KG
11365
592

1908phae..proj..593W

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

KG-11365.592

1908phae..proj...593W

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

1908phae.proj..593W

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

1908phae.proj..593W

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

1900phae.proj..593

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

1908pnae.proj..595w

KG 11865.592

HARVARD
UNIVERSITY
LIBRARY
JUL 2 1956

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

1908phae.proj..593W

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

1908phae.proj..593W

Sept. 22. 1908. (Tuesday).

Double Star (new list.) = Burnham's Cat. 12613.
Phot. R. W. obs. W. rec.

23	47	+11.3
19	40	
-4	7	
7	v-3	

P. A. 242° Dist. 18.″
Mags. 6.8, 7.4

For means, see next page.

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

1908phae..proj..593W

Sept. 22. 1908.

Index l + a

0.5

7 2A

73.0 72.5 V

1A3.6 71.2 V

2V4.A 143.7 V 0.70 V

2.6 73.2 V 0.71 V

7V.A

1A6.0 69.5 V 0.72 V

2VV.V 142.7 V

Index v. and h.

270.9

346.0 7V.1 V

9K.2 7K.3 V

16A.V 149.K V 0.V9 V

271.A

342.6 70.A V 0.60 V

90.2 77.6 V

167.A 14A.K V 0.61 V

7 40

6A. V

7 3K 0 V

+V +30. V

12 3K 30. V

A207.

Mean 0.66 V

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

1908phae.proj..593W

Sept 22, 1908

Double Star (new list) = Burnham's Cat. ~~#387~~ 2451.

Phot. R. H. to. H. rec.

~~4~~ 20	V2	+62.9
20	1V.	
-2	37	
3	23	

P. A. 211° Dist. 32.″ 7.0, 7.4

For means, see next page.

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

1908phae.proj..593

Sept 22, 1908

Index above.

2.6
Δ0.0 77.4 ✓
17Δ.✓
2✓9.0 Δ0.✓ / 157.9 ✓ 0.Κ2 ✓

0.6
76.2 9✓.6 ✓ 0.Κ2 ✓
17Δ.✓ Δ2.1 ✓
260.6 / 157.7 ✓ 0.Κ3 ✓

Index below.

Δ✓.Δ
172.Δ Δ7.0 ✓
26Δ.2 Δ✓.3 ✓
3✓3.✓ / 192.3 ✓ 0.1Κ ✓

Δ9.6
173.✓ Δ3.9 ✓ 0.1Δ ✓
269.1 Δ3.9 ✓
3✓3.0 / 167.Δ ✓ 0.23 ✓

Mean 0.30 ✓

Δ 16
20 ✓
Δ 10 0 ✓
+✓ +30. ✓
13 10 30. ✓
Δ20?.

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

1908phae.proj..593W

Sept 22, 1908

Double Star (new list) = Burnham's Cat. 747. Phot. R. A. obs. Thompson rec.

25		
1	19	+ 30.9
20	50	
-4	29	
7	31	

For remarks, see fol. page.

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

1908phae.proj..593

Sept 22, 1908

Index left + above

262.0 K Prec dis

3 √ 9.0 97.0 ✓

£9.0

17 √ .3 £6.3 ✓ +0.06 ✓

12 3.3 ✓

176.7 ✓

£ 41

265.6 £6.2 ✓

351.8 +0.12 ✓

75.9

1797 103.£ ✓

190.0 ✓

170.0 ✓ +0.19 ✓

167.7 103.3 ✓

271.0

1.0 76.7 ✓

77.7 120.0 ✓ 0.00 ✓

7

181.4 £0.3 ✓ +0.02 ✓

261.7

3482

89.9 101.7 ✓

182.0 ✓

17£.0 ✓ +0.04 ✓

Mean +0.07 ✓

9-8-2

~~9-0-2~~

101 2 ✓

£ √ 0 31 ✓

+5 +30. ✓

13 √ 1 1. ✓

£20.

By preceding measurements the preceding star, which was assumed to be the brighter in estimates of position angle, turns out to be slightly the fainter. There is evidently not much difference in brightness between them. The measures were made slowly and with extreme care.

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

1908phae.proj..593W

Sept 22, 1908

R B Cassiopd

Wds. Thompson rec Phot. T. night foggy Full-ap.

2	36	+69.6
21	46	
4	50	
~~4~~	10	

For means, see fol. pages.

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

1908phae.proj..593

Sept 22, 1905

Index left & below B. Var. Li. I

9-33-20

310.0 ← 49.3 ✓
3593
1392 35.2 ✓
175.0 2.1 ✓ −2.0 ✓

317.5 36.0 ✓ −1.96 ✓
353.5
128.6 11.6 ✓
184.2 9.6 ✓ −1.87 ✓

Index right & below. A.

221.0 0.4 ✓
271.4
49.4 34.1 ✓
83.9 24.9 ✓ −2.0 ✓

230.1 33.7 ✓ −2.04 ✓
263.8
40.9
98.4 12.1 ✓ 26.2 ✓ −2.02 ✓

9-41-5
74 21. ✓
9 37 12. ✓
+1 +30. ✓
14 37 42. ✓
207.609 ✓

mean −2.00 ✓

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

1908phae.proj..593W

Sept 22, 1908

Index right & below A. II

9-43-55

222.6
271.5 48.9
49.3
841 34.8
43.7 -2.09

2296 36.4
266.0 -1.99
40.6
94.5 34.4
90.9 -1.69

Index left & above B.

1263
1860 29.7
3154
3544 39.0
90.7 -1.69

1375
1765 39.0 -1.62
3055
54 29.9
90.9 -1.64

mean -1.65

9-52-10

96 v.
9 48 2.
+v +30.
14 48 32.
207.6171

1908phae.proj..593

Sept 22 1908

Index left + above B. III

9-59-53

131.2 ✓2.3✓
183.5
314.4 42.0✓
357.2 91.1✓ −1.7Δ✓

133.2 47.2✓ −1.6✓
180.4
302.6 61.2✓
3.8 102.4✓ −1.4✓

Index right + below A.

37.8 ✓2.9✓
96.7
225.0 43.✓
268.5 102.4✓ −1.6✓

46.6 43.0✓ −1.5✓
90.4
214.3 63.2✓
277.5 107.0✓ −1.49

10-6-28

6 21.✓
10 3 10.✓
+✓ +36.✓
15 3 40.✓
Δ207.6276✓

Mean −1.5Δ✓

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

1908phae.proj..593W

Sept 22, 1908

Index right + below. A.

IV

35.7
97.6 61.9 ✓

224.2
270.4 46.2 ✓ / 108.1 ✓ = 1.46 ✓

10-9-20

484 41.6 ✓ = 1.52 ✓
90.0

216.4
277.4 61.0 ✓ / 102.6 ✓ = 1.59 ✓

Index left + above. B.

301.4
66 65.2 ✓

135.2
179.6 44.4 ✓ / 109.6 ✓ = 1.43 ✓

313.3
358.9 45.6 ✓ = 1.38 ✓

121.8
190.6 68.8 ✓ / 114.2 ✓ = 1.32 ✓

Mean = 1.45 ✓

10-16-45

26 5. ✓
10 13 2. ✓
+5 +30. ✓
15 13 32. ✓

£207.6344 ✓

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

1908phae.proj..593

Sept 2 & 1908

Index left & above. B.

V

1649-0

299.4
9.1 69.7 ✓
133.3
179.3 46.0 ✓ / 115.7 ✓ = 1.29 ✓

313.1
0.0 46.9 ✓ = 1.32 ✓

123.4
189.5 66.1 ✓ / 113.0 ✓ = 1.35 ✓

Index right & below. A.

215.0
278.4 63.4 ✓

46.9
88.5 41.6 ✓ / 105.0 ✓ = 1.54 ✓

226.2
268.3 42.1 ✓ = 1.50 ✓

33.0
98.5 65.5 ✓ / 107.6 ✓ = 1.47 ✓

Mean = 1.41 ✓

10-26-40 ✓
45 40. ✓
10 22 50. ✓
+5 +30. ✓
15 23 20. ✓
209.6412 ✓

ST 23-0
HA-3h40m
Dec +69.0
PA 208.0 Va 83
Aperture -2.5 V
-1.5 B
-1.0 U

L. P. A.

Wratten used for blue
Watch 30 secs slow.

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

1908phae.proj..593W

Sept. 23. 1908. (Wednesday).

R. B. Caeliop.

Wob. Thompson me Phot T Fall-apart.

26	36	69.0
19	58	
6	38	
12		
5	22	

For results. See pp. 15, 16.

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

1908phae.proj..593

Sept. 23. 1908.

Index above A.

7-44-25

320.4	Nan dis	
359.6	39.2 ✓	
145.0		
167.6	22.6 ✓	
	61.8 ✓	−2.79 ✓
324.5		
348.0	23.5 ✓	−2.82 ✓
138.3		
174.7	36.4 ✓	
	√9.9 ✓	−2.86 ✓

Index below. B.

230.1	33.4 ✓	
263.5		
56.2	19.8 ✓	
76.0	√3.2 ✓	−3.13 ✓
237.5	21.0 ✓	−3.08 ✓
258.5		
48.2	34.7 ✓	
82.9	√√.7 ✓	−3.03 ✓

Mean −2.9√ ✓

7-52 20

96 4√. ✓

7 48 22. ✓

+√ +26. ✓

12 48 48. ✓

A20A. √339 ✓

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

1908phae.proj..593W

Sept. 23. 1908.

Index below. B.

228.2
262.4 34.2 ✓
55.6
76.8 21.2 ✓ / 55.4 ✓ − 3.04 ✓

236.7
258.6 21.9 ✓ − 3.00 ✓
48.6
84.2 35.6 ✓ / 57.5 ✓ − 2.96 ✓

Index above. A.

138.1
176.0 37.9 ✓
323.5
347.2 23.7 ✓ / 61.6 ✓ − 2.20 ✓

146.2
170.0 23.8 ✓ − 2.80
316.8
355.0 38.2 ✓ / 62.0 ✓ − 2.79

Mean − 2.90 ✓

7-55-0

8-4-20

119 20. ✓
7 59 40. ✓
+ 26. ✓
13 0 6. ✓

8 20 8. ± 41 8 ✓

S.T. ~~42~~ 20 42
H.A. -5h 58
Dec +69.0
P.A. 27.5 Var B.
Sprocket = 2.5 t
− 1.5 B
− 1.0 b

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

1908phae.proj..593

Sept. 23. 1908.

Preceding observations rather difficault throughout. Observations made through varying cloud. Images varying somewhat during observations, being at time a little brighter, then a little fainter

Double star (new list) = Bernnbaum's list 1781

27
8 29 +635
21 00
6 29
12
5 31

PA 70° dist 46" mags.

For results, see next page.

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

1908phae.proj..593W

Sept. 23. 1908.

Index left + above B.

2770 Prec thumb dia.

8-41-47

342.4 6v.4✓

105.0 4A.7✓

153.7 114.1✓ 1.32✓

286.9 v0.6✓ 1.22✓

337.5

95.0 72.5✓

167.5 123.1✓ 1.13✓

Index right + below. A.

189.1 63.2✓

252.3

blends; images gone. 43.4✓

19.4 106.6✓ 1.v0✓

62.8

+'

198.4 44.1✓ 1.v0✓

242.5

blends 62.3✓

9.9 106.4✓ 1.v0✓

72.2

Mean 1.36✓

£ v3 0 (assumed)

94 47.✓

£ 47 24.✓

+v +26.✓

13 47 v0.✓

£20A. v749✓

No watch used for letters

Watch 26 seconds slow

L. P. P.

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

1908phae.proj..593

Sept 26, 1908 (Saturday)

Double star (new list) = Burnham's list.
11839. Wob. Thompson rec. Phot R.

22	30	+39.0
20	15	
2	15	

12

9 45

P.A. 186° dist 22" mags 5.9 - 6.6

Tri measurement survey

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

1908phae.proj..593W

Sept. 26, 1908

Index below.

7-48-18

279.0 ✓
347.0
92.0
169.0

64.0 ✓ Mon + Knights die
77.0 ✓
141.0 ✓
0.67 ✓

273.0
349.6
96.4
170.3

76.6 ✓
73.9 ✓
150.5 ✓
0.62 ✓
0.57 ✓

185.6
255.0
10.0
78.1

69.4 ✓
64.1 ✓
133.5 ✓
0.42 ✓

183.2
257.8
8.0
76.5

74.6 ✓
68.5 ✓
143.1 ✓
0.76 ✓
0.71 ✓

7-55-48 ✓

103 ✓0 ✓

7 ✓1 ✓5. ✓

+✓ +15. ✓

12 ✓2 10. ✓

A211.

0.69 ✓

~~Pt 186° dot 22" mag. 5.9 - 6.6~~

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

1908phae.proj..593

Sept 26, 1908

Double star (new list) = Barnard's list
1094 Wob. Thompson nec. Phot R.

25
1 5 9 + 79.1
20 5 0

5' 9

12

6 51

PA 274.0 dist 55" mags 7.0 – 7.8

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

1908phae.proj..593W

Sept 24, 1908

Index left + below

8-22-47

189.8 Tel + hgth dis
252.0 62.2
2.0
79.8 77.8 / 140.0 0.77

185.6
263.2 77.6 0.79
11.5
72.0 60.5 / 138.1 0.81

~~97.5~~
175.0 77.5
276.3
~~354.2~~ 77.9 / 155.4

8-30-35

93 22,5
26 41.5
+5 +15.5
13 26 56.5
211.

93.5
168.8 75.3
281.4 62.6 / 137.9 0.82
344.0

98.0
167.1 69.1 0.74
273.8
351.0 77.2 / 146.3 0.65

Mean 0.76

Something evidently wrong in one of the readings of third set above. This set retaken.

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

1908phae.proj..593

Sept 26, 1908

Double star (new list) - Burnham's cat.
11387 Nota Thompson Phot R one person removed

21	52	+5.4
21	46	
	12	

12	
11	48

PA 55° dis 10" mags 7.2 — 7.6

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

1908phae.proj..593W

Sept 26, 1908
Index left + below

180.9 ✓ Prec. southern bar dia

9-13-45

261.0 ✓ 80.1 ✓
357.8
77.9 ✓ 80.1 ✓ / 160.2 ✓ 0.34 ✓

178.2
268.0 ✓ 89.8 ✓ 0.28 ✓
1.0
81.2 ✓ 80.2 ✓ / 170.0 ✓ 0.19 ✓
8

88.6
168.3 ✓ 79.7 ✓
267.8
350.9 ✓ 83.1 ✓ / 162.8 ✓ 0.33 ✓

91.4
170.0 ✓ 78.6 ✓ 0.36 ✓
269.0
350.3 ✓ 81.3 ✓ / 159.9 ✓ 0.32 ✓

Mean 0.32 ✓

9-23-17

3 7 2. ✓
9 18 31. ✓
+5 +15. ✓
14 18 76. ✓
211.

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

1908phae.proj..593

Sept 26, 1908

Double star (new list): Burnham's Cat. 3559
Wob. Thompson rec. Phot R. one prism removed

30		
6	36	+59.6
22	26	
8	10	
12		
3	50	

P.A. 304° dist 9" mags. 5.2–7.2

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

1908phae.proj..593W

Sept 26, 1908

10-1-47

Index left:

198.6	South fol & brte dis.	
236.5	37.9 ✓	
20.3	39.7 ✓	
60.0	77.6 ✓	2.27 ✓

195.6	43.0 ✓	2.13 ✓
238.6		
16.0	44.2 ✓	
60.2	27.2 ✓	1.99 ✓

Index right

107.4	42.6 ✓	
150.0		
289.3	41.0 ✓	
330.3	23.6 ✓	2.09 ✓

105.9		2.03 ✓
150.9	45.0 ✓	
288.2	43.0 ✓	
331.2	23.0 ✓	1.97 ✓

Wilson Temp. 2.04 ✓

10-9-20

11 ✓	7. ✓
10 ✓	34. ✓
+✓	+15. ✓
1✓ ✓	49. ✓
2211.	

L. P. P.

Night rather poor. Observations generally rather difficult. Sky more or less cloudy and hazy throughout. Haze and cloud fluctuating in density and location.

Wm watch used for times.

Watch 15 secs slow

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

1908phae.proj..593

Sept. 29. 1908 (Tuesday).

7-0-0 Somewhat bright aurora in the north under Pole with casual streamers and irregular arch of light

ν Serpentis
Wob. Thompson. Phot T.

18	12	= 15.9
20	30	
2	18	

~~P A 160°3~~

For results, see fol. pages.

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

1908phae.proj..593W

Sept 29, 1908

Index left + above B.

2033 Comp star dis

8-11-55

2903 67.0

32.3

99.4 67.1 / 167.1 +0.50

215.6 69.4 +0.56

275.0

22.5 47.7 / 117.1 +0.63

Index right + below A.

1106 92.7

2033

3032 64.4 / 157.1 +0.44

7.6

123.0 67.5 +0.44

190.5

2943 48.7 / 156.2 +0.45

23.0

Mean +0.50

8-20-44

32 39.

α 16 20.

+5 −2.

13 16 18.

α 214. 55 30

S.T. 22 4

HA +3 14 53

PA 169.3 from B

Dec −15.1

Sprocket

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

1908phae.proj..592W

Sept 29, 1908

Index right + below. A.

8-24-30

110.7
202.0 91.3
300.6
7.9 67.3
158.6 +0.41

123.8 66.2 +0.44
190.0

294.4 89.3
23.7 155.5 +0.49

Index left + above. B.

20.9
114.5 87.6
214.8 62.5
277.3 150.1 +0.57

~~32.5~~ 21.9
~~97.4~~ 116.6 94.7 +0.54
217.9
276.0 152.1
152.8 +0.52

Mean +0.49

8-35-30

60 0.
30 0.
-2.
1329 8.

214.562

1908phae.proj..593W

Sept 29, 1908

Index left + above B.

8-50-57

216.0
278.7 62.7
23.8
108.8 42.0
147.7 +0.62

204.2 42.2 +0.60
288.7
34.6
98.8 64.2
149.0 +0.29

Index right + below. A.

288.1
22.0 93.9
122.8
190.1 67.3
161.2 +0.36

303.0 67.0 +0.42
10.0
112.5 47.9
200.4 154.9 +0.42

Mean +0.31

9-6-25

117 22
A vA 41.
+v -2.
13 vA 39.
A 214. vA 23

S.T 22 4
H.A +3h 53m
D.A 160.3 Nv
Dec -15°1

-1.5B
Sprocket -0.5b

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

1900phaO.proj..5937

Sept 29, 1908

V Serpentis precedes — — — — —
by 48 secs. and is about 5'.8 south of it
Companion star follows variable by 26 secs.
and is about 12' south of it.

R W Tauri

27 / 8	58	+27.2
22	30	
5	28	
12		
6	32	

For results, see fol. pages.

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

1908phae.proj..593W

Sept 29, 1908

Index right A.

27.5 ✓ ~~Comp.~~ Comp. star dis.

10-20-0

100.9 73.4 ✓

200.8

298.0 97.2 ✓

170.6 ✓ +0.14 ✓

19.2 96.1 ✓ +0.16 ✓

115.3

206.5 77.1 ✓

283.6 173.2 ✓ +0.13 ✓ ~~0.07~~

Index left. B.

291.1 121 ✓ 1.0 ✓

105.5 100.1 ✓

205.6 101.1 ✓

171.9 ✓ −0.02 ✓

283.0 260 103.0 ✓ −0.07 ✓

115.3 168.2 ✓

198.5 30.2 ✓

173.2 ✓ −0.12 ✓

Mean +0.04 ✓

10-26-45

	46	4V. ✓
10	23	22. ✓
+V		−2. ✓
1V	23	20. ✓

21K. 6412 ✓

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

1908phaa.proj..593

Sept 27, 1908

Index left. B.

10-29-10

2940
16.4 Δ2.4 ✓
106.1
206.0 99.9 ✓
Δ2.3 ✓ −0.04 ✓
177.7 ✓
2786 111.2 ✓
298 −0.20 ✓
1135 Δ2.0 ✓
208.5
192.2 ✓
Index right. A. 161.8 ✓ −0.3 ✓
2086
287.5 Δ3.9 ✓
12.0
121.9 109.9 ✓
193.8 ✓
166.2 ✓ −0.26 ✓
192.1 109.9 ✓
3020 −0.26 ✓
22.8
107.2 Δ4.4 ✓
194.3 ✓
16 ✓.7 ✓ −0.27 ✓

10-35-25
64 3 ✓.7 ✓
10 32 Δ2. ✓
+ ✓ −2. ✓
10 32 16. ✓
Δ214.6474 ✓

~~Mean −0.3 ✓~~
Mean −0.23 ✓

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

1908phae.proj..593W

Sept 29, 1908

Index right A.

10-38-35

205.0
289.9 84.9 v
10.8
1222 111.4 v
196.3 v
1637 v — 0.31 v

1934
304.2 110.2 v
20.4
1123 91.9 v
202.7 v — 0.37 v

Index left. B. 157.3 v — 0.43 v
108.0
205.2 97.2 v
275.3
36.4 121.1 v
216.3 v
141.7 v — 0.74 v

99.1
217.2 118.1 v — 0.74 v
286.7 100.1 v
26.8 216.7 v — 0.74 v
141.8 v

10-46-25

Δ v 0. v
10 42 30. v
+v −2. v
15 42 28. v
Δ 214.65 4v + v

S T 23 39
H A − 4h 18m
Dec +27.4
P.A. 129.5 Nm B
Sprocket −2.5 A
−1.5 B
−1.0 b

Mean −0.76 v

L. P. P.

Mr Lovatch used for time
Watch 2 secs fast

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

1908phae.proj..593

Sept 30, 1908 (Wednesday)

Wolb. Thompson ree Phot T Full-aperture

M Sagittae

19	19	+19.5
20	10	
	51	

See following page for measures

For means, see fol. pages.

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

1908phae.proj..593W

Sept. 30. 1908.

1025
2096
2795

~~7-38-45~~

Index above A:

100.0 Nav. dis.

7-40-51

211.0 111.0 ✓
293.3
20.8 92.5 ✓
192.5 ✓
161.5 ✓ +0.3 ✓ ✓

109.6
199.3 89.7 ✓ +0.40 ✓
278.0 ~~+0.30~~ ✓
321 114.1 ✓
203.2 ✓
Index below B. 156.2 ✓ +0.4 ✓ ✓

9.8
1225 112.7 ✓
2045
2883 83.8 ✓
196.5 ✓ ✓
163.5 ✓ ✓ +0.31 ✓

22.6
1108 88.2 ✓ +0.32 ✓
1920
3010 1090 ✓
197.2 ✓
162.8 ✓ +0.33 ✓

Mean, +0.36

~~7-49-10~~

90 1. ✓
7 45 ✓ 0. ✓
+ ✓ -9. ✓
12 44 ✓ 1. ✓
82 15. ✓ 312 ✓

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

1908phac.proj..593W

Sept. 30. 1908.

Index below B.

391.8
111.7

21.1
111.6 90.5
190.3 111.3
301.6 201.8
151.2 +0.42

7-53-30

10.8
126.8 116.0 +0.44
202.8 88.1
290.9 204.1
155.9 +0.46

Index above A.

285.8
26.2 100.4
95.1 119.0
214.1 219.4
140.6 +0.76

276.1
343 117.6 +0.79
1080 104.6
207.6 222.2
137.8 +0.82

mean +0.62

7-59-52
113 22
6 41
-9.
12 6 32.
215. 393

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

1908phae.proj..593W

Sept. 30. 1908

Index above. A.

8-2-20

283.2
27.0 183.2
91.1
208.8 117.7
221.
138.

+0.80

275.9
36.0 120.1
101.9 105.7
207.6 225.8
134.2

+0.04

+0.89

Index below. B.

197.7 96.0
293.7
4.9 122.9
127.8 218.9
141.1

+0.72

185.7 119.9
305.6
17.0 102.4
119.4 222.3
137.7

+0.78

+0.82

Mean +0.81

8-9-35
11
8
+9.
13 49.
221.

S.T. 21 19
H.A. +2h 1m
Dec +19°
P.A. 134.0 Nu. B.
Sprocket -4.5 B
-3.5 b

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

1900phaa.proj..592M

Sept. 30. 1902.

The sprocket tonight reads some three degrees more than on the card; but this is due to the strain of the prisms on the the track which twists the track a little. In running the prisms up the track the run was so hard (due to the track's being soiled) that the wheel jumped one or two limbs two or three different time

As W. had a severe cold and was quite lame in the body, and also as the altitude was pretty high, the observations were a little difficult, but all possible care was exercised and observations considered very good.

Double star (new list) = Bernhard's cat 8295
Wob. Thompson sec. Phot. R.

17	55	+62.6
21	45	
3	50	

P A 37° dist 1.0 mags.

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

1908phae.proj..593W

Sept. 30. 1908.

Index right & below.

8-59-20

72 K S. preceds.

184.6 11 2 v

272.4

0.5 A A.1 v

2 0 0.3 v

1 v 9.7 v 0.39 v

89.8

A 6.0 v

175.8

258.5 10 A.K v 0.33 v

6.9 19 K.K v

16 v.6 v 0.27 v

3 K 6.8

93.2 106.K v

178.9

264.8 A v.9 v

192.3 v

167.7 v 0.23 v

20

842 A 2.2 v

1720 0.12 v

276.3 104.3 v

126.v v

173 v v 0.12 v

mean +0.26 v

9-6-20

12 v 40. v

9 2 v 0. v

+v -9. v

14 2 41. v

A 21 v. v A v 2 v

No watch used for time.
Watch 9 secs fast.

In above measts. the south prec. comp. was assumed to be the brt. (for the moment, as indicated by P. A. from Burnham's Cat.).
It, however, looked fnt. to the eye and the measts. make it fainter. Var.?

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

1908phae.proj..593

Sept. 30. 1908.

The aurora of last night was quite brilliant and lasted throughout the whole night. Towards morning it was not quite as brilliant as during last evening, but nevertheless was radially bright

L. P. P.

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

1908phae.proj..593W

Oct 2, 1908 (Friday)
Double star (new list) Burnham cat-7167
Wm. Thompson

15	8	+39.1
20	30	
5	22	

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

1908phae.proj..593

Sept Oct 12, 1908 (Monday)

R Serpentis

Wob Thompson rec. Phot T

18 12 — 15.9
29 55
2 46

Index left + above. B.

24.2 ← Comp star dec.

7-27-40

107.0
212.4 £2.2 ✓
278.6 66.2 ✓
149.0 ✓ +0.59 ✓

28.6
101.1 72.5 ✓ +0.52 ✓
204.0
287.3 £3.3 ✓
15 5 £ ✓ +0.46 ✓

Index right + below. A.

292.8
18.5 £5.7 ✓
123.4
187.6 64.2 ✓
149.9 ✓ +0.52 ✓

303.2
6.6 63.4 ✓ +0.56 ✓
112.0
200.4 £2.4 ✓
151.8 ✓ +0.54 ✓

Mean +0.55 ✓

7-35-10

62 50. ✓
31 25. ✓
+5 -17. ✓
12 31 8. ✓

£227. 5216 ✓

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

1908phae.proj..593W

Oct.

~~Sept~~ 12, 1908

Index right + below A.

7-38-20

291.0		
	44.6"	
19.6		
127.2	63.2"	
190.4		
	151.8"	+0.54"

302.6		
10.3	67.7"	+0.44"
107.6		
	94.4"	
202.0		
	162.1"	+0.34"

Index left + above B.

212.3		
	73.5"	
287.8		
30.8		
	60.6"	
99.4		
	144.1"	+0.69"

213.6	66.3"	
279.9		+0.60"
20.9		
	87.7"	
108.6		
	154.0"	+0.50"

Mean +0.52"

Gen. mean +0.53"

7-47-5

	20."
7	40."
	-13."
12	23."

A227, V29 - Dec -15.3

Pt 338.5 NB

H A 3h 20m

Sprocket -1.5B

-0.5b

1908phae.proj..593

Oct 12, 1908

Obsti. Yerkes. Thompson rec.

~~X~~	12	— 3.6 Phot. R.
22	00	
4	12	
12		
8	48	

Index right + below A.

218.4		Van der.
227.4		
39.6	9.0	
46.3	6.7	
	15.7	− V. 42

8-28-30

218.7		
227.2	8.5	− V. 70
38.4		
47.5	9.1	
	17.6	− V. V 7

Index left + above B.

127.2		
138.5	11.3	
308.4		
317.2	8.8	
	20.1	− V. 2 8

128.4		
137.2	8.8	− V. 30
308.1		
317.6	9.5	
	18.3	− V. 48

Mean − V. V 4

8-26-22

64 V 2.	
8 32 26.	
+V −17.	
13 32 9.	
8 227.V 640	

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

1908phae.proj..593w

Oct 12, 1908

Index left + above B.

126.6	128.3	
138.3	137.7	9.4 v
128.5	308.4	8.6 v
138.5	317.0	18.0 v — 5.52 v

328.6	128.7	
317.6	137.6	8.9 v — 5.50 v
127.8	308.6	
138.0	318.0	9.4 v
		18.3 v — 5.46 v

Index right + below A.

218.1		
227.7		9.6 v
38.8		
46.8		8.0 v
		17.6 v — 5.57 v

218.8		
227.3		8.5 v — 5.52 v
38.3		
48.3		10.0 v
		18.5 v — 5.46 v

Mean — 5.54 v

~~8-49-50~~

11	5	1 5. v
8	5	7 36. v
± 5		17. v
13	5	7 21. v

Something wrong in first two sets
∝ 227. 5 8 5 = in last group above. These two sets re-
taken.

Gen. mean — 5.52 v

Imagn. C. S. = 9.19 v

Imagn = 3.67 v

Watch used for times.
Watch 17 sees fast

L. P. P.

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

1908phae.proj..593

Oct 13, 1908 (Tuesday)

M Scuti

Wob. Thompson rec. Phot. I.

18 51 −13.0

21 ~~50~~

~~1~~ 9

Index right + above. A.

299.6 ← comp star dis.

12.0 72.4 v

128.0

180.0 52.0 v

124.4 v +1.10 v

I

7-50-20

307.2

3.7 56.7 v +1.01 v

117.4 66.1 v

193.5 132.6 v +0.92 v

Index left + below. B.

213.8

284.2 70.4 v

40.4

89.8 49.4 v

119.2 v +1.20 v

224.6 49.1 v +1.24 v

273.7

34.0 67.2 v

101.2 116.3 v +1.22 v

Mean +1.12 v

7-57-56

10 2 16 v

7 5 4 2 v

45 −24. v

12 5 3 40. v

2 22 2. 5 39 3 v

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

1908phae.proj..593W

Oct. 13. 1908 A.

Index left + below. B. II

2134
2812 67.8v
40.0
902 v0.2v
114.0v +1.24v

2196
2744 v4.8v +1.13v
28.4
161.6 73.2v
124.0v +1.02v

Index right + above. A.

126.5
199.2 72.7v
307.5
7.2 v9.7v
132.4v +0.93v

127.4
186.7 v9.3v +0.94v
298.1
10.6 71.9v
131.2v +0.9v

Mean +1.04v

8-0-10

8-7-40

7 v0v
A 3 v5.v
+v -2A.v
13 3 27.v
A22A. v440v

1908phae.proj..593

Oct. 13. 1908.

Index right + above. A.

III

117.1
194.7 } 77.6 v
8-11-35
308.2
6.8 v 8.6 v
136.2 v +0.8 v

+

128.1 v 6.9 v +0.86 v
185.0
296.7 v 7 8.5 v
15.2 v 13 5.5 v +0.85 v

Index left + below. B.

32.3
106.0 } 73.7 v
220.1
274.6 v 5.5 v
128.2 v +1.02 v

38.0 v 6.1 v
94.1 +0.98 v
207.2 v 7 5.5 v
282.7 131.6 v +0.95 v

mean +0.92 v

8-19-10
30 4 v. v
A 1 v 22 v
+v -20. v
13 14 v 4. v
A 22 A. v v 20 v

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

1908phae.proj..593W

Oct. 13. 1908.

Index left + below. B.

IV

824.20

30.4
101.0 70.6 v
220.5
271.9 51.4 v
122.0 v +1.1 v

386
90.6 v-2.0 v +1.10 v
209.1
284.2 75.1 v
127.1 v +1.4 v

Index right + above. A.

296.5
23.6 A7.1 v
124.2
187.0 62.A v
149.9 v +0.7A v

3042
6.6 62.4 v +0.60 v
113.7
199.2 A7.7 v
147.9 v +0.62 v

Mean +0.A7 v

8-31-50

v6 10. v
A 2A 7. v
+v -2A. v
13 27 37. v
A22A. v60A v

1908phae.proj..593d

Oct. 13. 1902.

Index right + above A.

V

8-27-20

31.1.5
19.6 60.1 v
121.5
187.5 66.0 v
13 4.1 v +0.49 v

303.4
9.9 66.5 v +0.72 v
113.1
198.6 42.5 v
15 2.0 v +0.54 v

Index left + below B.

209.6
286.4 76.8 v
35.2
98.0 62.8 v
139.6 v +0.78 v

214.0
278.5 64.5 v +0.96 v
26.4
103.6 77.2 v
141.7 v +0.74 v

8-47-50

42 10. v
42 35. v
+v -24. v
13.42 7. v
222. v 709 v

S T 22 35
R A + 3h 4 6m
Dec -12.1
R A = 101.0 Nm B
S Procyt. - 2.5 B
- 1.5 b

A 9th mag star follows M Scuti by 1 sec. and is about 1.4' north of it.

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

1908phae.proj..593W

Oct. 13, 1908.

Double star (near Lat 1 = Lemmata Lat 1731. Phot. R. 27 W. obs. Thompson rec.

5h 24 +27.3

23 24

4 0

PA 233. dist 44"

For measts. see next page.

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

1900phae.proj..599d

Oct. 13. 1900.

Index right & below A.

9-49 30

274.0			
348.6	74.6		
90.8	A2.6		
173.4	157.2	0.43	
273.0			
354.3	A1.3	0.44	
93.8			
169.0	75.2 / 156.5	0.45	

Index left & below. B.

188.0			
261.4	73.4		
0.8			
80.4	79.6 / 153.0	0.52	
180.8			
261.5	A0.7	0.46	
2.9			
81.8	78.9 / 159.6	0.39	

Mean 0.45

9-55=10

10 45 0.

9 52 20.

45 -20.

14 51 52.

A 22 A. 6 19 3

Ws watch used for times
Watch 28 secs fast.

L. P. A.

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

1908phae.proj..593W

Oct 14 1908 (Wednesday)

N serpentis Phot. T. H. to. Thompson rec.

Index left + below B.

22.8 comp star dis.

7 30-20

111.3 22.5 ν

215.5

276.4 60.9 ν

149.4 ν +0.59 ν

32.4

98.2 65.8 ν +0.58 ν

201.8

286.7 84.9 ν

150.7 ν +0.56 ν

Index right + below A.

293.0 29.3 ν

22.3

122.2 67.6 ν

189.8 156.9 ν +0.44 ν

302.7 66.2 ν +0.42 ν

8.9

109.2 92.2 ν

201.4 156.4 ν +0.41 ν

mean +0.50 ν

7-38-35

60 55. ν

7 34 20. ν

+5 -44. ν

12 33 44. ν

22 29.5 23 ν

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

1908phaa..proj..593M

Oct 14, 1908

Same again.

Index right & below A.

211.7		
26.5	9K.4 v	
122.5		
189.7	67.2 v	
	162.0 v	+0.3K v

7-42-10

303.2		
9.3	66.1 v	+0.3A v
111.4		
202.8	91.4 v	
	157.5 v	+0.K3 v

Index left & above B.

202.7		
288.5	85.8 v	
36.0		
99.4	63.4 v	
	149.2 v	+0.59 v

213.8		
277.6	63.8 v	+0.60
229		
108.0	85.1 v	
	148.9 v	+0.60 v

Mean +0.K9 v

Gen. mean +0.50 v

7-52-20

9K 30. v

7 47 1V. v

+V -K4. v

12 46 31. v

A229.V323 v

J. T. 21 44

Dec -15.3

P.t. 338.2

H A 3h 33m

Sprocket -15.B

-66.

1908phae.proj..593W

Oct 14, 1908

Double star (nearest to Bernhard's last)

83 29 Phot R

17 59 +6.42

22 50

4 51

PA 284° dis 21" mags 6.9 – 7.2

Satellite right & above.

1,76.0 Fol & brtr dis.

271.7 9 v.7

4.8

75.6 70.2

16 v.9 0.27

187.2

256.1 62.9 0.30

356.6

89.9 93.3

162.2 0.34

87.9 241

172.0

271.1 241.1

352.2 161 v.2 0.28

90.7 0.27

171.3 206

268.5

354.0 206 v.v

166.1 0.26

Mean 0.28

9-31-45

v v v0. v

9 27 v v. v

+v -44. v

14 27 11. v

229.6022 v

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

1900phac.proj.:5994

Oct 18, 1908

Double star (near hut) - Burnhams best.
8684 Wolf Thompson sec.

18	32	+41.2
23	20	
4	58	

Abandoned; - not easily found.
Trouble by clouds.

Ws watch used for hours
Watch 44 secs fast.

L. P. P.

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

1908phae.proj..593W

Oct. 15, 1908 (Thursday)

372 Double star (new list) = Burnham's ☆.

24 35 +10.7
21. 15
3 20
12
8 40

P A 332° dis 5.1" mags. 7.0, 7.3

For means, see next page.

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

1900phac.proj..599d

Oct 15, 1908.

Index above

7-35-25

2690 ← North fol thru dia.
356.4
89.1 Δ7.4 ✓
1744 Δ7.3 ✓
172.7 ✓ 0.14 ✓

273.6
352.0 Δ8.4 ✓ 0.23 ✓
90.2
174.8 Δ4.6 ✓
163.0 ✓ 0.32 ✓

~~356.~~ 179.4 Δ2.6 ✓
~~86.2~~ 262.0
~~179.0~~ 1.2 Δ1.7 ✓
~~264.0~~ 82.9 164.3 ✓ 0.30 ✓

~~35~~ 181.3 Δ2.6 ✓ 0.30
263.9
3.1 Δ1.9 ✓
85.0 164.5 ✓ 0.29 ✓
Mean 0.26 ✓

7-51-50
Δ7 15. ✓
7 43 32. ✓
+v -v9. ✓
12 42 39. ✓
Δ30. v296 ✓

Measurement difficult on account of fog some clouds rather high altitude

1908phae.proj..593W

Oct 15, 1908

Double star (new list) = Burnham's list

~~2053~~ 2103

28 9 +45.9
21 14
6 15
12
5 45

28 11 +46.1
22 5
6 6
12
5 54

PA 321 dis. 58" Mags. 6.4, 7.2

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

1900phae.proj..5990

Oct 15, 1908

Index left to low.

8-23-5

183.0
261.7 78.7
12.9 −4.1
67.0 / 132.4 0.92

192.0 −9.6 0.89
251.6
1.6 76.4
78.0 / 136.0 0.86

94.5
170.4 75.9
283.7 −7.9
341.6 / 133.4 0.90

104.4 −6.7 0.86
161.1
273.0 41.3
354.3 / 134.0 0.81

Mean 0.88

8-35-30

−8 35 −
8 29 18.
+ −9.
13 28 19
8 30. −6 13

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

1908phae.proj..593W

Oct 15, 1908

Double star (see list) Bernham 44

2770 Wdo Thompsonia. Phot ☓ one prism removed

29 23 49.3

22 40.

7 43

12

5 17.

29 23 49.3

22 40

7 43

12

5 17

PA 74½ dis 8". Mags. 7.2, 7.3

For means, see next page.

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

1900phac.proj.:593d

Oct 15 1908

Indefinite above.

8-58-40

267.0 ✓ Pu Herc dis

353.4

89.4 Δ6.4 ✓

175.2 $\frac{\Delta\checkmark\Delta}{172.2}$ ✓ 0.1 ✓ ✓

2660

3548 ΔΔ.Δ ✓ 0.10 ✓

86.2

173.9 $\frac{\Delta 7.7}{176.\checkmark}$ ✓ 0.06 ✓

1766

267.6 91.0 ✓

357.8

84.1 $\frac{\Delta 6.3}{177.3}$ ✓ 0.0 ✓ ✓

1788

264.8 Δ6.0 ✓ 0.12 ✓

0.6

84.2 $\frac{\Delta 3.6}{169.6}$ ✓ 0.20 ✓

Mean #0.11 ✓

9-6-3

124 43. ✓

9 2 22. ✓

7✓ -✓9. ✓

14 1 23. ✓

Δ230. ✓ Δ43 ✓

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

1908phae.proj..593W

Oct 15, 1908

Comparison with Barnard's plate

3962. Wds. Thompson. Phot R one pair removed

+ 733

3	12
23	10
8	2
12	
3	58

PA 81. dis 31". Mags. 6.5, 7.0

For measts. see next page.

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

1900phae.proj.:5937

Oct-15, 1908

Index right & below.

9-25-20

180.8	Pre. & tilt dis	
259.0	78.2	
5.3		
80.2	74.9	
	153.1	0.51
179.8		
260.7	80.9	0.45
0.7		
791	78.4	
	159.3	0.39
92.5		
171.0	78.5	
292.9	77.7	
350.6	156.2	0.45
93.2		
167.4	74.2	0.54
273.9		
346.7	72.8	
	147.0	0.63

Means 0.50

9-30-20

55 50.
9 27 55.
+5 -59.
14 26 56

2230, 6020

Was wakt need for time
Watch 59 secs fast

L. A. P.

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

1908phae.proj..593W

Oct 16, 1908 (Friday.)

Double star (near list) Burnham's list #781
Wm. Thompson nr Phot R.

27	29	+63.5
21	43	
6	43	
12		
6	17	

27	29	
22	00	
5	-29	
12		
6	31	

R.A. 70° dec 46"

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

1908phae.proj..5937

Oct. 16. 1908.

Index left of atom.

	101.5	∂. prec & hts dis.
6+2-20	165.2	63.7 ✓
	287.4	
	341.5	54.1 ✓
		117.8 ✓ 1.24 ✓
	103.9	58.3 ✓ 1.23 ✓
	162.2	
	285.9	60.3 ✓
	346.2	118.6 ✓ 1.22 ✓
	15.0	60.8 ✓
	75.8	
	200.2	51.3 ✓
	251.5	112.1 ✓ 1.37 ✓
	71.3	48.6 ✓ 1.36 ✓
	69.9	
	192.6	64.1 ✓
	256.7	112.7 ✓ 1.36 ✓

mean 1.30 ✓

8+18-23

30	43. ✓	
4 1	22. ✓	
5 -1	10. ✓	
13 14	12. ✓	

A231. ✓✓ 1 ✓ Wp in watch used for these
Watch 1m 10 sec fast

L. A. P.

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

1908phae.proj..593W

Oct. 17, 1908 (Saturday)

R. Z. Cassiop.
U. Obs. Rouse Rec. Phot. T.

26		
2	36	+69.0
21	16	
5	20	
6	40	

Index Above A.

	318.1 ← Var. Dis.	
7 27 30	353.0	34.9
	145.0	24.8
	169.8	59.7 −2.47
	323.8	24.5 −2.47
	348.3	38.0
	138.0	62.5 −2.77
	176.0	

Index Below B.

	228.9	33.9
	262.8	20.4
	56.7	54.3 −3.09
	77.1	
		−3.03
	236.5	
	258.4	21.9
	49.7	35.3
	85.0	57.2 −3.97
		−2.92

7	33	50	
	61	20.	
7	30	40.	
+r	−1	29.	
12	29	11	232.5 202

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

1908phae.proj.5932

Oct 17, 1908.

Same again.
Index Below B.

7 36 0

228.4 34.0 ν
262.4
56.3 21.1 ν
77.4 ν ν.1 ν −3.0 ν

235.8 22.3 ν −3.07 ν
258.1
50.0 32.0 ν
82.0 ν 4.3 ν −3.09 ν

Index Above A.

138.1
176.0 37.9 ν

325.1 21.9 ν
347.0 ν 9.8 ν −2.87 ν

145.7 21.8 ν −2.88 ν
167.5
317.7 37.6 ν
355.3 ν 9.4 ν −2.88 ν

−2.90 ν

7 42 30
7 8 30. ν
7 39 15. ν
+ν −1 29. ν
12 39 46. ν
A232. ν263 ν

S.T. 9 50
H.A. −4 51
Dec 69.0
P:A 28.0 Vernier B
Sprocket. −2.5 B.
−1.5 C.

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

1908phae.proj..593w

Oct. 17, 1908

Double Star (New List) = Burnham's Cat. 9315

19	22	+20 9		one prism removed
27	15	W. Obs.	Rough Rec.	Phot. R. ⇦ 1
4	53			
2				

P.A 151° Dist 6" Magn. 7.3 ; 7.4

Index L+a

268.6 ← North, Prec. & Brbr Dir

8 31 40

355.0	86.4 ✓	
86.0	88.1 ✓	
174.1	174.5 ✓	0.10 ✓
266.3	90.9 ✓	0.10 ✓
357.2	83.0 ✓	
93.1	173.9 ✓	0.11 ✓
176.1		

Index R+b

179.0	86.0 ✓	
265.0	88.7 ✓	
358.3	174.7 ✓	0.10 ✓
87.0		
		0.13 ✓
175.9	89.3 ✓	
265.2	82.3 ✓	
2.0	171.6 ✓	0.16 ✓
84.3		

Mean 0.12 ✓

8 41 20

	73	0. ✓
6	36	30. ✓
+5	−1	29. ✓
13	35	1. ✓

2232.5660 ✓

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

1908phae.proj..593

Oct. 17, 1908.

Double Star (New List) = Burnham's Cat 8684

18	32	+41.2
22	52	
4	20	

P.A. 340° Dist 5"

W. Obs. Rowe Rec. Phot. R. (one prism removed)

Index
821

abandoned. Sky too hazy together with closeness of components to measure satisfactorily.

Double Star (New List) = Burnham's Cat. 8868

18	46	+33.2
23	6	
4	20	

W. Obs. Rowe Rec. Phot. R.

P.A. 150° Dist. 46"

Index Below

9 7 45

211.0 North, Prec. & Retr. Dis

236.6	25.6		
28.9	28.4		
57.3	54.0	3.10	
287.5	32.0		2.97
239.5	28.4		
29.6	60.4	2.84	
58.0			

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

1908phae.proj..593w

Oct. 17, 1908

Index Above

118.8	32.2 ✓	
151.0	36.7 ✓	
296.7	68.9 ✓	2.54 ✓
333.4		

2.60 ✓

117.1	35.5 ✓	
152.6	29.7 ✓	
298.4	65.2 ✓	2.67 ✓
328.1		

Mean 2.78 ✓

9	12	35
	20	20. ✓
9	10	10. ✓
+V	-1	29. ✓
1K	2	K1. ✓

α232. V α94 ✓ Atmospheric conditions throughout evening rather poor and now growing worse.

W's watch used for times
Watch 1 min. 29 secs fast

L. P. P.

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

1908phae.proj..593w

Oct. 19, 1908 (Monday)

V Serpentis

18	12	-15.9
21	22	
3	10	

W. Obs. Rowe Rec. Phot T.

Index L+a

2044 ← Comp Star Dis 242

7 27 0

288.6

298 69.0

98.8 1√3 0.√1

213.6 64.6

278.2 0.√1

22.0 44.9

110.9 1√3√ 0.√1

Index R+B

112.1 7.9

120.1

383.0

8.8

1225

194.2 71.7

293.3 ~~289.4~~ 90.3

23.6 162.0 0.34

7 85 15

6 2 1√ √

7 3 1 A √

+√ −1 √3 √

12 29 1√ √

234.√20 √

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

1908phae.proj..593W

Oct. 19, 1908

Same again

Ridley R+B

1123
1999 47.6
3628
10.2 67.4 1 0.42

1253
1878 62.5 0.49
2904
215 91.1 1 3.6 0.50

Ridley L+a

222
1170 44.8
2159
2780 62.1 1 6.9 0.44

370
1009 63.9 0.44
2004
2895 49.1 1 3.0 0.52

0.48

7 41 5

7 48 45

49 10.
7 44 5.
+5 -1 3.
12 43 2.
234.5299

S.T. 10 14
H.A. -4 2
Dec -15.3
P.A. 340.0. Vernier B
Sprocket -1.5 B, -0.5 C.

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

1908phae..proj..593W

Oct. 19, 1908

Preceding
Observations very difficult. Region low and much haze + poor seeing.

R.Z. Cassiop.

26 2	36	+69.0
22	26	W. Obs
4	10	Rowe Rec. Phot. T.
7	50	

8 30 40

P.A.	Dist.	Mags
Index L+a		
139.0	Var. Dis	
175.0	36.0 v	
324.7	24.0 v	
348.7	60.0 v	−2.26 v
		−2.20 v
145.1	23.9 v	
169.0	39.1 v	
316.1	63.0 v	−2.7 v v
355.2		

Index R+B		
48.2	37.4 v	
85.6	21.4 v	
235.4	58.8 v	−2.91 v
256.8		

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

1908phae.proj..593W

Oct. 19, 1908.

8 37 55

	1A	3v.
A	3 4	1A.
+v	-1	v3.
13	3 2	2v.

A23 4. v 6 4 2

-2.44

56.7 21.5
78.2 39.2
226.7 60.7 -2.44
265.9

mean -2.44

Same again
Index R + B

8 40 40

473 38.7
86.0 20.6
236.3 59.3 -2.49
256.9

-2.90

55.7 21.7
77.4 36.7
228.5 58.4 -2.92
266.2

Index L + a

316.1 38.8
354.9 23.0
145.2 61.8 -2.79
168.2

8 48 30

	A 9	10.
A	4 4	3v.
+v	-1	v3.
13	4 2	4 2.

A23 4. v 7 1 3

325.6 22.1 -2.79
347.7 39.9
137.2 62.0 -2.79
177.1

mean -2.84

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

1908phae.proj..595W

Oct. 19, 1908.

Double Star New List = Burnham's Cat. # 1810

27 / 3	33	+28.4
23	53	
3 / 12	48	Wdbs. Four Rec. Phot R.
8	20	

P.A. 208° Dist 7" Mags

Index Above.

185.0 — North, Foll. + Beh. Dts.

263.5	78.5	
8.0	72.5	
80.5	151.0	0.6

186.0	72.6	0.3
258.6	81.4	
2.0	154.0	0.0
83.4		

Index Below.

92.0	81.9	
173.9	80.1	
276.0	162.0	0.3
356.1		

0.2

90.5	85.6	
175.5	83.1	
272.5	168.1	0.2
355.6		mean 0.4

10 6 48

12 40.

10 2 0.

2 3 7.

0 5 7.

234.625

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

1908phae.proj..593W

Oct. 19. 1902

Double Star (New List) = Burnham's Cat. # 4202

7 34 +65.4
0 24
7 10
4 50 Wolb. Rowe Rec Phot R.
P.A. 5° Dist 15" Magn.

Index Below

358.6

10 23 10

89.0 90.4 v
181.0 90.2 v
271.2 180.6 v
179.4 v +0.03 v

2.6
89.5 86.9 v −0.05 v
183.8 87.1 v
270.9 174.0 v −0.11 v

Index Above

273.3 85.5 v
358.8 90.1 v
89.4 175.6 v −0.08 v
179.5

271.8 89.7 v −0.04 v
1.5 86.7 v
90.3 176.4 v −0.07 v
177.0

Mean −0.06 v

10 30 15
√3 2√. v
10 26 4 2 v
+√ −1 √3. v
1√ 24 4 9. v
A 234.6423 v

W's watch used for times
Watch 1 min 53 secs fast

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

1908phac..proj...59S

Oct. 20, 1908. (Tuesday)

R.R. Draconis

18	40
21	25
2	45

+62.6

W. Obs. Rowe Rec. Phot. T.

I

Index Left B. — Comp. — Star Dec.

7 30 30

236.6 ← 30.2 ✓

266.8

51.6 — 25.4 ✓

77.0 — 5.6 ✓ + 3.03 ✓

7 33 10

236.0

254.0 — 18.0 ✓ — 3.14 ✓

50.2

82.9 — 32.7 ✓ / 0.7 ✓ — 3.24 ✓

Index Right A.

7 38 30

137.7 — 36.1 ✓

173.8

326.6 — 24.2 ✓

350.8 — 60.3 ✓ — 2.42 ✓

145.0 — 21.2 ✓ — 3.01 ✓

166.2

321.5 — 31.0 ✓ / 2.2 ✓ — 3.17 ✓

+3.04

7 41 45

143 ✓✓ ✓

7 3✓ ✓9 ✓

+✓ −✓ ✓

12 3✓ ✓4 ✓

δ 23✓. ✓249 ✓

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

1908phae.proj..593W

Oct. 20, 1908.

Index Right A. II

7 47 0

138.3
170.8 32.
327.6 20.6
348.2 3.1 +3.14

7 51 0

146.6 19.
166.1 +3.19
322.0 31.2
353.2 0.7 +3.24

Index Left B.

7 54 55

50.9
83.2 32.3
235.5 21.6
257.1 3.9 +3.11

7 58 50

54.4 21.0 +3.12
75.4
234.0 29.3
263.3 0.3 +3.26

211 4
7 2 6.
+ −.
12 2 1.
23. 367

Mean +3.18

8 3 0

Index Left B. III

48.2
82.7 34.5
238.0 18.0
256.0 52.5 +3.16

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

1900phot.proj.:5959

Oct. 20, 1908

~~Index~~

+3.16

561 18.6
747 33.7
229.7 52.3 +3.17
263.4

8 7 45

Index Right A.

323.9 29.9
353.8 21.2
145.6 51.1 +3.23
166.8

8 11 50

+3.16

326.4 20.8
347.2 33.6
140.6 54.4 +3.08
174.2

8 15 25

Mean +3.16

Index Right A. IV

323.5
356.3 32.8
145.9
168.0 22.1
~~47.9~~ +3.07

8 19 45

325.1 23.9
349.0
139.6 33.7
173.3 ~~7.6~~ +2.9

8 22 50

+3.01

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

1908phae.proj..593W

Oct 20, 1908

Index left B.

232.0
261.1 29.1 ✓
50.4
79.7 29.3 ✓ +2.92 ✓

236.1
258.0 21.9 ✓ +2.92 ✓
48.9
82.6 33.7 ✓ +3.03 ✓
mean +3.00 ✓

Index ~~Right~~ left A. B V

231.3
263.1 31.8 ✓
53.7
77.4 23.7 ✓ +3.04 ✓

236.3
257.8 21.5 ✓ +3.04 ✓
50.4
82.7 32.3 ✓ +3.11 ✓

Index ~~left~~ right A.
B

139.0
173.7 34.7 ✓
325.0
351.2 26.2 ✓ +2.43 ✓
60.9

8 26 25

8 29 30

9 A 3 0 ✓
A 2 K 3 A. ✓
+V −V. ✓
13 2K 33. ✓
A23V. VVA7 ✓

8 34 20

8 37 35

8 40 30

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

1900phot.proj.:5959

Oct. 20, 1908

8 44 20

8 53 45

8 56 50

9 0 40

9 3 10

Index Right N. VI

Index left B.

Mean +2.87

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

1908phae.proj..593W

Oct. 20, 1908

Index Left B. VIII

39.2		
9 30 0 92.0	52.8	
232.0	32.8	
264.8	85.6	+2.03

44.2	85.1	+1.92
9 32 10 89.3		
218.7	89.3	
268.0	178.4	+1.80

Index Right A.

312.3		
3.8	51.5	
9 33 40 136.7		
176.0	39.3	
	90.8	+1.89

319.0		
9 35 50 356.6	37.6	+1.86
131 40		
1272	52.2	
9 32 52.0		
182.4	92.8	+1.84
52 30.6061		

Mean +1.89

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

1900phac..proj..5997

Oct. 20, 1908

Index Right A. VIII

9 39 10

310.4
4.6 ~~F~~ 2 ~~V~~
135.2 42.1 ~~V~~
177.3 96.3 ~~V~~ +1.7 ~~V~~ ~~V~~

9 41 15

316.9 ~~F~~ 0.1 ~~V~~ +1.70 ~~V~~
357.0
124.1 60.~~F~~ ~~V~~
184.6 100.6 ~~V~~ +1.6 ~~F~~ ~~V~~

Index Left B.

9 43 35

221.9 ~~F~~ 7.6 ~~V~~
269.5
42.8 ~~F~~ 5.9 ~~V~~
88.7 93.~~F~~ ~~V~~ +1.~~F~~2 ~~V~~

9 45 50

226.8 32.2 ~~V~~
265.0 +1.7 ~~V~~ ~~V~~
36.0 60.~~F~~ ~~V~~
96.8 99.0 ~~V~~ +1.6 ~~A~~ ~~V~~

169 ~~F~~ 0 ~~V~~
9 ~~F~~ 2 2 ~~A~~. ~~V~~
~~F~~ ~~V~~ − ~~F~~. ~~V~~
14 ~~F~~2 23. ~~V~~
~~A~~23~~F~~. 6/20 ~~A~~

Mean +1.72 ~~V~~

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

1908phae.proj..593W

Oct 20, 1908

Index Left B. IX

9 48 35

217.3
273.5 56.2
45.5 52.0
87.5 92.2 +1.70

9 51 0

225.3 53.4 +1.64
268.7
35.5 60.1
95.6 103.5 +1.57

Index Right A.

9 54 15

123.8 62.1
185.9
313.5 45.9
359.4 108.0 +1.46

133.8 54.4 +1.39
182.2
301.8 66.0
7.8 114.4 +1.32

Mean +1,52

9 56 0

209 50
9 52 24
+5 -5
14 52 23
23 5. 6197

1900phae.proj..593W

Oct. 20, 1908

Index Right. A. X

	120.2		
9 59 45	192.0	71.8	
	314.4	45.4	
	359.8	117.2	+1.2
	131.8	51.1	+1.23
10 2 0	182.9	68.0	
	301.1	119.1	+1.21
	9.1		

Index ~~Left~~ B.

	32.4	64.4	
10 5 15	96.8	45.9	
	223.5	110.3	+1.41
	269.4		
	41.1	50.5	+1.32
10 8 40	91.6	67.6	
	212.4	118.1	+1.23
	280.0		

Mean +1.28

2 3 4 0
10 3 3 3
4 3 0
1 3 3 0
A23. 6277

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

1908phae.proj..593W

Oct. 20, 1908.

Index Left B. ~~XI~~

	31.0		
10 12 0	101.1	70.1 ✓	
	221.7	47.9 ✓	
	269.6	118.0 ✓	+1.24 ✓
	40.0	52.6 ✓	+1.18 ✓
10 14 25	92.6	70.3 ✓	
	211.5	122.9 ✓	+1.13 ✓
	281.8		

Index Right A.

	300.4	71.7 ✓	
10 17 30	12.1	54.6 ✓	
	130.0	126.3 ✓	+1.06 ✓
	184.6		
			+1.00 ✓
	310.6	54.4 ✓	
10 20 25	5.0	77.1 ✓	
	118.0	131.5 ✓	+0.95 ✓
	195.1		

64 20 ✓

10 16 V. ✓

+V −V. ✓

14 16 0. ✓

Mean +1.09 ✓

δ 23 V. 6361 ✓

S.T. 12 45

H.A. +6 5

Dec. +63.0

P.A. 275.5 Vernier B

Sprocket −3.5 A, −2.5 B, −2.0 C.

Ws watch used for times

Watch 5 secs fast

L. P. P.

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

1908phae.proj..5937

Oct 21, 1908 (Wednesday)

W. R W Persei

Wobs Thompson-def Phot T

+41.8

21	40	8
2	28	
12		
9	32	

21	40	8
6	28	
12		
5	32	

Same comp. star used as usual = +41° 4' 6" (9.0)

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

1908phae.proj..593W

Oct 21, 1908

Index left B.

29.3 Comp star ds

8-16-35

1033 74.0 v

2197 Δ2.3 v

2680 ——— v

1223 v +1.14 v

1

384 +1.17 v

89.4 v1.0 v

2090 ——— v

2795 6Δv v +1.20 v

119v v

Index right. A.

2940 ——— v

10.7 76.7 v

1292 v6.3 v

1855 ——— v

1330 v +0.9 v

3084 ——— v

24 v4.0 v +0.49 v

1135 ——— v

1953 Δ1.Δ v

13v.Δ v +0.46 v

Mean +1.03 v

8-25-2

41 37. v

Δ 20 4Δ. v

+v −1v. v

13 20 33. v

Δ236. vv60 v

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

1908phae.proj..593W

Oct 21, 1908

Sunday night. A.

8-31-45

297.5
15.1 77.6
126.1
186.6 60.5
134.1 +0.21

8-34-15

308.5 74.3 +0.2
2.8

116.0 +0.2
196.2 134.5 +0.29

Sunday night. B.

8-38-24

205.2
279.4 74.2
38.5 72.2
90.7 126.6 +1.05

2193 70.5 +1.02
269.8
263 74.4
104.7 129.9 +1.00

Mean +0.94

8-41-48

~~8-41-48~~

146 12
+ 36 33.
+5 -15.
13 36 10.
+236. 669

1908phae.proj..593W

Oct 21, 1908

Index left. A.

8-46-55

205.5
281.0 7 √ √
38.0
93.0 √ √ 0 √ / 130 √ + 0.97

8-49-15

218.5
272.0 √ 3 √ + 0.9 A
27.0
102.3 7 √ 3 / 124 A + 1.00

Index right. A.

8-52-10

113.0 43.2
196.2
306.3
77 61.4 / 144.6 + 0.6 A

8-55-25

127.0 60.2 + 0.7 2
187.2
294.8 A 1 2 / 141.4 + 0.7 √
16.0

mean + 0.8 √

203 4 √
A √ 0 √ 6.
+ √ − 1 √.
13 √ 0 4 1.
A 236. √ 769

1908phae..proj..593W

Oct-21 1908

Sunday night A.

9-8-10

197.0
197.7 ∠0.7
306.6
56 √9.4
139.7 + 0.72

126.2
190.0 63.8 + 0.72
294.3
155.5 ∠1.2
14.8 + 0.67

Sunday left. B.

9-15-45

25.0 ∠2.3
107.3
219.5 √6.3
279.8 132.6 + 0.80
3
35.5 + 0.80
94.8 √9.3
205.4 79.8
285.2 139.1 + 0.79

Mean + 0.76

9-19-20

√√ 20
9 13 √0.
+√ −/√.
14 13 3√
∠236. √92∠

1908phae.proj..593W

Oct 21, 1908

Index left. B.

	26.0		
9-31-5	109.5	83.5	
	216.9	9.0	
	275.9	142.5	+0.72
	35.6		
9-36-42	96.8	61.2	+0.78
	207.3		
	283.2	75.9 / 137.1	+0.83

Index right. B.

	294.5		
9-41-0	17.5	83.0	
	123.0		
	188.2	65.2 / 148.2	+0.61
	302.0		
9-44-17	9.8	67.8	+0.54
	112.0		
	199.6	87.6 / 155.4	+0.47

Mean +0.66

15 3	4	
9 3 8	16.	
+5	−15.	
14 38	1.	
8236.6097		

HA 3h 49m
Dec 41.3
P.A. 326.8 Ver B
S.T 24 19
Sprocket −2.5B
−1.6b

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

1908phae.proj..593W

Oct 21, 1905

The variable has a star of about mag. 11.6 preceding it by about two seconds and ~~south~~ north of it by about 1'.7*
The variable also has a rather faint star preceding it by about two seconds, and about 0'.5* north of it

WB watch used for times.
Watch 15. secs fast

L. P. P.

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

1908phae.proj..593W

Oct. 22, 1908 (Thursday)

R. Z. Cassiop.

22 36 +69.0
21 31
5 5
6 55 — W. Obs. Rough. Rec. Phot T.

Index L+a B. I
123.1 ← Var. Dis
7 18 55 188.3 65.2 ✓
314.3 43.4 ✓
357.7 108.6 ✓ −1.45 ✓

134.0 45.9 ✓ −1.41 ✓
7 21 40 179.9 66.3 ✓
300.4 112.2 ✓ −1.37 ✓
6.7

Index R+B A.
34.8 65.7 ✓
7 24 50 100.5 41.6 ✓
225.6 107.3 ✓ −1.48 ✓
267.2

−1.48 ✓

44.6 43.8 ✓
7 26 55 88.4 63.3 ✓
215.1 107.1 ✓ −1.49 ✓
278.4

Mean 1.44 ✓

92 20 ✓
7 23 ✓ ✓
+✓ −26. ✓
12 22 39. ✓
2237. ✓/✓7 ✓

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

1908phae.proj..593W

Oct. 22. 1908

Index R+D A II

36.0

7 29 58 96.2 60.2 ✓

226.3 40.9 ✓

267.2 101.1 ✓ −1.63 ✓

46.7 41.2 ✓ −1.54 ✓

7 32 25 87.9 66.8 ✓

212.6 108.0 ✓ −1.46 ✓

279.4

Index L+a B.

303.3 65.0 ✓

7 35 10 8.3 45.5 ✓

134.7 110.5 ✓ −1.41 ✓

180.2

−1.39 ✓

313.3 46.5 ✓

7 38 0 359.8 65.5 ✓

122.7 112.0 ✓ −1.37 ✓

188.2

13 ✓ 2 ✓ ✓

7 33 ✓ 1. ✓

tv −26. ✓

12 33 2 ✓ ✓

Mean −1.46 ✓

Δ 237. ✓ 232 ✓

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

1908phae.proj..593W

Oct. 22, 1908

Index Lt a B III

305.6
7 41 10 4.8 59.2 v 7
134.3 44.0 v
178.3 103.2 v -1.58 v

315.4 42.3 v -1.58 v
7 43 35 357.7 61.0 v 7
125.7 103.3 v -1.58 v
186.7

Index R+B. A.

215.0 61.2 v
7 47 0 276.2 39.1 v 8
47.6 100.3 v -1.65 v
86.7

-1.68 v

227.6 39.2 v
7 49 40 266.8 59.0 v
37.1 98.2 v -1.70 v
96.1

Mean -1.63 v

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

1908phae.proj..593W

Oct. 22 1908.

Index R+B. A. IV

7 54 35

217.7
274.2 56.5
488
84.0 35.2 / 91.7 −1.87

228.7 38.3 −1.84
7 56 40
267.0
37.9 55.3
93.2 93.6 −1.82

Index L+a B.

130.2
8 0 0 182.8 52.6
317.1
354.0 36.9 / 89.5 −1.93

137.6 37.5 −1.90
175.1
307.5 54.7
2.2 92.2 −1.86

8 2 25
233 40
+7 54 25
+5 −26.
12 57 59
237.5403

Mean −1.87

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

1908phae.proj..593w

Oct. 22, 1908.

Index L + a. B. V

8 8 45

138.5
182.7 ∨2.2∨
318.2
355.0 36.2∨
∠9.0∨ −1.94∨

8 11 5

140.1
175.6 35.5∨ −1.95∨
368.6
1.5 ∨2.9∨
∠2.4∨ −1.96∨

Index R + B. A.

8 14 0

40.8
92.2 ∨1.4∨
230.2
262.2 32.0∨
∠3.4∨ −2.10∨

8 16 18

49.6
83.0 33.4∨ −2.09∨
220.1
270.6 ∨0.5∨
∠3.9∨ −2.08∨

Mean −2.02∨

∨0 0∨
A 12 30.∨
+∨ −26.∨
13 12 4.∨
∠237.∨∨01∨

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

1908phae.proj..592w

Oct. 22. 1908.

Index R+B A. VI

8 22 0

42.0
90.4 48.4
231.5
262.4 30.9 / 9.3 −2.22

8 24 30

51.1
81.9 30.8 −2.22
222.3
270.8 48.5 / 9.3 −2.22

Index L+A. B.

8 27 20

313.9 42.2
356.1
141.5
170.7 29.2 / 7.1 −2.46

8 29 50

321.5
351.2 29.7 −2.32
133.4
180.0 46.6 / 6.3 −2.31

10 3 40

Mean −2.30

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

1908phae.proj..593W

Oct 22, 1908

Index L+a B. VII

314.9
8 38 10 358.5 43.6
142.2 28.9
171.1 72.5 −2.43

321.4 29.8 −2.44
8 48 30 351.2 41.8
136.6 71.6 −2.45
178.4

Index R+B A.

224.0 44.2
8 43 35 268.2 27.8
52.1 72.0 −2.44
79.9

−2.48

233.5 26.6
8 46 15 260.1 43.2
43.8 69.8 −2.51
87.0

16 A 30
A, K2 A,
+V −26.
13 41 K2
A237.5706

Mean −2.46

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

1908phae.proj..593w

Oct 22, 1908

Index R+B. A. VIII

8 54 55

225.6
265.9 40.3
52.4
80.3 27.9
68.2 −2.57

8 57 35

233.5
260.7 27.2 −2.54
45.9
86.6 40.7
67.9 −2.54

Index L+a B.

9 0 55

137.9
175.1 37.2
323.4
348.1 24.7
61.9 −2.79

143.7
169.7 26.0 −2.72
316.0
355.9 39.9
65.9 −2.65

Mean −2.65

9 3 15
236 40
Δv 9 10.
tv −26.
13 vΔ 44.
Δ237. vΔ24

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

1908phae.proj..593W

Oct 22, 1908

Index Lta B. IX

137.1

9 12 30 175.7 38.6 ✓

323.4 25.2 ✓

348.6 63.8 ✓ −2.72 ✓

−2.74 ✓

~~2.80~~

145.1 23.6 ✓

9 14 35 168.7 36.6 ✓

316.7 60.2 ✓ −2.85 ✓

353.3

Index R+B A.

480 38.2 ✓

9 17 55 86.2 25.6 ✓

234.3 63.8 ✓ −2.72 ✓

259.9

−2.76 ✓

54.5 25.5 ✓

9 20 10 80.0 35.8 ✓

6 ✓ 10 ✓ 228.8 61.3 ✓ −2.81 ✓

9 16 14. ✓ 264.6

+✓ −26. ✓

14 ✓ ✓2. ✓

2237. ✓943 ✓

Mean −2.77 ✓

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

1908phae.proj..592W

Oct 22, 1908

Index R+B A. X

~~48.0~~
~~827~~

~~9 27 50~~

	235.5	23.1 v	
9 29 10	258.6	36.2 v	
	48.0	59.3 v	−2.89 v
	84.2		
			−2.89 v
	227.6	36.7 v	
9 31 0	264.3	22.6 v	
	55.5	59.3 v	−2.89 v
	78.1		

Index L+a B.

	139.1	36.5 v	
9 33 55	175.6	22.5 v	
	324.0	59.0 v	−2.90 v
	346.5		
			−2.94 v
	145.6	23.2 v	
9 36 10	168.8	34.0 v	
130 15 v	317.6	57.2 v	−2.97 v
9 32 34 v	351.6		
+v −26. v			
14 32 8 v			
8237.60 v) v			

Mean −2.92 v

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

1908phae.proj..593W

Oct 22, 1908

Index Lt a B. XI

1392

9 41 20

1746 354 ✓

3242 231 ✓

3473 585 ✓ −2.92 ✓

1448 235 ✓ −2.98 ✓

9 43 30

1683 322 ✓

3184 557 ✓ −3.03 ✓

3506

Index R+B A.

493. 333 ✓

9 46 10

826 219 ✓

2455 552 ✓ −3.05 ✓

2674 2.98

~~300~~

561 218 ✓

9 48 35

779 368 ✓ 366 ✓

2273 ~~580~~ 586 ✓ −2.91 ✓

~~2631~~

9 44 ✓4. ✓

264.1

+5 −26. ✓

14 44 24 ✓

Mean −2.98 ✓

237.6142 ✓

S.T. 0 15

H A. −2. 26

Dec +69.0

P.A. 208°0 Vernon B

Sprocket −2.5, −1.5 C

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

1908phae.proj..592w

Oct. 22, 1908

o Leti

2	12	-3.6
24	22	
1	50	
10	10	W-A

Index Above A.

309.6 ← Var. Dec.
319.6 10.0
130.1
139.6 9.5 / 19.5 − .35

10 8 40

308.8 10.1 − .27
318.9
129.4 10.2 / 20.9 − .19
140.2

Index Below B.

220.1 9.1
229.2
40.6 8.0 / 17.1 − .63
48.6

2203 8.3 − .60
228.6
40.6 9.4 / 17.7 − .56
50.0

Mean − .45

10 14 45

	23	2.5
10	11	42.
+.5		−26.
1.5	11	16.

8237.6328

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

1908phae.proj..593W

Oct 22, 1908

Same Again.

Index Below

10 16 45

219.4 9.8 v
229.2
40.3
49.5 9.2 v / 19.0 v −.40 v

220.4 9.0 v −.44 v
229.4
40.0
49.4 9.4 v / 18.4 v −.47 v

Index Above A.

129.3 10.1 v
139.8
310.5
319.0 A.1 v / 19.0 v −.50 v

130.3 2.9 v −.40 v
139.2
309.7 10.2 v
319.9 / 19.1 v −.39 v

10 22 45

39 30. v
10 19 47. v
+.5 −26. v
15 19 19. v
α 237. 6384 v

Mean −.42 v

W's watch used for times. Gen. mean −.43 v

Watch 26 secs. fast.

9.19 v
Mean 3.76 v

L. P. P.

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

1908phae.proj..592w

Oct. 23, 1908. (Friday)

R. R. Delphini

20	37	+ 14.5
21	57	
1	20	

Abandoned.

R. Z. Cassiop

26 2	36	+ 69.0
22	6	
4	30	
7	30	

W. Obs. Rough Rec. Phot. T

For waste. see fol. pages.

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

1908phae.proj..593W

Oct. 23, 1908

Index L+a

I.

318.5
352.7 — 34.2″ Var. dec.

145.4
167.0 — 21.6″ — 3.02″

325.0
347.9 — 22.9″ — 2.96″

139.4
175.2 — 35.8″ — 2.91″

Index R+B

227.5
261.1 — 33.6″

55.5
78.3 — 22.8″ — 3.00″

237.2
258.9 — 21.7″ — 2.96″

47.0
83.4 — 36.4″ — 2.93″

Mean — 2.96″

7 52 10

7 59 25

111 35.″

7 ″″ 42.″

+″ −40.″

12 ″″ 2.″

Seeing rather poor in observations of RZ Cassiop. tonight and images somewhat blurry.

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

1908phae.proj..593W

Oct. 23, 1908.

Same Again.

Index R+B II

8 2 50

228.6 36.3
264.9
55.0 22.2
77.2 58.5 −2.92

235.9 23.8 −2.88
259.7
47.4 36.9
84.3 60.7 −2.84

Index L+A.

137.7 37.1
174.8
324.4 22.6
347.0 59.7 −2.87

8 9 53

146.0 23.2 −2.92
169.2
317.9 34.2
352.1 57.4 −2.96

12 45

2 6 22.

+ −40.

13 43.

−2.90

S.T. 22 44
H.A. −3 58
Dec. +69.0
P.A. 28.0 Vernier B
Sprocket. −2.5 B, −1.5 C

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

1908phae.proj..593W

Oct. 23, 1908

R. W. Peroci.

4h 28	8	+41.8
22	48	
5	20	
6	40	W. Obs. Rowe Rec. Phot. T.

Index R+a

	196.9 ←	Var Dis:
8 35 25	294.9	98.0 v
	25.6	76.8 v
	102.4	174.8 v −0.10 v

	205.8	78.1 v −0.10 v
	283.9	97.0 v
	18.6	175.1 v −0.09 v
	116.6	

Index L+B

	112.6	88.3 v
	200.9	111.1 v
	279.1	199.4 v
	30.2	160.6 v +0.37 v

	101.6	110.6 v +0.35 v
	212.2	86.8 v
	290.8	197.4 v
	17.6	162.6 v +0.33 v

Mean +0.12 v

9	4	10
	119	3 v. v
9	v 9	42. v
tv		−40. v
14	v 9	2 v

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

1908phae.proj..593W

Oct. 23, 1908.

Same Again

Index L+B.

115.0	82.5 ✓	
197.5	113.1 ✓	
278.8	195.6 ✓	
31.9	164.4 ✓	+0.30 ✓
101.1	109.0 ✓	+0.32 ✓
210.1	88.2 ✓	
293.0	197.2 ✓	
21.2	162.8 ✓	+0.33 ✓

Index R+A

17.7	99.5 ✓	
117.2	75.9 ✓	
210.3	175.4 ✓	−0.09 ✓
286.2		
25.8	81.5 ✓	−0.03 ✓
107.3	100.1 ✓	
196.6	181.6 ✓	
296.7	178.4 ✓	+0.03 ✓

9 7 0

9 14 50

21 ∓0. ✓

9 10 ∓∓. ✓

∓∓ −∓0. ✓

18 10 18. ✓

Mean +0.14 ✓

Gen. mean +0.13 ✓

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

1908phae.proj..593W

Oct. 23, 1908

S. T. 23 56
H. A. -4 17
Dec. +41.4
P. A. 327.1 Vernier B
Sprocket -3.5 A, -2.5 B, -2.0 C.

The Sprocket does not read exactly the same owing to the fact that the prism run hard up the track which produces a strain and also caused the prism chain to skip several cogs on the run

Double Star (New List) = Burnham's Cat. 8868

18	46	+ 33.2
24	11	
5	25	

P. A. 150° Dist. 46" Mag. 3.0, 6.5

W. Obs. Rowe Rec Phot. R

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

1908phae.proj..593W

Oct. 23. 1908

Index Below

31.3 ← South. Prec. + Brtr. Dis

55.8 24.5 ✓

211.6 25.2 ✓

236.8 49.7 ✓ 3.28 ✓

32.3 22.7 ✓ 3.39 ✓

55.0 22.4 ✓

212.7 45.1 ✓ 3.50 ✓

235.1

Index above

301.9 24.4 ✓

326.3 26.8 ✓

122.0 51.2 ✓ ~~3.09~~ 3.22 ✓

148.8

~~3.17~~ 3.24 ✓

302.2 24.6 ✓

326.8 25.8 ✓

121.1 50.4 ✓ 3.25 ✓

146.9

9 54 45

10 2 0

- 116 Kv. ✓

10 ✓ 22. ✓

~~Kv~~ -40. ✓

15 ✓ 7 42. ✓

Mean ~~3.28~~ 3.3 ✓

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

1908phae.proj..593W

Oct. 23, 1908

Double star (New List) = Burnham's Lab. 8916

18	50	+33.8
24	32	
5	42	W Obs. Rough Rec. Phot R.

P.A. 350° Dist 45" Mags. 5.5, 7.0

Ridey Above

	194.4	← Southern + Brtr. Dis
10 13 55	251.3	56.9 ✓
	15.5	56.7 ✓
	72.2	113.6 ✓ 1.34 ✓
	197.7	54.3 ✓ 1.40 ✓
	252.0	54.1 ✓
	15.0	108.4 ✓ 1.46 ✓
	69.1	

Ridey Below

	106.1	56.6 ✓
	162.7	54.5 ✓
	287.0	111.1 ✓ 1.39 ✓
	341.5	
		1.48 ✓
	106.7	51.9 ✓
	158.6	51.3 ✓
	287.9	103.2 ✓ 1.58 ✓
	339.2	

Mean 1.44 ✓

10	21	35
	3 ✓	30. ✓
10	17	4 ✓. ✓
+✓		-40. ✓
1✓	17	✓.

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

1908phae.proj..593w

Oct. 23, 1908

W's watch used for times
Watch 40 secs. fast.

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

1908phae.proj..593W

Oct. 27, 1908 (Tuesday)

Pos. of R Z Draconis wrong. Ready Var. found & meas. on Oct. 30. and afterwards
R. Z. Draconis. This is merely a faint star near the place of R. Z Drac.

18 22 +58.8
22 12 W. Obs. Rough Rec. Phot. T.
3 50

Comp. Star = +57° 1406 (2.7)

Stopped to wipe outside surface of achromatic prism. This object was not R Z Draconis.

Index Left (See p. 123.)

237.4 ← Comp Star Dis
8 7 30 259.0 21.6 ✓
55.4 19 3 ✓
74.7 40.9 ✓ +3.72 ✓

241.7 14.1 ✓ +3.86 ✓
8 18 45 253.8 22.1 ✓
54.4 36.2 ✓ +3.99 ✓
76.5

Index Right

146.2 21.2 ✓
8 15 45 167.4 15.7 ✓
330.4 36.9 ✓ +3.95 ✓
346.1

+3.88 ✓

149.4 14.6 ✓
8 19 5 164.0 24.6 ✓
324.8 39.1 ✓ +3.82 ✓
349.3

Mean +3.87 ✓

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

1908phae.proj..593W

Oct. 27, 1908

Index Right II

	144.1		
8 25 35	167.7	23.6 ✓	
	330.2	12.4 ✓	
	342.6	36.0 ✓	+4.00 ✓
	149.2	15.2 ✓	+3.88 ✓
8 29 40	164.4	25.0 ✓	
	324.9	40.2 ✓	+3.76 ✓
	349.9		

Index Left.

	53.2	26.0 ✓	
8 33 45	79.2	14.1 ✓	
	240.5	40.1 ✓	+3.76 ✓
	254.6		
			+3.9 ✓
	58.6	12.9 ✓	
8 37 25	71.5	20.2 ✓	
	237.1	33.1 ✓	+4.19 ✓
	257.3		

Mean +3.9 ✓

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

1908phae.proj..593

Oct 27, 1908.

Index Left III

8 46 35

54.4 21.7 ✓
76.1 13.0 ✓
240.1 34.7 ✓ +4.09 ✓
253.1

+4.06 ✓

8 51 30

58.9 14.8 ✓
73.7 20.9 ✓
237.2 35.7 ✓ +4.02 ✓
258.1

Index Right

8 57 30

328.3 20.2 ✓
348.5 14.5 ✓
148.8 34.7 ✓ +4.09 ✓
163.3

+3.96 ✓

9 1 35

328.8 14.3 ✓
343.1 24.4 ✓
144.0 38.7 ✓ +3.84 ✓
168.4

Mean +4.01 ✓

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

1908phae..proj..593W

Oct. 27, 1908

Index Right

	326.2	20.7 ✓	
9 14 15	346.9	14.3 ✓	
	150.9	35.2 ✓	+4.05 ✓
	165.4		
			+3.94 ✓
	330.0	14.9 ✓	
9 19 30	344.9	24.0 ✓	
	145.1	38.9 ✓	+3.83 ✓
	169.1		

Index left.

	236.8	21.6 ✓	
9 24 38	258.4	13.4 ✓	
	58.8	35.0 ✓	+4.06 ✓
	72.2		
	239.2		
9 31 35	254.7		

Mean +4.00 ✓

The preceding observations are probably not those of RZ Draconis. The star assumed to be the variable before beginning observations was a faint star nearest to the theoretical place when referred to the 4.8 Mag. nearby, although this star was a little out in position. It is, however, possible that the variable is a star a little more north preceding

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

1908phae.proj..593

Oct. 27, 1908.

although this star would be about 10 secs. out in right ascension and nearly 3' out in declination. Will look the region up the next night, when the variable is at full brightness.

W's watch used for Times
Watch 27 secs. fast

Z. P. P.

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

1908phae.proj..593w

Oct. 30, 1908 (Friday)

R Z Draconis. Phot. Z. Yr. obs. Bouvier.

18	22	+58·8
21	57	
3	35	W. obs. Bouvier. Phot Y.

The variable precedes by 49.5 secs
and is 6'.7 North of it.

The position of the variable as referred to the 4'.8 Mag star above is wrong by 10 or 11 secs in R.A. and is farther north. The object observed for the variable on the last night (Oct. 27) and which was in a position more conformable to the given place, is not the variable but simply a faint star

Comp. Star = +57° 1206 (P.)

The seeing throughout the following observations on R Z Draconis, was poor. – Storm just cleared off, wind very high, temperature low, energy blurry. Troubled also, frequently, by clouds.

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

1908phae.proj..593W

Oct. 30, 1908

Index Left B, I

32.0 ← Comp. Standard

97.9 65.9 ✓

225.6 42.0 ✓

267.6 107.9 ✓ +1.44 ✓

43.0 44.5 ✓ +1.50 ✓

87.5 59.7 ✓

215.9 104.2 ✓ +1.55 ✓

275.6

Index Right A,

305.4 65.1 ✓

10.5 45.6 ✓

133.0 110.7 ✓ +1.40 ✓

178.6

+1.34 ✓

312.8 48.3 ✓

1.1 68.4 ✓

123.0 116.7 ✓ +1.27 ✓

191.4

Mean +1.42 ✓

7 35 45

7 42 50

7 A 3 ✓. ✓

7 39 1 A. ✓

+✓ +4A. ✓

12 40 6. ✓

A2 ✓. ✓279 ✓

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

1908phae..proj..593w

Oct. 30, 1908

Same Again

Index Right A. II

7 45 0

301.6 67.4 ✓
9.0 47.0 ✓
133.6 114.4 ✓ +1.32 ✓
180.6

+1.28 ✓

311.2 50.4 ✓
1.6 66.8 ✓
122.9 117.2 ✓ +1.25 ✓
189 ✓

Index Left, B.

217.3 66.8 ✓
278.1 44.8 ✓
43.0 105.6 ✓ +1.52 ✓
87.8

+1.48 ✓

224.4 44.8 ✓
269.2 64.3 ✓
32.2 109.1 ✓ +1.44 ✓
96.5

Mean +1.38 ✓

7 52 20
97 20. ✓
7 44 40. ✓
+r +42. ✓
12 49 2A. ✓
A24r. r343 ✓

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

1908phae.proj..593W

Oct 30, 1908
Same Again

Index Left B. III

8 4 25

217.2 57.6 ✓
274.8 42.7 ✓
44.8 100.3 ✓ +1.65 ✓
87 5 ✓

+1.59 ✓

224.6 44.4 ✓
269 0 61.0 ✓
34.0 105.4 ✓ +1.53 ✓
95 0

Index Right A.

123.8 63.1 ✓
186 9 42.4 ✓
315.5 105.5 ✓ +1.52 ✓
357.9

+1.50 ✓

135.5 43.5 ✓
179.0 64.4 ✓
304.0 107.9 ✓ +1.47 ✓
8.4

Mean +1.54 ✓

8 12 40
17 √. ✓
A 4 32. ✓
+√ +4A. ✓
13 9 20.
A24√.54A1 ✓

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

1900phae.proj.:593w

Oct 30, 1908

Same Again IV

Index Right A.

123.9	63.8 ✓
187.7	44.1 ✓
313.8	107.9 ✓ +1.47 ✓
357.9	

+1.47 ✓

133.6	45.6 ✓
179.2	62.1 ✓
304.8	107.7 ✓ +1.47 ✓
6.9	

8 19 0

Index Left B.

33.5	63.0 ✓
96.5	41.8 ✓
226.0	104.8 ✓ +1.54 ✓
267.8	

+1.56 ✓

42.8	43.3 ✓
86.1	60.1 ✓
215.6	103.4 ✓ +1.57 ✓
275.7	

Mean +1.52 ✓

8 25 30

KK 30. ✓

A 22 1✓. ✓

+V +KK. ✓

13 23 3. ✓

K2K✓. ✓✓ 76 ✓

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

1908phae.proj..593W

Oct 30, 1908

Same Again.

Index Left B. E

37.4

8 35 10 919 54.5 ✓

2267 40.1 ✓

2668 94.6 ✓ +1.79 ✓

42.9 42.8 ✓ +1.74 ✓

85.7 56.3 ✓

218.0 99.1 ✓ +1.68 ✓

274.3

Index Right. A.

3062 59.1 ✓

53 42.7 ✓

134.5 101.5 ✓ +1.62 ✓

1769

+1.58 ✓

313.0 45.0 ✓

8 43 10 358.0 59.5 ✓

127.1 104.5 ✓ +1.55 ✓

186.6

7 A 20. ✓

A 3 9 10. ✓

+r +A. ✓

13 39 rA. ✓

A 2 Kr. r 694 ✓

Mean +1.66 ✓

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

1908phaq.proj..592w

Oct 30, 1908

Same Again VI

Index Right A.

306.8	56.1 ✓
2.9	39.1 ✓
137.3	95.2 ✓ +1.78 ✓
176.4	

+1.72 ✓

315.2	41.4 ✓
356.6	58.5 ✓
126.9	99.9 ✓ +1.66 ✓
185.4	

Index Left B.

217.2	58.6 ✓
275.8	40.3 ✓
45.9	98.9 ✓ +1.68 ✓
86.2	

+1.72 ✓

227.3	39.1 ✓
266.4	57.0 ✓
36.0	96.1 ✓ +1.75 ✓
93.0	

Mean +1.72 ✓

8 46 10

8 52 45

90 ✓✓. ✓

8 49 20. ✓

+✓ +44. ✓

13 ✓0 16.

Δ24✓.✓766 ✓

S.T. 23 58

H.A +5 37

Dec +59.1

Q.A 80.0 Vernier B

Sprocket —1.5 B, -0.7 C

See note at beginning of series.

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

1908phae.proj..593W

Oct 30, 1908

W. Delphini. Phot. I. Yr. obs. Rowe rec.

20 31 +17.8
24 6
3 35 Wells Bowe Rec

Index Lt a B.
218.0 Comp. Star Dis
9 29 0 275.8 57.8 I
39.1 50.6
89.7 108.4 +1.45

223.8 47.0 +1.44
9 31 15 270.8 62.5
34.6 109.5 +1.43
97.1

Index Rt B. A.
125.4 63.7
9 33 50 189.1 47.5
312.7 111.2 +1.39
360.2

+1.42

135.6 45.6
181.2 62.9
304.8 108.5 +1.45
7.7

9 36 15
130 20
9 32 31
+v +40.
14 33 23.
A24v. 606v -

Mean +1.43
9.31
10.74

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

1908phaO..proj..593W

Feb. 30, 1908

Same Again

	Index R+B	A.	II
9 39 5	128.4	54.8 ✓	
	183.2	44.3 ✓	
	313.0	99.1 ✓	+1.68 ✓
	357.3		
			+1.62 ✓
9 42 15	135.5	41.5 ✓	
	177.0	62.6 ✓	
	306.0	104.1 ✓	+1.56 ✓
	8.6		

	Index L+a	B.	
9 45 55	35.4	58.6 ✓	
	94.0	44.3 ✓	
	224.0	102.9 ✓	+1.59 ✓
	268.3		
			+1.60 ✓
9 48 25	43.4	45.2 ✓	
	88.6	56.4 ✓	
	219.0	101.6 ✓	+1.62 ✓
	275.4		

17 ✓ 40 ✓
9 43 ✓✓ ✓
+✓ +40. ✓
14 44 43. ✓
424 ✓. 6144 ✓

Mean +1.61 ✓
9.31 ✓
10.92 ✓

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

1908phae.proj..593W

Oct. 30, 1908

Index Lt A B. III

	37.2		
9 54 20	91.6	54.4	
	228.2	36.9	
	265.1	91.3	+1.88
	45.7	40.7	+1.88
9 56 30	86.4	50.6	
	221.6	91.3	+1.88
	272.2		

Index Rt B A.

	311.1	54.4	
9 59 20	5.5	42.2	
	136.2	96.6	+1.74
	178.4		
			+1.76
	317.2	39.3	
10 1 30	356.5	55.5	
	128.5	94.8	+1.79
	184.8		

231 40

9 57 55

+5 +KA.

1K 5A 43.

$2K 5: 62K1

Mean +1.82

9.31

11.13

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

1908phae.proj..593w

Oct 30, 1908

Index R+B A.

316.4 III

10 6 45 3.8 52.6 ✓

137.9 35.5 ✓

173.4 88.1 ✓ +1.96 ✓

318.9 36.6 ✓ +1.94 ✓

10 9 45 355.5 53.4 ✓

1303 90.0 ✓ +1.91 ✓

183.7

Index L+a B.

222.8 48.2 ✓

10 13 0 271.0 39.0 ✓

46.2 87.2 ✓ +1.99 ✓

85.2

+1.97 ✓

228.5 37.3 ✓

10 15 45 265.8 31.5 ✓

40.0 88.8 ✓ +1.95 ✓

91.5

~~45 ✓ 1 ✓~~ ✓

10 11 19 ✓

~~+✓~~ +42. ✓

15 12 7. ✓

Mean +1.96 ✓

9.31 ✓

11.27 ✓

+245. 633 ✓

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

1908phae.proj..593

Oct. 30, 1908

Index Lta B. V

	221.0	49.6 v
10. 21 0	270.6	34.4 v
	47.4	84.0 v +2.08 v
	81.8	
		+2.10 v
	229.6	34.6 v
10 23 50	264.2	47.6 v
	41.8	82.2 v +2.13 v
	89.4	

Index R&B A.

	130.9	49.6 v
10 26 50	180.5	32.7 v
	319.6	82.3 v +2.13 v
	352.3	
		+2.18 v
	139.1	33.8 v
10 29 15	172.9	45.2 v
	316.0	79.0 v +2.22 v
	1.2	

Mean +2.14 v

9.31 v

11.45 v

10 00 55.1 v

10 25 14. v

+5 +40. v

15 26 2 v

A245.6431 v

1908phaa.proj..593W

Oct 30, 1908

S. T. 1 31
H. A. +4 57
Dec. +18.2
P.A 169.5 Vernon B
Sprocket −1.5 B, −0.5 C

W's watch used for times.
Watch 48 secs. slow.

Fluid high throughout evening, temperature low, and images rather blurry. Conditions, however, a little better on δ Delphini than on R Z Draconis.

L. P. P.

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

1908phae.proj..593W

Oct. 31, 1908 (Saturday).

R. Z. Draconis.

18 22 +588
22 7
3 4 5 Wolbach Rouse Rec. Phot I

Index Left B.
33.1 ← Comps Stan Dis I
98.5 65.4 ✓
225.3 43.8 ✓
269.1 109.2 ✓ +1.44 ✓

42.8 46.9 ✓ +1.46 ✓
89.7 60.5 ✓
217.1 107.4 ✓ +1.48 ✓
277.6

Index Right A.
365.6 62.2 ✓
7.8 48.6 ✓
132.1 110.8 ✓ +1.40 ✓
180.7

+1.34 ✓

312.7 48.6 ✓
1.3 66.9 ✓
123.2 115.5 ✓ +1.29 ✓
190.1

Mean +1.40 ✓

7 27 0

7 33 40
6 0 40 ✓
7 3 0 20. ✓
+✓ +✓1. ✓
12 31 11. ✓
£246.✓216 ✓

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

1908phae.proj..593W

Oct. 31, 1908

Same Again

Index Right A. II

303.6	65.5	
9.1	44.7	
134.8	110.2	+1.41
179.5		
		+1.35
314.9	44.3	
359.2	71.1	
121.6	115.4	+1.29
192.7		

Index Left B.

218.0	65.0	
278.0	47.8	
41.6	112.8	+1.35
89.4		
		+1.29
223.9	45.0	
268.9	73.2	
30.6	118.2	+1.23
103.8		

7 37 30

7 45 20

Mean +1.32

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

1908phae.proj..593W

Oct. 31, 1908.

Index Left. B. III

216.4	66.3	
276.7	48.4	
40.6	108.7	+1.45
89.0		

+1.38

222.7	48.4	
271.1	65.8	
32.1	114.2	+1.32
97.9		

Index Right. A.

123.7	66.7	
190.4	47.8	
313.0	114.6	+1.31
8.8		

+1.30

132.5	47.4	
179.9	67.8	
302.0	115.2	+1.30
9.8		

Mean +1.34

8 1 0

8 7 45

A 4 22.

+ 1.

13 13.

A246.+2

1908phae.proj..593W

Oct. 31, 1908.

Index Right A. IV

124.0	65.7
189.7	46.8
313.7	112.5 +1.36
0.5	

+1.31

131.9	49.4
181.3	67.5
362.6	116.9 +1.26
10.1	

Index Left. B.

30.6	67.3
97.9	45.5
222.7	112.8 +1.35
268.2	

+1.32

41.9	48.8
90.7	66.5
211.8	115.3 +1.30
278.3	

Mean +1.32

D 11 55

8 18 20

30

13 9.

Clouds.

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

1908phae.proj..593W

Oct. 31, 1908
Delayed by clouds.
Index Left B. ~~E~~

9 5 50

33.2
98.8 65.6 ✓
223.2 47.4 ✓
270.6 113.0 ✓ +1.35 ✓

40.4 51.2 ✓ +1.33 ✓
91.6 61.9 ✓
215.4 113.1 ✓ +1.35 ✓
2773

Index Right A.
304.8 64.1 ✓
8.9 48.4 ✓
132.8 112.5 ✓ +1.36 ✓
181.2

+1.32 ✓

3123 48.8 ✓
1.1 67.9 ✓
1228 116.7 ✓ +1.27 ✓
1907

9 12 55
10 47 ✓
9 9 22 ✓
+✓ +✓1. ✓
14 10 13 ✓
Δ246. ✓ 904 ✓

Mean +1.34 ✓

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

1908phae.proj..593W

Oct 31 1908

Index Right II A.

	303.8	
9 29 30	6.0	62.2 ✓
	132.0	51.2 ✓
	183.2	113.4 ✓ +1.34 ✓
	312.0	49.1 ✓ +1.32 ✓
	1.1	66.7 ✓
	124.1	115.8 ✓ +1.29 ✓
	190.8	

Index left B.

	215.2	60.9 ✓
	276.1	47.1 ✓
	42.8	108.0 ✓ +1.46 ✓
	89.9	
		+1.43 ✓
	223.0	46.5 ✓
	269.5	64.3 ✓
	33.4	110.8 ✓ +1.40 ✓
	97.7	

Mean +1.38 ✓

9 36 35

66 ✓. ✓

9 33 2. ✓

+✓ +✓1.

1K 33 ✓3.

α 246.606A ✓

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

1908phae.proj..593W

Oct. 31, 1908.

Index Left B. VII

213.0
2755 62.5 ✓
43.2 46.4 ✓
89.6 108.9 ✓ +1.44 ✓

9 41. 0

2242 47.3 ✓ +1.40 ✓
271.5 65.2 ✓
33.2 112.5 ✓ +1.36 ✓
98.4

Index Right A.

303.2 64.2 ✓
7.4 48.4 ✓
133.7 112.6 ✓ +1.36 ✓
182.1

+1.34 ✓

311.9 49.1 ✓
1.0 65.8 ✓
123.3 114.9 ✓ +1.31 ✓
189.1

Mean +1.37 ✓

9 49 5
90 √. ✓
9 4√ 2. ✓
+√ +√1. ✓
14 4√ √3. ✓
Δ246.61√2 ✓

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

1908phae.proj..593w

Oct. 31, 1908

Index Right A. VIII

9 55 0

302.6
5.8 63.2
132.0 47.9
180.9 112.1 ±1.37

312.1 47.9 ±1.36
360.0 64.5
123 2 112.4 ±1.36
187.7

Index left.
Clouds. Star gone.

Stopped by clouds

W's watch used for time
Watch 51 secs slow

L. P. P.

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

1908phae.proj..593W

Nov. 2, 1908. (Monday)

Double Star (New list) = Burnham's Cat. 1159,

26	8	+29.8
22	18	
3	50	
8	10	

W. Obs. Bouse Rec. Phot R

Phot R, one prism removed.

P.A. 245° Dist 7" Mags. 7.5, 7.6

Kidey R+B

179.6	South. Prec. + Fainter Dis.	
265.0	85.4 ✓	
352.2	94.4 ✓	
86.6	179.8 ✓	0.00 ✓
175.0	95.0 ✓	+0.02 ✓
270.0	86.4 ✓	
357.4	181.4 ✓	
83.8	178.6 ✓	+0.03 ✓

Kidey R+a

86.1	90.0 ✓	
176.1	96.6 ✓	
262.4	186.6 ✓	
359.0	173.4 ✓	+0.13 ✓
264.0	93.0 ✓	+0.08 ✓
357.0	89.3 ✓	
87.2	182.3 ✓	
176.5	177.7 ✓	+0.04 ✓

7 28 30

7 39 40

6 ∠ 10. ✓

7 34 ✓. ✓

+✓ +✓✓. ✓

12 3✓ 0 ✓

∠24∠. ✓ 243 ✓

∴ South prec. comp. is the ftr. by means.

Mean + 0.03 ✓

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

1908phae..proj..593W

Nov. 2, 1908

Preceding Measts. made through clouds and with some difficulty but settings made very slowly and carefully and result considered good.

Clouds now ~~black~~ everywhere. No chance for anything further

W's watch used for times.
Watch 55 secs. slow

L. P. P.

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

1908phae.proj..593W

Nov. 3. 1908. (Tuesday).

Double Star (New list) = Burnham's Cat. 10943

21	18	−7.1
22	48	
1	30	

Sky thickly cloudy everywhere

Clouds still thick: Apparently no chance for anything tonight.

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

1908phaO..proj..593W

Nov. 4. 1908. (Wednesday)

R W Tauri.

27 8	58	+27.2
22	38	
5	20	
6	40	W Obs Bonn Rec. Phot T.

Index left B.

	2017 ←	Var Dis
7 50 50	290.9	89.2 ✓
	27.1	73.1 ✓
	100.2	162.3 ✓ −0.34 ✓
	209.8	71.9 ✓ −0.28 ✓
7 53 15	281.7	96.7 ✓
	14.8	168.6 ✓ −0.22 ✓
	111.5	

Index Right A.

7 58 35	~~48.0~~	288.0 98.1 ✓
~~7 55 55~~	~~1944~~	26.1 83.6 ✓
		113.0 181.7 ✓
		196.6 178.3 +0.03 ✓
	295.2	81.6 ✓ +0.12 ✓
	16.8	109.6 ✓
	180.6	191.2 ✓
	210.2	168.8 ✓ +0.21 ✓

Mean −0.04 ✓

8 1 5

223 4 ✓ ✓

7 ✓ ✓ ✓ 6 ✓

+ ✓ 1 2. ✓

12 ✓ 6 ✓ 2. ✓

2 ✓ 0. ✓ 396 ✓

Clouds.

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

1908phae.proj..593W

Nov 4, 1908

Index Right A. II

Comp Star Dec

8 6 40	213.0		
	282.6	69.6 ✓	
	23.1	87.7 ✓	
	110.8	157.3 ✓	+0.43 ✓
	207.3	80.5 ✓	+0.60 ✓
8 10 50	287.8	59.7 ✓	
	343	140.2 ✓	+0.77 ✓
	94.0		

Index left B. ✓

8 14 5	118.0	78.6	
	196.6	66.7 ✓	
	301.1	145.3 ✓	+0.67 ✓
	7.8		
			+0.81 ✓
	127.1	60.3 ✓	
8 16 50	187.4	71.0 ✓	
	299.8	131.3 ✓	+0.95 ✓
	10.8		

Mean +0.70 ✓

4A 2✓ ✓
A 12 6. ✓
+✓ 1 2. ✓
13 13 A. ✓
A2✓0.✓✓0A ✓

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

1908phae..proj..593W

Nov. 4 1908

Index Left B. III

	119.0	76.3 ✓
8 20 15	195.3	54.5 ✓
	306.6	130.8 ✓ +0.96 ✓
	1.1	

+1.06 ✓

	129.0	52.7 ✓
8 23 20	181.7	68.2 ✓
	303.6	120.9 ✓ +1.17 ✓
	11.8	

Index Right. A. ✓

	215.7	63.7
8 27 55	279.4	45.3 ✓
	44.6	109.0 ✓ +1.44 ✓
	89.9	

+1.41 ✓

	225.6	44.8 ✓
8 30 50	270.4	66.7 ✓
	32.2	111.5 ✓ +1.38 ✓
	98.9	

Mean +1.24 ✓

8 30 50
10 2 20 ✓
A 2 ✓ 3 ✓ ✓
+ ✓ 1 2. ✓
13 26 37. ✓
α 2 ✓ 0. ✓ 60 ✓

S.T.	23	47
H.A	−4	11
Dec	+27.3	

P.A. 311.6 Vernier B
Sprocket. −2.5 B, −1.5 C

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

1908phae.proj..593W

Nov. 4, 1908

~~Fader Right~~ ~~E~~

Observations made with much difficulty on account of bright moonlight, faintness of variable in Phot., and rapidly decreasing brightness of Var. Troubled also a good deal of the time by passing clouds Some of the settings made through light cloud but as much care exercised as possible

Fourth Type Star +38°15'39.

6	27	+38.6
0	47	
5	40	
6	20	

Color 7m large telescope

W. Obs Bowen Rec. Phot. T

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

1909phaq.proj..593W

Nov 4, 1908

Index R+a A.

9 38 30

322.0 ← Fourth Type Res
350.8 28.8 ✓
146.5 23.8 ✓
170.3 52.6 ✓ −3.16 ✓

325.0 22.2 ✓ −3.14 ✓
347.2 31.7 ✓
141.6 53.9 ✓ −3.11 ✓
173.3

Index L+B. A.

233.3 26.9 ✓
260.2 19.7 ✓
56.0 46.6 ✓ −3.43 ✓
75.7

−3.34 ✓

236.5 21.5 ✓
258.0 28.8 ✓
51.8 50.3 ✓ −3.26 ✓
80.6

Mean −3.24 ✓

9 44 35
23 ✓ ✓
9 41 32 ✓
+✓ 1 2 ✓
14 42 34 ✓
Δ2 ✓ 0.6129 ✓

S.T. 1h 1m
H.A. −5 28
Dec. +38.1
P.A. 192.9 Vernier B
Sprocket. −4.5 B, −3.5 C

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

1908phae.proj..593W

Nov. 4, 1908.

Double Stars (New List) = Burnham's Cat - 3732

6	51	+ 37.3
1	11	
5	40	
6	20	

W. Obs. Bouw Rec. Phot R.

P.A. 57° Dist 26" Mags. 7.2, 7.5

Index R+B A.

1828 ← South, Prec. + Belt. Dis.

263.3	80.5 ✓	
4.5	79.1 ✓	
83.6	159.6 ✓	0.39 ✓

183.5	83.2 ✓	0.36 ✓
266.7	79.3 ✓	
3.5	162.5 ✓	0.33 ✓
82.8		

Index f+a B.

90.3	~~354.6~~	83.3 ✓
173.6	~~95.0~~	81.0 ✓
	272.5	164.3 ✓ 0.30 ✓
	353.5	

0.36 ✓

94.8	77.2 ✓	
172.0	81.0 ✓	
272.0	158.2 ✓	0.42 ✓
353.0		

Mean 0.36 ✓

.10 2 20

10 11 45

	14	5. ✓
10	7	2. ✓
+5	4	2. ✓
15	25	4.

α 250.6307 ✓

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

1908phao.proj..593w

Nov. 4, 1908.

Double Star (New List) = Burnham's Cat. 3455

6 1 5 7 — 27. 27 0 0 + 22.2

Wdlo. Roue Rec. Phot R.

P.A. 243 Dist 53" Magz. 7.0, 7.2

Index L+a. B.

10 23 50
~~10 22 15~~

178.1 ~~178.8~~ ← North, Foll. + Brbr. Dis.
265.5 ~~265.2~~ 87.4 ✓
3.8 81.5 ✓
85.3 168.9 ✓ 0.21 ✓

182.8 85.5 ✓ 0.18 ✓
268.3 86.7 ✓
359.8 172.2 ✓ 0.15 ✓
86.5

Index R+B. A.

95.4 78.6 ✓
174.0 87.1 ✓
269.9 165.7 ✓ 0.27 ✓
357.0

0.14 ✓

90.1 88.7 ✓
178.8 90.4 ✓
268.8 179.1 ✓ 0.02 ✓
359.2

Mean 0.16 ✓

10 30 40
~~5 4~~ 30. ✓
10 27 15 ✓
+5 1 2. ✓
15 24 17. ✓
A2 ✓ 0.6446 ✓

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

1908phae.proj..593W

Nov. 4, 1908

W's watch used for times.
Watch 1 min. 2 secs slow.

L. P. P.

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

1908phao.proj..592w

Nov. 5, 1908. (Thursday)

R 2, Cassiop.

26	
2	36
22	26
4	10
7	50

+690

W Obs. Bouw Rec. Phot. T.

Index A B I

1425 Var Dec.

1740	315 ✓	
3250	226 ✓	
8476	54.1 ✓	−3.10 ✓

7 21 8

146.1	216 ✓	−3.06 ✓
167.7	342 ✓	
318.2	55.8 ✓	−3.02 ✓
352.4		

Ridey R+B. A.

48.3	36.1 ✓	
84.4	21.5 ✓	
236.0	576 ✓	−2.95 ✓
257.5		

−2.94 ✓

34.5	22.8 ✓	
77.3	353 ✓	
229.7	58.1 ✓	−2.93 ✓
265.0		

Mean −3.00 ✓

7 28 45
49 45 ✓
7 24 ✓2 ✓
+✓ 1 7 ✓
12 26 ✓9

~~+2✓1.✓14✓~~
+2✓1.✓1+1 ✓

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

1908phae.proj..593W

Nov. 5. 1908

Same Again II

Index R&B A.

461	38.8 ✓	
849	21.6 ✓	
2358	60.4 ✓	−2.84 ✓
257.4		

−2.92 ✓

558	21.9 ✓	
777	34.2 ✓	
2302	56.1 ✓	−3.01 ✓
264.4		

Index L+a. B.

319.6	31.4 ✓	
351.0	21.3 ✓	
1461	52.7 ✓	−3.15 ✓
167.4		

−3.07 ✓

324.9	22.2 ✓	
347.1	34.4 ✓	
140.0	56.6 ✓	−2.99 ✓
174.4		

Mean −3.00 ✓

Gen. Mean −3.00 ✓

7 34 0

7·42 25

	76	25. ✓
7	34	12. ✓
+✓	1	7. ✓
12	39	19. ✓

A2✓1.✓23 ✓

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

1908phaa.proj..593

Nov. 5, 1908.

S.T. 23 5
H.A. −3 37
Dec. +68.9
P.A. 28.0 Vernier B
Sprocket. −3.5 B, −2.5 C

Observations somewhat difficult. Moon bright, seeing rather poor; and troubled also by clouds. Measurements made through more or less light cloud of varying density so that at times the images were quite faint. Clouds rather more troublsome in second group than in first.

Fourth Type ~~Star~~ +36° 3243

18	40	+37.4
23	25	
4	45	

W Obs Boss Rec. Phot. T.
Abandoned. Clouds in this region.
Clearer. Will try above star again.
Color 4 in large telescope

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

1908phae.proj,.593W

Nov. 5, 1908

Fourth Type Star +36° 3243.

Index Right A.

213.2 ✓ Fourth Type ✓

278.6 65.4 ✓

27.0 79.2 ✓

106.2 147.6 ✓ −0.68 ✓

210.2 76.1 ✓ −0.71 ✓

286.3 65.6 ✓

33.4 141.7 ✓ −0.74 ✓

990

Index Left B.

124.7 62.5 ✓

187.2 83.0 ✓

293.7 145.5 ✓ −0.66 ✓

16.7

−0.66 ✓

114.1 85.0 ✓

199.1 60.5 ✓

305.8 145.5 ✓ −0.66 ✓

6.8

Mean −0.68 ✓

8 29 10

8 36 30

6 ✓ 40. ✓

A 32 ✓ 0. ✓

+✓ 1 7. ✓

13 33 ✓ 7. ✓

A2✓1, ✓6✓3 ✓

S. T. 23 59

H. A. +5 18

Dec. +37.2

P. A 55.3 Vernier B

Sprocket −1.5 a, −0.5 B, 0.0 C

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

1908phae.proj..593W

Nov. 5, 1908

Fourth Type Star +61° 667

8	44	+627
0	9	9.5 in Gap Used.
3	35	Wilbs Bowa Rec. Phot T
8	25	Color 3 in large Telescope

Index Above A.

9 10 30

120.2	Fourth Type Dis.	
195.5	75.3 ✓	
307.8	58.1 ✓	
5.4	133.4 ✓	−0.91 ✓
130.5	55.1 ✓	−0.96 ✓
185.6	73.3 ✓	
299.8	128.4 ✓	−1.01 ✓
13.1		

Index Below B.

31.7	69.7 ✓	
101.4	53.3 ✓	
219.9	123.0 ✓	−1.13 ✓
273.2		
		−1.10 ✓
39.4	52.7 ✓	
92.1	73.0 ✓	
208.6	125.7 ✓	−1.07 ✓
281.6		

Mean −1.03 ✓

9 17 10

	27	40. ✓
9	13	r0. ✓
+r	1	7. ✓
14	14	r7. ✓

d 2 r 1. r937 ✓

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

1908phae.proj..593W

Nov. 5, 1908

S.T. 0 40
H.A. -3 18
Dec. +61.2
P.A. 182.7 Vernier B
Sprocket -5.5 B, -4.5 C

Double star (New list) = Burnham's Cat. 9607

19 41 +35.8
25 1 16
5 35

W. Obs. Bowe Rec Phot R
P.A. 127° Dist. 15"

Index R.A.
272.8 ← North Rec. & Beta Dec
353.0 80.2 ✓
97.5 72.1 ✓
169.6 152.3 ✓ 0.53 ✓

281.8 67.4 ✓ 0.56 ✓
349.2 81.7
93.0 149.1 ✓ 0.59 ✓
174.7

10-7 15

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

1908phae..proj..593W

Nov 5, 1908

Index Lt B

1844	79.7 ✓		
2641	75.5 ✓		
65	155.2 ✓	0.47 ✓	
820			0.50 ✓
1870	75.8 ✓		
2628	76.5 ✓		
54	152.3 ✓	0.53 ✓	
818			

Mean 0.53 ✓

10	14	5
	21	20. ✓
10	10	40. ✓
tr	1	7. ✓
tr	11	47. ✓

~~225~~

225/1.6332 ✓

W's watch used for times
Watch 1 min 7 secs slow

L. P. P.

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

1908phae.proj..593W

Nov 7, 1908. (Saturday).

R.Z. Cassiopeiae

26
2 36 +6.90
22 36
4 0 Wdbs. Rowe Rec. Phot T
8 8

Index L+a. B.
139.1 ← Var. Dir.
173.9 34.8 ✓
323.3 24.1 ✓
347.4 58.9 ✓ −2.90 ✓

7 17 15

145.7 23.3 ✓ −2.94 ✓
169.0 33.6 ✓
319.0 56.9 ✓ −2.98 ✓
352.6

Index R+B. A.
49.1 34.3 ✓
83.4 22.9 ✓
235.2 57.2 ✓ −2.97 ✓
258.1

−3.00 ✓

54.8 22.2 ✓
77.0 33.4 ✓
231.1 55.6 ✓ −3.03 ✓
264.5

7 24 15
41 30. ✓
7 20 4v. ✓
4v 1 1v. ✓
12 22 0. ✓
& 2v 3, v/v 3 ✓

Mean −2.97 ✓

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

1908phae.proj..593V

Nov 7, 1908

Same Again II
Index R+B
493
7 26 55 83.4
235.1
259.1

Stopped by clouds

S.T. 22 56
H.A. -3 44
Dec +68.9
Sprocket -3.5 A, -2.5 B, -2.0 C
P.A 207.8 Vernier B

Sky cloudy everywhere with no prospect of further work

Ws watch used for time
Watch 1 min 15 secs slow

L. P. P.

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

1908phae.proj..593W

Nov. 12, 1908 (Thursday)

R. Z. Draconis

18 21 +58.8

22 56

4 35 W. Ellis Roux Rec. Phot T

Index Right A.

305.7 ← Comp. Star Dec

7 17 5 10.4 64.7 ✓

134.5 42.9 ✓

177.4 107.6 ✓ +1.45 ✓

314.4 44.5 ✓ +1.47 ✓

7 20 0 358.9 63.3 ✓

124.5 107.8 ✓ +1.47 ✓

187.8

Index Left. B ✓

215.2 39.8

7 22 10 275.0 45.1 ✓

44.4 104.9 ✓ +1.54 ✓

89.5

+1.50 ✓

225.2 43.3 ✓

7 24 0 268.5 64.3 ✓

34.4 107.8 ✓ +1.47 ✓

98.9

2 3 15. ✓

7 20 49. ✓

+✓ 1 40. ✓

12 22 29. ✓

2 ✓ 2. ✓ 1 ✓ 2 ✓

Mean +1.48 ✓

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

1908phae.proj..593V

Nov. 12, 1908

Same Again -

	Index Left	B.	H
	216.8	59.4 ✓	
7 27 55	275.4	47.7 ✓	
	41.8	107.1 ✓	+1.49 ✓
	89.5		
			+1.48 ✓
	224.7	43.5 ✓	
7 80 20	268.2	63.9 ✓	
	34.4	107.4 ✓	+1.48 ✓
	98.3		

	Index Right	A.
	123.1	65.6 ✓
7 32 55	188.7	43.6 ✓
	313.8	109.2 ✓	+1.44 ✓
	357.4	
		+1.44 ✓
	134.0	44.6 ✓
7 35 40	178.6	64.5 ✓
	302.8	109.1 ✓	+1.44 ✓
	7.3	

126 √0 ✓

7 31 42. ✓

+√ 1 40. ✓

12 33 22. ✓

42√4. √232 ✓

Mean +1.46 ✓

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

1908phae.proj--593w

Nov. 12, 1908

Same Again III

Index Right A.

	125.5	64.9 ✓	
7 40 40	190.4	44.3 ✓	
	313.6	109.2 ✓	+1.44 ✓
	357.9		

+1.43 ✓

	133.8	45.6 ✓	
7 43 15	179.4	64.3 ✓	
	303.1	109.9 ✓	+1.42 ✓
	7.4		

Index Left B.

	31.4	68.3 ✓	
7 46 10	99.7	38 ✓	
	227.7	107.1 ✓	+1.49 ✓
	266.5		

+1.54 ✓

	45.2	42.5 ✓	
7 48 35	87.7	59.7 ✓	
	216.9	102.2 ✓	+1.60 ✓
	276.6		

	17	40 ✓	
7	44	40. ✓	
+5	1	40. ✓	
12	46	20. ✓	

Mean +1.48 ✓

A 2 ✓ A. ✓ 32 / ✓

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

1908phae..proj..593W

Nov. 12, 1908

Same Again

Index Left B. II

	33.5	65.2 ✓
7 53 45	98.7	42.3 ✓
	225.0	107.5 ✓ +1.48 ✓
	267 3	

+1.53 ✓

	43.4	43.4 ✓
7 55 55	86.8	59.9 ✓
	215.0	103.3 ✓ +1.58 ✓
	274.9	

Index Right. A.

	305.3	61.7 ✓
7 58 50	7.0	42.5 ✓
	134.8	104.2 ✓ +1.55 ✓
	177.3	

+1.54 ✓

	314.8	41.7 ✓
8 1 15	356.5	63.6 ✓
	123.8	105.3 ✓ +1.53 ✓
	187.4	

Mean +1.54"

~~K V~~

229 4√ ✓

7 √7 26. ✓

+√ 1 40. ✓

12 √9 6. ✓

42 √2. √411 ✓

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

1908phae.proj..593W

Nov 12, 1908.

Same Again

Index Right A. ✓ D

8 6 15

305.2	60.8 ✓	
6.0	41.9 ✓	
1355	102.7 ✓	+1.59 ✓
177.4		

315.2	42.6 ✓	+1.54 ✓
357.8	64.3 ✓	
122.4	106.9 ✓	+1.49 ✓
186.7		

8 8 40

Index Left B.

8 11 0

213.2	62.1 ✓	
275.3	42.0 ✓	
44.4	104.1 ✓	+1.56 ✓
86.4		

+1.54 ✓

226.2	41.7 ✓	
267.9	63.7 ✓	
33.9	105.4 ✓	+1.53 ✓
97.6		Mean +1.54 ✓

8 13 20

	39	1 ✓ ✓
∂	9	49. ✓
+δ	1	40. ✓
13	11	29. ✓

∂2δ. δ496 ✓

Spoched etc not read as Alba was anxious to begin observing R.S. Cephei but region thoroughly identified

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

1908phae.proj..593

Nov 12, 1908

R. S. Cephei

4 34 + 81.0

0 24

4 10 W. Alb. Rowe Rec. Plate +

1 50

New Comp. Star used = +80° 160 (9.5)

Index L + a B. ±

36.6 57.0 ✓ Comp Star Dis.

93.6 41.1 ✓

227.8 98.1 ✓ +1.70 ✓

268.9

+1.64 ✓

9 2 20

43.9 40.7 ✓

84.6 62.4 ✓

215.0 103.1 ✓ +1.52 ✓

277.4

Index R + B A. ✓

303.8 63.7 ✓

7.5 41.1 ✓

136.5 104.8 ✓ +1.54 ✓

177.6

+1.46 ✓

314.4 44.9 ✓

359.3 66.6 ✓

124.0 111.5 ✓ +1.32 ✓

190.6 Mean. +1.52 ✓

9 11 25

13 45 ✓

9 6 52. ✓

+5 1 40. ✓

14 2 32.

2 52. .52 93 ✓

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

1908phae.proj..593W

Nov. 12, 1908.

Same Again

Index R+B	A.	II
302.6	15.4	
8.0	43.7	
133.2	109.1	+1.44
176.9		
312.8	45.0	+1.42
357.8	65.2	
1243	110.2	+1.41
189.5		

Index L+a	B.	
217.0	61.2	
278.2	51.5	
37.5	112.7	+1.36
89.0		
		+1.36
223.9	46.0	
269.9	66.6	
32.1	112.6	+1.36
98.7		

Mean +1.39

9 16 20

9 26 10

42 30.

9 21 15.

+5 1 40.

14 22 55.

252.5992

1908phae.proj..593

Nov. 12, 1908.

Same Again III

Index L + A B.

215.8	64.7	
279.7	53.2	
38.4	117.9	±1.24
91.6		

±1.25

222.8	47.8	
270.6	69.0	
31.4	116.8	±1.26
100.4		

Index R + B A.

122.2	69.5	
191.7	45.3	
315.2	114.8	±1.31
360.5		

±1.32

131.3	48.3	
179.6	65.6	
303.8	113.9	±1.33
9.4		

Mean ±1.28

9 33 δ

9 45 15

7 2 15

9 39 2

+5 1 40

14 40 42

α 2 5 α. 6117

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

1908phae.proj..593W

Nov. 12, 1908

Same Again

Index R+B A.

1202	72.3 ✓	
1925	58.5 ✓	
312.1	122.8 ✓	+1.13 ✓
2.6		
		+1.10 ✓
130.4	52.8 ✓	
183.2	72.9 ✓	
300.8	125.7 ✓	+1.07 ✓
13.7		

Index L+a B.

27.5	76.3 ✓	
103.8	53.0 ✓	
219.0	129.3 ✓	+0.99 ✓
272.0		
		+1.01 ✓
38.6	55.9 ✓	
94.5	71.8 ✓	
209.8	127.7 ✓	+1.03 ✓
281.6		

Means +1.06 ✓

9 59 20

10 9 45

9 ✓ ✓

10 4 32. ✓

+✓ 1 40. ✓

15 6 12. ✓

42 ✓ 42.6293 ✓

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

1908phae.proj...593v

Nov 12, 1908.

Same Again ☩

Index L+A. B.

266	78.6	
105.2	55.0	
218.3	133.6	+0.90
2733		

10 25 45

95.3		+0.88
95.0	79.7	
207.8	76.2	
284.0	136.9	+0.86

Index R+B A.

301.8		
133	71.5	
129.0	56.9	
183 9	126.4	+1.05

307.5		
5.2	77	+0.98
119.5		
194.9	75.4	
	133.1	+0.91

10 38 0

63 45.

10 31 52.

+5 1 40.

1s 33 32.

2 2s A. 6 4s A 3

ST. 2h 27m

H.A -2 23

Dec +79.9

RA 188.0 Vernier B

Sprocket -2.5 B, -1.5 C

mean +0.93

L. A. P.

W's would used for times. Clutch 1 min 40 sec slow

over.

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

1908phae.proj.1993

Nov. 12. 1902.

Seeing throughout evening, rather poor.
Wind light, air rather cold, storm just cleared off.
Settings, however, made slowly and with great care, and obs considered good.

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

1908phae.proj..593

Nov. 13, 1908. (Friday)

R. Z. Draconis

18 21 +58.8

23/4 1/40 Wolbs Rowe Rec. Phot T

Index Right A. I

122.8 ✓ Comp Star Res

189.7 66.9 ✓

311.9 47.6

359.5 114.5 ✓ +1.31 ✓

7 19 35

132.9 49.3 ✓ +1.30 ✓

182.2 66.8 ✓

302.4 116.1 ✓ +1.28 ✓

9.2

Index left B.

30.2 67.7 ✓

97.9 47.1

223.8 111.8 +1.38 ✓

267.9 +1.35 ✓

~~+34~~

42.2 47.7 ✓

89.9 ~~47.2~~ 66.4 ✓

212.9 ~~114.9~~ 114.1 ~~+1.34~~ +1.32 ✓

279.3 ~~280.1~~

7 26 35

46 10. ✓

7 23 ✓.

+✓ 1 4✓. ✓

12 24 ✓0. ✓

42✓9. ✓173 ✓

Mean +1.32 ✓

~~Mean +32~~

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

1908phae.proj..502

Nov. 13, 1908

Same Again II

Index Left B.

31.4	67.4 v
98.8	45.3 v
2238	112.7 v +1.36 v
269.1	
	+1.34 v
43.1	47.3 v
90.4	66.5 v
212.2	113.8 v +1.33 v
278.7	

Index Right A.

304.4	64.0 v
84	45.7 v
132.9	109.7 v +1.42 v
178.6	
	+1.38 v
312.6	48.3 v
0.9	64.5 v
124.1	112.8 v +1.35 v
188.6	

Mean +1.36 v

7 33 20

7 48 20

	73	40. v
7	36	50. v
+v	1	45. v
12	32	35 v

225 9. v 260 v

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

1908phae..proj..593W

Nov. 13, 1908

Sama Again. III

Index Right A.

303.8	64.2 ✓
8.0	50.3 ✓
132.0	114.5 ✓ +1.31 ✓
182.3	

+1.28 ✓

311.1	50.0 ✓
1.1	67.7 ✓
121.0	117.7 ✓ +1.24 ✓
188.7	

Index Left. B.

213.4	64.2 ✓
277.6	47.9 ✓
40.8	112.1 ✓ +1.37 ✓
88.7	

+1.38 ✓

223.9	45.2 ✓
268.1	65.7 ✓
33.2	110.9 ✓ +1.40 ✓
98.9	

Mean +1.33 ✓

7 54 20

8.1 35

11 ✓ ✓✓. ✓

7 ✓7 ✓4. ✓

+✓ 1 4✓. ✓

12 ✓9 43

42✓9. ✓4/✓ ✓

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

1908phae.proj..593W

Nov. 13, 1908

Same Again LV

Index Left B.

213.4	63.8	
277.2	49.8	
41.2	113.6	+1.34
91.0		
		+1.30
221.9	48.0	
269.9	68.4	
32.1	116.4	+1.27
100.5		

Index Right. A.

125.8	65.2	
191.0	48.5	
311.9	113.7	+1.33
0.4		
		+1.30
133.1	49.1	
182.2	66.8	
301.2	115.9	+1.28
8.0		

Mean +1.30

8 5 55

8 13 45

	19	40.
2	9	80.
+2	1	42.
13	11	32.

£2 2 9. 2 49 7

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

1908phao..proj..593W

Nov. 13, 1908.

Same again I

Index Right. A.

	122.5	68.9
	191.4	48.4
	312.5	117.3 +1.25
	0.9	

+1.28

	133.0	48.6
	181.6	66.2
	302.8	114.8 +1.31
	9.0	

Index left. B.

	32.2	65.6
	97.8	47.5
	222.5	113.1 +1.35
	270.0	

+1.34

	40.7	49.5
	90.2	64.4
	214.4	113.9 +1.33
	278.8	

Mean +1.31

8 19 55

8 26 45

46 40

A 23 20.

+ 1

13 2 1

A 2 9. 9 1

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

1908phae.proj..593w

Nov. 13, 1908

Same Again VI

Index Left. B.

33.7	64.7
98.4	46.5
223.3	111.2 +1.39
269.8	
	+1.40
43.2	46.0
89.2	64.4
214.0	110.4 +1.41
278.4	

Index Right A.

302.9	64.3
7.2	48.9
133.1	113.2 +1.34
182.0	
	+1.36
313.4	47.4
0.8	63.9
124.2	111.3 +1.39
188.1	

Mean +1.38

8 40 20

8 47 40

22	0.
4 4	0.
+1	4.
13 4	4.

22 9. 73 –

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

1908phae..proj..593W

Nov. 13, 1908

Same Again VII

Index Right A.

304.6	63.1 v	
7.7	49.0 v	
132.6	112.1 v	+1.37 v
181.6		
		+1.38 v
312.8	46.2 v	
359.0	65.3 v	
124.2	111.7 v	+1.38 v
189.7		

Index Left. B.

213.4	63.9 v	
277.3	45.5 v	
42.4	109.4 v	+1.43 v
87.9		
		+1.41 v
223.0	46.1 v	
269.1	65.2 v	
32.6	111.3 v	+1.39 v
97.8		

Mean +1.40 v

9 1 20

9 10 15

11 3 v. v

9 v 4 A. v

+v 1 4 v. v

14 7 33. v

A 2 v 9. v A A 6 v

1908phae.proj..593W

Nov. 13, 1908

9 29 0

Same Again

Index Left	B.
214.6	60.1 v
274.7	45.3 v
43.1	105.6 v +1.52 v
88.6	

+1.48 v

223.5	45.6 v
269.1	63.3 v
343	108.9 v +1.44 v
97.6	

Index Right	A.
126.6	60.4 v
187.0	46.9 v
313.2	107.3 v +1.48 v
0.1	

+1.44 v

133.1	48.6 v
181.7	61.8 v
304.2	110.4 v +1.41 v
6.0	

Mean +1.46 v

9. 42 0

	71	0. v
9	3 v	30. v
+v	1	4 v. v
14	37	1 v. v

∠ 2 v 9. 60 91 v

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

1908phae.proj..593

Nov. 13, 1908

S. T 1 22
HA + 7 18
Dec 59.2
PA 260 3
Sprocket. -2.5 A, -1.5 B, -1.0 C

Double star $\underline{\delta}$ Orionis

5	27	-0.4
1	57	
3	30	
8	30	

Ub. Obs Rows Rec. Phot R

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

1908phae.proj..593W

Nov. 13, 1908

Index L+B B.

217.7 ← Southern + Bdr. Dis

230.9	13.2 ✓	
36.0	15.0 ✓	
51.0	28.2 ✓	−4.54 ✓
27.0	14.0 ✓	−4.50 ✓
231.0	15.2 ✓	
35.8	29.2 ✓	−4.46 ✓
51.0		

Index R+a A.

125.8	15.7 ✓	
141.5	13.7 ✓	
306.8	29.4 ✓	−4.45 ✓
320.5		
		−4.48 ✓
126.1	15.2 ✓	
141.3	13.5 ✓	
307.0	28.7 ✓	−4.50 ✓
320.5		

Mean −4.49 ✓

10 20 10

10 26 30

46 40. ✓

10 23 20. ✓

+✓ 1 4✓. ✓

1✓ 2✓ ✓. ✓

£259.642✓−✓

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

1908phae.proj..593W

Nov. 13, 1908

Same again

Index R+A	A.
126.1	14.4 ✓
140.5	13.2 ✓
307.4	27.6 ✓ − 4.59 ✓
320.6	

10 28 18

− 4.52 ✓

126.3	15.5 ✓
141.8	13.8 ✓
307.0	29.3 ✓ − 4.45 ✓
320.8	

Index L+B	B.
37.0	13.6 ✓
50.6	13.8 ✓
217.0	27.4 ✓ − 4.60 ✓
230.8	

− 4.51 ✓

36.6	15.0 ✓
51.6	14.7 ✓
216.8	29.7 ✓ − 4.42 ✓
231.5	

10 34 15

62 27 ✓

10 31 12. ✓

+ ✓ 1 ✓ ✓

✓ 32 ✓7. ✓

α 279.6479 ✓

Mean − 4.52 ✓

General " − 4.50 ✓

W's watch used for turns
Watch 1 min 45 secs slow

L. P. P.

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

1908phae.proj..593W

Nov. 16, 1908 (Monday)

R.Z. Draconis

18 21 +58.8

23 21

5 0 Wolbs Bouv Rec. Phot T

Index Left

212.2 ← Comp. Star Dec

279.6

40.0

89.9

222.0

269.8

32.2

98.3

Index Right

Clouds

Abandoned

Stopped by clouds

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

1908phae.proj..593W

Nov. 16, 1908

o Ceti

2 12 −3.6
0 12
2 10 Wdbs. Rover Rec. Phot. R
10 0

Index Above A.
127.9 ← Var. D is
140.8 12.9 v
309.6 8.9 v
318.5 21.8 v −5.10 v

8 17 40

128.6 10.7 v −5.02 v
139.3 12.8 v
307.8 23.5 v −4.94
3206

Index Below B.
38.0 12.7 v
50.7 10.5 v
218.8 23.2 v −4.97 v
2293

−4.96 v

38.8 11.1 v
49.9 12.3 v
218.2 23.4 v −4.95 v
230.5

8 32 20

v 2 0. v
a 26 0. v
+v 2 10. v
13 28 10. v
a 262. v 6.12 v

Mean −4.99 v

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

1908phae.proj..593W

Nov 16, 1908

Same Again II

Index Below B.

38.0	12.3 ✓	
503	10.1 ✓	
219.5	22.4 ✓	−5.04 ✓
229.6		
		−5.00 ✓
38.6	10.8 ✓	
49.4	12.6 ✓	
218.3	23.4 ✓	−4.95 ✓
230.9		

Index Above A. ✓

308.0	12.7 ✓	
320.7	11.4 ✓	
128.1	24.1 ✓	−4.88 ✓
139.5		
		−4.93 ✓
3083	11.3 ✓	
319.6	11.8 ✓	
127.7	23.1 ✓	−4.98 ✓
139.5		

Mean −4.96 ✓

General " −4.98 ✓

8 35 40

8 43 50

	79	30. ✓
A	39	4√. ✓
t√	2	10. ✓
13	41	√√. ✓

A262. √291 ✓

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

1908phae.proj..593W

Nov. 16, 1908

R. Z. Draconis.

18 21 +58.8

25 1

6 40 W. Obs. Rome Rec. Phot. T

Index left B. I

Comp. Star Lis.

32.5 61.2 ✓

94.8

223.5 4✓.2 ✓

268.7 107.0 ✓ +1.49

9 10 0

42.6 4✓.0 +1.✓1

87.6

216.1 60.2

276.3 10✓.2 +1.✓3

Index Right . A.

304.7 61.4

6.1

131.8 ✓0.1

181.9 111.✓ +1.32

311.2 49.3 +1.31

0.5

123.0 62.4

191.4 117.7 +1.24

9 18 0

2 2 0 ✓

9 14 0. ✓

+✓ 2 10. ✓

14 16 10. ✓

2262.✓94✓+✓

Mean +1.41

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

1908phae.proj..593W

Nov. 16, 1908.

Same Again II

Index Right A.

361.5
7.6 66.1
132.3
180.4 Fe.1 / 11 Fe.2 +1.32

311.8 Fe.9 +1.29
0.7
122.5 6 A.2 / 117.1 +1.26

Index ~~Left~~ B.

214.4 62.3 ✓
276.7 44.3 ✓
42.6 106.6 ✓ +1.50
86.9

+1.49

225.6 43.9 ✓
269.5 63.3 ✓
32.8 107.4 ✓ +1.48
96.3

Mean +1.39

9 21 35

9 29 0

	50	35.	✓
9	25	18.	✓
+5	2	10.	✓
14	27	28.	✓

Fe 262.6024 ✓

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

1908phae.proj..593W

Nov. 16, 1908

Same Again III

Index Left B.

214.4	58.8 ✓	
273.2	43.3 ✓	
43.8	102.1 ✓	+1.61
87.1		

+1.✓a

223.8	44.1 ✓	
267.9	59.7 ✓	
35.9	103.8 ✓	+1.✓b
95.6		

Index Right A.

124.5	65.0 ✓	
189.5	48.6 ✓	
311.8	113.6 ✓	+1.34.
0.4		

+1.40

132.2	47.1 ✓	
179.3	61.7 ✓	
305.8	108.8 ✓	+1.4✓
6.7		

Mean +1.49

9 33 50

9 42 50

76	40. ✓	
9 30	20. ✓	
+✓ 2	10. ✓	
14 40	30. ✓	

a 262.6114 ✓

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

1908phae.proj..593W

Nov. 16, 1908

Same Again IV

Index Right A.

1263
187.0 60.7
312.5
359.4 46.9
107.6 +1.47

133.7
180.0 46.3 +1.47
363.7
5.2 61.5
107.2 +1.47

Index Left B.

33.7
95.4 61.7
226.3
267.2 40.9
102.6 +1.59

44.4
87.4 43.0 +1.62
216.4
273.8 57.4
100.4 +1.16

Mean +1.54

9 53 0

10 · 1 0

11 4 0.
9 5 7 0.
4 2 10.
14 5 9 10.
4 2 10.
+ 20.
262.62 44

1908phae.proj..599W

Nov. 16, 1908

Same Again

Index Left B.

10 4 30

35.8
92.8 ν7.0
225.4
265.1 39.7 / 96.7 +1.74

45.0
86.7 41.7 +1.71
217.3
274.6 ν7.3 / 99.0 +1.64

Index Right A.

305.1
7.3 62.2
135.7
179.5 43.8 ν / 106.6 +1.ν1

315.1
358.4 43.3 ν +1.ν4
126.2
186.6 60.4 ν / 103.7 +1.ν7

mean +1.62

10 11 40

16 10. ν
10 8 ν.
+ν 2 10. ν
ν 10 ν.
262.6320 ν

Sprocket etc, not read as Obs. was anxious to begin observations on δ Orionis. Region, however, thoroughly identified

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

1908phae.proj..593W

Nov. 16, 1908.

δ Orionis

5	27	-0.4
2	27	
3	0	
9	0	W. Obs. Rowe Rec. Phot R

Index L+B B.

36.4 ~ Southern Brth. Dis

51.1	14.7 ✓	
216.1	15.7 ✓	
231.8	30.4 ✓	~ 4.37 ✓

36.4	15.4 ✓	~ 4.34 ✓
51.8	15.7 ✓	
216.2	31.1 ✓	~ 4.32 ✓
231.9		

Index R+a A.

306.5	14.8 ✓	
321.3	16.0 ✓	
126.1	30.8 ✓	~ 4.35 ✓
142.1		

~ 4.32 ✓

306.1	15.4 ✓	
321.5	16.8 ✓	
126.0	31.4 ✓	~ 4.30 ✓
142.6		

Mean ~ 4.33 ✓

10 24 50

10 30 40

	✓✓	30. ✓
10	27	✓✓. ✓
✓✓	2	10. ✓
✓✓	29	✓✓. ✓

∠ 262.64 ✓✓ ✓

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

1908phae.proj..599W

Nov. 16, 1908

Same again
Index R+a A.

306.8	14.4	
321.2	15.8	
125.9	30.2	-4.39
141.7		
		-4.40
306.9	15.1	
322.0	14.9	
126.6	30.0	-4.40
141.5		

Index L+B B.

217.2	14.8	
231.2	14.0	
37.2	28.0	-4.55
51.2		
		-4.46
215.7	15.9	
231.6	14.4	
368	30.3	-4.38
51.2		

10 32 45

10 40 15

7	3	0.
10	36	30.
+5	2	10.
15	32	40.

262.6 19

Mean -4.43
General " -4.38

Seeing rather poor and images rather poor.

W's watch used for times
Watch 2 error 10 sec slow

L. P. P.

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

1908phae.proj..593W

Nov. 17, 1908 (Tuesday)

R.2. Draconis.

18 21 +58.8

23 21

5 0

U. Obs. Bowa Rec. Phot I

Index Left B.

2.1.8 Comp Star Dec I

7 23 50

274.4 35.6 ✓

43.4 44.2 ✓

87.6 99.8 +1.66 ✓

226.3 39.6 ✓ +1.68 ✓

265.9 63.2 ✓

37.0 102.8 +1.59 ✓

100.2

Index Right A.

125.4 61.8

187.2 42.5 ✓

315.4 104.3 ✓ +1.55 ✓

357.9

+1.54 ✓

134.1 43.5 ✓

177.6 61.1 ✓

304.3 104.6 ✓ +1.54 ✓

5.4

+1.5A ✓

Mean ~~+1.6~~

7 32 10

✓6 0. ✓

7 2A 0. ✓

+5 0 1✓. ✓

12 2A 1✓. ✓

A263. ✓19✓+ ✓

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

1908phae.proj..5937

Nov. 17, 1908

Same Again
Index Right A. II

123.4	63.5 ✓	
186.9	42.4 ✓	
315.4	105.9 ✓	+1.√1 ✓
357.8		

135.0		+1.√2 ✓
179.2	44.2 ✓	
306.3	61.1 ✓	
7.4	105.3 ✓	+1.√3 ✓

Index Left B.

32.3	6√.7 ✓	
98.0		
224.2	43.8 ✓	
268.0	109.√	+1.43 ✓

44.7	∓1.6	+1.√0 ✓
86.3		
215.4	61.6	
277.0	103.2	+1.√4 ✓

mean +1.√1 ✓

7.35 — 5

7 43 50

	7 4	√√. ✓
7	39	24. ✓
+√	0	1√. ✓
	12 39	∓3. ✓

4263. √276 ✓

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

1908phae.proj..593W

Nov. 17, 1908.

Same Again III

Index Left B.

34.0	63.0	
97.8	42.0	
225.4	105.8	+1.54
267.4		

+1.56

44.4	43.3	
87.7	59.7	
214.4	103.0	+1.58
274.1		

Index Right. A.

3063	59.5	
5.8	46.4	
133.4	105.9	+1.51
179.8		

+1.53

313.9	45.2	
359.1	59.0	
1263	104.2	+1.55
1853		

Mean +1.54

7 50 30

7 · 58 50

109 20.

7 ✓4 40.

+✓ 0 1✓.

12 ✓4 ✓✓.

£263.✓3£1

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

1908phae.proj..593

Nov 17, 1908

Same Again

Index Right A. ~~IV~~

306.8 58.7
5.5 44.4
134.0 103.1 +1.√2
178.4

+1.√2

314.1 45.5
359.6 63.0
125.3 108.5 +1.4√
188.3

Index Left. B.

214.4 63.5
277.9 43.1
42.3 108.6 +1.4√
87.4

+1.4

225.2 42.9
268.1 62.9
34.3 105.8 +1.√2
97.2

Mean +1.√0

8 5 55

8 14 20

20 1√.
0 0.
0 1√.
0 23.

0263.√409

1908phae.proj..593W

Nov. 17, 1908.

Same Again V

Index Left B.

213.9 62.3 ✓
276.2 42.7 ✓
44.1 105.0 ✓ +1.54 ✓
86.8

8 20 35

+1.50 ✓

224.1 43.7 ✓
267.8 64.0 ✓
33.5 107.7 ✓ +1.47 ✓
97.5

Index Right A.

125.2 63.3 ✓
188.5 46.1 ✓
312.9 109.4 ✓ +1.43 ✓
359.0

+1.43 ✓

134.0 45.9 ✓
179.9 ~~63.9~~
303.5 ~~109.8~~ ~~+.42~~ +1.43 ✓
6.9 ~~7.4~~ 63.4 ✓
109.3 ✓

Mean +1.46 ✓

8 30 30

	✓1	✓.	✓
A	2✓	32.	✓
+✓	0	1✓.	✓
.13	2✓	47.	✓

A263.✓✓96

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

1909phao..proj..593M

Nov. 17, 1908

Same Again

Index Right A. VI

8 41 15

122.8 66.0 v
188.8 46.1 v
312.7 112.1 v +1.37 v
358.8

+1.38 v

133.5 47.1 v
180.6 64.5 v
304.2 111.6 v +1.38 v
8.7

Index Left B.

32.1 66.4 v
98.5 45.0 v
223.4 111.4 v +1.39 v
268.4

+1.36 v

43.2 46.4 v
89.6 67.0 v
212.0 113.4 v +1.34 v
279.0

Mean +1.37 v

8 49 18

90 2v. v
& 4v 12. v
+v 0 1v. v
13 4v 27. v
A 263, v 732 v

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

1908phae.proj..593w

Nov. 17, 1908

Same Again

Index Left B. VII

32.2	66.7 ✓	
98.9	48.1 ✓	
221.0	114.8 ✓	+1.31 ✓
269.1		
		+1.34 ✓
42.0	47.6 ✓	
89.0	65.4 ✓	
212.4	112.4 ✓	+1.36 ✓
277.8		

Index Right A.

304.4	63.1 ✓	
7.5	47.6 ✓	
132.0	110.7 ✓	+1.40 ✓
179.6		
		+1.36 ✓
312.9	46.7 ✓	
359.6	67.1 ✓	
122.3	113.8 ✓	+1.33 ✓
189.4		

Mean +1.35 ✓

8 56 20

9 3 50

	0	10. ✓
9	0	√. ✓
+√	0	1√. ✓
14	0	20. ✓

∠263. √∠3√+ ✓

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

1908phao.proj..593

Nov. 17, 1908

Same Aq aur

Index Right A. FIII

304.6	64.7 ✓	
9.3	49.2 ✓	
131.2	113.9 ✓	+1.33 ✓
180.4		

9-10 25

313.1	46.0 ✓	+1.34 ✓
359.1	66.9 ✓	
123.1	112.9 ✓	+1.35 ✓
190.0		

Index Left. A.

212.0	67.1 ✓	
279.1	47.6 ✓	
41.4	114.7 ✓	+1.31 ✓
89.0		

+1.32 ✓

222.0	47.8 ✓	
269.8	65.9 ✓	
31.9	113.7 ✓	+1.33 ✓
97.8	~~98.5~~	

Mean +1.33 ✓

9 18 15

	20	40. ✓
9	14	20. ✓
+✓	0	15. ✓
14	14	35. ✓

α 263. ✓ 93 ✓

S.T. 1 28

H.A. 7 5

Dec +59.2

P.A. 80.7 Vernier B

Sprocket −2.5 A, −1.5 B, −1.0 C

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

1908phae.proj..593W

Nov. 17, 1908.

5 Draws

5	27	−0.4
1	47	
3	40	
8	20	

Indep

124.8

9 52 35 1423

308.4

319.4

128.6

140.3

Clouds.

Abandoned. New Start

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

1908phae.proj..593

Nov. 17, 1908

Index
306.2
10 7 50 323.8
128.2
140.0

308.3
319.9
125.8
142.5

Index
215.8
233.5

Clouds thicken again and coming over the whole sky. During above settings the clouds were so abundant + thick that the settings could not be made critical.

Stopped by clouds. Impossible to do anything with $\frac{5}{8}$ Arcus tonight.

W's watch used for times
Watch 15 seco. slow-

L. P. A.

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

1908phae.proj..593W

Nov. 20, 1908 (Friday)

R. Z. Draconis.

18 : 21 +58.8
23 31
5 10

W. Obs. Rouse Rec Phot T
Index Left. B. I
221.9 Comp. Star Dec.
270.1 48.2"
46.2 37.2"
83.4 85.4" +2.04"

+2.02"

228.4 36.8"
264.4 50.4"
40.1 86.4" +2.01"
90.5

Index Right A.
310.1 50.9"
1.0 37.6"
139.0 85.5" +2.04"
173.6

+2.00"

318.5 37.1"
355.6 51.0"
131.8 88.1" +1.96"
182.8

Mean +2.01"

7 25 5

7 34 20
r9 25."
7 29 42."
+r 0 33."
12 30 1r"
α 266.r209"

7
+r
12
α

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

1908phae..proj..593

Nov. 20, 1908

Same Again II

Index Right A.

311.8	49.2 ✓	
1.0	33.6 ✓	
140.3	82.8 ✓	+2.11 ✓
173.9		

+2.10 ✓

318.0	35.1 ✓	
353.1	48.8 ✓	
132.0	83.9 ✓	+2.04 ✓
180.8		

Index left. B.

224.7	49.7 ✓	
271.4	33.5 ✓	
49.5	83.2 ✓	+2.10 ✓
83.0		

+2.04 ✓

228.9	33.8 ✓	
261.9	51.3 ✓	
39.0	84.3 ✓	+2.07
96.3		

Mean +2.09 ✓

7 39 40

7 46 40

	46	20. ✓
7	43	10. ✓
+✓	0	33. ✓
12	43	43.

A 266. ✓ 304 ✓

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

1908phae.proj..593W

Nov. 20, 1908.

Same Again ##

Index Left. B.

222.2
270.0 K7.8
48.0
83.0 3K.0 / 2.2 +2.11

228.9
263.3 3K.K +2.10
40.8
90.4 K9.6 / 2K.0 +2.02

Index Bright. A.

131.9
181.1 K9.2
318.7
354.0 3K.3 / 2K.K +2.06

138.3
173.8 3K.K +2.04
310.6
0.8 K0.2 / 2K.7 +2.03

Mean +2.07

7 58 35

7 58 40

109 1K.
7 K4 38.
+K 0 33.
12 KK 11.
2266.K3823

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

1908phae.proj..593

Nov 20, 1908.

Same Again IV

Index Right A.

132.0	47.6 ✓	
179.6	32.8 ✓	
319.8	80.4 ✓	+2.18 ✓
352.6		

+2.14 ✓

138.8	36.1 ✓	
174.9	47.6 ✓	
312.8	83.7 ✓	+2.09 ✓
0.4		

Index Left. B.

38.7	49.7	
88.4	32.0 ✓	
230.8	81.7 ✓	+2.14 ✓
262.8		

+2.14 ✓

47.8	35.3 ✓	
83.1	46.7 ✓	
222.5	82.0 ✓	+2.14 ✓
269.2		

Mean +2.14 ✓

8 / 35

8 10 15

	11	√0. ✓
8	√	√√. ✓
+√	0	33. ✓
13	6	28. ✓

A 266. √461 ✓

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

1908phae.proj..593w

Nov. 20, 1908.

Same Again V

Index Left B.

43.2
91.1 47.9 ✓
230.5 31.0 ✓
261.5 78.0 ✓ +2.25 ✓

48.0
83.9 35.9 +2.14 ✓
221.7 49.8 ✓
271.2 47.5 ✓ +2.04 ✓

Index Right A.

308.7
0.7 ✓20 ✓
138.8 36.7 ✓
175.5 41.7 ✓ +1.95 ✓

317.8 36.9 ✓ +1.92 ✓
354.7
129.8 ✓36 ✓
183.4 90.✓ ✓ +1.90 ✓

+2.03 ✓

8 14 20

8 24 25

32 45 ✓ ✓
α 19 22.
+✓ 0 33. ✓
13 19 ✓✓ ✓
α266.✓✓✓✓✓+

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

1908phae.proj..593

Nov. 20, 1908

Same Again VI

Index Right A.

309.2	52.1	
1.3	38.5	
137.1	90.6	+1.90
175.6		

+1.85

317.4	38.0	
355.4	56.8	
127.6	94.8	+1.80
184.4		

Max left B.

217.6	56.9	
274.5	36.8	
47.6	93.7	+1.82
84.4		

+1.80

227.2	38.2	
265.4	57.2	
36.4	95.4	+1.78
93.6		

+1.82

8 28 10

8 36 45

64 √√.

82 32 28.

+√ 0 33.

13 33 1

82 66. √646

1908phae.proj..593W

Nov. 20, 1908.

Same Again VII

Index Left B.

215.8	59.1	
274.9	38.4	
45.4	97.5	+1.72
83.8		

+1.69

225.7	40.3	
266.0	59.7	
34.8	108.0	+1.66
94.5		

Index Right A.

126.5	58.5	
185.0	41.6	
315.4	100.1	+1.65
357.0		

+1.62

136.0	42.2	
178.2	60.1	
305.7	102.3	+1.60
5.8		

Mean +1.66

8 41 15

8 49 25

	91 40.	
+	45 0.	
+	0 33.	
13	46 23.	

α 266.739

1908phae.proj..593

Nov. 20, 1908

Same again VIII

Index Right A.

126.1	60.5 ✓
186.6	44.9 ✓
312.8	105.4 ✓ +1.53 ✓
3577	

+1.54 ✓

134.5	47.3 ✓
1788	60.5 ✓
305.7	104.8 ✓ +1.54 ✓
6.2	

Index left. B.

34.1	62.6 ✓
96.7	42.4 ✓
2243	105.0 ✓ +1.54 ✓
2667	

+1.55 ✓

44.6	42.8 ✓
87.4	61.0 ✓
214.8	103.8 ✓ +1.56 ✓
2758	

Mean +1.54 ✓

8 38 45

9 8 15

	127	0. ✓
9	3	30. ✓
+✓	0	33. ✓
14	4	3. ✓

∠266. ✓ ∠61 ✓

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

1908phae.proj..593W

Nov 20, 1908

Same Again. IX

Index Left B.

34.9	61.5	v
96.4	72.6	v
224.6	104.1	v +1.56 v
267.2		

+1.56 v

45.0	43.2	v
88.2	60.7	v
213.6	103.9	v +1.56 v
2743		

Index Right. A.

306.4	59.1	v
5.5	47.2	v
131.6	106.3	v +1.50 v
178.8		

+1.46 v

313.4	45.0	v
358.4	64.5	v
124.1	109.5	v +1.43 v
188.6		

Mean +1.51 v

9 14 10

9 22 0

36 10. v

9 10 v. v

+v 0 33. v

14 18 30. v

α 266. v 962 v

1908phae.proj..593

Nov. 20, 1908

Same Again X

Index Right A.

304.7	62.2	
6.9	50.2	
132.8	112.4	+1.36
183.0		

+1.36

312.0	49.3	
1.3	63.7	
124.4	113.8	+1.35
188.1		

Index left B.

215.5	59.9	
275.4	46.2	
42.4	106.1	+1.51
88.6		

+1.47

223.9	43.9	
267.8	65.4	
34.4	109.3	+1.43
99.8		

Mean +1.42

9 33 0

9 42 20

7	20.	
9 37	40.	
+1	0	38.
14 36	13.	

α 266.6092

S.T. 2 3

H.A. +7 41

Dec +59.2

P.A 80.5 Vernier B

Sprocket, -2.5A, -1.5B, -0.5C

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

1908phae.proj..593W

Nov. 20, 1908

δ Orionis

5	27	−0.4
2	47	
2	40	W. Obs. Bonn Rec Phot R
19	20	

Index R+A A.

307.0 ← Southern + Brit Dis

10 33 20

320.3. 13.3 ✓

125.8

142.0 16.2 ✓ / 29.5 ✓ −4.44 ✓

305.8 15.4 ✓ −4.36 ✓

321.2

125.4 16.4 ✓ / 31.8 ✓ +4.27 ✓

Index LHB B.

216.7 15.2 ✓

231.9

369

51.7 14.8 ✓ / 30.0 ✓ −4.40 ✓

217.1 14.5 ✓ −4.42 ✓

231.6

368

51.9 15.1 ✓ / 29.6 ✓ −4.43 ✓

−4.39 ✓

10 38 45

7 2 5. ✓

10 3 6 2. ✓

+ ✓ 0 3 3. ✓

1 ✓ 3 6 3 5. ✓

α 266. 6 ✓ 04 ✓

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

1908phae.proj..593

Nov. 20, 1908

Same again

Index R+B B.

215.8		
231.7	15.9	
36.9		
51.6	14.7 / 30.6	= 4.36

217.1	14.1	= 4.44
231.2		
37.0	14.4 / 28.5	= 4.52
51.4		

Index R+a A.

126.1		
142.6	16.5	
307.4		
321.1	13.7 / 30.2	= 4.39

125.5	17.3	= 4.30
142.8		
306.2	15.2 / 32.5	= 4.22
321.4		

Mean = 4.37
= 4.39
Gen. mean 4.30

10 46 10

	46	40.
10	43	20.
+r	0	33.
1r	43	r3.

α 266. 6rrrr+

W's watch used for times
Watch 33 secs. slow

L. P. A.

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

1908phae.proj..593W

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

1908phae.proj..593

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

1966photo..proj...593W

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

1908phae.proj..593V

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

1908phae.proj..593W

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

1908phae.proj..593W

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

1908phae.proj..593W

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

1908phae.proj..593W

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

1908phae.proj..593W

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