1899phae.proj.1365P

KG
11366
v.361

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1899phae.proj.1365P

Sept. 20, 1899. (Wednesday.)

Dm-33 3 F. Phot. Var.

Phot. X.

W Ole.

Campbell Rec.

(Prof. W. H. Pickering used telescope first part of evening)

I

19 20 +43.0

21 07

1 47

Above

175.3 < vandis.

Ledgered.

9 01 30	227.6	46.3		
	3540	50.1		
	441	96.4	-1.75	
	174.6			(-1.74)
04 45	223.5	45.9		
	353.5	45.5		
	42.3	97.4	-1.72	
	Below			
	53.6			
0F 30	138.0	49.4		
	264.0	50.3		
	314.3	99.7	-1.66	
				(-1.66)
	54.1			
10 55	134.4	50.3		
25 40	264.2	49.3	-1.67	
9-6-25	313.5	99.6	mean = -1.70	

14 5 17

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Sept. 20, 1899

Saw Again. II

		Below		
		F 2.5		
9	14	10	133.7	51.2 +
			264.4	49.1 +
			313.5	100.3 + -1.65 x
				-1.66 x
			F 4.0	50.4 +
16	40		134.4	49.5 +
			264.2	99.9 + -1.66 +
			313.7	
		Above		
			354.5	45.3 +
20	10		42.5	47.4 +
			174.5	95.7 + - 1.76 +
			2222	
			354.3	-1.76 +
23	45		42.1	47.5
74	45		174.5	47.0 +
9	18	41	222.5	
5-1 - 5				95.5 + - 1.76 +
14	17	23 G.M.T.		

Mean = -1.71 +

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1899phae.proj.1365P

~~Feb~~ 20, 1899.

III

Above.

	174.6		
9 44 10	222.9	45.3	
	35 48	47.6	
	42.4	95.9	−1.76
	174.9		(−1.74)
46 40	222.5	47.9	
	35 2.5	49.2	
	42.0	97.1	−1.73

Below.

	53.1		
49 25	133.3	50.2	
	262.4	50.6	
	313.0	100.8	−1.64
	53.7		(−1.62)
52 05	134.3	50.6	
19 20	263.0	57.2	
9 45 05	314.2	101.8	−1.61
57 − 5			

14 46 57 Gr. M. Time.

Mean = (−1.68)

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1899phae.proj.1365P

Sept. 20 1899.

IV

Below

	52.8		
9 54 50	124.4	51.6	
	264.0	50.4	
	314.4	102.0	−1.61
			(−1.60)
	52.2		
57 00	138.9	51.7	
	263.7	50.7	
	314.4	102.4	−1.60

above

59 50	353.8	49.5	
	43.3	48.8	
	174.1	98.3	−1.70
	222.9		
			(1.73)
	354.2		
10 04 05	42.6	48.4	
	175.4	47.6	
9 58 56	223.0	96.0	−1.76
5 − 1 − 5			
4 57 45			Mean (−1.66)

9 Mirrors.

Pos Ang = 212°.6 Vernier a. (Dec. 338°.)

10 05 Sprocket wheel reads 7.5

1899phae.proj.1365P

Sept 20, 1899.

Phot. R. o Ceti. Wolk.

	26	12	-3.6
	22	24	
	3	45	
	5	12	

R. & a.

117.4 Lvar dis.

1022.0	125.4	11.0
	297.9	9.7
	307.6	20.7 - 5.22

Ledgered
Plotted

(-5.26)

	115.1	
	127.5	9.4
	299	10.5
	307.4	19.9 - 5.30

L. & B.

	27.1	
	37.5	10.7
	205.0	8.7
	216.7	19.4 - 5.36

(-5.37)

	28.1	
10 32.0	37.3	9.2
10 27.0	207.2	10.0
5 - 1.1	217.2	19.2 - 5.32
10 25.9 Sidm. T.		

Mean = (-5.32)



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Sept 20, 1899.

Same Again.

L. & B.

	271		
10 34.6	37.4	10.3	
	207.9	5.0	
	215.9	15.3	-5.42
	27.7		(-5.44)
	37.1	9.4	
	207.0	9.5	
	216.5	15.9	-5.41

R. & B.

	296.7		
	307.1	10.4	
	197.5	9.6	
	127.1	20.0	-5.29
	297.5		(-5.29)
10 42.4	307.1	9.6	
10.35.5	7176.9	10.4	
6.9	127.3	20.0	-5.29
15 37.4			

Gr. M. Time.

Mean = (-5.36)

Slight amount of fog on object glass.

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1899phae.proj.1365P

Sept. 20, 1899.

Phot. T. χ Cygni W.Obs.

19 45 + 32.6

23 05

3 20

L & R

		Ledger & Plotted.
3441	< comp * dis.	
11 03.4 51.6	67.5	
16 [illegible].0	63.5	
231.5	131.0	+ 0.96
3444		(+ 0.94)
49.7	65.3	
165.7	67.6	
233.3	132.9	+ 0.92

R. & B.

252.5		
323.6	70.5	
73.1	70.1	
1403.9	140.9	+ 0.76
253.9		
11 11.0 323.5	69.9	(+ 0.76)
11 07.2 73.1	71.0	
5 - 1.1 ~~1403.9~~	140.9	+ 0.76
16 6.1 1441		

Mean = (+ 0.85)

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1899phae.proj.1365P

Sept 20, 1899.

Same Again.

R Ab

253.1

11 13.0 323.6 70.5 -

73.0 72.2 +

145.2 142.7 - + 0.72

(+0.75)

253.9

323.6 69.7 -

74.9 70.1 +

144.0 139.8 + 0.75

L. Oa.

164.2

232.7 65.5 +

66.1 +

345.1 134.6 + 0.55

51.2

164.2 (+0.59)

11 24.2 231.0 65.5 +

37.2 346.9 66.3 + 0.90 + mean = (0.82)

11 16.6 + 53.2 134.1

5 - 1.1

16 17.5 Gr. M.T.

{ 8 Pr. Wheel for χ Cygni = 5.6
χ Cygni = 23.3 Ver. a.
Pos. Aug. -

(Arnold Odeut 11 40 75 Bond 394. 11 39 00)

mean = (0.82)

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1899phae.proj.1365P

Sept. 21, 1899. (Thursday)

Exam - of Comp. stars ~~R~~ + others, for γ Cephei.

21 05 +65.0 W Obs.
20 30
.0 30
11 30

Prof W.H.P. used tel. first part of evening

~~20 57.~~
~~20 57~~

~~20 55~~ Clouds.
~~20 59.1~~
. Clouds.

~~20 59. 5~~
~~21 00~~ Clouds
21 01 30.1 O
01 34.9 R ?
02 ~~42.5~~ X
03 29.3 Y P
04 24.5 var

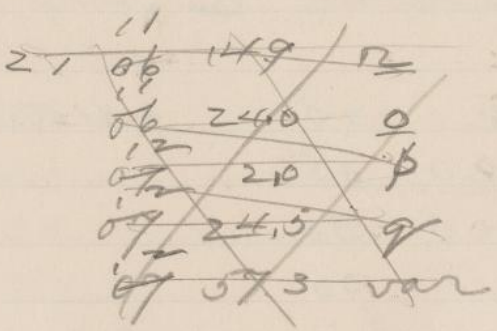
See next page for transits.

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1899phae.proj.1365P

Sept. 21, 99

Examn γ Cephei cont.



21 11 14.9 n

11 24.0 o

12 2.0 p

12 24.5 q

12 57.3 var

Star o is 3.0 S. of Var.

Star n is 3.7 N. of Var.

Star p is 1.2 N of Var.

Star q is 7.5 N. of Var.

~~Star~~

Pos. Ang 156.2

45.0

231.2

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1899phae.proj.1365P

Sept. 21, 1899.

Transits over Square Ber. of Faint Comp. Stars for T Cephei.

21	25	18.5	p.	S half
	25	24.5	o	S half.
	25	53.0	o	S "
	29	26.0	var	S "
	30	16.5	p	S "
	31	0.0	var	S "

21	31	25.2	p	S half
	31	32.0 31.6	o	S half.
	32	01.5	o	S half.
	32	32.5	var	S "
	33	22.5	p	S "
	34	6.5	var	S "

~~21 35 33.0 r S half.~~

~~24 38 5~~

21	35	16.5	r	S half
	39	~~41.2~~ 17.5	q	N half.
	40	9.5	r	S half
	40	~~25.5~~	var	S half.
	41	13.2	var	S half.
	41	~~25.5~~ 27.9	q	N half.

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1899phae.proj.1365P

Sept. 21, 99

21	42			
	~~41~~	~~23.0~~ 22.F	r	S half.
	43	29.5	q	N half.
	44	~~20.F~~ 21.1	r	S half.
	44	~~45.5~~ 45.0	var	S half.
	45	~~24.9~~ 24.6		

21	46	41.0	r	S half.
	47	~~44.5~~ 41.2	q	N half.
	45	32.F	r	S half.
	49	3.5	var	S half.
	49	36.7	var	S half.
	49	~~52.5~~ 52.3	q	N half.

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1899phae.proj.1365P

Sept. 21, 99.

Phot-T. Cerasko's Var. · Var. Lots.

20 0F + 46.3
22 00
1 52

I

L. ~~00~~.
57.3
9 53 15 129.4 comp. ✕ obs.
267.5
307.1

42.1+ Plotted.
39.6+ Ledgered.
F1.7+ + 2.14×

(+2.12×)

~~59.0~~
55 55 130.4
267.0
305.6
~~R. + 13~~
355.7
10 00 00 35.3
150.2
215.5

41.4+
41.6+
F3.0+ + 2.11×

(+2.44×)

0.6
02.35 34.2
231 45 79.7
9 57 56 218.3
5-1-9

33.6+
35.6+
72.2+ + 2.43×

Mean (+2.22×F)

14 56 47 G.M. Time.
4919.6225+ V
49 15.0731+ ✕
+4.5497×

4.5729+
4.5497+
= 0.0232×

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1899phae.proj.1365P

Sept. 21, 1899.

	R. ~~A.B~~	~~D~~
	0.0	
10 07 00	36.24	36.4″
	151.4	36.6″
	215.0	73.0″ +2.41″
	0.0	(+2.42″)
10 10 25	36.0	36.0″
	150.6	36.7″
	217.3	72.7″ 2.42″
	~~L.A.C.~~	
	269.4	35.0″
10 15 50	307.4	42.6″
	56.6	50.6″ +2.15″
	129.2	(+2.16″)
	267.5	
10 19 05	309.5	42.3″
52 20	55.4	39.9″
10 13 05	125.3	52.2″ +2.13″
5 -1 -9		

15 11 56 Gr M Time. Mean = (+2.29″)

4919.6332″

4915.0731

+4.56 01″

4.5729

-0.0128″

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1899phae.proj.1365P

Sept. 21, 1899.

III

~~L~~

2652

10 2330 307.5 39.6 "

47.1 41.5 "

128.9 51.4 " + 2.15 "

(+2.14")

267.5

2505 309.9 42.1 "

47.1 40.1 "

1257.2 42.2 " + 2.13 "

~~R.~~

150.5

31 45 216.5 36.0 "

359.0 37.4 "

36.4 73.4 " + 2.40 "

150.0 (+2.36")

3540 219.0 39.0 "

11900 350.1 36.4 "

10 29 45 " 36.5 75.4 " + 2.39 "

5-1-9

1525 36 Sid. Time. Mean = (2.24")

4919.6447 "

4915.0731 "

+4.5717 "

4.5729

-0.0012 "

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1899phae.proj.1365P

Sept. 21, 1899.

IV

	Right		
	15 0.0		
10 40 50	21 6.4	36.4	
	35 5.0	35.5	
	36.5	74.9	+2.35
	175.2		(+2.33)
43 50	215.9	40.7	
	0.4	35.5	
	35.9	76.2	+2.31
	Left.		
	57.2		
47 00	125.9	41.7	
	267.0	41.4	
	305.4	83.1	+2.10
	55.9		(+2.14)
49 50	129.1	43.2	
	269.5	37.1	
21 30			
10 45 22	306.9	80.3	+2.19
5 -1 -9			
15 44 13	Gr M.T.	Mean	(2.24)
4919.6557			
4919.6461			
+0.0096			

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Sept. 21, 1899.

V

Left.

FF. 2

10 54 50 / 29.5 — 41.3"
267.9 — 40.9"
305.5 — 82.2" + 2.13"

F6.9 — (+2.14")
10 57 50 / 20.2 — 43.3"
265.3 — 35.4"
307.1 — 81.9" + 2.14"

Right.

359.6
11 02 20 37.5 — 35.2"
179.5 — 38.4"
217.9 — 76.6" + 2.30"

357.2 — (+2.26")
11 05 00 35.6 — 41.4"
240 00 / 20.5 — 37.3"
11 00 00 217.5 — 78.9" + 2.23"

5-1-9

15 55 57 G.M.T.

4919.6659"
4919.6461
+0.0198"

Mean = (+2.20")

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1899phae.proj.1365P

Sept. 21, 1899.

VI

Right.

	359.1	
11 05 00	36.6	37.5'
	175.6	39.6'
	215.2	77.1 +2.25'
	357.4	(+2.24')
11 10 30	35.2	40.5'
	179.6	35.6'
	215.2	79.4' +2.21

Left.

	269.3	
11 15 00	306.7	37.4'
	56.9	42.5'
	129.4	79.9' +2.20'
	265.0	+2.18'
11 20 30	309.5	41.5'
11 25 00	55.4	39.5'
11 14 15	128.2	81.3' +2.16'

5-1-9

16 13 04 Gr. M.T.

Mean (+2.21')

4919.6755'

4.916.6461

+0.0297'

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1899phae.proj.1365P

Sept. 21, 1899.

VII

Left.

269.4
11 2430 305.2
56.2
125.7

265.4
2640 305.5
52.1
129.6

Right.

179.3
3000 219.0
357.5
35.2

175.6
3400 219.5
115 15 357.5
11 25 49 37.1
5-1-9
16 27 40 G.M.T.
4919.6459
4919.6461
+0.0398

345+
42.5+
51.3 + 2.16

(+2.16)

40.1
41.5+
51.6 + 2.15

39.7
40.4
50.1 + 2.19

(+2.18)

41.2
39.3
50.5 + 2.18

(+2.15)

Mean ~~+2.17~~
= (+2.17) : 2

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1899phae.proj.1365P

Sept. 21, 1899.

VIII.

Right

		179.5		
11	35	15	219.5	39.0
			357.5	40.4
			35.2	79.4 + 2.21
				(+ 2.222)
			179.5	
11	41	45	219.2	40.4
			35.4	35.7
			37.1	79.1 + 2.222

Left.

			57.1	
	46	30	129.2	42.1
			267.2	42.7
			309.9	54.5 + 2.06
				(+ 2.06)
			56.1	
	48	50	130.5	44.4
	175	20	267.7	40.6
11	43	50	308.3	53.0 + 2.05
5	−1	−9		
16	42	41	G.M.T.	mean (42.14)

4919.6964
4919.6461
+0.0503

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1899phae.proj.1365P

Sept. 21, 1899.

IX

Left

F6.9

11 53 20 130.4 43.5

266.1 44.0*

310.1 F7.3* + 1.99*

F6.0 (+ 1.99)

56 00 130.5 44.5*

266.7 42.5*

309.2 F7.3* + 1.99*

Right

35 F.6

12 00 10 39.0 40.4*

176.6 44.3*

220.9 F4.7* + 2.06*

356.5 (+ 2.04*)

04 15 40.5 44.3*

23 33 45 177.6 42.2*

11 55 26 219.5 F6.5* + 2.01*

5 -1 -9

16 57 17 Yr M. Time.

4919.7064* Mean (+2.02*)

12 10 Pos. Aug. Ceraskis Var. = 99.5 Vermeis a.

Sprocket wheel reads = 10.5.

4919.7064

4919.6461

+0.0603

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Sept. 21, 1899.

A O D.	B 394
12 16 09.5	12 15 00
12 17 09.5	12 16 00

Preceding observations on Cerasko's var.

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1899phae.proj.1365P

Sept 22, 1899. (Friday)

Dm 3335

19	20	+30
19	50	
0	30	

Too high at present to observe.

T. Cephei. MCOs.

Examd Comp. Stars.

21	05	21	05	+60
20	00	19	55	
1	05	1	10	
10	55	10	50	

20	05	22.5	var.
	07	57.5	s.

Clouds thick.

20	1F	01.5	var
	19	37.0	t

Pos Zero = 261.9
−45.0
216.9

Transits of Faint Comp. stars for T Cephei. (Square Bar.)

20	27	02.0	var S half.
	27	37.5	var S half.
	28	05.5	t N half.
	28	47.5	s N half.
	29	40.5	t N half.
	30	0.2	s N half.

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1899phae.proj.1365P

Sept. 22, 1899.

Exam of T Cephei stars conts.

20	31	34	var S half.
	32	9.5 9.2	var S half.
	32	~~40~~ 39.5	t N half.
	33	15.5	s N half.
	34	13.0	t N half.
	35	34.5	s N half.

Phot. T. DM. +42° 3335 W.C.G.

19	20	+43.0
20	~~45~~	
1	25	

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1899phae.proj.1365P

Sept. 22, 1899.

Nova Phot. Var.

Below. DM 3335 I.

F9.F Zvar. dio.

F 34 00	127.2	37.4+	Ledger D
	270.0	37.0+	
	307.0	74.4+	− 2.36+
	904		− 2.36+
36 10	127.3	36.9+	
	269.7	37.5+	
	307.2	74.4+	− 2.36+
	Above 0.4		
39 35	36.F	36.4+	
	151.3	35.F+	
	217.1	72.2	− 2.43+
	~~339.9~~		− 2.42+
42 40	37.4	37.5+	
152 25	151.3	35.9+	
F 35 06	~~217~~	73.4+	− 2.40+
5 − 1 − 11	216.2		
13 36 55+	Gr. M. Time.	Mean = − 2.39+	

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1899phae.proj.1365P

Sept 22, 1899.

II

Above.

		1.4		
F	5F	23	36.5	35.1
			179.7	37.6
			217.3	72.7 − 2.42
			0.4	(−2.41)
9	01	10	37.2	36.F
			1F0.2	36.4
			~~217~~	73.2 − 2F0
			216.6	

Below.

			269.6	
	04	00	30F3	3F.7
			F9.F	3F.3
			125.1	7F.0 − 2.2F
			268.9	(−226)
	07	10	307.6	~~3F.7~~
	2F0	4F	F9.3	3F.7
9.	02	41	125.9	39.6
5	−1	−11		7F.3 − 2.2F
14	1	30	Gr. M. Time.	

~~2.26~~

Mean = −2.3F

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1899phae.proj.1365P

Sept. 22, 1899

III.

Below

		26F.3	
9	17	30F.0	39.7
		FF.5	40.F
		129.3	F0.5 -2.1F
		26F.7	(-2.20)
20	10	30F.1	39.4
		FF.9	39.9
		128.F	79.3 -2.22

Above.

		17F.3		
25	50	21F.F	40.5	40.5
		359.1	39.9	39.9
		39.0	7 0.5	F0.4 -2.1F
		179.5		(-2.22)
30	10	217.2	37.7	
	93	45 35F.5	40.5	
9	23	26 39.0	7F.2	-.225
5	-1	-11		

14 22 15-9 = M. Tuna

Mean = -2.21

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1899phae.proj.1365P

Sept. 22, 1899.

IV.

Above

			100		
9	35	15	215.5	35.5	
			35F.7	35.5	
			37.5	79.3	+226
					+2.26
			179.9		
40	45		215.6	35.7	
			35F.7	39.6	
			3F.3	75.3	+225

Below

			F7.0		
44	25		129.4	42.4	
			265.9	40.5	
			309.7	F1.2	+2.16
					-2.12
			FF.0		
	46	05	130.0	42.0	
	169	30	265.0	41.6	
9	42	22	309.6	53.6	+2.09
5	-1	-11			
14	41	11			

Mean = -2.19

G.M.T. ~~Pos. Angle for 3335 Kd. 19~~

Pos. ang for 3335 = 34.0. Vera.
Spocket Wheel = 7.3

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1899phae.proj.1365P

Sept 22, 1899.

Phot. R. o Ceti. Nr-Obs.

26 12 -3.6

22 12

4 00

Left & Below 4 00 Plotted.

20.5 F Variable. Ledgered.

10 05.4 21 14.9 9.1

26 15 10.1

36.6 19.2 - 5.3

(-5.34)

20 7.1

21 6.2 9.1

25.6 10.7

36.3 19.8 - 5.31

Right & Above

11 5.1

12 7.4 12.3

29 6.5 9.2

30 6.0 21.5 - 5.13

(-5.20)

11 6.5

14.6 12 6.2 9.7

20.0 29 5.7 10.6

10 10.0 30 6.3 20.3 - 5.26

5 - 1.2

15 F.F. G.M. Time.

Mean = -5.27

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1899phae.proj.1365P

Sept. 22, 1899.

Same Again.

	R. & a.	
	116.7	
10 17.4	126.4	10.7*
	296.4	10.1
	306.5	20.8* — 5.20*
	116.6	-5.24*
	126.6	10.0*
	296.3	10.1*
	306.4	20.1* — 5.28*
	L. & B.	
	25.7	
	36.6	10.9*
	206.4	9.2*
	215.6	20.1* — 5.28*
	26.4	-5.30*
23.2	36.5	10.1*
10 20.3*	206.1	9.6*
5 -1.2*	215.7	19.7* — 5.32*
15 19.1* Sid. Time		

Mean = -5.27*

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1899phae.proj.1365P

Sept. 22 F 99

Phot. Var. Dh 333 F.

Phot. T. NGC

19 20 +43.0

22 50

3 30

V

Lodged.

L. & A.

356.F

10 35 F 30 39.9 43.1

177.4 42.3

219.7 F3.4 - 2.04

(-2.06)

306.1

40 30 38.9 42.F

176.6 41.4

220.0 F4.2 - 2.07

R. & B.

266.7

44 10 310.2 43.3

F7.2 43.4

130.6 F6.9 - 2.00

Clouds.

(-1.98)

266.2

47 20 310.3 44.1

170 30 F6.4 43.7

10 42 30 F 130.1 F7.F - 1.97

5 - 1 - 11

13 41 27 Sid. M. Time.

Mean - 2.02

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1899phae.proj.1365P

Sept. 22, 1899.

VI.

R. & B.

	266.2	
10 54 ~~00~~ 20	309.5	43.6'
	55.4	45.9"
	131.3	59.5" − 1.93"
	266.4	(−1.95")
10 57 00	310.3	43.9"
	56.3	44.0"
	130.3	57.9" − 1:97"

L. & A.

	175.9	
10 59 40	220.2	41.3"
	357.1	43.0"
	40.1	54.3" − 2.07"
	175.0	(2.05")
11 01 40	220.0	42.0"
232 40	356.7	43.6"
10 55 10	40.3	55.6" − 2.03"
5 − 1 − 11		
15 56 59	Gr. − M. Time.	Mean = (−2.00")

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1899phae.proj.1365P

Sept. 22, 1899.

VII

L. & B.

1756

11 14 25 221.3 427

355.4 452

40.9 57.9 − 1.97

Clouds.

(− 1.96)

17F.0

17 10 220.9 42.9

355.4 45.6

41.0 FF.5 − 1.95

Clouds.

R. & A.

F6.0

2150 182.0 46.0

265.4 44.F

310.2 90.F − 1.F9

(− 1.F9)

F5.F

2400 131.4 45.6

77 25 266.0 45.2

11 19 21 Clouds. 90.F − 1.F9

5 1 −11 311.2

16 1F 10 Sz M. Time.

Mean = (− 1.92)

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1899phae.proj.1365P

Sept. 22, 1899

R. & B.

F 6.1

11 35 30 131.6 265.0 311.F

45.5
46.F
92.3 − 1.F5

F4.9

11 39 00 131.F 266.3 3120

46.9
45.7
92.6 − 1.F4

(−1.54)

L. & A.

355.9

11 43 20 40.9 177.0 221.2

45.0
44.2
F9.2 − 194

355.3

11 46 35 42.1 177.2 221.0

46.F
43.F
90.6 − 1.90

(−1.92)

164 25
11 41 06
5 −1. −11

16 29 55 G.M. Time

Mean (−1.F F)

Sprocket Wheel = 7.4 PM 333F

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1899phae.proj.1365P

Sept-22, 1899.

Arnold & Rento			Bonn 394		
11	57	11.2	11	56	00
11	55	11.5	11	57	00

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1899phae.proj.1365P

Sept. 23, 1899. (Saturday)

Plot. T. U Coronae W Oltz

15 10 + 33.9

19 27

4 17

I.

L.O.A. Ledgered, Plotted

367.2 < vardis.

7 06 20 41.F 44.6"

17F.1 41.3" 2.93"

219.4 F59"

355.4 -1.96"

0F 20 40.5" 45.1"

175.2 45.4"

220.6 905" -190"

k. of B.

265.5"

10 20 312.0 46.0"

F53 46.1"

134 926" -1.F4"

265.2 -2F4"

12 15 311.5 46.3"

37 15" F5.7 464"

7 9 19. 132.1 92.F -1.F4"

5-1-24

12 7 55" Gr. m. time. 4921.5855" 3.4523"

491F.1914 3.3141 1.90"

+3.3141 -0.13F2"

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1899phae.proj.1365P

Sept. 23, 1899

II

R & B.

	265.0			
7 16 20	312.5		47.5	
	53.6		45.5	
	131.1		93.3	-1.53
				(-1.50)
	264.6			
15 30	312.9		48.3	
	54.3		47.5	
	131.5		95.5	-1.76

L. & A.

	177.2			
21 00	221.9		44.7	
	355.3		46.3	
	41.6		91.0	-1.59
				(-1.55)
	176.9			
22 40	221.4		44.5	
7 5 30	355		47.3	
7 19 35	42.1		91.8	-1.57

5-1-24

12-15-14 Gr. M Time

4921.5126	34523
4915.1914	3.3212
+3.3212	-0.1311

Mean = (-1.54)

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1899phae.proj.1365P

Sept. 23, 1899.

III

Loa.

176.5

7 25 45 223.0 46.5'
355.7 47.3'
430 93.8' - 1.51'

177.7 (-1.52')
27 40 223.0 45.1'
354.5 45.2'
43.0 93.3' - 1.53

R. & B.

~~F4~~.9

29 50 ~~230~~ 132.0 47.1'
263.9 47.5'
311.4 94.6' - 1.79

F4.3 (-1.50')

32 00 137.9 47.6'
11 5 15 264.9 46.1'
7 25 49 311.0 93.7' - 1.52
5 - 1 - 24'

12 27 45' Gr. M. Time. Mean - -1.51'

4921.5193' 3.4523
4915.1914 3.3279
+3.3279' -0.1244'

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1899phae.proj.1365P

Sept. 23, 1899

IV

R. A. B.

F5.1

7 36 00 132.4 47.4'
264.0 45.1'
312.1 92.5' -1.77'

F4.4 (-1.77')

36 00 133.4 49.0'
264.7 46.9'
310.0 95.3' -1.77'

L. A. C.

35 40

42 00 42.3 45.3'
177.0 44.6'
221.6 92.9' -1.54'

(-1.54')

355.6

44 20 41.5 46.2'
160 20 1746 47.1' -1.53'
7 40 05 221.7 93.3'
5 -1 -24

12-36.41 G. M. Time.

Mean = -1.50'

4921.5269'
4915.1914'
+3.3355'

3.45 23
3.3355'
-0.1168'

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1899phae.proj.1365P

Sept. 23, 1899.

L. O a.

	174.7		
7 49 45	221.5	47.1'	
	356.2	45.7'	
	41.9	92.8'	−1.54'
	176.4		−1.54'
51 30	222.6	46.2'	
	354.5	46.9'	
	41.7	93.1'	−1.53'

R. B.

	53.2		
54 15	132.6	49.4'	
	264.9	47.1'	
	312.0	96.5'	−1.74'
	529		−1.74'
56 30	132.3	49.4'	
212 00	265.0	47.3'	
7 53 00	312.3	96.7'	−1.74'
5 −1 −24			
12 51 36'		Gr. M. Trans.	Mean −1.79'
	4921.535		
	4915.1914		
	+3.3444'		
	3.4523		
	−0.1079'		

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1899phae.proj.1365P

Sept. 23, 1899.

R & B.

F3.0

F06 00 13 4:0 51.0
26 4 4 48.8
31 2.9 99.5 −1.67

(1.6F)

F3.2

0F 15 13 3.4 50.2
26 4.4 48.2
31 2.6 9F.4 −1.70

L & A.

35K.F

11 20 42.6 47.F
17 5.3 47.0
22 2.3 94.F −1.79

(1.F0)

354.5

13 25 42.3 47.F
3900 17 5.F 46 1
F 09 45 22 1.9 93.9 −1.F1
5 −1 −24

13 0F 21 9 M. Time.

Mean = −1.74

4921.5475
491F.1914
+3.3561
3.45-23
−0.0962

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1899phae.proj.1365P

Sept 23, 1899.

L + Q.

III.

	355.1		
F 17 45	42.9	47.5	
	175.7	46 0	
	221.7	93.5	-1.51
	354.6		
Z 0 35	42.4	47.5	-1.79
	174.6	47.5	
	222.1	95.3	-1.77

R. + B.

	262.5		
	313.5	50.7	
23 20	F 2.5	50.6	
	133.1	101.3	-1.62
	263.5		-1.66
25 30	312.5	49.0	
F 7 15	F 2.6	49.7	
F 21 49	139.3	98.7	-1.69

F - 1-24

13 20 26 Gr M Time

F 2 F Pos. Aug. for γ Coronae = 5.0 F Mean = (-1.72)

49 21. 5560 Sprocket wheel reads 7

491 F. 1914

+3.36466

3.4523

-0.0 F 7 F

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1899phae.proj.1365P

Sept. 23, 1899.

Am 3330. (Phot. Variable

Phot-7. 19 20 +43.0

20 3F

.1 3F

N 0 R.

I

Ledgered

R. & B.

F1.1

F39.25 132.0 50.9"

261.3 52.4"

319.7 103.3" -1.5F"

F1.5 -1.53"

41 40 134.1 52.6"

261.F 53.2"

315.0 105.F -1.52"

L. & A.

359.F

45 00 44.F 52.0"

174.3 50.1"

2244 102.1" -1.61"

3544 -1.62"

47 20 44.3 49.9"

173 25 174.9

F 43 21 224.7 50.7" 100.6" -1.64"

5-1-24

1341 57 G.M.T. Mean = -1.63F.

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1899phae.proj.1365P

Sept. 23, 1899.

II

L. & Q.

	354.4		
52 15	43.5	49.4	
	172.1	50.5	
	222.9	100.2	−1.65
	354.0		−1.65
54 05	44.2	50.2	
	173.6	50.2	
	223.5	100.4	−1.65

R & B.

	263.5		
56 10	314.5	51.0	
	53.5	50.5	
	134.3	101.5	−1.61
	263.0		−1.60
59 00	313.5	50.5	
21 30	52.5	52.2	
55 22	135.0	103.0	−1.55
5 − 1 − 24			
13 53 58	Sum	Mean	= −1.62

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1899phae.proj.1365P

Sept. 23, 1899.

III.

R. & B.

263.0

9 03 = 20 313.4 50.4'

52.5 51.5'

1340 101.9' -1.61'

263.2 -1.60'

05 50 314.0 50.8'

52.3 52.1'

1347 102.9' -1.59'

L. & Q.

173.1

11 00 223.5 50.4'

353.8 47.5'

426 99.3' -1.69'

174.1 -1.69'

13 20 222.4 45.3'

354.3 49.5'

33 30 43.5

9 5 22 97.5' -1.71'

1 24

14 6 52 Sprocks. Wheel = 7.6 Mean = (-1.64')

Pos. Ang for Phot. Var = 214.5 - Var a.

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1899phae.proj.1365P

Sept. 23, 1899

U Coronae Cont.

VIII.

15 F +339

27 46

6 3F

Left & above — Ledgered Plotted

351.9

9 29 15 43.4 — 51.5

175.1 — 49.9

225.0 — 101.4 — −1.62

350.7 — −1.60

343.2 — 52.5

9 31 40 172.8 — 51.2

224.0 — 103.7 — −1.57

R. & B.

260.5

9 34 05 316.7 — 56.2

379.5 — 57.0

136.5 — 113.2 — −1.34

260.1 — −1.36

36 40 316.5 — 56.7

131 45 51.3 — 54.9

9 32 56 136.2 — 111.6 — −1.35

5 − 1 − 24

14 31 32 Jr. M. Time. — 4921.6052 — 4915.1914 — +3.4138

Mean = (−1.45)

3.4138

3.4523

−0.0385

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1899phae.proj.1365P

Sept. 23, 1899

IX

R. & B.

260.0
9 41 40 314.5 54.5
50.0 57.5
137.5 112.3 − 1.36

259.9 −1.36
44 00 316.1 56.2
79.5 56.7
136.5 112.9 − 1.35

L & A.

173.5
47 45 224.0 50.5
350.9 56.4
47.3 106.9 − 1.49

172.0 −1.45
50 22 0.3 53.3
15 3 50 351.2 54.0
9 45 55 46.2 107.3 − 1.45
5 −1.24

12 44 34 Gr. M. Time.
1921.6143
491.5.1914
+3.4229
3.4523
−0.0294

Mean −1.47

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1899phae.proj.1365P

Sept 23, 1899

L.O.

X

171.9

10 54 15 227.6 55.7'

350.2 56.2'

464 111.9' -1.37'

-1.37'

169.9

56 45 226.5 56.6'

350.5 55.1'

45.9 111.7' -1.35'

R. & B.

7F.6

10 00 00 137.6 59.0'

260.1 55.6'

315.7 114.6' -1.31'

7F.0 -1.27'

10 02 00 135.0 60.0'

233 00 25F.9 55F.2'

9 55 15 317.1 115.2' -1.23'

5 -1.24 M.T. Mean = -1.32'

14 56 51/4 Region getting low moon not so

4921.6225' somewhat bright, so that star

4915.1914 cannot well be followed farther

+3.4314' Setting becoming difficult

3.4323 Vernier A = Dec. Cing = 5.4

-0.0209' Stuck. Wheel = F.7

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1899phae.proj.1365P

Sept: 23, 1899.

Chart. Var. Corr. Error.

19 20 +43.6
22 40
3 20

IV

R. & B.

26F.9

10 21 20 30F.0 39.1
FF.4 39.F
12F.2 7F.9 - 2,23

26F.2 - 2.20
23 30 30F.5 40.3
F7.9 40.4
12F.3 F0.7 - 2.17
L & a.

1F0.3
26 45 216.F 36.5
0.7 36.F
37.5 73.3 - 2.40

1F0.5 - 2.39
29 20 216.5 36.0
21 00 30 9.5 37.F
10 25 15 37.3 7F.F - 2.3F
5 - 1 24
15 23 5 1 Gr. M. Time. Mean - 2.30

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1899phae.proj.1365P

Sept 23 1899

V

L + a

1 F a F

10 39 20 217.0 36.2"
359.5 35.5"
3 F .0 71.7" − 2.36"

1 F 0 F − 2.41"

41 45 216.3 35.5"
0.5 35.9"
36.4 71.4" − 2.46"

R. P B.

90.0

45 00 126.0 37.0"
269.2 37.6"
306.F 74.6" − 2.36"

F 9.2 − 2.35"

45 25 126.3 37.1"
269.F 36.4"
17 4 30 306.2 73.5" − 2.39"
10 43 3F
5 − 1 24

10 42 14 F G.M.T. Mean = −2.40"

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1899phae.proj.1365P

Sept. 23, 1899.

VI.

R. & B.

90F

10 5 40 5	127.1	36.3°	
	270.2	36.4°	
	306.6	72.7°	-2.42°
	59.4		-2.39°
5700	16.8	37.4°	
	270.3	37.0°	
	307.3	74.4°	-2.36°
	L.A.Q.		
	1.1		
11 01 10	36.6	35.5°	
	151.7	34.5°	
	216.2	70.0°	-2.51°
	0.7		-2.5-2°
0345	36.0	35.3°	
23600	151.5	33.8°	
10 59 00	215.8	69.1°	-2.54°
5-124			
15 57 36	G.M.T.		

Mean = -2.46°

1899phae.proj.1365P

Feb 23, 1899

VII

L.Oa.

1.5

11 17 10 35.3 33.F

~~151~~.182.2 327

214.9 66.5 -2.62

-2.57

1.0

19 35 36.2 35.2

~~181~~.6 34.3

215.9 69.5 2.52

R.A.B.

270.2

23 15 306.2 36.0

~~89~~.2 33.1

127.~~3~~ 74.1 - 2.37

-2.40

270.F

26 00 306.F 36.0

~~F~~6 00 90.5 36.3

11 21 30 126.F 72.3 - 2.43

5 - 1 - 24

16 20 06 Gr. M.T. mean = -2.4F

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1899phae.proj.1365P

Sept. 23, 1899.

VIII.

R. & B.

269.5

11 39 05 306.6 36.5

59.0 35.2

127.2 75.0 -2.35

269.2

41 40 306.4 37.2

Clouds.

~~12~~ 55.4

12

Clouds.

L. & A.

Reject.

Stopped by Clouds.

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1899phae.proj.1365P

Sept. 23, 1899

R.A.B.

269.7

VIII

11 56 00 306.5 — 37.1'
55.5 — 39.2'
125.0 — 76.3' — 2.31'

265.5 — 2.26

11 59 50 305.9 — 39.3'
55.4 — 40.0'
125.4 — 79.3' — 2.22'

L.A.A.

150.6

12 02 45 215.3 — 34.7'
0.7 — 35.3'
36.0 — 70.0' — 2.51'

150.7 — 2.44'

12 05 0.0 217.3 — 36.6'
24 33 5 359.7 — 37.4'
12 0.0 54 37.1 — 74.0' — 2.35'
5 - 1 - 24

16 59 30' Gr. M.T.

mean = (- 2.35')

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1899phae.proj.1365P

Sept. 23 1899.

IX

L & A.

1799

12 14 30 217.7 37.5
30.5 36.9
37.4 74.7 - 2.36

10.6 - 2.36

17 20 216.7 36.3
359.3 38.2
37.5 74.5 - 2.36
R. O B.

7.9

129.2 41.3
19 05 269.0 38.4
307.4 79.7 - 2.20

7.9 - 2.21
128.3 39.4
23 20 268.6 39.6
7 05 308.2 79.0 - 2.22
12 18 46
5-1-24
17 17 22 G.M.T.

mean: (- 2.22)

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1899phae.proj.1365P

Sept 23, 1899.

X.

R. & B

	57.4		
12 31 20	125.4	41.0	
	265.6	40.1	
	305.7	81.1	-2.16
	55.0		-2.15
34 15	129.3	41.3	
	265.7	40.7	
	309.4	82.0	-2.14
	Clouds.		

L. & A.

	309.6		
37 00	312.2	35.6	
	17F.9	35.7	
	217.6	77.3	-2.25
	309.2		-2.22
40 10	37.6	35.4	
12 45	17F.4	39.0	
12 30 41	217.9	77.9	-2.26
5 - 1.24			
17 34 17	G.M.T.		

Mean = (-2.21)

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1899phae.proj..1365P

Dated to here

Sept. 23, 1899

Troubled somewhat in last group by light and passing clouds.

P.D. Angle Phot. Var = 214°.3 Vernier A

1247 Sprocket Wheel = 7.5

Arnold & Hewitt
12 54 · 23.5

Bond 394
12 53 00

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1899phae.proj.1365P

Sept. 25, 1899. (Monday)

~~7 00~~

7 00 Cloudy

7 30 cloudy.

Phot. T. 29 h. 42° 333 ± Phot. Var. W.C.L.

19 20 ± 43.0
20 15
0 55

~~7 45~~ All thick no stars visible.

~~8 30~~ All cloudy: with no prospect of clearing.

rain predicted, and look as though
8 30 it might shortly occur.

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1899phae.proj..1365P

Sept. 26, 1899. (Tuesday.)

F 10 Cloudy first part of evening some clearer now.

χ Cygni.

Phot I. 19 45 +32.6 W Obz.
20 55
1 10

Rather high and as it is some clearer will try Obz. M 13.

M 13.

16 07 +36.7
20 07
4 20

Mean of stars in cluster for Standards of Magn.

After thoroughly impossible to measure I or J the two remaining stars, to night, too much moisture in air.

χ Cygni.

Phot. T. 19 45 32.6 W Obz.
21 20
1 35

See next page for measurements.

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1899phae.proj.1365P

Sept 24, 1899.

Phot S. χ Cygni. W 66.

F 54 Sprocket wheel reads F.5
Poz-Ang = 200.°1

F 55 Clouds.

9 00 Stopped by Clouds.

9 30 Clearer again.

L. & A.

Ledgered

Plotted

	345.0	< comp star dis		
9 33.6	50.2		62.2	
	169.5		55.5	
	227.0		120.7	+1.15
	345.4			
	47.0		55.6	(+1.19)
	Clouds.		60.9	
	166.1			
	229.0		119.5	+1.20
	R. B.			
	257.1			
	Clouds.		62.3	
	319.4		59.9	
	77.3		122.2	+1.14
	137.2			(+1.12)
	258.2	Clouds		
41.4	319.5	Clouds.	61.6	
9 34.5	77.4		62.2	+1.11
5 - 1.5	139.6		123.8	mean = (+1.16)

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1899phae.proj.1365P

Sept. 26, 1899.

Same Again.

R. & B.

	257.9		
947.7	319.5	61.6	
	78.0	60.3	
	138.3	121.9	+1.15
	258.4		(+1.13)
	319.6	61.2	
	77.0	62.4	
	139.4	123.6	+1.11

L. & B.

	165.4		
	230.3	61.9	
	347.6	59.2	
	47.4	121.7	1.16
	169.1		(+1.14)
955.1	227.6	58.5	
	347.6	61.5	
951.4	49.4	120.3	1.19

5 - 1.5

14 49.9 G.M.T. Time.

4924.

Mean = (+1.16)

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1899phae.proj.1365P

Sept. 26, 1899.

Phot. I. W Delphini WOb

20 33 17.9 20 31 +12.7

22 47 22 43

2 14 2 12

L.O.Q.

150.1

10 17 50 216.1 Comp. dia.

358.1

37.6

179.1

20 30 215.6

359.8

Clouds.

R & B Reject Above

Stopped by clouds.

Impossible to finish group.

Phot R. O Ceti WOb

26 12 -3.6

23 05

3 07

F 3.3

1899phae.proj.1365P

Sept 6-26, 1899

Phot-K. 2 Ceti. W. 6k.

10 30 Clouds
Clouds abundant.
R. & a.
cloud thick
Clouds everywhere, impossible to see
11 00 00 Omicron Ceti.
a little clearer
2 9 6.7
11 45 Clouds.

Cloudy again.

11 10 Stopped again by clouds

Troubled continually throughout evening by clouds storm not yet cleared up, air very moist.

Object glass heavily dewed.

Chron. Corr = - 1m 30 secs

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1899phae.proj.1365P

Sept. 27, 1899. (Wednesday)

Phot. Nova Sagittarii NW Ob.

	1F 51		-13.0
	20 10		
	1 1.9		

Above

1F 2.0 < comp. Ledger

7 50.5	217.1	35.1'	
	0.9	32.9'	
	33.F	68.0'	+2.57
	18Z.A		+2.64
	215.0	32.2'	
	0.9	31.7'	
	32.6	63.9'	+2.72

Below.

	~~A5.8~~		
	128.9	40.1'	
	269.8	37.6'	
	307.4	77.7'	+2.26
	F9.5		
7 59.5	126.3	36.F'	+2.30
	269.1	35.6'	
7 55.0'	307.7	75.4'	+2.33
5 -1.4			
12 5 8.6'	Gr. M. Time.		Mean = +2.4

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1899phae.proj.1365P

Sept. 27, 1899.

Same Again.

Below

	Ag. A		
A 01.7	126.9	36.9	
	271.1	37.0	
	30A.1	73.9	+2.38

	Ag. 9		
	127.4	37.5	+2.3
	269.2	36.8	
	306.6	74.3	+2.37

Above.

	1.0		
	34.2	33.2	
	1F1.0	34.8	
	215.3	67.5	+2.59

	0.F		
			+2.54
A 07.7	349.	34.1	
F04.7	1A1.2	36.1	
5−1.4	217.3	70.2	+2.50
1 3 8.3 Gr. M.T.			Mean = +2.46

For ang. (ver. a) for Nova Sag. = 92.7
Sprocket Wheel readr. 9.5 (a system.)
" " " 10.5 (B system.)
Spectrum primarily monochromatic.

Leave about ½ a slight continuous spectrum through centre.

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1899phae.proj.1365P

Sept. 27, 1899.

Cluster in Hercules (M. 13.) W.G.b.

Phot I. (Standards of Magnitudes.)

16 37. +36.7

20 57

4 20

Star J counts with K.

Left.

Ledgered

2.0

A 47.1 345.1 dis. 32.5

181.4 34.0

216.4 66.5 +2.61

1.7 +2.59

35.2 33.5

181.3 34.6

215.9 68.1 2.67

Right.

269.5

305.3 35.8

91.5 34.5

126.0 70.3 +2.50

270.2

270.1 +2.50

9 4.2

~~9 04.22~~ 304.8 34.6

1113 90.2 35.5

55.6 126.40 70.4 +2.49

5 -1.4

1354.2 G.M.T. Means = +2.54

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1899phae.proj.1365P

Sept. 27, 1899.

Phot-T. D M. 333 F. Phot. Var. W Cr.

19 20 +43.0
22 05
2 45

Lick Obs. Ledgered.
1771 < var. dis.

9 30 10	229.3	43.2		
	357.8	40.0		
	37.8	43.2	-2.10	
	178.8		-2.14	
9 32 30	218.0	39.2		
	357.3	41.3		
	36.6	40.5	-2.18	
	R O B.			
	88.5			
9 36 40	128.8	40.3		
	267.5	40.6		
	308.1	80.9	-2.17	
	47.7		-2.19	
9 38 20	127.4	39.7		
17 45	268.1	39.9		
9 34 26	308.	79.6	-2.21	
5-1-26	308.0			

14 33 00 Gr. M. Time.

Mean = -2.16

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1899phae.proj.1365P

Sept 27, 1899.

R & B. Same again. II

Alt. 0

9 42 20 | 128.1 | 269.1 | 308.5 | 40.1 | 39.4 | 79.5 − 2.21

A & b | 127.6 | 268.6 | 308.5 | 39.0 | 39.9 | 78.9 − 2.22 − 2.23

Lea

9 45 35 | 359.1 | 37.9 | 180.2 | 217.4 | 38.8 | 37.2 | 76.0 − 2.32 − 2.34

9 51 20 | 359.2 | 37.5 | 38.3

187 40 | 180.9 | 36.7

9 46 55 | 217.6 | 75.0 − 2.35

5 -1-26

14 45 29 Sun M Time. Mean = − 2.28

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1899phae.proj.1365P

Sept. 27, 1899

III

L & a

	359.2			
9 05 30	36.6	37.4		
	181.1	35.0		
	216.1	72.4	-2.43	
				-2.47
	0.4			
10 00 30	35.4	35.0		
	181.1	34.9		
	216.0	69.9	-2.51	

R & B

	270.2			
1004 00	306.5	36.3		
	49.2	36.5		
	126.0	73.1	-2.41	
				-2.42
	270.9			
07 15	306.2	35.3		
250 10	49.0	37.2		
10 02 34	126.2	72.5	-2.43	

5-1-26

15 1 0 G.M. Time

Mean = -2.44

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1899phae.proj.1365P

Sept. 27, 1899.

R & B

270.7

10 13 15 306.2 — 35.5

49.9 — 36.0

125.9 — 71.5 — 2.46

271.2 — 2.46

10 15 10 306.7 — 35.5

50.9 — 35.7

126.6 — 71.2 — 2.47

L & A.

151.3

10 19 45 216.2 — 34.9

359.6 — 36.9

36.5 — 71.8 — 2.45

151.7 — 2.49

10 22 10 216.2 — 34.5

7 30 20 1.0 — 34.9

10 17 35 35.9 — 69.4 — 2.58

5-1 -26

15 16 09 B.M.T.

IV.

Mean = 2.48

1899phae.proj.1365P

Feb. 27, 1899.

V

L Dec

151.7

10 27 30 216.6 34.9

0.9 35.1

36.0 70.0 − 25.1

− 2.45

1809

10 30 00 216.9 36.0

0.1 35.3

36.1 71.3 − 2.46

R MB

270.5

10 33 00 306.3 35.F

A9.3 36.F

126.1 72.6 − 2.42

− 2.43

270.F

10 34 45 305.F 35.0

120.5 90.2 36.9

10 31 19 127.1 71.9 − 2.44

5 − 1-26

10 29 53 Gr. M. Time. Mean − 2.46

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1899phae.proj.1365P

Sept. 27, 1899.

VI

R.M.B

270.4

10 41 50 306.F 36.4

8A6 3F.2

126.F 74.6 -2.36

269F -2.34

10 44 40 307.2 37.4

A9.2 3F.F

12A.0 76.2 -2.31

Left above.

1A1.F

10 47 00 276.6 34F

1 0.2 36.5

23A.7 71.3 -2.46

1F0.2 -2.43

10 49 30 ~~AA~~

23 00 217.3 37.1

10 45 45 1-0.1 36.2

5-1-26 36.3 73.3 -2.40

15 44 19 G.M.T. Time.

Mean -2.38

1899phae.proj.1365P

Sept. 27, 1899

VII

L.O.A.

	181.1		
10 57 30	217.2	36.1	
	357.4	39.3	
	37.1	75.4	−2.33
	180.0		−2.35
10 59 30	217.5	37.5	
	0.0	36.6	
	36.6	74.1	−2.37

R.A.B.

	A.9		
11 02 20	125.1	39.2	
	269.6	37.7	
	307.6	76.9	−2.29
	F.9		−2.27
11 04 20	127.6	39.0	
24 3 40	266.4	39.1	
11 00 60	307.9	78.1	−2.25
5 − 1 − 26			
15 59 29	Sid. M. Time.		Mean = −2.31

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1899phae.proj.1365P

Sept. 27, 1899

VIII.

R & B

	85.5		
11 09 40	127.3	34.5+	
	265.2	39.5+	
	307.7	70.0+	-2.25+
	56.0		-2.22+
11 11 40	127.5	41.0+	
	265.7	39.6+	
	305.3	50.6+	-2.15+

L & A.

	0.0		
11 15 20	37.0	37.0+	
	150.0	36.9+	
	216.9	73.9+	-2.35+
	359.4		-2.34+
11 15 20	351	35.7+	
55 00	179.5	37.4+	
11 13 45+	217.2	76.1+	-2.31+
5 -1 -26			
16 12 19+	Sum-Twice.		

Mean = -2.28+

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1899phae.proj.1365P

Sept. 27, 1899

~~IX~~

L & a.

	35F.9		
11 26 00	37.1	3F2'	
	~~17~~ 7.F	40.3'	
	21F.1	7F5'	-2.24'
			-22.6'
	30FF		
11 2F 10	37.9	39.1'	
	17.F	37.6'	
	27.4	76.7'	-2.29'

R & B.

	26~~7~~.F		
11 31 45	30~~4~~3	~~40.0'~~	
	~~4~~7.3	40.5'	
	127.9	40.6'	
		F1.1'	-21.6'
	267.3		
11 33 50	30FF	41.5'	-2.10'
11 9 45	~~40~~FF.6	40.2'	
11 29 41'	12~~8~~.2	F7.7'	-2.14.F
5-1-26	m.t.		
16 2F 15			

Pz angle. Ver a = 34°3 Mean = -2.20'

& Rocket wheel reads 7.3 (a system)

" " F.6 (B system).

Arnold & Dent.

11 45 26

Bond 39F

11 44 10

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1899phae.proj.1365P

Sept. 28, 1899 (Thursday)

Arnold + Dent — Bond 394

7 01 20.3 — 7 00 00

Cluster in Hercules. M. 13.

Phot P. 16 37 +36.7 (W Lb)

19 57

3 20

Star E comp with F — Ledgerd

Left.

73.3 ∠ comp star dis.

7 37 00 141.6 — 65.3

256.5 — 67.1

329.6 — 135.4 +0.87

72.7 (+0.81)

145.2 — 72.5

253.2 — 65.6

321.8 — 141.1 +0.75

Right

347.9

49 3

166.0 — 64.4

232.0 — 66 0

120.4 +0.97

343.0

8 07.0 — 50.5 — 67.5 +0.96

1040 — 188.4 — 63.6

7 52.0 — 2320 — 12 h 50 m 0.5 s — 131.4 +0.93 mean 0.88

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1899phae.proj.1365P

Sept. 27, 1899.

Star 5 just measured extreamely faint but settings made with much slowness and great care.

Phot. T. New Phot. Var. (>33F) WCh.

19 20 +43.0

21 10

1 50

Lo d. I.

	352.0	vardis	
5 33 50	43.2	51.2+	Ledgered.
	173.3	51.0+	
	224.3	102.2+	-1.60+
	3536		-1.62
36 55	44.0	50.4+	
	173.2	50.0+	
	223.2	100.4+	-1.65+
	R.A.B.		
	268.3		
41 00	314.4	51.1+	
	51.2	53.5+	
	134.7	104.6+	-1.54+
	2619		-1.54
48 15	314.6	52.7+	
1500.	52.7	52.2+	
5 38 45	1349	104.9+	-1.54+
5 -1 -28			mean = -1.58+

1337 17 Gr. M. Time.

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1899phae.proj.1365P

Sept. 25, 1899.

II

R & B.

	z b z	
5 54 10	314.1	51.9 +
	81.2	52.1 +
	133.3	104.0 + −1.56 +
	z b 1.0	−1.56
36 00	314.9	53.9 +
	53.4	50.1 +
	133.5	104.0 + −1.56 +
	L & A.	
	173.9	
9 00 20	223.4	49.5 +
	354.1	49.7 +
	43.8	99.2 + −1.65 +
	193.6	−1.65
03 20	224.8	57.2 +
233 50	353.1	56.1 +
5 58 28 +	43.2	101.3 + −1.62 +
5 −1 −28		
13 57 00 + Gr. M. Time.		mean = −1.60 +

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1899phae.proj.1365P

Sept 25, 1899

~~Ell~~

L & a.

	173.0		
9 07 00	223.8	50F	
	353.4	49.4	
	42.8	100.2	-1.63
			-1.62
	173.0		
10 20	223.8	50F	
	357.0	379	
~~10 20~~	43.9	102.7	-1.59

R.A.B.

	53.8		
13 10	134.5	51.0	
	262.3	51.5	
	318.8	102.5	-1.60
			-1.58
	52.1		
16 10	134.0	51.9	
~~46 40~~	~~261.4~~	51.9	
46 40	313.3	103.8	-1.56

9 11 40
5 - 1 - 20

14 10 Greenwich Time. mean = -1.60

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1899phae.proj.1365P

Sept. 25, 1899.

IV

R & B.

f31

9 21 00 | 1343 | 51.2+
2623 | 50.7+
3130 | 101.9+ | -1.61+

f25 | -1.61+

23 00 | 133.4 | 50.6+
263.0 | 51.0+
314.0 | 101.6+ | -1.62+

L & A.

352.4

26 00 | 43.2 | 50.5+
173.0 | 50.7+
223.7 | 101.2+ | -1.62+

354.0 | -1.64

27 00 | 43.0 | 49.0+
17 00 | 173.0 | 50.4+
9 24 15 | 223.4 | 98.4+ | -1.67
5 -1 -28

14 22 47+ S. M. Tims.

mean = -1.62+

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1899phae.proj.1365P

Sept. 28, 1899.

	L a		V	
	353.1			
9 34 50	43.1	50.0		
	173.9	47.5		
	224.7	97.5	-1.71	
	354.8			-1.72
36 35	42.7	47.9		
	178.7	49.9		
	222.6	96.8	-1.74	
	R & B			
	262.6			
40 00	313.4	50.8		
	53.0	49.5		
	132.5	100.6	-1.64	
	263.0			-1.65
43 25	313.8	50.3		
154 50	53.6	49.4		
9 38 42	138.0	99.7	-1.66	
5-1-28				
14 37 14	G. M. Time.			
			Mean -1.68	

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1899phae.proj.1365P

Sept. 2 A 1 h 99.

VI

R + B

	263.9		
9 49 30	313.3	49.4+	
	+2.2	51.1	
	183.3	100.5	-1.64+
	263.4		-1.64+
9 52 15	313.4	50.0+	
	+2.2	31.0+	
	138.2	101.0+	-1.63+

L + Q.

	174.4		
57 45	222.0	47.6+	
	354.1	45.1+	
	42.2	95.7+	-1.76+
	174.1		-1.74+
59 30	223.3	49.2+	
21900	354.4	47.5+	
9 54 45+	42.2	97.0+	-1.73+
5- -1 -28			
14 53 17+	Gr. M. Trans.		Mean = 1.69+

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1899phae.proj.1365P

Sept. 2 & 1 & 99

VII

L & a

	1735			
10 0 & 25	223.1	49.6		
	353.2	49.0		
	42.2	96	-1.69	
	1745		-1.71	
11 15	222.9	41		
	354.2	45		
	49.0	96.9	-1.73	
	R & B.			
	215			
14 30	133.2	50.4		
	263.3	98		
	313.4	1045	-1.64	
	39.0		-1.61	
17 05	133.2	50.2		
51 35	262.0	52.9		
10 12 54	314.9	1.03.1	-1.5 &	
5 1 28				
15 11 26	Sr. Mt Time.		Mean -1.66	

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1899phae.proj.1365P

Sept. 25, 1899.

VIII.

R & B.

82.0

10 36 55 133.9 51.9*
263.2 50.7*
313.9 1026* -1.59*

53.0 -1.61*

28 50 133.9 50.9*
263.5 50.1*
313.6 101.0* -1.63*

L & R.

352.7

32.20 43.8 51.1*
173.5 49.7*
223.2 100.8* -1.64*

-1.64*

352.6

3.44.5 42.8 50.2*
122 50.1 128 51.0*
10 30 42 223.8 101.2* -1.63*
5 - 1 28
15 29 14 Sid. Time. Mean = -1.62*

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1899phae.proj.1365P

Sept. 28, 1899.

IX.

L. & R.

	30 29	
10 45 00	44.5	51.9 +
	173.A	49 1 +
	2229	101.0 + − 1.63 +
		− 1.64 +
	30 33.2	
47 15	43.2	50.0 +
	173.6	45.5 +
	222.4	95.5 + − 1.69 +

R. & P.

	261.7	
00 00	313.5	52.1 +
	52.A	52.1 +
	1349	104.2 + − 1.55 +
		− 1.54 +
	261.7	
53.50	314.5	53.1 +
196 05	51.7	52.1 +
10 49 01 +	133.8	105.2 − 1.53 +
5 − 1 − 28		
15 47 33 +	Gr. M. Time.	Mean − 1.60 +

Pos. angle for a reads. 343°

Sprocket Wheel (A system) reads. 7.4

" " (B ") reads. 5.6

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1899phae.proj.1365P

Sept. 25, 1899.

Phot R. | o Ceti. | W Hz

26 12 | −3.6
23 47
2 25
9 35

R & A.

	29h.7		Plotted.
11 F.6	30A.2	11.0	Lagerdf
	11A.8	9.2	
	12A.0	20.7	−5.22
			−5.26
	29F.3		
	30 7.1	F.F	
	11 7.0	11.2	
	12 8.2	20.0	−5.29
	L & B.		
	20 6.9		
	21A.2	11.3	
	27.7	10 3	
	3 8.0	21.6	−5.12
			−5.18
	20 7.7		
11 15.4	21 6.8	9.1	
24.0	26.5	11.4	
11 12.0	3 7.9	20.5	−5.24
5 −1.5			
16 10.5			

J. M. Tuis.

Mean −5.22

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1899phae.proj.1365P

Sept. 25, 1899.

Same again.

		R & B		
		207.1		
11	15.6	217.7	10.6	
		27.2	10.4	
		37.6	21.0	-5.14
		207.4		-5.18
		217.0	9.6	
		26.6	11.3	
		37.9	20.9	-5.19
		R & Q		
		116.3		
		127.9	11.6	
		297.4	9.1	
		306.9	20.7	-5.22
		117.7		-5.22
11	27.8	127.6	9.9	
	45.6	296.7	10.7	
11	22.8	307.4	20.6	-5.23
5	-1.5			
16	21.3			Mean = -5.20

Sid. M. Time.

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1899phae.proj.1365P

Sept. 29, 1899. (Friday)

7 00 Cloudy

7 30 Cloudy

8 00 cloudy.

8 30 All Cloudy.

8 45 All Cloudy, clouds growing thicker; no stars visible. No chance for any work.

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1899phae.proj.1365P

Sept. 30, 1899. Saturday

U Coronae

Plot Y. 15 A 133.9 Volts

19 36

4 2F

R.O.B.

263.0 Praecis.

Plotted.

6 05 30	313.1	50.1	
	42.2	52.2	Ledgered
	134.4	102.3	-1.60

(-1.61)

	263.2		
53 40	313.4	50.6	
	42.3	50.9	
	133.2	101.5	-1.62

L.O.R.

	173.9		
5F 00	224.2	50.3	
	352.6	53.5	
	46.1	103.8	-1.56

(-1.66)

	173.3		
09 30	224.1	50.8	
27 00	353.5	49.0	
6 56 45	42.5	99.8	-1.66
5 -1 -36			
11 55 09	From Time		

4928.4966 V 3.4523

4925.0959 3.4007

3.4007 = 0.0516

Mean = -1.64

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1899phae.proj.1365P

Sept 30 1899.

L+A.

	174.5		
7 03 30	222.1	47.6	
	350.3	53.1	
	43.4	100.7	-1.64
	171.4		-1.64
05 15	223.6	52.2	
	354.8	48.1	
	42.9	100.3	-1.65

R+B.

	222		
08 30	133.2	51.0	
	264.3	55.7	
	316.0	106.7	-1.49
	0.2		-1.50
10 00	135.8	55.6	
27 15	262.9	50.5	
7 6 49	313.4	106.1	-1.51
5 -1 -36			
12 5 13	Gr. M. Time		

4928.5036
4925.0959
3.4077

3.4523
3.4077
=0.0446

Mean = -1.57

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1899phae.proj.1365P

Sept. 30, 1899.

R Ob III

δ 2.1

9 16 40	135.0	52.9		
	261.4	53.5		
	314.9	106.4	-1.50	
	δ 0.2			-1.50
18 00	135.1	54.9		
	262.6	51.6		
	314.2	106.5	-1.50	
	L Oa.			
	353.3			
20 25	46.2	52.9		
	172.8	52.0		
	224.8	104.9	-1.54	
	353.0			-1.56
22 15	43.4	50.4		
77 20	172.8	52.3		
7 19 20	225.1	102.7	-1.59	
5 -1 -36				
12 17 44	Gr. M. Time.			Mean = -1.58
4928.5123				
4925.0959				
3.4164				
3.4523				
-0.0359				

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1899phae.proj.1365P

Sept 30, 1899.

IV

Lyr.

	350.5		
7 29 45	47.3	56.5	
	173.0	52.7	
	226.7	109.2	-1.44
	351.5		-1.48
31 45	45.1	53.3	
	172.1	52.5	
	224.9	106.1	-1.51
	R Aq.		
	261.4		
35 15	315.1	53.3	
	40.3	53.9	
	43.2	107.3	-1.45
	261.7		-1.46
37 05	315.9	54.2	
133 50	40.0	54.9	
7 33. 28	134.9	109.1	-1.47
5 -1 -36			
12 31 .52	Lr. M. Trino.		
4928.5221			
4925-0959			
3.4262			
3.4523			
0.0261			

Mean = -1.47

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1899phae.proj.1365P

Sept 30, 1899.

R & B.

V

	262.7		
γ 43 46	315.0	523	
	74.0	57.2	
	135.2	109.5	-1.43
	259.0		-1.37
46 40	316.6	57.6	
	79.5	57.2	
	137.0	114.8	-1.31

L & A.

	170.1		
49 05	226.0	55.9	
	351.3	53.2	
	44.5	109.1	-1.44
	171.2		-1.42
51 15	225.9	54.7	
190 45	349.5	56.7	
γ 47 41	46.2	111.4	-1.39
5-1-36			

12 46 05 G.M.Time.

Means = -1.40

4928.5320

4925.0959

3.4361

3.43523

0.0162

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1899phae.proj.1365P

Sept 30, 1899.

VI

R.A.

	16h 5m		
7 55 45	226.3	57.5+	
	350.1	55.2+	
	45.3	113.0+	−135+
			−137+
	170.8		
5h 00	225.7	54.9+	
	349.6	56.3+	
	45.9	111.3	−139+
	R.A. B.		
	7h 1		
5 01 15	135.9	57.6+	
	259.0	57.3+	−130+
	316.3	113.1+	
			−134+
	79.7		
03 10	136.3	56.6+	
23h 10	260.2	55.0+	−135+
7 59 32+	317.2	111.6+	

Mean = −1.36+

5 − 1 − 36

12 57 56 G.M. Time.

4928.5402+

4925.0959

3.4443+

3.4523

−0.0080

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1899phae.proj.1365P

Sept. 30, 1899.

VII

R & D

75.5

F 10 10 137.7 59.2

259.6 57.7

317.3 116.9 −1.26

77.3 −1.22

12 13 139.4 62.1

257.7 59.1

317.9 121.2 −1.17

L & R

~~47.0~~

~~F 12 15 47.4~~

~~226.~~

~~348.6~~

17 00 48.3 59.5

169.3 57.5

227.0 117.0 −1.26

349.3 −1.26

19 10 ~~48.4~~ 59.1

18 40 169.1 57.7

8 14 40 226.4 116.8 −1.26

5 − 1 − 36

13 13 04 ~~2~~ No Twins Mean = −1.24

H92 F 50 09

H9 ~~20.54.6~~

0.0023

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1899phae.proj.1365P

~~Sept~~ 30, 1899.

~~XIII~~

L & B.

	350.0		
& 2400	47.2	57.2+	
	168.2	59.4+	
	227.6	116.6+	-1.27+
	348.9		-1.26+
25	48.0	59.1+	
	169.6	58.7+	
	228.3	117.8+	-1.24+

R & B.

	258.2		
2+30	317.4	59.2+	
	77.2	61.9+	
	139.1	121.1+	-1.17+
	2567		-1.15+
30 25	3189	62.2+	
	77.8	60.5+	
& 27 10+	38.3	1227+	-1.13+
5 -1 -36+			
13 25 34	Ferm. Time	Mean = -1.20+	
4928.5594+			
4928.5486			
+0.0108+			

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1899phae.proj.1365P

Sept 30 1899

IX

R Aq B.

25 A.5

F 36 00 317.4 5E.9+

76.0 62.7+

138.7 121.6+ −1.16+

25 A.5 −1.12+

39 00 32 0.1 62.6+

76.3 62.5+

138.4 125.1+ −1.05+

Y Aq A.

K 160.0

42 00 225.5 60.5+

346.2 63.9+

501 124.4+ −1.10+

167.8 −1.12+

48 40 229.9 62.1+

160 40 347.4 60.2+

8 40 10+ 47.6 122.3+ −1.14+

5 − 1 − 36

13 38 34+ G.M.T. true Mean = −1.12+

4928.5685+

4928.5486

+0.0199+

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1899phae.proj.1365P

Sept 30, 1899.

X

R Oa.

167.7

8 52 30 230.0 623+

346.1 637+

49.4 1260+ −1.06+

1661 −1.06+

54 20 229.2 631+

346.9 624+

49.3 1255+ −1.07+

R Ab.

75.5

54 00 139.4 633+

256.8 644+

321.3 1278+ −1.01+

749 −0.99+

9 00 45 141 14 665+

225 38 256 10 634+

8 56 24+ 319.8 1300+ −0.99+

5 −1-36

13 54 48+ Syn. Trino.

4928.5798+

4928.5486

+0.0312+

Means −1.02+

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1899phae.proj.1365P

Sept. 30, 1899

XI

R & R.

	75.1		
9 05 20	140.0	64.9	
	254.7	65.6	
	320.3	130.5	−0.97
			−0.92
	74.7		
10 10	~~120.0~~ 145.0	~~60~~	70.3
	255.1		65.3
	320.6		135.6 −0.76

L & R.

	~~50.0~~		
	344.4		
14 05	56.0	65.6	
	166.3	64.7	
	231.0	130.3	−0.97
			= 0.94
	346.4		
17 25	56.5	65.1	
40 00	166.3	64.1	
9 10 00	230.4	129.2	−1.00
5 −1 −36			
14 24	Sq. M. Tuac.		Mean −0.95
492F.5592			
492F.5486			
0.0406			

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1899phae.proj.1365P

Sept 30, 1899

L to Q

3447

9 34 30 852.3

1644

2308

6791

6512

136.1 − 0.05

3447

36 45 852.8

1657

2309

6781

6552

133.3 − 0.91

R to B.

2541

40 05 3216

725

1422

6795

6972

137.2 0.03

2535

42 15 3229

730

1434

6944

7044

139.4 0.79

18.3 35

9 38 24

5 − 1 − 36

14 36 48 Sid. M. Time

4928.6089

4928.5486

+ 0.0603

Mean = 0.814

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1899phae.proj.1365P

Sept. 30/1899

RMB. XIII

2531

Too low to follow farther.

Pos. Aug. 8.2 Ver $\overline{a}$ (N Coronae).

Sprocket wheel reads { a system = 2.0
B system = 10.2

Rho Γ DM. 42° 3338. W 6h.

19 20 +430

~~Loa~~: 22 55

3 35

20 F +463

23 5

2 57

19 20 +430

23 06

3 46

See next page for Mean of DM 42° 3338

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1899phae.proj.1365P

Sept 30, 1899.

Pleiades I. 2h 42m 20s 333° N 6.

Ledgered.

	L. & A.			
	355.0			
10 20 20	42.0	47.0		
	174.8	46.3		
	221.3	93.5	-1.52	
	354.3		-1.55	
22 20	42.3	48.0		
	176.8	43.4		
	220.2	91.4	-1.52	
	R. & B.			
	265.0			
25 35	311.5	46.5		
	84.7	47.0		
	131.7	93.5	-1.52	
	264.7		-1.52	
27 25	311.5	46.8		
15 45	84.4	47.0		
10 23 55	131.4	93.8	-1.51	
5 - 1 - 36				
15 22 19	Gr. M. Time			

Mean = -1.514

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1899phae.proj.1365P

Sept 30 / 1899.

II

R & B

2649

10 32 45 311.2 .463

54.8 45.6

130.4 91.9 −1.6

264.0 −1.1

34 15 311.4 47.4

53.5 48.3

131.8 95.7 −1.76

Lea.

175.5

36 30 ~~276.~~

220.1 44.6

~~35 5.8~~ 44.2

~~47~~0.0 ~~48~~.8 −1.95

−1.92

~~11~~ 176.3

38 15 219.5 43.2

21 45 35 40 47.8

10 35 26 41.8 91.0 −1.9

5 −1 −36

15 33 50 Mr M. Twin.

Mean = −1.86

1899phae.proj.1365P

Sept. 30, 1899.

III

L & A.

	179.2		
10 50 30	214.4	89.2 +	
	355.2	45.7 +	
	40.9	44.9 −	−2.05 +
	176.1		−1.97 +
53 00	221.9	45.4 −	
	305.3	43.0 +	
	40.3	90.4 +	−1.59 −

R & B.

	44.5		
55 50	131.3	46.4 +	
	264.8	47.6 +	
	312.4	94.4 +	−1.40 −
	54.1		−1.75 +
57 50	132.4	45.3 −	
	264.0	47.5 −	
17 10	311.5	95.4 +	−1.76 −
10 54 18 +			
5 −1 −36			
15 52 42 −	Sum of terms.		

Mean = −1.88

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1899phae.proj.1365P

Sept 30, 1899.

IV.

R Aq.

	42.8		
11 09 15	132.2	49.4	
	264.7	47.2	
	314.9	96.6	−1.74
			−1.78
	542		
11 50	131.2	47.1	
	265.8	46.6	
	312.4	93.7	−1.82

L Aq.

	355.4		
14 10	40,8	45.4	
	175.7	46.2	
	221.9	91.6	−1.87
			−1.88
	355,1		
16 00	40,4	45.3	
51 15	174,9	46.1	
11 12 49	221.0	91,4	−1,88
5 − 1 − 36			
16 11 13	G.M.T.		

Mean = 1.83

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1899phae.proj.1365P

Lehr 30, 1899

V

L & A.

		35 21		
11	21 40	42.5	50.4	
		175.1	45.3	
		220.4	95.7	−1.76
	26 10	~~355.3~~ 174.9		−1.82
11	~~23 35~~	~~42.3~~ 221.2	~~40.3~~	
		~~17~~ 355.6	44.6	
		~~22~~ 40.2	90.9	−1.59

R & B.

		8 3.0		
11	29 15	133.3	50.3	
		263.6	45.0	
		311.6	95.3	−1.76

−1.70

		83.4		
11	31 00	132.4	49.0	
		263.2	49.5	
	10 7 05			
11	26 46	312.7	98.5	−1.69
5	−1 −86			
16	25 10	Sid. M. Time		

Means −1.76

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1899phae.proj.1365P

Sept 30, 1899

VI

RMB.

δ 3.7

11 39 40	131.5	47.6 +	
	264.5	47.6 +	
	312.1	95.4 +	−1.77 +
	δ 4.6		−1.74 +
41 / 50 20	132.2	47.6 +	
	268.2	50.3 +	
	313.5	97.9 +	−1.71 +

LOA

	35 42		
45 00	41.8	47.6 +	
	175.1	45.3 +	
	220.4	92.9 +	−1.54 +
	35 49		−1.45 +
47 00	41.3	46.4 +	
	175.3	45.7 +	
17 3 00	221.0	92.1 +	−1.56 +
11 43 15 +			
5 − 1 − 36			
16 41 39			

Pos. aug. Ver. à 214.°2 Mean = −1.80

Sprocket wheel reads. { A system 7.5 / B system 2.5

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1899phae.proj.1365P

Posted here

Lick 30 1899

Bond 394			Arnold & Dent		
12	00	00	12	01	30.7
12	01	00	12	02	33.5

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1899phae.proj.1365P

Oct. 2, 1899. (Monday)

9. 15 Cloudy first part of evening
Phot. ☉ DM. 42° 3334. Wolf.

		19. 20	+43.0
		22 35	
		3 15	

L & R. I

3527 Ledgered

9 44 15	42.0	49.3+	
	1784.6	48.1+	
	2227	97.4+	−1.72+
	3523		−1.70+
46 30	42.4	50.1+	
	174.2	49 1.	
	223.3	99.2+	−1.64+
	R & B.		
	261.9		
49 10	312.5	50.6+	
	83.0	50.2+	
	133.2	100.8+	−1.64+
	2622.3		−1.63+
5T 25	313.9	51.6+	
191 20	83.7	49.8+	
9 47 50	133.5	101.4+	−1.62+
5-1 −39			
14 46 11+	G.M.Time.		

Mean = −1.66+

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1899phae.proj.1365P

Oct. 2, 1899.

R.A.B.

II

	2636		
9 57 10	315.0	51.4	
	82.2	51.2	
	134.0	103.2	-1.58
	2620		-1.58
59 20	314.5	52.5	
	82.4	51.2	
	134.0	103.7	-1.57

L.A.

	1744		
10 01 40	222.4	42.0	
	353.2	50.1	
	43.3	92.1	-1.70
	173.4		-1.69
10 03 35	224.0	50.6	
24 45	354.1	48.5	
10 00 26	42.6	99.1	-1.65
5 - 1 - 39			
14 58 47	Gr. M. Time.		

Mean = -1.64

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1899phae.proj.1365P

Oct. 21 1899

III

L & R

	174.3		
10 12 40	222.5	48.5	
	351.7	49.6	
	41.3	97.1	−1.70
	174.6		−1.71
6 00	224.2	49.6	
	353.9	47.5	
	41.7	97.4	−1.72

L. & A.

	81,4		
17 50	134.9	53.1	
	2604	54.3	
	3149	107.6	−1.47
	80.4		−1.49
20 25	133.4	53.0	
65 55	261.0	53.0	
10 16 29	314.0	106.0	−1.51
5-1-39			
15 14 50	Grm Time		Mean = −1.60

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1899phae.proj.1365P

Oct. 2, 1899.

IV

R. HB

A 2.0

10 26 50 135.0 53.0 +

261.0 53.5 +

314.5 106.5 -1.50 +

A 1.A -1.54 +

10 28 25 134.2 52.4 +

263.0 51.2 +

314.2 103.6 -1.57 +

L. OR

352.2

10 30 50 43.8 51.6 +

174.1 48.2 +

222.3 99.8 -1.66 +

A 353.A -1.70 +

10 34 00 42.0 48.2 +

120 05 174.6 48.8 +

10 30 01 223.4 97.0 -1.73 +

5 - 1-39

15 28 22 Gr M Trans

Mean -1.62 +

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1899phae.proj.1365P

Oct. 2, 1899

V

L.O.A.

351,5

10 37 55 447.6 53.1+

174.6 47.6+

222.2 100.7 −1.64+

35 17.8 −1.66

10 39 35 42.12 48.4+

172.8 50.4+

223.2 98.8 −1.69

R.O.B.

26 2.9

10 42 35 313.2 50.3+

51.4 53.2+

134.6 103.5 −1.57+

26 2.4 −1.54+

10 44 45 314.9 52.5+

16 45 0 51.4 53.0+

10 41 12 134.8 105.5 −1.52+

5−1−39

15 39 33. Sid. Time.

Means −1.60+

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1899phae.proj.1365P

Oct. 2, 1899.

	R.A. B		
	263.6		
10 54 10	312.4	48.8+	
	81.1	51.9+	-1.64+
	133.0	100.7+	~~-1.49~~
	262.0		-1.62+
56 15	315.1	53.1+	
	83.0	49.1+	
	132.1	102.2+	-1.60+
	L & A.		
	173.0		
10 59 40	221.9	48.9+	
	353.7	47.7+	
	41.4	96.6+	-1.74+
	174.3		-1.73+
11 02 05	222.4	48.1+	
232 10	352.5	49.5+	
10 58 02+	42.0	97.6+	-1.72+
5-1-39			
15 56 23+	Gr. M. Time.		Mean = -1.68+

Sprocket wheel reads 75 A system
" " " 85 B system

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1899phae.proj.1365P

Oct. 24 1899.

Phot. R. | o Ceti | NR Obs.

26 12 | -3.6

24 12

2 00

10 00

R.A. | R.A.

11 19.0 | 26.8 | Ledgend

38.4 | 11.6+

207.9 | 10.3+

218.2 | 21.9+ | -5.09+

27.8 | -5.10+

38.2 | 10.4+

207.1 | 11.4+

218.5 | 21.8+ | -5.10+

R.A.

296.7

308.2 | 11.5+

11[illegible].0 | 10.2+

128.2 | 21.7+ | -5.11+

297.6 | -5.10+

11 26.6 | 308.2 | 10.6+

456. | 11[illegible].0 | 11.4+

11 22.8 | 128.4 | 22.0+ | -5.02+

5 -1.6

16 21.2 Gr. M. Time

Mean = -5.10+

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1899phae.proj.1365P

Oct. 2, 1899.

Same Again

	R. A.	
	296.7	
11 28.4	308.3	11.6
	117.9	10.1
	128.0	21.7 − 5 = 11
	297.4	− 5.10
	308.1	10.7
	117.0	11.1
	128.1	21.8 − 5.10
	L. O. B.	
	207.0	
	218.3	11.3
	272	10.6
	378	21.9 − 5.09
	208.1	− 5.16
11 38.6	217.6	9.5
11 33.5	27.0	11.1
5 − 1.6	38.1	20.6 − 5.23
16 31.9	Sid. Time	mean − 5.13

Arnold & Dent.	Bond 39 K
11 49 39.0	11 48 00
11 50 39.2	11 49 00

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1899phae.proj.1365P

Oct 3, 1899 Tuesday.

Arnold		Dents	Bond	394
6	52	40.5	6	57 08
6	59	40.2	6	52 00

First of evening occupied with comet telegram

Phot. Dm. 3338. W 6 h.

19	20	+439
21	40	
2	20	

See next page for meas. of Phot. Variable

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1899phae.proj.1365P

Oct 31 99

Dm 3338

I

L & A

	349.9		Ledgered
4420	42.2	52.3+	Plotted
	174.4	47.8+	
	222.2	100.1+	-1.65+
			-1.70+

	3548		
4630	41.3	46.5+	
	174.9	49.2+	
	2231	95.7+	-1.76+

R & B

	262.2		
4940	313.0	50.8+	
	48.0	49.2+	
	132.2	100.0+	-1.66+
			-1.65+

	263.7		
5240	311 3	47.6+	
1930	82.5	50.5+	
4818	133.0	98.1+	-1.70+
5-1-40			
13 46 38+	Gr M Time		Mean = 1.69+
4931.5740+			
4931.			

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1890phae.proj.1365P

Oct 31-99.

II

R & B

	262.3			
9 15 35	312.1	49.8		
	42.7	32.0		
	134.7	101.8	-1.61	
	262.3		-1.64	
17 35	312.8	50.5		
	43.6	~~48.8~~		
	~~134.8~~	99.3	-1.67	
	132.4			
	L & A			
	173.8			
	223.9	50.1		
22 30	353.3	48.7		
	42.0	98.8	-1.69	
	173.2		-1.65	
25 35	222.4	49.2		
81 15	353.2	50.0		
9 20 19	43.2	99.2	-1.64	
5-1-40				
1418 39	Gr. M. Time.			
4931.5962				
4931.				

Mean = -1.66

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1899phae.proj.1365P

Oct 3 1899.

III

L-A-

1745

9 29 30	222.2	47.7		
	353.3	49.0		
	42.3	90.7	-1.74	
	173.8			-1.72
31 15	223.0	49.2		
	353.3	49.1		
	42.4	98.3	-1.70	
	R & B.			
	42.9			
34 00	133.2	50.3		
	262.1	51.0		
	313.1	101.3	-1.62	
	41.8			-1.62
36 N	133.2	51.4		
13.1 00	263.1	50.7		
9 32 45	313.5	102.1	-1.61	
5-1 -40				
1431 05	Gr. m Times.			
4931.6050			Mean = -1.67	

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1899phae.proj.1365p

Oct 3, 1899.

R.A.B

IV.

δ 2.9

9 40 30 134.1 51.2"

263.0 30.2"

313.2 101.4" −1.62"

δ 1.5 −1.60"

42 30 134.0 52.5"

262.0 51.2"

313.2 103.7" −1.57"

L.D.R.

353.1

45 00 40.4 50.3"

173.7 49.1"

222.8 99.4" −1.67"

−1.65"

30 2.9

49 00 42.6 49.7"

17.00 173.7 49.3"

9 44 15 222.0 99.0" −1.68"

5 − 1 − 40

44 42 30 by writing.

4931.6129"

Mean = −1.64"

Pos. ang 214.1 Ver. a.

10 12 — Sprocket wheel reads 7.5 A System

" " " 4.5 B System

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1899phae.proj.1365P

Oct 3, 1899.

Phot I. χ Cygni - W Uz.

	19 41 33.5	19 45	+32.6
	23 24	23 15	
	2 43	3 30	
	L + a		
~~10~~	171.4 Comp star Cir		Ledgered Plotted.
10 27.5	22 39	5 2.5	
	350.4	5 3.7	
	44.1	10 6.2	+1.31
	173.3		+1.54
10 ~~29.5~~	22.8	49.5	
	351.4	53.8	
	45.2	10 3.3	+1.58
	R W B		
	~~A~~		
	81.5		
~~A~~	136.4	5 4.9	
	261.5	5 3.5	
	315.0	10 8.4	+1.45
	82.0		+1.46
10 35.0	134.4	52.4	
6 25	26 0.8	55.2	
10 31.2	316.0	107.6	+1.47
5 - 1.7			
15 29.5	M. Time,		Mean +1.50

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1899phae.proj.1365P

Oct. 3, 1899.

Same again.

R & B

	79.7		
10 37.24	135.6	55.9	
	261.0	54.6	
	315.6	110.5	+1.41
	52.3		+1.44
	135.7	53.4	
	261.2	54.1	
	315.3	107.5	+1.48

Loa.

	350.8		
	44.6	53.8	
	172.2	53.1	
	225.3	106.9	+1.49
	351.1		+1.52
10 46.6	43.6	52.5	
54.0	172.7	51.8	
10 42.0	224.5	104.3	+1.55
5 − 1.7			
15 40.3			

G.M.T.

Mean = +1.48

Sprocket Wheel reads 5.6 a System
" " " " 9.6 B. "

1899phae.proj.1365P

Oct. 3, 1899.

Phot. R.	O Ceto.	W Oph.
	2 12	−3.6
	0 06	
	2 12	
	9 45	

R & R.		Ledgered / Plotted
115.2		
11 03.5 127.5	123+	
296.6	10.1+	
306.7	22.4+	−5.04+
116.6		−5.06+
126.7	10.1+	
295.4	11.9+	
307.3	22.0+	−5.04+
L & B.		
253		
37.4	12.1+	
206.8	9.8+	
216.6	21.9+	−5.09+
26.5		−5.13+
11 11.5 36.6	10.1+	
11 07.2+ 205.5	11.0+	−5.17+
5 − 1.7 216.5	21.1+	
16 5.5+ G.M. Time.		Mean = −5.10+

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1899phae.proj.1365P

Oct 3, 1899.

Same Again

	L & B.		
	250		
1114.6	36.9	11.9	
	206.1	10.0	
	216.1	21.9	−5.09
			−5.10
	26.5		
	36.6	10.1	
	205.3	11.5	
	216.8	21.6	−5.12
	R & Q.		
	294.5		
	306.6	12.1	
	116.4	10.1	
	126.5	22.9	−4.99
			−5.02
	295.2		
11 21.0	306.5	10.7	
11 17.2	115.0	11.7	
5-1.7	126.7	22.4	−5.04
16 16.1	Gr Mt Lunes.		

Mean = −5.06

1899phae.proj.1365P

Oct. 4, 1899 (Wednesday

Bond 924 . Arnold + D

6 54 00 6 55 42.0

6 55 00 6 56 42.0

Phot ☉. * DM 42° 333A. W Pk.

19 20 +43.0

20 20

Lag 1 00

358.4 Ledgered

7 21 40 36.6 38.2+

177.8 43.2+ Plotted.

221.0 41.4 -2.15+

-2.16+

357.3

24 30 38.2 40.9+

178.0 39.5+

217.5 40.7+ -2.17+

R & B.

269.1

25 20 307.1 38.0+

83.7 45.5+

129.2 83.5+ -2.09+

-2.09

266.5

32 20 309.2 42.7+

106 50 88.5 40.9+ -2.09+

7 26 42+ 129.4 4932.5174+ 83.6+

5 1 42

12 25 00+ Gr. M. Time.

Mean = -2.12

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1899phae.proj.1365P

Dec. 4, 1899.

II

R+B

	266.7		
17 4000	308.6	41.9	
	86.0	43.3	
	129.3	85.2	-2.03
	266.5		-2.04
42 30	309.5	43.3	
	87.0	42.9	
	129.9	86.2	-2.02

L Q

	177.8		
45 50	219.7	41.9	
	357.8	40.6	
	398.4	82.5	-2.12
	177.8		-2.14
49 00	219.6	41.8	
17 20	357.6	39.7	
744 20	397.3	81.5	-2.13

5-1-42

1242 38 Sr M Time.

4932.5296

Mean = -2.09

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1899phae.proj.1365P

Oct. 4, 1899.

L+R:

	177.2		
9 55 20	220.6	42.8	
	356.8	41.2	
	38.0	84.0	−2.0
	177.0		−2.0
58 55	220.0	43.0	
	357.0	41.2	
	38.2	84.2	−2.0

R+B.

	86.1		
8 01 50	129.8	43.7	
	265.4	44.7	
	310.1	88.4	−1.9
	85.5		−1.9
04 40	130.1	44.6	
240 45	266.3	44.0	−1.9
8 00 11	310.3	88.6	
5 −1− 42			

12 58 29 Gr. M. Time.

4932.5406

Mean: −2.02

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1899phae.proj.1365P

Oct. 4, 1899

IV

R & B

82.1

δ 10 10 130.1 4+0+

265.3 45.0+

310.3 93.0+ − 1.53+

84.4 −1.88+

δ 12 30 130.4 46.0+

266.1 43.2+

309.3 89.2+ − 1.94+

γ Leo

357.2

δ 15 45 39.4 42.2+

176.6 42.7+

219.3 84.9+ − 2.05+

356.0 −2.04+

δ 18 40 39.3 43.3+

17 05 176.7 42.9+

δ 14 21 219.6 86.2+ − 2.02+

5 − (−4.3)

1312.39+ Gr. M. Time. mean = −1.96+

4932.5504+

1899phae.proj.1365P

Oct. 4 1899.

V

L. & a.

		335.4			
8	26	40	40.6	45.2 +	
			176.4	43 1 +	
			219.3	55.3 +	-1.96
			356.6		-1.95
8	29	00	39.6	43.0 +	
			176.6	43.4 +	
			220.0	86.4 +	-2.01 +
			R.MB.		
			266.5		
8	31	30	310.7	44.2 +	
			85.0	45.6 +	
			130.6	89.8 +	-1.92 +
			266.3		-1.92
8	34	15	310.7	44.4 +	
	121	25	85.8	44.9 +	
8	30	21	130.7	89.3 +	-1.93 +
5	-1	-42			

13 28 39. Gr. M. Time.

4932.5615 +

Means -1.95

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1899phae.proj.1365P

Oct. 4, 1899.

VI

RAB.

2649

8 39 30 310.5 45.6 +
85.2 45.1 +
130.3 90.7 + −1.90 +

265.2 −1.87

42 00 311.9 46.7 +
85.0 46.2 +
131.2 92.9 + −1.87 +

L Pa.

177.1

44 40 220.2 43.1 +
355.8 44.2 +
40.6 87.9 + −1.97 +

175.5 −1.96 +

46 30 220.0 44.5 +
17.2 40 356.2 43.8 +
8 43 10 40.0 88.3 + −1.96 +
5 − 1 − 42

1341 28 Sid. Time. Mean = −1.92

43925704

1899phae.proj.1365P

Oct. 4, 1899

VII

	L + a.	
	177.1	
8 55 45	220.3	43.2+
	355.6	45.0+
	40.6	88.2+ −1.96+
		−1.94+
	176.2	
57 30	220.5	44.6+
	355.7	45.1+
	40.5	89.7+ −1.92+
	R + B.	
	~~87.4~~ 86.4	
9 00 30	131.4	43.0+
	264.2	46.7+
	310.9	91.7+ −1.87+
		−1.86+
	84.2	
9 02 30	131.0	46.8+
23.6 15	265.6	45.3+
8 59 04	310.9	92.1+ −1.86+
5 − 1 − 42		
13 57 22+	Sun Time.	
H 932.58 15+		Mean = −1.90+

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1899phae.proj.1365P

Oct. 4, 1899

R Y B

83.9

9 11 10 131.4 47.3+

264.4 46.6

311.0 94.1+ − 1.21

84.9 −1.24

13 20 130.7 45.8

266.4 45.4

311.8 91.2 − 1.24

L Q A.

355.6

16 30 40.8 44.7

176.1 45.1

221.2 89.8 −1.92

355.9 −1.94

19 00 40.2 44.3

20 00 176.2 44.3

9 15 00 220.5 88.6 −1.95

5-1-42

14 13 18 Gr M Time.

H 932 592 6

Mean = −1.89

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1899phae.proj.1365P

Oct. 4, 1899.

IX

L & A

356.5

9 21 00 29.6 43.1+

174.9 46.9+

22 1.8 90.0 - 1.91+

355.6 -1.91

24 20 42.2 46.6+

177.1 43.7+

220.8 90.3+ - 1.91+

R & B.

265.4

28 30 312.3 46.9+

84.6 46.8+

131.4 93.7+ -1.82+

Clouds.

265.4 -1.82

~~43~~ 0 50 312.6 47.2+

144 40 85.2 45.8+

9 36 10 131.0 93.0+ -1.83+

5 - 1 - 42

14 34 28+ Sum Twice.

4932 6072+

Means -1.86+

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1899phae.proj.1365P

60-4, 1299.

X

R.A.B.

	2647		
9 45 20	310.4	45.7+	
	84.0	45 6+	
	132.6	94.3+	-1.50+
	264.0		-1.72+
51 10	312.1	48.1+	
	83.9	48.1+	
	132.0	96.2+	-1.75+

L+A.

	176.4		
56 10	220.5	43.7+	
	354.1	46.4+	
	40.9	90.3+	-1.90+
	174.0		-1.57+
58 50	221.6	47.6+	
21 4 30	356.1	45.1+	
9 53 38	41.2	92.7+	-1.54+

5-1-42

14 51 56+ Gr. M. Time.

4932.6193+

Weight = -1.82+

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1899phae.proj.1365P

Oct. 4, 1899.

XI

L.A.R.

1763

10 08 20 221.2 44.9+

354.2 47.0+

41.2 91.9+ −1.86

−1.88

1753

10 10 10 220.7 45.4+

356.0 45.1+

41.1 90.5+ −1.90

R.H.B.

A47

10 13 00 131.0 46.3+

263.4 48.8+

312.2 95.1+ −1.75

−1.75

−1.79

83.5

10 14 40 131.6 44.1+

46 10 264.4 46.5+

10 11 32 311.3 94.6+ −1.79

5 −1 −42

15 09 50 Gr. M. Time.

4932 6318+

Mean = −1.83+

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1899phae.proj.1365P

Oct. 4. 1899

XII

R Hβ

8 40

10 26 25 132.5 45.2
26 41 42.2
31 2.3 97.0 -1.73

82.6 -1.72

10 23 20 132.9 50.3
26 42 47.6
31 1.8 97.9 -1.71

L. Hβ

35 5.1

10 27 15 41.7 46.6
17 5.0 46.3
22 1.3 92.9 -1.54

35 4.7 -1.52

10 29 20 41.9 47.2
21 20 17 5.0 45.8
10 28 20 22 1.8 94.0 -1.51
5 - 1. - 42
1523 38 In Mittnica.
4932.6414

Mean = 1.77

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1899phae.proj.1365P

Oct 4, 1899.

XII

L & R.

	353.9		
10 36 13	41.6	47.7	
	173 8	47.2	
	221.0	94.9	-1.79
	353.8		-1.50
10 38 45	41.2	47.4	
	174.0	46.4	
	220.4	93.8	-1.51

R & B.

	263.4		
10 42 30	312.2	48.2	
	83.8	49.3	
	133.1	95.1	-1.70
	262.8		-1.70
10 45 10	312.9	50.1	
162 40	83.5	45.6	
10 40 40	132 ~~4~~	95.7	-1.69
5-1-42			
15 38 58	G. M. Times.		
4932.6521			

Mean = -1.75

1899phae.proj.1365P

6D · 4, 1899

XIII

R & B.

	264.7		
10 49 05	312.5	47.2	
	43.2	50.3	
	133.5	97.5	−1.70
	263.3		−1.79
10 51 05	312.6	49.3	
	42.4	49.5	
	132.3	98.8	−1.69

L & A.

	174		
10 54 55	222.5	47.4	
	354.0	47.6	
	42.6	97.0	−1.73
	174.5		−1.76
10 52 20	222.0	47.5	
2 13 20	354.3	47.6	
10 53 20	41.9	95.1	−1.75
3 − 1 − 42			
1551 38	Ge. M Time.		Mean = −1.73
4932.6605			

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1899phae.proj.1365P

Oct. 14, 1899.

XIV

L & R.

	174.5			
11 07 40	223.3	48.5+		
	352.7	50.5+		
	43.2	99.3+	-1.67+	
	174.2		-1.68+	
11 10 25	222.0	47.5+		
	353.1	50.4+		
	43.5	98.2+	-1.70+	

R & B.

	84.1			
11 13.30	133.3	49.2+		
	262.8	50.0+		
	312.8	99.2+	-1.68+	
	82.7		-1.62+	
11 15 10	133.5	50.2+		
46 45-	263.9	45.5-		
11 11 41	312.4	99.3+	-1.67+	
5 -1-42				
16 9 59	Summer.			
4932.6736+				

Mean = -1.68+

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1899phae.proj.1365P

Oct. 14, 1899

XV

R & B.

δ 3.1

|| 21 35 13 21.1 49.0+
262.7 50.4+
313.8 99.4 −1.67+

A 1.2 −1.64+

|| 24 10 13 29 51.7+
263.5 49.9
313.4 101.6+ −1.62+

L & A.

354.0

|| 27 05 42.4 42.4+
172.9 45.2+
222.1 96.6+ −1.74+

359.6 −1.72+

|| 28 30 42.3 49.3+
21 40 17 3.6 42.4+
|| 25 20 22 21.0 97.7+ −1.71+
5-1-42

16 23 38+ Martinis.

Mean = −1.68+

4932.6530

1899phae.proj.1365P

Oct 4, 1899.

XVI

Lθa.

	352.4	
11 37 45	43.4	51.0
	173.0	49.4
	222.4	1004 −1.65
	352.4	−1.66
39 00	43.0	50.6
	173.5	49.9
	222.4	99.5 −1.67

RAB.

	263.3	
41 20	311.9	48.6
	80.3	33.5
	133.8	102.1 −1.61
	261.8	−1.61
43 00	313.5	51.7
16.1 05	83.0	50.0
11 40 16	133.0	101.7 −1.61
5 −1− 42		
16 38 34	R.M. Time.	Mean = −1.64
4932.6936		

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1899phae.proj.1365P

Cos. 41 1299.

XVII

R.A.B

2627

(146 00 313.3 50.6+

81.7 47.3+

133.0 101.9+ -1.61+

261.8 -1.62+

47 30 313.2 47.4+

83.1 49.9+

133.0 101.3+ -1.62+

L.A.B.

1733

0215 2234 50.1+

353.7 50.7+

444 100.8+ -1.64+

-1.64+

5 1721

53.30 2229 50.8+

199 15 3528 50.4+

4382 101.2+ -1.63+

11 49 49

5-1-42 m.t.

Mean = -1.63+

16 48 07 Pos Ang Fer A. 212.0

4932.7001+ Impact Wheel reads A System 7.5

" B " 8.6

1899phae.proj..1365P

Oct 5, 1899 (Thursday)

Arnold & Dent			Bond 394		
6	55	46.5	6	54	00
6	56	46.2	6	55	00

Phot. ✓ DM +42° 333 A. W Obs.

19	20	+43.0
20	35	
1	15	

I.

	L & A.		
	178.4		Ledgered.
7 28 00	220.2	41.8	
	356.3	42.1	Plotted.
	38.4	83.9	-2.08

	179.6		-2.13
30 00	219.4	39.8	
	357.0	40.8	
	37.8	80.6	-2.18
	R. 13.		4933.5207
	88.4		4933.
33 15	128.5	40.1	
	267.4	41.8	
	309.2	81.9	-2.14

	87.1		-2.13
35 35	128.9	41.8	
120 50	267.6	40.8	
7 31 42	308.4	82.6	-2.12
5 -1- 46			
1229 56	S. M. T.		Mean = -2.13

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1899phae.proj.1365P

Oct. 5, 1899

II

R & B

88.2

7 41 00 | 12 46 | 40.4 ✓
| 26 68 | 81.5 ✓
| 308.3 | 81.9 ✓ | −2.14 ✓

86.8 | −2.16 ✓

44 30 | 28.4 | 41.6 ✓
| 268.1 | 38.9 ✓
| 307.0 | 80.5 ✓ | −2.18 ✓

L. & A.

358.6

47 30 | 96.3 | 37.7 ✓
| 178.6 | 37.5 ✓
| 216.0 | 75.2 ✓ | −2.34 ✓

358.4 | −2.35 ✓

49 55 | 36.0 | 37.6 ✓
22 55 | 179.9 | 36.9 ✓
7 45 44 | 216.8 | 74.5 ✓ | −2.36 ✓
5-1-46

12 43 58 + Gr. M.T. | Mean = −2.26 ✓

4933.5306

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1899

L & A.

III

0.2

7 55 30	35.3	35.1 ✓	
	181.0	34.9 ✓	
	215.9	70.0 ✓	−2.51 ✓
	359.4		−2.50 ✓
58 45	35.3	35.9 ✓	
	181.4	34.6 ✓	
	216.0	70.5 ✓	−2.49 ✓

R. A. B.

8 02 05	269.4		
	305.0	35.6 ✓	
	89.8	36.3 ✓	
	126.1	71.9 ✓	−2.44 ✓
	269.4		−2.46 ✓
03 45	305.3	35.9 ✓	
240 05	90.8	35.3 ✓	
8 00 01	126.1	71.2	−2.47 ✓

5 − 1 − 46

13 58 15 G. M. Time. Mean = 2.48 ✓

4933.5404

Alt in previous groups too high.
Observations difficult.

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1899phae.proj.1365P

Oct. 5, 1899.

Phot. I. Eraskis Variable. W Cet.

20 8 +46 3

21 30

1 22

I

Left.

61.1 <comp class dia.

f 23 30 154.1 93.0 ✓

242.7 90.3 ✓

333.0 153.3 ✓

176.7 ✓ − 0.06 ✓

Plotted.

Ledgered.

60.9

26 20 151.6 90.7 ✓ − 0.06 ✓

2 241.3 91.7 ✓

332.0 142.4 ✓

179.6 ✓ − 0.05 ✓

Right.

333.1

30 15 61.9 88.8 ✓

153.0 88.3 ✓

241.3 177.1 ✓ + 0.05 ✓

333.8 + 0.10 ✓

32 50 59.8 86.0 ✓

11 2 55 154.8 86.7 ✓

A 28 16 241.5 177.7 ✓ + 0.14 ✓

5-1-46

13 26 30+ G.M. Time. Mean = + 0.02 ✓

4933.5600+ ✓

4933.3652+

+ 0.1948+

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1899phae.proj.1365P

Oct. 5, 1899.

Right II

333.2

8 36 30 62.0 88.8 ✓

153.5 89.1 ✓

242.6 177.9 ✓ +0.04 ✓

333.8 +0.01 ✓

40 05 62.0 88.2 ✓

150.8 93.0 ✓

243.8 181.2 ✓

178.8 ✓ -0.02 ✓

Left.

242.3

44 05 334.2 91.9 ✓

60.3 94.9 ✓

155.2 186.8 ✓ -0.13 ✓

173.2 ✓

239.3 -0.21 ✓

47 10 335.9 96.6 ✓

167 50 59.1 98.7 ✓

8 41 58 156.2 195.3 ✓

5 -11 -46 157.8 164.7 ✓ -0.29 ✓ mean -0.10 ✓

13 40 22 Stars growing very faint in last group.

4933.5697 *

4933.3652 +

+0.2045 +

Clouds.

Alt in previous groups very high.

Obs difficult.

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1899phae.proj.1365P

Oct. 5, 1899.

9 05 Thickly Cloudy Dark invisible III
9 50 Clearer
Left.

	239.8	98.V ✓	
9 53 30	335.3		
	59.3	97.V ✓	
	156 A	1960 ✓	
		16K.0 ✓	-0.30
	238.4	98.V ✓	
56 00	336.9		-0.35
	57.2	1027 ✓	
		2012 ✓	
	159.9	1V8.A ✓	-0.40
	Right		
	146.9		
59 40	246.8	99.9 ✓	
	330 #1	97.9 ✓	
	66.0	19V.A ✓	
		16K.2	-0.30
	148.7		
10 02 15	2461	97.K ✓	-0.29
231 30	328.2	97.3 ✓	
9 57 52	65.5	19K.7 ✓	
5-1-46		16V.3 ✓	-0.28
			Mean = -0.32

14 56 06 Sec M. Time.
4933622.3+
4933365.2+
+0.2571+

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1899phae.proj.1365P

Oct. 5; d=99.

Right; IV

147.1

10 06 35 Clouds thicken

246.2

330.0

66.1

Cloud thicks Stars gone.

141 IV

Impossible to continue on Ceraskis Var.

Pos ang = Ver. A. 101°8.

Sprocket wheel reads 9 5 A System

" " " 10 5 B System

1 Octs.

Dist R. 26 12 -3.6 N Obs.

24 00

2 12

9 48

11 0000 Impossible to get 0 Octs: too Cloudy

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1899phae.proj.1365P

Oct 7 1899. Saturday

Arnold & Dent.
5 56 54.2
5 57 54.2

Bond 394
5 55 00
5 56 00

Phot. Y. N. Coronae W Obs.
15 05 +339
19 30
4 22

L.A.C.
350.0 Var. dis.
619 20 46.8 55.8+
~~168.2~~ 60.7+
168.2 116.5+ −1.27+
225.9

I.
Reduced
Plotted.

345.5 −1.20+
21 15 47.8 62.3+
168.2 59.9+
220.1 122.2+ −1.14+

R.A.C.
~~320.0~~
24 ~~30~~ 76.3
77.6
25 30 138.7 61.1+
256.1 65.2+
321.3 126.3+ −1.06+
74.3
28 00 140.4 66.1+ −1.02+
~~5~~ 25 256.3 63.3+
94
6 23 36+ 319.6 129.4+ −0.99+

Mean = −1.11+

6 23 36+
5 − 1 − 05+
11 21 42+ Gr M T mn.
4935.4734+
+4935.4529+
+0.0205+

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1899phae.proj.1365P

Oct 7, 1899.

II

		R MB.		
		77.0		
6	32	15	140.0	63.0
			255.6	65.7
			321.3	128.7 — 1.00
			74.0	— 1.00
34	26		141.3	67.3
			257.0	61.3
			318.3	128.6 — 1.01
				Mean = 1.06
		L.Oa.		
			348.8	
37	30		48.2	59.4
			166.1	63.2
			229.3	122.6 — 1.14
			346.6	— 1.13
39	30		49.8	63.2
23	40		168.1	60.2
6	35	55	228.3	123.4 — 1.12
5	1	54		
11	34	01	Sr Mtings.	

4935.48 19
4985.45 29
+0.0290

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1899phae.proj.1365P

Oct. 7, 1899

III

L Q a.

3 48.7

6 44 50 48.2 59.5
167.2 61.1
228.3 120.6 -1.12

3458 -1.14

47.00 49.6 63.8
166.9 60.9 -1.09
2278 124.7 ~~1.10~~

mean = -1.11

R.A.B.

5 44 30 ~~256.0~~ 72.9
~~50 13~~ 54.0 140.0 67.1
~~760~~ 255.3 65.7
~~745.7~~ 321.0 132.8 -0.92
~~139.3~~

5 6 20 ~~256.6~~ 74.8 -0.96
~~54 05~~ 320.4 140.8 66.0
202 40 256.7 62.8
6 00 40 319.5 128.8 -1.00
5-1-54

11 48 46 Mn. m. Time.
4935.4923
4935.4529
+0.0394

~~mean = -1.04~~

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1899phae.proj.1365P

Oct 7, 1899.

IV

R HB

74.2

7 02 15 170.0 65.8'
256.0 64.4'
320.4 130.2' -0.97'

74.5 -0.95'

03 10 141.1 66.6'
255.1 65.9'
321.0 132.5' -0.93'

L HB

345.1 Mean = -0.98Å

04 55 49.6 64.5'
167.2 63.2'
230.4 127.7' -1.03'

345.0 -1.00'

11 50 49.5 64.5'
165.0 66.1'

2A 10 231.1 130.6' -0.99'

7 07 02'
5 - 1 - 54

12 05 08 H. M. Twin.

4935.5036'
4935.4529'

+0.0507'

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1899phae.proj.1365P

Oct. 7. 1899.

V

L.A.

3434
7 19 16 51.4 6.50"
16 5.9 6.45"
230.4 13.25" − 0.93"

3447 −0.94"
21 43 51.2 66.5"
165.1 65.6"
230.7 132.1" −0.94"
R & B.

mean = −0.86"

2537
24 45 3242 7.05"
73.1 67.9"
1410 138.4" −0.71"

253.2 −0.78"
27 30 322.3 69.1"
9310 70.5 71.5"
7 23 18 142.0 140.6" −0.76"
5-1-54

1221 24 R. M. Tunis
4930 5149
4935.4529
0.0620

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1899phae.proj.1365P

Oct. 7, 1899

VI

R Hβ.

	2089		
7 23 30	323.7	72.8	
	71.5	70.7	
	142.2	143.5	−0.70
	253.8		−0.71
36 10	324.0	71.2	
	70.9	71.7	
	142.6	142.9	−0.72

L A α:

Mean = −0.78

	1641		
38 10	231.8	67.7	
	343.9	69.1	
	53.0	136.8	−0.54
			−0.54
			−0.78
	164.9		
41 25	231.6	66.7	
149 15	343.2	70.2	
7 39 19	53.4	136.9	−0.54
5−1 −52			
1235 25	Mr M. Time		

4935.5246

4935.4529

+0.0717

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1899phae.proj.1365P

Oct 7, 1899.

VII

L & A

165.3

~~8 03 35~~ 232.3 67.0'

3433 69.3'

52.6 136.3' − 0.85'

164.3 − 0.82'

05 45 2334 69.1'

341.3 70.0'

51.3 139.1' = 0.79'

R.P.B.

699 Mean = − 0.71'

05 15 1459 76.0'

251.8 72.8'

324.6 148.8' − 0.60'

0.60'

70.0

10 00 144.2 74.2'

2833 253 74.8'

8 07 09 325.3 148.2' − 0.61'

5 − 1 − 54

13 05 15 Mn. Time

4935.3452+

4935.4529+

+ 0.0923+

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Geo. 71 1899

VIII

R.A.B.

68.8

8 13 00 1439 75.1
2552.0 71.3
3233 146.4 -0.65

71.6 -0.65

16 05 1440 72.4
251.2 73.6
324.8 146.0 -0.65

Log

3424 Mean -0.74

19 10 53.7 71.3
1663 66.9
2333 138.2 -0.51

3440 -0.82

22 55 53.2 69.2
71 10 1654 67.6
8 17 48 2330 136.8 -0.54
75 -1 -54

13 15 54 M.T.

4935.5527
4930.4529
0.0998

1899phae.proj.1365P

Oct. 7 1899

IX

L & R

342.6

8 27 30 53.9 71.3"

164.6 70.5"

235.1 141.6" -0.74"

343.0 -0.78"

29 30 54.3 71.3"

165.1 66.9"

232.0 138.2" -0.81"

Mean = -0.75"

R. & B

253.3

33 10 324.4 71.1"

72.6 71.3"

143.9 142.4" -0.73"

252.8 -0.72"

35 20 325.0 72.2"

125 30 72.0 71.1"

8 31 22 143.1 143.3" -0.71"

5-1-24

13 29 28 Mt. Hamilton.

4935.5622"

4935.4529

+0.1093"

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1899phae.proj.1365P

Oct. 7, 1899.

X

R. + B.

		251.3		
8	43 10	324.1	72.8	
		72.6	70.5	
		143.1	143.3	−0.71
		252.4		0.74
46	30	323.1	70.7	
		72.9	70.0	
		142.9	140.7	−0.76
		La.		
		164.2		
50	10	232.3	68.1	
		340.4	69.3	
		52.7	137.4	−0.83
		165.4		0.84
53	00	233.4	68.0	
192	50	344.0	67.8	
8	48 12	51.8	135.8	−0.86
5	−1 −54			
13	46 18	Gr. M. Time.		
		4935.5738		
		4935.4529		
		~~+0.1209~~		
		+0.1209		

Mean = −0.79

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1899phae.proj.1365P

Oct 7, 1899.

XI

	Lyra		
	167.1		
8 58 15	230.8	63.7	
	348.8	69.5	
	353.3	133.2	-0.91
			-0.88
	165.3		
9 01 05	232.8	67.5	
	345.6	68.3	
	-52.9	135.8	-0.56
	R+B.		Mean = -0.84
	72.0		
03 50	142.6	70.6	
	253.6	69.3	
	322.9	139.9	-0.78
			-0.80
	73.9		
06.30	142.4	68.5	
249 40	253.4	69.3	
9 2 25	322.7	137.8	-0.82
5 -1 -54			
14 00 31	M.m. Time		
4933.5836			
4933.4529			
+0.1307			

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1899phae.proj.1365P

Oct. 7, 1899.

XII

	R.A.S.		
	72.8		
9 05 40	142.9	70.1	
	253.8	68.4	
	322.2	138.5	-0.50
	73.5		-0.50
10 50	142.2	68.7	
	253.5	69.3	
	322.8	138.0	-0.51
	L & Q.		
	345.6		Mean = 0.85
12 40	50.2	64.6	
	164.9	66.8	
	231.4	131.4	-0.95
	345.1		-0.96
15 10	51.6	65.9	
4 7 20	165.6	64.2	
9 11 50	229.8	130.1	-0.95
5 -1 -54	M.T.		
14 09 56	M.T.	Shutter slightly interferes at end of groups	
4936.5902			
4935.4529			
+0.1373			

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1899phae.proj.1365P

Oct 7, 1899

XIII

	L+A.		
	3465		
9 25 00	51.5	65.0	
	167.8	62.1	
	229.9	127.1	−1.04
			−1.02
	345.4		
27 50	52.1	66.7	
	167.2	62.5	
	229.7	129.2	−1.08
			Mean = −0.96
	R+B.		
	2505		
32 00	32.3	65.4	
	73.9	68.4	
	142.3	133.8	−0.90
			−0.91
	2563		
3525	3218	66.5	
~~47~~ 15	750	66.2	
120	141.2	132.7	0.92

9 30 04
5 − 1 − 54 Sprocket wheel reads A. System 8.7
14 28 10 Sid. Time. " B " 9.5
4935.6029 ~~5~~
4935.4529
+0.1500

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1899phae.proj.1365P

Obs. 7.18.99

~~T. Cas~~

Exam of comp stars for ~~R.C.~~ T. Cassiop

24 17 +50.2 WOB.

23 07

1 10

10 50.

Location of comp star ~~1~~ near T. Cassiop. WOB

~~23~~ Pos. Zero = 56.8 57.3

45.0 45.0

11.8 12.3

23 33 42.2 ~~0.7~~ P'

34 ~~02.0~~ P'

7.2

34 ~~7.5~~ Bright star

35 8.2 Bright Star

35 36.0 P'

35 35.5 P'

36 01.0 Bright. star

37 01.7 -.2 Bright star

37 27.5 P'

37 47.0 P'

37 53.0 Bright star

38 53.6 +.3 Bright star

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1899phae.proj.1365P

Oct. 7, 1899

23 39 43.5 -.2 P'
40 25 P
40 8.2 -.3 Bright Star
41 9.3 Bright Star

23 42 07. -.2 P'
42 26.2 P'
42 32.0 Bright Star
43 32.8 +.1 Bright Star.

Both P' and Bright Star in southern half of square in all the transits.

The above transits are to locate comp. star P' with reference to the bright 8th magn Star near T. Cassiop. slightly following it and a little north of it

Transits on next page to locate P' with reference to Var. (T Cassiop.) instead of bright star.

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1899phae.proj.1365P

Oct. 7/1899.

23 45 54.0 p'
49
44 13.0 Var.
49
44 36.0 -.1 p'
50
40 25.2 Var

50
23 45 45.0 -.1 p'
51
46 06.7 -.3 Var
51
46 29.5 p'
52
47 22.5 Var.

53
23 44 27.8 p'
53 47.0 Var.
46 54 p' Reset last
49 55 10.0
50 2.6

23 55 32.5 -.2 p'
55 51.2 Var.
56 14.5 p'
57 6.7 Var

~~All Var~~ p' and var in southern half
& square.

New pos. para. (and a slightly better one) and transits repeated, on next page.

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1899phae.proj.1365P

Oct. 7, 1899

Transits to locate p' with reference to Var.

Pos. Zero = 5 45.4

45.0

1 3.4

0	0[illegible]	54.7	-.2	p'
	09	13.2		Var
	09	43.7		p'
	10	36.0		var
0	11	11.0	-.3	p'
	11	30.2	-.1	Var
	12	00.0	-.2	p'
	12	02.2	-.4	Var.
0	13	20.[illegible]		p'
	13	40.0	-.1	Var
	14	10.0	-.1	p'
	15	02.0	-.1	Var

p' and Var in southern half of square.

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1899phae.proj.1365P

Oct. 7, 1899.

Plot: R. Cato W Obs.

2 12 -36

0 22

1 50

10 10

R & A.

126.6

139.4 12.8

307.7 10.8

318.5 21.6 - 5.12

Ledgered.

Plotted.

11 10.5

127.5 -5.05

138.9 11.4

306.6 11.7

318.3 23.1 - 4.98

L & B.

~~36.6~~ 37.0

~~48.0~~ 48.5 11.5

218.6 9.1

227.7 20.6 - 5.23

38.0 -5.19

11 15.6 48.1 10.1

9.1 213.3 11.2

11 14.6 228.5 21.3 - 5.10

5 -1.9

16 12.7 M. Time

Mean = -5.12

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1899phae.proj.1365P

Oct 7, 1899.

Same Again.

	L & B			
	36.9			
11 21.6	48.5	11.6		
	218.0	9.9		
	227.9	21.5	−5.13	
				−5.14
	37.7			
	48.2	10.5		
	217.2	10.9		
	228.1	21.4	−5.14	
				Mean = −5.05
	R. & A.			
	307.0			
	318.9	11.9		
	127.8	10.8		
	238.6	22.7	−5.01	
				−5.01
	307.7			
11 30.0	318.7	11.0		
51.6	126.9	11.7		
11 25.8	238.6	22.7	−5.01	
5 −1.9				
16 23.9	Mean Time.			

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1899phae.proj.1365P

Oct. 10, 1899 (Tuesday)

Arnold & Dent. Bond 394

6 52 03.0 6 52 00.0

6 53 03.0 6 53 00.0

Phot. T. Nova Sagittarii. W 062.

15 52 -13.0

20 48

above 1 56

~~R 3.0~~

Plotted.

181.8

7 32.4 217.6 35.8 + < comb standard.

1.3 34.2 +

35.5 70.0 + + 2.51 +

Ledgered.

180.7 + 2.50 +

215.3 34.6 +

359.7 35.7 +

35.4 70.3 + + 2.50 +

Below.

88.1 mean = + 2.27 +

130.2 42.1 +

268.1 43.5 +

311.6 85.6 + + 2.03 +

88.5 + 2.04 +

7 45.2 129.6 41.1 +

77.6 267.5 43.5 +

7 38.8 + 311.0 84.6 + + 2.06 +

0 0

12 38.8 + Gr. M. Time.

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1899phae.proj.1365p

Oct. 10 1899.

~~Same Again~~

Moon too bright for another group on the nova. ~~B~~ Can probably be taken another night when moon is not near region, setting rather difficult but thought to be good.

Sprocket Wheel reads 9.6 A System
" " 1. 10.5 B System.

10 hr. +42° 3338. New Phot. Var.
Phot T. W Obs.

19	20	+430
21	35	
2	15	

Cap of 9.5 inches used on following groups on DM 3338.

See next page for measurements.

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1899phae.proj.1365P

Oct. 10, 1899.

DM 42° 3338

I

L & A.

353.7

Ledgered

8 10 30 42.4 Var dis ~~48.7~~ 48.7+

1748 48.5+

223.3 97.2+ -1.73*

Plotted.

353.6 -1.74*

13 00 42.2 48.6*

174.9 48.2*

223.1 96.8* -1.74*

R & B. Mean = -1.65*

263.0

16 13 314.9 51.9*

81.9 51.7*

135.6 103.6* -1.52*

265.9 -1.56*

18. 45 316.0 50.1*

18 30 82.7 51.3*

8 14 38* 135.0 102.4* -1.60*

5 -03

13 14 35* Gr. M. Time.

4938.5518*

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1899phae.proj.1365P

Oct. 10, 1899.

II.

R Ψ B.

	262.6			
8 26 55	315.9	53.3		
	82.7	51.4		
	134.1	104.7	-1.54	
	263.5		-1.52	
29 05	316.9	53.4		
	81.4	52.8		
	134.2	106.2	-1.51	

L Ψ A.

Mean = -1.60

	175.4			
32 00	223.9	48.5		
	353.4	49.4		
	42.8	97.9	-1.71	
	173.5		-1.69	
84 20	223.3	49.8		
122 20	353.9	49.7		
8 30 35	43.6	99.5	-1.67	
5 -03				

13 30 32 G.M.Time.

4938.5628

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1899phae.proj.1365P

Oct. 10, 1899.

III

L.R.

		174.3		
8	39 00	224.9	50.6 *	
		353.23	49.7 *	
		43.0	100.3 *	−1.65 *
				−1.68 *
		174.4		
41	25	223.2	48.8 *	
		353.3	49.3 *	
		42.6	98.1 *	−1.70 *

R. & B.

Mean = −1.63

		82.8		
43	50	133.7	50.9 *	
		262.8	51.1 *	
		313.9	102.0 *	−1.61 *
				−1.58
		82.3		
46	15	135.1	52.8 *	
17	30	262.9	57.1 *	
8	42 38 *	314.0	103.9 *	−1.56
5	−03			
13	42 35 *	Gr. M. Time.		
49	38.5	712 *		

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1899phae.proj.1365P

Oct. 10, 1899

IV

R & B.

82.4

8h 50m 45s 133.6 51.2*

262.5 52.1*

314.6 103.3* -1,5A*

82.6 -1,5A*

53 45 135.2 52.6*

263.1 50.7*

313.8 103.3* -1,5A*

L & A.

354.4 Mean = -1.67*

56 25 42.2 47.8*

174.8 48.5*

223.3 96.3* -1.75*

353.9 -1.76*

58 25 42.9 49.0*

19 20 174.50 46.7*

8h 54 50s 221.7 95.7* -1.76*

5 -03

13 54 47 Gr. M. Time.

4938.5798*

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1899phae.proj.1365P

Oct. 10, 1899.

V

L & A.

3551

9 04 50	43.8	48.7	
	175.2	48.3	
	223.5	97.0	−1.73
	353.9		−1.72
07 30	42.0	48.1	
	175.8	45.2	
	221.0	93.3	−1.83

R & B.

Mean = −1.70

2638

10 35	312.2	48.4	
	82.0	37.6	
	133.6	100.0	−1.66
	262.5		−1.62
13 40	314.0	51.5	
36 35	83.5	51.1	
9 09 09	13.346	1026	−1.59
5 − 3			
14 09 06	Gr. M. Time.		
4938.5297			

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1899phae.proj.1365P

Oct. 10, 1899

VI.

R & B.

~~L & A.~~

265.0

9 18 35 311.2 46.2*

84.0 47.6*

131.6 93.8* -1.81*

-1.79*

265.9

22 20 313.0 47.1*

83.6 48.5*

132.1 95.6* -1.77*

Mean = -1.87

L & A.

175.8

26 30 221.2 45.4*

356.2 44.1*

40.3 89.5* -1.93*

-1.95*

176.8

29 45 279.8 43.0*

356.0 45.0*

9 24 18* 41.0 88.0* -1.97*

5 -03

14 24 15* Gr M Time

4938.6001*

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1899phae.proj.1365P

Oct. 10, 1899.

VII

		L + a			
		177.9			
9	34	40	221.6	43.7	
			357.4	41.6	
			39.0	85.3	-2.04
			177.6		
37	05		218.9	41.3	-2.04
			357.4	41.2	
			38.6	82.5	-2.12
		R + B.			Mean = -2.05
		86.9			
42	10		131.0	44.1	
			267.9	41.6	
			309.5	85.7	-2.03
			86.3		-2.02
45	10		130.3	44.5	
159	05		266.9	43.0	
9	39	46	309.9	87.0	-2.00
5		-03			
14	39	43	Gr. M. Time.		
4938.6109					

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1899phae.proj.1365P

Oct. 10 1899.

VIII

R & B

85.4

9 48 30 130.9 45.5 "

269.6 39.0 "

308.6 54.5 " -2.06 "

87.3 -2.10 "

51 40 128.6 41.3 "

268.0 41.0 "

309.0 82.3 " -2.13 "

L & A.

Mean = -2.22 "

358.3

54 15 38.6 40.3 '

181.1 36.3 '

217.4 76.6 " -2.30 "

-2.35 "

10.3

56 50 37.1 36.8 '

211 15 180.4 36.6 "

9 52 49 217.0 73.4 " -2.40 '

5 -03

14 52 46 G.M. Time.

49 38.6200 "

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1899phae.proj.1365P

Oct. 10, 1899.

IX

	L & a.	
	1.4	
10 00 45	37.7	36.3 *
	181.6	35.3 *
	216.9	71.6 * −2.45 *
	1.0	−2.45 *
02 30	36.9	35.9 *
	180.9	35.9 *
	216.8	71.8 * −2.45 *
	R & B	
	270.4	Mean = −2.40 *
05 15	307.1	36.7 *
	89.0	38.2 *
	127.2	74.9 * −2.35 *
	271.0	−2.34 *
08 30	306.9	35.9 *
17 00	88.9	39.2 *
10 04 15 *	128.1	75.1 * −2.34 *
5 −	−03	
15 04 12 *	M. M. Time.	
4938.6279 *		

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1899phae.proj.1365P

Oct. 10, 1899.

X

R.A.B.

	269.3		
10h 30	309.4	38.1 *	
	90.2	36.3 *	
	126.5	74.4 *	−2.36 *
	269.6		
15 30	306.9	37.3 *	−2.34 *
	89.0	38.2 *	
	127.2	75.5 *	−2.38
	Z.D.A.		
	181.8		Mean = −2.42
19 40	217.2	36.0 *	
	−0.7	34.6 *	
	35.3	70.6 *	−2.49 *
			−2.50 *
	181.3		
22 00	215.8	34.5 *	
	1.0	35.3 *	
7h 8 40s		69.8 *	−2.51 *
10 17 40	36.5		
3 −23			
15 17 37 *	Gr. M. Time		
4938.6372 *			

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1899phae.proj.1365P

Oct. 10, 1899.

XI

L. Obj.

181.9

10 38 30 216.5 34.6*

0.0 35.8*

35.8 70.4* -2.49*

181.3 -2.50*

33 40 216.4 35.1*

0.6 34.9*

35.5 70.0* -2.51*

R.A.B.

90.7 Mean = -2.43*

36 05 128.2 37.5*

270.6 36.8*

307.4 74.3* -2.37*

88.9 -2.36*

39 25 126.5 37.6*

20 40 270.7 37.6

10 35 10* 308.3 75.2* -2.34*

5 -03

15 34 07* Gr. M. Time.

4938.64877*

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1899phae.proj.1365P

Oct. 10, 1899

Cap removed.

XII

	R & B.		
	~~97.8~~		
10 ~~5~~ 600	128.3		
	268.3		
	Clouds.		
	Star dim.		
~~40~~	Stars almost invisible.		
	~~88~~.3	Delayed by clouds	
11 11 40	126.9	35.6*	
	269.2	38.2*	
	307.4	76.8*	-2.29*
	~~2~~		
	884		-2.26*
13 40	127.5	39.1*	
	269.2	39.5	
	308.7	78.6*	-2.24*
	L.D.A.		
	359.1		Mean = -2.26*
15 30	32.4	39.3*	
	~~180~~ 179.6	38.3*	
	217.9	77.6*	-2.27*
	359.9		-2.25*
15 50	38.9	39.0*	
11 19 40	~~180~~ 178.9	39.8*	-2.23
11 14 55*	218.7	78.8*	4932.6770*
5 -03			
16 14 52*	Eq. M. Trans.		

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1899phae.proj.1365P

Oct 10, 1899

Last group taken through increasing cloudiness and fog. Stars varying somewhat relatively settings a little uncertain but much care exercised in making them. Groups thought probably not to have quite full weight. ½ wt.

Pocket Wheel read. A system p.5
" " B " Eb

Poz. ang = Ver A = 214°.3

11 30 Object glass a little dewed.

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1899phae.proj.1365P

Oct. 11, 1899. (Wednesday)

6 30 Cloudy

7 00. "

7 30 "

8 00 cloudy

a little clearer.

Phot. 29m 3338 W Ote

19 20 +430

21 40

2 20

Full aperture used tonight.

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1899phae.proj.1365P

Dec. 11, 1899.

20m 42° 3338

Clouds.
Loca.

I.

354.9.

8 42 00 42.1 47.2
1744 49.0
2234 96.2

353.9

45 30 41.9 48.0
1748
22. Clouds thicker.
R & B

Pos. Angle. Ner. a = 214.3°

Sprocket Wheel reads A system 76
" " " B " 86

Impossible to finish group; sky very thickly clouded, storm coming; seven settings made very different and somewhat uncertain on account of clouds.

9 00

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1899phae.proj.1365P

Oct. 12, 1899 Thursday.

Arnold & Dent			Bond 394		
7	00	12.2	7	00	00
7	01	12.4	7	01	00

Exam of position of faint comp. stars δ Bootis.

14	16	+54.6
21	00	
6	44	

W. Ob.

Too much moon and fog. Altitude a little low. faint stars cannot be taken tonight
Location of faint comp. stars for R Cassiop.

23	51	+ 49.6	W Ob.
21	17		
2	34		
9	26		

Star B thought to be seen once in a while with 270 power. Impossible to do anything in way of transits.

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1899phae.proj.1365P

Oct. 12, 1899

Location of faint comparison stars for R Ursa Min. WOb

16 33 +72.9
21 43
5 10

Pr Zero = ~~26.9~~ 27.0
45.0
72.0

22 32 ~~37~~ 51.4 a
32 ~~37~~ 52.5 var
33 ~~38~~ 37.0 b
34 ~~39~~ 40.0 var
~~39~~ ~~57.0~~
35 14.1 b
~~36~~ ~~13.0~~ ~~a~~
~~36~~ ~~14.0~~ ~~var~~

22 38 57.0 a
38 54.0 var
39 43.0 b
40 47.0 var
41 04.5 a
41 21.2 b

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1899phae.proj.1365P

~~Dec.~~ 12, 1899.

Var, a, and b, all in southern half of square.

22	45	35.0	var
	46	24.0	var
	46	32.2	n
	46	55.0	n
22	~~47~~ 48	14.0	var
	49	7.0	var
	49	11.0	-.5 n
	49	87.2	n
22	51	03.7	-.5 var
	51	52.2	var
	52	00.0	n
	52	27.0	-.7 n

Var. in northern half inside square
star n in southern half outside square.

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1899phae.proj.1365P

Oct. 12, 1899.

R Ursa Min. Continued

22	57	41.0	-.8	n
	58	12.7	-.3	m
	59	35.0		n
23	00	1.9		m
~~23~~	~~04~~	~~43.0~~		~~n~~
	~~05~~			
23	06	11.2	+.3	n
	06	45.0		m
	08	05.0		n
	08	32.1	-.5	m
23	09	22.0		n
	09	53.5	-.4	m
	11	16.9		n
	11	41.3		m

Star n in northern half.
Star m in southern half.
Both n and m inside of square.

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1899phae.proj.1365P

Oct. 12, 1899.

R Ursa Min Continued.

23	16	37.0		x
	18	~~11.~~ 6.1		x
	18	59.5	-.3	m
	20	16.5		m

23	21	14.5		x
	22	46.0	-.5	x
	23	37.0	-.2	m
	24	53.5		m

~~23~~ Star x in southern half; star m in northern half: both inside square.

23	35	22.0	-.5	m
	36	43.0	-.3	y
	37	46.0	-.3	m
	38	54.5		y

23	39	32.0		m
	40	52.0	-.2	y
	41	54.2		m
	43	04.9	-.3	y

Star m in northern half: y in southern half: both inside square.

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1899phae.proj.1365P

Oct. 12, 1899.

Location of faint comp. stars for R Camelop.

14	40	14	40	+24.1	
0	00	23	55		
14	37	9	15	14	40
12	00	2	45	24	03
2	37			9	23
				2	37

14	40
24	10
9	30
2	30

Impossible to get transit star.

Phot 7. χ Cygni W Obs

19	45.	+32.6
24	13	
4	28	

See next page for meas.

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1899phae.proj.1365P

Oct. 12, 1899.

χ Cygni.

L & A

	177.3	Comp-star dis.		Plotted.
10 46.4	220.9	43.6		Ledgered.
	354.3	47.2		
	41.5	90.8	+1.89	
	176.9		+1.88	
	220.9	44.3		
	355.1	45.8		
	40.9	90.1	+1.88	

R.M.B.

Mean = +1.78

	83.4		
	132.5	49.1	
	264.4	48.1	
	312.5	97.2	+1.73
	82.1		+1.67
52.3	133.6	51.5	
98.7	262.5	50.6	
10 49.4	313.1	102.1	+1.61

5 - 2

15 49.2 Gr. M. Time

1899phae.proj.1365P

Oct. 12, 1899

Same again.

R + B.

84.4

10 54 00 132.2 47.8

262.3 51.3

314.6 99.1 + 1.68

82.3 + 1.67

132.8 50.5

263.8 49.4

314.2 99.9 + 1.66

L + A. Mean = + 1.74

353.5

42.0 48.5

176.5 45.6

222.1 94.1 + 1.81

353.5 + 1.82

11 01.0 42.4 48.9

115.0 176.9 44.5

10 57.5 221.4 93.3 + 1.83

5 − .2

15 57 3/4 M.T. Pos. angle reads var. A. 203.3°

Sprocket wheel reads. A system (84.5)

" " B system (19.7)

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1899phae.proj.1365P

Oct 8.12, 1899.

Plot R. O Ceto W Obs

2 12 -3.6

0 47

1 20 Plotted.

10 35 Ledgered.

	Left.			
	216.5			
11 13 06	228.9	12.4		
	36.5	11.9		
	45.4	24.3	-4.86	
	216.4		-4.86	
	228.5	12.1		
	36.5	12.2		
	48.7	24.3	-4.86	
	Right.			
	126		Mean = -4.91	
	138.5	11.9		
	306.8	11.4		
	318.2	23.3	-4.96	
	126.6		-4.96	
11 20.00	138.1	11.5		
33.0	306.6	11.9		
11 16.5	318.3	23.4	-4.97	
5 - 2				
16 16.2	G.M. Time.			

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1899phae.proj.1365P

Oct. 12, 1899.
Same again.

Right.

	126.6		
11 22.0	138.4	11.8	
	306.5	12.0	
	318.5	23.8	− 4.91
	126.7		− 4.93
	138.3	11.6	
	306.5	11.8	
	318.3	23.4	− 4.95

Left.

Mean = −4.93

	36.2		
	48.3	12.1	
	216.9	11.4	
	228.3	23.5	− 4.94
	36.4		− 4.93
11 29.4	48.4	12.0	
11.4	216.6	11.7	
11 20.7	228.3	23.7	− 4.92
5 − 2			
16 20.5			

Mean Time

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1899phae.proj.1365P

Oct. 13, 1899. (Friday)

Comp of chronometers.

Arnold	Dent.	Bond
7 00	17.5	7 00 06
7 01	17.5	7 01 00

Comp. Stars for T. Cassiop. W.O.k

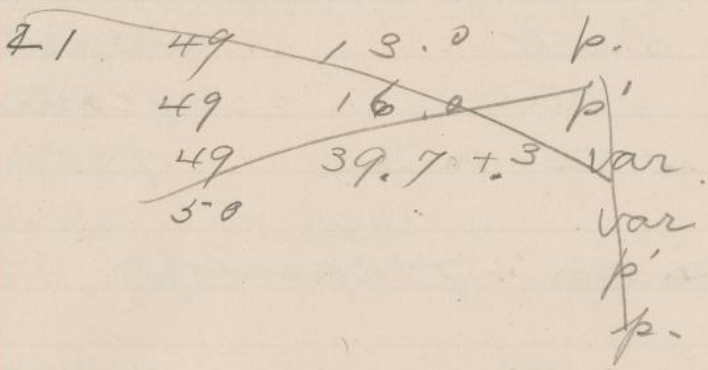
24 12 +65 5.9
21 02
3 10
8 50
Pz Zero = 339.7
45.0
294.7

21	45	15.5	p.
	45	17.5	p'
	45	42.0	var.
	46	29.0	var
	46	31.0	p'
	46	40.5	p.
	47	6.0	p
	47	8.0	p'
	47	33.0 -.7	var.
	48	220	var
	48	240	p'
	48	3[illegible]	p

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21 5 Aql 11.0 p.
5 Aql 13 0 p'
5 Aql 37.7 var.
5 Aql 25.7 var
5 Aql 25.0 p'
5 Aql 36.5 p"

All the above in northern half, inside square.

Star p" can not be taken in transit tonight. With high power 270 there seems to be a faint star which is only visible however by glimpses. This star (p") is not even suspected with ordinary eye-piece and with square-bar.
The above mentioned stars (p' & p") are not comp-stars for T Cassiop. but only stars adjacent to comp star and given merely so that they may

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not be confounded with Comp star b
Star f mentioned above is therefore
not comp star F which latter is one
of the regular sequence.

Comp. Stars for S Cassiop. N Obs.

20h 10m +72.1

22 02

3 2

8 32

0
Poz. Zero = 13 47.9
45.0
113.9

22	32	47.0		a
	33	54.2		b
	33	13.8	-.4	m
	34	18.8		c
	34	22.0		m
	34	43.5		a
	34	46.0		b

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Oct. 13, 1899

Z Z	35	32.5	a	
	35	43.5	b	
	36	01.7	m	
	37	04.5	c	
	37	11.0	m	
	37	33.5	a	
	37	35.2	b	
Z Z	38	37.5	a	
	38	42.2	b	
Z Z	~~39~~	36.5		
	39	40.5		
Z Z	~~40~~	21.0	a	
	40	~~26~~.7	+3. b	
	40	45.0	m	
	41	44.5	c	
	41	56.5	m	
	42	~~18~~.3	a	
	42	20.7	b	
	42	31.7	c	

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22	44	85		a
	44	13.0	+85	b
	44	31.0		m
	45	34.5		c
	45	38.5		m
	46	0.0		a
	46	2.0		b
	46	13.2		c

Only last two sets above to be used.
All the stars in northern half, inside square.

Stars a & b form a rather close double. a is fainter than b, and is rather difficult tonight in transit on account of its proximity to b (which latter is a little brighter) faintness, moonlight and fog.

Star c is much brighter than m
Star c is 8 to 8.5 magn.

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Oct. 13, 1899.

Comp. Star. R Ursa Min. W 66.

16 33 #72.9

23 03

6 30

9 25 Cloudy.

9 45 Cloudy.

9 50 Stopped by clouds and fog.

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1899phae.proj..1365P

Oct. 14. 1899. (Saturday)

Arnold & Dents

5 47 22.5
5 48 22.5

Bond 394

5 47 00
5 48 00

Phot 7. U Coronae W Obs.

19 42 +339
15 5
4 36

Lo a.

	343.0	Variable.	Ledgered.	I
6 04 13	5 29	69.9	Plotted.	
	165.9	63.8		
	229.7	133.7	-0.90	
	346.7		-0.94	
06 00	51.4	64.7		
	166.0	65.8		
	231.8	130.5	-0.97	
	R 9 19			
	252.2		Mean = -0.21	
05 28	326.3	74.1		
	72.3	71.0		
	143.3	145.1	-0.67	
	253.8			
10 03	324.2	70.4	-0.68	
6 28 44	70.8	74.0		
6 07 11				
5 -22				
		144.4	-0.69	
11 06 49				

4942.4631
4942.3573
+0.1058

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Oct 14, 1899.

II

R + B.

~~441.0~~
252.2

6 15 20 323.3 71.1*
72.9 70.6*
143.5 141.6* − 0.74*

254.7 − 0.73*

17 20 324.2 69.5*
72.0 73.1*
145.1 142.6* − 0.72*

Mean = − 0.82*

L + R.

167.6

19 45 230.2 62.6*
341.5 71.3*
52.8 133.9* − 0.90*

166.7 − 0.90*

21 25 231.9 65.7*
7 23 50 344.2 68.0*
6 18 28* 52.2 133.7* − 0.90*
− 22*

11 18 06* G.M. Time.
49942.4709*
49942.3573*
+0.1136

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1899phae.proj..1365P

Oct. 14, 1899.

III

L 9 a.

	3448		
6 27 15	51.0	66.2*	
	165.7	65.3*	
	231.0	131.5*	-0.95*
	341.9		-0.92
28 52	53.6	71.7*	
	167.6	63.1*	
	230.7	134.8*	-0.81*

R 9 B,

	2523		Mean = -0.85*
32 33	324.0	71.7*	
	74.6	68.2*	
	142.8	139.9*	-0.72*
	254.0		-0.78*
34 42	322.0	68.0*	
123 34	72.4	72.0*	
6 30 54	144.4	140.0*	-0.77*
5	-122		

11 30 32* Gr. M. Time.

4942.4796*

4942 3573*

+0122 3*

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1899phae.proj.1365P

Oct. 14, 1899.

IV

R & B

2532

6 40 42 3274 3.9 70.7*

736 68.0*

1416 138.7* −0.80*

2532 −0.79*

43 40 3236 70.4*

739 69.1*

1430 139.5* −0.74*

L & R.

1675 Mean = −0.87

48 23 2309 65.2*

3451 66.3*

571.4 131.5* −0.95*

1676 −0.95*

50 17 2308 63.2*

3445.4 68.2*

18 23 02 3 131.4* −0.95*

6 45 45* 57.6

5 −22

11 45 23* M. Time.

4942.4899*

4942.3573

+0.1326

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Oct. 14, 1899.

V

L & A

~~165.7~~ 168.5

655342	230.9	62.2+	
	346.0	65.7+	
	50.7	127.9+	− 1.02+
	167.0		− 1.01+
56 36	230.4	63.4+	
	346.7	65.3+	
	52.0	128.7+	− 1.00+
	R & B.		
	752		Mean = − 0.96+
59 09	1413	66.1+	
	2555.5	66.1+	
	3216	132.2+	− 0.93+
	747		− 0.91+
7.02 13	143.0	68.3+	
231 ~~40~~	255.8	66.2+	
6 57 55+	322.0	134.5+	− 0.89+
5 − 22			

11 57 33+ G. M. Time.

4942.4983+

4942.3573

+0.1410+

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Oct. 14, 1899.

VI

R & B.

	74.1		
7 0 35	141.1	67.0*	
	256.9	64.7*	
	3213	131.4*	-0.95*
	75.2		-0.93*
12 13	141.4	66.2*	
	255.3	66.9*	
	3222	133.1*	-0.91*

L & A.

Mean = -1.00*

	346.6		
15 29	50.3	63.7*	
	168.1	62.3*	
	230.4	126.0*	-1.06*
	347.2		-1.06*
18 08	51.1	64.9*	
~~3.4~~	45* 16	8.2 61.2*	
7 13 41*	230.0	126.1*	-1.06*

5 -22

12 13 19* G.M. Time.

4942.5092*

4942.3573*

+0:15 19*

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Oct. 14-1899.

VII

ZQC

167.5

7 31 22 231.0 63.5+

347.3 62.2+

49.5 125.7+ −1.07+

169.3 −1.05+

33 15 200.0 60.7+

346.4 63.5+

49.9 124.2+ −1.10+

RTB. Means −1.05+

760

33 33 140.6 64.6+

256.9 64.0+

320.9 128.6+ −1.01+

760 −1.02+

37 55 39.7 63.7+

1808 256.8 63.3+

7 34 32+ 320.1 127.6+ −1.04+

5 22

12 34 10+ Yr M. Time.

4942.5237+

4942.3573+

+0.1664+

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1899phae.proj.1365P

Oct 14, 1899.

VIII

R & B.

76.5

7 47 50 139.4 62.9*

2593 58.4*

317.7 121.3* −1.16*

76.7 −1.17*

50 45 138.6 61.9*

258.9 38.9*

317.8 120.8* −1.18*

L & A

347.5 Means −1.22*

54 35 48.0 60.5*

169.1 59.2*

228.3 119.7* −1.20*

349.0 −1.26*

57 35 47.2 57.2*

210 45 169.9 56.3*

7 52 41* 226.2 113.5* −1.31*

5. −22

12 52 19* Gr. M. Time.

49442.5363*

49442.3573*

+0.1790*

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1899phae.proj.1365P

Oct 14, 1899

IX

	L & a		
	348.6		
8 04 35	48.6	59.7	
	170.0	57.0	
	229.0	116.7	− 1.27
	350.7		− 1.29
07 48	47.4	56.7	
	170.3	58.0	
	228.3	114.7	− 1.31
	R & B		
	261.7		Mean = − 1.30
10 53	317.8	56.1	
	178.1	59.8	
	139.9	115.9	− 1.25
	259.5		− 1.30
14 33	317.1	57.6	
37 49	79.3	56.7	
8 09 27	136.0	114.3	− 1.32
5 22			

13 09 05 G.M. Time.

4942.0480

4942.3573

0.1907

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Oct. 14, 1899.

R+B

~~260~~

Impossible to continue further, moon bright, altitude low.

Pos Aug. reads. Ver. A. 8°.2

Sprocket Wheel = A System 8.7

" " = B System 9.6

Photo. Cracchis Var. W 62

20 & +46.3

2222

214

see next page for meas.

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1899phae.proj.1365P

Oct. 14, 1899.

Cerasis Var.

T.

	Left*	comp stardis.	Ledgered. Plotted.
	267.2		
8 5035	307.6	40.4*	
	344.1	48.2*	
	132.3	88.6*	+1.95*
	263.7	47.6*	+1.22*
5410	311.3	46.7*	
	85.8	94.3*	+1.50*
	132.5		

Mean = +1.92*

	Right*		
5957	177.1		
	220.6	43.5*	
	305.8	43.2*	
	39.0	86.7*	+2.00*
			+1.95*
	176.8		
90400	222.3	45.5*	
22842	354.7	45.1*	
85710	39.8	90.6*	+1.98*

δ -22

1856 48 Mr. M. Twin

4942.5811*

4942.5112*

0.0699*

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1899phae.proj.1365P

Oct. 14, 1899.

II

Right

175.6

9 05 30 222.7 471 ×

354.4 482 ×

426 953 × + 1.77

+ 1.74

175.1

12 25 225.3 50.2 ×

356.6 47.6 ×

41.2 97.8 × + 1.71

Mean = 160

Left.

81.2

16 05 134.9 53.7 ×

260.7 54.5 ×

313.2 108.2 × 1.46

+ 1.46

81.0

9 00 135.4 54.4 ×

56 00 261.6 53.7 ×

9 14 00 × 316.7 108.1 × + 1.46

5 -22 315.3

14 13 35 Sun M. Trans.

4942.5920

4942.5112

+ 0.0808

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1899phae_proj.1365P

Oct. 14, 1899.

III.

Left

A2.0

9 25 35 137.4 55.4'
260.6 55.2'
315.8 110.6' +140'

+1.34'

794

29 35 138.9 59.5'
259.2 56.0'
313.2 115.5' +129'

Mean = +134'

Right

351.4

33 15 [illegible] 53.9'
171.2 56.3'
227.5 110.2' + 141

+1.34'

349.2

37 35 48.1 58.9'
12600 170.6 57.7'
9 31 38 227.5 116.8' +126
5 22 8.5

14 31 08 G.M.T.

4942.6050

4942.5112

+0.0938

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1899phae.proj.1365P

Oct. 14, 1899.

IV

Right

	350.0		
9 43 10	47.0	57.0	
	169.2	58.7	
	227.9	115.7	+ 1.29
	347.1		+ 1.23
47 00	47.6	60.5	
	168.4	60.6	
	229.0	121.1	+ 1.17
	Left.		
	257.2		Mean = + 1.08
51 10	321.0	63.8	
	70.4	66.8	
	142.2	130.6	+ 0.97
	253.8		+ 0.92
53 35	321.5	67.7	
19 4 53	70.0	67.0	
9 48 44 14		134.7	+ 0.95
5 - 22	2.0		

14 48 22 Gr. M. Time.

49 43 24.6170

49 42.5112

0.1058

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Oct. 14, 1899.

V

	Left			
	254.4			
9 55 43	322.5	62.1		
	74.9	67.3		
	142.02	135.4	+0.86	
	254.1			+0.54
10 01 55	322.6	68.5		
	74.8	69.5		
	144.3	138.0	+0.81	
	Right			
	166.1			Mean +0.76
05 35	232.3	66.2		
	344.8	68.2		
	52.5	134.4	+0.79	
	164.0			+0.92
08 05	232.9	68.9		
23 4 20	344.6	66.3		
10 3 35	50.9	135.2	+0.87	
5 - 22				
15 3 13	from Pluto.			
4942.6272				
4942.5112				
+0.1160				

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1899phae.proj.1365P

Oct 14, 1899.

VI

Right

1643

10 14 30	238.6	69.3"	
	346.0	65.0"	
	51.0	134.3"	+ 0.59"
	164.2		+ 0.84"
17 45	234.8	70.7"	
	344.8	69.0"	
	53.0	139.7"	+ 0.74"

Left.

~~(22)~~

	71 5		Mean = 0.72"
21 00	144.2	72.7"	
	252.1	73.1"	
	325.2	145.8"	+ 0.66"
	70.9		+ 0.61"
23 40	146.9	76.0"	
76 55	250.6	75.0"	
10 19 14	325.6	151.0"	+ 0.56"
5 22			
15 14 52"	G.M.T.		
4942.638"			
4942.512			
+0.1269"			

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Oct. 14, 1899.

VII.

Left

70.6

10 26 40 147.0 — 76.4 —

250.6 — 76.8 —

327.4 — 153.2 — +0.51

70.5 — +0.50

25 35 148.8 — 75.3 —

250.7 — 75.3 —

326.0 — 150.6 — +0.50

Mean +0.506

Right

341.6

33 15 5.41 — 72.5 —

162.4 — 73.6 —

236.0 — 146.1 — +0.65

341.0.

~~340.~~

+0.62

36 45 64.8 — 73.8 —

12 50 33 160.5 — 74.8 —

10 31 24 235.3 — 148.6 — +0.60

5 22

15 31 02 4th M. Trans.

49426466

49425112

+0.13543

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1899phae.proj.1365P

Oct. 14, 1899.

VIII

	Right		
	341.0		
10 41 40	53.6	72.6	
	160.7	77.0	
	237.7	149.6	+0.58
	338.6		+0.56
44 50	56.4	77.8	
	161.6	74.6	
	236.2	151.4	+0.55
	Left		
	248.3		Mean = +0.47
45 00	327.0	78.7	
	67.4	80.5	
	147.9	159.2	+0.40
	248.6		+0.82
52 00	338.6	80.0	
18.630	68.1	81.4	
10 46 38	149.5	161.4	+0.35
5	22		
15 46 16	G.M.T.		
4942 6571			
4942.5112			
+0.14599			

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1899phae.proj.1365P

Oct. 14, 1899

IX

Left

	247		
10 57 35	327.6	50.5	
	68.0	45	
	151.5	165.3	+0.27
	246.5		+0.27
11 00 35	328.5	42.0	
	66.2	34	
	149.6	165.4	+0.27

Mean = +0.30

Right.

11 05 25	159.0	70.9	
	239.9	89	
	337.2	161.8	+0.36
	58.1		
	157.8		+0.33
11 09 50	209.4	47.6	
25 20	336.9	82.1	
11 03 21	59.0	163.7	+0.31
3 22			

16 02 59 Sr. M. Time.

4942.662
4942.5112
+0.1576

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Oct. 14, 1899.

X

Right

	156.1		
11 19 00	241.9	85.8*	
	336.6	82.6*	
	59.2	168.4*	+0.22*
	157.7		+0.22*
11 22 50	239.2	Az: 1*	
	334.5	86.7*	
	61.2	168.8*	+0.21*

+0.12*

Mean = +0.12

Left

	68 244.2		
11 29 30	150 332.0	87.8*	
	62.8	91.0*	
	153.8	179.8*	+0.02*
	243.9		+0.01*
11 31 10	33 38	89.9*	
	63.4	89.6*	
	153.9*	179.5*	+0.17

12 30
11 25 38*
5 -22*
16 25 16* Sr-Mi Time.
4942.60 42*
4942 51 12
+0.1730*

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1890phas.proj.1365P

Continued on P. 1. of Book. III.

This Book pertains
to
posting book.

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