KG
11365
610

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1912phae.proj..611W

Aug. 1. 1912.

~~A. Z Cassiop.~~

S Cas. Aug. H. Obs. Brand rec
Full Mp. Phot. T.

12	37	+61.9
17	21	
+4	44	

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1912phaa..proj..611N

August 1, 1912.

I

Left of above
5.0 Comp Star dis.

8-34-55 75.5 70.5
190.9 54.7
245.6 125.2 +1.02

9.8 54.6 +1.06
64.4
181.8 72.2
254.0 126.8 +1.05

Right of below
267.8 +0.1
347.9 61.3
97.5 161.4 +0.75
158.8

277.0 60.2 +0.42

8-42-25 337.2
77 20. 92.4 74.6
A 3A K0. 167.0 134A +0.88
+5 +K
13 3A 4K
9616.56A6

+0.9K
2.21
9.75

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1912phae.proj..611N

August 1, 1912.

II

Right + below
266.2 Δ1.7
8-44-10 347.3
97.4 √Δ.2
155.6 139.3 +0.79

280.8 √6.2 +0.79
337.0 Δ3.0
84.0 139.2 +0.79
167.0

Left and above)
185.8 66.9
257.7 √5.4
10.0 123 +1.14
65.4

189.5 √3.2 +1,16
8-50-45 242.7
94 √√ 4.3 66.7
Δ 47 2Δ. 71.0 119.9 +1.19
+√ +4
13 47 32. +0.98
9616.√747 Δ.81
P.A. 48.5 Verniers B. 9.79
Sky murky and growing more so. Observations of δ Ursa Maj. rather difficult, but much care exercised. Watch 4 secs. slow

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1912phaa..proj..61W

August. 2. 1912. (Friday).

U Ophiuchi. H. obs. Brand rec.
Plat I ~~Fcap.~~
Full Sh.

17 9 +1.4
+23 -1

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1912phae.proj..611N

Aug 2, 1912.

I

Left + below

	184.9 ← Var dis		
8-38-25	253.8	68.9	
	11.7	70.3	
	62.0	119.2	−1.21
	191.9	71.1	−1.14
	246.0		
	1.6	71.9	
	73.5	146.0	−1.06

Right and above

	94.0	66.3	
	160.3		
	264.0	88.6	
	352.6	154.9	−0.48
	79.4	95.8	−0.40
8-45-5	175.2		
	43 30	274.7	66.9
41	41	341.6	162.7
+5	+14		−0.33
	13 41	9	−0.77

9617. 708 P. A. 208.0

Night poor and growing worse.
Cloudy and murky.
Watch 14 secs. slow.

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1912phag..proj..611W

Aug 2, 1912

Right & above

91.0

8-46-40 164.9

Clouds

261.4

353.8

80.0

173.4

274.9

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1912phae.proj..611W

Aug. 5. 1912. (Monday).

U Ophiuchi. F. obs. Brandt
Phot. 7" cap.

17 16	9 11	+1.4
−0	1 A	
+23	42	

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1912phag..proj..61W

Aug. 5, 1912

I

Right + above

265.0 — Var. dis.

7-48-10 347.5 82.5

96.6 62.0

158.6 144.5 — 0.6 Δ

275.6 64.2 — 0.6 ~

340.4

86.0 85.7

171.7 150.5 — 0.57

Left and below

184.7 67.6

252.3

13.6 48.4

62.0 116.0 — 1.2 Δ

193.2 48.7 — 1.2 ~

7-53-45 241.9

101 55.1 1.9 70.0

7 50 54.5 71.9 118.7 — 1.2 ~

+~ +~

12 51 3.

9620.~3~4

— 0.9 4

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1912phae.proj..611W

Aug 5, 1912.

II

Left & below

7-55-45

187.6
255.4 72.8
11.8 ~0.8
62.6 123.6 -1.11

191.7 ~22 -1.12
~43.9
1.4 71.1 -1.12
72.5 123.3

Right and above

88.3 ~2.8
171.1
276.3 60.7
337.0 143 -0.70

96.1 61.2 -0.69

8-1-45

157.3
117 30. 264.8 43.3
7 ~4 ~. 348.1 144 -0.64
+ ~ + ~. -0.90
12 ~4 ~0.
9620, ~409

P.A. ~08,3. Vernier B

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1912phag.proj..611W

Aug. 5. 1912.

S Wm. Maj. Gr. to. Brand rec.
Plat. I. Full Mt.

12 37 +61.9
17 26

~~4 49~~
~~+10 11~~
+14 49

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1912phae.proj..611N

Aug 5, 1912.

I

Left r above

8-37-0

183.5 ← Comp Star dis
251.8
16.5
196.3

r 39.7
12.6
61.4
189.2

Something wrong above. Now start on next page.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1912phae.proj..611N

Aug 5, 1912

I

Left + above

187.0 ← Comp. Stor dist.

8-44-40 255.0 62.0

13.2 +1.2

64.4 119.2 +1.21

197.8 45.7 +1.36

243.5

5.7 60.5

66.7 106.2 +1.51

Right and below

84.5 40.4

164.9

283.2 54.7

337.9 131.1 +0.47

106.2 45.5 +0.96

8-55-5 151.7

99 45.5 264.5 41.1

A 49 2.345.6 126.6 +1.05

+5 +5

13 49 57. P.A. 59.1 Vernier B +1.16

41.1

9.97

(Over)

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1912phae.proj..611W

Aug 5, 1912.

Quite impossible to take a second group on α Ursa Maj. Observations in previous group very difficult, but great care exercised. Sky murky and hazy and images very faint at equilization.

Watch 5 secs. slow.

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1912phae.proj..611W

Aug. 6. 1912. (Tuesday).

U Ophiuchi. H. 65. Brand Sec.
7" cap. Phot. T.

17 9 +1.4
17 10

−0 9
+23 √1

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1912phae.proj..611N

Aug 6, 1912.

I

Right + above

269.9	Var. dis.	
349.0	79.1	
96.8	61.4	
158.6	140.9	−0.76

7-53-40

778.0	63.0	−0.66
341.0		
83.4	47.7	
171.1	150.7	−0.56

Left + below

182.8	75.9	
258.7		
12.0	49.1	
61.1	125.0	−1.04

193.7	51.2	−1.11
244.9		
1.3	70.9	
72.2	122.1	−1.14

8-0-35
114 15.
7 57 4.
+5 +18.
12 59 26.

−0.88

1912phae.proj..611W

August 6, 1912.

II

Left + below

8-7-10

182.3 72.3
254.6
17.1 49.4
61.5 121.7 −1.16

193.7 49.4 −1.13
243.1
0.8 74.9
75.7 124.3 −1.10

Right and above

84.9 49.9
169.8
278.8 50.2
337.0 149.1 −0.71

96.8 61.6 −0.72
8-7-15 158.4
9 25. 266.9 50.7 −0.73
A 4 42. 347.6 149.3
+5 +1A.
13 5 O.P.A. 208.5 Vernier B. −0.92

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1912phae.proj..611W

Aug. 6. 1912.

Wash. Mag. H. obs. Brandrace
Phot. T. Full Mp.

12	37	+61.9
17	31	
+4	6	

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1912phae.proj..611W

Aug, 6, 1912.

I

Left + above

4.8 Comp Standis

8-31-0 70.5 67.7

194.1 44.4

238.5 110.1 +1.42

13.7 46.9 +1.32

60.1

184.5 66.7

251.2 113.6 +1.34

Right and below

275.5 67.9

343.4

103.8 47.4

151.2 115.3 +1.30

285.3 47.5 +1.32

8-37-40 332.8

A 40. 93.5 66.2

A 34 20. 159.7 113.7 +1.33

+V +A.

13 34 34.

+1.35

2.21

10.16

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1912phae.proj..611W

Aug 6, 1912

II

Right and below

	275.0	66.0	
8-40-10	341.0		
	101.4	54.6	
	156.0	120.6	+1.18
	283.0	46.6	+1.20
	329.6		
	90.8	71.2	
	162.6	117.8	+1.23

Left and above

	185.0	69.4	
	254.4		
	14.2	46.2	
	60.4	115.6	+1.29
	193.0	44.1	+1.33
8-48-20	241.1		
22 30.	4.8	64.1	
4 44 N.	68.9	112.2	+1.37
+- 14.			+1.26
13 44 33.	P.A. 48.6 Vernier B		44.1
			10.07

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1912phae.proj..611W

Aug. 6. 1912.

Fourth Type Var. +V 9° 2210.

24	2	+V 4.3
18	20	
−V	×2	
+6	18	

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1912phae.proj..611W

Aug 6, 1912.

Left & about

175.0 Fourth Type dis

9-20-30

264.0 89.0 ✓

359.0 76.5 ✓

95.5 166.0 ✓ −0.27 ✓

183.0 74.7 ✓ −0.28 ✓

257.7

352.8 89.8 ✓

82.6 164.5 ✓ −0.29 ✓

Right & below

78.5

176.2 97.7 ✓

271.0 74.9 ✓

345.9 172.6 ✓ −0.14 ✓

85.0 80.9 ✓ −0.08 ✓

9-26-25 165.9

46 ✓✓ ✓ 260.1 97.7 ✓

9 23 28 ✓ 357.8 172.6 ✓ −0.03 ✓

+✓ +18 ✓ −0.18 ✓

14 23 46 ✓ P.A. 256.0 Ver. B.

Watch 18 secs. slow ✓

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1912phae.proj..61W

Aug. 21, 1912. (Wednesday).

	B+C. 11#2.		B. 394	
6	38	5.4	38	0.0
	39	6.7	39	0.0
	40	0.0	40	0.0

B+C. 11#2 Abandoned for Eclipse.

	Str. 3405.		B. 394	
6	16	40.4	44	0.0
	17	40.5	45	0.0

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1912phae.proj..611N

Aug. 21. 1912.

Reap. Jup. III. Phot. R. W. obs. Brand sec.
Brown 34 V 1 used.

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1912phae.proj..611W

Aug. 21. 1912.

Eastern Time (approximate)

7-25 Clouds a little thinner. Jupiter dimly seen, but no satellites.

7-26 Jupiter invisible again.

7-30 Clouds a little thinner. Jupiter seen and one or two satellites.

7-31 Clouds a little thinner. Jupiter seen and three satellites. Put on Photometer.

Sideral Chronometer.

7-18-20 Jupiter faintly visible in Photometer, but no satellites visible.

7-19-10 Jup. very faintly visible, but no sats.

7-20-50 Jup. a little brighter in Phot., but no sats.

7-21-5 Gone again.

7-22-5 Jupiter invisible in Photometer.

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1912phae.proj..611W

Sidereal Chronometer

August 21, 1912

7-22-50 Jupiter invisible in Photometer

7-25 35 J. seen in Phot. but sats. invisible

7-26-0 Sats. 3 and 1 seen for a moment in Photometer

27-20 J. seen but no sats.

27-30 Gone

27-45 Faintly seen but sats. invisible

28-0 Gone

When sats 3 & 1 were seen for a moment at time indicated above, sat. 3 looked about as bright as sat. 1, so that sat. 3 probably reappeared about on time.

Eastern Time

8-11 It is now nearly a half an hour since theoretical time of reappearance of sat. 3, and this sat. must have been out at full brightness before this. Clouds now thick, evening here.

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1912phae.proj..611W

Aug. 21. 1912.

Eclipse could not be taken, on account of clouds.

1 Use Maj.

Clouds thick. Var. could not be observed.

~~Last.~~ Mr. Braun's watch probably abt 1 minute fast. His watch used for times in the margin. Braun's watch 1m 11s fast, by comparison

Fr. 3451.

d	1	4.0
d	2	5.2

B.F 394.

d	28	0.0
d	29	0.0

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1912phae.proj..611N

Aug. 23. 1912. (Friday).

S Ursæ Maj. W. obs. Brandrac.
Phot. I.

12	37	+6,9
20	42	
+4	5	

11h 0m Sky ~~too~~ murky, hazy and rgn becoming cloudy. Moon also pretty bright.

Variable abandoned.

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1912phae.proj..61W

Aug. 30. 1912. (Friday)

S Ursae Maj. Kr. ds. Brgt rec.
Phot. I.

12	37	+61.9
14	24	
+V	V-1	

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1912phae.proj..611N

Aug 30, 1912

I

Left + above.

7-47-50

198.3 Comp. Station dis.
241.6 43.3 ✓
24.1 24.8 ✓
52.9 72.1 ✓ +2.44 ✓

201.4 35.6 ✓ +2.31 ✓
237.0
13.2 40.0 ✓
58.2 80.6 ✓ +2.18 ✓

Right + below.

103.1 50.9 ✓
154.0
292.9 29.8 ✓
322.7 80.7 ✓ +2.17 ✓

111.0 33.4 ✓ +2.19 ✓
144.4
285.2 46.2 ✓
331.4 79.6 ✓ +2.21 ✓

7-53-55
101 40 ✓
7 50 52 ✓
+ 5 - 8 ✓
12 50 44 ✓

+2.25 ✓
8.81 ✓
11.06 ✓

Watch 8 secs. fast.

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1912phae.proj..611W

Aug 30, 1912

II

Index right + below

105.4
155.2 49.8
190.0 36.1
326.1 85.9 +2.03

112.7 34.8 +2.14
147.0
286.2 43.2
329.4 42.0 +2.28

Left + above

13.4
64.5 51.1
101.4 37.2
235.6 88.3 +2.04

31.0 31.8 +2.20
52.8
198.2 42.8
241.0 74.6 +2.36

8-2-25
119 0.
79 30.
12 89 22.

+2.17
2.21
10.98

Known up now and during ~~portion of the~~ observations. - best low.
Gain, increase 11.02

(7 - 15 to 2 - 50)

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1912phae.proj..611W

Sept. 4. 1912. (Wednesday).

S Ursæ Majoris. 4. obs. Brandrace.
Phot. I. 7" cap.

12	37	+61.9
19	10	
+6	23	

Sky too murky.

α Ophiuchi 4. obs. Brandrace.
Phot. I.

17	9	+1.4
14	35	
+2	26	

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1912phae.proj..611W

Sept. 4, 1912.

I

Index left + above

178.8 Var dis

8-29-20 258.4 79.6

9.5 V V.0

64.5 134.6 - 0.44

141.0

200.5 V 9.V -0.04

313.8 7 V V

29.3 13 V.0 -0.44

Right + below

52.0 60.0

112.0

224.1 74.9

303.0 138.9 -0.40

40.0

8-35-40 122.9 82.9 -0.76

6 V 0.' 232.0 60.3

d 32 30." 192.3 143.2 -0.71

+V -V.

13 32 2V. -0.42

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1912phae.proj..611W

Sept. 4, 1912.

II

Right & below

8-37-45

51.9
110.1 ✓4.2
221.4 ✓ 79.6
301.0 137.4 −0.42

41.0 41.0 −0.42
122.0
234.0 ✓6.3
290.3 137.3 −0.43

Left and above

315.5 72.7 ✓
28.2 ✓
148.0 ✓4.3 ✓
196.3 121.0 −1.17

327.0 ✓0.0 −1.14

8-43-35

17.0
136.4 74.1
210.5 ✓ 124.1 −1.10

A1 20. ✓
A 40 40. ✓
+✓ −✓. ✓
13 40 3✓.

−0.92

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1912phae.proj..611W

Sept 4, 1912.

III

Left & above

8-46-55

31.8 7.2
30.0
147.9 49.3
197.2 / 12 4.0 −1.10

3 7.0 0 −0.9 Δ
19.0
135.4 Δ 3.3
218.7 / 13 3 −0.Δ7

Right & below

34.8 6.2
91.0
40.4 Δ 2.9
133.3 / 139.1 −0.79

4.0 −0.7 Δ
8-53-45 303.5 79.
100 40 51.2 60.0
20. 111.2 139. −0.7 Δ
−0.ΔR
13 0 1.
96 0. 76 +

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1912phae.proj..611W

Sept 4, 1912.

IV

Right + below

231.0
292.0 61.0
42.5 42.0
124.5 143.0 −0.71

221.4 42.5 −0.73
303.9
52.0 52.9
110.9 141.4 −0.75

Left + above

134.2
209.2 75.0
326.0
18.8 52.4 −1.03
127.4

147.0 52.0 −1.04
199.0
315.0 74.4
29.4 126.4 −1.05

9-1-50

117 35
4 2 4 44.
42 −2.
13 52 43.

−0.44

8-55-45

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1912phae.proj..611W

Sept 4, 1912.

V

Left + above

9-4-0

133.0
111.0 74.0
324.2 √3.4
18.0 131.4 −0.94

147.0 √1.0 −0.99
198.0
312.2 76.0
28.2 127.0 −1.0 K

Right + below

36.1 43.9
120.0
234.2 √4.4
293.0 1K2.7 −0.72

9-9-50

51.2 62.0 −0.70
113.2
13 √0.1 122.6 43.0
9 6 √5.1 305.6 1K5.0 −0.67
4√ −√.
1K 6 √0.1 P.A. 208.1 Vernier B −0.2K

✓

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1912phae.proj..611W

Sept. 4. 1912.

Fourth Type Star +59° 2210
H. obs. Brd. rec.
Phot. S.

24		
α	2	+ 52.3
20	50	
−3	12	
+4	44	

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1912phae.proj...611W

Sept 4, 1912.

Index left + above

35.0 ← Comp Star dis.

9-54-50 128.0 93.0 ✓

224.2 93.1 ✓

297.3 166.1 ✓ +0.26 ✓

46.0

117.0 71.0 +0.24 ✓

214.2 93.6

307.8 164.6 +0.29 ✓

Right + below

303.8

36.0 92.2

135.9 93.1

209.0 16 ✓.3 +0.24 ✓

+0.29 ✓

318.0

9-59-55 28.0 70.0

114 4✓.✓ 125.2 94.1

9 ✓7 22.✓ ✓19.3 164.1 +0.30 ✓

✓ −✓.✓

+0.24

14 ✓7 17.✓ P.A. 256.0 Ver. 0.

Watch 5 secs. fast. ✓

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1912phae.proj..611W

Sept. 6. 1912. (Friday)

S Wms. Esq. W. obs. Brunk rec.
Phot. 7.

12	37	+61,9
19	3	
+6	26	

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1912phae.proj..61.1

Sept 6, 1912.

I

Left ν above

334.0 ν Comp Star dis

7-52-25

7.2 33.2

160.6 24.4

185.0 ν7.6 +2.9ν

340.6 20.4 +2.9ν

1.0 39.1

152.9 ν9.ν +2.44

192.0

Right ν below

ν40.9 49.4

ν90.3

65.8 30.2

96.0 ν9.6 +2.21

ν47.8 24.7 +2.29

ν76.5

57.0 45.4

102.4 74.1 +2.37

8-0-55

11ν 20.ν

7ν6 40.ν

ν -1.ν

12ν6 39.ν

96ν2.ν393ν

+2.60

4.41

11.41

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1912phae.proj..611W

Sept. 6, 1912.

II

Right r below

8-3-10

241.0 40.r
281.5
67.0 24.0
95.0 64.r +2.r6

248.9 27.4 +2.r4
276.7
60.0 41.6
101.6 69.4 +2.r3

Left r above

~~152.5~~ ~~8.8~~ 331.8
338.8 6.1 34.3
6.9 156.9 24.1
185.0 62.4 +2.77

158.0 24.1r
186.1
3340 36.0 +2.71 +2.74
10.0 64.1

8-26-5

29 1r. ✓
A 1f 3A. ✓
tr -1. ✓
13 1f 37. ✓
96r2.rr1A r 48.6 Ver B

+2.6f
8.A1
11.4r

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1912phae.proj..611W

Sept. 6. 1912.

U Ophiuchi. Ex. ob. Brand rec.
Phot. I.

17 9 +1.4
20 13
+2 -4

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1912phae.proj..611N

Sept 6, 1912.

I

Left + above

8-52-15

135.2 Var dis
209.1 73.9
327.0 49.V
161.5 123.4 − #1.12

146.0 V0.A
196.8
316.8 72.1
28.9 122.9 − #1.13

Right + below

38.0 A3.6
121.6
233.0 V7.A
290.8 141.4 −0.7V

−50.4 61.6 −0.70

8-57-15

109 30.' 220.7 AK.1
A VV4 4V.' 304.8 1KV.7 −0.66
+V −1.'
13 V4 4V.'
96V2.V797"

−0.91

1912phae..proj...61W

Sept 6, 1912.

II

Right + below

8-59-10

39.0 Δ2.0
121.8
236.0 60.0
296.0 Δ62.0 −0.72

51.0 60.0 −0.69
111.0
220.4 Δ57.6
306.0 Δ57.6 −0.66

Left + above

316.8 Δ7.4
29.2
148.0 ∇0.6
198.6 Δ23.0 −1.13

326.0 Δ4.4 −1.07
20.8

9-4-25

3 3∇ ∨ 133.8 } 3∇
9 1 4Δ ∨ 207.3 Δ12.3 −1.01
∇ −1. ∨ −0.44
14 1 47.
96∇2. ∇Δ46 ∨

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1912phae.proj..611N

Sept 6, 1912

III

Left + above

9-7-40

313.3]4.7
28.0
147.0 √2.0
199.0 126.7 −1.0√

326.0 √2.4 −1.06
18.8
134.9]2√
207.4 125.3 −1.0A

Right + below

223.5 A1.3
304.8
53.0 √6.4
109.4 137.7 −0.4~

233.0 6.3√ −0.70
296.5
35.4 A6.1
121.5 179.6 −0.√A

−0.AA

9-13-25

21 √. v
9 10 32. v
+√ −1. v
14 10 31. v
96√2.√907 √

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1912phae.proj..611W

Sept 6, 1912.

IV

Right + below

9-15-40
223.3 40.7
304.0
49.5 61.2
110.7 141.9 −0.74

233.8 63.0 −0.67
296.8
37.1 47.9
123.0 144.9 −0.60

Left + above
135.2 47.1
310.3
325.2 43.4
19.0 128.9 −1.00

14 47.0 44.0 −0.96
9-22-25 203.0
34 47.7 314.8 47.7
9 19 2.7 30.3 133.7 −0.91
47 −1.
14 19 1.7 P.A. 28.0 Ver B. −0.42
96 42. 496

watch 1 sec fast.

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1912phae.proj..611N

Sept. 9. 1912 (Monday).

Stw. neg. Hobo. Brand rec.
Phot. P.

12 37 +61.9
19 16
+6 3 3

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1912phae.proj..6110

Sept 9, 1912.

I

Left of about
158.3 Comp Star dis
7-59-50 177.0
341.6
4.4

157.1
177.9
332.0
10.2

Abandon above, New start on next page.
Recorder misunderstood observer in second
set above.

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1912phae.proj..611W

Sept. 9. 1912.

I

Index left & above

332.0 ← Comp Star dec

8-15-40

10.2 30.2

159.0 29.2

188.2 67.4 +2.59

338.8 26.2 +2.60

5.0

151.1 40.4 +2.61

191.9 67.0

Right & below

236.0 47.0

283.0

65.6 29.1

94.7 76.1 +2.31

247.2 26.5 +2.56

8-25-5

273.7

65.6 34.6

100.2 61.1 +2.42

	40	45
8	20	22
+5		−16
13	20	6

Above groups ⅓ weight. (Sup. 12) +2.54

8.81

11.35

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1912phae.proj..6419

Sept 9, 1912.

II

Right + below

8-29-0

745.6 37.7
283.3
64.4 36.6
96.0 69.3 +2.√3

747.0 24.4 √ +2.6L
271.4 36.1 √
63.6 60.√ √ +2.4K
99.7

Left + above

154.8 35.0
189.8
337.5 45.7 +2.4K
3.2 60.7

+2.4L

163.5 23.2 √
186.7
332.2 35.√ √ +2.91
7.7 √9.7 √

839-55

68 55
8 34 28
+5 -16
13 34 12

P.A. 48.3 Vernier B.

+2.7L √
2.61 √
11.√9 √
3
34.77 √
11.39
4)46.16
11.√4

over

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1912phae.proj..611W

Sept. 9. 1912.

Observations in the two groups on previous
2 pages, very difficult. Sky somewhat
1 murky and foggy. ~~Hard~~ Variable better
seen in second group, in general, than
in the first. First group. $\frac{1}{3}$ weight.

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1912phae..proj...61W

Sept. 9. 1912.

U Ophiuchi: H. obs. Brandt rec,
7" cap. Phot. I.

17	9	+1.4
20	27	
+3	16	

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1912phae.proj..611W

Sept 9, 1912.

I

Left ▽ above

135.8	Var. dus	
9-4-45 ▽09.5	]3.7	
326.8	▽0.4	
17.2	124.1	−1.10
146.4	▽0.3	−1.10
196.7		
314.6	74.4	
▽9.0	124.7	−1.09

Right ▽ below

37.6	△▽.0	
122.6		
▽35.2	▽4.6	
289.8	139.6	−0.7△
55.5	▽4.7	−0.79
9-9-50 110.2		
14 35 218.0	△4.0	
9 7 18 302.0	134.7	−0.40
+5 −16		−0.94
14 7 2		

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1912phae.proj..61IN

Sept 9, 1912

II

Right + below

9-11-40

40.7 Δ 0.2
1ν0.9
ν36.2 ν3.9
ν90.1 13ν.1 −0.49

5−4.3 νν.7 −0.44
109.0
ν22.4 Δ 0.9
303.3 13ν.6 −0.46

Left + above

314.9 7ν.3
29.2
148.0 4Δ.1
196.1 12ν.2 −1.14

326.ν νΙ.Δ −1.0Δ
9-17-45− 18.0
29 25− 133.4 76.3
9 14 42ν 209.7 12ν.1 −1.0ν
+5 −16
14 14 26ν −0.9Δ

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1912phae.proj..611W

Sept 9, 1912.

III

Left + above

9-19-35

315.3 72.2 ✓
27.5
147.7 ✗9.3 ✓
197.0 121.5 ✓ −1.16

327.4 ✓2.6 ✓ −1.02
20.0
132.2 ✗1.5 ✓
213.7 13✗.1 −0.49

Right + below

218.6 ✗6.✗
305.0
51.5 ✓9.✓
111.0 135.9 −0.46

9-25-15

✓36.0 ✓4.9 ✓ −0.40
290.9
36.0 ✗7.0
123.0 14✗1.9 ✓ −0.7✗

	44	50
9	22	25 ✓
+5		−16
14	22	9 ✓

−0.91

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1912phae.proj..61W

Sept 9, 1912.

IV

Right + below

9-26-30

216.4
306.5 90.1 ✓
54.7 57.5 ✓
112.2 147.6 −0.62

233.6 42.6 −0.63
290.2
36.0 44.2
124.2 146.4 −0.64

Left + above

132.5 76.2
208.7
329.0 42.9
17.9 119.1 −1.02

143.0 55.0 −0.97
198.0
311.0 40.6 −0.46
31.6 135.6

9-32-0
58 30
9 29 15 ✓
+5 −16
14 28 59 ✓

−0.40

P.A. 27.5 Ver. 3.

Watch 16 secs. fast ✓

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1912phae.proj..611W

Sept. 10. 1912. (Tuesday)

S Ursae Maj. H. obs. Brandt rec.
Plat. I.

12	37	+61,9
19	13	
+6	36	

Abandoned. Sky too hazy for this star.

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1912phae.proj..611W

Sept. 10, 1912.

U Ophiuchi. W. th. Rd and vc.
Plat. I. 7" exp.

17 9 +1K
19 2
+2 19

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1912phae.proj..611W

Sept 10, 1912.

I

Left + above

138.5 ← Var. dis.

7-57-20 V06.4 67.9 V

325.9 V0.7 V

16.6 114.6 V -1.22

145.5 V3.V -1.04

199.0

312.6 77.9 V

30.5 131.4 V -0.9V

Right + below

38.5 A2.V V

121.0

235.1 V6.1 V

291.2 134.6 V -0.40

52.4 V9.6 -0.76

8-2-50 1.12.0

0 10. VV0.6 A3.1

A 0 V. 303.7 142.7 -0.72

+V -16.

12 V9 E9. -0.92

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1912phae.proj..611N

Sept. 10, 1912.

II

Right & below

8-5-5

41.8
120.5 — 78.7
√32.2 √6.4
√89.0 13√√ −0.47

52.5 √7.4 −0.42
110.3
√22.4 4 21
304.5 139.9 −0.78

Left & above

313.2
29.0 7√.4
146.6 √0.3
196.9 126.1 −1.06

325.0 √4.3 −1.01
8-11-30 19.3
16 3√. 134.0 76.4
4 4 14. √10.8 131.1 −0.96
+5 −16. −0.92
13 4 2. √

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1912phae.proj..611W

Sept. 10, 1912.

Left and above III

315.4
8-17-40 30.5 [V] 7V.1
148.6 4A.K
197.0 123.V -1.12

3V6.V V0.A -1.0A
17.0
132.6 76.9
209.5 127.7 -1.03

Right & below

V22.0 A1.3
303.3
50.0 60.A
110.8 142.1 -0.73

V30.1 65.K -0.7K
8-22-50 295.5
40 30. V 38.0 A6.K
A 20 1V. V 124.4 141.A -0.7K
+V -16.
13 19 V9 V -0.91

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1912phae.proj..611w

Sept 10, 1912.

IV

Right + below

218.0
305.9 +7.9
8-25-50 53.0 √6.4
109.8 144.7 −0.6Δ

232.7 √ 61.√ −0.6Δ
√94.√ √
36.4 +7.2
123.6 146.7 −0.60

Left and above

135.0 75.4
√10.√ √
328.0 √2.1
√0.1 127.√ −1.03√

143.2 √√.Δ −0.9Δ
8-31-40 199.0
√7 30.√ 313.0 Δ0.0
Δ 2Δ √√.√ 33.0 135.Δ −0.Δ6√
t√ −16.√ −0.79
132Δ −9. P.A. 27.8 Ver. B.

√

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1912phae.proj..61W

Sept. 10. 1912.

Susp. var. near U Cephei.
W. obs. Brandt rec.
Phot. T. 9.5" cap.

24		
♀	v 1	+41,3
20	40	
− 4	11	
+7	49	

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1912phae..proj..611N

Sept. 10, 1912.

I

Right + above

9-16-0

226.5 S. V. dis
190.6 64.1
34.0 9V.7
129.7 1V9.2 −0.32

VV0.0 96.2 −0.36
316.8
47.6 6V.4
113.0 162.2 −0.34

Left + below

141.2 V9.2
201.0
305.2 93.0
38.2 1V2.2 −0.V2

125.0 2V.0 −0.V6
9-22-20 210.0
319.2 63.2
23.0 14 2.2 −0.60

−0.46

38 20
9 19 10
+5 −16
14 18 54

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1912phae.proj..611W

Sept 10, 1912.

II

Left + below

9-24-15

139.8	60.2	
200.0		
304.8	93.2	
38.0	153.4	−0.51

127.7	87.3	
215.0		−0.56
321.5	61.5	
23.0	144.8	−0.60

Right and above

47.8	64.7	
116.5		
217.0	93.0	
310.0	161.7	−0.3

9

8-30-15

37.0	91.5	−0.40
128.5		
230.0	65.6	
295.6	157.1	−0.44

−0.40

P.A. 537.6 Ver. B.

~~+14~~ 54		30
89 ~~5~~ 27		15
+5		−16
~~+3~~ ~~56~~		59
14	26	

Watch 16 secs. fast

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1912phae.proj..61W

Sept. 11. 1912. (Wednesday).

	Fr. 3 45 1.			B. 39 4.	
7	36	0.5	7	35	0.0
	37	0.8		36	0.0
	38	1.0		37	0.0

It is now over 10 min after theoretical time of reappearance. Jupiter only casually seen at times and not during the critical time. Nothing could be done with eclipse.

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1912phae.proj..61W

Sept. 12. 1912. (Thursday).

Susp. Var. near ψ Capric.
R. obs. Braun &c.
Phot. F. Fath &c.

24		
8	5	+8 1,3
19	26	
−5	2	
+6	3	

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1912phae.proj..611U

Sept 12, 1912.

I

Left + below

7-53-55

130.5 40.5
211.0
320.1 60.7 / 141.2 −0.7
20.8

141.8 60.7 −0.69
202.5
308.2 46.5 / 147.2 −0.63
347

Right + above

32.4 94.1
126.5
229.0 66.0 / 160.1 −0.32
295.0

49.5 63.4 −0.52
7-59-15 113.3
213.0 42.0 / 145.4 −0.66
295.0

113 10
7 56 35
+5 −39
12 55 56

−0.60

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1912phae.proj..61W

Sept 12, 1912.

Right & above II

8-0-45

32.8 94.4
127.2
230.5 60.9
291.4 154.3 −0.47

50.3 63.6 −0.42
113.9
215.9 91.4
307.3 154.0 −0.42

Left & below I

306.3
35.2 42.9
142.8 96.2
199.0 143.1 −0.67

325.4 96.1 −0.62
21.5 42.4
126.1 144.5 −0.62
214.5 −0.12

8-7-0

8	7	45
8	3	52
+5		−39
13	3	13

P.A. 158.4 Vernier B

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1912phae.proj..614W

Sept. 12. 1912.

U Ophiuchi, Kl. obs. Brandt rec.
Asst. D. 7" cap.

17 9 +1.4
20 11

+2 √2
2√

+3 17

8-25-0 Cloudy

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1912phae.proj..611W

Sept 12, 1912.

I

Left + above

8-53-25

317.2 Var dia
27.5 70.3
146.2 48.2
195.0 119.1 −1.21

328.9 −1.14
21.2 22.3
134.5 72.9
207.4 12 2.2 −1.04

Right + below

22.0 74.0
300.0
21.0 5 7.5
108.5 13 5.5 −0.47

34.2 74
920.0 −0.45
40.5 79.6
120.1 137.4 −0.43

8-59-30
112 55
8 56 28
+5 −39
13 55 49

−1.00

1912phae.proj..611W

Sept 12, 1912.

Right & below II

9-1-20

204.4 79.9
108.0 132.9 −0.92

123.8 −0.77

Left and above

148.5 46.7 −1.14

9-7-10
8 30
9 4 15
+5 −89
14 3 36

313.2 29.8 −1.12

−1.00
−0.99

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1912phae.proj..611W

Sept 12, 1912

Left + above III

9-10-25

134.4 73.9
208.3
326.9 109.3
16.2 123.2 −1.12

148.0 44.1 −1.10
196.5
314.7 76.4
31.1 125.3 −1.04

Right + below

39.5 43.1
123.0
136.2 54.6
190.8 134.1 −0.41

10.8 54.4 −0.76
9-17-30 109.6
27 55 210.2 44.4
9 13 58 30.0 154.6 −0.70
+5 −89 −0.93
14 13 19 P.A. 208.0 Var. B.

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1912phae.proj..61W

Sept 12, 1912.

IV

Right ν below

9-29-10

39.5
122.9 A34
232.2 61.A
ν94.0 146.2 −0.67

51.3 61.9 −0.71
113.2
222.8 79.4
302.2 141.3 −0.7

Left ν above

315.5 72.0
ν7.5
14ν.8 ν3.3
199.1 12ν.3 −1.02

326.2 ν4.2 −1.03
ν1.0
134.0 7ν.1
ν09.1 129.9 −0.92

9-34-30
63 40
9 31 50
+5 −39
14 31 11

−0.47

Eye-stop and emergent pencils gave much trouble on N Ophiuchi

Watch 39 sec fast

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1912phae.proj..611W

Sept. 13. 1912 (Friday) -

Fr. 3 Kvt 1.			R. 39 K.		
6	12	31,0	6	4	0,8
				5	0,0
6	14	31,4	6	6	0,0
6	15	31,8	6	7	0,0

16 26 -21.2
16 v
+1 39

Reap. Jup. v. Phot R

W. Obs, Brand, Rec.

Compared with more remote of two sats on same fol. side (before eclipse) = sat 3.

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1912phae.proj..61W

Sept. 13, 1912.

7	12	27						These probably were wrong and were on the wrong image thought to be probably spectrum — Rejected.
	13	29						
		52						
	14	55						

12	6	49.	7	15	30		01.0	37.2	+2.4
	7	0.			41		38.2	41.4	+2.1
	7	17			58		196.8	49.3	+1.7
	7	32		16	13		46.1	54.0	+1.5
	7	44			25		192.1	57.9	+1.3
	7	59			40		50.0	61.5	+1.1
	8	11			52		188.5	62.9	+1.1
	8	29		17	11		51.4	65.4	+1.0
	8	44			26		186.0	69.0	+0.8
	8	57			39		55.0	72.0	+0.7
	9	10			52		183.0	77.5	+0.5
	9	24		18	6		60.5	77.0	+0.5
	9	38			20		183.5	75.2	+0.6
12	10	10			52		58.7		
				19	6		184.5	76.5	
7	19	32.			22		61.0	76.8 / 77.6	+0.5
tr	−8	42.			41		183.2		
12	10	50			58		62.0		
				20	12		183.0	76.0	
7	20	44.			44		59.0		
tr	−8	42.		21	1		182.0	76.2 / 76.1	+0.5
12	12	6.			15		58.2		

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1912phae.proj..611W

Sept 13, 1912.

			7	21	29	183.5	78.9	
7	21	50.			40	258.4	77.0	3
+5	-4	42.			58	184.0	76.0 +0.5	
12	13	4.		22	15	261.0		
					36	182.0	79.0	
7	22	55.			47	261.0	4 0.1	4
+5	-4	42			59	181.9	79.6 +0.4	
12	14	13.		23	17	262.0		
					29	182.1	78.8	
7	23	57.			43	260.9		
+5	-4	43		24	10	180.2	4 0.8	5
12	15	14.			27	261.0	79.6 +0.4	
					47	182.7	76.4	
7	25	26.		25	12	259.1		6
+5	-4	43.			45	182.1	76.9	
12	16	43.		26	1	259.0	76.6 +0.5	
					31	182.8	77.2	
7	29	10.			51	260.0		7
+5	-4	43.		29	32	180.0	4 2.4	
12	20	27.			48	262.4	79.4 +0.4	
				30	3	181.1	4 0.7	
7	30	26.			17	261.8		8
+5	-4	44			33	179.7	4 2.3	
12	21	42.			51	262.0	4 1.5 +0.3	

Limit of visibility (next page)

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1912phae.proj..61w

Sept 13, 1912.

	31	20	202.6	43.3'
7 31 rr.	31	41	245.9	44.9'
tr - A 44.'		59	199.1	44.1' ± 2.0'
12 23 11.'	32	40	244.0	

Jupiter came out bet. about as true settings were begun, but apparently the sky became progressively rather clearer during progress of eclipse.

Eclipse considered very good.

Hr. 3 Kr 1.			B. 394.		
7	47	46.5	7	39	0.0
				40	0.0
7	49	47.7	7	41	0.0

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1912phae.proj..611W

Sept. 16. 1912 (Monday)

α Ophiuchi K. obs. Brand rec.
Phot. V. 7" cap.

17	9	+1.4
20	17	
+3	8	

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1912phae.proj..61.tif

Sept 16, 1912.

I

Left + above

8-28-12

318. Var dis
29.8 71.3
147.0 1.0
198.0 122.3 1.14

3 9.6 4.4
1 0.0
133.7 73.6
207.3 119.0 1.21

Right + below

0. 41.3
301.8
5.8 54.0
109.8 13.3 0.47

36.8 5.1 0.46
91.9
37.8 2.7 0.42
10.5 137.8

- 1.0

8-33-40

	61	55
8	30	58
+5		-29
13	30	29

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1912phae.proj..611W

Sept 16, 79 rv.

II

Right + below

rr 3.1 A2 ✓
30 ✓.6
✓r 2.9 r 6.1 ✓
109.0 13 A 6 ✓ −0.20

r 33.r ✓
r 90.8 r 7.6 ✓ −0.73
34.0 AA.2 ✓
1rr.r 14 r.A ✓ −0.66

Left + above

13r.r A03 ✓
r1r.✓
3r6.r r4A ✓
r1.0 13 r.1 ✓ −0.A7

146.9 r1.7 ✓
198.6 ✓ −0.A9
311.0 A1.A
3r.8 133.r ✓ −0.91

8-40 30

8-4✓-4✓

	86	15
8	43	8
+5		−29
13	42	39

0.A1

0.91

P.A. 28.7 Vernier B

✓

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1912phae.proj..61.tif

Sept. 16. 1912.

Monday:
9-10, Lever Hall, Room 5
10-11, Harvard Hall, Room 6
11-12, Lever Hall, Room 3
12-1, Boylston Hall, Room 4
P.M., Room, or Mass. Hall Library

Tuesday:
7:30-9 Foxcroft Hall
9-10 Lever 18
10-12, Mass. Hall Reading Room
12-1, Emerson F.

Wednesday:
Same A.M. as Monday
1:30-4:30, Boylston Hall, (basement)

Thursday, (same as Tuesday)

Friday: (same as Monday)

Saturday (Same as Tuesday)

Sunday, Foxcroft Hall at Meal Times

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1912phae.proj..61.tif

Sept. 16. 1912.

Nova. Mag.

12 37 +61.9
20 07

~~+9. 20~~

+4 20

Abandoned. Too faint in this sky and at this altitude.

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1912phae.proj..611W

Sept. 16. 1912.

~~R Tauri~~

~~27 V V +27.7~~

R Z Cassiop.

24		
2	36	+69.0
26	36	
21	12	
— V	24	
+6	36	

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1912phae.proj...611V

Sept 16, 1912

I

Index above

64.8 Var dis

9-23-15

100.9 36.1

150.2 22.2

173.0 58.9 − 2.90

71.4 32.1 − 2.24

93.5

243.7 40.3

284.0 62.4 − 2.77

Index below

338.0 30.4

8.4

162.6 20.4

183.0 50.2 − 3.24

34 2.3 20.5 3.14

9-28-35 2.8

51 50 156.8 33.2

9 25 55 190.0 53.7 − 3.11

+5 −29 − 3.01

14 25 26

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1912phae.proj..611W

Sept. 16, 1912.

II

Index below

9-30-0

336.0 34.0
10.0
161.2 23.7
184.9 17.7 −2.9

341.0 21.
2.
1 55.9 34.1
190.0 55.6 −3.03

Index above

243.2 34.4
282.0
71.0 22.4
93.4 61.2 −2.41

250.0 24.
274.5
62.0 39.4
101.8 63.3 −2.70

9-34-20

9	6H	20		−2.76
9	32	10		
+5		−29		~~2.98~~
14	31	41.5	P.A. 24.1 Vernier B	−2.82

Watch 29 secs. fast.

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1912phae.proj..61W

Sept. 17. 1912. (Tuesday.)

R Z Cassiop.

26	36	+69.0
19	46	
−6	50	
+5	10	

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1912phae.proj..611W

Sept. 17, 1912.

I

Index about
64.7 Var dio.

7-47-15

102.2 37.5
250.5 23.9
√74.4 61.4 −2.41

69.9 25.4 −2.42
9√.3
√43.9 37.7
√79.6 61.1 −2.42

Index below

334.9 33.3
10.2
160.4 24.4
18√.2 60.1 −2.46

339.√ 25.1 −2.93
4.6
15 6.0 31.3
√6.4 −3.00
187.3

7-√3-20

100 95
7 50 18
+5 −16
12 50 2√ −2.44

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1912phae.proj..61W

Sept 17, 1912.

II

Index below

334.0 35.2
9.2 24.5
160.5 $\frac{24.5}{5 9.7}$ −2.47
185.0

339.9 23.6 −2.93
3.5
185.8 $\frac{33.0}{5 6.6}$ −2.99
188.8

Index above

245.3 34.5
279.8
69.6 $\frac{25.3}{5 9.4}$ −2.47
94.9

5505.8 −2.44
275.3 24.5
64.6 $\frac{36.4}{61.3}$ −2.41
101.4

8-2-10

15	58	50
7	59	25
+5		−16
12	59	9

7-56-40

−2.44

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1912phae.proj..611W

Sept 17, 1912.

III

Index above

8-4-3√

√43.3
√82.3 39.0
69.8 23.3
93.1 623 −2.77

√√0.√ 2√.√ −2.71
√76.0
62.6 40.3 −2.6√
10√.9 6√.4

Index below

1√4.1 3√.0
189.1
340.6 20.9 −3.02
1.√ √√.9

161.4 21.0 −3.00
183.√
334.√ 34.9 −2.99
9.4 √6.7

8-9-√√

	14	90
8	87	15
+5		−16
13	6	59√

−2.46

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1912phae.proj..61.tif

Sept 17, 1912.

IV

Index below

8-16-1√

1√3.√	36.√	
190.0		
341.7	20.9 / √7.4	−2.96
2.6		

−2.9∠

162.0	22.2	
184.2		
334.8	34.2 / √6.4	−3.00
9.0		

Index above

6√.1	34.√	
99.6		
248.2	24.∠ / √9.3	−2.49
273.0		

−2.9∼

69.3	2√.3	
94.6	32.0 / √7.3	−2.96
∼46.0		
278.0		

−2.9√

8-21-√0

	38	5
8	19	2
+5		−16
13	18	46

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1912phae.proj..611N

Sept 17, 1912.-

V

Index above

8-31-10

63.6 36.0
99.6
r r 0, r 23.6
r 74.1 r 9.6 −2.47

69.0
94.5 2 r. r −2.49
r 46.3 33.1
r 79.4 r 2.6 −2.91

Index below

33 r. 4 33.4
8.8
160.0 2 r.1
184.1 r 7. r −2.96

−2.94

339.5 23.9
3.4
1 r r. 7 3 r.r
190.1 r 2.3 −2.93

−2.92

8-28-30

	69	40
8	34	50
+5		−16
13	34	34 r

P.A. r 04.0 Vernier B

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1912phae.proj..611W

Sept 17, 1912.

Index below

VI

9-4-0

33√.2 32.3 ✓
7.√
161.4 24.√ ✓
18√.9 √6.A ✓ −2.9A ✓

340.1 23.9 ✓ −2.94 ✓
4.0
1√4.9 3√.3 ✓
190.2 √9.2 ✓ −2.A9 ✓

Index above

24√.8 31.√ ✓
√77.3
69.4 24.7 ✓
94.1 √6.2 ✓ −3.01 ✓

9-9-45

13 45
9 6 52
+5 −16
14 6 36

2√0.7 24.9 ✓ −2.92 ✓
27√.6
64.√ 3√.A ✓
100.3 60.7 ✓ −2.A4 ✓

−2.93 ✓

watch 16 fast

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1912phae.proj..611W

Sept. 25. 1912. (Wednesday)

U Ophiuchi H. obs. Brandt rec.
Phot. I. 7" cap.

17	9 ✓	+1.4
20	23 ✓	
+3	14 ✓	

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1912phae.proj..611W

Sept 15, 1912.

I

Left + above

	135.9	Var dis	
8-3-10	207.0	71.1	
	325.3	52.7	
	18.0	123.8	−1.11
	145.7	52.8	−1.07
	198.5		
	313.6	70.0	
	28.6	127.8	−1.03

Right + below

	42.2	40.6	
	122.8		
	231.0	61.2	
	292.2	141.2	−0.74
	51.0	60.8	−0.74
8-8-40	111.8		
11 50	221.4	41.5	
8 5 55	302.9	123	−0.73
+5 +17			−0.90
13 6 12			

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1912phae.proj..611N

Sept. 25, 1912.

II

Right & below

39.3 46.7
126.0
233.0 57.0
290.0 143.7 −0.70

51.8 59.5 −0.72
111.3
221.4 41.5
302.9 161.0 −0.75

Left & above

316.0 76.0
32.0
147.9 47.5
195.4 123.5 −1.12

32 5.0 52.0 −1.10
17.0
133.9 53.3 −1.04
207.2 125.3

−0.91

8 − 15 − 35

26 20
8 13 10
+5 +17
13 13 27

P.A. 28.1

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1912phae.proj..61W

Sept. 25, 1912,

α Cephei, W. obs. Brandt rec.
Phot. I.

-4		
R	V0	+0.1.1
-21	3	
-3	K7	
+4	13	

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1912phae.proj..611W

Sept 25, 1912.

I

Left + above

224.8 Var dis

8-35-0 301.9 77.1

√5.2

108.9 √3.7 / 130.8 −0.96

√32.7 √6.1 −0.93

√88.8

45.0 77.8

1√2.8 133.9 −0.90

Right + below

13√.√ 78.8

211.0

325.2 √1.3

16.√ 130.1 −0.98

8-40-45 −146.6 √√.4 −0.96

√00.0

7√ 4√.√ 313.0 76.4

+ 37 √2.√ 29.4 131.8 −0.94

+√ +17.√

13 3+ 9.√ −0.9K

9671.

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1912phae..proj..61W

Sept. 25, 1912

II

Right + below

130.2
13.3 A3.1
3 4.8 V4.2
19.0 137.3 −0.A3

14V.0 VA.A −0.A6
03.8
314.0 7V.V
9.V 13A.3 −0.A9

Left + above

39.7 A3.6
123.3
33.4 V7.2
90.6 140.A −0.76

V2.7 61.6 −0.74
114.3
22.0 A1.2
303.2 14.A −0.72

8-45=10

8-V1-0
96 10.
A 4A V.
+V +16.
13 4A 21.
9671.

−0.A0

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1912phae.proj..611W

Sept. 25, 1912

III

Left + above

41.0 A3.6
124.6
232.4 60.V
292.9 1KK1 −0.69

V1.2 63.A −0.6V
11V.0
219.8 A4.6
304.4 1KA.K −0.61

Right + below

308.3 A4.9
33.V
141.9 63.V
20V.4 14A.K −0.61

3VV.1 62.1 −0.V9
24.2
128.2 AA.2
216.4 1V0.3 −0.V7

−0.6V

8 − V6 − 3V

9 − 2 − 40
119 1V.V
A V9 3A.
+V +16.V
13 V9 V4.V
9671.

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1912phae.proj..64.tif

Sept. 25, 1912.

IV

Right & below

9-8-1

30 ∨.8
3∨.1 29.3
140.3 64.4
204.7 1∨3.7 −0.∨0

3∨1.9 61.9 −0.49
23.8
12∨.8 93.1
∨18.9 1∨∨.0 −0.K4

Left and above

216.7 90.K
307.1
∨1.0 6∨.0
116.0 1∨∨.K −0.47

∨∨8.5 66.3 −0.43
∨94.8
36.0 93.0
129.0 1∨9.3 −0.39

9-14-20
22 21 ∨
9 11 10. ∨
∨ +16. ∨
14 11 26.

−0.K6

9671.

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1912phae.proj..61W

Sept. 25, 1912.

V

Left of above

215.0	92.8	
307.8		
48.9	67.1	
116.0	159.9	−0.34

228.2	67.0	−0.36
295.2		
34.2	95.4	
129.6	162.4	−0.33

Right of below

123.1	92.9	
216.0		
316.9	72.0	
28.9	164.9	−0.29

137.6	74.4	−0.27
212.0		
304.6	92.4	
37.0	166.4	−0.25

−0.32

9-18-45

9-24-10

42 55.5

9 21 28.

+5 +16.

14 21 44

P.A. 193.0 Ver. B

9671

Watch 17 pico slow

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1912phae.proj..64N

Sept. 26. 1912. (Thursday).

U Ophiuchi. H. obs. Brand rec.
Phot. I. 7" cap.

17	9	+1.4
20	7	
+2	~~+2~~	

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1912phae.proj..611W

Sept. 26, 1912.

I

Left + above

	139.√	Var dis	
7-32-√	204.2	64.7 ✓	
	327.1	√1.9 ✓	
	19.0	116.6 ✓	−1.27
	147.6	√1.4 ✓	−1.20
	199.0		
	315.6	71.4 ✓	
	27.0	122.4 ✓	−1.13

Right + below

42.0	74.1	
120.1		
√32.√	√4.√	
291.0	136.6	−0.44
√3.0		−0.74
112.6	√9.6	
√√1.0	43.4	
304.4	143.0	−0.71

7- 39-45			
	71	50	
7	35	55	
±5			
12	35	55 ✓	−0.99

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1912phae.proj..6110

Sept. 26, 1912.

II

Right + below

7-41-√√

41.√
127.0 2√.√
√35.0 √7.0
√92.0 142.√ −0.72

√3.0 √7.2 −0.20
110.8
√2√.4 76.6
302.0 134.4 −0.29

Left + above

314.0
29.8 7√.2
149.0 42.0
197.0 123.2 −1.11

3√6.8 √1.2 −1.12

7-47-15
8910
7 44 35
+5
12 44 35

18.0
134.0 72.0
√06.0 123.2 −1.12

P.A. √7.2 Ver B −0.96

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1912phae.proj..61W

Sept 26, 1912

III

Left + above

318.0 ↑2.4
30.8
147.2 ↓0.4
198.0 123.6 −1.11

328.7 ↓2.9 −1.07
↑1.6
135.0 ↑4.4
209.8 127.7 −1.03

Right + below

↑18.2 ↓3.6
301.8
↓3.0 ↓4.↓
111.↓ 142.1 −0.73

↑35.3 ↓6.4 −0.76
291.7
38.8 ↓3.0
121.8 139.4 −0.79

−0.92

7-↓6-↓↓

8-1-20

15	58	15
7	59	8
+5		
12	59	8

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1912phae.proj..64.tif

Sept 26, 1912.

IV

Right + below

8-7-√

224.8 77.3
302.1
√10 63.√
114.√ 140.4 −0.76

231.√ 61.√ −0.71
293.0
38.9 43.3
123.2 145.2 −0.66

Left + above

134.2 73.0
207.2
325.7 √4.3
20.0 127.3 −1.04

145.2 √7.0 −0.9√
202.2
312.3 74.9
31.2 13√.9 −0.46

8-12-10
19 15√
8 9 38
+5
13 9 38√

−0.43

✓

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1912phae.proj..61W

Sept. 26. 1912.

Fourth Type. +59° 2410.
Fr. obs. Brand rec.
Phot. L.

24	2	+V 2.3
21	2	
−3	0	
+9	0	

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1912phae..proj..6410

Sept. 26, 1912.

I

Index left

8-33-55

300.1 ← Fourth Type dis.
41.1 101.0
133.0 78.0
311.0 179.0 −0.02

312.0 24.4 +0.06
36.4
122.1 102.4
224.5 126.0 +0.13
173.2

Index right

318.5 24.5
303.0
29.8 102.6
132.4 127.1 +0.13
172.9

8-39-30

310.6 104.4 +0.12
315.0
41.7 81.0
122.7 185.4 +0.10
174.6

P.A. 255.5 +0.09

73 25
8 36 42
+5
13 36 42

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1912phae.proj..611W

Sept. 26. 1912.

Fourth Type. +2° 4709.
Fr. obs. Braun vac.
Phot. I.

23	39	+2.7
21	37	
−2	2	
+9	√4	

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1912phae.proj..611W

Sept. 26, 1912.

I

Index left

9-16-55

246.0 4th type dis
279.5 33.5
66.8
97.2 30.4
63.9 −2.72

49.1 27.7 −2.76
76.8
64.7 34.3
99.0 62.0 −2.79

Color ✓ in Phot.

Index right

18.0 34.0
192.0
337.6 27.3
4.9 61.3 −2.81

160.3 27.3 −2.90
187.6
337.0 29.3
6.3 56.6 −2.99

9-21-30

38 25
9 19 12
±5
14 19 12

P.A. 339.0 Ver B −2.83

✓

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1912phae.proj..611W

Sept. 27. 1912. (Friday).

Fr. 3451.			B. 394		
5	44	√3.√	5	43	0,0
√	4√	√3,6	√	44	0,0

R. Sup. I. Holo, Brandrec.

$16^h\ 34^m\ -21,\sqrt{}$

18 40

+√ 6

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1912phae.proj..611W

Sept. 27, 1912.

Limit of Visibility

6	27	√7	204.4	32.6		
	28	16	237.0			
	28	37	207.0	30.1 / 31.4		
	28	√6	237.1			
		106		2.8		
11		28 26				
		39 19	20√.0	40.0	+2.2	
11	39	32 46	242.0	47.0	+1.8	
11	39	54 40 1	19√.0	√4.1	+1.√	
11	40	6 12	249.1	√6.1	+1.4	
11		18 24	193.0	64.7	+1.0	
11		33 42	2√7.7	69.2	+0.2	
11		48 √√	188.√	70.√	+0.2	
11	41	1 41 7	2√9.0	7√.2	+0.6	
11		12 18	183.8	77.6	+0.√	
11		26 3√	261.4	21.4	+0.3	
11		44 √2	180.0	22.9	+0.3	
11		58 42 √	262.9	20.9	+0.3	
11	42	12 20	182.0	72.9	+0.4	
11		26 32	260.9			
		√√	184.0	74.3		
6	43	6 43 10	2√8.3	76.3		
+5		23	183.0	7√.3	+0.6	
		37	2√9.3			

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1912phae.proj..611N

Sept 27, 1912

6 HH 11	6-43	√0	180.4	Δ0.7 √	
5	44	8	261.1	78.3 √	2
11		18	180.0	79.√ √ +0.4 √	
		27	2√8.3		
6 HH 54		37	180.0	Δ0.0 √	
5		49	260.0	79.√ √	
11		√8	179.√	79.4 √ +0.4 √	3
	45	13	2√9.0		
6 H5 38		22	181.9	Δ0.1 √	
5		33	262.0	78.9 √	
11		45	180.√	79.√ √ +0.4 √	4
		√4	2√9.4		
6 H6 30	46	6	182.2	79.1 √	
5		15	261.3	Δ0.9 √	
11		~~32~~		Δ0.0 √ +0.4 √	√
		44	182.2		
		√4	263.1		
6 H7 31	47	1√	182.√	76.7 √	
5		26	2√9.2		
11		37	180.4	77.9 √	6
		47	2√8.3	77.3 √ +0.√ √	
		√6	183.1	79.0 √	
6 H8 ~~29~~ 14	48	6	262.1		
5		16	179.8	Δ1.4 √ Δ0.2 √ +0.4 √	7
11		~~29~~			
		37	261.2		

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1912phae.proj..611W

Sept 27, 1912

6 50 25	6	48	48	182.1	79.√	
		49	2	261.6	Δ 0.6 √	
		√1	√1	180.3	Δ 0.0 √	+0.4 √
	6	√2	9	260.9		

Fr. 3.4√1.

6	√2	√.2
6	√9	√.4

B. 394.

6	√6	0.0
6	√7	0.0

5h	48m	1m.54s
	54	55
6	0	56
	6	57
	12	58
	18	59
	24	2 0
	30	1
	36	2
	42	3
	48	4
	54	5
7	0	

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1912phae.proj..611N

Sept. 27. 1912.

α Ophiuchi. H. obs. Arandora.
Phot. I. 7" cap.

17	9	+1.4
20	14	
+3	6	

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1912phae.proj..611W

Sept 27, 1912.

Index left + above

I

7-38-40

139.0 ← Vardis

205.0 66.0

32 5.5

18.0 2.4 / 114.5 −1.23

147.4 0.7 −1.14

198.1

31.5 76.5 / 127.2 −1.04

Right + below

41.4 2.2

123.6

34.8 6.7 / 134.9 −0.40

91.5

3.8 4.2 −0.74

7-44-45 112.0

83 25 221.0 2.2

7 41 42 303.2 140.4 −0.77

+5 +50

12 42 32 −0.96

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1912phae.proj..611W

Sept 27, 1912

Right & below — II

7-46-√0

41.6 A1.2
122.8
234.4 √√.2
289.6 136.4 −0.4√

√2.√ √6.3 −0.46
108.8
224.3 74.7
303.0 13√.0 −0.44

Left and above

31√.1 64.4
23.9
14√.0 √√.1
200.1 123.9 −1.11

7-√1-√√

98 45
7 49 22
+5 +50
12 50 12

3√5.2 √2.4 −1.09
18.0
13√.2 12.4
208.0 12√.6 −1.07

P.A. 27.6 −0.94

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1912phae.proj..611W

Sept 27, 1912

Left + above III

8-0-40

317.1
29.0 71.9 v
124.2
197.8 73.6 v / 144.5 v −0.66

326.0 v 55.6 v
21.6
136.8 69.3 v
206.1 / 124.9 v −1.09

Right and below

224.0
304.0 80.0 v
54.0 60.2 v
114.2 / 140.2 v −0.77

231.6 63.0 −0.74
294.6
41.4 / 80.2
121.6 / 143.2 −0.71

−0.41 v

8-6-0

6 40
8 3 20
+5 50
13 4 10

✓

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1912phae.proj..611N

Sept. 27. 1912.

Fourth Type. +36° 3243
K. obj. Brand rec.
Phot. T. 7" cap.

1d	40	+37
21	√	
+2	2√	

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1912phae.proj..61W

Sept 27, 1912.

Index right & below I

137.0 ~~Fourth type dis~~

8-35-20 208.6 71.6

317.√ 21.6

34.1 1√3.2 −0.√1

179.2 23.0√ −0.6~

212.2

319.0 √9.7√

18.7 142.7√ −0.7~

Left √ above

40.3

12√.8 2√.√√

230.4 63.6

294.0 149.1√ −0.√9

√0.6 67.4 −0.√~

8-41-30 118.0

76 50 219.1 29.1

8 38 25 308.2 1√6.√ −0.4√

+5 +50 −0.√7

13 89 15 P.A. √2.3

√

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1912phae.proj..611W

Sept. 27. 1912.

ε Aurigae. W. obs. Brand rec.
7" cap. Phot. ✓

24		
4	52	+43.6
21	40	
−7	12	
+14	52	

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1912phae.proj..611W

Sept 27, 1912

I

Right & above
708 Vardis

9-8-45

95.6	24.8		
254.0	16.0	-3.72 ✓	
✓70.0	40.8 ✓		
			-3.86
73.9			
91.3	17.4		
✓53.0	18.5	-4.01 ✓	
✓71.✓	35.9 ✓		

Left and below
344.4

2.1	17.7		
165.✓	13.8		
179.3	31.5 ✓	-4.30 ✓	
			-4.25
344.7			
359.3	14.6		
162.✓	18.3		
180.8	32.9 ✓	-4.20 ✓	
			-4.06

9-14-15
22 60
9 11 30
+5 +50
14 12 20

P.A. 170.8 Vernier B

watch 50 secs. slow

✓

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1912phae.proj..611N

Oct. 14, 1912. (Monday).

u Aphrisiki:

+1.4

17 9
21 33
+4 24

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1912phae.proj..611N

Oct. 14, 1912.

I

Left + above

	314.8	Var. dis.
7-47-20	32.0	77.2
	145.0	71.0
	196.0	124.2 −1.02
	328.0	49.3 −1.04
	17.3	
	134.4	77.4
	211.8	126.7 −1.05

Right and below

	217.4	91.1
	308.5	
	43.2	94.8
	118.0	165.9 −0.27
	229.0	69.0 −0.30
7-52-25	298.0	
99 45	35.0	92.9
7 49 52	127.9	161.9 −0.34
+5 9		−0.67
12 50 1		

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1912phae.proj..611W

Oct. 14, 1912.

II

Right and below

7-53-45

220.4
308.0 47.6
50.0 64.0
114.0 111.6 −0.14

118.5 77.0 −0.36
305.5
33.2 93.4
127.0 110.4 −0.17

Left & above

129.1
212.4 43.3
324.8 112.2
20.0 134.5 −0.40

144.2 −0.42
7-59-35 102.0 97.4
113 20 311.6 79.6
7 56 40 31.2 110.8 −0.43
+5 9
12 56 49 −0.59

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1912phae..proj...61W

Oct. 14, 1912.

///

Left & above

8-2-15

131.0
210.0 79.0
324.0 √6.0
20.0 13√.0 −0.44

144.0 √4.0 −0.4√
202.0
309.0 43.0
32.0 141.0 −0.7√

Right and below

36.6 91.0
127.6
√76.0 73.2
√99.2 164.√ −0.30

50.2 63.4√ −0.34
8-7-30 114.0
9 45 217.1 91.9 √
8 4 52 309.0 155.7 −0.46
+5 9
13 5 1 P. A. 207.5 Ver. B. −0.60

√

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1912phae.proj..611W

Oct. 14. 1912.

ε Aurigae

7" refr.

24
~~K~~ √2 +43.6
22 33
−6 19
+√ K1

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1912phae..proj..611N

Oct. 14, 1912.

I

Right + above

71.5 ← Var. dis.

8-50-20

95.2 23.7

251.7 14.8

269.7 ——

41.7 - 3.6A

76.3

90.9 14.6 -3.7A

249.7 23.4

273.1 ——

38.8 -3.4A

Left + below

343.5 17.2

1.3

166.3 14.6

180.9 ——

32.4 -4.23

343.9 14.2 -4.13

8-57-50

358.1

163.0 21.4

184.4 ——

35.6 -4.03

108 108

8 54 85

+5 +9

18 54 94 ✓

P. A. 171.0 Ver. B.

-3.96

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1912phae.proj..61W

Oct. 14, 1912.

Fourth Type Star +2° 4709.
Wash. Standard Vel.
9.5 cap. Phot. I.

23	39	+2,7
23	18	
−0	21	
+11	39	

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1912phae..proj..611

Oct. 14, 1912.

Left + above

241.4 4th type dis. I

9-45-0 283.0 41.6

67.9 24.9

96.8 70.5 −2.49

247.0 30.7 −2.50

277.7

64.0 39.0

103.0 69.7 −2.52

Right + below

155.0

189.9 34.9

339.5 24.3

3.8 59.2 −2.49

160.5 25.0 −2.94

9-49-40 185.5

94 40 336.4 29.6

9 47 20 6.0 5 4.6 −3.07

+5 +9

14 47 29 P.A. 339.5 Ver. B.

−2.74

watch 9 secs slow

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1912phae.proj..61W

Oct. 15. 1912. (Tuesday)

Fr. 3451

5 49 36.5

~~50~~

5 52 36.9

B. 394

5 48 0.0

~~49 0.0~~

~~50 0.0~~

5 51 0.0

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1912phae.proj..64W

Oct. 15, 1912.

6-56-10 6 Clouds

6-57-0 Clouds

6-58-0 Sats gone, Jup gone also in Phot.

6 58 43 Sat 2 not certainly seen but suspected

59 37 Clouds

59 56 Sat 2 not certainly seen, but probably ~~possibly~~ suspected

W's watch used for times above. Watch 1m 45 secs fast.

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1912phae.proj..61W

Pct. No. 1912.

U Ophiuchi. Kr. obs. Brandt rec.
Phot. I.
Full Apr.

$\frac{17}{21}$ $\frac{9}{2}$ +1.F

+3 V3

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1912phaa.proj..61W

Oct. 15, 1912.

I

Left + above

313.3 ← Var. dis.

7-12-5

31.1 77.2

136.8 62.7

205.5 146.5 −0.64

321.3 62.4 −0.66

23.7

120.3 42.5

212.8 144.9 −0.62

Right + below

213.0

312.0 99.0

41.3 77.4

118.7 176.4 −0.07

226.9 73.7 −0.12

7-19-0

300.6

31 5

32.4 97.9

7 15 32

130.3 171.6 −0.16

+5 9

12 15 41

−0.39

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1912phae.proj..61W

Oct. 15, 1912.

II

Right and below

~~2 5 35~~

7-25-35

215.0
311.1 96.1

43.9 75.2
119.7 171.9 −0.15

228.8 70.4 −0.20
299.2

32.7 96.3
129.0 166.7 −0.2v

Left + above

132.5 41.5
214.0

322.7 60.1
22.8 141.6 −0.74

141.4 63.9 −0.6A
205.3

309.2 43.7
32.9 147.6 −0.6v

−0.4K

7-34-0
59 35
7 29 48
+5 9
12 29 57

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1912phaa.proj...61W

Oct 15, 1912.

III

Left + above

7-41-20

132.4
215.2 42.8
324.0 60.0
24.0 142.8 −0.72

141.6 63.2 −0.66
205.4
209.2 42.3
33.5 148.1 −0.61

Right + below

35.0
128.2 93.2
231.0 63.0
294.0 156.2 −0.45

51.0
120.8 69.8 −0.43
218.4
307.3 44.9 −0.41
152.7

7-48-30
89 50
7 44 55
+5 9
12 45 4

−0.54

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1912phae.proj..61W

Oct. 15, 1912.

IV

Right + below

	34.5		
8-2-35	121.4	86.9	
	232.0	63.5	
	295.5	150.4	−0.57
	48.5	69.9	
	118.4		−0.45
	215.8	92.6	
	308.4	162.5	−0.33

Left + above

	313.6	83.4	
	37.0		
	144.3	55.7	
	200.0	139.1	−0.79
	325.2	57.7	−0.01
8-8-5	22.9		
10 40	131.6	79.4	
8 5 20	211.0	137.1	−0.03
+5 9			−0.63
13 5 29			

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1912phae.proj..61W

Oct 15, 1912

V

Left and above

8-20-20

312.0
31.2 79.2
141.6
200.8 √9.2
132.6 −0.41

323.2
21.0 √7.4 −0.42
131.8
211.5 72.7
137.√ −0.42

Right + below

218.6
311.0 92.4
47.0
120.6 73.6
166.0 −0.27

√31.2
8-26-55 294.0 62.4 −0.34
47 15 34.9 91.9
8 23 38 126.8
+5 9 158.7 −0.48
13 23 47 P.A. 207.7 Ver. B. −0.60

Watch 9 secs slow
Brandis watch used in observations of N Ophiuchi

✓

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1912phae.proj..61W

Oct. 16. 1912. (Wednesday).

α Ophiuchi. H. obs. Brand rec.
Phot. I. 7" cap.

17	9	+1.4
21	36	
+4	27	

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1912phae.proj..6114

Oct. 16, 1912.

I

Left + above

	138.0	← Var. dis.	
7-42-10	208.7	70.7	
	325.0	56.4	
	21.4	127.1	−1.04
	144.7	56.2	−1.01
	200.9		
	314.8	73.9	
	28.7	130.1	−0.94

Right + below

	41.0	41.0	
	122.0		
	232.2	61.9	
	294.1	142.9	−0.72
	51.0		
7-49-20	110.8	59.8	−0.76
91 30	219.0	140	
7 45 45	303.0	143.8	−0.70
+5 17			
12 46 2			−0.86

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1912phae.proj..61W

Oct. 16, 1912.

II

Right + below

7-50-45

38.5		
121.8	A33	
230.2	63.A	
294.0	147!	−0.63
50.9	63.9	−0.62
114.8		
219.7	A46	
303.8	144.5	−0.60

Left + above

314.5		
30.1	75.6	
145.5	56.0	
201.5	131.6	−0.9√
3×6.7	√2.3	−1.0K
18.5		
137.0	71.0	
×08.0	123.3	−1.12

−0.A3.

7-57-35

108	20	
7 54	60	
+5	17	
12	54	27√

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1912phae.proj..6117

Oct. 16, 1912.

III

Left + above

7-59-10

317.7
29.0 71.3
144.7 √6.1
200.8 127K −1.03

326.8 √3.K −1.04
20.2
134.9 73.9
208.8 127.3 −1.04

Right and below

221.4 42.4
304.2
√1.8 60.0
111.8 142.4 −0.72

√33.0 61.0 −0.73
294.0
41.2 40.4 −0.72
122.0 141.4 −0.88

8-5-50

8	85	0
8	82	30
+5		17
13	82	47

P.A. 107.6 Vernon B.

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1912phae.proj..611N

Oct 16, 1912.

Fourth Type, +59° 2410
W. obs. Braun rec.

24	2	+5 4.3
22	21	
−1	+1	
+10	19	

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1912phae.proj..611W

Oct 16, 1912.

I

Index right

12.2 ✓ Comp star dis.

8-35-55 220.0 97.8

314.0 71.3

25.3 169.1 +0.20

137.9 41.1 +0.14

214.0

305.2 95.1

40.3 176.2 +0.07

Index left

32.1 102.9

135.0

222.6 77.9

300.✓ 180.8 −0.02

47.4 179.2 77.6

8-42-5 123.0 +0.04

8 78 0 211.5 99.2

8 39 0 310.7 178.8 +0.10

+5 +17

13 39 17 P.A. 75.6 Vert B +0.09

✓

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1912phae.proj..611W

Oct. 16. 1912.

Fourth Type +3K' 4V00

21	36	+3K.A
23	6	
+1	30	

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1912phae.proj..61W

Oct 16, 1912.

Color 5 in Phot.

Index left

59.0 ← Fourth type dis

9-16-10

108.0 49.0

246.0

279.4 33.4 / 23.4 −2.12

66.2 36.0 −2.10

102.2

237.8 42.0 / 24.0 −2.04

285.8

Index right

329.0 −0.4

19.8

176.6 34.1 / 24.9 −2.07

190.7

335.6 35.0 −2.06

10.6

9-23-0

9 39 10

146.2 49.4 / 24.4 −2.06

9 19 35

196.0

+5 +17

14 19 52 P.A. 248.8 Ver. B. −2.04

J

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1912phae.proj..61W

Oct. 16. 1912.

Fourth Type +36° ~~3237~~ 3243

1A	K0	+37.4
23	26	
+4	K8	

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1912phae.proj..611w

Oct 16, 1912

Index right

219.8 Fourth type dis

9-45-45 305.0 [illegible]

52.0 [illegible]

116.8 [illegible] −0.[illegible]

229.1 −0.66

291.3 [illegible]

44.8 [illegible]

124.4 [illegible] −0.74

Index left

130.4 [illegible]

215.0

319.2 [illegible] −0.[illegible]7

25.[illegible]

9-50-15 139.0 [illegible] −0.[illegible]3

209.6 [illegible]

310.0 [illegible] −0.49

38.9

96

9 48 [illegible]

+5 +17

14 48 [illegible]17

−0.60

P.A. 233.2 Dec B.

Watch 17 secs slow

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1912phae.proj..61W

Oct. 12. 1912. (Friday).

α Ophiuchi. H. obs. Brand rec.
Phot. I.
7" conf.

17	9	+1,4
21	3/4	
+4	25	

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1912phae.proj..61.tif

Oct 18, 1912.

I

Index left + above

315.9 — Var. dis.

7 32 10

31.5 7V.6

14V.2 VV.3

200,V 130.9 ~~-1.30~~ -0.96

324.7 V7.3

22.0 -0.9

13V.2 77.3

212,V 134.6 -0.44

Right and below

223.0 41.0

304.0

V1.0 60.4

111.4 (41.4 -0.7V

-0.40

233.9 V9.6

7-38-3V 293.5

70 45 44.0 76.4 -0.46

7 35 22 120.4 136.0

+5 38

12 36 0 V -0.46

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1912phae.proj..611N

Oct. 18, 1912.

II

Right + below

7-40-0

224.2
301.5 77.3
√4.√ √6.0
110.√ 133.3 −0.91

23√.0 √7.√ −0.44
292.√
44.0 79.0
123.0 136.√ −0.44

Left + above

134.0
210.4 76.4
323.4 √4.6
22.0 13√.0 −0.44

144.0 √6.2 −0.97
200.2
317.8 70.1
27.9 126.3 −1.06

7-44-√√
84 55
7 42 28
±5 38
12 43 6√

−0.92

P.A. 28.1 Vernier B

√

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1912phae.proj..61W

Oct. 14. 1912.

R Z Cassiop. H. obs. Brandrec.
Phot. I.

26		
2	36	+69.0
22	14	
−4	22	
+7	38	

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1912phae.proj..611W

Oct 18, 1912

I

Index left + above
√7.8 Var dis

8-14-√√

110.0 √2.2
246.3 33.6
279.9 A√.A -2.03

64.6 3A.1 -2.01
102.7
238.9 49.1
288.0 A7.2 -1.99

Right + below
327.8 √0.2
18.0
155.1 3K.9
190.0 A√.1 -2.0√

334.6 3K.K -2.0A
9.0
8-20-20 148.√ 4A.7
3√ 1√.√ 197.2 A3.1 -2.10
A 17 3A.√
√ +3A.
13 1A 16.√ -2.0K

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1912phae.proj..61W

Oct. 18, 1912.

II

Right + below

8-25-25

329.0
18.8 49.8
154.0 36.0
190.0 45.8 -2.03

336.5 32.5 -2.10
9.0
147.7 47.9
195.1 80.4 -2.18

Left + above

240.2 43.7
283.9
66.5 33.4
100.3 77.5 -2.27

345.6 33.3 -2.22
378.9
59.0 47.2
106.2 80.5 -2.18

8-30-45
6 10.
A 24 5.
+ 3A.
13 24 43.

-2.16

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1912phae.proj..611W

Oct. 18, 1912.

III

Left x above

8-38-0

239.6
283.0 43.4
67.8 30.4
98.6] 7 K.2 −2.37

245.8 32.1 −2.3K
277.9
61.3 K3.7
105.0] 5.4 −2.32

Right x below

149.1 KV.V
194.6
337.6 29.6
7.2] V.1 −2.3K

8-43 V0

A1 V0. ✓
& 40 VV. ✓
V +34. ✓
13 41 33

156.9 30.3 −2.3K
187.2
330.0 KV.0
15.0] V.3 −2.3K

−2.3K

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1912phae.proj..61W

Oct 18, 1912.

IV

Right & below

8-55-55

151.4 +1.8
193.2
338.4 26.6
5.0 64.4 −2.56

159.9 27.1 −2.56
187.0
331.1 +0.9 −2.57
12.0 64.0

Left and above

62.2 +0.8
103.0
249.2 25.6
274.8 66.4 −2.63

70.0 −2.67
97.5 −27.5

9-1-35

117 30. 242.7 36.7
A 4 4 79.4 6.2 −2.71
13 9 23. −2.62

1912phae.proj..61W

Oct. 18, 1912.

I

Left + above

9-13-25

65.0
103.8 38.8
248.0 27.5
275.5 66.3 −2.63

71.0 25.7 −2.71
96.7
143.5 36.3
179.8 62.0 −2.79

Right + below

333.0 38.7
11.7
159.2 27.4
186.6 66.1 −2.61

339.5 25.7 −2.61

9-20-15

33 40
9 16 50.
+5 +38.
14 17 28.

5.0
153.4 40.6 −2.61
194.0 66.1 −2.66

P.A. 204.0 Vernier B.

Brand's watch used in previous observations.
watch 38 secs. slow

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1912phae.proj..611

Oct. 14. 1912.

Fourth Type +3K° 4V 00.
H. obs. Brandt rec.
Phot. S.

21 36 +3K,A
23 KK
+2 A

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1912phae.proj..611W

Oct 18, 1912.

Index left

60.2 ← Fourth type dis.

9-53-20
110.4 50.2
246.4 31.5
277.9 41.7 −2.14

66.9 30.7 2.22
97.6 46.1
239.1 76.2 −2.29
285.2

Color 7 in Phot.

Index right

149.5 46.2
196.3
336.4 32.2
9.2 79.6 −2.21
156.5

9-59-20 190.2 33.7 −2.22
12 40. 329.4 44.2
9 56 20. 14.2 78.5 −2.24
+1 10.
14 57 30. P.A. 248.0 −2.22
9694.6232

Ws watch used on above 4th Type
watch 1 m. 10 secs slow.

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1912phae.proj..61W

Oct. 19. 1912. (Saturday).

Fourth Type Star +V9° 2d10.

2K		
0	2	+V A, 3
22	3	
−2	0	
+10	1	

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1912phae.proj..611N

Oct. 19, 1912.

Index left

7-58-45

301.1 4th Type dis
44.9 103.8
133.8 74.2
212.0 178.0 +0.04
170.0

311.2
31.0 79.8 −0.02
125.8 95.9
221.7 175.7 −0.08

Index right

215.6 93.4
309.0
42.3 27.0
119.3 170.4 −0.14

226.6 −0.15
304.0 77.4
34.6 96.4
131.0 173.8 −0.12

8-3-35
220.
A 110.
+5 −1 9.
1301

−0.08

969.5417

√

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1912phae.proj..61W

Oct. 19. 1912.

α Ophiuchi:

17	9	+1.4
2½	2½3	
+V	14	

Abandoned.

Fourth Type +3.4° 4V00.

21	36	+3 4.4
22	33	
+0	V7	

Abandoned — Clouds now much more abundant.

Watch 1m. 9secs. fast.

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1912phae.proj..611W

Oct. 21. 1912. (Second day)

α Ophiuchi.

17 9 +1.4
22 11

+√ 2

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1912phae.proj..61W

Oct 21, 1912.

I

Left + above

8-2-40

318.1 ✓ Var dis. ✓
28.4 ✓ 0.3 ✓
139.8 ✓ 61.4 ✓
201.6 ✓ 131.1 ✓ 0.94

321.2 ✓ 61.1 ✓ −0.43
22.3 ✓
130.1 ✓ 81.4 ✓
211.9 ✓ 142.9 ✓ −0.72

Right + below

225.7 ✓ 74.7 ✓
300.4 ✓
0.6 ✓ 63.1 ✓
113.7 ✓ 137.8 ✓ −0.42

8-9-40

12. 20
8 6 10
+5 −1 14
13 4 56

~~321.0~~ ✓ ~~69.2~~ ✓
300.2 ✓ ~~81.0~~ ✓
42.0 ✓
~~+22.2~~ 123.0 ~~100.2~~ −0.17

−0.42

P.A. 207.5°

Reject last set. Variable quite low, moon bright, sky somewhat murky and observations somewhat uncertain. First 3 sets (retained) ⅓ wt. ✓

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1912phae.proj..611W

Oct. 21. 1912.

Fourth Type. +vg' 2d 10

24	2	+VA.3
22	41	
-1	21	
+10	39	

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1912phae.proj..611W

Oct 21, 1912.

Index left

135.8 ← Fourth type dec's

8-31-40

208.5 72.7

305.0 103.2

48.2 175.9 −0.04

118.5 107.5 ✓

226.0 +0.06

310.7 43.3 ✓

34.0 190.4 ✓

169.2 +0.20

Index right

26.8 109.6

136.4

228.0 64.5 ✓

296.5 172.1 −0.03

43.0 76.1 +0.02 ✓

8 36-40

119.1

68 20 210.9 104.0

8 34 10 318.9 174.1 +0.04

+5 -1 -14 175.9

13 38 56 P.A. 256.8 +0.04

✓

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1912phae.proj..611W

Oct. 21. 1912.

R Z Cassiop.

26
36 +69.0
23 1
-3 3V
++ 2V

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1912phae.proj..61W

Oct 21, 1912.

I

Left + above

65.4 ← Var dis

8-55-40 101.0 3V.6

2V3.8 19.6

273.4 V V.2 −3.0V

71.0 2K.4 −3.00

9V.4

245.7 33.3

279.0 V7.7 −2.9V

Right + below

335.2 3V.4

10.6

159.7 2V.2

185.5 61.2 −2.21

340.8 2V.3 −2.72

6.1

9-1-35

17 57 15 153.0 3A.0

18 58 38 191.0 633 −2.7K

+5 −1 14 −2.49

13 57 24 V

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1912phae.proj..611N

Oct 21, 1912.

II.

Right & below

9-3-20

334.9		
10.4	36.1	
159.7	24.6	
184.3	60.7	−2.24
340.6		
5.0	24.4	−2.43
153.6	36.7	
190.3	61.1	−2.42

Left and above

ν44.7	34.8	
ν29.5		
71.5	22.9	
94.4	ν7.7	−2.9ν
249.8	23.7	−2.91
ν73.5		
65.2	36.1	
101.3	ν9.8	−2.87 −2.87

9-9-30

	12	50
9	6	25
+5	−1	14
14	5	11 ν

P.A. ν4.4 Yerkes B

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1912phae.proj..611W

Oct. 21. 1912.

Fourth Type Star +34° 4V 10.

21	36	+34.4
23	V1	
+2	1V	

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1912phae.proj..611N

Oct 21, 1912.

Index left

59.2 Fourth type dia

9-40-0 105.4 46.2

46.0 33.0

79.0 79.2 −2.2

64.0 35.6 −2.20

99.6

39.2 44.6

283.8 80.2 −2.19

Color 6 in Photometer

Index right

328.0 0.6

18.6

155.4 34.5

189.9 34.1 −2.05 −2.11

335.0 35.0

9-45-50 10.0

149.3 46.0 −2.17

85 50 195.3 81.0

9 42 55

+5 −1 14 −2.16

14 41 41 P.A. 248.0 Vernier B

Watch 1m 14 secs fast. √

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1912phae.proj...61W

Oct. 22. 1912. (Tuesday).

α Ophiuchi: 5 obs. Brandes.
Full Ap. – Plt. I.

17 9 +1.4
-2 -7
+4 +2

Full Aperture used.

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1912phae.proj..611W

Oct 22, 1912.

I

Index left and above

311.0 Var. dis.

7-57-15 25.0 7 K.0

148.6 √0.7

199.3 12 K.7 −1.09

3√3.7 √6.3 −1.04

20.0

13√.2 7 3.3

208.√ 129.6 −0.99

Right + below

21√.0 96.0

311.0

47.0 6 4.4

115.4 16 K.K −0.30

√33.0 √4.0 −0.64

8-4-40 291.0

1 √√.√ 44.0 7 1.4

4 0 √4.√ 11√.8 12 9.4 0.9 4

+√ -1 -34.√

12 059 -4.√ P.H. 207.7 −0.44

969 4.√4÷10√

Region low – many bright. – Pts. rather labored.

Group 1/3 wt.

√

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1912phae.proj..61W

Oct. 22. 1912.

R Ys Tauri.

27		
~~28~~	V A	+27.2
22	Y0	
−V	1 A	
+6	~~K2~~	

Abandoned

Fourth Type +V9° 2A10

2K	2	+V A.3
22	Y0	
−1	2~	
+10	3A	

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1912phae.proj..61W

Oct 22, 1912.

Index left

	128.0	← Fourth type lines	
8-26-45	214.0	46.0	
	314.6	77.4	
	32.0		
		163.4	−0.32
	138.2	69.6	−0.32
	207.8		
	307.0	93.0	
	40.0	162.6	−0.33

Index right

	27.0	109.0	
	136.0		
	225.8	71.8	
	297.6	180.8	
		179.2	+0.02
	40.2		
8-32-25	124.1	83.9	+0.09
9 10,	212.2	104.3	
29 31,	316.5	188.2	
−34,		171.4	+0.16
13 29 1,	Pl. 256.2		−0.12
9694. 6104			

✓

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1912phae.proj..61W

Oct. 22. 1912.

R H Tauri.

27	$v-\alpha$	$+27.2$
23	0	
-4	$v-\alpha$	
$+7$	2	

Abandoned — Came up cloudy.

watch 1m. 34 sec fast

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1912phae.proj..61W

Oct. 24. 1912. (Thursday).

R Z Cassiop. 4 obs. Brandrae,
Phot. 9.

26
4 36 +69.0
22 27

-4
+7 9 v 1

7 1r to d - 30 +30.

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1912phae.proj..61W

Oct. 26. 1912. (Saturday).

R Z Cassiop. H. obs. Brandt rec.
Phot. I.

26		
4	36	+69.0
22	36	
−K	0	
+A	0	

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1912phae.proj..61W

Oct 26, 1912.

I

Left + above

	65.0 ←	Var dis	
8-8-10	101.0	36.0	
	251.2	25.1	
	276.3	61.1	−2.42
	72.8	22.0	−2.92
	94.8	33.6	
	246.0	56.6	−3.03
	2796		

Right + below

334.2	34.2	
9.0		
161.4	22.0	
183.4	56.2	−2.92
341.0	24.0	−2.94

8-11-40

19	10.	15.5	34.9
9	55.	190.4	52.9
	−30.		
13 9	25.		
9702.	5+2		

−2.90

−2.93

Somewhat troubled by clouds in above groups but groups considered good.

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1912phae.proj..641W

Oct 26. 1912.

II

Right + below
333.3
12.4

8-13-5

Stripped by clouds ~~at~~ for the present, at any rate.

Watch 30 secs fast.

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1912phae.proj..61W

Oct. 2 A. 1912 (Monday)

α Ophiuchi. W. obs. Brandt rec,
7" cap. Phot. V.

17 9 +1.K
26 1K
+V V

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1912phae.proj..641N

Oct. 28, 1912.

I

Index left + above

317.8 Var dis

7-32-15 29.4 6.96

142.0 7.9

199.9 7.1 — 1.03

12.7

324.5 5.3 — 0.94

19.8

130.3 11.6

211.9 136.9 0.84

Right + below

222.7 77.7

300.4

50.7 61.3

112.0 139.0 0.79

34.5 5.0 0.84

7-37-10 89.5 39.8 79.9 0.82

69.2 20.8 136.0 0.86

314.2 119.7 134.9

+5. — 0.09

137.47 — 0.82

9704.5-242

P.A. 207.2 Vernier B

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1912phae.proj..61W

Oct. 24, 1912,

R I Cassiop. W. to Brandrec,
Phot. I,

26		
2	36	+69.0
22	36	
−4	0	
+4	0	

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1912phae.proj..611N

Oct. 28, 1912.

I

Left and above

6√.6 Var. dis.

8-0-0

101.0 3√.4
2√0.4 2K.6
27√.0 60.0 −2.26

70.8 2K.0 −2.96
94.8 31.2
247.0 √√.2 −3.0√
278.2

Right and above

334.0 39.8√
13.8
160.9 2K.K
18√.3 6K.2 √ −2.71

339.9 23.3√ −2.24
3.2

8-4-10
8 4 10
8 2 5
+5 +5
13 2 10√

1√6.√ 33.7√ √ −2.98
190.2 √7.0

−2.90

1912phae.proj..611W

Oct 28, 1912.

II

Right and below

8-5-20

333.9 36.√
10.4
161.5 22.7
184.2 √9.2 −2.49

341.0 23.2 −2.44
4.2
154.0 36.2
190.8 60.0 −2.46

Left & above

243.8 37.1
280.9
71.1 23.√
94.6 60.6 −2.44

−2.46

√√0.√ 23.9
274.4
67.2 3√.3
10√.√ √9.2 −2.49

8-9-20
14 40.
8 7 20
+5 +5
13 7 25 R.A. 24.3, Vernier B

−2.47

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1912phae.proj..61W

Oct. 24. 1912.

R X Cassiop. Yr. obs. Brandrec.
Plat. I.

26
X 1A +66.A
23 0
-3 1A
+A K2

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1912phae.proj..611W

Oct. 28, 1912

I

Left and above

	45.2	Comp. Star dis.	
8.48-30	120.6	75.4	
	ν39.3	47.8	
	ν87.1	123.2 ✓	+1.12 ✓
	√6.4	√4.4	+1.02
	110.8	73.0	
	ν26.0	177 ✓	+1.03 ✓
	299.0		

Right and below

	312.3	77.6	
	29.9		
	148.0	√0.4	
	198.4	128.0 ✓	+1.02 ✓
	326.9	√2.0	+1.00
8-53-40	18.9		
102 10. ✓	132.9	74.6	
Δ √1 √. ✓	ν11.√	130.5 ✓	+0.97 ✓
+5 5			+1.04
13 51 10			

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1912phae.proj..61

Oct. 28, 1912.

II

Right + below

8-√-√-√

31√.0
31.2 76.2
146.4 √2.4
199.2 129.0 √ +1.00√

3√6.1 √3.0 +1.00
19.1
134.1 76.7
√10.8 129.7 √ +0.99√

Left + above

224.3 74.2
298.√
√4.4 √6.9 √
111.3 131.1 +0.96√

235.6 √4.6 +0.9√
290.2
46.0 77.3 √
123.3 131.9 +0.94√ +0.94

8-59-35
114 40
8 57 20
+5 5
13 57 25

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1912phae.proj..611W

Oct 28, 1912.

III

Left + above

9-0-55

2240
2958 ⟩1.8
54.3 √6.7
1110 12.5 √ +1.01 √

2346 √K.A +0.90
2894
46.0 ⟩6.2
122.2 131.0 √ +0.96 √

Right and below

1346 ⟩√.1
N09.7
3N3.1 √6.1
19.2 131.2 √ +0.9 √ √

+0.92

9-4-55

4 110
9 2 55
+5 5
14 3 0

1440 √2.9
N02.9
315.8 ⟩2.7
30.5 1336 √ +0.90 √

P.A. N08.0 Ver. B

+0.9 √

√

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1912phae.proj..61W

Oct. 24. 1912.

ε Aurigae. Ir. ds. Brandrec,
Phot. I. 7" cap.

2α		
K	√2	+43.6
2K	K	
−4	Kα	
+7	12	

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1912phae.proj..611N

Oct. 28. 1912.

I

Right & above

9-24-40

63.2 ← Var. dis.
105.7 42.5
246.3 33.5
279.8 76.0 − 2.32

65.9 32.3 − 2.41
98.2
243.0 37.9
280.9 70.2 − 2.50

Left and below

335.5 35.5
11.0
157.5 30.6
188.1 66.1 − 2.64

2.6

9-29-20

338.5 24.0
6.5
153.6 36.4
190.4 64.4 − 2.68

2.5

P.A. 171.4 Vernier B

	54	80
9	27	0
+5		+5
14	27	5

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1912phae.proj..61N

Oct, 28, 1912.

II

Right + above

9-38-40

242.9 40.0 ✓
282.9
66.7 32.3 ✓
99.0 72.3 ✓ −2.43 ✓

245.4 31.2 ✓ −2.41 ✓
276.6
6 2.4 42.5 ✓
104.9 73.7 ✓ −2.39 ✓

Left and below

157.2
191.4 34.2 ✓
338.7 26.5 ✓
5.2 60.7 ✓ −2.44 ✓

159.2 27.7 ✓ −2.40 ✓

9-45-10

8 43 50
9 42 55
+5 +5
14 42 50

186.9
334.0 37.1 ✓ −2.76 ✓
9.1 62.2

−2.60 ✓

P.A. 171.3 Vernier B

noted 5 secs slow

✓

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1912phae.proj..611W

Oct. 29. 1912. (Tuesday).

α Ophiuchi.

17 9 +1.4
22 24
+V 19

Abandoned - too cloudy.

R X Cassiop.

26
2 18 +66.2
22 34
−3 40
+4 20

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1912phae.proj..61m

Oct. 29, 1912.

I

Left + above

8-2-55

228.0 ✓ Comp. Star dis.
296.4 62.4
56.1 ✓3.7
109.8 122.1 +1.14

237.3 ✓1.3 +1.10
288.6
45.7 7✓.1
120.8 126.4 +1.0✓

Right and below

134.0 76.✓
210.5
326.4 ✓4.4
20.8 130.9 +0.96

+0.96

145.9 ✓6.0
201.9
316.4 7✓.2
31.6 131.2 +0.96

+1.03

8-8-50
11 4✓.✓
2 ✓ ✓2.✓
+✓ +22.✓
136 14.✓
970✓.✓4✓9✓

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1912phae.proj..611W

Oct. 29, 1912.

II

Right + below

8-10-55

132.0
213.8 Δ1.2
326.8 ▽2.0
18.8 133.2 +0.90

143.9 ▽2.3 +0.44
202.2
311.9 7Δ.0
29.9 136.3 +0.4▽

Left and above

45.3 7▽.7
121.0
▽38.4 4Δ.7
287.1 12Δ.4 +1.10

+1.10

56.0 ▽2.6
8-16-30. 108.6
~~8-16-30~~ 225.3 7².2
297.5 12Δ.2 +1.09 +0.99

27 2▽.▽
+ 13 4².
+▽ +22.▽ P.A. 27.8
13 14 4.▽
970 ▽. ▽▽10-▽

J

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1912phae.proj..61.tif

Oct. 29. 1912.

R Z Cassiop.

26		
Z	36	+69.0
23	A	
−3	2A	
+A	3Z	

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1912phae.proj..61W

Oct 29, 1912.

Left + above

I

66.8 ← Var dis

8-29-15

99.7 32.9

270.6 23.4

274.0 +6.3 −3.00

70.6 25.4 −2.9 V

96.4

246.0 33.2

279.2 V9.0 −2.90

Right + below

335.0 35.4

10.8

159.6 26.4

186.0 62.7 −2.7 A

339.9 25.1 −2.76

8-34-50

5.0

64 5

154.0 37.9

8 32 2

191.9 63.0 −2.7 V

+5 +22

−2.46

13 32 24

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1912phae.proj..61.tif

Oct 29, 1912.

II

Right + below

8-48-55

335.6
9.9 34.3
161.2 2v.2
186.4 v9.v −2.AA

340.5 2Kv −2.A6
5.0
155.3 3v.9
191.2 60.K −2.AK

Left and above)

245.2 3v.6
280.8
71.0 23.A
94.8 v9.K −2.AA

251.1 22.K v −2.96
8-43-40 273.5
92 35 67.5 33.3 v
8 46 18 100.8 v5.7v −3.03
+5 +22
13 46 40 P.A. v4.0 Vernier B −2.91

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1912phae.proj..611W

Oct. 29. 1912.

ε Aurigae 7" cap. Phot. V.

2A

~~4~~ V2 +43,6

23 4A

−V 4

+6 V6

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1912phae..proj..61N

Oct 29, 1912.

I

Right + above

	243.4 ← Var. dis.		
9-9-50	286.0	42.6	
	66.2	32.6	
	98.8	77.2	−2,34
	246.6	33.2	−2,30
	279.8		
	60.6	44.2	
	104.8	77.4	−2,27

Left and below

	154.2		
	191.6	37.4	
	338.6	29.6	
	8.2	67.0	−2,61
	159.9	24.6	−2.63
9-14-25	188.5		
	337.2	37.1	
	14.3	67.7	−2.6

	24	15
9	12	8
+5		+22
14	12	30

−2.46

P. A. 171.0 Ver. B.

Watch 22 secs. slow

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1912phae.proj..61W

Oct. 30. 1912. (Wednesday)

α Aphrichi

17 9 +1.F
21 14~
+F 33

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1912phae.proj..61.tif

Oct 30, 1912.

I

Left + above

135.3 ← Van dis.

7-1-45

206.8 } 1.5

321.0 7.9

18.9 9.4 − 0.99

145.0 6.5

201.5 −0.93

312.7 8.4

31.5 13.3 −0.47

Right and below

215.5 9.0

309.5

48.8 60.7

109.5 15.7 −0.48

225.4 71.6 −0.46

7-8-0

297.0

38.1 4.9

124.0 17.5 −0.43

T	9	HS
7	4	5-2
+5	2	3
12	6	55

−0.70

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1912phae.proj..61W

Oct. 30, 1912.

II

Right + below

7-13-0

224.0
310.0 ∠6.1
54.7 63.1
117.8 169.1 −0.√9

#

237.8 61.2 −0.√3
299.0
37.0 9K.0
131.0 1√√.2 −0.47

Left + above

147.4 √6.6
204.0
313.2 ∠K.9
38.1 1K1.√ −0.74

−0.76

136.6 77.K
214.0
324.0 62.0
26.0 139.K −0.79

−0.64

7-18-15

	31	15
7	15	38
+5	2	3
12	17	41 √

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1912phae.proj..61.tif

Oct. 30, 1912.

III

Left + above

7-24-0

145.8 6K,2
210.0
315.0 A2,0
37.0 1K6,2 −0.6√

~~136.2~~
~~314.8~~ −0.67

325.2 √9.A
25.0
137.5 AK,√ −0.69
222.0 1KK3

Right + below

224.8 AK2√
309.0 ✓
54.9 62.1 ✓
117.0 1K63 ✓ −0.6√

233.3 7√,√ ✓ −0.46
308.8
42.8 90,K ✓
~~28.2~~ 16√.9 ✓ −0.27
133.2 −0.√6

7-31-55

	55	55
7	27	58
+5	2	3
12	80	

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1912phae.proj..61W

Oct. 30, 1912.

IV

Right and below

7-37-0

224.4
311.0 46.6
51.0 66.5
117.5 ——
113.1 −0.51

533.0 72.0 −0.44
305.0
41.5 44.4
130.3 ——
160.4 −0.37

Left and above

144.0
211.0 67.0
313.0 44.6
41.6 ——
111.6 −0.47

~~7-43-45~~

~~135.1~~
~~111.4~~ −0.44
~~321.9~~
318.5 73.9
32.4

7-46-10

134.0 44.0
118.0 117.9 −0.45

	83	10
7	41	35
+5	2	3
12	43	88

P.A. 26.1, Ver. B. −0.44

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1912phae.proj..61.tif

Oct. 30. 1912,

R Z Cassiop.

26		
~~2~~	36	+69.0
22	~~47~~	
−3	49	
+4	11	

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1912phae.proj..61W

Oct 30, 1912.

I

Left ✓ above

244.8 ← Van. dis.
287.1 ✓2.3
74.2 25.9
100.1 6A.2 −2.57

8-2-25

✓✓3.0 27.0 −2.54
280.0
67.5 ✓0.1
107.6 67.1 −2.60

Right ✓ below

153.6 ✓✓.6
198.2
344.3 23.0
7.3 67.6 −2.59

−2.60

165.5 23.4
189.3
333.5 ✓2.7
16.2 66.7 −2.62

−2.59

8-7-35

9 60
8 ✓5 0
+5 +2 3
13 7 3

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1912phae.proj..61.tif

Oct. 30, 1912.

II

Right + below

8-9-35

156.7 42.5
199.2
343.3 24.1
7.4 66.6 −2.6−

164.8 23.7 −2.70
188.5
337.0 34.6
15.6 62.3 −2.77

Left + above

67.5 39.2
106.7
255.0 22.3
277.3 61.5 −2.40

74.2 2K3 −2.40
98.5
246.5 37.6
~~243.4~~ 61.9 −2.79
284.1 −2.75

8-14-45

	24	20
8	12	10
+5	2	3
13	14	13

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1912phae.proj..61W

Oct 30, 1912.

III

Left + above

8-19-10

68.5 3A.r
107.0
254.7 23.7
278.4 62.2 −2.7A

74.9 23.6 −2.A2
98.5
248.2 36.r
284.7 60.1 −2.A6

Right and below

337.2 39.6
16.8
163.7 26.6
190.3 66.2 −2.6K

342.7 2r.6 −2.6A
8.3
157.2 3A.3
195.5 6.39 −2.7z

−2.7r

8-24-30

	43	40
8	21	50
+5	2	3
13	23	53

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1912phae.proj..611

Oct. 30, 1912.

IV

Right + below

8-31-30

339.3
15.9 36.6
165.0 23.2
188.2 59.8 −2.47

344.8 22.1 −2.46
6.9
157.0 38.1
195.1 60.2 −2.47

Left + above

248.0
284.6 36.6
74.3 27.4
102.1 64.0 −2.70

253.6 26.1 −2.75
279.7
69.4 37.6
105.0 61.7 −2.40

8-37-35
69 5
8 34 32
+5 2 3
13 36 85

−2.40

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1912phae.proj..611W

Oct 20, 1912.

V

Left of Above

8-43-50

247.6
283.9 36.3
75.7 2 x 3
98.0 5 4.6 −2.91

N 55.5
278.0 22.4 −2.44
67.0 40.0
107.0 62.4 −2.76

Right and below

157.2
196.0 38.8
344.4 22.2
6.6 61.0 −2.42

165.5
190.5 25.0 −2.83
338.7 35.4
14.2 60.5 −2.44

8-49-25
93 15
8 46 38
+5 2 3
13 48 41

P. A. 203.3 −2.44

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1912phae.proj..61.tif

Oct. 30. 1912.

R X Cassiop. Wash. obs. Brandt rec.
Full Aps. Phot. S.

26		
R	1 A	+66, R
23	42	
-2	36	
+9	24	

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1912phae.proj..611

Oct 30, 1912

I

Left + above

8-59-55

0,3		
123.2	7.9	
239.4	11.9	
291.3	124.4	+1.09
61.6	1.1	+1.13
113.1		
231.6	69.5	
301.0	120.9	+1.17

Right + below

317.8	7.2	
33.0		
149.3	1.1	
204.8	130.7	+0.96
330.8	1.0	+0.94
21.8	8.0	
138.0	129.0	+1.00
216.0		+1.06

9-5-50

1 2 2.
2 2 3.
4 4 1.
9706.467

P.A. 207.3

6 - 11 - 9-20 (+30)

Watch 7 m. 3 secs. slow.

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1912phae.proj..61.tif

Oct. 31. 1912. (Thursday).

R X Cassiop. Hyds. Brandt vac.
Phot. V.

26
2 1A +66,A
22 2√
−3 √3.
+A . 7

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1912phae.proj..611W

Oct. 31, 1912

I

Left + above

245.1 ~~Left~~ Var. dia.

7-38-10 287.4 42.3

55.9

115.8 ν9.9

10 ν.2 ✓ +1.60 ✓

ν39.8

ν94.0 ν4.2 +1.69

66.4 40.4

107.2 9ν.0 ✓ +1.74 ✓

Right + below

158.8 40.4

199.6

328.5 ν6.4

24.9 97.2 ✓ +1.73 ✓

149.8 ν6.1 +1.71

7-44-35 ν05.9

333.9 42.ν

16.4 9ν.6 ✓ +1.69 ✓

82 45

7 41 22

+5 -46

12 40 36

+1.70

1912phae.proj..67.tif

Oct. 31, 1912.

II

Right & below

7-47-30

1√√.6		
197.9	42.3	
324.3	6√.1	
29.4	107.4√	+1.46√

139.6		
205.5	6√.9	+1.46
335.5	42.7	
18.2	100.6√	+1.4√√

Left & above

67.0	40.√	
107.5		
√32.0	6√.0	
297.0	10√.√√	+1.√2√

56.4		+1.√2
121.8	6√.4	
246.5	40.4	
286.9	10√.2	+1.√2√

7-52-45

~~99~~ 100	~~75~~ 15	
7 ~~49~~ 50	8	
+5	-46	
12 49 22	P.A. √6.8	+1.49

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1912phae.proj..611W

Oct 31, 1912.

III

Left + above

58.3
122.0 63.7
244.3 63.9
288.2 107.6 ✓ +1.47 ✓

68.0
108.9 40.9 +1.6 ~
238.7 97.1
292.8 95.0 ✓ +1.74 ✓

Right + below

323.0 65.8
78.8
149.3 71.1
200.4 116.9 ✓ +1.26 ✓

+1.40

334.4 45.2
19.6
146.4 60.0
206.4 105.2 ✓ +1.53 ✓

+1.51

8-1-45

8-6-10

7 55
8 3 58
+5 −46
13 3 12

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1912phae.proj...61.tif

Oct 31, 1912.

IV

Right + below.

4-8-40	145.4		
	207.8	62.4	
	335.0	30.6	
	5.6	93.0 ✓	+1.43 ✓
			+1.62
	154.1	45.K	
	199.5	39.K	
	325.7	10K.4 ✓	+1.54 ✓
	25.1		

Left + above

	57.2	57.6	
	114.8		
	244.7	40.3	+1.71 ✓
	285.0	97.9 ✓	
			+1.74
	68.9	39.1	
8-13-0	108.0		
21 40	237.2	56.2	
8 10 50	293.4	95.3 ✓	+1.77 ✓
+5 -46			
13 10 4			+1.71

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1912phae.proj..611W

Oct 31, 1912.

V

Left x above

8-16-0

56.2 6 V 2
124 4
245.2 K 1.4
286.6 106.6 J +1.V 0 J

69.0
109.9 K 0.9 +1.V A
239.5 V 2.A
2983 99.7 J +1.66 J

Right x below

324.0 6 V A
29.8
155.0 K 2.1
197.1 107.9 J +1.K 7 J

334.5 K 3.9 +1.40
18.4
141.0 20.V
211.5 11 K.K J +1.32 J

8-21-15

	37	15
8	18	38
+5		-46
13	17	52

P.A. 207.4 +1.49

Watch 46 secs. fast.

J

2

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