KG
11365
533

KG 11365.533

KG 11365.533

HARVARD
UNIVERSITY
LIBRARY
MAY 8 1956

March 25. 1896. (Wednesday)

o Ceti. W. obs.

$$\begin{array}{rr} 2 & 4 \\ 6 & 57 \\ \hline +4 & 53 \end{array}$$

−2.5

Var. not seen. Clouds thick in this region.

$$\begin{array}{rr} 7 & 7 \\ \hline 45 & 3 \end{array}$$

Clouds thick. Var. not seen.

Σ 20' 65 Ursae Major. prec + foll. W. obs.

$$\begin{array}{rr} 11 & 49 \\ 7 & 35 \\ \hline 4 & 14 \\ 7 & 46 \end{array}$$

+47°.2

Clouds became thick all over the sky suddenly.

7 30

March 27 1896 (Friday)

Measurements of D.M. +59° 2810 + 2812

23 54 +59°.6
328 5
75 49
8 11

Index to right + above.

	orange + brighter disappears	183,1		
7 38		255.9	72.8 <	
		193.8	52.0 <	
		245.8	124.8 <	1.09 <
		192.6		(1.08)
7 40		245.8	53.2 <	
		182.7	72.9 <	
		255.6	126.1 <	1.06 <

Index to left + below.

	272.4		
7 44	343.0	70.6 <	
	280.8	55.4 <	
	336.2	126.0 <	1.06 <
	280.5		(1.06)
7 46	336.5	56.0 <	
7 42 0	274.7	70.7 <	
	345.4	126.7 <	1.05 <

4)4.26
1.06

M = 1.07

Mar. 27. 1896.

A. + D. 9 v S. B. 39 K.
8 8 0.0 8 8 0.0
9 0.0 9 0.0

Disappearance of Jup. IV Photo. R. W. ols Rick Asc. ~~W.~~
Compared with second satellite on following side. = Sat II

Checked.

	8	16	28	companion satellite disap >	176.5	82.5 ✓	874.7 218.7
8 16 50 ✓			45		259.0	(81.8) ✓	
			58		179.1	81.0 ✓	
		17	10.5		260.1		
			21.5		181.9	76.8 ✓	879.4 219.8
8 17 50 ✓			44.5		258.7	(79.8) ✓	
		18	00.0		178.0	82.8 ✓	
			13		260.6		
			26		180.5	77.4 ✓	871.3 217.8
8 18 45 ✓			38		257.9	(78.2) ✓	
			50		176.9	79.1 ✓	
		19	7		256.0		
			22		180.1		882.2 220.6
8 19 41 ✓			36		261.5	81.4 ✓	
			48		183.6	(77.4) ✓	
			58		257.0	73.4 ✓	

March 27, 1896.

	20	19	181.2		875.0 218.8
8 20 36 ✓		31	259.0	77.8 ✓	
		41	178.7	(77.6) ✓	
		53	256.1	77.4 ✓	
	21	9	180.9		877.1 219.3
8 21 30 ✓		23	259.1	78.2 ✓	
		38	179.2	(78.4) ✓	
		48	257.9	78.7 ✓	
	22	4	179.2		875.2 218.8
8 22 23 ✓		18	257.0	77.8 ✓	
		28	183.9	(74.5) ✓	
		42	255.1	71.2 ✓	
		53	182.5		878.5 219.6
8 23 09 ✓	23	4	257.0	74.5 ✓	
		14	181.0	(75.8)	
		25	258.0	77.0 ✓	
		41	181.1	74.0 ✓	871.5 217.9
8 23 58 ✓		50	255.1	(74.4) ✓	
	24	5	180.3	74.7 ✓	
		14	255.0		
	25	28	182.5		876.8 219.2
8 25 42 ✓		34	257.2	74.7 ✓	
		44	179.9	(76.0) ✓	
	26	00	257.2	77.3 ✓	
		13	180.9		877.2 219.3
8 26 40 ✓		26	258.0	77.1 ✓	
		55	181.3	(76.4) ✓	
	27	7	257.0	75.7 ✓	

March 27, 1896

	27	49	185.1	71.9 ✓	883.0
8 28 09 ✓	28	3	257.0	(71.5) ✓	220.8
		18	184.9	71.1 ✓	
		26	256.0		
		37	183.3		
8 28 54 ✓		48	258.8	75.5 ✓ (76.0) ✓	883.3 220.8
		59	182.4	76.4 ✓	
	29	11	258.8		
		42	182.0	75.1 ✓	878.5 219.6
8 30 00 ✓		53	257.1	(75.0) ✓	
	30	7	182.3	74.8 ✓	
		19	257.1		
		28	182.9	76.3 ✓	885.4 221.4
8 30 45 ✓		40	259.2	(77.8)	
		57	182.0	79.3 ✓	
	31	2	261.3		
		16	185.9	72.3 ✓	883.4 220.8
8 31 34 ✓		30	258.2	(73.0) ✓	
		40	182.8	73.7 ✓	
		49	256.5		
	32	00	184.7	72.6 ✓	881.6 220.4
~~7~~8 32 15 ✓		10	257.3	(72.8) ✓	
		21	183.3	73.0 ✓	
		30	256.3		
		43	181.5	75.5 ✓	883.9
✓		53	257.0	(78.0) ✓	221.0
8 33 00	$\overset{3}{\cancel{5}}$3	4	182.5	80.4 ✓	
		18	262.9		

March 27, 1896

	33	29	184.7	74.1	884.4
8 33 47 ✓		40	258.8	(733)	221.1
		54	184.2	72.5	
	34	4	256.7		
		15	186.0	73.1	885.8
8 34 29 ✓		22	259.1	(74.3)	221.4
		34	182.6	75.5	
		45	258.1		
		57	181.8	74.2	880.6
8 35 14 ✓	35	9	256.0	(74.5)	220.2
		21	184.0	74.8	
		29	258.8		
		43	179.0	77.0	874.2
8 36 05 ✓	36	3	256.0	(75.2)	218.6
		13	182.9	73.4	
		21	256.3		
		30	182.1	76.7	885.0
8 36 47 ✓		41	258.8	(74.3)	221.2
		54	186.1	71.9	
	37	4	258.0		
		15	183.9	75.2	883.8
8 37 40 ✓		25	259.1	(78.0)	221.0
		54	180.0	80.8	
	38	4	260.8		
		15	182.0	75.0	880.6
8 38 30 ✓		25	257.0	(77.4)	220.2
		35	180.9	79.8	
		45	260.7		

March 27, 1896

	38	55	182.2	75.1	878.3
8 39 12 ✓	39	7	257.3	(76.0)	219.6
		17	180.9	77.0	
		29	257.9		
		38	180.2	78.8	879.8
8 39 54 ✓		48	259.0	(77.2)	220.0
		59	182.5	75.6	
	40	10	258.1		
		25	182.8	75.3	879.3
8 40 43 ✓		38	258.1	(77.8)	219.8
		48	179.1	80.2	
	41	2	259.3		
		13	180.2	77.7	874.9
8 41 31 ✓		26	257.9	(77.4)	218.7
		37	179.8	77.2	
		48	257.0		
		58	180.9	75.1	877.0
8 42 18 ✓	42	12	256.0	(75.6)	219.2
		24	182.0	76.1	
		36	258.1		
		46	184.9	75.0	887.7
		57	259.9	(75.0)	221.9
8 43 02 ✓	43	7	183.9	75.1	
		18	259.0		

March 27

	43	28	184.8	72.8 ✓	880.5
8 43 42 ✓		38	257.6	(74.4) ✓	220.1
		47	181.0	76.1 ✓	
		57	257.1		
	44	9	183.0	77.0 ✓	890.0
8 44 25 ✓		20	260.0	(76.0) ✓	222.2
		30	186.0	75.0 ✓	
		40	261.0		
		48	183.3	76.5 ✓	884.2
8 45 05 ✓		57	259.8	(75.7) ✓	221.0
	45	12	183.1	74.9 ✓	
		24	258.0		
		35	1827	74.1 ✓	880.4
8 45 50 ✓		45	256.3	(74.8) ✓	220.1
		55	183.2	75.5 ✓	
	46	6	258.7		
		19	181.0	78.1 ✓	872.1
8 46 3~~5~~6 ✓		29	259.1	(77.0) ✓	218.0
		41	181.0	76.0 ✓	
		54	257.0		
	47	5	183.2	71.7 ✓	879.6
8 47 20 ✓		15	254.9	(71.3) ✓	219.9
		25	185.3	70.9 ✓	
		33	256.2		
	48	11	185.0	70.6 ✓	879.3
8 48.29 ✓		22	255.6	(70.1) ✓	219.8
		38	184.5	69.7 ✓	
		45	254.2		

March 27, 1896.

	48	54	185.6	69.5	878.8
8 49 11 ✓	49	6	255.1	(67.9)	219.7
		18	185.9	66.3	
		26	253.2		
		43	189.2	64.4	881.2
8 49 55 ✓		52	253.6	(62.0)	220.3
		54	189.4	59.6	
	50	6	249.0		
		12	190.8	57.2	881.0
8 50 24 ✓		22	248.0	(57.9)	220.2
		28	191.8	58.6	
		36 –	250.4		
		42	188.8	61.1	879.9
8 50 57 ✓		53	249.9	(60.0)	220.0
	51	3	191.2	58.8	
		10	250.0		
		19	191.8	55.1	876.6
8 51 32 ✓		27	246.9	(56.7)	219.2
		36	189.8	58.3	
		46	248.1		
		56	193.2	56.7	883.2
8 52 09 ✓	52	3	249.9	(53.5)	220.8
		14	194.9	50.3	
		23	245.2		
		29	194.2	51.0	881.6
8 52 43 ✓		39	245.2	(50.6)	220.4

March 27, 1896.

	5 2	49	196.0	50.2	
		56	246.2		
	5 3	7	195.2	48.8	880.6 220.2
8 53 20		16	244.0	(48.6)	
		23	196.5	48.4	
		32	244.9		
		39	201.8	39.0	880.8 220.2
8 53 52		46	240.8	(40.4)	
		57	198.2	41.8	
	5 4	~~5~~6	240.0		
		15	199.8	38.4	
		25	238.2	38.0	
		33	200.2	37.3	
		42	237.5	33.4	
		50	204.1	32.7	
		58	236.8	32.8	
	5 5	6	204.0	32.2	
		15	236.2	32.6	
		26	203.6	30.4	
		35	234.0	28.2	
		46	205.8	27.8	
		54	2336	26.4	
	5 6	3	207.2	25.1	
		13	232.3 ~~263.2~~	24.1	
		27	208.2	20.3	
		~~3~~ 42	228.5	17.6	
		53	210.9	16.9	
	5				

March 27, 1896.

5 7 11 ~~5~~ 227.8 15.9

25 211.9 14.1

39 ~~222.0~~ 226.0

~~5~~ 8 Not seen later.
Limit of visibility

9 2 7 211.2 17.0 - 879.8

9 02 43 30 228.2 (15.8) - 220.0

49 212.9 14.6

3 25 227.5

A + D 958 Bond 394
9 ~~10~~9 5~~8~~9.8 9 10 00.0
10 5~~8~~9.8 9 11 00.0

A + D. 958 B 394.
13 2~~3~~2 59.8 = 13 23 00.0
13 2~~4~~3 59.8 = 13 24 00.0

No ~~clock~~ chron. correction on this eclipse.

Mar. 28. 1896. (Saturday)

Σ 518. 40 Erid. Sr. obs.

4 10 −7.8

Abandoned. Rather low.

Σ 548. Sr. obs.

4 21 +30.1
8 10
+3 89

Pos. Ang. 30° Dist. 15". Mag. 6.0, 8.2

Index to right + below.

197.5 < Bots. dis.
7 35 241.0 43.5
194.0 51.2 1.79
245.2 94.7

(1.86)

194.2
241.2 47.0
198.0 42.8 1.92
240.8 89.8

Mar. 28. 1896.

Index left & above.

288.0
331.4 43.4
284.2 51.1 1.80
335.3 94.5

285.1 (1.86)
7 46 333.8 48.7
2)81 289.1 40.6 1.93
7 40 30 329.7 89.3

M = 1.86

Σ 12′ 323 Tauri B. Pr. obs.
Pos. Ang. 180° ~~80.~~ Dist 80″ Mags. 6.0, 7.3.
4 58 +26.5
8 35
+3 41

Index below.

102.0
7 59 159.0 57.0
101.0 57.5 1.31
158.5 114.5

101.1 (1.31)
161.2 60.1
101.9 54.6 1.31
156.5 114.7

Mar. 28. 1896.

Index above.

195.2
245.3 50.1
190.2 58.9 1.44
249.1 109.0

(1.44)

192.2
246.9 54.7
193.0 53.8 1.45
246.8 108.5

8 8
2(16 7
8 3 30

M = 1.37

Σ 13. 11+12 Camel. Fr. obs.

4 55. +58°.8
8 55
+4 0

Pos ang. 5°. Dist. 3'. Mags. 5.0 6.2

Index above.

274.0 < brtr. dis.
347.0 73.0
274.0 67.2 0.77
341.2 140.2

8 19

Mar. 28. 1896.

274.1 (0.80)
345.0 70.9
274.1 66.7 0.82
340.8 137.6

~~357.1~~
~~64.7~~
Index below.

2.7
76.2 73.5
2.8 75.3 0.60
78.1 148.8

3.0 (0.58)
8 28 73.5 70.5
2|47 359.4 80.5 0.56
8 23 30 79.9 151.0 M = (0.69)

Equalizations rather difficult from elongations of images. and spectrum effects.

March. 28. 1896.

Σ 3^II. ζ Aur. H. V. 22. Tr. obs.

5 10 +40.0
9 15
+4 5

Pos. ang. 355°. dist 1.5 + mags. 5.0,
Index below.

214.8 < kotr. des.
8 40 226.0 11.2
211.5 15.5 4.66
227.0 26.7

(4.75)

213.1
226.7 13.6
215.0 11.0 4.84
226.0 24.6

Index above.

303.8
315.0 11.2
302.1 14.7 4.73
316.8 25.9

(4.66)

302.0
9 9 316.2 14.2
2)17 49 302.8 13.2 4.60
8 54 30 316.0 27.4

M = 4.70

March. 28. 1896.

The preceding star is probably not $\Sigma\ 3^{II}$. The ftr. component seems rather too far off and too faint, although the brtr. component seems about right but it seems to be the only star of about this description which can be found in this region.

Posted to here.

Apr. 8. 1896. (Wednesday)

Meast. of Faint Comp. Stars for R Draconis
with Phot-T. Wr. obs.

16 26 +67.4
8 46
7 40
4 20

r compared with R
Index to right.

169.9 < comp. star dia.
191.5 21.6 <
7 40 171.1 17.7 < 3.87
188.8 39.3 <

171.5 3.88
190.0 18.5 <
170.5 18.1 < 3.96
188.6 3~~7~~6.6 <

Index to left.

77.3
103.0 25.7 <
78.4 24.1 < 3.28
102.5 49.8 <

78.0 8 3.2~~7~~ 2
101.8 23.~~7~~ <
7 52 79.1 26.2 < 3.27
7 46 00 ~~3.30~~
105.3 ~~49.4~~ M = 3.5~~8~~ 5
50.0

Apr. 8. 1896.

Star p compared with h.

Index right and below.

161.5
7 59 194.0 32.5<
162.4 31.3< 2.72<
193.7 63.8<

(2.78)<

163.0
194.1 31.1<
164.2 29.6< 2.84<
193.8 60.7<

Index left and above.

75.5
108.0 32.5<
75.0 34.0< 2.62<
109.0 66.5<

75.1 (2.62)<
109.8 34.7<
8 17 74.4 32.2< 2.61<
106.6 66.9<
8 08 00

M = 2.70<

Apr. 8. 1896.

Star n compared with h.
Index to right.

8 25	149.0		
	211.1	62.1	
	155.0	50.8	1.33
	205.8	113.9	
	151.8		(1.32)
	207.9	56.1	
	152.5	59.2	1.30
	211.7	115.3	

Index to left.

	60.0		
	118.0	58.0	
	62.7	58.8	1.26
	121.5	116.8	
	61.6		(1.26)
	122.9	61.3	
8 38	62.8	56.2	1.25
2(63	119.0	117.5	
8 31 30			

M = 1.29

Apr. 8. 1896.

Star q compared with h.
Index to left and above.

	77.0		
8 41	103.9	26.9 <	
	75.3	30.7 <	2.95 <
	106.0	57.6 <	
			(2.87) <
	73.7		
	105.1	31.4 <	
	74.8	30.4 <	2.79 <
	105.2	61.8 <	

Index to right and below.

	168.5		
	194.9	26.4 <	
	167.2	26.5 <	3.14 <
	193.7	52.9 <	
			(3.15) <
	168.1		
	192.6	24.5 <	
8 51	165.2	28.1 <	3.16 <
9 46 00	193.3	52.6 <	

M = 3.01 <

Apr. 8. 1896.

Star o compared with h.

8 vv

Index to right.

162.0		
201.1	39.1 c	
160.1	41.2 c	2.19 c
201.3	80.3 c	
		(2.23) c
163.0		
201.6	38.6 c	
161.2	38.9 c	2.27 c
200.1	77.5 c	

Index to left.

68.0		
113.2	45.2 c	
65.0	48.8 c	1.81 c
113.8	94.0 c	
		(1.82) c
67.7		
111.5	43.8 c	
65.2	48.8 c	1.84 c
118.0	92.6 c	

M = 2.02 c

9 9

2(64

9 2 00

Apr. 9. 1896.

A. + d. 9v t.
7 √√ 37.2
√6 37.2

B. 394.
7 √√ 0.0
√6 0.0

Re. Jup. Sat I Phot. R. W. Obs
Colson Recorder
Comp with ~~first~~ nearest of three sats. on preceding ~~side~~. = Sat. III.
Limit of Vis.

8			8	~~3~~ 2	56		213.0	
				3	10	13.0	226.0	
8	2	38 ++		3	20 or 22	13.9	213.8	20 secs. assumed.
				3	35	26.9	227.2	
						13.4		
	8	43 +		9	20		seen.	
		47 +			24		207.0	< III dis.
		57 +			34		233.2	
	9	11 +			48		206.1	
		21 +			58		237.0	
		~~30~~					98	
		~~37~~	30 +	10	07		1~~9~~2.8	
		~~46~~	37 +		14		242.0	
		~~55~~ +	46 +		23		200.0	
	[illegible]	~~13~~	55 +		32		247.2	
	10	13 +			50		189.0	
		25 +		11	05		253.0	
		36 +			13		190.0	
		45			25		248.8	

Apr. 9. 1896.

	10	56		33		193.0	
	11	0~~8~~3		46		255.0	
		11		48		189.8	
		18		55		253.0	
		26	12	03		187.9	
		~~35~~					
		~~43~~	35	12		254.8	
		~~51~~	43	26		181.9	
	~~12~~	~~01~~	51	28		254.0	
		~~09~~		38		185.1 →	
		~~17~~					
		~~24~~	~~17~~	46	74.9	260.0	
d	12	13 ~~24~~		54	73.3 148.2	182.5	1 0.6
			13	01	74.1	255.8	
				08	73.0	183.1	
				16	76.2 149.2	256.1	0.6
	12	43		25	74.6	183.0	2
				33		259.2	
				47		184.0	
	13	21		54	76.2	260.2	
			14	03	71.3	186.0	3
				09	147.5 73.8	257.3	0.6
				18		186.0	
	13	53		26	74.6	260.6	
				33	71.1 145.7	189.9	4 0.7
				42	72.6	261.0	
				53		187.0	
	14	30	15	02	68.1	255.1	
				12	67.8 135.9	188.4	√ 0.9
				22	68.0	256.2	

Apr. 9. 1896.

		30		186.2		
		38	71.1	257.3		
15 06		47	72.1	185.0	6	0.7
		56	143.2 71.6	257.1		
	16	05		184.0		
	16	15	71.0	255.0		
15 44		28	72.5	185.0	7	0.7
		35	143.5 71.8	257.5		
		45		184.1		
16 25		57	69.7	253.8		
	17	05	69.0	185.0	8	0.8
		19	138.7 69.4	254.0		
		25		190.0		
17 01		32	65.0	255.1		
		42	67.9	187.2	9	
		52	132.9 66.4	255.1		0.9
	18	08	69.5	184.8		
19 15		15	70.3	254.3		
		57	139.8 69.9	184.2	10	0.8
	20	06		254.5		

Obs made with ~~difficulty~~ difficulty on account of high altitude. and also from the fact that the clock gave much trouble and clamp would not hold

A. + D. 958.			B. 394.		
8	32	37.5	8	32	0.0
	33	37.5		33	0.0

Cor. to A. + D. = − 37 secs.

Apr. 9. 1896.

Exam. of Region of R. Urs. Min. Stocks.

16 34 +72.9
10 20
6 14
5 46

Identification of star f on chart.

Apr. 10. 1896. (Friday.)

Circumpolar Variables   W. Os.

S Cassiop.

1 10 +72.1
9 0
+7 50

s 2.5 Var., Var. 2 t in lar. tel.
7 53 Too ft. for finder.
Est. 13.5

R Aurigae.

5 3 +53.0
9 35
+4 32

r 2 Var., Var 1.5 v in lar tel.
8 24 Too ft. for finder.
Est. 13.8

Apr. 10. 1896.

R Lyncis.

6 49 +55.1
10 0
+3 11

K 2.5 Var., Var. 3.5 l' in lar. tel.
8 44 K 1 Var., Var. 3 l' in finder.
Est. 10.2

R Urs. maj.

10 32 +69.3
10 30
−0 2

Bright.

T Urs. maj.

12 33 +60.4
10 40
−1 53
10 7

0 1.5 Var., Var. 3.5 p in lar. tel.
9 17 Too ft for finder.
Est. 11.5

Apr. 10. 1896.

S Urs. Maj.

h 1 Var., Var. 5 K in lar. tel.
9 30 h 1.5 Var., Var. 8 K " finder.
Est. 8.5

S Boötis.

14 16 +54.6
11 5
3 11
8 49

Var. = m in lar. tel.
9 56 Too ft. for finder.
Est. 12.9

R Draconis.

16 26 +67.4
11 45
4 41
7 19

l 3 Var., Var. 1.5 m in lar. tel.
10 27 Same in finder.
Est. 10.4

Apr. 10. 1896.

S Cygni.

20 a +v 7.2
12 v
---
8 3
3 v 7

10 v 0 v 1 Var., Var. 2 v in lar. tel.
Too ft. for finder.
Est. 14.0

Apr. 11. 1896. (Saturday)

Considerably cloudy still but will try for

~~S Cephei.~~

~~21 37 +78.3~~
~~9 30~~
~~11 53~~

R Cassiop.

23 52 +49.7
9 30
+9 38

Too low.

S Cephei.

21 37 +78.3
9 40
12 3

f 3.5 Var., Var. 2 g in lar. tel.
8 18 f 4 Var., Var. 1 g in finder.
Est 8.6

Apr. 11. 1896.

T Cephei.

21	5	+68.1
10	10	
13	5	

8 50 Var. = 0 in lar tel.
Too ft. for finder.
Est. 10.4

R Urs. min.

16	34	+72.9
10	48	
5	46	
6	14	

$\underline{f}$ 2.5 Var., Var. 3.5 g in lar. tel.
9 30 $\sqrt{\underline{\hat{f}}}$ 2.5 Var., Var. 3 g − in finder.
Est. 8.9

Apr. 11. 1896.

R Camelop.

14 40 +84.1
11 25
3 15
8 45

9 51 Rather bright.

S Persei.

2 8 +57.2
11 30
+9 22

Var = f in lar. tel.
10 0 Same in finder.
Est. 8.8

Apr. 11. 1896.

T Persei.

e 3 Var. Var. 2 f in lar. tel.
10 10 e 2 Var. Var. 1.5 f in finder.
Est. 8.5

Other variables rather low.

β Lyrae. Phot. R. W. obs.

18 8.5 +33.2
12 0
6 8.5
5 1.5

Index right + below.

297.0 23.1
320.1
10 36 299.0 3.65
318.0 19.0
42.1

298.7 20.3 (3.66)
319.0
298.4 21.6 3.67
320.0 41.9

Apr. 11. 1896.

Index left + above.

27.6 22.4 <
50.0
26.0 24.1 < 3.43
50.1 46.5 <

25.2 25.8 < (3.40)
51.0
29.0 22.3 <
51.3 48.1 < 3.36

10 55
2(91
10 45 30

M = 3.53

Apr. 13. 1896. (Monday).

Re. Jup. IV. Phot. R. W. Obs.
Colson. Recorder.

Compared with the following of two sats. preceding Jup. = Satt. II

clouds
clouds 38m 0s

7	38	06	~~7h 39m 8s~~ 7 37 12	26.0	< comp. sat. dis,
		34	~~39 28~~ 37 40	53.3	27.3
		44	~~39 38~~ 37 50	25.8	27.5
		54	~~39 48~~ 38 0	53.2	27.4
					31.2
clouds					~~27.2~~
7	39	35	~~40 29~~ 38 41	22.0	
		43	~~40 37~~ 38 49	59.3	37.3
		53	~~40 47~~ 38 59	23.8	35.5
7	40	04	~~40 58~~ 39 10	61.2	37.4
		15	~~41 9~~ 39 21	17.2	44.0
		22	41 16 39 28	59.1	41.9
		29	~~41 23~~ 39 35	19.5	39.6
		38	~~41 32~~ 39 44	64.2	44.7
		46	~~41 40~~ 39 52	18.2	46.0
		54	~~41 48~~ 40 0	60.1	41.9
clouds					→
	41	43		13.0	56.5
		53		69.5	
clouds			7 41 15		56.3
	42	24		13.1	56.1
		35		69.2	112.6
		~~46~~		~~14.0~~	
		51		10.0	

Apr. 13. 1896.

43 02 66.8 √6.8

10 7 42.12. 9.8 √8.2 √75

20 68.0 ~~68.2~~

115.0

clouds

clouds

44 50 clouds thick

58 √8.1 ~~27~~

45 14 √72.2 67.1 65.6

23 7 48 23. 8.0 64.2

33 72.~~1~~2 131.3

45 4.0 68.0

46 05 √72.0

~~18~~ 7 45 20. 68.9

27 7.1 69.9

40 77.0 137.9

51 7.9 65.1

47 01 73.0

clouds 7 46 24. 66.2

~~25~~ ~~9.7~~ 67.2

32 6.0 132.3

47 73.2

48 04 6.5

Clouds 68.8

clouds thick

49 01 75.3 70.0

clouds √ 71.2

50 15 7 49 2. 3.8 140.0

clouds

52 23 75.0

31 6.08

clouds

Apr. 13. 1896.

66.0 66.0 ✓
56 ✓72.8
53 11 7 52 21. 4.1 66.1
132.1
22 70.2 ⟷
33 3.0
clouds. 71.9 ✓ 69.4 ✓
55 28 7 55 11. ✓ 74.9 66.8 ✓
56 6.2 138.7 ✓ 1
clouds thick
clouds still thick 59m
59 24 73.0
30 4.7 69.3 ✓ 71.1 ✓
45 ✓74.0
56 7 58 56. 3.1 72.9 ✓ 2
8 00 09 76.0 142.2 ✓
19
28 6.1 65.9 67.4 ✓
38 ✓72.0
51 7 59 51. 6.1 68.9 3
01 02 75.0 134.8
clouds
42 5.0
clouds thick. 67.8 ✓ 67.1 ✓
03 13 8 2 3. ✓ 72.8 66.4 ✓
22 6.9 134.2 ✓ 4
30 73.3
43 2.2
clouds thick 70.5 ✓
09 17 72.7 5 67.7 ✓
33 8 7 10. ✓ 7.1 64.9 ✓
42 72.0 135.4 ✓
57 8.4

Apr. 13. 1896.

10 05 8 9 16. ✓ 72.9 64.5 ✓ 6 63.7 ✓
12 8.3 62.9 ✓ 127.4 ✓
31 71.2
53 5.8 69.2 ✓

11 05 8 10 16. ✓ 75.0 66.2 ✓
15 9.0 63.1 ✓ 7 132.3 ✓
25 72.1
33 10.0 67.0 ✓
40 77.0 72.8 ✓ 69.9 ✓
clouds 139.8 ✓
8 11 35. ✓

~~12~~
13 16 2.9
27 75.7

Limit visibility.

clouds
14 23 30.1 18.0 ✓
40 48.8 18.9 ✓
clouds 8 14 18. ✓ 19.8 ✓
15 46 29.1 37.8 ✓
16 00 48.9

A.+D. 958.
8 28 53.6
29 53.5

B. 394.
8 28 0.0
29 0.0

over.

Apr. 13. 1896.

~~For all the~~ Throughout the eclipse on preceding pages. greatly troubled by clouds. Most of the settings, when they could be made, were made through more or less clouds. Time of first setting probably a little late.

Still cloudy ~~but~~ with only a star appearing here and there from time to time. ~~E~~ No sign of Saturn.
Especially cloudy south of the Equator.

Experimented with Phot. R. on horizontal stand, and reflecting prism and object glass ~~in~~ on end, of photometer.
Star will not quite come to focus.
Object glass must be brought a little nearer to eye piece.

Apr. 13. 1896.

Σ 1193. 176 Camel. B. Gr. do.

8 7 +72.8
11 30
+3 23

Too cloudy.

Σ 1245. P. VIII 102.

8 29 +7.1
11 45
+3 16 Cloudy.

Meast. of Iapetus with Phot. T. Gr. do.

15 2 −14.5
14 25
−0 37

Iapetus thought to be seen, but only by glimpses, with No. 1 ring micrometer eye-piece. The sight is so bad and seeing so poor, especially at this altitude, that nothing can be done, especially with Phot. T. 13h 7m

Apr: 1st. 1896. (Wednesday)

Expts. with Phot. R. mounted in an altazimuth manner and with prism in front of objective. Object glass cell when drawn out a little more than flush with the end of photometer. and eye piece also drawn out a little, now enables one to get a very good focus on star.

Meast of Faint Comp. Stars for R Lyncis with Phot. T. W. obs.

6 49 +55.1
9 45
2 56

Star r compared with f.
Index right + absrs.

9.0
23.0 14.02
8 3.8 7.3 19.62 4.15
26.9 33.62

8

April 15, 1896+

7.5 (3.96)
27.5 20.0 <
8.0 20.0 < 3.77
28.0 40.0 <

Index left + below.

97.0
118.0 21.0 <
99.0 15.9 < 3.95
114.9 36.9 <

94.0 (3.90)
115.6 21.6 <
97.8 17.2 < 3.84
115.0 38.8 <

8 √8
8 48 0

M = 3.93

Star g compared with f.
Index below.

92.8
119.8 27.0 -
93.1 26.0 < 3.14 <
119.1 53.0 <

9 6

96.1 (3.28)
117.0 20.9 -
92.1 26.0 < 3.41
118.1 46.9 <

April 15, 1896.

Index above.

184.1
206.9 22.8
187.2 18.9 3.68
206.1 41.7

(3.71)

186.9
207.4 20.5
185.9 20.0 3.74
205.9 40.5

M = 3.50

9 29
2)35
9 17 30

Star p. compared with f.
Index right & above.

183.0
209.9 26.9
182.1 16.9 3.57
209.0 43.8

9 34

(3.39)

181.9
209.0 27.1
183.9 24.3 3.21
208.2 51.4

Index left & below.

273.1
303.2 30.1
272.9 30.9 2.82
303.8 61.0

April 15, 1896.

9 58	272.0		(2.93)
2/9 2	300.1	28.1	
9 46 0	273.9	27.2	3.04
	301.1	55.3	M = 3.16

Star o compared with f.
Index left + below.

	267.8		
10 6	306.7	38.9	
	270.0	37.1	2.32
	307.1	76.0	
	268.0		(2.32)
	306.2	38.2	
	268.0	37.7	2.32
	305.7	75.9	

Index right + above.

	352.2		
	38.2	46.0	
	354.1	41.9	1.97
	36.0	87.9	
	356.1		(2.05)
	36.2	40.1	
10 18	355.0	42.0	2.13
10 12 0	37.0	82.1	

M = 2.18

April 15, 1896.
Star n compared with f.
Index right + above.

355.2
1.0 28 37.2 42.0 <
356.7 40.5 < 2.12 <
37.2 82.5 <

354.2 (2.12)
38.0 43.8 <
356.9 38.9 <
35.8 82.7 < 2.12 <

Index left + below.

83.2
123.2 40.0 <
88.0 36.1 < 2.31 <
124.1 76.1 <

87.0 (2.25)
10 43 126.0 39.0 <
2(71 85.0 41.2 < 2.19 <
10 35 30 126.2 80.2 <

M = 2.18

Apr. 15. 1896.

Meast. of Japetus with Phot. T. Gr. bs.

15 2   −14.5
12 50
2 12
9 48

Comp. Star = S.D. −14° 4118 (9.0)

Index rt. and below.

134.0 ← Comp. star dis.
12 12 184.9
127.4   50.9 <
185.9   58.5 <
109.4 < +1.43 <

2 (10+
+1.52

129.4
12 14 185.2   55.8 <
135.2   46.3 < +1.61 <
181.5   102.1 <

Index left and above.

217.2
12 18 279.4   62.2 <
208.7   65.1 < +1.04 <
273.8   127.3 <

Wednesday, Apr. 15, 1896.

214.5 (1.00)

12 21 277.0 62.5 <

4(65 216.0 68.1 < 0.97 <

12 16 15 284.1 130.6 <

M = 1.26

Same again.

214.9

12 33 277.7 62.8 <

218.0 62.4 < 1.08 <

280.4 125.2 <

(1.08)

215.2

12 35 281.3 66.1 <

217.3 59.5 < 1.07 <

276.8 125.6 <

Independ. rt. and below.

311.2

12 39 358.8 47.6 <

308.0 52.9 < 1.64 <

0.9 100.5 <

(1.60)

307.9

12 41 0.3 52.4 <

8(213 310.0 51.8 < 1.55 <

12 26 37.5 = M. of all. ~~0.9~~ 104.2 <

4(148

12 37 00 1.8 M = 1.34

Apr. 16. 1896. (Thursday).

Swift's New ☄ W. obs.

3 39 +15.7
9 30
+5 51

Comet not found. after thorough sweeping. Position is three days old. Clouds and fog in region of telegraphed position so that scarcely any stars are visible.

Measts of Faint Comp. Stars for R Lyncis with Phot. T. W. obs.

6 49 +55°.1
9 55
+3 6

Star R compared with f. Index right and above;

	8.1		
2 10	26.5	~~17~~ 18.4	~~4.2~~
	7.7	20.4	
	28.1	~~32.8~~	3.54
		38.8	

Apr. 16. 1896.

8.0
27.0 19.0 (3.84)
8.1 19.6 3.85
38.6
27.7

Index left + below.

96.5
117.9 21.4
100.1 15.1 3.97
36.5
115.2

95.0 (3.93)
8 28 115.5 20.5
8 17 00 96.8 17.4 3.89
37.9
113.8
M = 3.88

Star g compared with f.
Index below.

92.0
8 30 119.0 27.0
92.8 24.1 3.23
51.1
116.9

Apr. 16. 1896.

93.1 (3.20)∠
120.0 26.9∠
93.5 25.4∠ 3.17∠
118.9 52.3∠

Index above.

186.5
207.7 21.2∠
186.1 20.5∠ 3.68∠
206.6 41.7∠

186.2 (3.66)∠
8 44 205.2 19.0∠
8 37 00 183.7 23.3∠ 3.64∠
207.0 42.3∠
M = (3.43)∠

Star p compared with f.
Index right & above.

182.1
210.0 27.9∠
8 49 183.7
207.0 23.3∠ 3.22∠
51.2∠

Apr. 16. 1896.

184.2	24.1	(3.28)
208.3		
183.6	24.3	3.04
207.9	48.4	

Index left + below.

274.5	28.5	
303.0		
275.4	27.9	3.00
303.3	56.4	
272.7	27.3	(3.06)
300.0		
274.1	26.1	3.12
300.2	53.4	(M = 3.17)

9 0

2(109

8 54 30

Star o compared with f
Index left + below.

269.8	37.2	
307.0		
268.1	38.7	2.32
306.8	75.9	

9 4

Apr. 16. 1895.

268.5
306.1 37.6 (2.34)
268.7 2.35
305.9 37.2
74.8

Index right + above.

355.3
38.1 42.8
358.9 41.0 2.08
35.9 83.8

356.3 (2.11)
9 20
9 12 00
36.0 39.7
358.8 42.3 2.14
37.1 82.0
M = 2.22

Star n compared with f.
Index right + above. ✓

357.5
9 26
36.6 39.1
357.0 40.1 2.22
37.1 79.2

Apr. 16. 1896.

357.3
37.9 40.6 c (2.25) c
359.0 36.6 c 2.28 c
35.6 77.2 c

Index left & below.

87.0
124.0 $\overset{3}{\cancel{4}}7.0$ c
86.2 36.9 c 2.38 c
123.1 73.9 c

87.1 (2.30) c
125.9 38.8 c
86.0 40.4 c 2.22 c
126.4 79.2 c

9 39
2(65
9 32 30

M = 2.28 c

Reap. Jup. I. Phot. R. Gr. obs. Waite rec. Compared with first sat. on prec. side = Sat. III.

A. & D. 958. B. 394.
9 49 4.5 9 48 0.0
50 4.5 49 0.0

Apr. 16, 1896.

	9		56	58		188.4	L.V.
9	57	21	57	14	15.6 :	204.0	
	-1	-04					
9	56	17		25	13.8 :	189.2	
					29.4 :		
				46	14.7 :	203.0	
10	04	~~10~~ 11	0	~~4~~ 5	15	seen.	
~~10~~		18		22		181.7	
		28		32		207.2	
		35		39		182.2	
		42		46		209.0	
		48		52		172.8	
		54		58		215.0	
	05	00	0 ~~5~~ 6	04		174.0	
		06		10		217.2	
		12		16		172.8	
		19		23		219.8	
		25		29		173.–	
		31		35		219.0	
		36		40		171.0	
		42		46		223.0	
		49		53		168.8	
		56	07	00		223.1	
	06	02		06		168.8	
		08		12		225.0	
		15		19		166.7	
		20		24		226.8	

Apr. 16, 1896.

10 06 26 0	07	30		165.9	
35		39		227.8	
44		48		164.7	
52		56		230.2	
07 00	08	04		163.8	
07		11		229.1	
15		19		163.8	
22		26		226.8 →	
08 47 -1 -04		33		161.4	
07 43		42	69.6	231.0	1
		52	67.7	161.0	
	09	00	137.3	228.7	
		08	68.6	160.0	
09 22 -1 -04		18	68.9 63.9	228.9	
08 18		26	132.8 66.4	162.2	2
		36		226.1	
		48		162.3	
10 00 -1 -04		56	68.7	231.0	
08 56	10	04	67.0 135.7	161.2	3
		11	67.8	228.2	
10 30 -1 -04		19		161.8	
09 26		27	65.3 68.3	227.1	
		33	133.6 66.8	162.9	4
		42		231.2	
	11	20		163.2	
11 30 -1 -04		27	67.5	230.7	
10 26		32	68.1	161.0	√
		39	135.6 67.8	229.1	

Apr. 16, 1896.

10 12 06 −1 −04 10 10 56	11 45		162.7
	57	66.34	229.0
	12 02	66.4 66.4	163.5
	15		229.9
	25	66.8	163.0
12 42 −1 −04 11 38	33	65.0	229.8
	52	131.8 65.9	162.9
	13 00		227.9
	09		163.1
13 22 −1 −04 12 18	18	65.2 66.8	228.3
	26	132.0 66.0	161.9
	33		228.7

6

7

8

Cor. to Chron. = $-1^m\ 4.5^s$

A+D. 95 A.
10 23 4.5
24 4.5

B. 394.
10 22 0.0
23 0.0

~~Cor. to Ephemeris = −1m~~

δ Cassiop. Gr. Os.

$$\begin{array}{rrr} 1 & 10 & +72.1 \\ 12 & 23 & \\ \hline +11 & 13 & \end{array}$$

Atmospheric conditions rather bad, too
10 55 and variable about sub-pole. but as near as can be determined, variable about as on Apr. 10.

Apr. 22. 1896. (Wednesday)

7 30 Cloudy.

8 0 "

Experimented with Phot. R. on horizontal stand on West balcony.
Telescope photometer now seems to be in focus and to give very good images.
~~Point~~ Pointer is not set quite right.

8 30 Sky clearer.

~~As~~ Moon bright but will try for comparison stars for.

R Aurigae (Phot. T.) W. ob.

v 3 + v 3.0
10 v 0
+v (k)

Apr. 22. 1896.
Star m compared with a
Index to left.

120.8
9 14 130.2 9.4
122.2 8.5 5.53
130.7 17.9

(5.64)

122.2
130.2 8.0
122.4 8.2 5.70
130.6 16.2

Index to right.

210.0
219.0 9.0
205.7 11.5 5.24
217.2 20.5

(5.06)

205.2
217.2 12.0
9 30 206.2 12.2 4.87
9 22 0 218.4 24.2

M = 5.35

Apr. 22. 1896.

Star η compared with a
Index to right.

208.9
9 34 219.8 10.9 <
208.7 9.5 < 5.25 <
218.2 20.4 <

(5.24)
207.0
218.0 11.0 <
208.2 9.7 < 5.22 <
217.9 20.7 <

Index to left.

295.8
306.0 10.2 <
296.2 9.8 < 5.29 <
306.0 20.0 <

(5.30)
296.2
306.1 9.9 <
9 46 296.5 9.8 < 5.32 <
9 40 00 306.3 19.7 <

(M = 5.27)

Apr. 22. 1896.
Star o compared with a.
Index to left.

298.0
10 52 305.0 7.0
297.3 8.8 5.80
306.1 15.8

298.1 (5.80)
306.0 7.9
298.2 7.9 5.80
306.1 15.8

27.3
34.9 7.6
26.4 9.4 5.64
35.8 17.0

26.1 (5.54)
35.1 9.0
25.1 9.6 5.45
34.7 18.6

M = 5.67

1
18 1
2 | 113
10 56 30

Apr. 22. 1896.
Star b compared with a.

25.0 Index to right.
10 10 37.0 12.0
24.0 12.0
36.0 24.0 4.89

23.2 (4.78)
36.0 12.8
23.1 13.8 * 4.67
36.9 26.6

Index to left.
113.0
125.6 12.6
112.5 11.5 4.88
124.0 24.1

113.2 (4.84)
10 20 124.2 11.0
112.0 14.0 4.80
10 15 00 126.0 25.0

M = 4.81

Apr. 22. 1896.
Star K compared with a
Index to left.

110.1
10 29 128.8 18.7
111.0 16.1 4.08
127.1 34.8

111.8 (4.16)
127.1 15.3
111.1 16.8 4.25
127.9 32.1

Index to right.

Wrong. ~~196.5~~ 199.0
219.8 20.8
200.0 18.1 3.83
218.1 38.9

200.1 (3.76)
10 38 218.7 18.6
2(67 197.1 22.7 3.70
10 33 30 219.8 41.3

M = 3.96

Apr. 22, 1896.

Meast of Japetus with Phot. T. Dr. Co.

15 3 −14°5−
13 12
−1 45
10 15

Comp. Star = S.D. −14° 4112 (9.0)

Index above.

291.1 < comp. * dis.
11 40 355.9 64.8<
293.6 57.7< 1.14<
351.3 122.5<

♄(1.12)

294.6
11 42 352.8 58.2<
289.9 65.9< 1.10<
355.8 124.1<

Index below.

15.0
11 45 90.5 75.5<
17.7 64.8< 0.97<
82.5 140.3<

(M = 0.95)

Apr. 22, 1896.

18.5 +(0.78)
11 47 84.1 65.6
11 43 30 14.9 73.6 0.79
~~90.1~~ 88.5 139.2

Same again:

16.3
12 00 83.7 67.4
22.8 62.0 0.99
84.8 129.4

20.8 +(0.92)
12 02 84.3 63.5
15.3 72.6 0.85
87.9 136.1

Index above.

105.8
12 05 177.2 71.4
110.0 63.9 0.87
173.9 135.3

111.1 +(0.88)
12 07 174.8 63.7
12 03 30 105.1 70.2 0.90 (M = 0.90)
175.3 133.9

Apr. 22, 1896.

Meast. of Titan with Phot. T1 W obs.

Comp. Star = BD −14° 4114 (9.0)

Index above.

78.9
12 28 202.8 123.9<
85.7 108.2<
193.9 232.1< −1.02<
127.9<

84.7 −(1.08)
12 30 196.8 112.1<
77.8 125.7<
203.5 237.8< −1.14<
122.2<

Index below.

167.3
12 33 296.6 129.3<
174.0 115.9<
289.9 245.2< −1.31<
114.8<

172.8 −(1.32)
12 35 291.2 118.4<
168.9 127.8<
296.87 246.2< −1.33<
113.8<

12 31 30

M = 1.20

Apr 22, 1896.

Same again.

168.9
12 46 296.1 127.2<
173.1 119.1<
292.2 246.3< −1.33<
113.7<
#7
−(1.34)
170.5
12 48 292.3 121.8<
169.1 125.9<
247.7< −1.36<
295.0 112.3<

Indep above.

258.2
12 51 23.7 125.5<
263.1 115.8<
18.9 241.3< −1.22<
118.7<

262.6 ~~1.25~~
12 53 20.2 117.6< −(1.24)
12 49 30 258.8 125.8<
24.6 243.4< −1.27<
116.6<

M = 1.29

Apr. 23. 1896. (Thursday).

~~A~~

7 15 Cloudy.

7 45 "

Will try for.
Nova Aurigae. W. do.

5	23	+32.0
10	10	
+4	47	

8 15 Cloudy.

8 30 "

9 0 "

Nova too low.

M. P. 441.

3	31	+62.8
11	31	
+8	0	

Too cloudy.

2

Apr. 23. 1896.
Lower Mirror.
Σ 1193. 176 Camel. B. Sr. obs.
Pos. Ang. 175°. Dist. 45" Mags. 6.0, 9.0
8 7 +72.8
12 0
$\overline{}$
+3 53

~~28~~
Index right & below.

28 4.7
9 40 30 8.0 23.3
28 3.3 22.5 3.47
30 5.8 45.8

(3.52)

28 2.7
30 5.5 22.8
28 4.5 Clouds. 20.7 3.58
30 5.2 43.5
Clouds.

Index left & above.

14.2
34.2 20.0
13.8 21.3 3.70
35.1 41.3

(3.63)

13.0
35.2 22.2
Clouds. 21.8 3.56
10 39 12.4 44.0
2 (20 19 34.2
10 9 30

(M = 3.58)

Apr. 23. 1896.

~~Σ 1223.~~

Σ 1362. Gr. obs.

9 26 +73.6
13 10
+3 44

Clouds.
Too cloudy. Abandoned.

Σ 1306. Gr. obs.

9 0 +67.6
13 15
+4 15

Clouds thick.

Σ 1487. 54 Leonis. Gr. obs.

10 49 +25.4.
13 20
+2 31

Too cloudy.

10 55 Very cloudy everywhere.

Apr. 23. 1896.

Too cloudy still for Iapetus.
Heavy clouds in this region.

Apr. 24. 1896 (Friday)

Iapetus with Phot. T. W. obs.

15 3 −14.5
14 15
−0 48

Comp. Star = B.D. −14° 4118 (9.0)

Index above.

188.9 < comp. * dis.
12 07 254.0 65.1
184.2
255.8 71.6
136.7 0.84

185.2 70.9 (0.86)
12 10 256.1
189.6 64.0
253.6 134.9 0.88

Index below.

277.3 67.6
12 13 344.9
273.6 73.1
346.7 140.7 0.76

Apr 24, 1896.

12 15 — 273.8 / 348.8 — 75.0 — (0.77) ★

279.1 / 343.9 — 64.8 / 139.8 — 0.78 — (M = 0.82).

4)45
12 11 15

Same again:

12 26 — 276.7 / 344.4 — 67.7

276.1 / 347.4 — 71.3 / 139.0 — 0.79

12 29 — 276.9 / 347.0 — 70.1 — (0.78)

275.4 / 345.7 — 70.3 / 140.4 — 0.77

Indep above.

12 34 — 5.1 / 76.4 — 71.3

6.3 / 76.1 — 69.8 / 141.1 — 0.75

12 36 — 3.9 / 76.9 — 73.0 — (0.72)

4.3 / 76.0 — 71.7 / 144.7 — 0.68 — (M = 0.75)

4)125
12 31 15

Seeing very bad, and Iapetus faint in moonlight.
Observations' one-half weight.

April 27. 1896 Monday

U. Cephei. Wols.

0 30
10 00
9h 30m

81°.7

Δt = −17.6s
at 7h 2m
∴ Subtract 17s.6

Index to left + above. b

Variable disap. >7.4

7h 45m 00s
67.0 59.6 <
11.3 52.2 <
63.5 111.8 < −1.38 <

11.2 (1.39)
7h 46m 25s
65.0 53.8 <
10.5 56.8 <
67.3 110.6 < −1.40 <

Index to right + below. a

Clouds. 104.2
7h 49m 41s
153.5 49.3 <
106.9 41.4 <
148.3 90.7 < −1.90 <

106.9 (1.89)
7h 51m 34s
150.5 43.6 <
104.1 47.7 <
151.8 91.3 < −1.88 <

4) 2.56

4 (19 2 40 <
7 48 10 <
8 0
−~~17.6~~
7 47 52.~~4~~

256
64

~~24~~6
~~615~~

Mean −1.64 <

April 27, 1896.

Index to right and below a

	101.8		
7 53 55	152.9	51.1<	
	104.3	47.1<	
	151.4	98.2<	1.70<
	106.5		(1.78)
7 55 27	150.1	43.6<	
	103.5	48.7<	
	152.2	92.3<	1.85<

Index to left + above b

		188.3		
7 58 07		243.2	54.9<	
		190.8	49.6<	
		240.4	104.5<	1.55<
~~42~~		193.2		(1.64)
7 59 42		239.1	45.9<	
4(27 11<		190.2	50.8<	
7 56 47.75<	241.0	~~245.0~~	96.7<	1.74<
~~17.6~~				4) 2.84
~~7 56 30.15~~				
-19		4(28 4	Mean	1.71<
7 56 28.8		1.71		

April 27 1896

Index to left & above

	189.6		
8 02 32	241.0	51.4	
	193.3	45.6	
	238.9	97.0	1.73
	191.7		(1.68)
8 04 15	237.0	45.3	
	187.0	55.7	
	242.7	101.0	1.63

Index to right & below

	281.0		
8 05 59	329.3	48.3	
	276.3	57.1	1.53
	333.4	108.4 5	~~1.50~~
	276.8		(1.49)
8 08 02	333.2	56.4	
4 20 48	280.1	52.1	
8 5 12	332.2 ~~328~~	108.5	1.45

~~17.6~~
~~8 4 54.4~~
-20
8 4 52

4) 2.31
Mean = 1.58

4 | 2.34
1.585

Comp. Star = D.M. + 81° 27
Bond 394

Watch.

Δt = $-20^{s}.2$ $8^{h}\ 23^{m}\ 00^{s}$ $8^{h}\ 23^{m}\ 20^{s}.2$

April 27, 1896.

Photometer found this evening to be broken and badly twisted. One of the achromatic prisms broken into two pieces and the other prisms more or less fractured about the edges. Observer repaired Photo. and put prisms together as well as could be and took preceding observations. But probably the observations were more or less affected by the breakage. Some light cloud during observation.

The preceding observations made for full brightness and not considered reliable.

M. P. 441. N. obs.

3 31 +62°.8
11 15
7ʰ 44ᵐ

Index above.

Variabl. disap. 357.7

8 47 > 52.7 55.0 <
3.7 43.6 < −1.69 <
47.3 ~~98.6~~ ~~1.45~~
98.6 <

− (1.72)

8 49 3.5
47.6 . 44.1 <
359.8 52.3 < −1.75 <
52.1 ~~106.4~~ ~~1.50~~
96.4 < 1.72

April 27, 1896.

Index below

	88.8		
8^h 53^m	141.6	52.8 ✓	
	93.3 ~~93.5~~	42.8	
	136.1	95.6	1.77 ✓
	93.2		(1.80)
8^h 56^m	136.2	43.6	
4(20 s	89.6	49.7	
8 5^m/ 15^s	139.3 ~~140.1~~	92.7	1.84 ✓

~~4)2.56~~
~~1.64~~

M = 1.76 Mean

Σ 1245 P VIII 108. Wels.

8 29
11 45
3^h 16^m

+7.1

Abandoned Too cloudy.

April 27, 1896.

Σ 1415 7H N 145 N. ds,

10	8	+71.°7
11	50	
1	42	

Pos. ang. 160° Dis. 15" Mag's 6.0 & 6.8

Index left & above.

	Brighter disap.	~~105.4~~ 162.1		
9 20		245.0	82.9 <	
		169.4	70.4 <	
		239.8	153.3 <	0.51 <
		167.2		
9 22		234.8	67.6 <	(0.54)
		162.5	82.5 <	
		245.0	150.1 <	0.57 <

Index to right & below

	71.2		
9 24	156.7	85.5 <	
	83.0	61.2 <	
	144.2	146.7 <	0.64 <
	82.1		
9 26	145.1	63.0 <	(0.70)
9 23 0	74.8	77.0 <	
	151.8	140.0 <	0.77
			4)2.49

(M = 0.62)

Mean 0.62 <

April 27, 1896

Σ 18' ζ × 35 Leonis   W. ds.

10 10   -24°.1
12 15
2 5

Pos. ang. 310° Dis. 5' Mag's 3.5 & 6.0

Index above.

	brighter disap. >	190.5		
9 40		220.5	30.0<	
		188.9	32.3<	
		221.2	62.3<	2.77<
		187.2		
9 42		220.6	33.4<	(2.72)
		189.8	32.0<	
		221.8	65.4<	2.66<

Index below.

	274.2		
9 42	315.4	41.2<	
	275.1	38.9<	
	314.0	80.1<	~~2.19~~<
	276.0		34
9 45	314.2	38.2<	(2.~~28~~)
	275.6	38.0<	
	313.6	76.2<	2.31<

4)9
9 42 15

4)1.93
2.48<

M = 2.53
~~2.48~~

April 27. 1896

Index below

275.8
9 52 313.9 38.1<
276.0 38.3<
314.3 76.4< 2.30<

Third set retaken with images refocused. Images considerably elongated from distance of components.

Σ 1495 H V III Mols

10 52 +59°.6
12 35
1 43

Pos. ang. 40° Dis. 30" Mags 6.2 & 8.5
Index below

brighter disap } ~~231.0~~ 264.0 ~~273.2~~
10 ~~12~~ 8 ~~325.2~~ 323.2
59.2<
273.2 42.8< 1.61
316.0 102.0<

April 27 1896

Index below.

	266.7		
10 10	324.0	57.3 <	(1.65)
	273.2	41.5 <	1.69
	314.7	98.8 <	

Index above.

	4.3		
10 13	44.0	39.7 <	
	358.2	53.3 <	1.83
	51.5	93.0 <	

	356.9		(1.80)
10 15	50.1	53.2 <	
	3.2	42.8 <	1.76
10 11 30	46.0	96.0 <	(M = 1.72)

Iapetus with Phot. T. Sw. ots.

15 3 −14.5
13 0
−2 3

Too much cloud and moonlight.

Apr. 27. 1896.

Σ 1193. 176 Camel. B. W. obs.

8 7 +72°.8
13 10
+5 3

Pos. Ang. 45°. Dist 40". Mags. 6.0 9.1

Index left & above.

	13.8 < bttr. dis.		
10 37	34.3	20.5 <	
	14.2	20.3 <	3.72
	34.5	40.8 <	
	13.8		(3.63)
10 39	36.1	22.3 <	
	13.8	22.0 <	3.54
	35.8	44.3 <	

Index right & below.

	105.1		
10 42	125.0	19.9 <	
	105.0	19.3 <	3.81
	124.3	39.2 <	

Apr. 27. 1896.

10 4.7 (3.78)

10 48 | 12 4.8 20.1

4)166 | 10 4.8 20.0 3.76

10 41 30 | 12 4.8 40.1 (M = 3.70)

Troubled throughout evening by ~~clou~~ some clouds.

Clouds growing thicker. No chance for Iapetus.

Apr. 29. 1896. (Wednesday)

Nova Aurigae. Phot. R. W. obs.

5 23 +32°.0
10 15
+4 52

~~8~~ 7 ~~149.5~~ Reject. Something wrong.
~~256.0~~

Index left + above.
71.2 80.8 ✓
8 10 152.0
78.8 72.0 ✓
150.8 152.8 ✓ 0.52 ✓

* 76.0 75.3 ✓
151.3
77.0 76.0 ✓
153.0 151.3 ✓ 0.55 ✓ mean. 0.54

Index right + below.
169.5 72.5 ✓
242.0
166.6 76.2 ✓
242.8 148.7 ✓ 0.60 ✓

Apr. 29. 1896.

8 35
8 22 30

164.8 75.9 ✓
240.7
166.9
241.8 74.9 ✓
150.8 ✓ 0.56 ✓ mean 0.58 ✓
Gen. mean 0.56 ✓

Var. in Urs. min. Phot. R. W. obs.

15 50 +78.2
11 50
− 4 0

Clouds in this region.

Index below.

334.0 < Comp. Star dis.
72.0 98.0 ✓
9 19 337.9 93.3 ✓
71.2 191.3 ✓
162.7 ✓ *0.21 ✓

335.2 95.5 ✓ (0.25)
70.7
335.0 100.0 ✓
75.0 195.5 ✓
165.5 ✓ 0.29

Apr. 29. 1896.

Index above.

63.5 100.6 ✓

164.1

65.0 98.5 ✓

163.5 199.1 ✓

160.9 ✓ 0.36 ✓

63.4 100.0 ✓

9 37 163.4 (0.40)

9 28 00 60.2 103.8 ✓

164.0 203.8 ✓

156.2 ✓ 0.45 (M = 0.32)

β Lyrae Phot. R. Gr. obs.

18 46 +33.2

12 40

6 6

5 54

Index right + above.

88.3 < Var. dis.

10 2 138.0 49.7 ✓

86.2

140.9 54.7 ✓

104.4 ✓ 1.55 ✓

84.0 59.0 ✓

143.0 (1.52)

89.9 48.3 ✓

138.2 107.3 ✓ 1.42 ✓

Apr. 29. 1896.

Index left + below.

179.0 50.5 ✓
229.5
177.0 58.3 ✓
235.3 108.8 ✓ 1.45 ✓

10 22
10 12 00

175.0 59.1 ✓ (1.44)
234.1
178.1 51.0 ✓
229.1 110.1 ✓ 1.42 ✓
(M = 1.48)

Meast. of Iapetus with Phot. T. Gr. Ss.

15 3 −145
13 15
−1 48

~~Sat.~~ Iapetus seen and identified but clouds prevented measurement. Iapetus seems brighter than on the last night of measurement. This may be partly due to the fact that the moon is more distant than then, but it does not seem as if this could be wholly so.

Apr. 29. 1896.

δ Cephei. Wr. Ms.

22 25 +57.8
13 40
−8 45

Too cloudy.

Σ 1268. Wr. Ms.

8 39 +29.2
13 45
+5 6

Too low + cloudy.
Becoming thickly cloudy everywhere.

Σ 1245. Wr. Ms.

8 29 +7.1
13 45
+5 16

Clouds.

Apr. 29. 1896.

Σ 1850. W. obs.

10 29 +9.3
13 82
+3 19

Clouds thick.

Apr. 30. 1896. (Thursday).

Meast of Faint Comp. Stars for R. Aurigae. G. Sta.

5 4 +53.0
10 15
+5 11

Abandoned for Present. Twilight too strong.

Σ 1193. 176 Camel B. G. Sta.

8 7 +72.8
10 20
+2 13

~~7 55~~

Pos. Ang. 80°. Dist. 40". Mags. 6.1, 9.3

Index left & above.

7 55

13.9
34.5 20.6 <
14.0 22.0 <
36.0 42.6 < 3.63 <

14.0
37.1 23.1 < (3.57)
13.9 21.8 <
35.7 44.9 < 3.51 <

55

Apr. 30. 1896.
Index right & below.

106.0   18.5 c
124.5
105.6   22.1 c
127.7   40.6 c   3.74 c

105.1   22.1 c   (3.64)
127.2
104.7   22.1 c
126.8   44.2 c   3.55 c   (M = 3.60)

8   14
2(16   9
8   4   30

~~Nova~~ Comp. Stars for R. Aurigae again.
Star g ~~f~~ compared with a   W. Ho.

Index left & above.

8   30

218.5   4.5 c
223.0
216.6   6.1 c
222.7   10.6 c   6.67 c

217.2   5.0 c   (6.74)
222.2
218.0   5.0 c
223.0   10.0 c   6.80 c

Apr. 30. 1896.
Index right & below.

309.5
315.0 5.5 c

309.0 5.8 c
314.8 11.3 c 6.53 c

309.0 5.7 c (6.46)
8 44 314.7
8 37 00 308.6 6.4 c
315.0 12.1 c 6.38 c
(M = 6.60)

Star p compared with a.
Index right & below.

308.0 6.5 c
8 48 314.5

308.0 6.0 c
314.0 12.5 c 6.31 c

308.1 6.2 c (6.32)
314.3

308.0 6.2 c
314.2 12.4 c 6.33 c

Apr. 30. 1896.

Index left & above.

36.7 6.8 c
43.5
36.9 6.8 c
43.7 13.6 c 6.13 c

2
37.0 6.8 c (6.17)
9 9 43.8
37.5 6.3 c
11.7 43.8 13.1 c 6.21 c M = 6.24
8 58

Star o compared with a

Index to left.

297.9 6.9 c
9 15 304.8
297.4 8.6 c
306.0 15.5 c 5.85 c

298.0
305.8 7.8 c (5.84)
298.1 7.9 c
306.0 15.7 c 5.82 c

Apr. 30. 1896.

Index to right.

27.4
34.8 7.4.
26.7
35.7 9.0.
16.4. 5.72.

26.6 8.6. (5.60)
35.2

9 33

45
9 24

25.2
35.0 9.8.
18.4. 5.47. (M = 5.72)

Star n compared with a
Index to right.

9 38

207.5
218.1 10.6.
208.0
217.6 9.6.
20.2. 5.27.

208.7
220.0 11.3. (5.24)
208.6
218.1 9.5.
20.8. 5.20.

Apr. 30. 1896.

Index to left.

296.0 10.1 <
306.1
296.6 9.6 <
306.2 19.7 < 5.32 <

295.8 10.1 < (5.29)
9 50 305.9
296.0 10.2 <
8 8 306.2 20.3 < 5.26 <
9 44

(M = 5.26)

Star m compared with a
Index to right.

205.3 11.8 <
9 54 217.1
206.0 10.5 <
216.5 22.3 < 5.05 <

208.2 9.1 < (5.14)
217.3
206.5 11.5 <
218.0 20.6 < 5.23 <

Apr. 30. 1896.

Index to left.

121.0
130.5 9.5
121.3 8.6
129.9 18.1 5.51

10 6
122.8 7.7 (5.51)
130.1
10 00 00
122.5 10.4
132.9 18.1 5.51

M = 5.32

Circumpolar Variables. Lr. ob.

S Cygni.

20 8 +57.2
13 0
-7 8
8 52

m 3.5 Var., Var. 1 m in lar. tel.
10 30 Too ft. for finder.
Est. 12.1

Apr. 30. 1896.

Meas. of Japetus with Phot. T. W. ob.

15 3 −14°5
13 20
−1 43
10 17

Comp. Star = B.D. −14°.4095 (8.7)

Indep right.

187.9 comp. * dir.
11 40 250.5 62.6
194.8 1.35
245.1 50.3
112.9

194.1 51.6 (1.30)
11 42 245.7
187.1 65.4 1.26
252.5 117.0

Indep left.
280.2 60.1
11 44 340.3
284.9 48.2 1.46
333.1 108.3

Apr. 30, 1896.

285.7 48.3 (1.42)
11 46 334.0
277.4 63.7 1.37
11 43 00 341.1 112.0 (M = 1.36)

Same again
276.2 62.8
11 47 339.0
283.8 49.6 1.36
333.4 112.4

284.6 53.8 (1.32)
12 49 338.4
277.1 62.6 1.27
339.7 116.4

Indep right.
9.3
11 52 70.6 61.3
15.1 47.5 1.45
62.6 108.8

(1.44)
15.1
11 53 64.5 49.4
60.2 1.43
4 | 20 1 10.1 109.6
11 50 15 ~~71.6~~ 70.3 (M = 1.38)

Apr. 30, 1896.

Measts. of Titan with Phot. T, W. obs.
Comp. Star = B.D. -16° 4095 (8.7)

Index right.

353.3 < comp. * dist.
12 02 84.3 91.0<
346.0 109.1<
95.1 200.1< + 0.38
159.9

345.0 − (0.39)
12 04 94.2 109.2<
352.3 91.7<
84.0 200.9< − 0.40
159.1

Index left.

83.2
12 06 171.0 87.8<
74.0 106.0< − 0.26
180.0 193.8<
166.2

75.7 − (0.26)
12 07 181.2 105.5<
82.2 87.8<
170.0 193.3< − 0.25
166.7<

4(19
12 4 45

(M = 0.32)

Apr 30, 1896.

80.3
12 08 172.8 92.5
75.9 103.3
179.2 195.8 −0.30
164.2

74.3
12 09 179.1 104.8 −(0.26)
83.0 86.9
169.9 191.7 −0.22
168.3

Indep nights

171.0
12 11 263.1 92.1
162.6 107.2
269.8 199.3 −0.37
160.7

165.0
12 13 272.2 107.2 −(0.40)
170.5 94.8
~~264.6~~ 265.3 202.0 −0.42
158.0

4(41
12 10 15

(M = 0.33)

May 1. 1896. (Friday).

ζ Bootis M. obs.

14 16 54°.6
10 25
3' 51''

l comp in thg. Index to left + above

		191.4		
8	20	250.9	59.5c	
		190.4	62.8c	1.14
		253.2	122.3c	
				(1.15)
		188.3		
8	21	251.1	62.8c	
		192.4	58.6c	1.16
		251.0	121.4c	

Index to right + below

		282.9		
8	23	342.2	59.3c	
		283.6	54.5c	1.33
		338.1	113.8c	
				(1.24)
		280.0		
8	24	338.5	58.5c	
8	22 00	281.0	64.1c	1.14
		345.1	122.6c	

(M = 1.20)

~~Ap~~ May 1 1896

n comp. mthg Index above.

		20.0		
8	32	60.0	40.0 c	
		19.4	42.6 c	2.12
		62.0	82.6 c	
				(2.24)
		21.9		
8	34	60.4	38.5 c	
		23.5	36.2 c	2.36
		59.7	74.7 c	

Index below.

		111.4		
8	~~2~~ 36	150.8	39.4 c	
		113.0	41.1 c	2.18
		154.1	80.5 c	
				(2.18)
		110.3		
8	37	154.4	44.1 c	
	4)19	114.0	36.5 c	2.18
8	34 45	150.6	80.6 c	

(M = 2.21)

May 1, 1896.

~~m comp with g.~~ ~~Index to right & above~~

~~178.8~~
8 41 ~~263.7~~
~~177.0~~
~~266.4~~

~~177.9~~
8 42 ~~266.2~~
~~182.4~~
~~265.0~~

May 1, 1896.

o comp. with g.		Index above.	
	203.0		
8 46	241.4	38.4<	
	204.0	35.8<	2.37
	239.8	74.2<	
			(2.32)
	198.4		
8 48	239.1	40.7<	
	205.4	36.8<	2.27
	242.2	77.5<	
		Index below	
	293.2		
9 1	332.6	39.4<	
	294.9	32.2<	2.45
	327.1	71.6<	
	292.7 ~~295.5~~		(2.45)
9 2	~~298~~		
	327.2	34.5<	
4(217 8 54 15	289.2	37.2<	2.45
	326.4	71.7<	

(M = 2.38)

May 1. 1896.

p comp with g. Index above & to right.

2079
8 50 2375 29.6 c
2041 33.9 c 2.73
2380 63.5 c

(2.66)

2027
8 52 2375 34.8 c
2045 32.3 c 2.60
2368 67.1 c

Index to left & below.

297.3
9 05 324.0 26.7 c
297.2 27.4 c 3.10
324.6 54.1 c

(3.12)

9 06 297.9
4(233 323.5 25.6 c
8 58 15 297.9 27.2 c 3.15
325.1 52.8 c

(M = 2.89)

May 1, 1896.

m comp with g		Index above.	
	197.4		
8 55	243.2	45.8 c	
	194.3	52.7 c	1.69
	247.0	98.5 c	
			(1.58)
	196.9		
8 56	248.9	52.0 c	
	192.7	55.5 c	1.48
	248.2	107.5 c	
		Index below.	
	287.4		
8 58	333.5	46.1 c	
	289.4	45.9 c	1.86
	335.3	92.0 c	
			(1.86)
	290.0		
8 59	332.2	42.2 c	
8 57 00	285.4	49.9 c	1.86
	335.3	92.1 c	

(M = 1.72)

May 1. 1896.

Faint Comp. Stars for R. ~~Draconis~~ Aurigae. Trs. with Phot. T.

Abandoned.

Not time enough before eclipse.

A. & D. 958. B. 39 C.

9	38	53.6	9	37	0.0
	39	53.6		38	0.0

⊜ I· III· IV·
Fol.

Reap. of Jup. II. Phot. R. Tr. obs. Colson rec. Compared with first sat. fol. Jupiter before II reappeared. = Sat. III.

9	49	10	9	51	04	~~Atten~~ suspected.
		51			45	200.0
	50	02			56	214.5
		10		52	04	193.5
		16			10	215.8
		25			19	193.8
		31			25	218.0
		38			32	191.0
		44			38	224.7
		49			43	190.0
		54			48	223.2
	51	00			54	186.1
		07		53	01	225.5
		12			06	183.2
		19			13	227.5

May 1. 1896.

9 51 26			20		180.7		
33			27		229.2		
40			34		178.9		
46			40		230.0		
54			48		176.9		
52 01			55		232.2		
09		54	03		178.0		
15			09		234.5		
21			15		176.0		
28			22		236.0		
33			27		176.2		
40			34		236.5		
48			42		173.0		
53 00			54		238.5 →		
		55	02		171.0		
9 55 12			08	66.1	237.1		
-1 -54	Correction.		16	62.7	175.3	1	1.0
9 53 18	Corr. Time.		22	128.8 64.4	238.0		
			30	64.2	173.0		
9 55 39 -1 -54			36	63.7	237.2		1.0
9 53 45			42	127.9 64.0	171.1	2	
			48		234.8		
			57	66.1	170.8		
56 07		56	03	69.9	236.9		0.9
-1 -54 54 13			10	136.0 68.0	169.8	3	
			16		239.7		
			22	61.4	175.8		
56 32 -1 -54			28	65.0	237.2		1.1
54 38			35	126.4 63.2	173.0	4	
			43		238.0		
			50		171.7		

May 1. 1896.

57 67.3ˣ 239.0
57 01 57 05 66.8 171.2
−1 54 134.1
55 07 11 67.0 237.0 5 0.9ˣ
~~10~~ ~~00~~ 20 170.0
55 46 26 69.0ˣ 239.0
−1 54 63.7ˣ 6
56 52 10 00 04 132.7ˣ 173.0 0.9ˣ
12 66.4ˣ 236.7
21 173.8
10 00 31 0 −25 ~~3~~7 62.5ˣ 236.3
−1 54 63.9ˣ
9 58 37 35 126.4ˣ 173.0 ~~6~~ 7 1.1ˣ
42 63.2ˣ 236.9
50 171.8
56 64.9ˣ 236.7
10 1 00 66.0ˣ ~~7~~ 8
−1 −54 0 ~~2~~1 04 130.9ˣ 172.0 1.0ˣ
9 59 06 12 65.4ˣ 238.0
19 173.0
10 01 47 30 65.0ˣ 238.0
−1 −54 66.9ˣ ~~8~~ 9
9 59 53 02 04 131.9ˣ 172.1 0.9ˣ
14 66.0ˣ 239.0

Limit of Visibility.

10 02 42 25 197.3
−1 −54
10 00 48 38 15.4ˣ 212.7
48 16.3ˣ 196.7
57 31.7ˣ 4.3°
15.8ˣ 213.0

A + D. 958. B. 394.

10 10 53.5 10 9 0.0
11 53.6 10 0.0

Chron. cor. = $-1^{m}\ 54^{s}$

May 1. 1896.

Meast. of Faint Comp. Stars for R. Aurigae. with Phot. T. Sr. obs.

5 4 +5 30
13 7
18. 3

Star p compared with a

Index left and above.

	36.5		
10 10	43.8	7.3	6.05
	36.8	6.8	
	43.6	14.1	
			(6.12)
	36.8		
	43.6	6.8	
	37.3	6.5	6.18
	43.8	13.3	

Index right and below.

308.3		
314.6	6.3	
308.1	5.8	6.38
313.9	12.1	

May 1. 1896.

308.2 (6.34)

10 23 / 10 16 30 — 314.2 6.0 c

307.9 6.5 c 6.31

314.4 12.5 c

(M = 6.23)

Star g compared with a

Index right + below.

309.4

10 28 — 315.3 5.9 c

309.2 5.7 c 6.48

314.9 11.6 c

(6.42)

309.1

315.0 5.9 c

308.9 6.3 c 6.37

315.2 12.2 c

Index left + above. ~~(6.48)~~

216.5 =(6)

222.3 5.8 c

217.7 5.2 c 6.59

222.9 11.0 c

~~(M = 6.45)~~

May 1. 1896.

10 40	214.1		
10 34 00	222.9	4.8	(6.58)
	217.5	6.3	6.57
	223.8	11.1	(M = 6.50)

Region getting low and observations somewhat difficult.

Examination of region about Saturn for position of Titan, in order to see if observation of same last night was on correct object. W. Obs.

15 3 -14.5
13 41
-1 22

The ~~star~~ object which was taken for Titan last night, follows Saturn to-night 12. secs. (that is follows the centre of Saturn) and is 0'.5 north of it.

A somewhat bright object follows the centre of Saturn 3.5 secs. and is 0'.8 south of it. but this is out of position by Almanac, and is about 0.5 magn. ftr. than Iapetus to-night. and is probably another satellite.

The object supposed to be Iapetus

May 1. 1896.
Swift precedes Lalium 36.5 secs.
and is 1.5 north of it.

May 2. 1896. (Saturday)

7 20 Cloudy.

7 30 "

8 0 "

A.+D. 958.	B. 394.
8^h 08^m $57^s.3$	8^h 07^m $00^s.0$
8^h 09^m 57.2	8^h 08^m 00.0

Reappearance of Jup. I Photo. R N. Lo, Rich. ssc.

Theoretical time of eclipse 8^h 24^m Eastern Time

8 15 All cloudy Jupiter invisible.

8 20 Jupiter still invisible.

8 20 " " " All cloudy.

8 25 Jupiter still invisible. still cloudy. No chance for eclipse. Time of reappear now past.

May 2. 1896.

8 30 Cloudy.

8 40 "

8 50 All cloudy.

May 4. 1896. (Monday)

Wells Var. Phot. T. Wc obs.

20 31 ~~+14.5~~ +178
18 8
−6 23
5 37
14 18
−6 13
5 47

Comparison Star used was comparison star A.

Index rt. and above.

	32.0 < comp* dis.		
11 ~~49~~ 48 45	58.1	26.1<	
	28.5	31.6<	+2.95
	60.1	57.7<	

	31.3		+(2.96)
11 51 18	58.7	27.4<	
	32.2	29.6<	+2.98
	61.8	57.0<	

Index left and below.

	121.7		
11 56 15	151.4	30.0<	
	120.3	30.7<	+2.84
	151.0	60.7<	

May 4th, 1896.

(2.84)

11 59 02 | 120.7
4(2 15 20″ | 152.9 | 32.2″
11 53 50″ | 120.2 | 28.5″ +2.84+
 | 148.7 | 60.7″

(M = 290+)

118.5
12 09 34 | 149.4 | 30.9″
 | 119.0 | 30.1″ +2.82
 | 149.1 | 61.0″

121.2 (2.91)
12 11 51 | 149.0 | 27.8″
 | 120.0 | 28.6″ +3.00
 | 148.6 | 56.4″ 2

9 indepnt and above

209.9
12 15 15 | 242.1 | 32.2″
 | 209.0 | 31.6″ +2.72
 | 240.6 | 63.8″

May 4th, 1896.

208.7
12 17 51 — 241.4 — 32.7 < (2.70)
4)54 31 — 210.5 — 31.9 < +2.69
12 13 37.8 < ✓ — 242.4 — 64.6 <
M = 2.80

208.9
12 20 00 — 241.9 — 33.0 <
210.9 — 29.3 < +2.77
240.2 — 62.3 <

209.4 (2.78)
12 21 52 — 240.7 — 31.3 <
211.4 — 30.5 < +2.79
241.9 — 61.8 < ~~(M = 2.74)~~

Ind dup left and below. 3

299.8
12 24 25 — 329.5 — 29.7 <
299.5 — 32.9 < +2.76
332.4 — 62.6 <

300.1 (2.82)
12 26 45 — 329.7 — 29.6 <
4)13 2 — 298.3 — 30.1 < +2.87
12 23 15.5 < ✓ — 328.4 — 59.7 <
M = 2.80

May 4th, 1896.

299.9
12 43 40 327.8 27.9^{+}<
301.5 26.5^{+}< $+3.08^{+}$
328.0 54.4^{+}<

(3.04)$^{+}$

299.8
12 45 05 328.4 28.6^{+}<
300.3 28.0^{+}< $+2.99^{+}$
328.3 56.6^{+}<

4

~~(M = 2.93)~~

Indep't. and above.

30.5+
12 47 53 59.9 27.4^{+}<
28.9 30.2^{+}< $+2.95^{+}$
59.1 57.6^{+}<

30.1 (2.94^{+})
12 50 35 58.1 28.0^{+}<
4(187 13 29.3 30.1^{+}< $+2.93^{+}$
12 46 48.25< 59.4 58.1^{+}<

~~M = 2.99~~

29.2
12 52 35 57.6 28.4^{+}<
29.2 32.1^{+}<
61.3 60.5^{+}< $+2.54^{+}$

May 4th, 1896

29.4
61.0 (2.82)
12 53 50 28.8 31.6 30.2 +2.79
59.0 61.8

5 ~~(M = 2.88)~~
Indep left and below ....

119.1
12 56 45 148.0 28.9
121.4 27.2 +3.01
148.6 56.1

119.6 (2.96)
12 58 33 148.3 28.7
4 | 21 43 120.0 30.0 +2.91 (M = 2.89)
12 55 25.75 150.0 58.7

120.0
13 09 00 150.5 30.5
119.3 29.1 +2.87
148.4 59.6

120.0 (2.88)
13 10 18 148.2 28.2
118.5 31.0 +2.89
149.5 59.2

~~M = 2.92~~

May 4th, 1896.

Index rt. and above

208.9 6.

13 12 48 242.4 33.5c

210.1 30.3c +2.72

240.4 63.8c

(2.69)

208.4

13 14 46 239.8 31.4c

4(46 5 2. 206.0 34.0c +2.66

13 11 ~~40.5~~c 240.0 65.4c (M = 2.78)

43.0

(2.64)

208.0

13 16 18 242.3 34.0c

208.1 32.4c +2.62

240.5 66.7c

(2.62)

208.2

13 18 00 241.8 33.6c 7.

208.7 33.1c

241.8 66.7c +2.62

(M = 2.66)

Index left and below ~~(2.71)~~

299.9

13 20 40 328.4 28.5c

297.9 33.1c +2.80

331.0 61.6c

~~(M = 2.68)~~

May 4th, 1896.

(2.76)
13 22 35 — 298.7 — 330.3 — 296.8 — 328.9
4(17 33 — 31.8 c — 32.1 c +2.72 — 63.9 c
13 19 23.25 c ✓
(M = 2.69)

13 24 47 — ~~328.8~~ ~~298.3~~ ~~329.2~~ ~~331.5~~ — 298.3 — 327.2 — 297.1 — 331.5
2
88.9 c
34.4 c +2.74
~~65.3~~
63.3 c

(2.77)
13 25 20 — 298.5 — 329.4 — 298.7 — 329.5
30.9 c
30.8 c
61.7 c
8 +2.80

Index at, and above.

13 28 00 — 28.0 — 59.5 — 28.0 — 58.5
31.5 c
30.5 c +2.79
62.0 c

~~2~~

(2.78)
13 27 40 — 28.5 — 59.3 — 28.8 — 60.0
4(27 47 ✓
13 26 56.75 c
31.0 c
31.2 c +2.78
62.2 c
(M = 2.78)

May 4th, 1896.

28.6
13 43 45 61.0 32.4c
25.1 36.6c +2.54
61.7 69.0c

(2.56)

25.9
13 45 42 61.8 35.9c
28.0 31.5c +2.09
59.5 67.4c

9,

Index left and below.

119.5
13 48 05 151.5 32.0c
115.4 36.9c +2.54
152.3 68.9c

(2.52)

116.8
13 49 10 152.3 35.5c
4(26 42 117.0 34.6c +2.50
13 46 40.5c ✓ 151.~~9~~6 70.1c

M = 2.54

Clouds.

119.6
13 53 33 150.9 31.3c
118.0 32.2c +2.73
150.2 63.5c

May 4th, 1896.

117.1 (2.64)
13 55 20 150.5 33.4 <
116.5 35.4 < +2.55
151.9 68.8 <

10.

Indep rt. and close

203.4
14 01 11 244.6 41.2 <
203.5 41.3 < +2.12
244.8 82.5 <

201.6 (2.09)
14 02 52 246.0 44.4 <
4 | 55 52 56 205.9 40.1 < +2.06
13 58 14 246.0 84.5 <
4 | 23 2 56 (M = 2.36)
13 58 14 <

Clouds.

202.7
14 20 41 247.1 44.4 <
200.7 46.5 < +1.89
247.2 90.9 <

204.1 (1.90)
14 22 05 248.1 44.0 <
14 21 23 201.6 45.8 < +1.92
247.4 89.8 <

Stopped by clouds.

May 4th, 1896.

Indep left and below.

15 14 00
15 15 11
15 14 36.✓

292.1
341.3
287.3
344.5

49.2s
$\underline{57.2s}$ +(1.50)
106.4s

Finally stopped by clouds.

May ~~4~~ 7 1896. (Thursday).

Meast of Faint Comp. Star for ~~R~~ δ Bootis. W. obs.

14 16 +54.6
10 45
— 3 31
8 29

~~Star~~

Star f compared with g.
~~Star m compared with g.~~
Index right and above.

348.6
7 40 62.1 73.5
347.0 76.8 0.57
63.8 150.3

(0.65)

347.0
62.7 75.7
352.1 66.7 0.73
58.6 142.4

May 7. 1896.

Index left and below.

78.8
148.5 69.7 c
79.0 68.7 c 0.81
147.7 138.4 c

78.8 (0.70)
7 51 153.4 74.6 c
7 45 30 78.3 73.9 c
152.2 148.5 c 0.60
M = 0.68

l compared with g
Index left and above.

191.0
7 59 251.5 60.5 c
189.9 63.2 c 1.11
253.1 123.7 c

189.2 (1.14)
251.0 61.8 c
191.3 59.0 c 1.18
250.3 120.8 c

May 7. 1896.

Index right and below.

280.7
8 339.0 58.3 <
280.2 64.7 < 1.13
344.9 123.0 <

281.0 (1.18)
8 13 341.5 60.5 <
8 06 00 282.9 58.0 <
340.9 118.5 < 1.23

M = 1.16

m compared with g.
Index below.

289.0
8 18 332.0 43.0 <
287.5 50.2 < 1.83
337.7 93.2 <

287.6 (1.84)
333.4 45.8 <
288.4 47.1 < 1.84
335.5 92.9 <

May 7. 1896,
Index above.

196.8
249.8 53.0 <
194.7 55.9 < 1.44
250.6 108.9 <

194.0 (1.44)
A 29 — 249.7 55.7 <
8 23 30 — 196.4 53.1 < 1.45
249.5 108.8 <
M = 1.64

n compared with g.
Index above.

22.2
A 32 — 60.5 38.3 <
22.0 37.8 < 2.31
59.8 76.1 <

20.1 (2.26)
58.8 38.7 <
19.5 40.6 < 2.22
60.1 79.3 <

Index below.

110.5
149.2 38.7 <
111.2 40.1 < 2.23
151.3 78.8 <

May 7, 1896.

110.6
154.0 43.4< (2.20)
8 46 / 8 39 00 111.1 37.1< 2.18
148.2 80.5<
M = 2.23

o compared with g.
Index below.

293.0
8 50 331.5 38.5<
293.1 30.9< 2.53
324.0 69.4<

290.8 (2.54)
324.3 33.5<
290.1 35.1< 2.55
325.2 68.6<

Index above.

199.9
240.2 40.3<
202.2 36.0< 2.31
238.2 76.3<

May 7. 1896.

202.6 (2.36)
9 5 240.7 38.1c
8 57 30 203.0 35.0c 2.41
238.0 73.1c M = 2.45

Star p compared with g.
Index right & above.

203.8
9 10 238.2 34.4c
203.9 33.2c 2.59.
237.1 67.6c

205.0 (2.63)
236.5 31.5c
204.3 33.6c 2.67.
237.9 65.1c

Index left & below.

296.9
323.9 27.0c
297.5 28.5c 3.04
326.0 55.5c

May 7. 1896.

9   27
9   18   30
9.

297.5
324.8
297.8
326.0

27.3
28.6
55.9

(3.03)
3.02

M = 2.83

R Aurigae.   W. Ms.

Examination of relative brightness of ~~stars~~ comp. stars m and n.

5   2   +5 3.0
13   0
+7   58

The photometer seems to be right.
Star n is estimated by W. to right as 1 grade brtr than m.

Var. = p. as nearly as can be estimated. Region low.
10 5
Est. 12.2

May. 7. 1896.

δ Cygni.

20 8 +57.2
13 30
−6 38
5 22

10 25 m 3 Var., Var. 2 n in lar. tel.
Too ft. for finder.
Est. 12.5

δ Cephei.

~~22 25~~ ~~+57.8~~
21 37 +78.3
13 45
−7 52
4 8

10 39 h 3 Var., Var. 2.5 k in lar. tel.
h 2.5 Var., Var. 2.5 k in finder.
Est 10.5

Star k is tonight brtr. than l

10 39 k 3 l.
x 2.5 l.

May 7. 1896.

Meast. of Iapetus with Phot. T.
Wr. obs.

15 3 −14.0
14 0
− 1 3

Comp. Star = B.D. −14° 4097. (A.7)

Index left and above

89.8 ∠ comp. ✱ dis.
11 42 150.2 60.4″
94.5 49.9″ 1.41
144.4 110.3″

96.3 (1.40)
11 44 145.6 49.3″
89.1 61.4″ 1.40
150.5 110.7″

Index rt. + below.

178.0
11 46 242.5 64.5
184.9 51.2″ 1.27
236.1 116.7

184.0 (1.23)
11 48 236.5 52.5″
176.5 67.4″ 1.19
243.9 119.9″

11 45 00

M = 1.32

May 7, 1896.

Same again.

175.2
12 49 243.1 67.9 <
183.3 52.0 < 1.19
235.3 119.9 <

(1.20)

185.0
11 51 236.1 51.1 <
176.9 67.6 < 1.22
244.5 118.7 <

Index left and above

273.9
11 53 331.1 57.2 <
273.7 53.1 < 1.41
326.8 110.3 <

(1.29)

274.0
11 55 329.4 55.4 <
267.5 65.7 < 1.17
333.2 121.1 <

11 52 00

M = 1.24

May 7, 1896.

Meast. of Iapetus with Phot. T. W. obs.

Index left. Comp. Star = S.D. −14° 4045 (6.4

272.6 < comp. ✱ dia

12 05 328.1 55.5<

270.0 61.1< 1.27

331.1 116.6<

(1.34)

270.9

12 07 330.4 59.5<

274.3 50.7< 1.41

325.0 110.2<

Index right.

5.1

12 10 54.3 49.2<

2.8 56.4< 1.52

59.2 105.6<

(1.46)

12 11 → 1.2

4(33 60.1 58.9<

12 8 15 3.3 52.2< 1.39

55.5 111.1<

M = 1.40

May 7, 1896.

Same again.

		3.8		
12	12	55.9	52.1c	
		6.0	52.9c	1.54
		58.9	105.0c	
		1.5		(1.44)
12	14	61.2	59.7c	
		4.4	54.0c	1.33
		58.4	113.7c	

Index left.

		93.8		
12	17	145.5	51.7c	
		89.1	60.5c	1.37
		149.6	112.2c	
		90.0		(1.35)
12	19	150.1	60.1c	
12	15 30	93.3	53.9c	1.33
		147.2	114.0c	

M = 1.40

May 8. 1896. (Friday)

Σ 1193. 176 Camel B. Two obs.
Phot. R.

8 7 +72°.8
11 1
42 54

Index left & above.

	15.0		
7 48	37.0	22.0 c	
	14.8	21.3 c	3.59 c
	36.1	43.3 c	
			(3.56)
	14.7		
	36.9	22.2 c	
	13.9	22.1 c	3.54 c
	36.0	44.3 c	

Index right & below.

105.5		
127.4	21.9 c	
104.9	23.4 c	3.49 c
128.3	45.3 c	

May 8. 1896.

8 7
8 57 30

105.9
128.6
104.4
128.2

(3.46)

22.7″
23.8″
46.5″

3.43″

M = 3.51

Expts. with new Plat. Je. on Gr. Ho.
telescope.

$$\begin{array}{rrl} 1 & 10 & +72.1 \\ 11 & 35 & \\ \hline +10 & 25 & \end{array}$$

Cloudy in this region and
growing worse.

Cloudy all through north.

Will try
h Draconis.

$$\begin{array}{rrl} 16 & 26 & * +67.4 \\ 12 & 25 & \\ \hline -4 & 1 & \end{array}$$

May 8. 1896.

Star has now entirely disappeared.

The comparison star used was η Draconis. As seen through the clouds, it had about the brightness of a 4th mag. star, and when seen in the auxilliary telescope, ~~too was~~ and silvered reflector, had about the brightness of an 8.5 or 9.0 mag. When the silvered was replaced by the unsilvered part of reflecting glass, it was only just visible at times by indirect vision; that is it was reduced to 14 to 15 mag. and was about the same brightness as comp. star η as seen through clouds.

Tried Phot. J. on Arcturus. Lr. Ho.

When clouds reduce Arcturus to about a 2d mag. star, the silvered mirror makes it about 7th mag. and the unsilvered part makes the principal image 12.5 and the secondary, from farther surface of glass, 12.9

That is, the silvered part reduces it by 5 mag. +, and the unsilvered by 10. to 10.5, and the secondary by ~~=~~ 10.5 to 11.

May 9. 1896. (Saturday)

Wells Variable. Yr. obs.
Cloudy.

20	31	+17.8
14	20	
−6	11	

It is now past 12 o'clock and still nothing can be done with the variable.

May. 11. 1896. (Monday)

Cloudy.

Expts. with Phot. U (J. revised) through clouds. on ε Boötis. Lr. obs.

The images in the auxilliary telescope are a little smaller than those in the large telescope, but can be made alike as to size when the comparison star in the auxilliary telescope is run out of focus by 2.0 to 2.5 divisions.

R Lyncis. with Phot. U. Lr. obs.

6 49 +55.1
12 20
+5 31

Comp. Star = o Urs. Maj.

o is barely visible in auxilliary telescope ~~[illegible]~~ with indirect vision, and not located with certainty at all times, but as nearly as can be made out the comparison would

9 46 be t 3 o.

o = u

Sky not over clear, vapor a little low, comparison star o considerably higher than t and u and estimate not very satisfactory.

May 11. 1896.

S Cygni. Phot. U. W. obs.

20 8 + 57.2
13 40
-6 28
5 32

13 50
-6 18
5 42

Comp. Star η Cephei.

Star cannot be certainly seen in un-
10 27 silvered part of Photometer.

Meas't of Iapetus with Phot. T. W. obs.

15 3 -14.0
14 5
-0 58

Comparison Star for both Iapetus and Titan same as on May 7. = S.D. -14° 4085 (8.4

May 11, 1896.

Index left & above

	57.5 < comp. * dim.		
12 11 30	113.9	56.4<	
	57.4	57.4<	1.33<
	114.8	113.8<	
	58.0		(1.38)
12 13 45	112.9	54.9<	
	58.1	54.9<	1.42<
	113.0	109.8<	

Index rt. & below.

	329.4		
12 18 00	23.6	54.2<	
	327.8	56.5<	1.40<
	24.3	110.7<	
	328.0		(1.42)
12 19 32	22.5	54.5<	
.4 (22 47<	328.2	53.9<	1.45<
12 15 41.8<	22.1	108.4<	

M = 1.40

May 11, 1896

329.6
12 21 16 22.5 52.9c
328.1 54.8c 1.47
22.9 107.7c

(1.50)
330.0
12 22 46 22.3 52.3c
328.5 53.4c 1.52
21.9 105.7c

Index left & above.
55.4
12 25 35 114.8 59.4c
58.1 54.3c 1.33
112.4 113.7c

(1.38)
59.2
12 27 03 112.9 53.7c
58.2 55.4c 1.44
4(16 40c 113.6 109.1c
12 24 10c

M = 1.44

May 11, 1896.

Meast. of Titan with Phot. T. W. obs.
Index left + above.

38.9 < comp. ✱ dis.
12 48 00 130.0 91.1<
37.4 99.1<
136.5 190.2< −0.19
~~13~~ 169.8

36.2 −(0.19)
12 49 55 134.1 97.9<
39.0 92.1<
131.1 190.0< −0.19
170.0

Index rt. + below.

128.3
12 52 18 219.7 91.4<
126.9 95.9<
222.8 187.3< −0.14
172.7

127.0 −(0.20)
12 54 04 220.9 93.9<
4(204 17< 129.1 89.6< −0.26
12 51 4.25< 218.7 193.7<
166.3

M = −0.20

May 11, 1896.

130.1
12 55 24 222.0 91.9c
127.3 97.5c
224.8 189.4c − 0.18
170.6

126.2
12 57 02 224.5 98.3c − (0.22)
127.6 95.7c
223.3 194.0c − 0.27
166.0

Index left + above.

218.3
12 59 30 316.2 97.9c
220.2 94.2c
314.4 192.1c −0.23
167.9

215.2 − (0.30)
13 04 03 319.3 104.1c
219.8 95.9c −0.38
315.7 200.0c
160.0c

4)235 59c
12 58 59.8c

M = 0.26

May 12. 1896. (Tuesday).

Σ 27' δ Bootis. Hst. R. Lt. obs.

15 10 +33°.8
11 25

−3 45
8 15

Pos. Ang. 170° Dist 100." mags. 3.4, 7.5

Index right + below.

		197.0		
8	3	213.2	16.2	
		199.5	14.6	4.35
		214.1	30.8	
				(4.25)
		198.9		
		213.1	14.2	
		196.1	19.5	4.15
		215.6	33.7	

Index left + above.

287.1		
307.0	19.9	
287.2	16.8	3.96
304.0	36.7	

May 12. 1896.

	287.8		(3.94)
8 14	304.8	17.0	
8 8 30	285.4	20.4	3.92
	305.8	37.4	M = 4.10

Expts. with Phot. U. W. obs.

δ Bootis.

8 40 This star can be seen tonight with photometer and unsilvered glass. (the altitude being rather high and sky very clear) The principal image from front side of glass is about 14.0 and the other, from back side of glass 14.2 or 14.3

Turned telescope on ε Boötis

8 50 The principal image from front side of glass is about 10.7 or 10.8 and the other image 11.2 or 11.3.

The photometer evidently should be enlarged, that is, a larger auxilliary telescope is needed.

May 12. 1896.

Circumpolar Variables. St. obs.

S Boötis.

14 16 +54.6
12 43

−1 33
10 27

Altitude too high. Abandoned.

R Lyncis. St. obs.

6 49 +55.1
13 0

+6 11

f 3 Var. Var 2.5 g in finder.
9 40 f‴ 3.5 Var, Var 2.5 g in lar tel.
Est. 9.4

R Draconis.
16 26 +67.4
13 30

−2 56
9 4

May 12. 1896.

R Draconis. con.

10 15 g 4 Var., Var. 2 p in lar. tel.
Rather too faint for finder.
Est. 11.2

S Cygni.

20 8 +57.2
13 58
−6 10
5 50

10 34 m 1.5 Var., Var. 3.5 m in lar. tel.
Too ft. for finder.
Est. 11.5

S Cephei.

21 37 +78.3
14 18
7 19
4 41

h g 3.5 Var. Var. 3 k in lar. tel.
10 48 h g 2.5 Var. Var. 2 k in finder.
Est. 10.1

May 12. 1896.

V Cephei com.

$$11\ \ 0 \qquad \left.\begin{array}{lll} k & 3.5 & l \\ \underline{x} & 2.5 & l \\ k & 2 & \underline{x} \end{array}\right\} \text{in lar. tel.}$$

$$11\ \ 5 \qquad \left.\begin{array}{lll} k & 3 & l \\ \underline{x} & 2 & l \\ k & 1.5 & \underline{x} \end{array}\right\} \text{in finder,}$$

May 13. 1896. (Wednesday)

Expts. with Phot. U. W. As.
The small objective and prism of Phot. Q has tonight been replaced by a larger objective and prism.

Set on α Boötes. (0.03 H.P. magn)
~~The images are reduced on the~~
The principal image is ~~redu~~ about that of an 8.5 or 9 magn. star.

Set on β Boötis (3.64 H.P. magn)
The principal image from unsilvered glass is about 11.5

Set on σ Boötis (4.49 H.P. magn)

The principal image about 12.5 magn.

Let also on ψ Boötis (4.46 H.P.)
" " " ω " (4.86 " ")
" " " c " (5.03 " ")
" " " b " (5.79 " ") This latter is reduced to about magn. 13.8 or 13.9

Set on H.P. 2543 (Too ft. for H.P.
Reduced magn. 14.8 or 14.9

May 13. 1896.

Set on H.P. 2570 (6.29 H.P. magn.). Reduced magn. 14.7 calling limit of vis. 15.0

Relative meast (with Phot. T.) of D.M. +15° 3317 and 3327.

~~17 54 +15.1~~

17 52 +14.5
13 38
−4 14
7 46

Index to left.

1.0 27 3327 dis. > 24.8
64.5 39.7
22.5 45.0
67.5 84.7 2.06

23.9 42.3
66.2
24.2 40.4
64.6 82.7 2.12
2.09

May 13. 1896.

Index to right.

114.5
153.7 39.2″
112.4 44.8″
157.2 84.0″ 2.08″

111.9 45.2″
157.1 2.04
~~114.8~~ 113.8 41.2″
155.0 86.4″ 2.01″

2.04
2.09
Mean. 2.06″

10 48

10 37 30″

Index to left.

23.1 41.9″
65.0
23.3 42.0″
65.3 8~~4~~.9″ 2.08″
3

23.6 43.1″
66.7
23.7 41.1″
64.8 84.2″ 2.07″
2.08″

10 35

May 13. 1896.
Index to right.

113.9 41.0
154.9
112.8 46.8
159.6 87.8 1.97

113.0 44.3
11 4 157.3
2 (49 114.2 41.5
10 49 30 155.7 85.8 2.03

2.00
2.08
mean 2.04

May 14. 1896. (Thursday)

Somewhat cloudy.

Σ 1972 π¹ Urs. Min.

15 36 +80.9
11 45
−3 51
8 9

Pos. Ang. 75°. Dist. 30″. Mags. 6.0, 7.2,

Index to Right

	348.4° < Brighter dis,		
7 14	59.4	71.0	
	346.3	78.7	
	65.0	149.7	0.58
	349.0		0.64
7 15	65.2	76.2	
	351.8	67.2	
	59.0	143.4	0.71

Index to Left = − 0.72

	85.2		
7 16	150.0	64.8	
	84.8	73.4	
	158.2	138.2	0.81

May 14. 1896

84.0 0.80

7 17 154.8 70.8
7 15 30 83.5 68.5

152.0 139.3 0.79

R Lyncis.

Phot. Ui. in connection with
Faint Comp. Stars for R Lyncis, W. ob.

6. ×9 +√√.1

12 12
+5 23

12 33
+√ ×4

Star s faintly seen, star t thought to be
seen. Comp. Star 5 × Camelop. (C = Comp. Star)

10 ×× s 3 C, C 1 t,

There is much haze and some cloudiness
so that this ~~star~~ comparison should not be
used but only considered as experimental.

May 14. 1896.

P Cygni. Sw. obs.

20 8 +57.2
13 35
−6 33
5 27

10 00 Clouds getting thick

10 17 Clouds thick. No chance for further work

May 16 1896 Saturday

Σ 27′ δ Bootis. Lv. obs.

15 10 +33°.0
11 40
− 3 30
0 30

Position ang. 75° Dis. 110 Mags. 3.0, 7.5

~~Index to Right~~

~~8.2~~
8 00 ~~34.0~~
~~7.2~~
~~35.2~~

~~7.1~~
~~37.4~~
~~9.0~~
~~34.3~~ Reject above
Phot. cannot be reversed

Index below

16.2
8 04 37.8 21.6
19.4 15.5 3.93
34.9 37.1

04 May. 16. 1896

19.0 (3.94)
8 05 34.7 15.7<
15.9 21.1< 3.95
37.0 36.8<
Index above
108.9
8. 10 123.9 15.0<
107.8 18.2< 4.18
126.0 33.2<

107.9 (4.25)
8 11 125.0 17.1<
8 7 30 109.0 14.0<
123.0 3~~7~~1.1< 4.32
M = 4.10

Tried Phot. U Wedbs.

Expts. on stars in region of δ Boötis. Photometer not yet finished and gives some trouble.

Will however try Phot. U. on

R Draconis.

16 26 +67.8
12 50
-3 36
4 28

May. 16. 1896

After some experimenting phot. fell out and broke reflecting glass plate so that work could not be continued with it.

Circumpol variables

R Aurigae 5

5	04	+ 53.0
13	15	
8	11	

Too low

R ~~Lycis~~ R Lyncis.

6	50	+ 55.0
13	25	
6	75	

-10 43 f 3 Var., Var. 2.5 g in ~~lar. tel.~~ finder,
f 3.5 Var., Var. 4 g in lar. tel,
Est. 8.0

May 16 1896

R Draconis

~~16 32.4 +66.~~

16 26 +67.4

13 40

−4 14

7 46

13 45

−2 41

9 19

~~Variable = p in large tel~~
~~Rather too faint for finder~~

0 4 var. var 1 p. in lar. tel.
10 4 Rather too faint for finder
Est. 11.1

Meas. Iapetus with Phot to W
Comp. Star = BD −13° 4022 (8.9 K)

15 3 −14.0

14 0

1 3

May 16: 1896.

Index above.

- 110.2 48.7 ✓
10 46 - 158.9
- 111.5
- 158.3 46.8 ✓
95.5 ✓ 1.77 ✓

- 109.5 48.3 ✓
10 50 - 157.8 (1.74)
- 110.4
- 159.7 49.3 ✓
97.6 ✓ 1.72

Index below.

~~- 209.4~~
~~11 00~~ ~~- 247.0~~
-
-

- 199.6 49.2 ✓
11. 3 - 248.8
- 199.0 46.5 ✓
- 245.5 95.7 ✓ 1.76

199.2 47.6 ✓
11 6 246.8 (1.74)
199.3 50.3
249.6 97.9 ✓ 1.71

4)225
10 56 15

M = 1.74

May 16. 1896.

Index above.

10	53	-108.8	49.7✓		
		-158.5			
		-109.6	50.4✓		
		-160.0	100.1✓	1.65	
		-110.8	50.4✓		
10	55	-161.2			(1.66)
		-109.8	48.6✓		
		-158.4	99.0✓	1.68	

Index below.

		-199.8	48.0✓		
11	11	-247.8			
		-201.5	46.1✓		
		-247.6	94.1✓	1.81	
		-~~204.6~~			
~~11~~	~~14~~	-~~246.2~~			
		-			
		-			(1.84)
		201.2	47.0✓		
11	17	248.2			
4	16	202.3	44.3✓		
11 4	00	246.6	91.3✓	1.88	

M = 1.75

May 19. 1896 Tuesday

Expts. with Phot. U. W. obs.

Sky and moon too bright for estimates on faint stars.
Adjusted photometer.

M. P. X Cl. Fr. obs

3 31 +62.8
12 . 50
49 19

Index Left and Above

		182.8 ≤ Var. dis.		
9	3	231.5	48.7 <	
		181.3	50.3 <	1.68
		231.6	99.0 <	
		182.0		(1.68)
9	6	231.2	49.2 <	
		182.1	50.1 <	1.67
		232.2	99.3 <	

May. 19. 1896
Index right + below

273.0
9 8 323.1 50.1"
9 272.0 50.5" 1.64
322.5 100.6"

(1.60)

270.5
9 10 323.1 52.6"
271.6 51.5" 1.56
4(27)
9 .6 45 323.1 104.1"

M = 1.64

Lev. P. Ell is the bstr.

N. G. C 52 53 Wr. Obs.

13. 31 −31.0
13 25
− 0 6

13 31
13 30
1

May 19 1896.

13 30 — 31.8
13 50
+ 0 20

10 10 Star b easily seen
" c " "
" f " "
" g seen
" a "
Neb. prop. easily seen
Nova thought to be seen at intervals prin. by indirect vision but if so it would seem to be fainter than on Dec 16. 1895 because it is apparently fainter than both f + g with which it was formally comp. The Nova if seen must be all of a half to three quarters of a mag. fainter than star g all above with 2 in Bausch. + Laumb eye piece

10 30 Put on 1 in Bausch + Laumb eye piece. With this eye piece the Nova is thought to be suspected at times but if certainly seen is very faint

Put on Mars. Micrometer eye piece
10 35 Nova possibly suspected at time but rather more uncertainly than with other eye pieces

May 19. 1896

There seems to be a very faint star in about same. R. Ascension as comp. star a and slight N. of comp. star f ~~If Nova is seen it w~~
Call this star h If Nova is seen it would seem be perhaps 1 or 2 grades
10 40 brighter than h This comp. made with 1 in Bausch + Lomb eye piece
A faint star follows star a about 4 sec. and 1' N of it Call this star k
10 50 Star k is prob. as much as 3 grades fainter than star g and star k would seem to be all of 4 or 5 grades brighter than the suspected Nova
Put on direct vision spec. but nothing
10 53 with it tonight. This region should be examined as soon as moon is by.

ι Librae. (Susp. Var.)

(θ Librae) 2 ι, ι 1.5 (φ Ophiuchi) W. obs.
11 23 (" ") 2 ι, ι 1 (" ") Sawyer obs.

ι Librae again.

After W. got home, he made another estimate of this star. the moon being a little lower and the stars a little better seen.

11^{h} 50 (θ Librae) 1.5 ι, ι 1 (φ Ophiuchi)
(" ") 2.5 (φ Ophiuchi) } W. obs.

May. 23. 1896. (Saturday)

Σ 2063. H. IV. 62. Fr. obs.

16 28 +45.9
12 10
———
~~4 18~~
~~7 42~~

16 28
12 15
———
4 13
7 47
———
12 25
———
4 3
~~7 57~~

Index left + below
129.0 < brighter dir.
8 15 159.7 30.7
130.9 27.6 +2.93
158.5 58.3

(2.87)

129.8
8 16 160.0 30.2
129.8 31.0 2.81
160.8 61.2

May 23 1896
Index right & above

220.9
8 18 248.9 280
221.9 252 3.13
5 3.2
247.1

(3.12)

221.2
8 20 247.2 260
4(69 221.0 278 3.11
8 17 15 248.8 5 3.8

M = 3.00

Nova Aurigae 5
25 obs.

5 23 + 32.0
12 43
+7 20

Cannot be obtained region low in West Moonlight & twilight rather strong

Var. in Urs. Min.

15 50 +78.2
12 50
− 3 0
9 0

May 23 . 96

Var. in Urs. min.

15 50

12 55

2 55

Index above

285,1

8 47 5,9 < Comp. Star dis.

8 0.8

284.0 84.1

8,1 164.9 +0.29

281.9 (0.26)

8 50 7,0 85.1

284.0 82.0 +0.24

167.1

6.0

Index below

~~95,1~~

~~8 54~~ ~~196.0~~

193.3

8 55 275.0 81.7

8 2 192.7 81.1 +0.33

273.8 162.8

196,8 (0.34)

8 56 272.8 76.0

4 (20 8 190,7 85.1 + 0.36

8 52 00 275.8 161.1

M = +0.30

May 23. 1896

β Lyrae

W. obs.

31 93

18 46 + 33.2
13 25

5~~6~~ 21
6 39

Index to Left.

313.2 < Var. dis.
9 15 335.2 22.0<
313.3 22.9< 3.51
336.2 44.9<

313.2 (3.50)
9 1x 336.2 23.0<
313.0 22.2< 3.50
335.2 45.2<

Index to right

44.9
9 19 65.0 20.1<
42.9 25.2< (3.49)
68.1 45.3<

42.0 (3.49)
9 20 67.5 25.5< (3.49)
44.9 19.8<
64.7 45.3<

9 17 30

M = 3.50

May. 23. 1896

Index R and below
Focus on br. star br. star to R

61.0
9 32 60.1
60.1
60.8
61.0
3.0
60.60

Index R and below
Focus on faint star Ft. star to left.

61.5
9 35 60.6
~~59.9~~ seem to be wrong reg.
60.1
61.0
60.0
3.2
60.64

Other images but without reversal of prism. Focus on bright star
Bt. star below.

60.6
9 40 59.5
61.5
61.5
61.2
4.3
60.86

May. 23. 1896

Focus on faint star

60.0 Ft. star above.

9 43 60.0

61.0

59.3

60.0

60.06

Index to left + above

Focus of bright star. Bot. * to right.

60.9

9 44 61.5

60.0

61.0

62.0

61.08

Focus of faint star, Ft. * to left.

59.0

9 46 60.3

59.5

59.0

59.5

297.3

59.46

Other images but without reversal

60.0 Focus on bright star

9 48 60.2 Bot. * below.

59.6

60.0

60.9

60.14

May 23 1890

Focus on faint star. Ft. * above.

61.0

9 49 61.0

61.0

60.5

61.0

4.5

60.90

Meas. of Iapetus with Phot. T

15 0 − 14.0 W.ob.

14 30

30

Meas. of Titan with Phot T

Index left + above

99.8

11 1 ~~154.0~~

~~94.4~~

~~170.0~~

11 7 97.3

173.0 Stopped

Reject above ~~Troubled~~ by moon light

11 20 and clouds

May 25. 1896. (Monday)

Reap. of Jup. I Phot. R
W obs. Sawyer Rec. Comp. with fol. sat. on same side = sat. III

A. + D. 975.			B. 394.		
s	17	21.7	s	14	0.0
	18	21.6		5	0.0

A

Limit of Vis.

f	38 57.	A	38	35		228.0	
	- 3 -22			50	~~24.1~~	242.1	
f	35 35+		39	2	14.1+	226.0	
					18.8+		
				20	32.9+	244.8	4.2+
					16.4+		
f	39 02.	§	42	24		Seen.	
	08			30		223.2	
	14			36		246 0	
	21			43		220 5	
	30			52		249.1	
	33			55		218.8	
	39 42		43	4		252.9	
	48			10		214.1	
	56			18		255.0	
	40 03			25		215.8	
	11			33		258.9	
	17			39		211.8	

May 25 96.

5	40 ~~27~~ 22		~~49~~ Prob. 44.			254.2	
	28		50			210.1	
	35		57			257.0	
	43	44	5			208.8	
	~~57~~ 52		~~49~~ Prob. 14.			260.0	
	58		20			204.0	
	41 06		28			264.5	
	11		33			204.3	
	18		40			261.9	
	23		45			202.0	
	30		52			266.9	
	37		59			202.8	
	44	45	6			266.8	
	53		15			202.8	
	42 00		22			265.0	
	08		30			203.8	
	13		35			265.1	
	45 59		45			198.2	
	-3 -22		55	69.7		267.9	1
	42 35		60	65.7 135.4	0.9	200.1	
		46	15	67.7		265.8	
	46 30		19	67.8		201.0	
	-3 -22		25	63.1		268.8	2
	43 08		33	130.9 65.4	1.0	204.2	
			41			267.3	
			51	626		203.1	
	47 07	47	7	627		265.7	
	-3 -22		14	125.3 62.6	1.1	204.1	3
	43 45		23			266.8	
			36			203.8	

8 May. 25, 96

47 46s. 45 62.2x. 266.0
-3 -22 50 61.1x. 202.9
44 24x 55 1.1 123.3x. 61.6x. 264.0 4
48 1 65.1x. 199.9
45 14x. 9 ~~66.0x~~. 266.0
-3 -22 19 1.0x 65.0x. 201.8
44 52x. 65.0x
25 266.8
32 203.0
45 45x. 40 65.5x. 268.5
-3 -22 50 1.0x 65.0x. 202.2 6
45 23x 65.2x.
59 267.2
49 10 203.1
49 22x. 19 64.0x 267.1
-3 -22 25 61.9x. 203.9 7
46 00 33 1.1x 125.9x. 63.0x. 265.8
41 202.8
1
~~50~~ 51 ~~45~~x 50 64.2x. 267.0
-3 -22
~~46~~ 56x 51 ~~43~~ Prob. 43 63.7x. 202.2 8
47 57 1.0x 127.9x. 64.0x. 260.9

A. + D. 956. B. 396.
9h ~~8~~ 0 21.7 8 57 0.0
1 21.8 58 0.0
∴ Cor. to A + D. 956 = -3m 22s.

Ex. for focus with Phot. T
on Alpha Geminora

When prisms are way up, track
sprocket wheel reads 17 but image
very bad. When s. wheel reads

May 25 1896

10 Images somewhat better but rather poor. When s. w. reads 7 Images considerably improved When s. w. reads 6 Images fairly good but a little lumpy

St. Wheel set at 6

66.0 Left hand Images
9 25 66.0
67.0
65.1
65.1
66.3
66.0
67.0
66.5
66.3

61.3
66.13 Right hand Images

69.3
9 27 69.6
68.7
68.9
69.2
69.0
68.7
69.0
69.0
68.6

90.0
69.00

May. 25 1896

The image about which remarks on preceding page were made was the right hand one. It was found on exam. that the left hand image was quite a little better and does not alter nearly as as much in appearance with motion of prism up the track.

U Cephei. Phot. T. Sr. obs.

Full brightness

0 30 +81.7
14 5
13 35
1 35
10 25

Index R and above a

112.8
159.8 < Var. dis.
9 47 107.9 47.0
162.8 54.9 −1.61
101.9

−1.69
106.7 54.3
9 52 161.0
114.0 41.1 1.77
155.1 95.4

May. 25. 96

Index L. and below. b

	207.0	39.5		
9 56	246.5			
	199.3	52.2	−1.87	
	251.5	91.7		
				−1.40
	198.4	55.1		
9 59	253.5			
4(21 4	204.0	42.0	−1.73	4(298
9 53 30	246.0	97.1		−1.745

Index. Left. + below b

	202.8	44.3		
10 0	247.1			
	197.8	55.6	−1.66	
	253.4	99.9		
				−1.68
	199.0	52.0		
10 1	251.0	6		
	201.9	46.4	−1.70	
	248.3	98.4 8		

Index R and above a

	291.5	46.5	
10 6	338.0		
	285.4	56.6	−1.58
	342.0	103.1	

May. 25. 1896

−1.54

282.6
10 7 — 341.9 59.3<
4(14
10 3 30 — 290.4 47.8< −1.49. 4(243 / 1.608
338.2 107.1<

Index R and above a

293.0 45.0<
10 9 — 338.0
Assume 2~~5~~86.9 56.0< −1.63
342.9 101.0<

−1.64

284.6
10 10 — 340.0 55.4<
291.7 45.3< −1.64
337.0 100.7<

Index L + below. b

20.2
10 14 — 67.4 47.2<
18.2
70.5 52.3< −1.67
99.5<

−1.60

16.0
10 15 — 73.5 57.5<
10 12 00 — 20.1 47.1< −1.54 4(248 / 1.62
67.2 104.6<

Somewhat cloudy during all the measts. on δ Cephei. Clouds increasing during the measts.

May, 25 96

Index L + below b

21.0 48.5<
10. 19 69.5
17.3 54.5< −1.58
71.8 103.0<

−1.60

18.9 52.9<
10 20 71.8
20.0 48.9< −1.61
68.9 101.8<

Index R. + above a

112.8 44.2<
10 24 157.0
107.0 54.1< −1.70
161.1 98.3<

4(658
~~1.67~~
107.2 54.7< −1.70 1.64 ✓
10 25 161.9
10 22 00
113.0 44.0< −1.69
157.0 98.7<

Index R + above a

112.8 42.2<
10 26 155.0
108.8 52.9< −1.78
161.7 95.1<

−1.76

10 28 108.0 54.0<
162.0
112.8 42.8< −1.74 ~~4(294~~
155.6 96.8<

May 25 1896

Index L. + below.

b

201.9

10 32 248.0 46.1

198.0 51.1 −1.73

249.1 97.2

−1.69

198.2 53.3

10 34 251.5

10 33 00 201.5 4(290

248.4 $4\overset{6}{\cancel{7}}.9$ −1.65 1.72

100.2

Set on Saturn

15 00 −14.0

15 5

+ 5

Clouds too thick and moon too bright to see Iapetus in photometer.

Titan just visible in photometer. but not bright enough to measure.

May 27. 1896 (Wednesday)

Σ 31', 36. 37 Hercules' (Phot. R.) Lr. obs.

16 35 +5.5
12 50
−3 55

5 6

16 34
12 45
3 59

16 34
12 50
3 44
8 16

8 23 Pos. ang. 2.30 Dis. 1'
Mags. 5.~~5~~ 8 6.~~5~~ 6
Index R and above

20.2 < Btr. dis.
8 34 87.0 66.8 <
26.3 57.5 < 1.10
83.8 124.3 <

(1.16)

~~8~~ 35 26.1
95.9 59.8 <
24.1 59.1 < 1.22
83.2 118.9 <

May. 27. '96
Index L. + below

113.9
γ 39 177.3 63.4
118.7 54.6 1.24
173.3 118.0

117.7 (1.26)
γ 41 ~~174.0~~ 174.2 56.5
4(149 114.8 60.0 1.27
8 37 15 174.48 116.5

M = 1.21

Σ 30. 16.17 ~~Herculis~~ Draconis Sr. obs.

16 33 +v3.2
13 23
3 10
f v–0
16 33
13 26
3 7
8 5 3

Abandoned

May 27. 1896.
Cerquin Var.
R Aurigae. W. obs.

5 9 +5 3.5
13 40
+8 31
5 9
13 50
+8 41

9 19 m 1 var. var 3.5 m

Region rather low
Twi. strong. Full moon up.

U. Cephei Phot T W. obs.

0 30 +81.7
14 50
13 30
Clouds
Index R and above a
292.5 ∠ Var-bis
9 53 σ 33.87 46.2∠
284.2 58.7∠ −1.54
342.9 104.9∠

May 27. 1896.

283.9 — (1.52)

9 56 40 343.7 — 59.8c

291.8 — 47.0c — −1.49

338.8 — 106.8c

L + below

b

19.8

9 59 23 70.9 — 51.1c — 1

14.0 — ~~4~~58.6c — −1.42

72.6 — 109.7c

15.0 — −(1.44)

10 1 10 73.9 — 58.9c

4)230 1 3 — 19.9 — 49.0c — −1.47

9 57 33.2 — 68.9 — 107.9c

M = 1.48

21.4 — b

10 3 4 67.6 — 46.2c

16.1 — 57.7c — −1.56

73.8 — 103.9c

−(1.56)

16.0

10 4 45 72.4 — 56.4c

20.8 — 47.1c — −1.57

67.9 — 103.5c — 2

Index R + above — a

114.1

10 8 0 157.0 — 42.9c

109.9 — 52.6c — −1.77

162.5 — 95.5c

May 27.1896

	107.5		−(1.74)
10 9 27	161.6	54.1	
4)25 16	113.0	43.2	−1.72
10 6 19	156.2	97.3	(M = −1.65)
			a
	115.0		
10 11 41	155.3	40.3	
	107.2	55.8	−1.75
	163.0	96.1	
		~~Left + below~~	−(1.78)
	109.0		
10 13 26	160.8	51.8	
	113.5	42.2	−1.81
	155.7	94.0	
	=2	Left + below	b
	200.6		
10 15 55	246.6	44.0	
	199.0	55.0	3 −1.68
	254.0	99.0	
	197.2		−(1.64)
10 17 30	252.1	54.9	
4)18 32	200.5	46.8	−1.61
10 14 33	247.3	101.7	(M = −1.71)
	201.3		b
10.19.10	246.5	45.2	
	197.4	51.9	−1.73
	249.3	97.1	

May 27, 1896

197.3 (-1.71)

10 21 55 250.0 52.7 <

202.5 46.1 < -1.69

248.6 98.8 <

Index R. and above a

271.0

10 25 40 339.1 68.1 <

286.1 54.2 < -1.14 <

122.3 <

340.3

4

282.8 (-1.32)

10 27 36 342.1 59.3 <

4(94 21 292.0 46.8 < 1.57 <

10 . 23 20.2 338.8 106.1 < (M = -1.52)

290.4 a

10 30 13 339.3 48.9 <

284.6 57.7 < -1.50

342.3 106.6 <

287.2 (-1.54)

10 32 7 342.5 55.3 <

290.0 47.8 < -1.58

103.1 <

337.8

L. + below b

19.2

10 34 46 68.3 49.1 <

18.0 52.4 < -1.62

70.4 101.5 <

May 27, 1896

17.3 ~~-1.50~~

10 36 13 73.2 55.9< 5 (1.57) -1.60

f(13 19 19.8 49.7< 1.52

10 33 19.8 ~~70.0~~ 69.5 105.6< (M = -1.56)

Σ 15 60 290 Urs. Mag.

11 30 + 45.8 Wols.

15 35

4 5

Pos. ang. 40° Dis. 10" Mags 6.1, 8.0

Index to R and below

113.5 obs. dis.

11 8 ~~7~~ ~~35~~ 176.2 62.7<

107.6 76.4< (0.79)

184.0 139.1<

111.0 ~~11~~ (0.84)

11 9 ~~8~~ ~~47~~ 181.1 70.1<

112.7 64.2< 0.87

178.9 134.3<

Index L. and above.

200.8

11 10 270.3 69.5<

193.8 78.2< (0.62

272.0 147.7<

May 27. 1896

194.1

(0.64)

11 12

270.5 76.4

4(39

200.0 69.5 0.66

145.9

11 9 45

269.5 (M = 0.74)

Seeing bad Images very blurry and indestinct. Run in together badly

May ~~30.~~ 29. 1896. (Friday)

W. obs.

Σ 2202, 61 Ophiuchi
17 38 + 2.6
12 55
4 43
Abandoned Too Low

Σ 34' 53 Ophiuchi
17 29 + 9.7
13 00
4 29
7 39 1
Pos. Ang. 200° Dis. 40 sec. Mags. 5.5, 7.6

Index to Left + below

295.2 ∠ btw. dis.
8 25 351.2 56.0r
304.0 40.0r 1.76r
344.0 96.0r
Clouds.

(1.76).

302.3
8 29 346.9 44.6r
297.9 51.8r 1.75r
349.7 96.4r

May 29 1896.

Index Right + above

32.0
8 30 80.3 48.3 ✓
34.2 41.0 ✓ 1.93 ✓
75.2 89.3 ✓

(1.94)

35.7
8 31 74.2 38.5 ✓
4 (11 5 31.4 49.6 ✓ 1.96 ✓
8 28 45 ~~29 77.5~~ 81.0 88.1 ✓ (M = 1.85)

Meas. of Iapetus with Phot. T. W obs.

15 00. −14.0
13 25
1 35

Clouds

Index above.

28.8 ✓ 211.8
9 21 240.6 Comp. Star Dis.
35.3 ✓ 207.7
2.71 ✓ 64.1 ✓ 243.0

(2.71)

206.0 362 ✓
9 23 242.2
211.1 27.9 ✓
239.0 64.1 ✓ 2.71 ✓

May 29 1896

Index below

	118.4	31.6 ✓			
9 33	150.0				
	115.8	38.6 ✓			
	154.4	70.2 ✓	2.50 ✓		
	114.9	39.7 ✓		(2.47)	
9 35	154.6				
9 28 0	117.5	32.3 ✓		(M = 2.59)	
	149.8	72.0 ✓	2.55 ✓		

Index below

	119.8	30.8 ✓		
9 37	150.6			
	116.0	36.5 ✓		
	152.5	67.3 ✓	2.60 ✓	
	114.9	39.6 ✓		(2.54)
9 39	154.5			
	119.6	30.9 ✓		
	150.5	70.5 ✓	2.49 ✓	

Index Above

	211.0	30.3 ✓	
9 44	241.3		
	207.6	35.2 ✓	
	242.8	65.5 ✓	2.66 ✓

May 29. 1896.

207.8 35.2 ✓ (2.68)
9 46 243.0
9 41 30 211.5 29.0 ✓ ~~2~~
240.5 64.2 ✓ 2.71 ✓ (M = 2.61)

Comp. Star in above measts = BD −13° 4022 (A.9)

Comp. Star for Var. in Urs. Min. Phot. ~~&~~ I. vis. obs.

15 4 50 +78.2
15 80
30

~~I~~3 See end.

Index Left

299.6 +78° 510 dis.
10 32 335.5 35.9
292.0
335.5 43.5 / 79.4 +2.21 ✓

293.8 42.6 (2.18)
10 34 336.4
296.5
335.9 39.4 / 82.0 +2.14 ✓

Index Right

22.1 41.7
10 37 63.8
20.3 38.2 (4)
68.5 79.9 (8) ~~2.20~~ ✓ +19.2

May 29, 1896

19.4 47.9″
10 39 67.3 (1.91)
10 35 30
22.1 42.8″
64.9 90.7″ +1.90 ✓″

(𝔐 = 2.04)

2~~4~~3.8 42.0″
10 42 65.8
21.6 46.3″
67.9 88.3″ 1.96 ✓″

22.7 44.7″ (2.01)
10 ~~46~~ 43 67.4
24.0 40.1″
64.1 84.7″ 2.06 ✓″
Index left
114.0 42.0″
10 48 156.0
~~110.9~~ 112.7 41.7″
154.4 83.7″ 2.09 ✓″
7

114.6 41.4″ (2.12)
10 50 156.0
4 | 18 3 114.3 40.3″
10 45 45 154.6 81.4″ 2.15 ✓″

See next page. (𝔐 = 2.06)

May 29. 1896.

The preceding two groups were measts. with Phot. I. and were made in order to connect the comp. star for var. in Urs. min. with D.M. +78° 518 (8.3) The comp. star for var. in Urs. min. which is always used is the star close beside the variable = +79° 467 (9.8)

May 30. 1896. (Saturday)

Examination of region about Saturn for selection of balance of comp. Stars, for Iapetus.

15 0   −18.0
13 5

−1 55
10 5

Selection of balance of comp. stars made.

ι Librae (Susp. Var.)   W. obs.

9 55 (θ Librae) 1.5 ≤, ≤ 2 (φ Ophiuchi)

June 1, 1896 (Monday)

Σ 31 27

Delta Herculis W obs

17 10 + 25.0

13 60

4 10

7 50

Pos. Ang. 200° Dist 25' Mags 3.0, 8.3

Index R and above

230.1 < btr. dis.

8 10 239.9 9.8

230.1 9.4 5.38

239.5 19.2

(5.42)

230.3

8 11 239.8 9.5

230.0 9.0 5.46

18.5

239.0 8

Index L. and below

319.2

8 13 331.0 11.8

319.2 10.8 5.02

22.6

330.0 8

(5.20)

8 319.9

8 15 329.0 9.1

4 (9 320.0 10.1 5.38

8 12 15 19.2

330.1

(M = 5.31)

June 1. 1896.

Σ 2166

17 22 +11.5

13 15

4 7

7 53

Pos. Ang 200° Dis. 45' Mags. 5.5, 7.7

The Dist. of these stars apart seems rather large the mags. however are about right and pos. seems to be about right and, besides these are the only stars summing that can be found

Index Left + below.

	29	299.9		
8	~~30~~	352.7	52.8	
		299.8	49.1	1.61
		348.9	101.9	
				(1.76)
		299.9		
8	30	346.9	47.0	
		299.9	50.8	1.51
		350.7	97.8	

June. 1. 1896

Index Right + above

35.0
8 31 77.7 42.7 <
32.0 48.5 < 1.58
91.2 <
80.5

32.9 (1.96)
8 32 76.0 43.1 <
4(12 3
35.0 42.7 < 2.03
8 30 45 85.8 <
77.7

(M = 1.86)

Twilight still rather strong,

N. G. C. 5253. Gr. obs.

13 30 − 31.8
13 50
20

13 30
13 56
26

June 1. 1896.

Nova Centauri thought to be seen at intervals with 2 in. B + L eye piece. Put on 1 in B + L eye piece. Things rather better seen with this. The Nova thought to be certainly seen at intervals but prin. by glimses and by indir. vision. It is very faint and much more so than on Dec. 16. 1895 Stars f + g very plainly seen in fact they are some what btr. in eye piece. Star h which was added on May 19: 96 seen although very faint. Star k which was added on May 19. 1896 easily seen but is considerably btr. than Nova so that it would not be of use in a comp. to-night. Star g is 3 or 4 grades btr. than star k and star k is ~~more~~ decidedly btr. than star h. Prob. as much as 1 to 2 mags. btr. than star h. Star h (without allowing for atmos. absorbtion) would perhaps be nearly as faint as 14.5 mag. (call it 14.4) There seems to be a very faint star about 3" preceding star f ~~Call this star l~~ and 1' N of it Call this star l (without allowing for atmos absorbtion) star l would be 15th mag.

June 1. '96

9 45 h 1 Nova, Nova 4 l

(Without allowing for atmos. absorbtion) the Nova
9 46. would seem to be as bright as 14.5 or 14.6 mag.
On re exam. Nova thought ~~to~~ be perhaps as bright as
star h. Tried Mars. Mycrometer eye piece
Nova thought to be certainly seen with this
but some what unsteadily Tried Brash. vis.
spec. but nothing could be done.

~~Iota Librae~~

c Librae
From a glimse obtained of c Librae
before clouds came it would seem
to be 2 or 3 gr. btr. than θ Librae

A. +D. 95-5.			B. 394.		
10	14	50.5	10	11	0.0
	15	50.5		12	0.0

June 1. 1896.

To

10 39 29

10 40 Jup. I not certainly seen in Phot. at pres. time. Jup. almost on horizon.

10 42 Put on 2 in B + L eye piece after removing phot. all the other 3 sat. seen Jup. I not seen.

10 47 10 Jup I not seen other sat. seen.
32 Sat. IV easily seen.
48 3 Jup. I not seen other sats. seen.
50 Jup. I not seen other sat. seen.
49 25 Jup. I not seen Sat IV seen
50
19 Jup gone below horizon.

It would almost seem as if there must
10 47 be an error in Almanac time of eclipse
for although Jup. was somewhat boiling
at the last and extending beyond its
natural boundaries at times the place
where Sat. I, ought to reap. seemed to be ~~was cer-~~
~~tainly~~ clear the larger part of the
~~time~~. (Both Am. and British Almanacs agree how-
ever as regards time of Ecl. so that prob. Jup. was
too low and image of Jupiter overlapping the place
of satellite)

June 1. 1896

ι Librae

Sky clear.

~~(θ Librae)~~

ι Librae 2.5 (θ Librae) Wells

10 57 ι Librae 4.5 (φ Ophiuchi) ..

ι Librae 2 (θ Librae) Sawyer obs.

10 58 ι Librae 4 ~~θ~~(φ Ophiuchi) .. ..

It would seem as if ι Librae has grown brighter since obs. on May 19, '96 for it easily seen to be btr. than θ to both obs. in all positions of the head.

A.+D. 958.			B. 394		
11	25	50.8	11	22	0.0
	26	50.8		23	0.0

June 2. 1896 (Tuesday)

Dis. of Jup. IV Phot. R. W obs.
Comp. with farthest of Sawyer Rec.
two Sat. on preceding side = Sat I (Second)

A. + D. 958. B. 394.

8	31	54.5		8 28	0.0
	32	54.6		29	0.0
8	44	11	(44 37.) ✓	112.2	66.7
		33	~~48 32~~ ✓	178.9	
		46	40 42 ✓	115.8	63.3 / 130.0 1
		58		179.1	65.0
	45	9		116.0	63.0
		20	(45 26.)	179.0	64.8
		30	~~49 21~~ ✓	114.1	127.8 2
		43	41 31 ✓	178.9	63.9
	46	3		114.2	65.7
		11	(46 16.) ✓	179.9	63.1
		21	~~50 11~~ ✓	115.9	128.8 3
		31	42 21 ✓	179.0	64.4
		43		113.6	63.7
	47	9	(47 10.)	177.3	66.7
		19	~~44~~ 43 15. ✓	113.1	130.4
		29		179.8	65.2
		37		113.0	64.7
		47	(47 52.)	181.7	[illegible]
		58	~~51 47~~ ✓	115.9	12[illegible]
	48	8	43 57 ✓	176.1	64.4
		19		113.0	

June 2. 1896

8	48	30	(48 38)	68.2	181.2	
				61.1		
		40	~~52 29~~	129.3	115.8	6
			44 39	64.6		
		49			176.9	
	49	5		64.2	115.0	
		15	(49 23.)	61.0	179.2	
		29	~~53 18~~	125.2	116.9	7
			45 28	62.6		
		42			177.9	
		53		65.3	113.0	
	50	3	(50 25.)	65.1	178.3	8
		47	~~56 20~~	130.4 65.2	113.2	
	5	57	46 30		178.3	
	51.	8		62.5	115.8	
		16	(51 20.)	65.7	178.3	
		25	~~55 15~~	128.2 64.1	115.0	9
		32	47 25		180.7	
		43		65.0	114.8	
		52	(51 59)	65.3	179.8	
	52	5	~~55 54~~	130.3 65.2	114.0	10
		15	48 4.		179.3	
		24		62.9	116.0	
		33	(52 39)	66.0	178.9	
		44		128.9 64.4	114.9	11
		55	~~56 38~~ 48 44		180.9	
	53	16		63.9	115.2	
		25	(53 30)	64.5	179.1	
		34	~~57 34~~	128.4	113.3	12
		44	49 35	64.2	177.8	
		52		64.7	113.4	
	54	5			178.1	

June 2. 1896.

8 17 (54 10.) ✓ 64.0 115.0
25 ~~58 5~~ 128.7 179.0 13
50 15 64.2

40 114.6 63.7
47 (54‴ 53.″) ✓ 178.3 65.2
14
57 ~~58 58~~ ✓ 115.0 128.9
55 9 50 58 ✓ 180.2 64.4

20 115.0 63.0
28 (55‴ 33.″) 178.0 60.5
15
37 ~~59 28~~ ✓ 117.0 123.5
46 51 38 177.0 -61.2

57 112.1 67.8
56 5 (56 10.″) 179.9 60.7 128.5
15 ~~9 0 5.~~ ✓ 115.2 16
23 52 15 ✓ 175.9 64.2

31 115.2 62.4
39 (56 42.) ✓ 177.6 61.9 124.3
46 ~~9 0 37.~~ ✓ 115.2 61.2
54 52 47 ✓ 177.1

57 3 114.8 63.4
12 (57 20) ✓ 178.2 64.6 128.0 64.0
~~9 1 15~~ ✓
29 53 25 ✓ 115.3 18
37 179.9

45 117.1 62.8
54 (57 57) ✓ 179.9 60.9
58 2 ~~9 1 52.~~ ✓ 116.0 123.7
8 54 2. ✓ 176.9 61.8

9 113.1

June 2. 1896.

						66.6
8	58	26	(58 26.) ✓		179.7	✓59.8
		32	~~9 2 21~~ ✓		116.1	126.4 63.2
		39	54 31 ✓		175.9	
		45			114.0	65.2
		54	(58 57.) ✓		179.2	60.9
	59	1	~~9 2 52~~ ✓		115.2	126.1 63.0
		9	55 2. ✓		176.1	
		17		66.0	115.8	
		26	8h (59 28.✓)	60.0	181.8	
		32	~~9 3 23~~	✓126.0 63.0	114.9	
		37	8 55 33 ✓		174.9	
		45		67.3	112.7	
		56	(9h 0m 0s)	✓58.7	180.0	
60		6		126.0 63.0	116.2	
		15	~~9 3 55~~ 8 56 5.		174.9	
		23			116.0	
		30	(0 36.)	✓63.9 65.1	179.9	
		41		129.0	113.7	
		49	~~4 31.~~ 8 56 41	64.5	178.8	
		56			114.0	
1		6	(1 9.) ✓	✓62.0 64.2	176.0	
		11	~~5 4.~~ ✓	126.2 63.1	114.2	
		24	8 57 14 ✓		178.4	
		31			113.7	
		41	(1 44.)	✓63.3 63.7	177.0	
		48	~~5 39.~~	127.0	116.1	
		58	8 57 49	✓63.5	179.8	
2		7		61.3	116.2	
		13			177.5	

June 2. 1896.

9	2	20	~~(2 16.)~~ ✓ ~~9 6 11.~~ ✓	116.2	59.8 121.1 60.6
		26	8 58 21 ✓	176.0	
		33		116.9	62.3
		41	(2 46.) ✓	178.8	61.1
		50	~~6 44.~~ ✓	114.9	123.8
		58	8 58 51 ✓	176.0	61.7
	3	7		117.2	59.8
		15	(3 20.)	177.0	59.7
		23	~~7 15.~~ ✓	119.1	119.5
		33	8 59 25	176.8	59.8
		42		116.1	58.0
		51	(3 58.) ✓	174.1	59.3
	4	6	~~7 53.~~ ✓	117.9	117.3
		15	9 0 3 ✓	177.2	58.6
		23		115.0	57.9
		30	(4 34.) ✓	175.9	58.7
		37	~~8 29.~~ ✓	117.8	116.6
		46	9 0 39 ✓	176.0	58.3
		54		118.0	57.2
	5	2	(5 6.)	175.2	55.8
		11	~~9 1.~~ ✓	120.0	112.0
		19	9 1 11 ✓	174.8	56.0
		32		119.5	56.2
		40	(5 44.)	176.0	56.9 113.1
		47	~~9 39.~~ ✓	119.3	56.6
		57	9 1 49 ✓	176.2	
	6	6		117.5	55.5
		15		172.2	

June 2 1896

9	6	26	(9 6 20.) ✓	121.2	51.8 106.2
		32	~~9 10 15.~~ ✓ 9 2. 25 ✓	173.0	53.1
		39		118.7	53.5
		46	(6 52.) ✓	172.2	50.9 104.4
		56	~~9 10 47.~~ ✓ 9 2 57 ✓	121.1	52.2
	7	7		172.0	
		15		122.3	51.6
		22	(7 26.) ✓	173.9	
		31	~~11 21.~~ ✓ 3 31 ✓	121.0	51.1 102.7
		37		172.1	51.4
		45		121.7	50.5
		52	(7 56.)	172.2	
	8	1	~~11 51.~~ ✓	122.9	48.9
		8	4 1.	171.8	99.4 49.7
		16		123.8	
		24	(8 28.) ✓ ~~12 23.~~ ✓	170.2	46.4
		32	4 33 ✓	123.0	45.0 91.4
		44		168.0	45.7
		53		125.1	43.9
	9	2	(9 5.) ✓	169.0	44.8
		10	9 5 10) ✓ ~~9 13 0.~~ ✓	125.3	88.7 44.4
		15	9 5 30 ✓	170.1	
		25	~~9 13 20.~~ ✓ 5 40 ✓	125.5	
		35	~~13 30~~ 5 48 ✓	166.9	
		43	~~13 38.~~ 5 58	126.0	
		53 ~~[illegible]~~	~~13 48.~~ ✓ 6 10	167.8	[illegible]
	10	5	~~14 0.~~ ✓ 6 24 ✓	127.9	
		19	~~14 16.~~ ~~14 26.~~ ✓	163.0	
		31	wrong 9 6 36]	119.9	

~~44~~ June 2 1896

9	10	44	9	6	49 ✓	130.1
		58		7	3 ✓	162.0
	11	6		7	11 ✓	130.5
		18		7	23 ✓	159.2
		28		7	33 ✓	131.8
		36		7	41 ✓	159.8
		47		7	52 ✓	133.0
		58		8	3 ✓	161.1
	12	20		8	25 ✓	134.8
		31		8	36 ✓	157.0
		44		8	49 ✓	134.0
	13	~~60~~ 0		9	5 ✓	156.0
	~~13~~					

Limit of Visibility

	29				132.0	
	38	(14	42.) ✓		156.0	24.0
	46	9	10	47 ✓	135.0	20.5 44.5
14	~~55~~ 5				155.5	-22.2

When eclipse began Sat I was the only sat. on preceding side but during eclipse Sat IV reap. on same side. Seeing pretty good only Jup. was getting somewhat low during eclipse

June 2, 1896.

Wells' Var. Phot I Wohs.

20 31 +17.8
14 25
6 6

Mr. Sawyer's watch used.

Index R. + above

9 41 16 Comp. * dis. > 298.4
331.2 ~~4~~3 2.8
Comp. star is 298.0 33.3 2.64
a which is also 331.3 66.1
always used.

298.1 (2.56)
9 43 22 330.6 32.5
294.8 38.7 2.47
333.5 71.2

Index L + below

26.9 I
47 11 63.5 36.6
30.1 31.1 2.09
61.2 67.7

49 assumed, 225 28.1 (2.56)
9 ~~59~~ 56 61.4 33.3
~~4(19 1 40~~ 27.0 35.6 2.54
~~9 47 56.~~ 62.6 68.9
10.5
4(21 45.
9 45 26
+14
9 45 40

M = 2.56

June 2. 1896.

Index left. & below.

27.0
9 52 9 — 64.1 — 37.1
27.9 — 34.7 — 2.45
62.6 — 71.8

26.0 — (2.42)
53 43 — 62.4 — 36.4
25.3 — 36.9 — 2.40
62.2 — 73.3

Index right & above. — II.

115.8
57 16 — 153.6 — 37.8
115.0 — 40.3 — 2.25
155.3 — 78.1

113.4 — (2.20)
9 59 8 — 155.7 — 42.3
106 — 116.0 — 38.8 — 2.16
154.8 — 81.1 — (M = 2.31)

4 22 16
9 55 34
+14
9 55 48

At 10h 5m 39s by A. + D. 958. Sar. Sawyer's watch was 4m 9s slow of it. (that is, slow of above chronometer)

∴ ~~for~~ Correction to times by Sawyer's watch was + 14 secs. throughout the times he used it. which was up to 11h 45m 0s. in R. 82.

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June 2. 1896

~~θ Librae 1.5 ι, ι~~
ι Librae 1.5 θ Librae
10 10 ι Librae 3.5 φ Ophiuchi W.obs.

ι Librae 1.5 θ Librae
10 9 ι Librae 2.5 φ Ophiuchi Sawyer. Obs

10 12 ι Librae 2, θ Librae
ι Librae 4, φ Ophiuchi W.obs.

Index R + above
111.9
10 13 29 154.6 43.7c
113.7 41.3c 2.05
155.0 85.0c

(2.06)
III
113.1
15 13 156.9 43.8c
114.6 40.8c 2.06
155.4 84.6c
Index L + below
204.6
17 36 244.0 39.4c
204.0 42.6c 2.14
246.6 82.0c

June 2. '96

(2.11)

h
10 19 25

4 (25 43 c
10 16 26 c
+14
10 16 40 c

203.9
246.9
203.7
244.5

43.0 c
40.8 c
83.8 c

2.08

(M = 2.08)

Index Left + below

h
10 21 19

203.2
244.2
203.0
247.9

41.0 c
44.9 c
85.9 c

2.03

IV

(2.02)

22 44

203.5
249.4
204.0
244.9

45.9 c
40.9 c
86.8 c

2.00

Index R + above

26 0

292.8
336.0
293.8
335.6

43.2 c
41.8 c
85.0 c

2.05

(2.04)

58

27 35

4 (17 38 c
10 24 24 c
+14 c
10 24 38 c

294.5
335.6
291.2
336.0

41.1 c
44.8 c
85.9 c

2.03

(M = 2.03)

Continued in Book 82.

Posted to here.