168.7	
271.1	102.4 ✓

218.9 ✓
141.1

~~+1.2~~ ✓

-0.75

Index to right

260.3	
358.3	98.0 ✓

252.7	
87.0	114.3 ✓

212.3 ✓
147.7

~~+1.4~~ ✓

-0.62

255.0	
81.0	113.0 ✓

260.3	
359.2	98.9 ✓

271.9 ✓
148.1

~~+1.4~~ ✓

-0.61

clouds

Dec. 7, 1893

Index to left

351.3

93.7

102.4

✓ⁿ

341.4

98.0

116.6

✓ⁿ

219.0

✓ⁿ

141.0

~~142~~ ✓

8 45-

✓ 0 4 9.2 mag. in large tel.

-0.75

0 3.5 9.2 mag. in finder

Set. 8.7

Nova Aurigae.

W. obs.

5 23

+ 30.2

2 23

3 00

12 00

+ 9 00

Index to right

80.4

179.9

99.5

✓ⁿ

73.1

185.2

112.1

✓ⁿ

211.6

✓ⁿ

148.4

+1.4 ✓

-0.61

9 12

Dec. 7, 1893.

Index to left

161.5

277.8

167.9

270.3

168.2

268.3

162.2

276.5

116.3 ✓

102.4 ✓

218.7 ✓

141.3

100.1 ✓

114.3 ✓

214.4 ✓

145.6

~~+1.3~~ ✓

-0.75

~~+1.3~~ ✓

-0.66

Index to right.

254.7

5.0

259.0

2.9

258.4

3.0

253.6

6.1

110.3 ✓

103.9 ✓

214.2 ✓

145.8

104.6 ✓

112.5 ✓

217.1 ✓

142.9

~~+1.3~~ ✓

-0.66

~~+1.3~~ ✓

-0.72

Index to left.

343.4

97.0

350.1

90.5

163.6 ✓

100.4 ✓

214.0 ✓

146.8

~~+1.3~~ ✓

-0.65

$$\begin{array}{r} 9 \ 22 \\ \hline 9 \ 17 \end{array}$$

Dec. 7, 1892

9 26 Nova 5 (11 mag.) in large tel.
 Nova 5 (11 mag.) in finder
 Est. 10.4

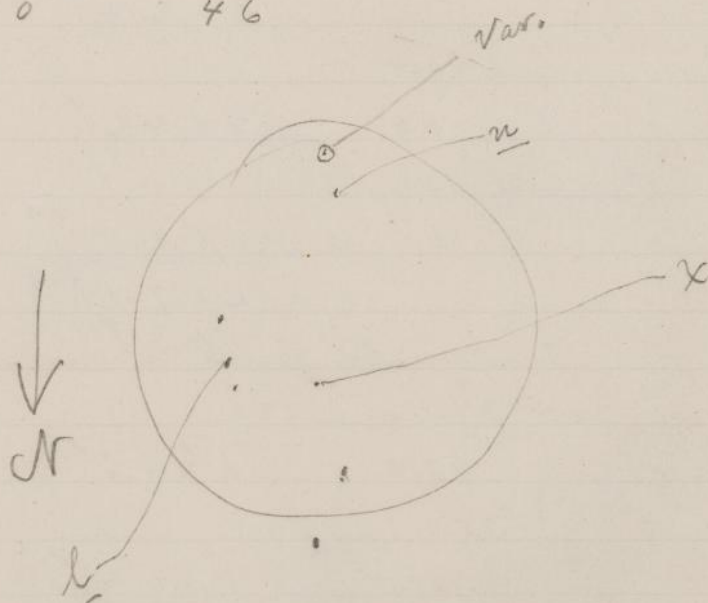
Bicammpolar Variables W. obs.
 S bygni W. obs.

20	8	+ 56.1
26	54	
+ 6	46	

$\underline{2.5 S}, \underline{5 X} m$
 Est. 11.6

9 55

R Lami		W. obs.
4	22	+ 10.0
3	36	
- 0	46	



Dec. 7, 1893.

There is a star foll. star α \underline{L} 23^h and 17^m north
of it; call this star x .

$$\cancel{x = 1.5 \text{ } \underline{K}} \quad x = \underline{K}$$

Est. 13.0

10 40
 20

Est. somewhat uncertain on account of haze;
star \underline{L} is star on old chart in new location
notation.

Sky is so hazy that it is unsafe to est.
S. Lami.

Dec. 11, 1895.

χ byzui^c W. obs.
 7. 55.6 19 46 + 32.7
 ~~42~~ 25 20
 + 5 34

Index below
clouds
still cloudy

316.0

126.0

170.0 ^{va}

315.8

126.3

170.5 ^{va}340.5 ^{va}19.5 ^{va}-3.2 ^v-5.05 ^x

Index above

46.2

215.3

169.1 ^{va}

46.8

215.0

168.2 ^{va}337.3 ^{va}22.7 ^x-3.0 ^v-5.01 ^x

47.1

215.0

167.9 ^{va}

45.2

clouds

214.9

169.7 ^{va}337.6 ^{va}22.4 ^v-3.0 ^v-5.04 ^x

12 55.6 4 m.t.

Dec. 11, 1893

Index below

136.9 ⁹⁸		
3 17.6	69.0 ✓ ¹	
136.9	180.9	
304.8	167.9 ✓ ¹	
	336.9 ✓ ¹	-3.0 ✓
137.0	<u>23.1</u>	- 698 ⁺
307.0	170.0 ✓ ¹	
137.0		
305.3	168.3 ✓ ¹	
	338.3 ✓ ¹	-3.1 ✓
	<u>21.7</u>	- 5.11 ⁺

Index above

227.2		
35.2	168.0 ✓ ¹	
226.0		
35.8	169.8 ✓ ¹	
	337.8 ✓ ¹	-3.1 ✓
	<u>22.2</u>	- 5.06 ⁺

8 30 Est. of χ 5 in finder

Region rather low, obs. made with difficulty
and through more or less clouds.

Nova Aurigae

W. obs.

5	23	+30.2
2	11	
3	12	
12	50	
48	48	

Dec. 11, 1893

Index to right

8 47

263.6

1.0

97.4^{va}

262.8

5.2

102.4^{va}199.8^{va}~~+7.6~~^{va}

Index to left

460.2

-0.38

342.1

96.7

114.6^{va}

347.7

89.8

102.1^{va}216.7^{va}~~+7.3~~^{va}

349.4

153.3

-0.51

88.0

98.6^{va}

342.0

97.7

115.7^{va}214.3^{va}~~+7.3~~^{va}

Index to right

155.7

-0.46

71.7

187.2

115.5^{va}

79.0

182.0

103.0^{va}218.5^{va}~~+7.3~~^{va}

81.2

151.5

-0.55

179.3

98.1^{va}

70.0

187.0

114.1^{va}212.2^{va}~~+7.4~~^{va}

157.8

-0.42

Dec. 11, 1892

Index to left

~~96.0~~
~~163.6~~
~~88.2~~
~~167.0~~
~~94.8~~

345.1

96.7

350.0

90.9

~~7.6~~
~~78.8~~
111.6^{va}100.9^{va}212.5^{va}

157.5

~~+1.4~~
~~-0.43~~

$$\begin{array}{r} 9 \quad 1 \\ \hline 8 \quad 54 \end{array}$$

9 5

0 bete

2 14

3 6

+ 0 52

N. obs.
-3.4^u

Index to right

257.0

2.0

73.5

184.0

105.0^{va}100.5^{va}215.5^{va}

144.5

+1.2^v

-0.68

Dec. 11, 1893

Index to left

162.4

278.0

115.6[✓]

169.2

270.1

100.9[✓]216.5[✓]

143.5

~~+1.3~~[✓]

-0.70

168.6

271.1

102.5[✓]

164.3

275.1

110.8[✓]213.3[✓]

146.7

~~+1.4~~[✓]

-0.64

Index to right

253.9

6.2

772.3[✓]

259.0

359.9

100.9[✓]213.2[✓]

146.8

~~+1.4~~[✓]

-0.64

260.8

358.3

97.5[✓]

255.0

7.8

112.8[✓]210.3[✓]~~+1.4~~[✓]

-0.58

Index to left

342.9

96.4

113.5[✓]

350.7

89.5

98.8[✓]212.3[✓]

147.7

~~+1.4~~[✓]

-0.62

9 50

Dec 11, 1893

Obs through clouds

- Too cloudy for re-est. of variables

$$\begin{array}{r}
 + 9.24 \quad 20 \text{ Gem.} \\
 6 \quad 25 \quad + 17.0 \\
 \hline
 3 \quad 35 \\
 2 \quad 50 \\
 \hline
 12 \quad 00 \\
 + 9 \quad 10
 \end{array}$$

Sky too thick to see double

Dec 12, 1893

X bygni

W. obs.

7 29.7 19 46 +32.7
 #6 2.4 58
 +5 12 color 5

Index above

46.8

214.9

168.1^{va}

47.8

214.7

166.9^{va}

335.0^{va}

23.0⁺

Index below

~~2.8~~^v
 - 4.80⁺

137.0

305.0

168.0^{va}

136.0

306.2

170.2^{va}

338.2^{va}

21.8⁺

135.9

~~3.1~~^v
 - 5.10⁺

306.0

170.1^{va}

136.0

305.1

169.1^{va}

339.2^{va}

20.8⁺

Index above

~~3.2~~^v
 - 5.20⁺

227.7

12 39.7 1/2 Mt.

Became cloudy

Dec. 13, 1893

X bygni

M. obs.

19 46

+32.7

25 8

+ 5 22

Index above

47.3

214.6

167.3^{va}

46.8

215.2

168.4^{va}

335.7^{va}

Index below

24.3⁺

-2.9^v
-4.86^x

136.5

306.2

169.7^{va}

137.7

305.0

167.3^{va}

337.0^{va}

137.1

23.0⁺

-3.0^v
-4.98^x

305.7

168.6^{va}

137.0

305.0

168.0^{va}

336.6^{va}

Index above

23.0⁺

-2.9^v
-4.95^x

227.0

35.0

168.0^{va}

227.9

34.4

166.5^{va}

334.5^{va}

255.2

-2.8^v
-4.76^x

Dec. 13, 1893

2²
288.0

34.1

166.1[✓]

227.0

35.0

168.0[✓]334.1[✓]Index below 25.9[✓]

-2.7

-0.73[✓]

316.5

125.7

169.2[✓]

317.2

125.0

167.8[✓]337.0[✓]-3.0[✓]-0.98[✓]

8 5

7 57.5

Troubled by frost on eye-piece and reading -

12 57.54 m.t. glass. Electric light also grew dim at times.

0 betti

W. obs.

2

14

-3.4

1

48

-0

26

Index to left

8 26

173.2

269.8

96.6[✓]

162.3

277.8

115.5[✓]212.1[✓]+14[✓]

-0.62

Index to right

249.8

8.8

119.0[✓]

260.9

35.4

1.5[✓]98.8[✓]

143.5

-0.70

Dec 13, 1892

~~261.7~~

359.0

252.5

6.2

261.2

359.2

~~97.3~~113.7[✓]98.0[✓]211.7[✓]+1.4[✓]

Index to left 148.8

-0.61

351.9

89.0

341.0

97.3

97.1[✓]116.3[✓]213.4[✓]

146.6

+1.4[✓]

-0.64

343.0

98.9

353.2

89.7

115.9[✓]96.5[✓]212.4[✓]

147.6

+1.4[✓]

-0.62

Index to right

81.9

178.8

72.4

188.4

96.9[✓]116.0[✓]212.9[✓]

147.1

+1.4[✓]

-0.63

0 5 9.2 mag. in large tel.

0 5 9.2 m

Est 8.7; color 6

Somewhat troubled by frost on eyepiece.

8-56

Dec. 13, 1893

R Draconis

Wobs.

$$\begin{array}{r}
 16 \quad 26 \\
 27 \quad 00 \\
 \hline
 +10 \quad 34
 \end{array}$$

+ 67.4°

Abandoned, too low.

S Cephei

Wobs.

$$\begin{array}{r}
 21 \quad 37 \\
 27 \quad 6 \\
 \hline
 +5 \quad 29
 \end{array}$$

+ 78.4°

m 35, 530 in largest tel.
 too faint for finder
 Ent. 11.8

9 40

R Piscium

Wobs.

$$\begin{array}{r}
 1 \quad 20 \\
 3 \quad 27 \\
 \hline
 +2 \quad 4
 \end{array}$$

+ 2.7°

There is a star about in pos. of R, although
 it is a little out in configuration with
 respect to adjacent stars; however it is
 pretty certainly R.

Dec 13, 1893

n 3.5 R, R 2.5-0, in large tel.
 Rather too faint for finder

10 8

Est 10.8

Est. in Keck's old notation on chart.
 Color 1

S Tauri

M. 40

4	22	+10.0
4	10	
- 0	12	

n 2.5 S, S 3.0 in large tel.

Too faint for finder

Est 11.2

Est. in Keck's old notation on chart.
 Color 2

R Tauri

M. 40

There is a star prec. R Tauri 19^s dis. n.
 official this X

R 3.5x in large tel.

too faint for finder

Est 12.6

10 53

Dec 13. 1493.
 B. + C. 1142.
 13 12 6.5
 13 6.5
 B. 394. = 0.6 slow
 13 12 0.6
 13 0.0

Reap. Sat I. Phot R. W. obs. Clymer Rec.
 Comparison of 2 Sat. foll. = Sat II.

+0.5	1 ^{hr}	31	18.531	13.1	Dec.
			23.0	17.6	20.62
			40.0	34.6	240.9
			46.5	41.1	201.6
			53.0	47.6	244.7
			1.0	55.6	191.2
		32	8.532	3.1	248.0
			15.0	9.6	192.0
			21.5	16.1	247.4
			27.5	22.1	186.3
			35.5	30.1	252.0
			44.0	38.6	187.0
			55.0	49.6	252.2
		33	2.5	57.1	186.2
			12.523	7.1	253.0
			20.0	14.6	184.9
			28.0	22.6	254.2
			35.5	30.1	185.8
			43.0	37.6	257.9
			52.5	47.1	180.3

Dec. 13. 1893.

34 7.5⁻ 34 2.1 259.1
 21.0 14.6 178.5
 27.5⁻ 22.1 259.7
 35.5⁻ 196.0 175.8 876.8
 44.0³⁴ 49.0³⁴ 259.2 219.2
 34 43.6 183.4
 53.0 181.0 29.8
 81.6

15 3.5 260.8
 11.0 115.5 178.2
 24.5³⁵ 28.9 264.1 882.4
 34.5³⁵ 23.5 177.0 220.6
 45.5 263.1 85.9
 86.1
 56.0 177.3 878.8
 55.0 219.7
 10.5³⁶ 14.0⁶ 261.5 3 84.2
 20.0³⁶ 8.4^{9.1} 176.0 88.0
 86.1

+0.5 36

29.5 264.0
 39.0 178.0 883.8
 229.0 221.0
 51.5³⁶ 57.2 266.0 4 88.0
 3.0³⁶ 52.3 175.8 88.2
 88.1
 15.5 264.0
 30.0 173.2 875.8
 199.5 219.0
 41.0³⁷ 49.9 264.2 591.0
 56.5³⁷ 45.0 173.8 70.8
 80.9
 38 172.0 264.6

Wednesday Dec 13, 1893,

1 st	38	205		173.2	
		33.5	38	201.0	873.4
				50.2	218.4
39		8.0	38	45.3	6 92.0
		19.0			20.6
		39.0			91.3
		54.5	40	257.5	876.9
				4.4	219.2
40		5.0	39	59.5	7 95.4
		39.0			92.9
		52.5			94.2
41		8.0	41	74.5	8 84.3
				18.6	228.1
		27.5	41	13.7	8 89.1
		46.5			91.0
					90.0

Lim Vis.

1 st	42	31.0		208.0	
		49.0	42	220.5	887.8
				55.1	222.0
43		1.5	42		28.0
		19.0			26.8
					27.4

Seeing pretty good.

Dec. 13, 1893.

B. & C. 1162.

13 52 4.8

53

54 4.7

B. 394.

13 52 0.0

53 0.0

54 0.0

Posted to here.

Dec. 17, 1893

X byguir

W. obs.

19	46
25	28
<hr/>	
+5	42

+ 32.9

Index above

228.0

33.9

165.9^{va}

228.0

33.6

165.6^{va}331.5^{va}28.5^x-2.5[✓]
-4.52^x

Index below

318.6

124.8

166.2^{va}

318.0

124.8

166.8^{va}333.0^{va}27.0^x-2.6[✓]-4.63^x

317.8

125.0

167.2^{va}

318.1

124.2

166.1^{va}333.3^{va}26.7^x-2.7[✓]-4.66^x

Index above

47.9

214.2

166.2^{va}

47.5

214.2

166.7^{va}333.0^{va}

27.0

-2.6[✓]-4.63^x

Dec. 17, 1893

47.0

215.0

168.0[✓]

47.3

214.1

166.8[✓]334.8[✓]-2.8[✓]252-4.79⁺

Index below

138.7

304.2

165.5[✓]

137.9

305.0

167.1[✓]332.6[✓]-2.6[✓] -4.60⁺

7 57

12 43.8 ^{4 1/2} mt.

Some light clouds
 came ^{up} at times and over X bygone, effecting
 it a little; X bygone and comp. stars have
 ever, pretty well seen.

o beti

W. obs.

2 14

-3.4⁰

2 5

-0

9

clouds

Dec. 17, 1893

Index to left

341.5

97.3

344.7

98.6

115.8[✓]113.9[✓]229.7[✓]+1.0[✓]

Index to right

13

-0.97

78.0

186.5

108.5[✓]

76.2

185.8

109.6[✓]218.1[✓]+1.3[✓]

79.4

186.5

141.9

-0.74

74.9

187.3

112.4[✓]219.5[✓]+1.2[✓]

Index to left

140.5

-0.76

165.0

278.6

113.6[✓]

165.0

280.1

115.1[✓]228.7[✓]+1.0[✓]

163.2

131.3

-0.95

278.5

115.3[✓]

162.3

275.0

112.7[✓]228.0[✓]+1.1[✓]

132.0

-0.94

Dec. 17, 1893

Index to right

255.7

5.2

109.5 ✓

255.1

26.5

112.0 ✓

221.5 ✓

138.5

~~112~~ ✓

-0.80

8 35

Observations taken partly through clouds;
clouds now becoming thicker, so that it is
not safe to attempt a relative estimate.

9 10

Still cloudy with no prospect of clearing.

Dec. 20, 1893 χ bygni

n. obs.

19	46
25	32
75	46

+ 327°

Index above

47.5

214.9

167.4 ✓^h

47.6

213.2

165.6 ✓^h333.0 ✓^h

-2.6 ✓

Index below

-4.63^x

138.5

303.5

165.0 ✓^h

137.2

304.5

167.3 ✓^h332.3 ✓^h

-2.6 ✓

137.4

305.7

168.3 ✓^h

138.6

304.2

165.6 ✓^h333.9 ✓^h

-2.7 ✓

Index above

-4.71 ✓

228.0

23.2

165.3 ✓^h

227.2

34.5

167.3 ✓^h332.6 ✓^h

-2.6 ✓

27.4

-4.60^x

Dec. 20, 1893

227.5

35.0

228.1

34.1

167.5 ✓¹166.0 ✓¹333.5 ✓¹26.5 ✓¹-2.7 ✓
-4.67 ✓

Index below

~~319.0~~

124.0

317.7

124.8

317.8

124.6

clock gave out

167.1 ✓¹166.8 ✓¹333.9 ✓¹

26.1

-2.7 ✓
-4.71 ✓
$$\begin{array}{r} 7 \quad 56 \\ 7 \quad 45.5 \end{array}$$

0 bete

2 14

2 7

- 0 7

M. obs.

-3.4

Index to left

161.0

278.0

165.1

274.3

117.0 ✓¹109.2 ✓¹226.2 ✓¹

133.8

+1.1 ✓
-0.90

8 10

Dec. 20, 1893

Index to right.

255.1

6.1

111.0 ✓

257.0

5.0

108.0 ✓

219.0 ✓

141.0

+7.2 ✓

-0.75

255.7

6.0

110.3 ✓

257.3

5.0

107.7 ✓

218.0 ✓

142.0

+7.3 ✓

-0.73

Index to left

345.7

94.3

108.6 ✓

341.3

99.0

117.7 ✓

226.3 ✓

133.7

+7.1 ✓

-0.92

343.4

97.2

113.8 ✓

345.0

95.7

110.7 ✓

224.5 ✓

135.5

+7.1 ✓

-0.87

Index to right

76.2

184.0

107.8 ✓

76.4

185.8

109.4 ✓

217.2 ✓

142.8

+7.2 ✓

-0.78

8 30

Dec 20, 1893

9 1 ✓ [23 49, 215]

Est. in last revised notation

[Est. 8.5]

Est. Both rel. and abs. wt. uncertain, more
very bright and not far distant.

DM Wedge gone

+ 19° W. obs.

Series ¹⁵¹₁₅₂
.....

7	21
3	29
<hr/>	
+ 3	52

+ 19.9

9 25 1742

5.41

5.33

5.28

16.11 ✓

6.98

17.53

2.43

2.40

2.41

7.24

17.53

3.20

3.22

2.82

49.24 ✓

4.00 ✓

Dec. 20, 1893

1756	3.21 3.11 2.87 3.38	9.70 ✓	4.20
1757	2.81 2.89 3.20	8.90 ✓	3.85+
1766	3.48 3.55 3.69	10.72 ✓	4.64
1770	3.28 3.20		
1777	3.22	9.70 ✓	4.20
1777	4.29 4.07 4.12	12.49 ✓	5.41
1868	2.80 2.85 2.79	8.44 ✓	3.65+
1878	2.50 2.75 2.80	8.05 ✓	3.49

Dec. 20, 1893

1885	2.45		
	2.48		
	2.50	7.43 ✓	3.22
1889	2.75		
	2.80		
	2.60	8.15 ✓	3.53
1892	3.50		
	3.60		
	3.28	10.38 ✓	4.49
1895	3.00		
	3.10		
	2.85	9.95 ✓	3.88
1899	2.65		
	2.78		
	2.50	7.93 ✓	3.43
1900	4.01		
	4.08		
	3.85	11.94 ✓	5.17
1909	2.71		
	2.58		
	2.42	7.71 ✓	3.34

Dec. 20, 1893

1914	2.80		
	2.60		
	2.70	8.10 ✓	3.51

1916	2.55		
	2.61		
	2.42	7.59 ✓	3.29

1930	2.62		
	2.48		
	2.85	7.95 ✓	3.44

1931	2.00		
	1.88		
	1.97	5.85 ✓	2.53

2069	5.02		
	5.20		
	5.18	15.50 ✓	6.71

2082	4.48		
	4.51		
	4.67	12.66 ✓	5.91

2026	4.52		
taken out of order.	4.72		
	4.78	14.02 ✓	
		13.70	6.07

Dec. 20. 1893.

B. + C. 11 + 2.
 15 4 52.3
 5 52.4

B. 394
 15 4 52.2
 6 52.2

B. 394 is ~~0.2~~ ^{1.5} fast.

Reap. just to Plot R. W. obs. Chyma Rec.
 Comp. with sat. $1\frac{1}{4}$ sat. fol. = Net. II.

3	27	46. ± 27	2.2 54.0	Reap.
3 h.	27	56.5 28	2.7 41.5	Seen,
	28	12.0	1.5 20.0	1720
		26.5	2.7 34.5	251.5
		37.0	3.2 45.0	184.0
		51.5	7.7 59.5	250.0
	29	11.5 29	7.7 14.5	187.0
		22.0	2.2 30.0	257.2
		39.0	4.5 47.0	186.0
		55.0 30	1.2 3.0	258.2
	30	6.5	2.7 14.5	182.2
		24.5	0.7 32.5	259.0
		42.0	4.2 50.0	179.0
		55.0 31	1.2 3.0	261.0
	31	9.5	15.7 77.5	178.2
		31.5	7.7 39.0	259.1
		42.0		176.9
		49.5	224.5 56.1	260.0
	32	1.5 32	2.7 4.5	180.0
		11.5		256.6

870.5
 217.6
 88.1
 78.6
 83.4

Dec. 20, 1893

	11.5	258.6		
	<u>23.5</u>	181.7	2	876.0
	37.5	165.5		219.0
	47.0	41.4		79.6
	<u>57.5</u>	7.6		89.0
	9.0	47.4		84.3
33	16.0	172.0		
	<u>23.5</u>	261.0		
	56.0	<u>174.1</u>	5	875.4
	6.5	104.5		218.8
	15.5	26.1		85.1
	24.0	2.3		86.1
	41.0	37.4		88.6
	55.0	178.0		
34	8.5	264.1		
	18.5	185.2		
	29.0	87.0		
	42.0	21.8		
	53.5	8.0		
	11.0	27.2		
	19.5	958.1	4	72.7
	34.5	182.1		74.9
	44.0	257.0		
	56.0	188.0		
	10.0	51.0		
35		12.8		
		260.0	5	880.9
		180.1		220.2
		252.8		72.0
		181.0		72.7
		246.0		72.4
		1.5		
		259.2	6	871.3
		180.1		217.8
		251.0		78.2
		187.0		70.9
		204.5		74.6
		51.6		
		257.0	7	877.0
		178.0		219.2
		255.6		70.0
				77.0
				73.5

Dec. 20, 1893.

37	10.0	255.0	
	<u>19.5</u>	185.0	889.9
	34.0	168.0	222.5
	49.0	42.0	76.9
		48.2	74.8
38	5.5	184.1	<u>75.8</u>
		258.9	

Time, Vrs.			
38	21.0	193.0	883.1
	93.0	157.5	220.8
	44.0	37.4	57.0
	59.5	5.6	61.9
		47.4	<u>59.4</u>
		189.1	
		256.0	

Jup. very low. Jup. in clouds at times of reaps.
seeing horrible Jup. looking a overlapping sat-
ellites. Images poorly defined & very unsteady

Jup. Sat. suspected probably about 10 sec.
before seen.

B. + C. 1122.		
15	47	51.7
	42	51.8

B. + C. 1122.		
16	3	23.2
	4	23.0

B. 394.		
15	42	0.2
	49	0.2

Fr. 1327		
B. 394.		
10	19	1.0
	20	1.0

B. 394 is 0.2 slow.

Dec. 21. 1893.

7 30 Cloudy.

7 45

"

8 15

Still cloudy.

8 30

" " Bank in south steadily
rising " higher.

Dec. 23, 1893.

B + 6 1182

5 26 50.9
27 50.9

B 394 (is 2.2 fast)

5 2 ⁶ 57.2
28 50.0

Reap. of Jupiter II. Phot. R. M. obs. Janson etc.
comp. with Sat. fall. = Sat. III, which reap.
a short time ago.

chron. error - 6.8.

6	51	50.56	51	56.8	not right
	53	32	53	38.8	seen.
		35		41.8	seen.
		46		52.8	128.1
		52		58.8	143.7
		2	54	8.8	126.9
54	10			16.8	145.0
	16			22.8	128.3
	24			30.8	146.9
	34			40.8	122.7
	43			49.8	152.0
	51			57.8	119.1
55	1		55	7.8	150.6
	9			15.8	117.2
	15			21.8	156.7
	23			29.8	112.0
	30			36.8	158.7

Dec. 23, 1892

55	39	6	55	45.8	711.1	
	45			51.8	159.9	
	54		56	0.8	108.8	
	2			8.8	162.9	
56	9			15.8	110.0	
	16			22.8	165.9	
	24			30.8	107.8	
	30			36.8	164.7	
	39			45.8	104.2	
	48			54.8	166.9	
	59			54	105.2	
57	8			13.5	169.1	541.4
	19	57		29.3	101.9	135.4
	28				167.2	65.9
	37				101.0	65.3
	46			20.2	172.3	65.6
	55	57		50.5	103.0	550.6
	4			57.3	174.3	137.6
58	12				101.3	71.3
	21			10.3	172.2	71.3
	30	58		25.8	101.9	4
	40			32.6	171.3	556.7
	50				99.0	139.2
59	2			38	172.3	6.7
	18	59		9.5	99.9	70.9
	28			16.3	171.3	69.4
	38				101.0	70.2

Dec. 22, 1893

59	47	208	101.0	543.6
	57	52.0	172.0	135.9
0	6	58.8	99.4	72.0
	15		170.2	70.8
	27	128	98.5	71.4
	38	32.0	171.9	542.7
	48	38.8	101.3	135.7
	58		171.0	6
1	7	43	99.4	73.4
	14	10.8	171.4	69.7
	24	17.6	98.9	71.6
	32		170.5	71.8
	42	194	101.0	549.3
	55	48.5	174.1	137.3
	5	55.3	102.2	73.1
2	14		172.0	69.8
	23	114	98.0	71.4
	32	28.5	174.8	545.5
	45	35.3	100.3	136.4
			172.4	9
				76.8
				72.1
				74.4

Limit of Vis.

4	36	242	128.7	540.9
	50	0.5	142.0	135.2
5	8	7.3	129.2	13.3
	25		141.0	11.8
				12.6

B. + C. 1142

7	11	50.1
	12	50.0

B. 394

7	11	57.2
	12	0.0
	13	0.0

Dec. 23, 1893

 χ bygni

W. obs.

19	46	+ 32.7
25	42	
+ 5	56	

Index above

53.3

218.5 165.2 \checkmark^A 54.0 163.0 \checkmark^A 217.0 328.2 \checkmark^A Index below ~~31.8~~ 31.8 \checkmark^A - 2.3 \checkmark^A - 4.2 \checkmark^A

145.0

308.0 163.0 \checkmark^A

143.8

310.2 166.4 \checkmark^A 329.4 \checkmark^A
30.3 \checkmark^A

143.8

308.7 165.9 \checkmark^A

144.4

309.6 165.2 \checkmark^A 331.1 \checkmark^A
28.9 \checkmark^A

Index above

234.8

37.2 162.4 \checkmark^A

234.9

38.0

163.1 \checkmark^A 325.5 \checkmark^A 34.5 \checkmark^A - 2.1 \checkmark^A - 4.10 \checkmark^A

Dec. 23, 1893

233.3

37.2

163.9 ✓¹

234.2

38.8

164.6 ✓¹328.5 ✓¹31.5⁺-2.3 ✓ 1.30⁺

Index below

324.0

128.8

164.8 ✓¹

324.1

129.0

164.9 ✓¹329.7 ✓¹30.3⁺-2.4 ✓ 1.30⁺

7 30

7 24

5

12 24

✓ began low, much moisture in air, moon
light very bright, obs. difficult

Went to supper,

0 bet¹

W. obs.

2 14

-3.4

3 25

+1 11

Index to right

79.3

193.6

114.3 ✓¹

82.6

187.0

104.4 ✓¹218.7 ✓¹

141.3

+7.3 ✓

-0.75

Dec. 23, 1893

Index to left

172.1

280.7

167.3

284.6

168.2

285.0

170.0

281.7

108.6 ✓^h117.3 ✓^h225.9 ✓^h

134.1

116.8 ✓^h111.7 ✓^h228.5 ✓^h

131.5

+T.T. ✓
-0.89+T.T. ✓
-0.95

Index to right

264.1

8.8

257.9

13.9

259.0

13.0

264.0

8.8

104.7 ✓^h116.0 ✓^h220.7 ✓^h

139.3

114.0 ✓^h104.8 ✓^h218.8 ✓^h

141.2

+T.T. ✓
-0.79+T.T. ✓
-0.75

Index to left

352.9

101.0

344.9

106.9

108.1 ✓^h122.0 ✓^h230.1 ✓^h

129.9

+T.T. ✓
-0.98

24

Dec. 23, 1893

9 23

83 N, 225

considerably moisture in air, very bright moon-
light.

Sun Wedge Zone W. obs.

81 0 + 19.9

4 15

3 45

+ 8 15

Abandoned, moon rather too near, sky
extremely bright.

100 G Piscium W. obs.

1 7 + 6.9

4 18

+ 3 11

~~Index to left and above~~~~348.2~~~~104.3~~

116.1

~~350.0~~~~99.9~~

109.9

226.0

1.1

~~Index to~~~~81.9~~

Dec. 23, 1893

Index to right and below

85.5

184.2

75.8

193.8

98.81

118.8⁰

68

218.8

143.2

+1.31

-0.71

Index to left and above

164.0

286.1

107.1

277.8

122.11

106.71

228.8

131.2

+1.01

-0.95

174.0

280.9

166.0

282.5

106.91

116.51

223.41

136.6

+1.21

-0.84

Index to right and below

258.9

13.3

264.2

10.5

114.41

106.31

220.71

139.3

+1.21

-0.79

264.0

6.5

255.7

15.0

102.51

119.31

221.81

138.2

+1.21

-0.81

Decr 23, 1893

Index to left and above

345.0

104.0

351.2

98.2

119.0 ^

107.0 ^

226.0 ^

134.0~~+1.1~~ ^

-0.90

3' 37 betw

W. obs.

Abandoned, too low.

1' 120 175, 176

W. obs.

0 39.7

+30.3

4 35

+4 15

Prec. and south. component is slightly the fainter of the two

Index above

96.6

175.1

90.8

181.0

< the fainter disappear

78.5 ^

90.2 ^

168.7 ^

+0.21

~~+2.2~~ ^

10 28

Dec. 23, 1893

Index below

178.9

273.2

181.2

270.0

94.31

88.81

- 0.06

183.11

+1.91

176.9

183.0

268.1

85.11

177.8

273.2

95.41

- 0.01

180.51

+2.01

Index above 179.5

178.4

271.8

176.1

274.9

93.41

98.81

0.23

- 0.42

192.21

+1.81

177.0~~175.2~~~~274.0~~~~179.9~~~~2~~98.8

90.7

181.0

93.8

175.5

90.31

81.71

+ 0.15

172.01

+2.21

182.0

10	43
4	45
10	35.5

Dec. 23, 1893.

Index below

184.0

270.7

179.2

273.1

86.7ⁿ93.9ⁿ180.6ⁿ179.4

-0.01

~~+2.0ⁿ~~

Mean = -0.07

88 4' Pic.

W. obs.

0

59

+20.8

5

12

+4

13

Index to left

177.9 < south dir.

275.6

176.0

275.9

97.7ⁿ99.9ⁿ197.6ⁿ462.4ⁿ~~+1.7ⁿ~~-0.33ⁿ

Index to right

266.0

4.9

268.2

3.4

98.9ⁿ95.2ⁿ194.1ⁿ165.9~~+1.7ⁿ~~-0.27ⁿ

Dec. 23, 1893

266.8

3.9

266.0

5.3

97.1

99.3

196.4

163.6

~~Dec~~

Index to left

-0.31

357.3

96.0

359.2

97.1

98.7

94.9

193.6

166.4

356.9

93.1

354.7

98.2

96.2

93.5

189.7

Index to right

-0.18

86.7

183.7

86.1

184.2

97.0

98.1

195.1

164.9

-1.7

-0.29

10 59

10 53

5

15 53

Mean = -0.24^x

Dec. 26, 1893.

X bygm

19	46
25	62
+ 6	16

 W. obs.
 + 32.7

Index above

~~54.5~~

55.0

216.7

161.7^{va}

55.2

217.9

162.7^{va}

324.4
35.6

-2.0 ^v
-4.23 ^x

Index below

144.0

308.9

164.9^{va}

143.0

310.5

167.5^{va}

332.4
27.6

-2.6 ^v
-4.59 ^x

142.9

310.9

168.0^{va}

144.0

309.1

165.1^{va}

333.1
26.9

-2.6 ^v
-4.64 ^x

Index above

236.8

37.5

160.7^{va}

234.3

37.8

163.5^{va}

324.2
35.0

-2.0 ^v
-4.01 ^x

Dec. 26, 1892

2357.0

37.9

2357.6

37.0

162.9[✓]167.4[✓]324.3[✓]35.7⁺-20[✓]-4.02⁺

Index below

3231.9

1291.3

3221.0

1291.7

165.4[✓]167.7[✓]333.1[✓]26.9⁺-2.6[✓]-4.64⁺7 55

7 45

12 45

Region low, considerable wind, images rather poorly defined.

The image of faint star is the most poorly defined of the two, and cannot be brought to a sharp focus.

2 beti

N. obs.

2 14

-3.4

2 36

+0 22

Troubled in finding V.

Dec. 26, 1893

Index to right

$$\begin{array}{r}
 85.5 \\
 186.0 \\
 74.2 \\
 195.3 \\
 \hline
 540.0
 \end{array}
 \quad
 \begin{array}{r}
 100.5 \\
 121.0 \\
 \hline
 221.5
 \end{array}
 \quad
 1.2$$

Index to left

$$\begin{array}{r}
 164.8 \\
 288.2 \\
 175.7 \\
 \hline
 628.7
 \end{array}
 \quad
 123.4$$

dome found to partly cover object glass

8 20

Index to left

$$\begin{array}{r}
 174.2 \\
 279.2 \\
 163.6 \\
 285.3 \\
 \hline
 902.3
 \end{array}
 \quad
 \begin{array}{r}
 105.0 \checkmark \\
 121.7 \checkmark \\
 \hline
 226.7 \checkmark
 \end{array}
 \quad
 \begin{array}{l}
 +1.1 \\
 -0.91
 \end{array}$$

Index to right

$$\begin{array}{r}
 254.0 \\
 14.8 \\
 264.0 \\
 6.9 \\
 \hline
 539.7
 \end{array}
 \quad
 \begin{array}{r}
 120.8 \checkmark \\
 102.9 \checkmark \\
 \hline
 223.7 \checkmark
 \end{array}
 \quad
 \begin{array}{l}
 +1.2 \\
 -0.85
 \end{array}$$

Dec. 26, 1893

263.8

81.4

104.6 ✓[^]

259.5

157.4

115.9 ✓[^]220.5 ✓[^]~~+1.3~~ ✓

Induc to left 139.5

-0.78

346.3

103.7

157.4 ✓[^]

354.7

93.7

99.0 ✓[^]216.4 ✓[^]~~+1.3~~ ✓

354.1

173.6

-0.70

94.1

100.0 ✓[^]

345.2

105.2

120.0 ✓[^]220.0 ✓[^]~~+1.3~~ ✓

Induc to right

-0.77

74.9

198.4

123.5 ✓[^]

85.2

186.0

100.8 ✓[^]224.3 ✓[^]~~+1.1~~ ✓

135.7

-0.86

8 35-

color 5

Dec. 26, 1893

DM Wedge Zone

W. obs.

Series 15³/₄ (Special) + 9°

0	32	+ 10.7
3	-47	
+ 3	15	

950 94

3.46

3.60

3.60

10.66°

4.62°

73

2.77

2.90

2.91

8.58°

3.72°

X

100

2.89

3.02

3.20

9.11°

3.94°

131

2.40

2.58

2.50

7.48°

3.24°

135

2.57

2.49

2.74

7.80°

3.38°

X

Dec. 26, 1892

139	2.95		
	3.20		
	3.44	9.59 ^c	4.15 ^c

146	4.68		
	4.65		
	4.70	14.03 ^c	6.07 ^c

235	5.02		
	5.10		
	5.10	15.22 ^c	6.59 ^c

247	3.02		
	3.31		
	3.35	9.68 ^c	4.19 ^c

253	4.59		
	4.71		
	4.45	13.75 ^c	5.95 ^c

251	3.00		
	2.86		
	2.87	8.72 ^c	3.78 ^c

256	3.34		
	3.11		
	3.00	9.45 ^c	4.09 ^c

10 23

Dec. 26, 1893

Double Stars. Photo R.

231 66 bits

W. obs

2	6	- 3.0°
5	16	
+ 2	10	

Index below

10 40

334.8

115.0

140.2 \checkmark

339.7

112.6

132.9 \checkmark 273.1 \checkmark 886.2~~0.0~~ \checkmark

-2.00

Index above

71.0

202.0

131.0 \checkmark

64.1

204.3

140.2 \checkmark 271.2 \checkmark 888+0.1 \checkmark

-1.95

65.0

205.7

140.7 \checkmark

67.2

201.7

134.5 \checkmark 275.2 \checkmark 84.8~~0.14~~

-2.06

Dec. 26, 1893

Index below

161.1

292.7

155.0

297.1

131.6 \wedge 142.1 \wedge 273.7 \wedge 26.3

155.0

~~0.0~~ \wedge

2.01

295.0

140.0 \wedge

161.0

293.8

132.8 \wedge 272.8 \wedge ~~0.0~~ \wedge

Index above

27.2

- 1.99

249.0

20.2

131.2 \wedge

248.0

250

141.0 \wedge 272.2 \wedge 27.8~~0.0~~ \wedge

- 0.97

$$\begin{array}{r} 10 \ 59 \\ \hline 99 \\ 10 \ 49.5 \end{array}$$

Dec. 27, 1892

X bygnir

19	46
25	67
<hr/>	
+6	21

 W. do.
 +32.7

Index above

234.0

39.0

165.0^{<^}

232.2

40.0

167.8^{<^}332.8^{<^}

27.2

-2.6[<]-4.62[<]

Index below

324.0

128.5

164.5^{<^}

323.7

128.8

165.1^{<^}329.6^{<^}

30.4

-2.4[<]-4.37[<]

324.0

128.0

164.0^{<^}

323.1

129.7

166.6^{<^}330.6^{<^}

29.4

-2.4[<]-4.45[<]

Index above

52.8

219.0

166.2^{<^}

53.1

218.0

164.9^{<^}331.1^{<^}

28.9

-2.5[<]-4.48[<]

Dec. 27, 1893

52.8
 219.1 166.3^{<^}
 52.3
 218.8 166.5^{<^}
 332.8^{<^} - 2.6[<]
 Index below 27.2 - 4.63[<]

143.5
 310.0 166.5^{<^}
 144.1
 309.9^{8.9} 164.8^{<^}
 331.3^{<^} - 2.5[<]
 28.7 - 4.50^x

o bcti.

H. obs.

2 14
 2 30
 + 0 16

- 3.4

Index to right

253.0
 17.2 124.2^{<^}
 264.0
 72 103.2^{<^}

227.4^{<^} + 1.1[<]
 Index to left 132.6 - 0.92

357.2
 94.0 96.8^{<^}
 345.1
 107.0 121.9^{<^}

218.7^{<^} - 0.75
 141.3 + 1.3[<]

Dec: 27, 1892

342.5

109.0

354.8

94.4

126.5^{ca}99.6^{ca}226.1^{ca}

133.9

+T.T.^c

-0.80

Index to right

85.0

183.7

75.3

194.3

98.7^{ca}119.0^{ca}217.7^{ca}

142.3

+T.T.^c

-0.73

74.9

195.5

83.0

188.0

120.6^{ca}105.0^{ca}225.6^{ca}

134.4

+T.T.^c

0.89

Index to left

173.9

275.8

174.0

285.6

101.9^{ca}121.6^{ca}223.5^{ca}

136.5

+T.T.^c

-0.84

color 4

8 30

P 175

5

13 17.5

Dec 27, 1892

Circumpolar Variables W. obs.

R. Draconis		W. obs.
16	26	+67.4
27	16	
+10	50	

8 5-5

$R = \frac{9}{4}$ in large tel.
 $R = \frac{9}{4}$ " finder
 Est. 18.6

DM Wedge Zone W. obs.

Series 15 ⁴ / ₄ (special) + 9°		
2	6	-3.6
0	32	+10.7
4	00	
+3	28	

9 30 94

3.60

3.72

3.75

11.07

4.79

73

2.80

2.70

2.72

8.22

3.56

Dec 27, 1893

100	3.10		
	3.21		
	3.08	9.39 ^c	4.07
131	2.52		
	2.45		
	2.63	7.60 ^c	3.29
135	2.50		
	2.42		
	2.51	7.43 ^c	3.22
139	3.18		
	3.10		
	3.07	9.35 ^c	4.05
146	4.70		
	4.55		
	4.53	13.78 ^c	5.97
247	3.18		
	3.30		
	3.42	9.90 ^c	4.29
235	5.10		
	5.22		
	5.18	15.50 ^c	6.71

Dec. 27, 1893

253	4.60		
	4.41		
	4.37	12.38 ^c	5.79

251	2.85		
	2.70		
	2.98	8.52 ^c	3.69

256	3.10		
	3.03		
10 14	3.05	9.18 ^c	3.97

Double Stars Photo R. Obs.

3' 37 beta Obs.

1	8	- 8.6
5	14	
+ 4	6	

Index to right and above

10 30

150.4

296.6

146.2^a

153.2

297.2

144.0^a290.2^a69.8- 6.8^a
- 2.51

Dec. 27, 1893

Index to left and below

24316

26.5

142.9 1

24200

28.1

146.1 1

289.0 1

71.0

~~8.5 1~~

2.47

23918

32.1

152.3 1

243.5

24.6

141.1 1

293.14 1

266.6 1

~~0.6 1~~

2.62

Index to right and above

334.2

114.8

140.6 1

330.2

118.1

147.9 1

288.5 1

71.5

~~0.5 1~~

2.46

330.2

119.0

148.8 1

337.0

115.0

138.0 1

286.2 1

73.2

~~0.4 1~~

2.40

Index to left and below

67.0

206.5

139.5 1

58.8

210.9

152.1 1

291.6 1

68.4

~~0.6 1~~

2.56

10 43

1536.5

Dec. 27, 1893

<u>o</u> bete		Thobbs	
2	14	- 3.4	
5	28		
<hr/> + 3	14		
Index to right			
	265.8		
	8.0	102.2 ^{<^}	
	257.7		
	14.4	116.7 ^{<^}	
		218.9 ^{<^}	+1.2 ^{<}
Index to left			
	173.4	41.1	-0.75
	277.2	103.8 ^{<^}	
	165.2		
	283.2	118.0 ^{<^}	
		226.8 ^{<^}	+1.2 ^{<}
	165.0	138.2	-0.81
	285.0	120.0 ^{<^}	
	172.9		
	276.0	103.1 ^{<^}	
		223.1 ^{<^}	+1.2 ^{<}
Index to right			
	262.8	136.9	-0.84
	7.8	104.0 ^{<^}	
	257.7		
	14.2	116.5 ^{<^}	
		220.5 ^{<^}	+1.2 ^{<}
		139.5	-0.78

Dec 27, 1892

11 2

257.0

Stopped by clouds

Measurement made through clouds, readings rather faint.

Dec. 29, 1892

7 30

X bygni Nobs.
 19 46 + 32.7
 25 72
 + 6 26

7 35

Index above

76.3
 240.8 164.5^{va}

78.0
 240.0 162.0^{va}
 326.5^{va}

Index below 335 - ~~4.2~~ [✓] - 4.6^x

167.9
 329.0 161.1^{va} ~~4.1~~ [✓]

166.5
 330.3 163.8^{va}

324.9^{va} ~~2.1~~ [✓]

166.9 35.1

330.8 163.9^{va} - 4.06^x

166.9

330.0 163.1^{va}

327.0^{va} ~~2.2~~ [✓]

33.0 - 4.19^x

Index above

257.0
 59.1 162.1^{va}

256.8

59.3 162.5^{va}

324.6^{va} ~~2.0~~ [✓]

36.0 - 4.04

Dec 29, 1893

256.0

59.6

257.2

59.8

163.6[✓]162.6[✓]326.2[✓]~~2.1~~[✓]

Index below

33.8

-4.14

346.8

151.0

347.8

151.0

164.2[✓]163.2[✓]327.4[✓]~~2.2~~[✓]326

-4.22

7 50

7 42.5

12 42.5 42.2 M.T.

Nova Aurigae

5 23

2 50

2 33

12 00

+9 27

M. obs.

+32.0

8 00

Index left and below

196.9

296.7

190.7

303.8

99.8[✓]113.1[✓]212.9[✓]

147.1

~~4.4~~[✓]

-0.63

Dec 29, 1893

Index right and above

281.8

34.3

112.5 ✓

292.0

28.7

96.7 ✓

209.2 ✓

150.8

~~+1.4~~ ✓

-0.56

~~Abandoned, altitude so very high.~~

285.0

27.4

102.4 ✓

283.0

24.0

101.0 ✓

203.4 ✓

156.6

~~+1.6~~ ✓

-0.45

Index left and below

9.0

127.0

118.0 ✓

17.5

117.1

99.6 ✓

217.6 ✓

142.4

~~+1.3~~ ✓

-0.73

19.2

117.0

97.8 ✓

11.0

122.2

111.2 ✓

209.0 ✓

~~11.0~~

151.0

~~+1.4~~ ✓

-0.56

Dec. 29, 1893

Index right and above

110.1

206.9

103.7

212.8

96.8[✓]109.1[✓]205.9[✓]

154.1

+ ~~1.4~~ -[✓]
- 0.50
$$\begin{array}{r} 8 \ 42 \\ \hline 8 \ 21 \end{array}$$

Kora high. Altitude very inconvenient.
Measurements made with difficulty.

2 bet:

th. obs.

2 14

- 3.4

3 28

+ 1 14

Index to left

184.3

309.2

197.7

302.9

124.9[✓]105.2[✓]230.1[✓]

129.9

+ 7.0[✓]

- 0.98

Index to right

285.7

28.7

280.7

37.0

103.0[✓]116.3[✓]219.3[✓]

140.7

+ 1.0[✓]
- 0.76
$$\begin{array}{r} 8 \ 50 \\ \hline \end{array}$$

Dec. 29, 1893

277.2

37.1

119.9[✓]

286.1

29.3

103.2[✓]223.1[✓]+7.2[✓]

Index to left 136.9

-0.84

16.0

123.9

107.9[✓]

5.3

128.3

123.0[✓]230.9[✓]+7.2[✓]

6.0

129.1

-1.00

130.0

124.0[✓]

16.9

122.8

105.9[✓]229.9[✓]+7.2[✓]

Index to right 130.1

-0.98

106.9

218.1

103.2[✓]

96.0

218.8

122.8[✓]226.0[✓]+7.2[✓]

color 4

134.0

-0.90

9 12

9 14

Faint auroral arch in north, summit of arch being about half the altitude of the Pole Star

Dec 29, 1892

Sun Wedge zone

W. obs.

Series 15⁵ (special) + 9° W. obs.
 2 1 + 9.9
 4 30
 + 2 29

9 K2 272

3.30

3.38

3.23

9.91 ✓

4.29

286

2.05

2.12

1.90

6.07 ✓

2.63

288

2.51

2.55

2.43

7.49 ✓

3.24

304

3.55

3.65

3.47

10.67 ✓

4.62

303

2.30

2.35

2.55

7.20 ✓

3.12

Dec. 29, 1893

305	4.16		
	4.10		
	4.22	12.48 ✓	5.40

309	2.51		
	2.57		
	2.40	7.48 ✓	3.24

312	2.68		
	2.75		
	2.82	8.25 ✓	3.57

10	12	316	6.10		
			6.15		
			6.07	18.22 ✓	7.93

Double Stars W. obs.

100 & Piscium W. obs.

1	7	+ 6.9
5	10	
<hr/>		
+ 4	3	

Dec. 29, 1892

Index right and below

280.3

40.8

120.5⁻¹

286.0

29.7

103.7¹-0.86⁻224.2¹+1.1¹~~133.8~~

Index left and above

14.8

115.0

100.2¹

8.9

126.9

118.0¹218.2¹+1.2¹

11.2

~~141.8~~-0.74⁻

126.0

114.8¹

15.2

123.0

107.8¹-0.83⁻222.6¹+1.2¹~~137.4~~Index ~~above~~ right and below

102.0

212.5⁻110.5¹

96.6

216.1

109.5¹-0.98⁻230.0¹+1.0¹~~130.0~~

97.4

216.0

118.6¹

104.0

208.1

104.1¹222.7¹+1.2¹~~137.3~~-0.83⁻

Dec. 29, 1892

Index left and above

193.0

298.3

105.3

186.3

208.3

122.0

-0.2

227.3

+1.1

132.7

B. + C. 1142,

11	32	59.2
	33	59.2

B. 394,

11	33	59.2
	34	59.2

∴ B. + C. 1142 is 1.0 slow.

Reap. Jup. I. Phot. R. W. Obs. Clymer Rec. Compared
with north of 2 sats. following (near. Together) equal Sat. III

11	51	2.0	Suspected,
		28.5	Seen
		37.0	146.1
		48.0	172.2
		54.5	149.6
	52	2.0	175.0
		8.0	137.1
		20.5	176.7
		27.0	141.0
		34.5	183.2

Dec. 29, 1893.

	41.5		129.9	
	49.0		183.0	
	59.5		129.5	
53	7.0		185.2	
	13.5		132.8	
	21.5		189.9	
<u>53</u>	<u>28.0</u>		130.7	
	35.5		190.7	
	43.0		126.0	
	52.0		187.5	
54	9.0		124.2	
	18.0		190.5	
	24.0		123.3	
	37.0		190.2	
	43.0		123.5	635.7
	53.5	233.0	193.8	158.9
		58.2		
55	2.5		123.2	1
	19.0		195.2	70.3
	24.5		122.0	72.0
	33.0	149.0	194.7	71.2
	41.0	37.2	120.0	2
	50.5		198.2	72.7
				78.2
				75.4
56	1.0		121.1	628.2
	9.5	59.5	193.2	157.0
	19.5	14.9	118.8	
	29.5		195.1	72.1
				76.2
				74.2

11	56	39.0	231.5	123.7	632.2
		52.5	57.9	192.5	158.0
	57	5.0		122.0	4
		15.0		194.0	68.8
		<u>23.0</u>		120.4	<u>72.0</u>
		33.5	149.0	193.9	70.4
		41.0	37.2	124.1	635.4
		51.5		197.0	158.8
		<u>51.5</u>			5
					73.5
					<u>72.9</u>
					73.2

Altera focus.

58	16.5	120.5	119.0	632.1
	27.5	30.1	195.2	158.0
	34.0		121.0	76.2
	42.5		196.9	<u>75.9</u>
	51.0			76.0
			121.2	633.2
59	1.5	28.0	196.3	158.3
	11.5	7.0	118.7	75.1
	24.0		197.0	<u>78.3</u>
	33.0			76.7
	42.5		119.0	627.9
	55.5	193.0	195.0	157.0
	2.0	48.2	119.2	76.0
			194.7	<u>75.5</u>
				75.5

Lin Mas

12	1	20.0	0.5	157.0	151.0	635.3
		32.0		39.2	168.1	155.8
		44.0			147.8	17.1
12	2	1.0			168.4	20.6
						18.8

Dec. 29, 1893.

Satellite seen quite certainly several seconds before the record "seen".

Settings rather difficult from pronounced elongation of images. Sky also somewhat hazy. Images could not be brought to a sharp focus.

B. + C. 1142.

12 11 5A.5

12 5A.5

B. + C. 1142 is 1.7 slow.

~~B. + C. 1142,~~

B. + C. 1142,

12 5A 30.5

59 30.5

B. 394

12 12 ~~0.2~~13 ~~0.2~~~~B. 394~~

Fr. 1327.

7 49 1.0

50 1.0

Ported to here

Jan. 1, 1894

Extension of Photometric Scale

S Cephei		W. obs.
21	37	+78.4
26	33	
+ 5	00	

Index

Photo comp. of star h with star o

Index to right

44.8	< brighter disappears.	
92.9		48.1^
49.8		
86.9		<u>37.1^</u>
		85.2 ✓^
		+4.0 ✓

Index to left

140.0		
176.0	36.0 ✓^	
137.2		
182.0	<u>44.8 ✓^</u>	
	80.8 ✓^	+4.2 ✓
137.0		
181.0	44.0 ✓^	
140.3		
176.0	<u>35.7 ✓^</u>	
	79.7 ✓^	+4.2 ✓

Jan. ¹ 4, 1894

Index to right

50.5

87.0

46.2

91.5

36.5[✓]

45.3[✓]

81.8[✓]

+4.1[✓]

45.8

92.2

49.2

88.7

46.4[✓]

39.5[✓]

85.9[✓]

+4.0[✓]

Index to left

320.9

357.6

7.0

315.2

0.9

36.8[✓]

43.9[✓]

80.7[✓]

+4.2[✓]

n 1.5[✓], v 2.5[✓] in large tel.
too faint for finder

12.1

L T

Dec Jan 1, 1894

Extension of Photometric Scale, Wobs.

J. Cephei		Wobs.
21	6	+67.8
28	3	
<hr/>		
+6	57	

Index to left and below
 Star is compared with star S.
 49.0
 87.5
 47.1
 92.3

brighter disappears
 38.5

45.2 ✓
 83.7 ✓ +4.1 ✓

Index to right and above

319.6

359.6

318.0

1.0

320.0

357.0

319.1

0.5

40.0 ✓

43.0 ✓

83.0 ✓

37.0 ✓

41.4 ✓

78.4 ✓

+4.1 ✓

+4.2 ✓

Index to left and below

225.6

270.5

227.8

269.6

44.9 ✓

41.8 ✓

86.7 ✓

+4.0 ✓

Jan. 1, 1894

228.2

270.0

41.8[✓]

227.2

271.2

44.0[✓]85.8[✓]+4.0[✓]

Index to right and above

138.1

180.6

42.5[✓]

140.4

177.5

37.1[✓]79.6[✓]+4.2[✓]~~Star in and~~

Variable in Perseus

1

58

+56.4

5

20

+3

22

10th magn.

over.

Jan. 1, 1894,

11 42 Var. thought to be star a or b on preceding
page. - prob. star a.
a and b are both about 14.6 mag. W. St.

Jan. 2, 1894

U. ob
Anderson's New Variable in Andromeda,
Rm +26° 43 (8.7 mag.)

0	6	+26.1
2	39	
+ 2	33	

2	50	28.1	
	51	8.0	
		39.9	
	51	28.2	
	52	7.1	+ 1.0
		39.9	
	52	50.5	
	53	30.1	
		39.6	
		9	
		9	
		24	
		39.6	

2	57	26.3
		50.0
		23.7

	58	25.5
		48.8
		23.3

Jan. 2, 1894

59 24.6

48.0

23.4

Location of Andersens star. Var. in
Andromeda.

G. obs.

Comp. Star = 2m. + 26° 40' (7.5 K) ^{Setting}
Positive zero 3.3 + 45.0 = +48.3

3 24 27.0 Int. * = Comp. Star.

25 5.2 " " = " "

27.5 ft. star = Var.

47.2 " " = "

26 4.4

42.2

27 5.1

25.0

27 44.0

28 22.2

44.5

29 4.1

29 22.4

30 0.5

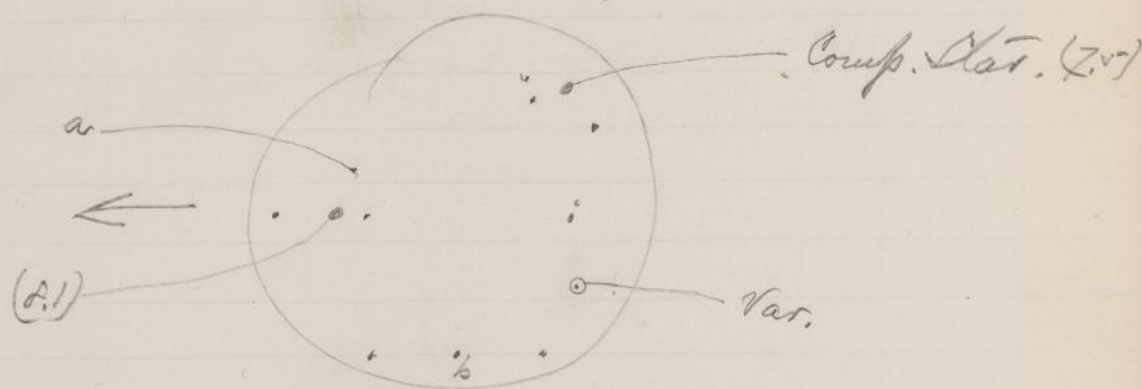
22.4

42.5

Jan. 2, 1894

3	31	6.5
		44.5
	32	7.6
		26.6

Order in prec. transits; bright star,
bright star, faint star, faint star.
Both in northern half.



A 51

b 3 Var. Var 4 a in large telescope,
200 ft. for finder.
Est. 12.1

Sky hazy. Estimates rather uncertain.

Sky too hazy for measurement with Phot.

Jan 2, 1894

Extension of Photometric Scale Mobs.

S. cephei Mobs.

$$\begin{array}{r}
 21. \quad 37 \quad +78.4 \\
 28 \quad 21 \\
 \hline
 +6 \quad 44
 \end{array}$$

Comp. of stars h and o.

Index to left

320.7 < brighter disappears

357.6 36.9[✓]

316.5

p 0.8

44.3[✓]81.2[✓]+4.2[✓]

Index to right

44.9

93.0

48.1[✓]

50.0

86.7

36.7[✓]

84.8

+4.1[✓]

50.6

86.8

36.2[✓]

46.5

90.8

44.3[✓]80.3[✓]+4.2[✓]

Jan. 2, 1894

Index to left

137.1			
181.7	44.6	✓	
140.0			
175.8	35.8	✓	
	80.4	✓	+ 4.2 ✓
140.2			
175.5	35.3	✓	
137.4			
181.8	44.4	✓	
	79.7	✓	+ 4.2 ✓

Index to right

45.5			
91.7	46.2	✓	
49.3			
88.6	39.3	✓	
	85.5	✓	+ 4.0 ✓

Extension of Photometric Scale W. obs.
J. Lefebvre W. obs.

21	6	+ 67.8
28	55	
+ 7	49	

Star n. compared with star 5

Jan. 2, 1894

Index to right and above

319.8

356.0

36.2 ✓

319.0

0.4

41.4 ✓

77.6 ✓

+4.3 ✓

Left and below

225.5

270.0

44.5 ✓

227.0

269.2

42.2 ✓

86.7 ✓

+4.0 ✓

227.8

269.8

42.0 ✓

227.1

271.0

43.9 ✓

85.9 ✓

+4.0 ✓

Right and above

318.0

0.2

42.2 ✓

320.6

357.7

37.1 ✓

79.3 ✓

+4.2 ✓

319.5

359.7

40.2 ✓

318.2

1.3

43.1 ✓

83.3 ✓

+4.1 ✓

Jan. 2, 1894

Left and below

49.3

87.6

47.2

92.2

38.3 ✓

45.0 ✓

83.3 ✓

+4.1 ✓

Location of stars near ^{new} variable N. obs.

1	55	+56.0
5	35	
<hr/>		
+3	40	

1	59	+56.4
5	39	
<hr/>		
+3	40	

Positive zero ~~+1.20 and 2~~ 1.20.2

45.0

1.65.2

5	47	26.2	star X
		46.1	10 mag.
	48	6.5	14 "
		22.9	" X
		41.2	14 "
	49	14.2	10 "
	51	11.8	9 "
		57.6	9 "

Jan. 2, 1894

5	5-2	47.3	x
	5-3	7.1	10
		27.1	14.6
		43.0	x
	5-4	2.1	14.6
		35.7	10
	5-6	32.2	9
	5-7	19.0	9
	5-7	54.9	
	5-8	14.7	
	5-9	2.9	
		22.4	
		42.3	
		58.6	
6	0	18.6	
		51.6	
	2	48.0	
	3	34.6	
	3	56.7	
	4	16.5	
		37.0	
		53.1	
	5	13.1	
		46.5	
	7	42.4 - 0.8	
	8	29.2	

Jan. 2, 1894

all in southern half.

Comp. Star used in preceding transits is
 Dec. $+56^{\circ} 41' A$ (9.0) = Kellingfors - Götta
 Jones No 1234 (9.3)

Jan. 3. 1894,

Extension of Phot. Scale. L. B.
 1 Cephei.

$$\begin{array}{r} 21 \\ 3 \\ \hline + 5 \end{array} \quad \begin{array}{r} 37 \\ 25 \\ \hline 62 \end{array} \quad + 72.4$$

Comp. of h and o

Index to right

46.0

92.8

50.1

86.6

46.8 ✓

36.5 ✓

83.3 ✓

+4.1 ✓

Index to left

140.0

176.0

138.1

181.6

36.0 ✓

43.5 ✓

79.5 ✓

+4.2 ✓

137.0

181.5

139.0

176.2

44.5 ✓

37.2 ✓

81.7 ✓

+4.1 ✓

Jan. 3, 1894

Index to right

50.5

86.6

45.8

91.7

36.1^{✓^}45.9^{✓^}82.0^{✓^}+4.1[✓]

45.2

92.4

49.2

88.6

47.2^{✓^}39.4^{✓^}86.6^{✓^}+4.0[✓]

Index to left.

320.5

357.5

316.2

0.3

27.0^{✓^}44.1^{✓^}81.1^{✓^}+4.2[✓]

Jan. 8, 1894.

Anderson's New Har. M. obs.
This is T Androm.

0 12 +28.7
3 5

+ 2 53 right and
Index below

33.92 Comparison star dis.

108.8 74.9^{ca}

27.5

106.9 $\frac{79.4^{ca}}{154.3^{ca}}$ 0.49
+ 2.5^{ca}

Index to left and above

299.0

22.4

83.4^{ca}

304.5

17.2

$\frac{72.7^{ca}}{156.1^{ca}}$

0.46

+ 2.5^{ca}

296.2

20.5

84.3^{ca}

300.6

19.8

$\frac{79.2^{ca}}{163.5^{ca}}$

0.31

+ 2.3^{ca}

Index to right and below

31.3

110.0

78.7^{ca}

35.8

108.4

$\frac{72.6^{ca}}{151.3^{ca}}$

0.55

+ 2.5^{ca}

Jan. 8, 1894

31.7

105.3

73.6[^]

31.9

112.0

80.1[^]153.7[^]

0.5-0

+2.5[^]

Index to left and above

123.0

197.1

122.1

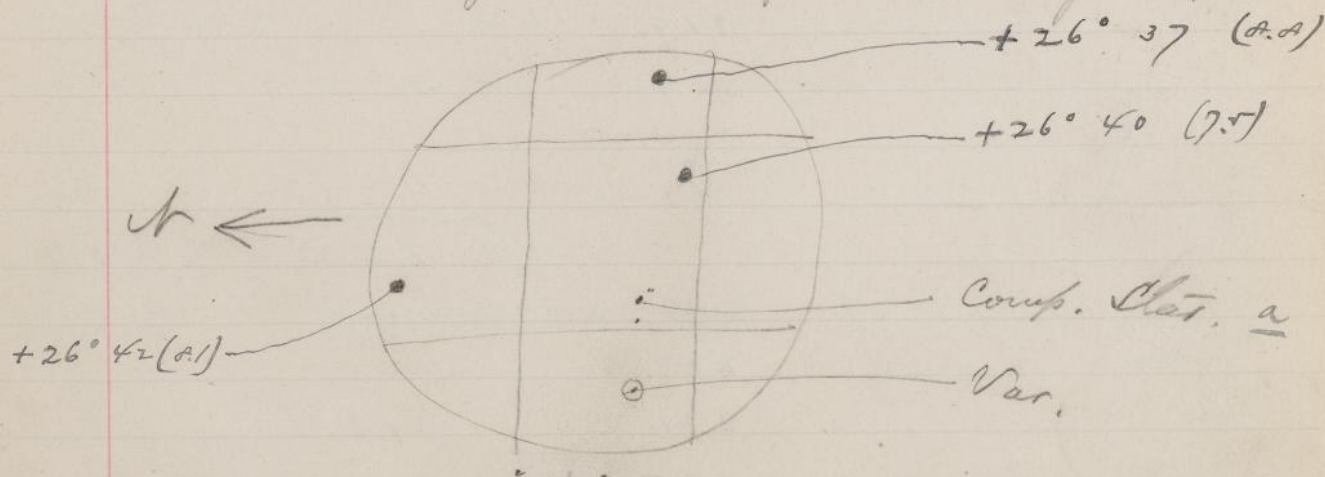
1.97.1

74.1[^]75.0[^]149.1[^]

0.57

+2.6[^]

Star used to compare Var. with in prec. sets
is an 11.5 magn. star, prec. Var. 21.5, 0.2 south
of it. It has a faint star at a little south prec.
and another faint star foll. 4°, slightly south.



Jan. 8, 1894
 Evaluation of Phot. Scale W. obs.
 T. bephiel W. obs.

$$\begin{array}{r}
 21 \quad 6 \quad + \quad 67.8 \\
 28 \quad 41 \\
 \hline
 + 7 \quad 35
 \end{array}$$

Left and below

$$\begin{array}{r}
 224.3 \\
 270.1 \quad 45.8^{\wedge} \\
 227.2 \\
 269.8 \quad \underline{42.6^{\wedge}} \\
 88.4^{\wedge} \quad + 4.0^{\wedge}
 \end{array}$$

Right and above

$$\begin{array}{r}
 319.7 \\
 356.0 \quad 36.3^{\wedge} \\
 317.7 \\
 360.2 \quad \underline{42.5^{\wedge}} \\
 78.8^{\wedge} \quad + 4.2^{\wedge}
 \end{array}$$

$$\begin{array}{r}
 319.5 \\
 359.0 \quad 39.5^{\wedge} \\
 318.5 \\
 361.2 \quad \underline{42.7^{\wedge}} \\
 82.2^{\wedge} \quad + 4.1^{\wedge}
 \end{array}$$

Left and below

$$\begin{array}{r}
 228.0 \\
 271.2 \quad 43.2^{\wedge} \\
 227.1 \\
 271.0 \quad \underline{43.9^{\wedge}} \\
 87.1^{\wedge} \quad + 4.0^{\wedge}
 \end{array}$$

Jan. 8, 1894

229.3

267.0

37.7[^]

226.5

271.2

44.7[^]82.4[^]+4.1[^]

Rights and above

3118.4

360.3

41.9[^]

319.7

356.6

36.9[^]78.8[^]+4.2[^]

9 32

e beti

N. obs.

2

14

- 3.4⁰

4

63

+ 2

49

Rights and below

277.9

35.9

274.3

41.5

comp. stat. dis.

118.0[^]127.2[^]245.2[^]

114.8

+0.7[^]

-1.31

9 41

Jan. 8, 1894

Left and above

5.1

132.1

13.2

123.2

12.5

125.2

3.1

132.2127.0^{<^}110.0^{<^}237.0^{<^}

1227

112.7^{<^}129.1^{<^}241.8^{<^}

182

+0.9[<]
-1.13+0.8[<]
-1.23

Right and below

95.5

222.9

103.9

214.0

104.7

213.2

93.9

223.0

127.4^{<^}110.1^{<^}237.5^{<^}

122.5

108.5^{<^}129.1^{<^}237.6^{<^}

224

+0.9[<]
-1.14+0.9[<]
-1.14

Left and above

181.0

310.0

192.2

303.3

129.0^{<^}111.1^{<^}240.1^{<^}

119.9

+0.8[<]
1.19

9 59

Jan 8, 1894

0 3 v, v 2 p in finder ✓
 0 3.5 v, v 2 p in large tel. ✓
 Est. 8.2

Exclusion of Photo. Scale. Wobs.

R. Cass.

Wobs.

23	51	+ 49.7
29	45	
+ 5	54	

Star in comp. with star in with Photo R.

Index to right

322.5, star in dis.

354.5 32.0[^]

324.9

353.6 28.7[^]60.7[^]+ 4.8[^]

Index to left

234.0

262.7 28.7[^]

232.1

264.2 22.1[^]60.8[^]+ 4.8[^]

1039

Jan. 8, 1894

231.0

264.3

33.3^{<^}

234.4

261.5

27.1^{<^}60.4^{<^}+4.8[<]

Index to right

146.1

171.9

25.8^{<^}

142.3

173.7

31.4^{<^}57.2^{<^}+5.0[<]

143.2

173.9

30.7^{<^}

144.5

172.1

27.6^{<^}58.3^{<^}+4.9[<]

Index to left

X 54.2

82.3

28.1^{<^}

51.1

86. X

34.9^{<^}63.0^{<^}+4.7[<]

10 52

≤ 1.5 R, ≤ 3 t in large tel.
too faint for finder

10 55

Est. 11.9

Jan. 12, 1894

χ bygni

M. obs.

19	46
27	16
<hr/>	
+ 7	30

+ 32.7

Too low, abandoned.

α betti

M. obs.

2	14
3	19
<hr/>	
+ 1	5

- 3.4

Index left and above

1.4	
134.5	133.1
13.8	changed focus
129.0	10.2
	<hr/>
	243.3

~~0.7~~

7 42

12.7
125.0
2.8

112.3^{va}

133.8

131.0^{va}

243.3^{va}

116.7

+ 0.7^v

- 1.27

Jan. 12, 1894

Right and below

92.0		
223.6	131.6 [✓]	
100.2		
213.3	113.1 [✓]	
	<hr/> 244.7 [✓]	+0.7 [✓]
	115.3	-1.30
100.5		
213.9	113.4 [✓]	
93.4		
223.8	130.4 [✓]	
	<hr/> 243.8 [✓]	+0.7 [✓]
	116.2	-1.28

Left and above

180.9		
314.2	133.4 [✓]	
188.6		
305.7	117.1 [✓]	
	<hr/> 250.5 [✓]	+0.1 [✓]
	109.5	-1.43
189.0		
306.8	117.8 [✓]	
181.2		
312.0	130.8 [✓]	
	<hr/> 248.6 [✓]	+0.6 [✓]
	111.4	-1.39

Jan. 12, 1894

Right and below

272.0

44.8

281.3

35.0

121.8[✓]113.7[✓]245.5[✓]

114.5

9.7[✓]
-1.31

8 9

Extension of Photometric Scale Work

B. base.

H. obs.

22

51

+49.0

27

56

+4

5

Index to left

51.5

89.0

53.9

84.4

in dis.

37.5[✓]30.5[✓]68.0[✓]+4.6[✓]

8 22

Index to right

145.5

171.9

144.0

174.2

26.4[✓]30.2[✓]56.6[✓]+5.0[✓]

Jan. 12, 1898

142.0

175.0

145.9

171.6

33.0 ✓

25.1 ✓

58.1 ✓

+4.9 ✓

Index to left

88.8

27.7 ✓

51.7

89.0

37.3 ✓

65.0 ✓

+4.7 ✓

51.8

87.2

35.4 ✓

53.8

83.0

29.2 ✓

64.6 ✓

+4.7 ✓

Index to right

145.9

171.2

143.2

174.5

25.3 ✓

31.3 ✓

56.6 ✓

+5.0 ✓

A 42

L 44

S2 B, B 2.5 t

Est. 11.9

Jan. 12, 1894

Anderson's New Variable M. obs.
T Andromedae.

$$\begin{array}{r}
 0 \quad 12 \quad +25.7 \\
 4 \quad 55 \\
 \hline
 +4 \quad 43
 \end{array}$$

Meast. of $\Delta m. + 26^\circ 40$ and Comp. Star α (p. 15)
with Phot. R. (near Anderson's Var.)

Index above

9 15

327.82 brighter disk

349.0

21.2

327.4

352.0

$$\begin{array}{r}
 24.6 \\
 \hline
 45.8
 \end{array}$$

+57.5

Index below

59.5

80.5

21.0

59.3

78.5

$$\begin{array}{r}
 19.2 \\
 \hline
 40.2
 \end{array}$$

+57.8

59.0

80.2

21.2

57.7

78.6

$$\begin{array}{r}
 20.9 \\
 \hline
 24.3
 \end{array}$$

$$\begin{array}{r}
 24.3 \\
 \hline
 42.1
 \end{array}$$

+57.7

Jan. 12, 1894.

Index above

324.5

352.2

330.0

349.2

27.7[✓]19.2[✓]46.9[✓]+57.4[✓]

331.2

349.8

326.1

352.3

18.6[✓]26.2[✓]44.8[✓]+55.5[✓]

Index below

238.5

259.4

239.6

239.9

20.9[✓]20.3[✓]41.2[✓]+57[✓]

9 47

Region rather low, moon not very
far distant, seeing of rather poor on
account of wind

Jan. 12, 1894
 Photometric Measurement of
 δ 9M + 62° 59' 6" obs.

$$\begin{array}{r} 3 \quad 30 \quad +62^{\circ} 8' \\ 5 \quad 48 \\ \hline +2 \quad 18 \end{array}$$

Left and above

10 25

$$\begin{array}{r} 288.2 \text{ comp. slit dis.} \\ 36.0 \quad 107.8 \checkmark \end{array}$$

$$\begin{array}{r} 276.9 \\ 41.8 \end{array}$$

$$124.9 \checkmark$$

$$222.7 \checkmark$$

$$\begin{array}{r} \cancel{+1.0} \checkmark \\ -1.04 \end{array}$$

Right and below

$$8.8$$

$$131.0$$

$$122.2 \checkmark$$

$$17.5$$

$$120.5$$

$$103.0 \checkmark$$

$$225.2 \checkmark$$

$$\begin{array}{r} \cancel{+1.0} \checkmark \\ -0.88 \end{array}$$

$$16.8$$

$$134.8$$

$$-0.88$$

$$117.3$$

$$100.5 \checkmark$$

$$6.0$$

$$131.7$$

$$125.7 \checkmark$$

$$226.2 \checkmark$$

$$\begin{array}{r} \cancel{+1.0} \checkmark \\ -0.90 \end{array}$$

$$133.5$$

$$-0.90$$

Jan. 12, 1894

Left and above

92.8

221.2

188.0

210.0

128.4[✓]103.0[✓]231.4[✓]

128.6

~~+1.0~~[✓]

-1.01

104.2

212.0

107.8[✓]

96.4

220.7

124.3[✓]232.1[✓]~~+1.0~~[✓]

-1.02

Right and

188.9

308.6

198.5

298.7

119.7[✓]100.2[✓]219.9[✓]~~+1.0~~[✓]

140.1

-0.77

10 45

10 35

Jan 13, 1894.

o beti

n. obs.

2	14	- 3.4
3	22	
<hr/>		
+ 1	8	

Index to right
block broke down, stopped to repair it.

278.7

37.0

118.3[✓]

274.0

42.9

128.9[✓]

247.2[✓]

+ 0.6[✓]

Index to left

112.8

- 1.35

3.0

135.8

132.8[✓]

8.1

129.8

121.7[✓]

254.5[✓]

+ 0.5[✓]

105.5

- 1.52

10.4

128.0

117.6[✓]

3.0

133.0

130.0[✓]

247.6[✓]

+ 0.6[✓]

112.4

- 1.36

Jan. 13, 1894

Index to right

95.5

223.9

100.0

216.8

128.4[✓]116.8[✓]245.2[✓]

114.8

+0.7[✓]

-1.31

100.2

217.2

117.0[✓]

93.3

222.3

129.0[✓]246.0[✓]+0.7[✓]

-1.33

Index to left

182.7

312.4

189.2

307.0

129.7[✓]117.8[✓]247.5[✓]

112.5

+0.6[✓]

-1.36

8 15

8 30

0.2 v, v 2 p, in finder

0.2 v, v 2 p in large tel

Estimated through some clouds

Est. 8.1

Jan. 13, 1894

Evaluation of Photometric Scale

R. Carr.

W. obs.

$$\begin{array}{r}
 23 \quad 51 \quad +49.7^0 \\
 28 \quad 25 \\
 \hline
 +4 \quad 84
 \end{array}$$

8.2 R, R 2 p in large tel.
Too faint for finder

846

Est. 12.1

Estimate through some clouds and haze
Left and below

250

235.2

261.2

26.0 ✓

230.6

265.1

34.5 ✓

60.5 ✓

+418 ✓

Right and above

143.4

172.7

29.3 ✓

145.1

172.0

26.9 ✓

56.2 ✓

+570 ✓

Jan. 13, 1894

146.9

172.1 25.2[✓]

144.0

173.3

$$\begin{array}{r} 29.3^{\checkmark} \\ \hline 54.5^{\checkmark} \end{array}$$
+ 5.1[✓]

Left and below

231.1

264.0 32.9[✓]

233.6

262.3

$$\begin{array}{r} 28.7^{\checkmark} \\ \hline 61.6^{\checkmark} \end{array}$$
+ 4.8[✓]

233.1

262.0 28.9[✓]

232.1

265.6

$$\begin{array}{r} 23.5^{\checkmark} \\ \hline 62.4^{\checkmark} \end{array}$$
+ 4.8[✓]

Right and above

322.0

356.3

34.3[✓]

324.0

353.0

$$\begin{array}{r} 29.0^{\checkmark} \\ \hline 62.3^{\checkmark} \end{array}$$
+ 4.7[✓]

9 10

Jan. 13, 1894

Anderson's New Variable W. obs.

$$\begin{array}{r}
 0 \quad 12 \quad + 25.7 \\
 5 \quad 26 \\
 \hline
 5 \quad 14
 \end{array}$$

~~Index~~Phot. meas of $+26^{\circ} 37'$ and $40'$ near Anderson's Var.

Index to right and below

$$115.7 < +26^{\circ} 37' \text{ dis.}$$

$$198.2 \quad 82.5 \checkmark$$

$$130.3$$

$$186.8$$

$$\begin{array}{r}
 56.5 \checkmark \\
 \hline
 139.0 \checkmark
 \end{array}$$

$$+ 2.8 \checkmark$$

Left and above

$$227.0$$

$$272.0$$

$$45.0 \checkmark$$

$$217.0$$

$$278.0$$

$$\begin{array}{r}
 61.0 \checkmark \\
 \hline
 106.0 \checkmark
 \end{array}$$

$$+ 3.5 \checkmark$$

$$246.8$$

$$278.2$$

$$68.2$$

Jan. 13, 1894

2251.1

2721.0

46.9[✓]

2141.3

2881.0

73.7[✓]120.6[✓]+ 3.2[✓]

Right and below

2971.8

231.0

85.2[✓]

3111.2

8.0

55.8[✓]141.0[✓]+ 2.8[✓]

3121.0

6.1

54.1[✓]

2941.4

21.9

87.5[✓]141.6[✓]+ 2.7[✓]

Left and above

32.2

1051.0

~~48.8~~72.8[✓]

43.1

92.2

52.9[✓]125.7[✓]+ 3.1[✓]

Region rather low.

Star α_3 ^{6.15-11} And. near or in large tel.

Region rather low, moon rather bright and not far distant, etc. a little uncertain.

Jan. 13, 1894
 Estimate of Photometric Scale
 of Cass. W. obs.

$$\begin{array}{r}
 0 \\
 5 \\
 + 5 \\
 \hline
 10
 \end{array}
 \begin{array}{r}
 19 \\
 62 \\
 43
 \end{array}
 \begin{array}{r}
 + 55.9
 \end{array}$$

DM +62°596

$$\begin{array}{r}
 3 \\
 6 \\
 + 2 \\
 \hline
 11
 \end{array}
 \begin{array}{r}
 20 \\
 15 \\
 45
 \end{array}
 \begin{array}{r}
 + 62.8
 \end{array}$$

Index to left

$$\begin{array}{r}
 284.0 \\
 38.0 \\
 284.3 \\
 33.9 \\
 \hline
 109.6
 \end{array}
 \begin{array}{r}
 114.0 \\
 \checkmark
 \end{array}$$

Index to right

$$\begin{array}{r}
 12.5 \\
 124.5 \\
 6.8 \\
 132.8 \\
 \hline
 126.0
 \end{array}
 \begin{array}{r}
 112.0 \\
 \checkmark
 \end{array}$$

$$\begin{array}{r}
 238.0 \\
 122.0 \\
 \hline
 116.0
 \end{array}
 \begin{array}{r}
 \checkmark
 \end{array}$$

$$\begin{array}{r}
 + 1.1 \\
 - 0.55 \\
 \hline
 \checkmark
 \end{array}$$

$$\begin{array}{r}
 + 0.7 \\
 - 1.15 \\
 \hline
 \checkmark
 \end{array}$$

Jan. 13, 1894

8.0

128.9

12.7

129.7

120.9 $\sqrt{1}$ ~~3.8~~117.0 $\sqrt{1}$ 237.9 $\sqrt{1}$ Index to 1212~~+0.7~~

-1.14

10 50

10 46

Measurements made through
some clouds, clouds growing
thicker in last set, measure-
ment stopped by clouds.

Jan. 17, 1894

Anderson's New Variable = *Ictinodrom.*
Comp. with star α (p. 151) *Th. obs.*

$$\begin{array}{r} 0 \\ 3 \\ \hline + 3 \end{array} \quad \begin{array}{r} 12 \\ 29 \\ \hline 17 \end{array} \quad + 25.7$$

Index to right and below

$$\begin{array}{r} 29.8 \\ 104.5 \\ 25.5 \\ 110.9 \end{array} \quad \begin{array}{r} \angle \alpha \text{ dis.} \\ 74.7 \checkmark \\ 85.4 \checkmark \\ 160.1 \checkmark \end{array} \quad \begin{array}{r} 0.38 \\ + 2.4 \checkmark \end{array}$$

Left and above

$$\begin{array}{r} 121.8 \\ 200.0 \\ 113.2 \\ 206.2 \end{array} \quad \begin{array}{r} 78.2 \checkmark \\ 93.0 \checkmark \\ 171.2 \checkmark \end{array} \quad \begin{array}{r} 0.17 \\ + 2.2 \checkmark \end{array}$$

Observations very difficult, settings somewhat uncertain; measurements cannot be continued on account of bright moon light.

Phot. meset of δ m. + $26^\circ 37'$ and $40'$.
~~with~~ Phot. R. (See next page).

Jan. 17, 1894

Left and above

$$\begin{array}{r}
 108.0 \\
 208.8 \\
 \hline
 98.2 \\
 18.4 \\
 \hline
 220.4
 \end{array}
 \begin{array}{l}
 < +26^{\circ} 37' \text{ dir.} \\
 100.8 \checkmark \\
 119.9 \checkmark \\
 +22.2 \\
 \hline
 222.0 \checkmark \\
 220.7 \checkmark \\
 \hline
 138.3
 \end{array}$$

-0.81

+1.2 \checkmark

Right and below

$$\begin{array}{r}
 185.1 \\
 307.2 \\
 196.0 \\
 303.6 \\
 \hline
 194.0 \\
 303.9 \\
 187.3 \\
 310.0
 \end{array}
 \begin{array}{l}
 122.1 \checkmark \\
 107.6 \checkmark \\
 229.7 \checkmark \\
 130.3 \\
 109.9 \checkmark \\
 122.7 \checkmark \\
 232.6 \checkmark \\
 127.4
 \end{array}$$

-0.97

+1.0 \checkmark

-1.03

+1.0

~~Left~~

Left and above

$$\begin{array}{r}
 276.0 \\
 40.8 \\
 284.1 \\
 30.0 \\
 \hline
 276.0 \\
 40.8 \\
 284.1 \\
 30.0
 \end{array}
 \begin{array}{l}
 123.6 \checkmark \\
 105.9 \checkmark \\
 229.5 \checkmark \\
 130.57
 \end{array}$$

-0.97

+1.0 \checkmark

Jan. 17, 1898.

283.9

33.2

109.3[✓]

280.0

39.1

119.1[✓]

-0.95

228.4[✓]+1.1[✓]

Rightward below

9.5⁻

127.0

117.5[✓]

10.4

121.0

105.6[✓]

-0.84

223.1[✓]+1.2[✓]

136.9

8 20

Rel. est. of Anderson's New Var.

8 24

Star a (p. 151) 3 Anderson's New Var.

Moon bright. Est. somewhat difficult.

2 beti

M obs.

2

14

+ - 3.4

4

35

+ 2

21

Jan. 17, 1894

Right and below

8 47

99.3	
218.8	119.5 [✓]
94.0	
224.0	130.0 [✓]

249.5 [✓]	+0.5 [✓]
110.5	-1.41

Left and above

181.2	
315.3	134.0 [✓]
184.2	
308.0	123.8 [✓]

257.8 [✓]	+0.4 [✓]
102.2	-1.60

185.0	
311.2	126.2 [✓]
182.0	
313.2	131.2 [✓]

257.4 [✓]	+0.4 [✓]
102.6	-1.59

Right and below

274.4	
43.5	129.1 [✓]
276.8	
38.9	122.1 [✓]

251.2 [✓]	+0.6 [✓]
108.8	-1.45

278.0	
39.9	121.9 [✓]
272.6	
44.1	131.5 [✓]

253.4 [✓]	+0.5 [✓]
106.6	-1.50

Jan. 17, 1894
Left and above

2.6

136.0 • 133.4 ✓

6.0

130.0

124.0 ✓

257.4 ✓

1012.6

+0.4 ✓

-1.59

9 5

9 14

m 4 v, v ³ n in finder ✓

⊙ m 4 v, v 3 n in large tel. ✓
Est. 7.8

DM Wedge Zone (Special) ^{W. obs}

0	50	+20.6
5	27	
<hr/> +4	<hr/> 47	

162

clouds

Zone Abandoned on account of clouds.

Jan. 17, 1894

Phot. Meas. of Bright Double Stars ^{Mobs.}

231 66 beta

Mobs.

$$\begin{array}{r}
 2 \quad 6 \\
 5 \quad 53 \\
 \hline
 + 3 \quad 47
 \end{array}$$

- 2° 10

clouds
Abandoned

289 32 arietis

$$\begin{array}{r}
 2 \quad 22 \\
 6 \quad 10 \\
 \hline
 + 3 \quad 37
 \end{array}$$

+ 26° 15

clouds

Jan. 1911894
 DMM Wedge Zone (Special) +9° N. obs.
 Series 151⁶

✓ 5A 4727	4.25		
	4.40		
	4.37	13.02 ^c	5.64 ^c
4741	3.43		
	3.30		
	3.25	9.98 ^c	4.32 ^c
4749	4.62		
	4.80		
	4.77	14.19 ^c	6.14 ^c
4755	3.60		
	3.51		
	3.48	10.59 ^c	4.59 ^c
4742	3.50		
	3.45		
	3.40	10.35 ^c	4.48 ^c
4777	3.60		
	3.47		
	3.52	10.59 ^c	4.59 ^c

Jan. 19, 1894

4780

4.32

4.20

4.23

12.75^c5.52^c

4765

4.83

4.70

4.58

14.11^c6.11^c

6 25

4781

4.21

4.27

4.08

12.56^c5.44^c

Sun Wedge zone (special) +9° W. obs.

Series 10-⁷

6 36

5055

5.34

5.30

5.23

15.87^c6.87^c

5067

2.90

2.85

2.72

8.47^c3.67^c

5075

5.40

5.27

5.49

16.16^c7.00^c

Jan. 19, 1894

5093	3.85		
	3.80		
	3.77	11.6.2°	5.03°

5095	2.28		
	2.47		
	2.45	7.20°	3.12°

5127	4.20		
	4.33		
	4.10	12.63°	5.47°

5131	4.21		
	4.32		
	4.33	12.86°	5.57°

5148	2.40		
	2.22		
	2.26	6.88°	2.98°

7 20 5149	4.71		
	4.78		
	4.83	14.31°	6.20°

Jan. 19, 1894
 Sm Wedge zone + 19° Nob.,
 Series 158⁸

7	50	162	3.95		
			3.80		
			3.82	11.57 ^c	5.01 ^c
		177	3.87		
			3.90		
			3.98	11.75 ^c	5.09 ^c
		183	2.20		
			2.32		
			2.45	8.97 ^c	3.02 ^c
		184	2.75		
			2.63		
			2.75	8.13 ^c	3.52 ^c
		185	6.10		
			6.20		
			6.29	18.59 ^c	8.05 ^c
		220	3.49		
			3.53		
			3.57	10.59 ^c	4.59 ^c

Jan. 19, 1894

223

4.08

4.17

4.15

12.40^c5.37^c

283

3.01

3.07

3.10

9.18^c3.97^c

A 3r 293

3.50

3.65

3.44

10.59^c4.59^c

9 bcts

W. obs.

2

14

- 3.4

5

16

+ 3

2

9 29

Left and above

181.0

316.0

135.0^c

187.0

310.1

123.1^c258.1^c

101.9

~~10.4^c~~

-1.61

Jan. 19, 1894

Right and below

$$\begin{array}{r} 6 8 \\ 778.9 \end{array}$$

421.0

125.2^{ca}

272.0

457.5

133.5^{ca}258.7^{ca}~~+0.4^{ca}~~

271.8

101.3

-1.62

45.7

133.9^{ca}

276.7

40.8

124.1^{ca}258.0^{ca}~~+0.4^{ca}~~

Left and above

102.0

-1.61

7.7

127.7

120.0^{ca}

7.7

134.0

131.9^{ca}251.9^{ca}~~+0.4^{ca}~~

3.2

108.1

-1.46

131.8

128.6^{ca}

5.5

127.7

122.2^{ca}250.8^{ca}~~+0.4^{ca}~~

Right and below

109.2

-1.44

97.2

219.6

122.4^{ca}

90.5

225.4

133.9^{ca}254.5^{ca}

9. 47 m 3.5 V, V 3 m in finder

256.9

~~+0.4^{ca}~~

m 4 V, V 3 m " large tel.

256.3^{ca}

-1.57

103.7

Jan. 19. 1894
Double stars, Photo. E. W. obs.

231 66 beta

$$\begin{array}{r} 2 \quad 6 \quad - 3.0 \\ 5 \quad 62 \\ \hline + 3 \quad 56 \end{array}$$

Bright and below

132.0, brighter dis.

184.3 52.3

136.9

177.1 40.2

92.5

~~12.8~~
185

Left and above

228.2

267.1 38.9

220.0

274.6 54.6

93.5

~~12.8~~
182

220.2

274.3 54.1

226.0

268.7 42.7

97.8

~~12.7~~
174

Jan. 19, 1894
Right and below

316.0

355.3

39.3^h

313.2

41.6

51.4^h

90.7^h

~~+ 3.9^h~~
1.90

313.9

41.0

50.1^h

317.9

358.7

40.8^h

90.9^h

~~+ 3.9^h~~
1.89

Left and above

47.7

86.7

39.0^h

41.2

94.3

53.1^h

1.86

92.1^h

~~+ 3.9^h~~

10 17

12.5

10 02.5

Region somewhat low, seeing of
lines rather poor.

430

³ 9 Jani B

W. obs.

3

34

+ 4.7

6

34

+ 3

00

Abandoned

Jan. 19, 1894

431 0 p v Wids.

$$\begin{array}{r}
 2 \quad 34 \quad +3 \quad 3.6 \\
 6 \quad 39 \\
 \hline
 +3 \quad 5-
 \end{array}$$

Abandoned

block broke down, tried to readjust
 but failed
 289 32 Arietis Wids.

$$\begin{array}{r}
 2 \quad 32 \quad +26.5 \\
 6 \quad 47 \\
 \hline
 +4 \quad 14
 \end{array}$$

Right and above

328.0

349.2

21.2 ^

326.8

346.3

19.5 ^

3.73

40.7 ^

~~5.7 ^~~

Left and below

57.3

77.0

19.7 ^

58.0

76.2

18.2 ^

3.89

37.9 ^~~5.7 ^~~

10 - 37

Jan. 19, 1894

58.2

76.0

17.8¹

57.2

77.0

19.8¹

391

37.6

~~+5.7¹~~

Right and above

147.1

168.2

21.2¹

147.4

169.3

21.9¹

3.60

43.1¹~~+5.6¹~~

148.01

168.1

20.1¹

147.7

166.8

19.1¹

3.81

39.2¹~~+5.8¹~~

Left and below

236.7

261.1

24.4¹

236.0

259.2

23.2¹

3.82

47.6¹~~+5.4¹~~

$$\begin{array}{r} 10 \quad 52 \\ \hline 10 \quad 44.5 \end{array}$$

Series 10⁹

Jan. 20, 1894

Sun Wedge Zone (specimen) + 9° W. obs.

6	30	5055	5.15		
			5.10		
			5.18	15.43 ^{<}	6.68 ^{<}

6	32	5067 5067	3.00		
			2.90		
			2.98	8.88 ^{<}	3.85 ^{<}

		5075	5.40		
			5.50		
			5.22	16.12 ^{<}	6.98 ^{<}

		5093	3.81		
			3.60		
			3.62	11.03 ^{<}	4.78 ^{<}

		5095	2.20		
			2.22		
			2.40	6.82 ^{<}	2.95 ^{<}

		5127	4.00		
			4.28		
			4.30	12.58 ^{<}	5.45 ^{<}

		5131	4.21		
			4.10		
			4.12	12.43 ^{<}	5.38 ^{<}

Jan. 20, 1894

5148

2.50

2.61

2.58

7.69[<]3.33[<]

7. 44 5149

4.70

4.66

4.53

13.83[<]5.99[<]D M Wedge June 19th (special) M. obs.Series ^{160.}~~159.~~

7 √3 162

3.90

3.70

3.92

11.52[<]4.99[<]

177

3.85

3.92

3.98

11.75[<]5.09[<]

183

2.26

2.35

2.37

6.98[<]3.02[<]

Jan. 20, 1894.

184

2.60

2.70

2.58

7.88[<]~~3.41~~
~~4.28~~

185

6.12

6.00

6.33

18.45[<]7.99[<]

220

4.20

4.11

4.18

12.49[<]5.41[<]

283

3.06

2.90

2.87

8.83[<]3.82[<]

2 31 293

3.48

3.53

3.57

10.58[<]4.58[<]

2 beti

11. obs.

2

14

- 2.4⁰

4

40

+ 2

26

8 40

Jan. 20, 1894

Right and below

196.5

221.0

92.5

224.3

124.5[✓]132.3[✓]256.8[✓]

103.2

+0.4[✓]

-1.58

Left and above

478.4

317.0

182.3

311.9

182.0

312.0

179.0

316.1

138.6[✓]128.6[✓]267.2[✓]

92.8

130.0[✓]137.1[✓]267.1[✓]+0.2[✓]

-1.84

+0.2[✓]

-1.84

Right and below

274.5

42.0

277.3

40.3

276.1

39.5

274.3

44.1

127.5[✓]123.0[✓]250.5[✓]

102.5

123.4[✓]129.8[✓]253.2[✓]

106.8

+0.6[✓]

-1.43

+0.5[✓]

-1.49

Jan. 20, 1898

Left and above

359.0

136.0

3.0

132.2

137.0[✓]132.2[✓]266.2[✓]

93.8

+0.2[✓]

-1.81

adjusted driving clock.

Bright Double Stars, Phot. R., W. obs.

90 77 Piscium W. obs.

2

0

+4.2

5

40

+3

40

231

66 beti

W. obs.

2

6

-3.0

5

51

3

45

9 28

Jan. 20, 1894

Index above

39.0, brighter dis.

94.0 55.0 ✓

47.0

85.6 38.6 ✓

93.6 ✓

+3.8 ✓

Index below

136.0

179.0 43.0 ✓

131.5

182.0 50.5 ✓

93.5 ✓

+3.8 ✓

131.2

181.8 50.6 ✓

135.2

177.0 41.8 ✓

92.4 ✓

+3.9 ✓

Index above

226.2

clouds

269.2 43.0 ✓

221.2

277.0 55.8 ✓

98.8 ✓

+3.7 ✓

clouds thick

Jan. 20, 1894

221.0

274.2

227.4

268.0

53.2[✓]₁40.6[✓]₁9.3.8[✓]₁+3.8[✓]₁

Index below

318.5

2.5

313.0

4.4

44.0[✓]₁51.4[✓]₁9.5.4[✓]₁+3.8[✓]₁

9 52

Cloudy.

Posted to here

Jan. 22, 1894

Wedge Photo Zone (special) +9° W. obs.

Series 16ⁱ

2	13	+10.0	W. obs.
4	9		
+1	56		

7	53	272	3.35		
			3.38		
			3.49	10.22 ^c	4.43 ^c
		286	2.00		
			1.91		
			1.97	5.88 ^c	2.55 ^c
		288	2.51		
			60		
			2.51		
			2.68	7.78 ^c	3.37 ^c
		304	3.40		
			3.37		
			3.42	10.19 ^c	4.41 ^c
		303	2.50		
			2.62		
			2.64	7.76 ^c	3.36 ^c

Jan. 22, 1894

305	4.20		
	4.27		
	4.31	12.78 ⁴	5.53 ⁴

309	2.51		
	2.57		
	2.62	7.70 ⁴	3.33 ⁴

312	2.60		
	2.71		
	2.62	7.93 ⁴	3.43 ⁴

2	30	316	6.11		
			6.00		
			6.03	18.14 ⁴	7.85 ⁴

Series 16² + 19° (special) W. obs.

2	29	+ 20.0
4	59	
+ 2	30	

2	30 389	5.27		
		5.40		
		5.42	16.09 ⁴	6.97 ⁴

Jan. 22, 1894

396	2.31		
	2.38		
	2.15	6.84 ^{<}	2.96 ^{<}
	,		
398	3.40		
	3.57		
	3.62	10.59 ^{<}	4.59 ^{<}
395	3.11		
	3.20		
	3.05	9.36 ^{<}	4.05 ^{<}
408	2.21		
	2.15		
	2.09	6.45 ^{<}	2.79 ^{<}
409	4.18		
	4.27		
	4.25	12.70 ^{<}	5.50 ^{<}
432	5.12		
	5.25		
	5.28	15.65 ^{<}	6.78 ^{<}
417	2.33		
	2.42		
	2.74	6.96 ^{<}	3.01 ^{<}

Jan. 22, 1894

9 0 437 3.74
 3.85
 3.78 11.37° 4.92°

o beti *u. obs.*

2 14 - - 3.4
 5 28
 + 3 14

Right and below

9 15
 275.1
 43.7 128.6 ✓
 274.2
 43.2 129.0 ✓
 257.6 ✓
 102.4 ✓
 Left and above -1.60

1.0
 135.7 134.7 ✓
 2.4
 133.2 130.8 ✓
 265.5 ✓
 94.5 ✓
 3.2 -1.80
 130.0 126.8 ✓
 1.3
 133.6 132.3 ✓
 259.1 ✓
 100.9 ✓
 +0.4 ✓
 -1.63

Jan. 22, 1894

Right and below

88.0			
227.3	139.3	✓	
90.8			
225.3	134.5	✓	
	273.8	✓	
	86.2		+0.0 ✓
92.7			-2.02
222.0	129.3	✓	
88.7			
227.0	138.3	✓	
	267.6	✓	
	92.4		+0.1 ✓
			-1.85

Left and above

177.7			
316.0	138.3	✓	
182.0			
313.2	130.2	✓	
	268.5	✓	
	91.5		+0.1
			-1.87

troubled by photometer slipping, 5 out of focus, region rather low, moon bright, obs. somewhat difficult.

Sky becoming more or less cloudy, so that no more wedge zones can be taken.

Bright Double Stars, Phot. B. M. obs.

289 33 Arietis M. obs.

2	33	+26.5
6	19	
+3	46	

Jan. 22, 1894

Right and above

328.1	Brighter dis.
347.0	18.9v

327.8

347.0

19.2v

3.68

38.1v

~~+5.9~~

Left and below

58.2

78.0

19.8v

59.2

76.4

17.2v

3.94

37.0v

~~+5.9~~

59.1

76.2

17.1v

57.7

78.2

20.5v

3.91

37.6v

~~+5.9~~

Right and above

148.8

167.0

18.2v

149.0

165.9

16.9v

16.06

35.1v

~~+6.1~~

148.2

166.3

18.1v

146.7

168.3

21.6v

3.79

39.7

~~+5.8~~

Jan. 22, 1894

Left and below

237.2

258.2

21.1

238.4

257.3

18.9

3.77

40.0

~~5.8~~

10 20

N 125° E

430

39 Jan 13

Wols.

3

34

+ 4.7

6

43

+ 3

9

This star has two fainter companions, one north, west, and the other south and a little west, the latter is a little the brighter of the two faint companions.

Rel. brightness of brightest component and north-foll. companion measured.

clouds

Index below

238.0

< brighter dir.

263.8

30.8

234.7

260.0

25.3

- 3.01

56.1

~~5.8~~

Jan. 22, 1894.

Index above

32.6.0

351.0

25.0 \wedge

322.9

352.1

29.2 \wedge

- 3.09

54.2 \wedge ~~+ 5.1 \wedge~~

322.0

352.0

30.0 \wedge

322.7

351.0

28.3 \wedge

- 2.93

58.3 \wedge ~~+ 4.9 \wedge~~

Index below

55.1

80.3

25.2 \wedge

52.0

83.0

31.0 \wedge

- 3.01

56.2 \wedge ~~+ 5.0 \wedge~~

52.0

84.0

32.0 \wedge

53.6

80.7

27.1 \wedge

- 2.89

59.1 \wedge ~~+ 4.9 \wedge~~

Index above

143.8

170.1

26.3 \wedge

141.2

172.0

30.8 \wedge

- 2.97

57.1 \wedge ~~+ 5.0 \wedge~~

10 41

Jan. 22, 1898

307 of Persei Wabs.

2	41	+55.4
6	64.	
<hr/>		
+4	23	

Index above

10 45

240.8
 255.0 ^{< bright dis.} 14.21
 240.8

254.2

13.41

27.61

~~4.59~~~~+6.61~~

Index below

331.0

344.9

13.91

331.2

344.0

12.81

26.71

~~4.66~~~~+6.71~~

331.1

344.1

12.91

330.2

344.8

14.61

27.51

~~4.59~~~~+6.61~~

Index above

61.2

74.3

13.11

61.3

74.0

12.71

25.81

4.73

~~+6.71~~

Jan. 22, 1894

62.0

73.7

11.7

61.2

74.1

12.9

K.24

24.6

~~+6.8~~

Index below

151.8

164.0

12.2

151.3

164.5

13.2

K.77

25.4

~~+6.8~~

10 55

14 00 E.M.T.

Jan. 23, 1894

0 bete

W. obs.

2	14	- 34
3	68	
<hr/>		
+ 1	54	

Stopped by clouds first of evening

~~96.0~~

Right and below

96.0

220.1

124.1 ^{va}

93.2

221.0

127.7 ^{va}

251.8 ^{va}

108.2

~~101.5~~ ^v

-1.46

Left and above

178.1

317.1

139.0 ^{va}

clouds

182.9

312.0

129.1 ^{va}

268.1 ^{va}

91.9

~~101.5~~ ^v

-1.86

183.5

313.0

129.5 ^{va}

178.1

317.2

139.1 ^{va}

268.6 ^{va}

91.4

~~101.5~~ ^v

-1.88

Jan. 23, 1894

Right and below

27 2.8

46.0

27 ~~8.2~~ ^{6.0}

40.0

133.2[✓]124.0[✓]257.2[✓]

102.8

~~+0.4[✓]~~

-1.59

27 5.5

40.8

125.3[✓]

27 3.8

42.5

128.7[✓]254.0[✓]

106.0

~~+0.5[✓]~~

-1.51

Left and above

0.0

137.0

3.0

4.5

137.0[✓]

133.0

130.0[✓]267.0[✓]

93.0

~~+0.2[✓]~~

-1.83

Observations made through more or less clouds.

Bright Double Stars. Photo. Re. W. obs.
90 77 Piscium W. obs.

0

59

+4.2⁰

4

42

+3

43

Jan 23, 1894

Index above

127.1 ² brighter dia.
 189.2 62.1 ¹
 clouds

123.2

194.1

70.9 1 - 0.92 ✓
 133.0 1 + ~~2.9~~ 1

Index below

209.9

283.5

73.6 1

216.0

279.9

63.9 1 - 0.82
 137.5 1 + ~~2.8~~ 1

clouds thick

214.0

279.5

65.5 1

213.7

284.0

20.3 1 - 0.86
 135.8 1 + ~~2.9~~ 1

Index above

302.5

14.0

71.5 1

306.3

8.6

62.3 1 - 0.90
 133.8 1 + ~~2.9~~ 1

Jan. 22, 1894

308.2

8.7

60.5 A

305.0

13.5

68.5 A

1.00

129.0 A

~~+3.0 A~~

Index below

34.0

104.7

70.7 A

38.5

97.5

59.0 A

-0.99

129.7 A

~~+3.0 A~~

8 40

A. 31

3

13.5

Observations through more or less clouds

231

66 beta

Wobs,

2

6

-3.0

5

24

+3

18

Bright and below

130.9

186.1

134.5

177.9

< brighter dis.

55.2 A

43.4 A

98.6 A

1.69

~~+3.7 A~~

8 50

Jan. 23, 1894

Left and above

226.1

270.0 43.91

222.0

272.5	<u>50.5</u> 1	1.80
	94.4 1	+5.8 1

221.7.

274.0 52.3 1

226.3

269.0	<u>42.7</u> 1	1.78
	95.0 1	+5.8 1

Right and below

318.2

359.0 40.8 1

312.7

219	<u>50.2</u> 1	1.89
	91.0 1	+3.9 1

313.3

2.0 48.7 1

317.3

357.0	<u>39.7</u> 1	1.96
	88.4 1	+4.0 1

Left and above

47.3

88.5 41.2 1

43.0

91.5	<u>48.5</u> 1	1.92
	89.7 1	+3.9 1

9	10
<u>9</u>	00

Jan. 23, 1898

Quite cloudy

289 30 Anetis M. obs.

2 33 +26.5

5 62

+3 30

clouds

Right and above

148.0

166.1 L Brighter dis.

18.11

145.9

170.8

24.11

3.65

42.21

~~45.61~~

Left and below

236.0

259.1 23.11

239.0

257.0 18.01

3.71

41.11

~~45.71~~

237.2

257.0 19.81

237.2

257.9 20.61

3.75

40.41

~~45.71~~

Jan. 23, 1894

Right and above

328.9

349.3

20.4

328.0

347.8

19.8

40.2

~~40.2~~

329.5

3.76

347.4

17.9

327.6

349.5

21.9

39.8

~~40.2~~

Left and below

3.78

56.8

77.5

20.7

59.8

78.6

18.8

39.7

3.79

~~40.2~~

2	48
16	
<hr/>	
83	
9	425

Σ 401

V. obs.

3 24

+27.1

6 24

+ 3 00

Jan. 23, 1894

Index below

120.0
 197.0 < full and brighter dis.
 111.3

204.1 $\frac{92.8}{169.8} \quad -0.19$
 $+2.2$

Index above

203.0

289.0 86.0

210.2

288.7 $\frac{78.5}{164.5} \quad -0.29$
 $+2.3$

209.2

284.7 75.5

202.0

294.2 $\frac{88.0}{163.5} \quad -0.31$
 $+2.3$

Index below

295.0

382.0 87.0

297.3

376.0 $\frac{78.7}{165.7} \quad -0.27$
 $+2.3$

304.0

14.0 70.0

293.1

21.7 $\frac{88.6}{158.6} \quad -0.41$
 $+2.1$

Jan. 23, 1894

Index. above

21.5

112.5

27.2

107.2

91.0 A

800

77.0 A

168.0

171.0 A

-0.17

~~12.2~~ 1

307 of Persei

Th obs.

2 42

6 50

+4 8

+55.4

Sky becoming too cloudy to continue

Jan. 20, 1894

Wedge Phot. zone

W. obs.

Series

+19 (Special)

$$\begin{array}{r}
 - \quad 2 \quad 29 \quad + 20.0 \\
 \quad 3 \quad 62 \\
 \hline
 + 1 \quad 33
 \end{array}$$

Abandoned for the present

o betti

W. obs.

$$\begin{array}{r}
 2 + 4 \quad 14 \quad - 3.4 \\
 3 \quad 64 \\
 \hline
 + 1 \quad 50
 \end{array}$$

7-35

Right and below

256.0

21.7

247.0

281.5

125.7^{va}

141.5^{va}

-267.2^{va}

92.8

+0.2^v

-184

Left and above

335.2

120.0

350.8

111.5

144.8^{va}

120.7^{va}

265.5^{va}

94.5

+0.2^v

-1.80

Jan. 25, 1894

348.8

112.0

336.0

119.1

123.2[✓]143.1[✓]266.3[✓]+0.2[✓]

Right and below

-1.82

67.9

207.5

139.6[✓]

73.5

198.3

124.8[✓]264.4[✓]+0.2[✓]

76.3

95.6

-1.77

199.9

123.6[✓]

69.2

207.0

137.7[✓]261.3[✓]+0.2[✓]

Left and above

-1.69

~~160.8~~~~180.8~~

290.8

134.2

165.2

289.5

124.3[✓]

157.1

295.0

137.9[✓]262.2[✓]+0.2[✓]

97.8

-1.71

8 4

m 3 v, 2 3 0 in finder

✓

C m 3 v, 2 3 0 in large tel.

✓

8 11

Est. 8.0

Comp. stars m and o in Mr. Kell's notations are shown

Jan. 25, 1897

Wedge Phot. Jones M. obs.

Series 16³₁ + 19° (special)

2	29	+ 20°
4	65	
<hr/>		
+ 2	36	

30	389	5.40		
		5.55		
		5.52	16.47°	7.13°
	396	2.20		
		2.11		
		2.32	6.63°	2.87°
	390	3.55		
		3.63		
		3.70	10.88°	4.71°
	395	3.01		
		3.17		
		3.28	9.46°	4.10°
	408	2.20		
		2.32		
		2.27	6.89°	2.88°

Jan 25, 1894

409	4.18		
	4.00		
	3.98	12.16'	5.27'
432	5.20		
	5.34		
	5.42	15.96'	6.91'
417	2.30		
	2.23		
	2.35	6.88'	2.98'
9 14 437	3.81		
	3.94		
	3.90	11.65'	5.04'

Bicumpolar Variables

R. bas.

N. obs.

23	51	+ 49.7
29	66	
+ 6	15	

~~822~~ 522 v, $\approx 1.5 \times$ in large tel.
Too faint and close for finder.

Est. 11.5

9 37

Jan. 25, 1894

J. Cass.

W. obs.

$$\begin{array}{r}
 0 \quad 19 \\
 6 \quad 19 \\
 \hline
 + 6 \quad 00
 \end{array}$$

$$+ 55.9^{\circ}$$

 $v = K$ in large tel.

 $v = K$ in large to finder

8th. 9.4

9 5-0

~~Anderson's New Variable~~

W. obs.

~~$$\begin{array}{r}
 0 \quad 12 \\
 6 \quad 30 \\
 \hline
 + 6 \quad 18
 \end{array}$$~~

~~$$+ 25.7^{\circ}$$~~

10 pb. #

Abandoned, too low
star a 3 Anderson's New variable

Nova Aurigae

W. obs.

$$5 \times 25$$

$$+ 30.0^{\circ}$$

Jan. 25, 1894
 Phot. Measures of δ M + 26° 37 and 40
 near Anderson's New Variable. 2 V. obs.

Right and below

10° 5'

35-6.0 \angle 37 δ in appan
 10 3.0 107.3[^]

3.0

96.6

93.6[^]

200.9[^]

+1.6[^]

Left and above

88.3

189.0

100.7[^]

80.0

198.0

218.0[^]

218.7[^]

+1.3[^]

80.8

194.5

113.7[^]

87.9

191.0

103.1[^]

216.8[^]

+1.3[^]

Right and below

181.0

276.8

95.8[^]

171.2

287.3

116.1[^]

211.9[^]

+1.4[^]

Jan. 25, 1894

$$\begin{array}{r}
 172.0 \\
 283.5 \\
 182.8 \\
 277.0 \\
 \hline
 96.2^{\wedge} \\
 207.7^{\wedge}
 \end{array}
 \quad +1.5^{\vee}$$

Left and above

$$\begin{array}{r}
 265.0 \\
 12.9 \\
 25.62 \\
 21.0 \\
 \hline
 124.8^{\wedge} \\
 232.7^{\wedge}
 \end{array}
 \quad +1.0^{\vee}$$

10722

Regions rather low

Bicampedae Vanishes

8 Bootes

$$\begin{array}{r}
 14 \quad 17 \\
 7 \quad 12 \\
 \hline
 7 \quad 5 \\
 72 \quad 50 \\
 +4 \quad 55
 \end{array}
 \quad +54.6$$

$$\begin{array}{r}
 14 \quad 17 \\
 7 \quad 27 \\
 \hline
 6 \quad 50 \\
 12 \\
 \hline
 5 \quad 10
 \end{array}$$

in 3 v, v 1 0 in large tel.
 10 5-8 Est. 13.0

Var. very faint in moonlight, some haze, extra
 little uncertainty.

1983phaa,proj., 5228