KG
11365
597

KG 11365.597

KG 11365.594

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July 14, 1909 (Wednesday)

Double Star (new list) = Burnham's Cat. 10930

21 16 + 61.4
16 23
−4 53
+7 7

July 14, 1909
Index Right & Below
34.0
$8^h 48^m 35^{sec}$ 51.5
Clouds
208.5
241.0

July 15 (Thursday)

U Scuti

~~185~~ 18 51 - 13.0

16 51

-2 0

17 3

- 1 48

10 12

July 17, 1909 (Saturday)

Double Star (new list) = Burnham's Cat. 8868
W ds. Corcoran rec.

18 46 + 33.2 Phot. W
16 4
- 2 42
9 18 P. A 150 Dist 46

Index Left + Below

302.0 ← Var. dis
8^h 12^m 40^{sec} 322.0 20.0 ✓
123.1
140.6 17.5 ✓
37.5 ✓ 3.91 ✓

302.9 19.7 ✓ 3.84
322.6
122.5 20.3 ✓
142.8 40.0 ✓ 3.77 ✓

Index Right + Above

210.4 21.4 ✓
231.8
33.0
51.7 18.7 ✓
40.1 ✓ 3.76 ✓

212.7 18.9 ✓
8^h 19^m 10^{sec} 231.6 3.78 ✓
81 50 31.7 ✓
8 15 55 52.5 20.8
+5 − 16 39.7 ✓ 3.79 ✓
13 15 39 L. P. P. Mean 3.81 ✓

July 17, 1909 (Saturday)
U Ophiuchi

17 9 +1.4
16 34
35
11 25

For measts, see fol. pages.

July 17, 1909

Index Left + Below. B.

59.4 ← Var. dis. I

$9^h\ 31^m\ 55^{sec}$ 151.8 92.4✓

256.4

318.0 61.6✓

154.0✓ −0.50✓

76.4 −0.50✓

136.8 60.4✓

239.2

333.3 94.1✓

154.5✓ −0.49✓

Index Right + above A.

345.0

49.0 64.0✓

147.6

243.6 96.0✓

160.0✓ −0.38✓

330.0 −0.38✓

$9^h\ 39^m\ 30^{sec}$ 64.0 94.0✓

71 25

9 35 42 162.7

+5 −16 228.5 65.8✓

159.8✓ −0.38✓

14 35 26 −0.44✓

8505.6079✓

July 17, 1909
Index Right + Above A.

343.5 64.2 ✓ II
$9^h 44^m 10^{sec.}$ 47.7
146.0
243.4 $\frac{97.4 ✓}{161.6}$ ✓ − 0.35 ✓

326.5 − 0.36 ✓
63.3 96.8 ✓
163.0
227.5 $\frac{64.5 ✓}{161.3}$ ✓ − 0.36 ✓

Index Left + Below B.

246.6 78.6 ✓
325.2
76.5
136.0 $\frac{59.5 ✓}{138.1}$ ✓ − 0.81 ✓

257.7 56.5 ✓ − 0.72 ✓
$9^h 52^m 30^{sec.}$ 314.2
96 40 60.5
9 48 20 151.0 $\frac{90.5 ✓}{147.0}$ ✓ − 0.63 ✓
+5 −16
14 48 4 − 0.54 ✓
8505.6168 ✓

July 17, 1909
Index Left + Below   B   III

244.0
85.0 ✓
$9^h 58^m 0^{sec}$ 329.0
75.0
59.0 ✓
134.0   144.0 ✓   −0.69 ✓

−0.66 ✓
257.5
58.7 ✓
316.2
63.1
88.3 ✓
151.4   147.0 ✓   −0.63 ✓

Index Right + Above   A

150.0
89.0 ✓
239.0
345.3
63.6 ✓
48.9   152.6 ✓   −0.52 ✓

165.7   −0.54 ✓
60.9 ✓
226.6
331.2
89.8 ✓
61.0   150.7 ✓   −0.56 ✓

−0.60 ✓

$10^h 7^m 15^{sec}$
125 15
10 2 38
+5 −16
15 2 22
8505.6267 ✓

July 17, 1909

Index Right + Above A. IV

$10^h\ 14^m\ 30^{sec.}$

150.5
237.6 87.1 ✓
346.5
47.2 60.7 ✓
147.8 ✓ −0.62 ✓

164.7 −0.62 ✓
226.4 61.7 ✓
331.0 85.5 ✓ − 0.63 ✓
56.5 147.2

Index Left + Below B.

62.6
147.8 85.2 ✓
257.3
316.2 58.9 ✓
144.1 ✓ − 0.69 ✓

77.6 − 0.76 ✓
133.8 56.2 ✓
245.8
326.6 80.8 ✓
137.0 ✓ − 0.83 ✓

− 0.69 ✓

$10^h\ 22^m\ 50^{secs.}$
37 20
10 18 40
+5 −16
15 18 24
8505.6378 ✓

July 17, 1909

Index Left + Below B V

65.0 78.2 ✓

$10^{h} 32^{m} 0^{sec}$ 143.2

261.0 55.0 ✓

316.0 133.2 ✓ − 0.91 ✓

− 0.88 ✓

~~0.88~~ ✓

76.9 56.7 ✓

133.6

245.8

324.7 78.9 ✓

135.6 ✓ − 0.86 ✓

Index Right + Above A

335.1

56.0 80.9 ✓

165.6

224.6 59.0 ✓

139.9 ✓ − 0.78 ✓

~~3~~

348.0 − 0.75 ✓

$10^{h} 40^{m} 45^{sec}$ 47.5 59.5 ✓

92 45

153.2

10 46 22 236.5 83.3 ✓

142.8 ✓ − 0.72 ✓

+5 −16

15 46 6

P.A 215.2 − 0.82 ✓

8505.6570 ✓

W's watch used for times 16 secs fast.

L. P. P.

July 19. 1909. (Monday).

Double Star (new list) = Burnham's Cat. 8868.
W. obs. Corcoran rec.
Phot. W.

18 46 +33.2
15 57
−2 49
+9 11

P. A 150 Dist 46

This is β Lyrae.

For measts. see next page.

8
?

July 19, 1909

Index Left & Below

122.3 — Var. dis.

7h 58m 10sec. — 142.2 — 19.9 ✓

303.9

320.8 — 16.9 ✓ / 36.8 ✓ — −3.95 ✓

123.1 — 17.7 ✓ — −3.95 ✓

140.8

302.6 — 19.2 ✓

321.8 — 36.9 ✓ — −3.95 ✓

Index Right & above

31.7 — 20.0 ✓

51.7

213.8 — 16.7 ✓

230.5 — 36.7 ✓ — −3.96 ✓

33.8 — 16.5 ✓ — −3.98 ✓

8h 5m 20sec. — 50.3

8	03	30
8	1	45
+5		−18
13	1	27

212.5 — 19.3 ✓

231.8 — 35.8 ✓ — −4.01 ✓

Mean −3.96 ✓

L. P. P.

July 19, 1909

R Z Cassiop. W. obs. Corcoran rec.
Phot. T. 9.5″ cap.

26
~~2~~ 36 +69.0
17 7
−9 29
+2 31

For measts. see fol. pages.

July 19, 1909

Index Left + Below B.

Var. dis. I

263.7

$9^h 39^m 5^{sec.}$ 307.2 43,5 ✓

92.0

121.2 $\frac{29,2 ✓}{72,7 ✓}$ −2,42 ✓

271.5 28,0 ✓ −2,37 ✓

299.5

81.2 48,0 ✓

129.2 $\frac{}{76,0 ✓}$ −2,32 ✓

Index Right + Above A.

169.6

223.4 53,8 ✓

0.1

32.2 $\frac{32,1 ✓}{85,9 ✓}$ −2,03 ✓

179.2 34,0 ✓ −1,96 ✓

$9^h 46^m 25^{sec.}$ 213.2

85 30. ✓ 345.8

9 42 45. ✓ 42.5 $\frac{56,7 ✓}{90,7 ✓}$ −1,90 ✓

45 −18. ✓

14 42 27. ✓

2507.6128.

mean −2,16 ✓

July 19, 1909

Index Right & Above A. II

167.5
$9^{h}\,48^{m}\,55^{s}$ 223.0 55.5
358.0
33.8 35.8
91.3 −1.88

178.8 35.7
214.5 −1.84
347.0 58.5
45.5 94.2 −1.80

Index Left & Below B.

79.2
132.9 53.7
269.9 32.0
301.9 85.7 −2.03

90.8 34.0 −1.98
124.8
257.5 55.2
312.7 89.2 −1.94

mean 1.91

$9^{h}\,56^{m}\,58^{s}$

105 52
9 52 56.
+5 −18.

14 52 38.
8507.6198.

July 19, 1909

Index left + below B.

III

77.6

9h 59m 55sec. 134.5 56.9 ✓

267.7 35.3 ✓

303.0 92.2 ✓ −1.86 ✓

90.2 32.6 ✓ −1.9~~4~~ ✓

122.8

258.2 54.0 ✓

312.2 86.6 ✓ −2.01 ✓

Index right + above A.

345.5 65.1 ✓

50.6

178.2 36.3 ✓

214.5 101.4 ✓ −1.62 ✓

357.0 38.9 ✓ −1.58 ✓

10h 6m 45sec. 35.9

6 38. ✓ 163.5 66.3 ✓

10 3 ~~7~~9 ✓ 229.8 105.2 ✓ −1.53 ✓

+5 −18. ✓

15 3 1. ✓

8507.6271

mean −1.76 ✓

July 19, 1909

Index Right + Above A. IV

10h 16m 0sec

343.5 65.4 ✓

48.9

176.5 44.2 ✓

220.7 109.6 ✓ −1.43 ✓

354.0 43.0 ✓ −1.44 ✓

37.0

166.0 65.7 ✓

231.7 106.7 ✓ −1.45 ✓

Index Left + ~~Above~~ Below. B.

251.0 67.0 ✓

318.0

87.6

127.5 39.9 ✓

106.9 ✓ −1.49 ✓

266.0 42.2 ✓ −1.49 ✓

10h 23m 50sec

308.2

39 50. ✓

74.5 64.5 ✓

10 19 55. ✓

139.0 106.7 ✓ −1.49 ✓

+5 −18. ✓

15 19 37. ✓

Mean −1.46 ✓

8507.6386 ✓

July 19, 1909

Index Left + ~~Above~~ Below. B.

V

$10^h 26^m 20^{sec}$

254.2
317.9 63.7 ✓
85.9
129.2 43.3 ✓
107.0 ✓ −1.49 ✓

264.5
308.0 43.5 ✓ −1.47 ✓
73.0 65.0 ✓
138.0 108.5 ✓ −1.45 ✓

Index Right + ~~Below~~ Above. A.

158.5
233.4 74.9 ✓
353.7
39.0 45.3 ✓
120.2 ✓ −1.19 ✓

173.7
218.4 44.7 ✓ 1.27 ✓
341.2
49.5 68.3 ✓
113.0 ✓ −1.35 ✓

$10^h 35^m 35^{sec}$
61 55. ✓
10 30 58. ✓
+5 −18. ✓
15 30 40. ✓ P.A. 31.4
8507.6463 ✓

Mean −1.37 ✓

W's watch used for times 18 sec. fast.

L. A. P.

July 20. 1909. (Tuesday).

9h 0m 0s Sky practically thickly clouded from the first of the evening and at the present time clouds very dense over the whole sky. No stars visible and apparently no chance for any work to night.

July 21. 1909. (Wednesday).

Double Star (new list) = Burnham's Cat. ΔC64,
W. obs. Corcoran rec.
Phot. W.

1h 46 +33.2
15 55
-2 51
+9 9

For measts., see fol. page.

July 21, 1909

Index Right

30.5 ← β Lyrae dis.

7h 45m 20sec 53.5 23.0 ✓

212.0 20.0 ✓

232.0 43.0 ✓ 3.61 ✓

31.8 20.4 ✓ 3.60 ✓

52.2

210.3 23.0 ✓

233.3 43.4 ✓ 3.59 ✓

Index Left

301.2 21.8 ✓

323.0

122.5 19.6 ✓

142.1 41.4 ✓ 3.69 ✓

302.3 20.1 ✓ 3.68 ✓

7h 51m 55sec 322.4

97 15. ✓ 121.0 21.7 ✓

7 48 38. ✓ 142.7 41.8 ✓ 3.67 ✓

+5 · -21 ✓

12 48 17

mean 3.64 ✓

July 21. 1909.

V Serpentis. W. obs. Corcoran rec.
Phot. T.

18	12	−16.0
16	14	
−1	v. 8	
+10	2	

For measts., see fol. pages.

July 21, 1909
Index Left X. B.

I

243.5 ← Comp. star dis.
$8^h 36^m 20^{sec}$ 336.5 93.0
74.0 61.6
135.0 154.0 +0.50

256.0 60.1 +0.46
316.1
61.5 98.6
160.1 158.7 +0.41
Index Right X. L.
151.0 92.2
243.2
347.2 60.3
47.5 152.5 +0.53

164.5 64.5 +0.50
$8^h 46^m 0^{sec}$ 229.0
8 2 20. 330.2 90.8
8 41 10. 61.0 155.3 +0.47
+5 · −21.
13 40 49. mean +0.48
8509.5700.

July 21, 1909

Index Right A.

II

151.0
$8^h 54^m 35^{sec}$ 240.3 89.3
345.5 61.7
47.2 151.0 +0.56

164.4 66.8 +0.48
231.2
330.5 92.9
63.4 159.7 +0.39

Index Left B.

~~62.6~~ 253.2 65.0
~~151.2~~ 318.2
61.5 87.5
149.0 152.5 +0.53

240.5 87.0 +0.48
327.5
75.4 69.9
145.3 156.9 +0.44

$9^h 4^m 50^{sec}$

119 25.
859 42.
+5 −21.

1359 21.
8509.5829

Mean +0.48

July 21, 1909
Index Left B.

III

255.5 63.0✓
9h 15m 55am 318.5
63.5 86.6✓
150.1 149.6✓ +0.58✓

242.5 88.0✓ +0.56✓
330.5
73.2 63.9✓
137.1 151.9✓ +0.54✓

Index Right A.

150.5 91.4✓
241.9
345.0 61.2✓
46.2 152.6✓ +0.52✓

162.2 66.8✓ +0.48✓
9h 24m 20sec 229.0
40 15✓
9 20 8✓
+5 −21✓
14 19 47✓
8509.5971✓
329.6 90.7✓
60.3 157.5✓ +0.43✓

mean +0.52

July 21, 1909
Index Right. A.

IV.

9h 29m 35sec

151.5	88.1 ✓		
239.6			
344.0	64.5 ✓		
48.5	152.6 ✓	+0.52 ✓	
163.0	66.0 ✓		+0.48 ✓
229.0			
331.5	91.1 ✓		
62.6	157.1 ✓	+0.44 ✓	

Index Left. B.

58.6	90.8 ✓		
149.4			
256.0	61.2 ✓		
317.2	152.0 ✓	+0.54 ✓	
74.2	61.8 ✓		+0.57 ✓
136.0			
244.0	86.7 ✓		
330.7	148.5 ✓	+0.60 ✓	

9h 38m 30sec

6 8 5 ✓
9 34 2. ✓
+5 -21. ✓
14 33 41. ✓
8509. 6067 ✓

Mean +0.52

July 21, 1909

Index Left - B.

V

57.8

9h 47m 40s 148.6 90.8

256.5

317.5 61.0 / 151.8 +0.54

74.9 61.1 +0.56

136.0

241.6

331.0 89.4 / 150.5 +0.57

Index Right - A.

330.0

60.8 90.8

164.1

228.5 64.4 / 155.2 +0.47

342.6 66.9 +0.42

9h 57m 40s 49.5

149.0

241.9 92.9 / 159.8 +0.38

mean +0.49

9h 57m 40s

105 20.

9 52 40.

+5 -21.

14 52 19.

8509.6196

July 21, 1909
Index Right. A.

VI

329.1
$10^h 3^m 5^{sec}$ 63.6 94.5
164.3 64.3
228.6 158.8 +0.40

345.5 63.4
48.9 +0.42
148.7 94.3
243.0 157.7 +0.43

Index Left B.
242.6 89.0
331.6
75.0 63.3
138.3 152.3 +0.53

255.0 63.2 +0.54
$10^h 13^m 5^{sec}$ 318.2
16 10. 63.2 88.4
10 8 5 151.6 151.6 +0.54
+5 -21.
15 7 44. P.A. 159.0 mean +0.4~~7~~8
8509.6304

W's watch used for times 21 secs. fast

L. P. P.

July 22. 1909. (Thursday).

Double Star (new list) = Burnhams Cat. 8868 =
= β Lyrae. Lr. obs. Corcoran rec.
Phot. Lr.

18 46 +33.2
.16 4

-2 42.
+9 18

For measts. see next page.

July 22, 1909

Index Left + Below

7h 51m 20sec

120.0 24.1 ✓
144.1
302.6 19.8 ✓
322.4 43.9 ✓ 3.56 ✓

121.7 20.7 ✓ 3.56 ✓
142.4
300.5 23.5 ✓
324.0 44.2 ✓ 3.55 ✓

Index Right + Above

29.2
54.7 25.5 ✓
210.4 22.6 ✓
233.0 48.1 ✓ 3.36 ✓

31.2 22.8 ✓ 3.37 ✓
54.0
209.8 24.8 ✓
234.6 47.6 ✓ 3.38 ✓

7h 58m 20sec.
109 40. ✓
7 54 50. ✓
+5 −21. ✓
12 54 29. ✓
85 10.5378 ✓

mean 3.46 ✓

July 22. 1909.

V Serpentis: W. obs. Corcoran rec.,
Phot. T.

18 12 −16.0
16 37

−1 35
+10 25

For measts, see fol. pages.

July 22, 1909
Index Left B

61.5
88.9 ✓
$8^h 36^m 45^{secs.}$ 150.4
259.4
57.8 ✓
317.2 146.7 ✓ 0.64 ✓

78.0 58.0 ✓ + 0.63 ✓
136.0
242.1 89.9 ✓
332.0 147.9 ✓ 0.62 ✓

Index Right A

331.2
59.4 88.2 ✓
164.0
64.2 ✓
228.2 152.4 ✓ 0.53 ✓

344.3 61.6 ✓
$8^h 45^m 50^{secs}$ 45.9 + 0.53 ✓
82 35 Clouds
8 41 18 151.0
90.6 ✓
+5 -21 241.6 152.6 ✓ 0.53 ✓
13 40 57
8510.5701 ✓ + 0.58 ✓

July 22 1909

Index Right A

332.5 87.3 ✓

$9^h\ 15^m\ 45^{sec}$ 59.8

165.5 61.7 ✓

227.2 149.0 ✓ 0.59 ✓

344.6 60.4 ✓ 0.58 ✓

45.0

151.6 89.4 ✓

241.0 149.8 ✓ 0.58 ✓

Index Left

241.0 89.0 ✓

330.0

77.4 57.5 ✓

134.9 146.5 ✓ 0.64 ✓

256.5 57.9 ✓ 0.66 ✓

$9^h\ 23^m\ 50^{sec}$ 314.4

39 35

9 19 48 61.2 86.5 ✓

+5 -21 147.7 144.4 ✓ 0.69 ✓

14 19 27

8510.5968 ✓ 0.62 ✓

July 22, 1909

Index Left B

243.5 84.9✓

$9^h 29^m 10^{sec}$ 328.4

75.6 57.4✓

133.0 142.3✓ 0.73✓

256.0 63.2✓ 0.66✓

319.2

61.5 86.5✓

148.0 149.7✓ 0.58✓

Index Right A

344.5 61.5✓

46.0

147.0 94.0✓

241.0 155.5✓ 0.47✓

332.2 0.52✓

$9^h 47^m 8^{sec}$ 60.0 87.8✓

76 18 165.0 62.4✓

9 38 9 227.4 150.2✓ 0.57✓

+5 -21

14 37 48 +0.59✓

8510.6096✓

P. A. 160.0

July 22. 1909.

Double Star (new list) = Burnham's Cat. 10943.
W. obs. Corcoran rec.,
Phot. W.

21 12 −7.1
12 14
−3 4
+2 √6

PA 84 Dist 37" Mags 7.0 7.5

July 22, 1909

Index Right + Below

1.2 ← Prec. + Inter. dis.

$10^h 4^m 10^{sec.}$ 81.2 80.0 ✓

188.5 64.2 ✓

252.7 144.2 ✓ 0.69 ✓

7.7 65.1 ✓ 0.66 ✓

72.8

181.0 82.1 ✓

263.1 147.2 ✓ 0.63 ✓

Index Left + Above

269.5 80.5 ✓

350.0

98.3 68.2 ✓

166.5 148.7 ✓ 0.60 ✓

280.2 65.3 ✓ 0.61 ✓

$10^h 11^m 5^{sec.}$ 345.5

15 15. ✓ 90.5 82.2 ✓

10 7 38. ✓ 172.7 147.5 ✓ 0.62 ✓

+5 −21. ✓

15 7 17. ✓ Mean 0.64 ✓

85/10.6301 ✓

W's watch used for times: 21 secs. fast.

L. A. P.

July 24. 1909. (Saturday).

~~U Sagittae.~~ β Lyrae.

18 46 +33.2
16 0
−2 46
+9 14

Index left. + below.

301.8 20.6
$7^h 45^m 55^s$ 322.4
122.8 17.7
140.5 38.3 3.86

3.88

303.1
17.9
321.0
122.1 19.9 3.89
37.8
142.0

Index Right + above

211.1
21.7
232.8
32.8 18.5 3.76
51.3 40.2

3.77

213.1
19.0
$7^h 55^m 35^s$ 232.1
101 30 31.5 20.8 3.78
7 50 45 52.3 39.8
+5 −17 Mean 3.82 ✓
12 50 28

July 24, 1909

U Sagittae

Index Left B

168.5 ← Var. dis. 56.5 ✓

$8^h\ 29^m\ 10^{sec}$ 225.0

356.0 37.0 ✓

33.0 93.5 ✓ 1.82 ✓

177.8 38.0 ✓ 1.75 ✓

215.8

345.1 60.9 ✓ 1.68 ✓

46.0 98.9 ✓

Index Right A

81.0 49.7 ✓

130.7

271.2 32.2 ✓

303.4 81.9 ✓ 2.14 ✓

89.1 33.5 ✓ 2.09 ✓

$8^h\ 37^m\ 20^{sec}$ 122.6

66 30 ✓ 259.9 51.8 ✓

8 33 15 ✓ 311.7 85.3 ✓ 2.04 ✓

+5 −17 ✓

13 32 58 ✓ 1.92 ✓

8512.5646 ✓

July 24, 1909

Index Right A

75.1 59.1✓

$8^h 41^m 0^{sec}$ 134.2

268.2 35.8✓

304.0 94.9✓ 1.79✓

89.4 34.4✓ 1.87

123.8 ✓

258.1 54.4 88.8✓ 1.95✓

312.5

Index Left B.

347.8 56.3✓

44.1

176.6 37.2✓

213.8 93.5✓ 1.82✓

356.7 37.7✓

$8^h 49^m 20^{sec}$ 34.4 1.84✓

90 20✓ 169.3 54.1✓

8 45 10✓ 223.4 91.8✓ 1.87✓

+5 −17✓

13 44 53✓ ✓ −1.86✓

8512.5728

July 24, 1909

Index Left B

345.6 58.4 ✓

8^h 56^m 12^{sec} 44.0

178.2 ✓

214.5 $\frac{36.3}{94.7}$ ✓ 1.79 ✓

358.4 37.9 ✓ 1.80 ✓

36.3

167.8 56.2 ✓

224.0 94.1 ✓ 1.81 ✓

Index Right

259.0 51.0 ✓

310.0

87.1 35.5 ✓

122.6 86.5 ✓ 2.01 ✓

267.5 36.5 ✓ - 1.96 ✓

9^h 4^m 55^{sec} 304.0

1 7 ✓

78.8 54.1 ✓

9 0 34 ✓ 132.9 90.6 ✓ 1.90 ✓

+5 -17

14 0 17 ✓ Mean 1.88 ✓

8512.58354

P.A. 314.0

July 24. 1909.

V Serpentis.

Index Left B

240.7 Comp. Star dis.

$9^h\ 46^m\ 35^{sec}$ 326.7 86.0

75.5 60.2

135.7 146.2 0.65

255.8 59.8 0.61

315.6

61.1 90.6

151.7 150.4 0.57

Index Right A

150.5 89.5

240.4

346.2 65.2

51.4 154.7 0.48

166.9 59.3

226.2 0.48

326.7 95.3

62.0 154.6 0.49

+ 0.54

$9^h\ 55^m\ 30^{sec}$

102 5

9 51 2

+5 -17

14 50 45

8512.6186

July 24, 1909

Index Right A.

148.5 92.0 ✓

$10^h\ 0^m\ 30^{sec}$ 240.5

344.4 57.3 ✓

41.7 149.3 ✓ 0.59 ✓

164.9 59.3 ✓ 0.51 ✓

224.2

321.4 97.9 ✓

59.3 157.2 0.43 ✓

Index Left

59.8 90.4 ✓

150.2

253.5 64.2 ✓

317.7 154.6 ✓ 0.49 ✓

76.6 58.1 ✓

$10^h\ 9^m\ 0^{sec}$ 134.7 0.56 ✓

9 30 240.2 89.6 ✓

10 4 45 329.8 147.7 ✓ 0.62 ✓

+5 −17

15 4 28

8512.6281 P. A. 159.2 Mean 0.54 ✓

Watch 17 secs. fast.

July 26. 1909. (Monday).

RR Delphini.

20 30 +14.1
16 20

−4 10
+7 50

For measts. see fol. page

July 26, 1909

Index Left & Below B.

76.0 ← 77.2 — Comp. Star dis.

8h 54m 50sec 153.2

273.0 48.5

321.5 125.7 +1.07

93.2 49.1 +1.00

142.3

255.0 83.5

338.5 132.6 +0.92

Index Right & Above A.

178.5 55.5

234.0

347.0 82.3

69.3 137.8 +0.82

164.1 80.9 +0.88

9h 17m 50sec. 245.0

132		40.
9	6	20.
+v		−19.
14	6	1.

8v1~~4~~. v87v+

1.2 50.8

52.0 131.7 +0.94

Mean +0.94

The above group was taken with the *greatest* difficulty and is ~~[illegible]~~ $\frac{1}{3}$ wt. Between the moonlight, haze, absorption of phot. &c. observer set out to give up work several times but concluded to try and carry it through merely to get a *rough* idea of ~~its~~ brightness of variable at the time.

July 26. 1909.

Fourth Type. +59° 2410.

24 2 +54.3
14 30
−5 32
+6 24

Color 7 with ordinary eyepiece

For measts. see fol. p.

July 26, 1909

Index Left & Above B. Full Ap.

323.0 ← Comp. Star dis.

$10^h 15^m 50^{secs.}$ 67.2 104.2 ✓

158.5 79.0 ✓

238.0 183.2 ✓ −0.06 ✓

176.8 ✓

330.5 93.8 ✓ −0.22 ✓

64.3

145.2 105.8 ✓

251.0 199.6 ✓ 160.4 ✓ −0.37 ✓

Index Right & Below A.

242.0

331.0 89.0 ✓

55.2

154.0 98.8 ✓

187.8 ✓

172.2 ✓ −0.15 ✓

235.7 100.7 ✓

336.4 −0.14 ✓

63.2 87.0 ✓

150.2 187.7

172.3 ✓ −0.14

$10^h 23^m 20^{sec}$

39 10. ✓

10 19 35. ✓

+5 −19. ✓

15 19 16. ✓ P. A. 259.2

85 1 ~~4.~~ 6 3 8 4 ✓

mean −0.108 ✓

July 26, 1909
Index Left + Above B 9.5 comp.-star on
147.4 ← Comp. star dis.

$10^{h} 42^{m} 5^{sec}$
245.5 98.1
337.5 75.5
53.0 173.6 +0.12

158.0 76.5 +0.08
234.5
322.0 101.5
63.5 178.0 +0.04

Index Right + Below A.
69.0 75.0
144.0
238.5
331.0 92.5
167.5 +0.24

59.4 96.6 +0.20
156.0
249.0 75.0
324.0 171.6 +0.16

$10^{h} 47^{m} 50^{sec}$
89 55.
10 44 58.
+5 -19.
15 44 39.
85 14.65 60

mean + 0.15

Color 6. in photometer,
W's watch used for times 19 secs. fast

L. P. P.

July 27. 1909. (Tuesday).

Double Star (new list) = Burnham's Cat. 8868. W. obs. Corcoran rec.

18 46 +33.2 Plot. W.

16 6

−2 40

+9 20

P.A. 150° Dist. 46.0" mags. 3.0, 6.6

This is β Lyrae.

For measts. see fol. page.

July 27, 1909

Index Left + Below B.

120.9 — Bstr. dis.

7h 36m 20 secs — 143.0 — 22.1

302.7 — 18.5

321.2 — 40.6 — 3.74

122.4 — 20.8 — 3.70

143.2

301.9 — 21.2

323.1 — 42.0 — 3.66

Index Right & Above A.

30.6 — 22.9

53.5

211.6 — 21.4

233.0 — 44.3 — 3.54

32.4 — 21.0 — 3.58

53.4

211.7 — 21.6

233.3 — 42.6 — 3.63

Mean 3.64

7h 48m 10 secs

79 30.

7 39 45.

+5 −16

12 39 29.

45 15.5 274

July 27, 1909

V Serpentis.

18 12 −16.0
16 49
−1 23
+10 37

Abandoned; sky too hazy + moon too bright + near.

July 27, 1909

R R Delphini.

20 30 +14.1
17 0
-3 30
+4 30

Abandoned. Sky becoming more cloudy.

1909phae.proj..59BW

July 27. 1909.

Fourth Type Star +34° 4500.

21	36	+34.8
17	12	
−4	24	
+7	36	

July 27, 1909

Index Left + Above. B.

82.0 ← 4th Supp dia.

8h 46m 50secs — 128.5 46.5✓

270.0

301.1 31.1✓ / 77.6✓ −2.27✓

89.8 32.7✓ −2.20✓

122.5

261.0 50.0✓ / 82.7✓ −2.12✓

311.0

Index Right + Below A.

353.7 47.2✓

40.9

179.3 34.3✓

313.6 81.5✓ −2.15✓

0.0 31.7✓ −2.12✓

31.7

169.0 52.2✓

221.2 83.9✓ −2.08✓

α
~~9~~h 53m 43secs
100 33.✓
~~8~~ 50 16.✓
+5 −16✓
~~1~~8 50 0✓
85/5. 5764✓

Color 4 with ordinary eyepiece.
" " in photometer

mean −2.16✓

P.A. 251.7

Above group rejected & new group taken on following page. In above group greatly troubled by clouds, images dimmed a part of the time, & varying relatively, & observations difficult. Hence a new group was taken on following page under better atmospheric conditions.

Observer did not have confidence in above group.

July 27, 1909
Index Right & Below. A. Same again.

$9^{h}\ 2^{m}\ 43^{sec}$

354.5 46.2^{r}
40.7
178.4 36.8^{r}
215.2 83.0^{r} -2.11^{r}

0.0 32.4^{r} -2.20^{r}
32.4
172.7 44.9^{r}
217.6 77.3^{r} -2.28^{r}

Index Left & Above B.

266.1 41.9^{r}
308.0
90.5 31.0^{r} -2.41^{r}
121.5 72.9^{r} ~~2.38~~

273.2 28.0^{r} -2.42^{r}
301.2
82.8 44.2^{r}
127.0 72.2^{r} -2.43^{r}

Mean -2.31^{r}

$9^{h}\ 9^{m}\ 40^{secs.}$

12 23.
9 6 12.
+ʋ -16.

14 ʋ ʋ6.
8ʋ/ʋ:ʋ 874

July 27. 1909.

Fourth Type Star +34° 56

24 29 +33.0
18 9
−6 20
+5 40

Abandoned, Too low in haze.

Double Star (new list) = Burnham's Cat. 10930.

21 16 +61.4
18 14
−3 2
+8 58

For results, see fol. page.

July 27, 1909

Index Left B. Pr. & bstr. dis.

$9^h\,45^m\,40^{secs}$

297.5 28.7
326.2

123.2 18.3
141.5 47.0 3.41

304.0 18.1 3.42
322.1

117.2 28.7
145.9 46.8 3.42

Index Right A.

208.0 29.2
237.2

32.7 17.3
50.0 46.5 3.43

212.5 18.9 3.32
231.4

25.0 32.6
57.6 51.5 3.21

mean 3.37

$9^h\,53^m\,5^{sec}$

9 8 45,
9 49 22.
45 -16.

14 49 6.
8515.6175

Meas. a little difficult on account of bright moonlight, haze & high altitude.

July 27, 1909

Double Star (new list) = Burnham's Cat. 11862.

22 33 +72.2
18 33
−4 0
+8 0

P. A. 137° Dist. 42″.17
mags. 7.0, 7.5

July 27, 1909
Index Right & above A.

2.5 ← North pole, Photo. dir.
80.3
h m sec
10 8 40 82.8
192.0 60.4
252.4 140.7 0.76

13.0 58.0 0.81
71.0
182.7 77.7
260.4 135.7 0.86

Index Left & below. B.

271.5
81.3
352.8
106.3
52.9
159.2 134.2 0.89

285.4 54.2 0.84
h m 50 secs
10 14
339.6

23 30. 90.7 84.3
10 11 45. 175.0 138.5 0.80
+5 -16. mean +0.82
15 11 29.
85 15.6329 W's watch used for times ~~18~~ 16 secs. fast

L. P. P.

July 28. 1909. (Wednesday)

(var list) = Bruxonius Cat., 88 6f. = β Lyrae.

Double Phot. W. Wolo, Corcoran vac.

^ 18 46 +33.2

16 13

− 2 33

+9 27

Phot. W.

Index Left + Below B.

297.7 ← 29.1 ✓ Var. dio.

$7^h 39^m 40^{sec}$ 326.8

120.2 25.1 ✓

145.3 54.2 ✓ −3.09 ✓

298.5 27.2 ✓ −3.06 ✓

325.7

118.6 28.2 ✓ −3.04 ✓

146.8 55.4 ✓

Index Right + Above A.

207.7 28.0 ✓

235.7

29.6 25.0 ✓

54.6 53.0 ✓ − 3.14 ✓

209.7 25.3 ✓ −3.13 ✓

$7^h 45^m 50^{secs}$ 235.0

7 42 45

+5 −14

12 42 31

28.4 28.2 ✓ −3.12 ✓

56.6 53.5 ✓

Mean 3.10 ✓

July 28, 1909

U Ophiuchi. Phot. T. W. obs. Corcoran rec.

17 9 +1.4 ~~9" cap.~~

16 38 7" cap.

−0 31 Phot. T.

11 29

Index Left + Below B.

68.2 ← Var. dis

8^{h} 25^{m} 0 ^{secs} 143.5 75.3 ✓

257.0 57.0 ✓

314.0 132.3 ✓ − 0.93

80.8 52.2 ✓ −0.99

133.0

249.5 74.5 ✓

324.0 126.7 ✓ −1.05

Index Right + Above A.

334.3 79.6 ✓

53.9

166.5 60.5 ✓

227.0 140.1 ✓ −0.77.

344.4 60.4 ✓ −0.75

8^{h} 34^{m} 5 ^{secs} 44.8

59 5 ✓ 154.6 81.8 ✓

8 29 32. ✓ 236.4 142.2 ✓ −0.73

+5 −14. ✓ −0.87

13 29 18. ✓

8516.5620 ✓

July 28, 1909
Index Right & Above A,

337.0
$8^h 46^m 50^{secs}$ 50.9 73.9
163.2
228.6 65.4
139.3 −0.79

344.5 63.2 −0.76
47.7
155.5
233.9 78.4
141.6 −0.74

Index Left & Below B,

248.7
326.0 77.3
75.5
133.2 57.7
135.0 −0.88

257.0 −0.87
$8^h 56^m 40^{secs}$ 316.5 59.5
65.5
142.0 76.5
136.0 −0.86

10 3 30.″
a 51 45.″
+5 −14.″
13 51 31.″
av 16.5774″

−0.82

July 28, 1909

Index Left & Below B.

9h 2m 38sec

248.2 77.6
325.8
76.0
133.5 $\frac{57.5}{135.1}$ −0.87

257.2 62.1 −0.84
319.3
67.8
144.0 $\frac{76.2}{138.3}$ −0.81

Index Right & Above A.

157.0
238.0 81.0
344.4 62.6
47.0 $\frac{62.6}{143.6}$ −0.70

163.0 65.5 −0.73
228.5
338.8
54.0 $\frac{75.2}{140.7}$ −0.76

−0.78

9h 10m 40sec.

13 18 ✓

9 6 39. ✓

+5 −14. ✓

14 6 25. ✓

8516.5878 ✓

July 28, 1909

Index Right & Above A.

9h 18m 40sec

158.7 78.6
237.3

345.2 61.6
46.8 140.2 −0.77

162.0 67.7 −0.84
229.7 66.2
344.8 133.9 −0.90
~~52.2~~ 51.0

Index Left + Below B.

70.6 73.4
144.0

259.7 55.3
315.0 128.7 −1.00

78.4 55.4 −1.04
133.8

251.0 69.3
320.3 124.7 −1.09

−0.94

9h 24m 32sec
43 12. ✓
9 21 36. ✓
+5 −14. ✓
14 21 22. ✓
8516.5982 ✓

July 28, 1909

Index Left + Below B.

71.4 71.6

$9^h 30^m 52^{sec}$ 143.0

257.1 55.9

311.0 125.5 -1.07

78.1 55.4

133.5 -1.10

253.3 66.9

320.2 122.3 -1.14

Index Right + Above A.

338.5

51.0 72.5

168.5

226.0 57.5 / 130.0 -0.98

346.9 55.9 -1.00

$9^h 39^m 37^{sec}$ 42.8

159.8

7 0 29. ✓

9 35 14. ✓ 231.3 71.5 / 127.4 -1.03

~~85 16.~~

+5 -14. ✓ P.A. 214.8 -1.05

14 35 0 ✓

85 16.6076 ✓

L. P. P.

✓

July 28, 1909

Fourth Type Star + 34° 56 Tr. obs. Corcoran rec.
Full Ap. Phot. T.

Index Left + Below B.

334.3 ← 4th Type des
10h 23m 40sec 62.0 87.7
168.0 59.2
227.2 146.9 −0.64

343.8 64.2 −0.56
48.0
151.0 90.0
241.0 154.2 −0.49

Index Right + above A.

248.0 79.8
327.8
75.2 59.2
134.4 139.0 −0.79

258.0 59.5 −0.82
10h 30m 15sec 317.5
53 55.
10 26 58. 66.5 76.5
+5 −14 143.0 136.0 −0.86
15 26 44. P.A. 335.1 −0.69
8516.6436 Color 4 with ordinary eyepiece

W's watch used for time, 14 secs. fast
L. P. P.

July 29. 1909. (Thursday).

Double Star (new list) = Burnham's Cat. 8868 = β Lyrae.

18 46 +33.2
16 14
−2 32
9 28

Index Left + Below β.

120.8 22.7 ✓
$7^{h}\ 35^{m}\ 40^{sec}$ — 143.5 22.6 ✓
301.1 45.3 ✓ 3.49
~~Index~~ 323.7

3.42

121.0 22.9 ✓
143.9
299.7 25.1 ✓ 3.36
324.8 48.0 ✓

Index Right + above A.

29.2 25.5 ✓
54.7
210.8 23.7 ✓ 3.31
234.5 49.2 ✓

3.33

30.8 23.4 ✓
$7^{h}\ 41^{m}\ 40^{secs}$ 54.2
−77 20. ✓ 209.8 24.8 ✓
7 38 40 ✓ 234.6 48.2 ✓ 3.35
+5 −12. ✓ Mean 3.38
12 38 28. ✓
8517.5267 ✓

July 29. 1909.

Double Star (new list) = Burnham's Cat. 11862.

~~21 18 -7.1~~
22 33 +72.2
16 49
-5 44
+6 16

Abandoned.

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

21 18 -7.1
17 34
-3 44
8 16 Abandoned - too cloudy.

W's watch used for times 12 secs. fast

L. P. P.

July 30. 1909. (Friday).

Double Star (new list) = Burnham's Cat. 8868 = β Lyrae.
18 46 +33.2 W. obs. Corcoran rec.
16 21 Phot. W.
-2 25
+9 35

Clouds
Index Right A.
31.6 Var. dis.
7h 46m 35sec 52.1 20.5 ✓
213.0 18.0 ✓
231.0 38.5 ✓ -3.85 ✓

32.5 19.2 ✓ -3.83 ✓
51.7
211.7 20.0 ✓
231.7 39.2 ✓ -3.81 ✓
Index Left B.
301.3 21.4 ✓
322.7
122.2 20.2 ✓
142.4 41.6 ✓ -3.68 ✓

302.8 19.4 ✓ -3.70 ✓
h. m. secs.
7 54 50 322.2
121.7 21.4 ✓
143.1 40.8 ✓ -3.72 ✓
mean -3.76 ✓

101 25 ✓
7 50 42 ✓
+5 -12. ✓
12 50 30. ✓
8518.5350 ✓

July 30. 1909.

Fourth Type Star +49° 41. H. ho. Corcoran sec.,
Phot. T.

24
8 12 +48.1
17 15
-6 57
+5 3

Index Left + Above B.
144.0 Comp star dis
8h 49m 45secs 245.2 101.2
337.4 70.3
47.7 171.5 +0.16

158.0 78.7 +0.08
236.7 101.5
325.0 180.2 -0.00
179.8
~~63.7~~ 66.5

Index Right + Below A.
68.7 70.8
139.5

234.0 101.8
335.8 172.6 +0.14

55.7 100.3 +0.07
156.0
246.0 79.5
325.5 179.8 +0.00

9h 0m 0secs
109 45
9 54 52
+5 -12.
14 54 40.
8518.6213

P.A. 257.3 mean +0.08
Region thoroughly identified.

July 30, 1909

Fourth Type Star +42° 4827. W. obs. Corcoran rec.
23 53 +44.4 Phot. I.

18 8

-5 45
+6 15

Color 4 with ordinary eyepiece

Index Right + Above A.

48.0 ← Comp star dis.

$9^{h}\ 57^{m}\ 45^{sec}$ 161.2 113.2

245.8 85.3 / 198.5

330.3 161.5 -0.35

63.0 85.5 -0.36

148.5

230.4 114.6 / 200.1

345.0 159.9 -0.38

Index Left + Below B.

313.8 119.7

73.5

149.8 91.7 / 211.4

241.5 148.6 -0.60

327.2 96.3 -0.63

63.5

137.0 118.0 / 214.3

255.0 145.7 -0.66

$10^{h}\ 4^{m}\ 35^{sec}$

2 20

10 1 10

+5 -12

15 0 58 P. A 171.7 L. P. P. -0.50

8518.6257 W's watch used for times 12 secs. fast.

July 31. 1909. (Saturday)

Double Star (new list) = Burnham's Cat. 8868. =
= β Lyrae. W. obs. Corcoran rec.
18 46 +33.2 Phot. V.
16 22
-2 24
+9 36

Index Right + Above A. Var. dis.

$7^h 34^m 30^{secs}$

210.8 21.5 ✓
232.3
33.2 18.2 ✓
51.4 39.7 ✓ -3.79 ✓

212.0 19.8 ✓ -3.78 ✓
231.8
31.8 20.3 ✓
52.1 40.1 ✓ -3.76 ✓

Index Left + Below B.

122.4 19.7 ✓
142.1
303.6 17.8 ✓
321.4 37.5 ✓ -3.91 ✓

123.5 18.5 ✓ -3.90 ✓
142.0
302.0 19.6 ✓
321.6 38.1 ✓ -3.88 ✓

L. P. P. mean -3.84 ✓

$7^h\ 41^m\ 47^{secs}$
76 17 ✓
7 38 8. ✓
+5 -10. ✓
12 37 58 ✓
85 19.5 264 ✓

Above measts. made through some broken clouds, images however, very well seen + observations considered good.

W. watch used for times 10 secs. fast.

Sept. 1. 1909. (Wednesday).

Occultation of Mars.

24 25 −2°.3
19 0
−5 25
+6 35

8h	50m	5s	Moon invisible in telescope
	"	40	Moon's limb + Mars seen
	52	45	Moon seen but Mars not seen
	53	34	Moon " Mars dimly seen
	55	44	" " " " "
	56	30	Mars dimmer
	57	3	" dim
	57	19	" near limb
	57	40	First contact
	59	10	Mars gone behind moon

The second time above was the ~~contact~~ time of contact of the preceding limb of Mars with the Moon's limb. The contact of the following limb of Mars with the Moon's limb could not be obtained as the clouds rapidly grew denser after first contact so that Mars disappeared entirely from view in the telescope immediately after

Sept 1, 1909

the first contact.

At time of first contact the sky was pretty cloudy and observations were difficult, Mars was rather dim and its edge was somewhat irregular in shape, due to clouds. This time of first contact is considered fairly good but not particularly critical owing to clouds

After previous observations W. compared his watch again and found it was 3 secs. slow a comparison before previous observations showed then it was 3 secs. slow.

Emersion. Mars.

$9^{h.}$ $57^{m.}$ $23^{secs.}$ First contact at emersion.
58 12 Last " " "

Sky much clearer at above observations of emersion.

W's watch used throughout for times; watch throughout 3 secs. slow.
Observations of emersion considered pretty good.

L. P. P.

Sept. 2. 1909 (Thursday).

Z Persei. W. obs. Corcoran rec.

26
7 33 +42.1
19 1

−7 32
+4 28

Index Right + Above
263.0
$8^h\,19^m\,\overset{24^s}{\cancel{34}}$ 310.6
89.5
125.5

Abandoned; region too low + full moon coming up.

Sept. 2. 1909.

U Ophiuchi: W. obs. Corcoran rec.

17 9 +1.4
19 45 7" Cap used
+2 36

Index Left B

242.0 → Var-dia.
$8^{h}\ 50^{m}\ 32^{sec}$ 328.1 86.1 ✓
77.0
136.0 $\frac{59.0}{145.1}$ ✓ −0.67 ✓

258.5
316.6 58.1 ✓ −0.62 ✓
~~60.4~~ 60.0
151.5 $\frac{91.5}{149.6}$ ✓ −0.58

Index Right

144.0
240.9 96.9 ✓
345.5
49.0 $\frac{63.5}{160.4}$ ✓ −0.37 ✓

164.7
$8^{h}\ 59^{m}\ 10^{sec}$ 231.2 66.5 ✓ −0.37 ✓
10 9 42. ✓ 330.0
8 54 51. ✓ 64.3 $\frac{94.3}{160.8}$ ✓ −0.37
+5 +13 ✓
13 55 4. ✓ −0.50 ✓
8552.5800 ✓

Sept 2, 1909

Index Right A. II

150.2

9h 5m 15sec 241.5 91.3

343.7

48.5 64.8 / 156.1 −0.46

163.5 67.0 −0.44

230.5

331.0 91.0 / 158.0 −0.42

62.0

Index Left B.

63.0

152.7 89.7

257.5

315.7 58.2 / 147.9 −0.62

77.1 58.4

9h 11m 50sec 135.5 −0.60

17 5.

9 8 32. 240.5

+5 +13. 331.5 91.0 / 149.4 −0.59

14 8 45

8552.5895 −0.52

Sept 2, 1909

Index Left. B. III

63.8

9h 20m 45s 150.9 87.1✓

256.5

316.2 $\frac{59.7✓}{146.8}$ −0.64✓

78.0 58.2✓ −0.72✓

136.2

246.0 $\frac{80.4✓}{138.6✓}$ −0.80✓

326.4

Index Right. A.

333.0

58.0 85.0✓

163.0

229.0 $\frac{66.0✓}{151.0✓}$ −0.56✓

344.5 63.5✓ −0.58✓

9h 30m 15s 48.0

51 0.✓

152.1

9 25 30.✓ 238.0 $\frac{85.9✓}{149.4✓}$ −0.59✓

+5 +13.✓

14 25 43.✓ −0.6✓

8552.60/12✓

Sept 2, 1909

Index Right A. IV.

9h 39m 45s

335.0 86.0
61.0

163.0 57.7
220.7 143.7 −0.70

346.1 62.9 −0.69
49.0

154.0 82.0
144.9 −0.68
~~237.5~~ 236.0

Index Left B.

245.0 80.0
325.0

78.0 57.8
135.8 137.8 −0.82

258.1 58.3 −0.78
316.4

65.2 82.8
148.0 141.1 −0.75

Mean −0.73

9h 50m 5s

89 50.
9 44 55.
+5 +13.

14 45 8.
8552.6147

Sept 2, 1909

Index Left B.

247.4
9h 57m 35sec 324.0 76.6 ✓
77.2
135.5 58.3 ✓ / 134.9 ✓ -0.88 ✓

258.9 56.1 ✓ -0.93 ✓
315.0
69.0
143.0 74.0 ✓ / 130.1 ✓ -0.98 ✓

Index Right A.

154.0
238.5 84.5 ✓
348.0
46.8 58.8 ✓ / 143.3 ✓ -0.71 ✓

164.5
10h 5m 15sec 228.0 63.5 ✓ -0.64 ✓
~~333.0~~ 334.8
60.9 86.1 ✓ / 149.6 ✓ -0.58 ✓

12 2 50. ✓
10 1 25. ✓
+5 +13. ✓
15 1 38. ✓ P. A. 215.0 -0.78 ✓
8552.6261 ✓

W's watch used for times 13 secs. slow.

L. A. A.

Sept. 3. 1909. (Friday).

V Serpentis.

18 12 −15.9

18 30

+0 18

Index Left B. I

75.0 → Comp Star dir.

7h 58m 55sec 138.9 63.9✓

265.2

307.0 41.8✓ / 105.7✓ +1.52✓

84.0 44.7✓ +1.44✓

128.7

253.5 67.5✓ / 112.2✓ 1.37✓

321.0

Index Right A.

~~342.2~~ 342.8 68.2✓

51.0

172.0

222.5 50.5✓ / 118.7✓ +1.22✓

354.0 47.3✓ +1.18✓

41.3

156.5

232.0 75.5✓ / 122.8✓ +1.13✓

Mean +1.31✓

8h 5m 10sec

4 5.✓

8 2 2.✓

+5 +22.✓

13 2 24.✓

8553.5434✓

Sept 3, 1909

Index Right A. II

$8^h\ 8^m\ 30^{sec}$

341.6 69.0 ✓
50.6
172.1 48.9 ✓
221.0 117.9 ✓ +1.24 ✓

353.1 47.1 ✓ +1.20 ✓
40.2
158.0 74.6 ✓
232.6 121.7 ✓ +1.16 ✓

Index Left. B.

254.5
~~320.9~~ 321.0* 66.5 ✓
84.5
129.5 45.0 ✓
111.5 ✓ +1.32 ✓

$8^h\ 16^m\ 35^{sec}$

263.5 46.8 ✓ +1.37 ✓
310.3
74.5 65.8 ✓
140.3 112.6 ✓ +1.36 ✓

25 5. ✓
8 12 32. ✓
+5 +22. ✓
13 12 54. ✓
8553.5506 ✓

mean +1.28 ✓

Sept. 3, 1909

Index Left B. III

253.0 69.4 ✓
322.4

$8^h 26^m 20^{sec}$

83.4 44.9 ✓
128.3 114.3 ✓ +1.32 ✓

266.1 42.1 ✓ +1.39 ✓
308.2
~~74.0~~ 74.0 66.0 ✓
140.0 108.1 ✓ +1.46 ✓

Index Right A.

161.1 70.5 ✓
231.6
351.4 50.0 ✓
41.4 120.5 ✓ +1.18 ✓

173.0 48.9 ✓ +1.21 ✓
221.9
343.0 69.0 ✓
52.0 117.9 ✓ +1.24 ✓

$8^h 33^m 50^{sec}$

60 10. ✓
8 30 5. ✓
+5 +22. ✓
13 30 27. ✓
8553.5628 ✓

mean +1.30 ✓

Sept 3, 1909

Index Right A. IV

163.3 65.1 ✓

$8^{h}\ 39^{m}\ 45^{sec}$ 228.4

351.8 50.6 ✓

42.4 115.7 ✓ +1.29 ✓

171.0

221.8 50.8 ✓ +1.21 ✓

341.6 71.9 ✓

53.5 122.7 ✓ +1.13 ✓

Index Left B.

74.2 63.3 ✓

137.5

261.0 51.5 ✓

312.5 114.8 ✓ +1.31 ✓

82.4 48.5 ✓ +1.33 ✓

$8^{h}\ 48^{m}\ 15^{sec}$ 130.9

253.7 64.3 ✓

318.0 112.8 +1.35 ✓

mean +1.27 ✓

8 8 0. ✓
8 44 0. ✓
+5 +22. ✓
13 44 22 ✓
8553.57225- ✓

Sept 3, 1909
Index Left B. V

$8^h 56^m 15^{sec.}$

70.2
142.9 72.7 ✓
263.6 46.4 ✓
310.0 119.1 ✓ +1.21 ✓

82.2 47.3 ✓ +1.26 ✓
129.5
255.0 67.3 ✓
322.3 114.6 ✓ +1.31 ✓

Index Right A.
341.4 69.6 ✓
51.0
173.6 50.2 ✓
223.8 119.8 ✓ +1.20 ✓

351.0 47.2 ✓ +1.20 ✓
38.2
161.0 72.2 ✓
233.2 119.4 ✓ +1.21 ✓

$9^h 11^m 35^{sec}$
11 & 1 0.
& √ 9 √.
+√ +22.
13 √ 9 27.
8√√3.√&29 ✓

P.A. 159.5

mean +1.23 ✓

"In latter part of preceding observations, moon rose & sky became somewhat cloudy, rendering observations somewhat difficult in last two groups & especially in last group.

Sept. 3. 1909.

Double Star (new list) = Burnham's Cat,
A 295. Phot. W. W. obs. Corcoran rec,

17 55 +62.6
20 50
+2 55

Index Right + Below A.

355.0 → north pol. dis.
$9^h\ 49^m\ 5^{sec}$ 89.5 94.5
180.7
263.6 $\frac{82.9}{177.4}$ 0.05 ✓

1.4 82.3 ✓ 0.10 ✓
83.7
177.5 $\frac{90.2 ✓}{172.5 ✓}$ 0.14 ✓
267.7

Index Left + Above B.

267.0 91.0 ✓
358.0
87.0 $\frac{86.9 ✓}{177.9 ✓}$ 0.04 ✓
173.9

266.0 87.2 ✓ 0.10 ✓
353.2
90.3 $\frac{84.8 ✓}{172.0 ✓}$ 0.15 ✓
175.1
mean 0.10 ✓

$9^h\ 55^m\ 40^{sec}$
104 45. ✓
9 52 22 ✓
+5 +22 ✓
14 52 44 ✓
8553.6199 ✓

W's watch used for times 22 secs. slow

L. P. P.

Sept. 6. 1909 (Monday).

R S Cephei. W. obs., Theobald Corcoran rec.

28
~~7~~ 33 + Δ1.0
19 10
−9 23
+2 37

For results, see fol. pages.

Sept. 6. 1909.

Index right and above — I A

8.23.25 259.3 ← Comp. Star dis.

313.9 54.6 ✓

89.5

128.5 $\frac{39.0}{93.6}$ ✓ +1.82 ✓

277.3 27.7 ✓ +1.89 ✓

305.0

77.8 $\frac{60.4}{88.1}$ ✓ +1.96 ✓

138.2

Index left and below — B.

164.6 65.8 ✓

230.4.

355.2

35.6 $\frac{40.4}{106.2}$ ✓ +1.51 ✓

176.5 37.5 ✓ +1.55 ✓

8.36.40 214.0

341.2

46.3 $\frac{65.1}{102.6}$ ✓ +1.59 ✓

mean +1.72 ✓

60 5. ✓

8. 30 2. ✓

+5 +47. ✓

13 30 49. ✓

8556.5631 ✓

Sept. 6. 1909.

II

Index left and below

B.

163.8 66.7 ✓

8.40.20 230.5

355.6 42.1 ✓

37.7 108.8 ✓ +1.45 ✓

176.0 40.3 ✓ +1.48 ✓

216.3

339.8 65.4 ✓

45.2 105.7 ✓ +1.52 ✓

Index right and above

A.

78.2 56.0 ✓

134.2

266.8 35.4 ✓

302.2 91.4 ✓ +1.88 ✓

88.9 37.4 ✓ +1.83 ✓

8.48.40 126.3

89 0. ✓ 256.0

8 44 30 ✓ 313.07 57.7 ✓

+5 +47. ✓ 95.1 ✓ +1.78 ✓

13 45 17. ✓

8556.5731 ✓

mean +1.66 ✓

Sept. 6. 1909.

Index right and above

76.8

8.58.25 136.0

269.1

304.0

88.5

125.8

255.3

315.7

Index left and below

353.5

40.7

181.0

As observer found that he accidentally got on wrong star ~~on~~ during reversal and subsequent adjustment in above partial group, and also took the last 3 settings (only) above on said wrong star, he considered it best to abandon the above partial group and start a new group on p. 91.

Sept. 6. 1909.

Index left and below

III

B.

165.0 63.7

9^h 8^m 0^s ± 228.7

357.0 39.0

36.0 102.7 +1.59

176.3 40.1 +1.62

~~9.12.50~~ 216.4 60.7

342.3 100.8 +1.64

43.0

Index right and above

261.2 53.3

314.5

88.5 37.8

A.

126.3 91.1 +1.88

267.0 36.0 +1.85

9.25.2 303.0

~~37 52~~ 76.5 57.5

33 2 134.0 93.5 +1.82

9 16 31

mean +1.74

+5 +47

14 17 18 Recorder forgot to take time on first set above.
8556.5953 9^h 8^m 0^s assumed and the mean of first and last times taken.

Sept. 6. 1909.

Index right and above

IV

9.31.10

258.2 58.6 ✓
316.8

A.

91.0 35.0 ✓
126.0 93.6 ✓ +1.82 ✓

267.7 39.0 ✓ +1.79 ✓
306.7
77.3 56.9 ✓
134.2 95.9 ✓ +1.76 ✓

Index left and below

161.0 66.3 ✓
227.3

B.

355.0 40.5 ✓
35.5 106.8 ✓ +1.49 ✓

178.3 37.3 ✓ +1.58 ✓
215.6
345.0 62.1 ✓
47.1 99.4 ✓ +1.67 ✓

mean +1.68 ✓

9.40.10
71 20. ✓
9 35 40. ✓
+5 +47 ✓
14 36 27. ✓
8556.6086 ✓

Sept. 6. 1909.

Index left and below

V

B.

165,2 62.3 ✓
9.45.5 227,5
356,0 · 40.4 ✓
36,4 · 102.7 ✓ +1.59 ✓

174,7 45.7 ✓ +1.50 ✓
220,4
342,6 64.5 ✓
47,1 110.2 ✓ +1.41 ✓

Index right and above

A.

81,8 45.4 ✓
127,2
266,8
306,0 39.2 ✓
84.6 ✓ +2.06 ✓

88,5 35.5 ✓ +1.97 ✓
9.55.7 124,0
100 12. ✓ 260,3 55.7 ✓
9 50 6. ✓ 316,0 91.2 ✓ +1.88 ✓
+5 +47. ✓
14 50 53. ✓
8556.6186 ✓

mean +1.74 ✓

Sept. 6. 1909.

Index right and above VI.

75.6

10.1.29 136.3 60.7 A.

269.5

308.5 34.0

94.7 +1.79

88.5

124.3 35.8 +1.84

257.9

313.4 55.5

91.3 +1.88

Index left and below

344.0

46.0 62.0

175.8 B.

215.0 39.2

101.2 +1.63

356.0

10.12.56 37.0 41.0 +1.60

14 25. 166.5 62.6

10 7 12. 229.1 103.6 +1.57

+5 +47.

mean +1.72

15 7 59. P. A. 187.8°

8556.6306

Observations throughout rather hard on account of rather poor scene, haziness, and somewhat poor atmospheric conditions.

W's watch used for times.

Watch 47 seconds slow

L. P. P.

Sept. 7. 1909. (Tuesday).

u Ophiuchi:

17 9 +1.4

19 12 6" Cap used

+1 53

Index Left B.

243.1 → Var dis. I

$7^{h}\,48^{m}\,45^{sec}$ 329.5 86.4 ✓

77.3 56.1 ✓

133.4 142.5 ✓ −0.72 ✓

257.0 −0.63 ✓

316.3 59.3 ✓

59.7 92.6 ✓

152.3 151.9 ✓ −0.54 ✓

Index Right A.

145.8

241.3 95.5 ✓

345.1 60.9 ✓

46.0 156.4 ✓ −0.45 ✓

165.5 59.8 ✓ −0.48 ✓

$7^{h}\,56^{m}\,5^{sec}$ 225.3

104 50. ✓ 329.5 93.5 ✓

7 52 25. ✓ 63.0 153.3 ✓ −0.51 ✓

+5 +55. ✓ mean −0.56 ✓

12 53 20. ✓

8557.5370 ✓

Sept 7, 1909

Index Right. A. II

148.2
8^h 3^m 50^{sec} 242.8 94.6 ✓
345.5 61.0 ✓
46.5 155.6 ✓ −0.47 ✓

163.0 63.5 ✓ −0.46 ✓
226.5
331.1 93.1 ✓
64.2 156.6 ✓ −0.45 ✓

Index Left B.

59.7 ✓
151.0 91.3
256.3 60.5 ✓
316.8 151.8 ✓ −0.54 ✓

76.5 60.1 ✓ −0.54 ✓
8^h 12^m 10^{sec} 136.6
240.8 ✓
333.0 92.2
152.3 ✓ −0.53 ✓

16 0. ✓
8 8 0 ✓
+5 +55 ✓
13 8 55. ✓
8557.5478 ✓

mean −0.50 ✓

Sept. 7. 1909.

Index Left B. III

58.8

$8^h 22^m 5^s$ 154.0 95.2 ✓

257.0 58.9 ✓

315.9 154.1 ✓ −0.50 ✓

77.4 60.6 ✓ −0.52 ✓

138.0

240.5 91.5

332.0 152.1 −0.53 ✓

Index Right A.

329.0 96.8 ✓

65.8

163.5 62.1 ✓

225.6 158.9 ✓ −0.40 ✓

344.0 67.8 ✓ −0.31 ✓

$8^h 31^m 35^s$ 51.8 100.7 ✓

5 3 40. ✓ 143.8 168.5 ✓ −0.22 ✓

8 26 50. ✓ ~~242.6~~ 244.5

+5 +55 ✓ Mean −0.42 ✓

13 27 45. ✓

8557.5610 ✓

Sept 7, 1909

Index Right A. IV

8^h 45^m 5^am.

325.3
66.0 100.7✓
161.7 68.3✓
230.0 169.0✓ −0.21✓

342.3 69.2✓ −0.23✓
51.5
147.6 97.4✓
245.0 166.6✓ −0.25✓

Index Left B.

239.4 94.8✓
334.2
76.8 63.3✓
140.1 158.1✓ −0.42✓

253.5 66.0✓ −0.40
319.5
58.2 94.7✓
152.9 160.7✓ −0.37✓

Mean −0.32✓

8^h 53^m 55^m

99 0.✓
8 49 30.✓
+5 +55.✓
13 50 25.✓
8557.5767✓

Sept 7, 1900

Index Left B. V

235.5

8h 57m 35s 334.6 99.1 ✓

76.0 64.2 ✓

140.2 163.3 ✓ −0.32 ✓

255.0 62.9 ✓ −0.35 ✓

317.9

56.8 97.2 ✓

154.0 160.1 ✓ −0.38 ✓

Index Right A.

144.0 91.2 ✓

235.2

343.7 67.5 ✓

51.2 158.7 ✓ −0.41 ✓

162.5 68.2 ✓ −0.36

9h 5m 15s 230.7

2 50. ✓ 327.6 95.3 ✓

9 1 25. ✓ 62.9 163.5 −0.31

+5 +55. ✓ mean −0.36 ✓

14 2 20. ✓ P.A. 215.2

8557.5849 ✓

Sept. 7. 1909.

R S. Cephei. Gr. obs. Corcoran rec.
Phot. I.
I

28 33 +81.0
21 2
−7 31
+4 29

Index Right & Above A.

55.5 → Comp Star dia.
$9^{h}\,50^{m}\,25^{se}$ 154.5 99.0
250.5 69.4
319.9 168.4 +0.22

68.0 76.5 +0.18
144.5
237.0 96.6
333.6 173.1 +0.13

Index Left & Below B.

322.5 105.5
68.0
158.0 77.5
235.5 183.0
177.0 −0.06

337.2
54.5 77.3 −0.05
143.2 104.8
248.0 182.1
177.9 −0.04

mean +0.06

$9^{h}\,58^{m}\,50^{sec}$
9 15.
9 4 38.
+5 +55.
14 5 33.
8557.5872

Sept 7, 1909

Index Left + Below B. II

$10^h 6^m 15^s$

322.5
69.5 107.0
159.5 72.0
231.5 179.0 +0.02

340.0 70.8 +0.04
50.8
141.0 106.6
247.6 177.4 +0.05

Index Right & above A.

238.5
337.0 98.5
70.0 74.2
144.2 172.7 +0.14

248.2 71.6 +0.10
319.8
56.6 99.6
156.2 171.2 +0.07

Mean +0.07

$10^h 14^m 15^s$
– 20 30.
101.10 15.
+5 +55.
15 11 10.
8557.6327

Sept 7, 1909.
Index Right + Above A.
III

238.0
10h 19m 5 sec 337.2 99.2✓
69.8 71.7✓
141.5 170.9✓ +0.17✓

248.0 77.1✓ +0.15✓
325.1
59.4 95.9✓
155.3 173.0✓ +0.13✓

Index Left + Below B.
143.9 107.6✓
251.5
339.1 79.7✓
58.8 187.3✓
172.7✓ −0.14✓

158.7
10h 25m 45sec 230.1 71.4✓ −0.03✓
44 50.✓ 324.0 104.5✓
10 22 25.✓ 68.5 175.9✓ +0.08✓
+5 +55.✓ mean +0.06✓
15 23 20.✓ P.A. 188.0 over B.
8557.6412✓

W's watch used for times 55 secs slow

Night somewhat hazy especially as the evening progressed.

L. P. P.

Sept. 8, 1909. (Wednesday).

R X Herculis Wi obs. Corcoran rec.
18 16 +12.0 7" cap.
18 51
+0 35

Index Left & Above B. I

257.5 → Var dia.
8h 13m 45sec. 318.0 60.5 ✓
84.0 39.5 ✓
123.5 100.0 ✓ −1.66 ✓

265.7 43.3 ✓ −1.62 ✓
309.0
74.3 60.0 ✓
134.3 103.3 ✓ −1.58 ✓

Index Right & Below A.
161.0 64.7 ✓
225.7
354.0 46.0 ✓
40.0 110.7 ✓ −1.40 ✓

174.5 47.8 ✓ −1.34 ✓
222.3
338.5 68.7 ✓
47.2 116.5 ✓ −1.27 ✓
mean −1.48 ✓

8h 23m 35sec
−37 20. ✓
8 18 40 ✓
+5 −4. ✓
13 18 36. ✓
8558.5546 ✓

Sept 8, 1909
Index Right + Below
~~1645~~
~~3248~~

~~8^h~~ ~~20^m~~ ~~48^{sec}~~

As the sky was considerably hazy and cloudy and the images growing very faint with 7" cap (with which the preceding group was taken) – the 7" cap was removed after first group and the 9".5 cap substituted.

Groups II to V inclusive, consequently taken with 9".5 cap.

Sept 8, 1909
Index Left + Above 9.5" Cap B. II

9h 8m 0sec

77.0
134.8 57.8
268.5 35.8
304.3 93.6 -1.82

87.8 38.2 -1.79
126.0
259.0 57.5
316.5 95.7 -1.76

Index Right + Below A.

344.5 61.0
45.5
177.0 39.5
216.5 100.5 -1.64

9h 14m 50sec
22 50.
9 11 25.
+5 -4.
14 11 21.
8558.5913

358.0 40.3 -1.63
38.3
164.7 61.3
226.0 101.6 -1.62
mean -1.71

Sept 8, 1909

Index Right + Below A. III

	345.9			
9h 16m 40sec	45.2	59.3		
	177.4	40.6		
	218.0	99.9	−1.66	
	357.2	39.1		−1.70
	36.3			
	165.5	58.1		
	223.6	97.2	−1.73	

Index Left + Above B.

	261.4	53.9		
	315.3			
	88.5	36.0		
	124.5	89.9	−1.92	
	267.4	38.6		−1.90
9h 25m 20sec	306.0			
	78.1	52.4		
	130.5	91.0	−1.89	
			mean −1.80	

	42	0.
9	21	0.
+5		−4.
14	20	56.

8558.5978

Sept 8, 1909

Index Left + Above B. IV

9h 34m 0s

262.0
313.9 51.9
87.7 34.8
122.5 86.7 −2.00

267.5 36.4 −1.98
303.9
79.2 51.7
130.9 88.1 −1.96

Index Right + Below A.

164.0 61.2
225.2
357.5 36.9
34.4 98.1 −1.70

178.6 38.5 −1.72
217.1
347.0 58.7
45.7 97.2 −1.73

mean −1.85

9h 42m 25s
−76 25.
9 38 12.
+5 −4.
14 38 8.
85548.6098

Sept 8, 1909

Index Right & Below A. V

9h 57m 30sec

168.4
222.5 54.1
359.2 33.8
33.0 87.9 −1.97

177.2 37.8 −2.01
215.0
352.0 47.4
39.4 85.2 −2.05

Index Left & Above. B.

82.5 54.2
136.7
269.5 34.0
303.5 88.2 −1.96

10h 4m 50sec

88.2 36.3 −1.94
124.5
259.0 54.0
313.0 90.3 −1.91

mean −1.98

	2	20.
10	1	10.
+5		−4.
15	1	6.

8558.6258

P. A. 329.2

W's watch used for times, 4 secs. fast

L. P. P.

(Thursday).
Sept. 9. 1909. ~~(Wednesday)~~.

σ ✱ Bootis. AB. = Comstock's List, 127.
14 30 +30.2
18 50 P. A. 82° Dis 4".
+4 20 Mags 5.0 ~~9.5~~ 10.0

Index Right + Above.

132.5
7h 37m 30sec 143.2 10.7✓
315.0 5.6✓
320.6 16.3✓ 5.74✓

134.6 5.7✓ 5.72✓
140.3
312.7 10.8✓
323.5 16.5✓ 5.71✓

Index Left & Below.

42.4 10.3✓
52.7
224.8 5.6✓
230.4 15.9 5.79✓

44.8 6.5✓ 5.76✓
7h 45m 50sec 51.3
222.7 9.9✓
232.6 16.4✓ 5.72 mean 5.74

Above observations rather difficult on account of poor atmospheric conditions but general result considered pretty good.

Sept 9, 1909
~~Index Index~~

σ Boötis A C = Comstock's List 128.
P.A. 97° Dist 4'. Mags.

Index Right + Below
14.3
$7^h 57^m 0^{sec}$ 75.2 60.9
204.6
255.0 $\frac{50.4}{111.3}$ 1.39

W's watch used for time 2 secs. slow

Above observations
Stopped in above partial group by poor atmospheric conditions. The above set is considered of no particular value as companion C was extremely faint & equalization was practically impossible.

L. P. P.

Sept 11, 1909 (Saturday)

$7^h\ 0^m\ 0^{sec}$ Cloudy

$8^h\ 0^m\ 0^{sec}$ "

$9^h\ 0^m\ 0^{sec}$ " with no prospect of clearing.
Evidently no chance of anything to night.

Sept. 13. 1909. (Monday).

v. Bootis ~~A. C.~~ BC = Comstock's List 128, (See note next page) W. obs. Corcoran rec.

14 30 +30.2 [1 prism removed. (Phot. R].
19 13
+4 43.

Index Right & Below

$8^h\ 2^m\ 15^s$ 11.7 → 47.3 ✓ comp B dia.
59.0
193.5 55.5 ✓
249.0 102.8 ✓ 1.59 ✓

15.0 55.4 ✓ 1.53 ✓
70.4
195.6 52.5 ✓
248.1 107.9 ✓ 1.47 ✓

Index Left & Above

289.9 53.5 ✓
343.4
101.7 61.8 ✓
163.5 115.3 ✓ 1.30 ✓

281.0
$8^h\ 16^m\ 20^s$ 338.5 57.5 ✓ 1.34 ✓
102.0 54.0 ✓
156.0 111.5 ✓ 1.38 ✓

Mean 1.44 ✓

P. A. of B with respect to A 82° Dist. 4'
P. A. of C with respect to A 97° Dist. 4'.

Sept. 13. 1909.

Comstock's List #128 is really AC. As C is very faint & the interval in brightness from A to C is very large & the settings would be extremely difficult & somewhat uncertain, companion C was compared with companion B as being the ~~mos~~ easier & more certain method. Although the sky was somewhat impure yet the settings were made with great care & slowness, resting the eye between settings, so that the measurements are considered good.

Double Star (New List) = Burnham's Cat. 7120 ~~7121~~ H.obs. Corcoran rec.
15 1 + 48.1   Phot. R.
20 35
+5 34

P.A. 234° Dist. 7"
Mags 5.2 5.8

For measts. see fol. page.

There is no Bu. 7121, as indicated by my examination of the sky, and reference to Herschel's error mentioned in Burnham's Cat. as well as Crossley, Gledhill and Wilson's book on Double Stars.

The measurements ~~at~~ on fol. page is that of Bu. 7120.

Sept 13, 1909
Index Left
272.0 ← North fol. + btw. dis.
$9^h\ 5^m\ 15^{sec}$ 357.0 85.0
94.8
172.3 77.5
162.5 ~~0.57~~ 0.33

280.1 70.9 ~~0.52~~ 0.40
351.0
94.0 84.7
178.7 155.6 0.47
Index Right
Clouds.
187.2 81.8
269.0
Clouds
12.8 65.2
78.0 147.0 0.63

194.8 65.2 0.71
$9^h\ 24^m\ 50^{sec}$ 260.0
10.7 75.0
84.7 139.2 0.79

Mean ~~0.62~~ 0.56

Region checked by D.M. chart.

Sept. 13. 1909.

Double Star (new list) = Burnham's Cat. 7167.
Phot. W.

15 8 + 39.1 W. obs. Corcoran rec.
21 4
+5 56 P. A. 283° Dist 30" Mags 7.0 7.2
21 33
+6 25

Index

Stopped by clouds

W's watch used for times 24 secs. slow.

L. P. P.

Sept. 14. 1909 (Tuesday).

7 25 Heavy fog coming in.

8 00 Thickly foggy; no stars visible.

8.45 Heavy + persistent fog covers the whole sky; no stars visible

Sept. 15, 1909. (Wednesday.).

U Scuti. Phot. J. H. obs. Corcoran rec.

18 51 −13.0
19 22
+0 31

Index above A. Comp. Star dis.

7h 52m 30sec

332.5 86.9 ✓
59.4
159.5 68.7 ✓
228.2 155.6 ✓ +0.47

342.6 66.5 ✓ +0.70
49.1
162.0 66.1 ✓
132.6 ✓ +0.92
228.1

Index Below B.

257.0 55.7 ✓
312.7
59.8 85.9 ✓
145.7 141.6 ✓ +0.74

245.9 84.6 ✓ +0.74
330.5
77.5 57.3 ✓
134.8 141.9 ✓ +0.74

mean +0.72

7h 59m 45sec
112 15. ✓
7 56 8. ✓
45 +39 ✓
12 56 47. P. A. 280 Region thoroughly identified.
8565.5395 Greatly troubled by clouds.

Sept. 15. 1909.
Index Below
254.8

Stopped by clouds. The full group on preceding page was taken through more or less fog + clouds but as much care as possible was exercised.

W's watch used for times 39 secs. slow
Closed up.

Sky a little clearer,
opened dome again

18 51 -13.0
21 38
+2 47.

Before anything could be done became all foggy again.

L. P. A.

Sept. 17. 1909. (Friday).

U Scuti. Phot. T. H. obs. Corcoran rec.

18 51 −13.0

19 27 I

+0 36

Index Above A.

160.5 ← Comp. Star dis.

7 39 40 (h m sec) 236.3 75.8 ✓

350.8 49.7 ✓

40.5 125.5 ✓ +1.07 ✓

167.7 53.9 ✓ +1.04 ✓

221.6 74.5 ✓

337.0 128.4 ✓ +1.01 ✓

51.5

Index Below B.

75.7 64.3 ✓

140.0

265.5 42.4 ✓

307.9 106.7 ✓ +1.49 ✓

84.5 +1.44 ✓

h m sec

7 45 45 130.0 45.5 ✓

− 85 25. ✓ 253.0 65.1 ✓

7 42 42. ✓ 318.1 110.6 ✓ +1.40 ✓

+5 +48. ✓ mean +1.24

12 43 30 ✓

8567.~~5~~302 ✓

Sept 17, 1909

Index Below B.

II

65.7 ✓

$7^h\ 49^m\ 45^{sec}$ 139.0 73.3

265.6 46.4 ✓

312.0 $\frac{46.4}{119.7}$ ✓ +1.20 ✓

84.5 41.8 ✓ +1.27 ✓

126.3

249.9 71.5 ✓

321.4 $\frac{71.5}{113.3}$ ✓ +1.34 ✓

Index Above A.

337.5

54.5 77.0 ✓

170.3

222.2 $\frac{51.9}{128.9}$ ✓ +1.00 ✓

352.5 49.0 ✓ +1.00 ✓

41.5

156.0 80.5 ✓

236.5 $\frac{80.5}{129.5}$ ✓ +0.99 ✓

mean +1.14 ✓

$$\begin{array}{lrr} 7^h & 58^m & 40^{sec} \\ \hline & 10\ 8 & 25. ✓ \\ 7 & 54 & 12. ✓ \\ +5 & & +48. ✓ \\ \hline 12 & 55 & 0. ✓ \end{array}$$

8567.5382 ✓

Sept 17, 1909
Index Above A.

III

334.5
$8^h\ 5^m\ 50^{sec}$ 54.2 79.7 ✓
173.5 49.0 ✓
222.5 128.7 ✓ +1.00 ✓

353.0
40.9 47.9 ✓ +1.02 ✓
156.3 79.6 ✓
235.9 127.5 ✓ +1.03 ✓

Index Below B.

254.2 71.7 ✓
325.9
81.4 49.6 ✓
131.0 121.3 ✓ +1.16 ✓

261.8 49.8 ✓ +1.17
311.6 70.9 ✓
72.0 120.7 ✓
~~1431~~ 142.9 +1.18 ✓

mean +1.10

$8^h\ 14^m\ 50^s$
20 40. ✓
~~8 10 20.~~ ✓
~~1 0.~~
8 10 20. ✓
+5 +40. ✓
13 11 0. ✓
85 67.5494 ✓

Sept 17, 1909

Index Below B. IV

8h 22m 5sec

248.5
~~322.0~~ 322.0
80.2 73.5 ✓
130.8 50.6 ✓
124.1 ✓ +1.10 ✓

262.2 49.0 ✓ +1.15 ✓
311.2
72.2 70.5 ✓
142.7 119.5 ✓ +1.20 ✓

Index Above. A.

155.0 82.9 ✓
237.9
349.6 ✓
43.9 54.3
137.2 ✓ +0.83 ✓

168.0 58.2 ✓ +0.82 ✓
226.2 79.4 ✓ ✓
336.1 137.6 +0.82 ✓
~~56.0~~ 55.5

mean +0.98 ✓

8h 31m 50sec

53 55. ✓
8 26 58. ✓
+5 148. ✓
13 27 46. ✓
8567.5610 ✓

Sept 17, 1909

Index above A. V

h m sec
8 39 15

152.5
239.2 86.7
350.2
45.0 54.8
141.5 +0.74

167.5 60.3 +0.71
227.8
329.8 84.2
54.0 144.5 +0.68

Index below B.

65.8
146.5 80.7
261.0
311.7 50.7
131.4 +0.95

h m sec
8 48 35

87 50
8 43 55
+5 +48
13 44 43.
8567.5727

77.4 55.2 +0.92
132.6
245.0
323.4 78.4
133.6 +0.90
mean +0.82

Sept. 17, 1909

Index Below B. VI

8h 57m 40sec

66.8
145.0 78.2 ✓
258.3 54.0 ✓
312.3 132.2 ✓ +0.93 ✓

80.0 53.0 ✓ +0.91
133.0
246.7 81.1 ✓
327.8 134.1 ✓ +0.89 ✓

Index Above A.

332.0
62.9 90.9 ✓
164.2 63.4 ✓
227.6 154.3 ✓ +0.49 ✓

~~346.0~~ 344.5 +0.46 ✓
49.7 65.2 ✓
150.0 91.7 ✓
241.7 156.9 ✓ +0.44 ✓

mean +0.68 ✓

9h 9m 20sec
7 0. ✓
9 3 30. ✓
+5 +48. ✓
14 4 18. ✓
8567.5863 ✓

Sept 17, 1909

Index Above A. VII.

336.0
69.5 93.5 ✓
163.5
227.0 63.5 ✓
157.0 ✓ +0.44 ✓

346.2 64.6 ✓ +0.45 ✓
50.8
151.0 91.5 ✓
242.5 156.1 ✓ +0.46 ✓

Index Below B.

245.7 82.3 ✓
328.0
77.7
136.0 58.3 ✓
140.6 ✓ +0.76 ✓

~~258.0~~ 257.5 +0.74 ✓
315.0 57.5 ✓
61.8
~~147.9~~ 147.6 85.8 ✓
143.3 ✓ +0.71 ✓
X

Mean +0.60 ✓

9h 16m 25sec

9h 29m 40sec
46 5. ✓
9 23 2. ✓
+5 +48 ✓
14 23 50. ✓
8567.5999 ✓

Sept 17, 1909

Index Below B. VIII.

h m sec
9 40 15

245.0
331.5 86.5 ✓
78.0
136.1 58.1 ✓
144.6 ✓ +0.68 ✓

258.9 +0.64 ✓
316.5 57.6 ✓
60.4 90.6 ✓
151.6 148.2 ✓ +0.61 ✓

Index Above A.

150.8
243.0 92.2 ✓
342.9 67.1 ✓
50.0 159.3 ✓ +0.39 ✓

162.4 67.1 ✓ +0.38 ✓
229.5
329.0 93.0 ✓
62.0 160.1 ✓ +0.38 ✓

mean +0.51 ✓

h m sec
9 49 40
89 55. ✓
9 44 58. ✓
+5 +48. ✓
14 45 46. ✓
8567.6152 ✓ P. A. 282 ver. B.

W's watch used for Times 48 secs slow

L. P. P.

Sept. 18. 1909. (Saturday).

R S Cephei. Phot. J. H. obs. Corcoran rec.

28 ✱ 35 +81.0

19 35

−9 0

+3 0

I

h m sec
7 58 40

Index Right & Above A

254.8 ← Comp. Star dis.
317.5 62.7 ✓
88.1 37.8 ✓
125.9 100.5 ✓ +1.64 ✓

267.4 40.6 ✓ +1.65 ✓
308.0
76.7 59.3 ✓
136.0 99.9 ✓ +1.66 ✓

Index Left & Below B.

164.2
228.5 64.3 ✓
353.7 40.3 ✓
34.0 104.6 ✓ +1.54 ✓

174.7 43.1 ✓ +1.50 ✓
217.8
341.6 65.3
46.9 108.4 +1.45 ✓
mean +1.58 ✓

h m sec
8 8 45
7 25. ✓
8 3 42. ✓
+5 55 ✓
13 4 37. ✓
8568.5448 ✓

Sept 18, 1909

Index Left + Below B. II

8h 14m 5sec

167.0
230.0 63.0
355.0 41.4
36.4 104.4 +1.55

175.0 44.6 +1.54
219.6
345.5 60.2
45.7 104.8 +1.54

Index Right + Above A.

76.3 60.0
136.3
267.5 36.2
303.7 96.2 +1.75

+1.74

8h 24m 25sec

38 30.
8 19 15.
+5 +55.

13 20 10.
8568.5557

87.6 39.9
127.5 56.6
255.5 96.5 +1.74
~~312.4~~ 312.1

mean +1.64

Sept. 18, 1909

Index Right + Above A. III

8h 29m 50s

78.0 55.0 ✓
133.0
268.0 37.0 ✓
305.0 92.0 ✓ +1.86 ✓

87.5 38.4 ✓ +1.88 ✓
125.9
259.9 51.9
311.8 90.3 +1.91 ✓

Index Left + Below B.

348.5 58.3 ✓
46.8
176.7 40.1 ✓
216.8 98.4 ✓ +1.70 ✓

354.5 40.5 ✓ +1.68 ✓
35.0
166.5 59.8 ✓
226.3 100.3 ✓ +1.65 ✓

mean +1.78 ✓

8h 40m 20s

7 0 10. ✓
8 35 5. ✓
+5 +55. ✓

13 36 0. ✓
85-68.5-667 ✓

Sept 18, 1909

Index Left & Below B. IV

h m sec
8 56 50

347.5
47.1 59.6
178.0 39.0
217.0 98.6 +1.69

+1.66

358.5 38.7
37.2 62.0
165.7 100.7 +1.64
~~228.0~~ 227.7

Index Right & Above. A.

260.0
312.5 52.5
86.5 37.9
124.4 90.4 +1.90

+1.84

267.2 38.8
306.0 55.9
76.2 94.7 +1.79
~~132.5~~ 132.1

mean +1.75

h m sec
9 8 25

5 15.
9 2 38.
+5 +55.

14 3 33.

85 68.5858

Sept 18, 1909

Index Right & Above A. V

h m sec
9 15 15

257.8 56.2 ✓
314.0
87.2 36.8
124.0 93.0 +1.83 ✓

+1.88 ✓

268.0 36.2 ✓
304.2 53.3 ✓
78.2 89.5 ✓ +1.93 ✓
131.5

Index Left + Below B.

166.4 57.6
224.0
~~3~~ 354.9 41.7
36.6 99.3 +1.67 ✓

+1.67 ✓

h m sec
9 26 10
41 25 ✓
9 20 42. ✓
+5 +55. ✓
14 21 37. ✓
8568.5983 ✓

176.7 40.3 ✓
217.0 59.3 ✓
347.2 99.6 +1.67 ✓
~~48.7~~ 46.5

mean +1.78 ✓

Sept 18, 1909

Index Left + Below B. VI

9h 37m 10sec

168.0 60.0 ✓
228.0
357.8 37.4 ✓
35.2 97.4 ✓ +1.72 ✓

+1.69 ✓

178.0 37.8 ✓
215.8 62.0 ✓
344.0 99.8 ✓ +1.66 ✓
46.0

Index Right + Above A.

78.0
129.5 51.5 ✓
269.5 34.7 ✓
86.2 ✓ +2.02 ✓
304.2

+1.92 ✓

88.0 37.2 ✓
125.2
258.0 56.5 ✓
314.5 93.7 ✓ +1.82 ✓

mean +1.80 ✓

9h 45m 40sec
82 50. ✓
9 41 25. ✓
+5 +55. ✓
14 42 20. ✓ P.A. 7.2 ser. B
8568.6127 ✓

Sept 18, 1909
Index Right & Above A. VII.

260.5
314.3 53.8
87.5 36.5
124.0 90.3 +1.91

268.1 37.6 +1.90
305.7
79.5 53.3
132.8 90.9 +1.89

Index Left & Below B.

168.5 55.7
224.2
357.0 38.5
35.5 94.2 +1.80

177.0 39.6 +1.78
216.6
339.8 ~~8~~58.7
45.5 98.3 +1.77

mean +1.84

9h 52m 5sec

10h 0m 35sec
112 40. (349.8 assumed) Prob. 349.8
9 56 20.
+5 +55. P.A. 187.5 ver. B.
14 57 15.
8568. 6230

W's watch used for times 5.5 secs slow. ~~star~~

Observations on R.S. Cephei this evening rather difficult throughout. The variable was faint & the seeing rather poor due to rising barometer & rather cool temperature & unsteadiness of air. After the preceding observations cleaned achromatic prisms, double image prism, eyepiece & Nicol prism of photometer 5. Much dust found on Nicol, double image prism & eyepiece. The achromatic prisms were not particularly dirty. Cleaned achromatic

Sept. 18. 1909.

prisms only on the outer surfaces. Also tightened the endless chain which runs over sprocket wheel by tightening screws. This chain had got to be rather slack

L. A. P.

Sept. 20. 1909. (Monday).

Double Star (New List) = Burnham's Cat. 7167.

15 8 +39.1 W. obs. Corcoran rec.
19 36
+4 28

Index Left + Below

79.9 ← Fol. + Hrtr. dis.
7h 32m 10sec 178.0 98.1
276.3 65.2
341.5 163.3 0.32

98.2 64.7 0.32
162.9
260.5 98.5
359.0 163.2 0.32

Index Right + Above.

6.5 68.5
75.0
168.4 101.4
269.8 169.9 0.19

348.8 103.2 0.20
7h 41m 50sec 92.0
186.6 66.1
252.7 169.3 0.20

Mean 0.26"

P.A. 284° Dist. 30.32" mags. 7.0, 7.3

Sept. 20. 1909.

7 45 Saw a very fine meteor which started from a point a little below the middle of the line joining ε and ζ Ursae Majoris.

It slowly descended (vertically) and gradually ~~burn~~ burnt out when about 15° or 20° above the horizon. Its ~~td~~ light at maximum, was very bright and of a violet color.

U Sagittae. Phot. T.
W. M. Corcoran rec,

''

19 19 +19.5
21 19
+2 0 9.5" Cap used

For measts. see fol. pages.

Sept 20, 1909

Index Right + Above. A. I

$9^h\ 24^m\ 25^{sec}$

259.4 → Comp star dir.

341.8 82.4 ✓

90.3

150.0 $\frac{59.7}{142.1}$ ✓ +0.73 ✓

270.3 58.7 ✓ +0.68 ✓

329.0

74.2 $\frac{88.0}{146.7}$ ✓ +0.64 ✓

162.2

Index Left + Below. B.

161.3 95.5 ✓

256.8

354.0

67.9 $\frac{73.9}{169.4}$ ✓ +0.20 ✓

171.8 72.2 ✓ +0.20 ✓

244.0

342.2

79.8 $\frac{97.6}{169.8}$ ✓ +0.19 ✓

mean +0.44 ✓

$9^h\ 31^m\ 30^{sec}$

55 55. ✓

9 27 58. ✓

+5 1 5. ✓

14 29 3. ✓

85/0.6035 ✓

Sept. 20, 1909

Index Left + Below B. II

9h 35m 15sec

161.2

260.5 99.3 ✓

352.7 74.8 ✓

67.5 174.1 ✓ +0.11 ✓

~~175.9~~ ~~−0.08~~

167.9 80.8 ✓ +0.01 ✓

~~−0.08~~

248.7

337.3 104.2 ✓

185.0 ✓

81.5 175.0 ✓ −0.09 ✓

Index Right + Above A.

69.6

165.5 95.9 ✓

262.6 74.4 ✓

337.0 170.3 ✓ +0.18 ✓

80.2 75.0 ✓ +0.22 ✓

155.2 91.5 ✓

255.0 166.5 ✓ +0.25 ✓

~~347.0~~ 346.5

mean ~~+0.07~~ +0.12 ✓

9h 42m 40sec

77 55. ✓

9 38 58. ✓

+5 1 5. ✓

14 40 3.

85 70.6111 ✓

Clouds

Sept 20, 1909

Index Right & Above A. III

9h 49m 0sec

69.0 100.0 ✓
169.0
264.0 74.0 ✓
338.0 174.0 ✓ +0.11 ✓

+0.06 ✓

82.0 78.0 ✓
160.0
248.6 101.4 ✓
350.0 179.4 ✓ +0.01 ✓

Index Left & Below B.

334.7 109.8 ✓
84.5
166.0 87.5 ✓
253.5 197.3 ✓
162.7 ✓ −0.33 ✓

344.2 90.3 ✓
74.5 −0.40 ✓
151.0 114.5 ✓
265.5 204.8 ✓
155.2 ✓ −0.47 ✓

mean −0.17 ✓

9h 55m 30sec

19 44 30. ✓
9 52 15. ✓
+5 1 5. ✓
14 53 20. ✓
A5 70.6203 ✓

Sept 20, 1909

Index Left + Below B. IV

10 h 0 m 55 sec

329.5

86.7 117.2

164.0 94.0

258.0 211.2 −0.60

148.8

344.2 92.1 −0.55

76.3 114.0

152.0 206.1

266.0 153.9 −0.50

Index Right + Above A.

243.5 110.5

354.0

76.5 85.5

162.0 196.0 −0.30

164.0

259.2 86.3 −0.30

345.5

65.0 109.0

174.0 195.3

164.7 −0.29

Mean −0.42

10 h 8 m 15 sec

9 10.

10 4 35.

+5 1 5.

15 5 40.

8570.6290

Sept 20, 1909

Index Right & Above A. V.

242.9 112.9

10h 15m 40sec 355.8

77.0 85.0

162.0 197.9 -0.345

162.1

258.6 84.2 -0.32

342.8

63.8 111.2

175.0 195.4 -0.29

164.6

Index Left & Below B.

148.5 123.7

272.2

338.1 102.9

81.0 226.6 -0.91

133.4

160.5 99.3 -0.84

h m sec
10 22 10 259.8

37 50. 329.0 120.5

10 18 55. 89.5 219.8 -0.77

+5 1 5. 140.2

15 20 0. P. A. 135.5 mean -0.58

8570.6389

W's watch used for times 1 min 5 secs slow

Troubled throughout evening by more or less cloud. The clouds were not of the heavy massive character but more of a feathery nature of varying density. In the run on U Sagittae the clouds were at times somewhat troublesome & the stars at times a little dim.

L. P. A.

Sept 23, 1909 (Thursday)

7.0.0. Sky pretty cloudy.

7.30 " still more ".

8.00 " entirely cloudy.

Sept. 25. 1909. (Saturday).

7 0 Pretty cloudy.

7 30 Cloudy.

8 0 ~~#~~ Clouds a little thinner in places.

Double Star (New List) = Burnham's Cat. 11862.

22 33 +72.2

20 45

−1 48

+10 12

8 50. Sky thick and now growing worse.

Sept. 29. 1909. (Wednesday).

Double Star. +24° 2733 Phot. R. One prism removed.
W. Sh. Corcoran rec.

14 30 +23.9
20 9
+5 39

Index

Too low – ~~too~~ too much moonlight + fog.

Abandoned.

~~Index~~

Sept. 29. 1909.

Double Dur. +56° 2783. Phot. R. (one prism removed)
(Observed for Russell)

22 24 +57.7 Phot. R. One prism removed.
21 4 Hr. obs. Corcoran rec.
-1 20
+10 40

Index Right & Below

358.5 → South prec. + brtr. dis.

8h 34m 10sec 80.0 81.5
190.5 58.2
248.7 139.7 0.78

9.0 58.8 0.78
67.8
177.9 81.0
258.9 139.8 0.78

Index Left & above

265.5 84.7
350.2
102.7 54.8
157.5 139.5 0.78

282.8 55.1 0.80
337.9
89.2 82.2
171.4 137.3 0.83

Mean 0.79

h m sec
8 42 5
7 6 15.
8 38 8.
+5 +45.
13 38 53.

P.A. 60° Dist. 0″.7

Sept. 29. 1909.

~~Double +59° 1915~~ (Observed for Russell)
Double +41° 750. Phot. R. One prism removed,
27 36 +42.1 H. S. Corcoran rec.
22 19
-5 17
+6 43

Index Above
89.4 → S. prec + brtr. dis.
$9^{h}\ 50^{m}\ 30^{se}$ 171.2 81.8 ✓
276.0
346.8 70.8 ✓ / 152.6 ✓ 0.52 ✓

97.5 69.9 ✓ 0.5~~6~~8 ✓
167.4
270.6 77.2 ✓
347.8 / 147.1 ✓ 0.63 ✓

Index Below
359.8
80.5 80.7 ✓
184.4 71.6 ✓
256.0 / 152.3 ✓ 0.53 ✓

$9^{h}\ 57^{m}\ 25^{se}$ 4.5 70.9 ✓ 0.5~~8~~5 ✓
75.4
10 7 55 ✓ 182.4 79.6 ✓
9 53 58 ✓ 262.0 / 150.5 ✓ 0.57 ✓
+5 +45 ✓ mean 0.5~~5~~6 ✓
14 54 43 ✓ P. A. 45° Dist. 9".

Sept. 29. 1909.

Double +59° 1915. Phot. R. One prism removed.
W. obs. Corcoran rec.

18 49 +59.2 (Observed for Russell.)
23 4
+4 15

Index Left + Below
3.1 → N prec + btw. dir.

$10^h\ 23^m\ 50^{sec}$ 79.3 76.2 ✓
183.5 72.1 ✓
255.6 148.3 ✓ 0.61 ✓

8.2 65.8 ✓ 0.70 ✓
74.0
185.0 73.0 ✓
258.0 138.8 ✓ 0.80 ✓

Index Right + Above
275.0 68.0 ✓
343.0
91.5 75.8 ✓
167.3 143.8 ✓ 0.70 ✓

h m sec
10 32 32 277.2 67.8 ✓ 0.74 ✓
345.0
56 22. 94.0 72.5 ✓
10 28 11. ✓ L. A. P. 166.5 140.3 ✓ 0.77 ✓
+5 +45. ✓ mean 0.72 ✓
15 28 56. ✓ P. A. 150° Dist. 17" L. P. P.

W's watch used for times 45 secs. slow

Sept. 30. 1909. (Thursday).

Double +56.2783. Phot. W. ~~R. one from~~ removed.
22 24 +57.7 W. obs. Corcoran rec.
20 21 (Observed for Russell)
−2 3
+9 57

Index Left + Below
87.5 → 89.0 South pref + lit. dia.
h m sec
8 47 15 176.5
283.9 52.6
336.5 141.6 0.74

101.0 58.4 0.82
159.4
272.4 75.4
347.8 133.8 0.90
Index Right + Above
359.9 77.9
77.8
188.8 61.2
250.0 139.1 0.79

10.7 0.78
h m sec
8 59 15 68.2 57.5
106 30. 176.5
8 53 15. 259.8 83.3
+5 +51. 140.8 0.76
13 54 6. mean 0.80

P.A. 60° Dist. 0′.7

Sept. 30. 1909.

Double +41° 750. Phot. W. H. obs. Corcoran rec.
~~3~~ 27 36 +42.1 (Observed for Russell)
22 13
-5 23
+6 37

Index Right & Below
4.5 → S. prec. + dista. dir.
9h 35m 50sec 74.0 69.5 ✓
180.5 80.5 ✓
261.0 150.0 ✓ 0.58 ✓

1.0 79.8 ✓ 0.54 ✓
80.8
182.8 74.2 ✓
257.0 154.0 ✓ 0.50 ✓

Index Left & Above
272.5 77.5 ✓
350.0
91.5 80.8 ✓
172.3 158.3 ✓ 0.41 ✓

270.0 76.5 ✓ 0.49 ✓
9h 49m 40sec 346.5
25 30. ✓ 93.7 73.8 ✓ 0.57 ✓
9 42 45. ✓ 167.5 150.3 ✓
+5 +51. ✓ 0.52 ✓
14 43 36. ✓

P. A. 45° Dist. 9"

Sept. 30. 1909.

Double +59° 1915 ~~A~~ Phot. W.
1h 49 +59.2 W. obs. Corcoran rec.
23 6 (Observed for Russell)
+4 17

Index Left + Below

10h 18m 30sec

186.5 → N. prec. + lutr. dir.
256.2 69.7 ✓
3.5 77.5 ✓
81.0 147.2 ✓ 0.63 ✓

0.62 ✓

184.4 74.1 ✓
258.5 73.5 ✓
2.0 147.6 ✓ 0.62 ✓
75.5

Index Right + Above
97.5
161.0 63.5 ✓
272.0 80.5 ✓
352.5 144.0 ✓ 0.69 ✓

0.68 ✓

92.7 78.3 ✓
171.0 0.67 ✓
275.5 66.9 ✓
342.4 145.2 ✓

h	m	sec
10	28	35
	47	5. ✓
10	23	32. ✓
+5		+51. ✓
15	24	23. ✓

L. P. P. mean 0.65 ✓

P.A. 150° Dist 17"
W's watch used for Times 51 secs. slow.

(Friday). Oct. 1. 1909.

Double. +24° 2733. Phot R. One prism removed.
14 30 +23.9 Tr. sk. Corcoran rec.
20 37
+6 7

~~Index~~

Abandoned. Too cloudy and star too low.

Oct. 1. 1909.

Fourth Type Star +59° 2810. Phot. I.
H. obs. Corcoran rec.

24 1 +58.3
21 25 Full aperture used.
—
−2 36
+9 25

h m sec
8 37 35

Index Left B.
83.9 → 4th Type die.
156.5 72.6
265.7
332.8 67.1
139.7 −0.78

85.4
69.8 −0.82
155.2
266.0 65.6
331.6 135.4 −0.87

Index Right A.
356.5
66.0
62.5
175.8 66.6
242.4 132.6 −0.92

357.0
66.2 −0.92
63.2
175.7 66.3
242.0 132.5 −0.93

Mean −0.87

h m sec
8 45 5
—
82 40.
8 41 20.
+5 +55.
—
13 42 15.
8581.5709

~~Index~~ Oct 1, 1909

Index Right A.

8h 33m 25sec

174.4 68.6
243.0
358.0 65.1
63.1 133.7 −0.90

173.9 67.9 −0.86
241.8
355.0 68.4
63.4 136.3 −0.81

Index Left B.

85.0 67.6
152.6
266.0 66.7
332.7 134.3 −0.89

86.0 −0.84
156.0 70.0
263.2 68.8
332.0 138.8 −0.80

9h 0m 50sec

114 15.
9 57 8.
45 +55. Region thoroughly identified before beginning.
14 58 3.
8581.6236

Mean −0.85
Gen. " −0.86

P. A. 77.9° Ver. B

The 4th Type star has gone up rather suddenly & swiftly.

Color 6 in Photometer

L. A. A.

over.

Oct 1, 1909

The variable (to the unaided eye) is strongly brighter than the comparison star, both in the photometer + with ordinary eyepiece

---

Fourth Type Star + 2° 4709.
23h 39m ~~+2° 44'~~ +27.
22 27
-1 12
+10 40

9.5" Cap used

Stopped by clouds. Troubled more or less by clouds throughout evening.

W's watch used for time 55 secs. slow

L. P. P.

Oct. 2. 1909 (Saturday)

+24 2733 Phot. R. One prism removed.
14 30 +23.9 Sr. obs. Corcoran rec.
20 18
+5 48

Index Right + Above
91.7 ← 76.5 ✓ St. prec. + btr. dis.
7h 19m 55sec 168.2
265.8 94.2 ✓
0.0 170.7 ✓ 0.17 ✓

82.7 99.0 ✓ 0.22
181.7
276.2 66.8 ✓
343.0 165.8 ✓ 0.27 ✓

Index Left + Below
7.5
73.0 65.5 ✓
166.7 101.1 ✓
267.8 166.6 ✓ 0.25 ✓

352.0 96.5 ✓ 0.25 ✓
88.5
185.0 70.0 ✓
255.0 166.5 ✓ 0.25 ✓

Mean 0.24 ✓

7h 26m 45sec
46 40. ✓
7 23 20. ✓
+5 +50. ✓
12 24 10. ✓
85 82.5 168 ✓

Oct 2, 1909

Same again.

Index Left + Below

7h 36m 10s

2.2 → 5 prec. + brtr. dis.
75.0 72.8
~~164.0~~ 170.0
274.2 104.2 / 177.0 0.06

~~350.0~~ ~~2~~ 3.0
~~188.0~~ 75.0 72.0 0.08
~~251.0~~ 171.5 102.5 / 174.5 0.10
274.0

Index Right + Above

262.0
1.0 99.0
96.0 74.0 / 173.0 0.13
170.0

h m sec
7 44 55

8 1 5.
7 40 32.
+5 +50.

12 41 22.
8582.5288

278.5 67.5 0.19
346.0
81.5 99.5 / 167.0 0.25
181.0

Mean 0.14

The first of the two preceding groups is considered a little the better of the two as the altitude was a little higher and the moon had not then risen. At the end of last group the telescope was down at the top of the lowest small shutter and the moon was up. The sky however

Oct. 2, 1909

was very clear. Both groups are considered good, the first being considered a little the better of the two.

Fourth Type Star +59° 2810. Phot. V.
24 1 +58.3 H. st. Corcoran rec.
21 19
−2 42
+9 18

For measts. see fol. pages.

Oct. 2, 1909.

Index Left B.

84.0 → 71.5 4th type dis.

8h 28m 45sec 155.6

268.0 64.7

332.7 136.3 -0.85

85.3 68.6 -0.85

153.9

266.5 67.5

334.0 136.1 -0.85

Index Right A.

357.5 64.0

61.5

177.0 64.4

241.4 128.4 -1.01

359.0 63.2 -1.04

8h 35m 35sec 62.2

64 20. 178.0 62.8 -1.06

& 32 10. 240.8 126.0

+5 +50.

13 33 0. mean -0.94

&5&2.5646

Oct 2 1909.

Index Right. A.

8h 41m 20sec

2.5	60.5 ✓		
63.0			
175.6	65.4 ✓		
241.0	125.9 ✓	-1.07 ✓	
			-1.02 ✓
357.0	65.6 ✓		
62.6			
177.0	64.3 ✓		
241.3	129.9 ✓	-0.98 ✓	

Index Left B.

262.0	71.5 ✓		
333.5			
85.0	68.0 ✓		
153.0	139.5 ✓	-0.78 ✓	
			-0.78 ✓
265.2	68.2 ✓		
333.4			
82.9	71.6 ✓		
154.5	139.8 ✓	-0.78 ✓	

8h 48m 30sec

29 √0. ✓
& 44 √√. ✓
+√ +√0. ✓

13 4√ 4√. ✓
∂√∂2.√73√- ✓

Mean -0.90 ✓

Gen. mean -0.92 ✓

P. A. 78° Var. B

Color 5 in both Photometer + ordinary eyepiece.
Full aperture used.

Oct. 2. 1909.

Fourth Type Star +2° 4709. Phot. T.
23 39 +2.7 Tr. Sh.- Corcoran rec,
22 26 9.5" Cap used.
+1 13
+0 47

Index Left. B.

h m sec
9 42 25

196.0 → 4th type dis.
223.6 27.6 ✓
15.5 26.0 ✓
41.5 53.6 ✓ −3.11 ✓

195.4 28.1 ✓ −3.08
223.5 27.0 ✓
15.4 55.1 ✓ −3.05
~~42.5~~ 42.4

Index Right. A.
106.5 24.4 ✓
130.9
287.0 23.3 ✓
310.3 47.7 ✓ −3.38

107.0 22.6 ✓ −3.42 ✓
129.6
286.8 23.4 ✓
310.2 46.0 ✓ −3.46

mean −3.25

h m sec
9 49 40
9 2 5. ✓
9 46 2. ✓
+5 +50. ✓
14 46 52. ✓
.6159 ✓
8582. ~~5742~~ ✓

Oct. 2. 1909.

Double Star (new list) = Burnham's Cat. 8868 =
= β Lyrae. Wr. obs. Corcoran rec. Phot. R. over prism removed,
18 46 +33.2 9.5" Cap used
23 20 Phot. W.
+4 34

Index Below

206.2 — Var. dir.
h m sec 10 28 0 — 228.3 22.1✓
24.9 23.6✓
48.5 45.7✓ −3.47✓

205.0 23.0✓ −3.50✓
228.0 21.7✓
26.6 44.7✓ 3.52✓
~~48.3~~ 48.3

Index above

115.3 23.6✓
138.9
294.5 24.1✓
318.6 47.7✓ −3.38✓

113.8 25.2✓ −3.35✓
139.0 23.7✓
294.6 48.9 −3.32✓
318.3 mean −3.42✓

h m sec
10 35 25

6 35.✓
10 31 42.✓
+5 +50.✓

15 32 32.✓
8582.6476✓

W's watch used for Times 50 secs. slow.

L. A. P.

Oct. 4. 1909. (Monday).

R Z ~~Ophiuchi. / Phot. Field~~ App.

18 48 +6.5

20 31 Gr. obs. Corcoran rec.

+1 43 Phot. T.

21 32

+2 44

Index Left + Above B.

339.5 ← 95.5 ✓ Comp. Star dis.

$8^h\ 37^m\ 20^{sec}$ 75.0

172.0 70.7 ✓

242.7 166.2 ✓ +0.26 ✓

352.0 72.5 ✓ +0.20 ✓

64.5

157.0 100.2 ✓

257.2 172.7 ✓ +0.14 ✓

Index Right + Below A.

249.0 98.0 ✓

347.0

88.2 62.3 ✓

150.5 160.3 ✓ +0.38 ✓

265.7 67.3 ✓ +0.35 ✓

333.0

69.2 95.8 ✓

165.0 163.1 ✓ +0.32 ✓

Mean +0.28 ✓

$8^h\ 44^m\ 40^{sec}$

8 2 0. ✓

8 41 0 ✓

+5 +42 ✓

13 41 42. ✓

8584.5706 ✓

Oct 4, 1909

Index Right + Below. A.

$8^{h}\ 47^{m}\ 15^{sec}$

252.5
343.2 90.7
86.0 63.0
149.0 153.7 +0.50

266.0 68.0 +0.44
334.0 92.0
73.0 160.0 +0.38
~~166.5~~ 165.0

Index Left + Above B.

159.3
257.5 98.2
352.5 70.5
63.0 168.7 +0.21

175.5 68.5 +0.24
244.0
339.2 97.3
76.5 165.8 +0.27

$8^{h}\ 54^{m}\ 35^{sec}$
101 50.
8. 50 55.
+5 +42.
13 51 37.
858 4.577 5+

mean +0.34

P. A 341.0 Va. B.

Sprocket 22.5 B
" 23.5 C

Observations a little difficult. Sprocket reads radically different nowadays from what it did a short time ago. The chain has been skipping cogs on the wheel and the prism carriage going

Oct, 4, 1909.

hard on the track but W. has cleaned track & tightened screws which seems to relieve the difficulty.

Comp. Star for R Z Ophiuchi =
= +7° 3826 (9.2)

Fourth Type +36° 3243. Fr. obs. Corcoran rec,
18 40 +37.5 Phot. T.
22 37
+3 57

Color 4 in large telescope.

For measts. see next page.

Oct 4, 1909
Cardex Left + Above B.

	171.4		Fourth type dis.
9h 40m 40sec	242.5	71.1	
	358.9	58.5	
	57.4	129.6	−0.99
	179.5	59.1	−0.98
	238.6		
	350.5	72.0	
	62.5	131.1	−0.96

Cardex Right + Below A.

	78.0		
	155.5	77.5	
	269.0	56.0	
	325.0	133.5	−0.91
	90.0	58.0	−0.94
9h 49m 15sec	148.0		
89 55.	260.0		
9 44 58.	332.5	72.5	
+5 +42.		130.5	−0.97
14 45 40.			
8584.6151			

mean −0.96

P. A. 236.5 Ver. B
Sprocket − 8.5 A
" − 7.5 B
" − 7.0 C

Oct. 4. 1909.

28 ε Aurigae. Phot. J.
✱ 5 2 +43.6 W. obs. Corcoran rec.
23 34 7" Cap used
−5 18
+6 42

Index Right + Above A

10h 38m 15sec

20.0 → Var. dis
36.0 16.0✓
201.3
217.1 15.8✓
31.8✓ −4.27✓

19.8 15.9✓ −4.21✓
35.7 17.7✓
200.6 33.6✓ −4.15✓
218.3

Index Left + Below B.

291.1 15.6✓
306.7
110.9 14.5✓
125.4 30.1✓ −4.40✓

291.4 15.3✓ −4.38✓
306.7
110.4 15.3✓
125.7 30.6✓ −4.36✓

mean −4.30✓

10h 45m 35sec
8 3 50.✓
10 41 55✓
+5 +42.✓
15 42 37.✓
858 4.65 46✓

Oct 4 1909
Index Left + Below B.

290.5 16.1 ✓
$10^h 47^m 50^s$ 306.6
111.5 13.5 ✓
125.0 29.6 ✓ −4.43 ✓

292.0 14.5 ✓ −4.45 ✓
306.5
110.6 14.6 ✓
125.2 29.1 ✓ −4.47 ✓

Index Right + above A.

200.4 16.8 ✓
217.2
20.2 15.6 ✓
35.8 32.4 ✓ −4.23 ✓

201.7 −4.28 ✓
$10^h 54^m 40^s$ 216.8 15.1 ✓
102 30. ✓ 19.5 16.1 ✓
10 51 15. ✓ ~~35.5~~ 35.6 31.2 ✓ −4.32 ✓
+5 +42. ✓ mean −4.36 ✓
15 51 57. ✓ P. A. 357.8 V2 B. Gen. " −4.33 ✓
2524.6611 ✓

Sprocket +7.5 B
" +8.5 C

W's watch used for times 42 secs. slow.

L. P. P.

Oct. 5. 1909. (Tuesday)

R W Tauri. W. obs. Corcoran rec.

27 7 58 +27.1 Phot. I.
27 48

~~5 13~~ 1 35
~~+6 47~~
− 6 2
+5 58

Index Right A. I

158.5 → Var. dia.

8h 51m 10sec

257.0 98.5
349.0
64.5 75.5
174.0 −0.11

168.0 76.6 −0.08
244.6
334.5 105.0
79.5 181.6 +0.03
178.4

Index Left B.

67.0
169.5 102.5
263.2 72.8
336.0 175.3 −0.09

83.6 73.1 −0.10
156.7
247.8 101.7
349.5 174.8 −0.10

8h 58m 50sec
11 0 0.
8 55 0.
+5 +38.
13 55 38.
85 85. 5803

mean −0.07

Oct 5, 1909

II

Index Left B.

68.0 104.3 ✓
172.3
257.0 84.2 ✓
188.5 ✓
341.2 171.5 ✓ +0.16 ✓

$9^h 2^m 20^{sec}$

75.5 85.7 ✓ +0.17 ✓
161.2
246.0 104.0 ✓
189.7 ✓
350.0 170.3 ✓ +0.18 ✓

Index Right A.

330.0 116.0 ✓
86.0
161.2 96.3 ✓
257.5 212.3 ✓
147.7 ✓ +0.62 ✓

340.2 95.0 ✓ +0.70 ✓
75.2 125.2 ✓
145.8 220.2 ✓
139.8 ✓
~~270.0~~ 271.0 +0.78 ✓

mean. +0.44 ✓

9^h 10^m 5^{sec}
12 25. ✓
9 6 12. ✓
+5 +38 ✓
14 6 50. ✓
~~+5 +38~~
~~7 28.~~
8588.5881 ✓

Oct 5, 1909

Index Right A. III

$9^{h}\ 16^{m}\ 50^{s}$

326.0
91.3 125.3 ✓
156.0 107.0 ✓
263.0 232.3 ✓ +1.03 ✓
127.7 ✓

335.7 107.3 ✓ +1.11 ✓
83.0
141.5 132.5 ✓
239.8 ✓
274.0 120.2 ✓ +1.19 ✓

Index Left B

53.5
183.0 129.5 ✓
246.6 108.1 ✓
354.7 237.6 ✓
122.4 ✓ +1.14 ✓
65.1
173.5 108.4 ✓ +1.16 ✓
232.8 131.7 ✓
4.5 240.1 ✓
119.9 ✓ +1.19 ✓

mean +1.14 ✓

$9^{h}\ 27^{m}\ 45^{s}$
44 35. ✓
9 22 18. ✓
+5 +38. ✓
14 22 56. ✓ ✓
8585.5992

Oct 5, 1909

Index Left A. IV

51.5
9h 35m 55sec 182.0 130.5
240.0 112.5
352.5 243.0 +1.26
117.0

65.5
173.2 107.7 +1.24
232.3 133.7
241.4
6.0 118.6 +1.22

Index Right A.

137.5 138.2
275.7
329.2 115.0
253.2
84.2 108.8 +1.49

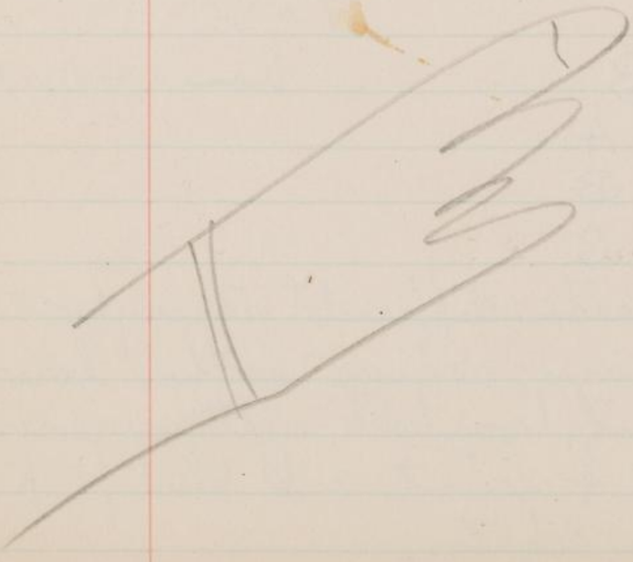
~~150.0~~ 148.5 +1.50
9h 47m 40sec 267.0 118.5
83 35. 320.5 135.0
9 41 48. 95.5 253.5 +1.50
+5 +38. 106.5
14 42 26, P. A. 312.3 Ver B mean +1.37
5858. 6128 Sprocket 13.5 A.
" 14.5 B.
" 15.0 C.

Observations rather difficult throughout. Sky a little foggy + hazy, region rather low at time of beginning, variable getting down on-to bottom of curve + faint, and telescope pointing to east over electric lights

Oct. 5. 1909.

New series of Sprocket Readings. begun last night — the first since oiling track of Photometer and tightening screws of same.

Chain has been skipping cogs on Sprocket ~~Wheel~~ Wheel, so that Sprocket Readings are different from what they were formerly.



Oct. 5. 1909.

ε Aurigae W. obs. Corcoran rec.

28✱ 5 2 +43.6 Phot. I.

23 30 7" cap.

− 5 22

+ 6 38

Index Right & Above A.

199.0 → Var. dis.

$10^h\ 19^m\ 40^{sec}$ 219.0 20.0 ✓

21.4 18.6 ✓

35.0 33.6 ✓ −4.15 ✓

202.0 15.4 ✓ −4.16 ✓

217.4

18.6 18.0 ✓

36.6 33.4 ✓ −4.17 ✓

Index Left & Below B.

109.5 18.6 ✓

128.1

291.6 12.8 ✓

304.4 31.4 ✓ −4.30 ✓

110.8 14.8 ✓ −4.35 ✓

125.6

290.4 15.3 ✓

305.7 30.1 ✓ −4.40 ✓

mean −4.26 ✓

$10^h\ 26^m\ 20^{sec}$

46 0. ✓

10 23 0 ✓

+5 +38 ✓

15 23 38. ✓

6585, 6414 ✓

Oct 5, 1909

Index Left + Below B.

10h 28m 25sec

111.5 15.1✓
126.6
290.6 15.6✓
306.2 30.7✓ −4.35✓

111.5 14.9✓ −4.38✓
126.4
290.6 15.1✓
305.7 30.0✓ −4.40✓

Index Right + Above A.

20.0 17.2✓
37.2
200.4 16.9✓
217.3 34.1✓ −4.12✓

20.8 14.8✓ −4.21✓
35.6
200.5 16.7✓
217.2 31.5✓ −4.30✓

Mean −4.30✓
Gm " 4.28✓

10h 34m 20sec
62 58. ✓
10 31 22, ✓
tr +38. ✓
10 32 0 ✓
Av Av. 6472 ✓

W's watch used for time 38 secs. slow

P. A. 357.8 Ver. B

L. P. P.

Sprocket 7.5 B
" 8.5 C

Oct. 7. 1909. (Thursday).

R. S. Cephei.
Abandoned.

Susp. Var. near ~~A~~ U Cephei. W. obs. Corcoran rec.
Phot. J.

24
2 50 +21.1

~~20. 25~~

~~−4 25~~

~~+7 35~~

21 35

−3 15

+2 45

~~Index~~

For measts. see ~~next~~ fol. pages.

Oct. 7, 1909

Index Above A. I

~~164.5~~ → Susp var. dir.

8h 24m 20sec 250.4 85.9 ✓

354.8 68.2 ✓

63.0 154.1 ✓ −0.50 ✓

174.6 69.4 ✓ −0.46 ✓

244.0

343.8 89.2 ✓

73.0 158.6 ✓ −0.41 ✓

Index Below B.

75.4 87.6 ✓

163.0

263.9 67.5 ✓

331.4 155.1 ✓ −0.48 ✓

87.1 66.1 ✓ −0.45 ✓

153.2

250.8 91.7 ✓

342.5 157.8 ✓ −0.42 ✓

Mean −0.46 ✓

8h 32m 50sec

57 10. ✓

8 28 35. ✓

+5 +27 ✓

13 29 02 ✓

8587.5618 ✓

Oct. 7, 1909

II

Index Below. B.

$8^h\ 36^m\ 50^{sec}$

74.5
161.0 86.5 ✓
265.0
328.3 63.3 ✓
149.8 ✓ −0.58 ✓

86.2 65.8 ✓
152.0 −0.54 ✓
253.5
341.0 87.5 ✓
153.3 ✓ −0.51 ✓

Index Above. A.

344.0
73.5 89.5 ✓
174.2
241.0 66.8 ✓
156.3 ✓ −0.45 ✓

356.5 65.9 ✓ −0.44 ✓
62.4
162.0
254.0 92.0 ✓
157.9 ✓ −0.42 ✓

$8^h\ 44^m\ 35^{sec}$
81 25.1 ✓
8 40 42 ✓
+5 +27 ✓
13 41 9. ✓
8587.5 702 ✓

P. A. 339.8 Ver. B.

Mean −0.49 ✓
Gen. " −0.48 ✓

~~Sprocket~~

Oct. 7. 1905.

A X Draconis. I.

Comp. Star = +58° 1865 (9.1)

18 49 +59.2

22 45 Full aperture used.

+3 56

Index Left B.

346.6 → Comp. Star dis.

9h 58m 20sec 65.2 78.6

179.9 (60.6 / 138.2)

~~241~~ ~~239.5~~ 240.5 +0.79

358.8 +0.78

56.5 57.7

164.5 83.0 / 140.7 +0.76

247.5

Index Right A.

257.0

335.6 78.6

91.5

147.0 55.5 / 134.1 +0.89

271.0 53.2 +0.96

10h 4m 55sec 324.2

3 15. 80.0 75.0 / 128.2 +1.02

10 1 38. 155.0

+5 +27

15 2 5.

8587.6-65 —

Mean +0.87

Oct 7, 1909
Index Right A.

II

258.2
$10^h\ 8^m\ 20^s$ 333.7 75.5 ✓
91.9 51.7 ✓
143.6 127.2 ✓ +1.04 ✓

269.9 55.1 ✓ +1.06 ✓
325.0
83.8 69.8 ✓
153.6 124.9 ✓ +1.09 ✓

Index Left B.
167.6 81.4 ✓
249.0
358.2 57.4 ✓
55.6 138.8 ✓ +0.80 ✓

178.9 ~~7~~5 8.1 ✓ +0.80 ✓
$10^h\ 15^m\ 25^s$ 237.0
347.0 80.2 ✓
67.2 138.3 ✓ +0.81 ✓

23 45. ✓
10 11 52 ✓
+5 +27. ✓
15 12 19.
8527.6335+ ✓

mean +0.93 ✓

Oct 7, 1909

Index Left B

III

168.6
$10^{h}\ 21^{m}\ 55^{sec}$ 253.0 84.4 ✓
359.8
56.6 56.8 ✓
141.2 ✓ +0.75 ✓

180.5
239.3 58.8 ✓ +0.75 ✓
345.5 82.5 ✓
68.0 141.3 ✓ +0.75 ✓

Index Right. A

82.0
155.7 73.7 ✓
274.0 49.0 ✓
323.0 122.7 ✓ +1.13 ✓

91.1 50.9 ✓ +1.11 ✓
142.0
260.7 73.8 ✓
334.5 124.7 ✓ +1.09 ✓

Mean +0.93 ✓

$10^{h}\ 30^{m}\ 40^{sec}$

52 35. ✓
10 26 18. ✓
+5 +27. ✓

15 26 45.
8587.6437 ✓

Oct 7, 1909

Index Right. A.

IV

V

$10^h\ 33^m\ 55^s$

84.6
153.0 68.4
271.5 51.8
323.3 120.2 +1.19

91.3 53.7 +1.08
~~145.2~~ 145.0
258.8 76.1
~~334.8~~ 334.9 129.8 +0.98

Index Left. B.

347.2
70.5 83.3
180.2 58.8
239.0 142.1 +0.73

359.5 56.3 +0.78
55.8 81.3
168.2 137.6 +0.82
~~250.0~~ 249.5

mean +0.93

$10^h\ 40^m\ 45^s$

7 4 40

10 37 20

+5 +27

15 37 47

85 27, 65 13

Oct 7, 1909

Index Left. B.

V.

343.2

$10^{h}\ 44^{m}\ 45^{s}$ 66.0 82.8

180.0 55.5

235.5 138.3 +0.81

358.5 57.8 +0.80

56.3

168.2 81.4

249.6 139.2 +0.79

Index Right. A.

262.5 71.4

333.9

92.0 50.6

142.6 122.0 +1.15

272.0 49.1 +1.18

321.1 70.5

82.5 119.6 +1.20

~~152.2~~ 153.0

mean +0.99

h	m	sec
10	52	5
	96	50.
10	48	25.
+5		+27.
15	48	52.

8587.6589

P. A. 276.5 Ver. B.

W's watch used for times 27 secs. slow.

L. P. P.

Oct. 8. 1909. (Friday).

u Scuti. I

18 51 -13.0
20 38
+1 47

Index Right & Above. A

170.2 → Comp star dir.
248.9 78.7
0.5 54.6
55.1 133.3 +0.91

185.3 49.0 +0.97
234.3
348.5 78.6
67.1 127.6 +1.03

Index Left & Below B.

82.5
148.4 65.9
273.6 48.9
322.5 114.8 +1.31

h. m. sec
7 34 5

~~93.8~~ 83.0 +1.27
~~141.8~~ 153.2 70.2
~~267.5~~ 274.0
322.0 48.0
118.2 +1.23

h m sec h m sec
~~7 41 40~~ 7 45 10

79 N.
7 39 38.
+5 +19.
12 39 57.
8588, 5278

mean +1.12

Oct. 8, 1909

Index Left + Below B II

99.5

$7^h\ 47^m\ 30^s$ 140.5 41.0

264.1 64.9

329.0 105.9 +1.51

84.6 66.9 +1.41

151.5

272.7 47.9

320.6 114.8 +1.31

Index ~~Left~~ Right + Above A

352.2

65.5 73.3

179.0

234.5 55.5

128.8 +1.00

h m s

7 55 50 4.7 49.3 +1.01

54.0

10 3 20. 169.6

7 51 40. 248.2 78.6

127.9 +1.02

+5 +19.

12 51 59.

8588.5361

mean +1.21

Oct. 8, 1909
Index Right + Above A III

7h 58m 45sec
351.0
65.2 74.2 ✓
181.1 51.2 ✓
232.3 125.4 ✓ +1.08 ✓

2.5 +1.10 ✓
52.5 50.0 ✓
169.4 72.8 ✓
242.2 122.8 ✓ +1.13 ✓

Index Left + Below B
264.5
327.3 62.8 ✓
94.9 44.2 ✓
139.1 107.0 ✓ +1.49 ✓

277.0 44.5 ✓ +1.49 ✓
321.5
85.7 62.6 ✓
148.3 107.1 ✓ +1.49 ✓

+1.30 ✓

8h 6m 25sec

5 10. ✓
8 2 35. ✓
+5 +19. ✓

13 2 54. ✓
85 88.5437 ✓

Oct 8, 1909

Index Left + Below B IV

264.9

8h 10m 40sec 329.5 64.6✓

94.1

141.0 46.9✓

111.5✓ +1.38

272.6 47.3✓ +1.32

319.9

82.2

152.0 69.8✓

117.1✓ +1.26

Index Right + Above A

170.3

243.2 72.9✓

359.6

54.0 54.4✓

127.3 +1.04

182.0 52.5✓ +1.05

8h 17m 45sec 234.5 73.8✓

351.2 126.3✓ +1.06

~~65.4~~ 65.0

28 25.✓

8 14 12.✓

+5 +19.✓

13 14 31.✓ +1.18

8588. 5518✓

Oct 8, 1909

Index Right & Above A V

$8^h\ 22^m\ 20^{sec}$

170.3
245.2 74.9
2.0 50.3
52.3 125.2 +1.08

179.8 55.7 +1.04
2~~3~~5.5
351.8 72.7
63.7 128.4 +1.01

Index Left & Below B.

87.5 62.9
150.4
271.5 50.3
321.8 123.2 +1.12

95.0 47.0 +1.18
142.0
261.5 71.0
332.5 118.0 +1.24

$8^h\ 31^m\ 15^{sec}$

53 35.
8 26 48.
+5 +19.
13 27 7.
858 8.5605

P. A. 103.0 Ver. B.

+1.11

Oct. 8. 1909.

RX Draconis. W. obs. Corcoran rec.
Phot. J.

18 49 +59.2
22 22
+3 33

Index Right A Comp. Star dir.

83.0
9h 34m 50sec 153.5 70.5 ✓
270.4 53.6 ✓
324.0 124.1 ✓ +1.10 ✓

92.5 50.6 ✓ +1.11 ✓
143.1
260.4 72.6 ✓
333.0 123.2 ✓ +1.12 ✓

Index Left B

345.5 81.0 ✓
66.5
181.5
237.0 55.5 ✓
136.5 ✓ +0.84 ✓

9h 41m 5sec 0.5 54.7 ✓ +0.82 ✓
55.2
164.5 84.2 ✓
248.7 138.9 ✓ +0.80 ✓

Mean +0.96 ✓

75 55. ✓
9 37 58. ✓
+5 +19. ✓
14 38 17. ✓
8588.6099 ✓

Oct 8, 1909

Index Left B

9h 44m 25s

346.8
64.0 77.2
179.2 59.0
238.2 136.2 +0.85

359.0 58.0 +0.82
57.0
167.0 80.8
247.8 138.8 +0.80

Index Right A

259.0 76.0
335.0
92.4 54.1
146.5 130.1 +0.98

274.0 51.2 +1.06
325.2
84.0 71.0
155.0 122.2 +1.14

9h 50m 5s

9 4 30.
9 47 15.
+5 +19.
14 47 34.
8588.6164

P. A. 276.5 V on B

mean +0.94
Gen. " +0.95

W's watch used for times 19 sec slow

L. P. P.

Oct. 9. 1909. (Saturday).

RZ Ophiuchi. W. obs. W. rec.
Phot. J.

18 48 +6.5
21 12
+2 24

Index above. A.

160.5 ← Comp. Star Dir.
8 9 25. 259.5
352.5 99.0
60.5 68.0
+167.0 +0.25

172.2 67.0 +0.20
239.2
335.5 105.0
80.5 172.0 +0.15

Index below. B.

74.1 89.1
163.2
264.5 63.8
328.3 152.9 +0.52

85.2 +0.46
8 14 20 152.5 67.3
23 45.
8 11 52. 252.0 92.0
+5 +16 344.0 159.3 +0.39
13 12 8.
mean +0.33
8589.5501 P. A. 148°.7 Var. B.

Oct 9, 1909.

R T Persei.

27
~~3~~ 22 +45.5

21 53

-5 29

+6 31

Index Right & Above A. I

278.1 $\rightarrow$ Comp S in dec.

8h 49m 35sec

319.0 40.9

104.9 25.6

130.5 66.5 +2.65

284.2 30.3 +2.54

314.5

96.8 41.0

137.8 71.3 +2.46

Index Left & Below B.

181.7 52.3

234.0

11.8 31.9

43.7 84.2 +2.07

187.7 36.3 +2.04

224.0

4.0

54.0 50.0

86.3 +2.01

Mean +2.29

h m sec

8 57 55

-10 7 30.

8 53 45.

+5 +16

13 54 1.

8589.5792

Oct 9, 1909

Index Left & Below B II

$9^h\ 0^m\ 20^{sec}$

181.5
232.0 50.5
10.5 39.7
50.2 90.2 +1.91

188.5 34.2 +1.98
222.7
1.9 51.1
53.0 85.3 +2.04

Index Right & Above A.

94.0
145.0 51.0
283.7 30.3
314.0 81.3 +2.16

$9^h\ 7^m\ 10^{sec}$

103.5 28.9 +2.25
132.4
277.0 46.4
323.4 75.3 +2.34

7 30.
9 3 45.
45 . +16.
14 4 1.2

8589.5861

mean +2.12

Oct 9, 1909

Index Right & Above A. III

$9^h\,10^m\,5^{sec}$

94.9 47.7 ✓
142.6
283.0 30.6 ✓
313.6 78.3 ✓ +2.25 ✓

100.5 37.0 ✓ +2.17 ✓
137.5
276.6 46.6 ✓
323.2 83.6 ✓ +2.09 ✓

Index Left & Below B.

0.0 57.5 ✓
57.5
187.5 39.9 ✓
227.4 97.4 ✓ +1.72 ✓

9.0 37.8 ✓ +1.70 ✓
46.8
176.7 60.8 ✓
237.5 98.6 ✓ +1.69 ✓

mean +1.94 ✓

$9^h\ 17^m\ 30^{sec}$
27 35 ✓
9 13 48 ✓
+5 +16 ✓
14 14 4 ✓
85 89.5 9.32 ✓

Oct 9, 1909

Index Left & Below B. IV

9h 32m 5sec

356.0
59.3 63.3
184.0
231.5 $\frac{47.5}{110.8}$ +1.40

4.5 44.5 +1.40
49.0
172.7 $\frac{66.3}{110.8}$ +1.40
239.0

Index Right & Above A.

269.2
326.5 57.3
95.5
139.4 $\frac{43.9}{101.2}$ +1.63

9h 39m 45sec

278.0 41.7 +1.57
319.7
84.0 64.2
148.2 $\frac{105.9}{}$ +1.51

7 1 50.
9 35 55.
+5 +16.
14 36 11

avg. 6084

mean +1.48

Oct. 9, 1909

Index Right & Above A. V

266.6 61.1
9h 44m 55sec 327.7
95.0 44.0
139.0 105.1 +1.53

276.0 42.8 +1.54
318.8
84.2 61.3
145.5 104.1 +1.56

Index Left & Below B.

171.5 70.4
241.9
1.5 51.5
53.0 121.9 +1.15

182.9 50.4 +1.16
233.3
352.4 70.9
63.3 121.3 +1.16

mean +1.35

h m sec
9 52 30

---

97 25.
9 48 42.
+5 +16.

---

14 48 58.
8589.6174

Oct 9, 1909

Index Left & Below B. VI

171.7

$9^h\ 57^m\ 50^s$ 244.8 73.1

1.0

54.8 53.8

126.9 +1.04

180.9

233.7 52.8 +1.02

349.4 76.1

65.5 128.9 +1.00

Index Right & Above A.

83.2

151.0 67.8

273.5 48.0

321.5 115.8 +1.29

92.1 50.6 +1.28

$10^h\ 6^m\ 50^s$ 142.7

263.3 66.2

329.5 116.8 +1.26

mean +1.15

	4	40.
10	2	20
+5		+16
15	2	36.

8589.6268

Oct. 9, 1909

Index Right & above A VIII

$9^h\ 13^m\ 20^{sec}$

81.0
153.3 71.7 ✓
272.0 49.0 ✓
321.0 120.7 ✓ +1.18 ✓

92.0 50.8 ✓ +1.16 ✓
142.8
261.1 71.8 ✓
332.9 122.6 ✓ +1.14 ✓

Index Left & Below. B.

346.6 81.5 ✓
68.1
179.3 54.7 ✓
234.0 136.2 ✓ +0.85 ✓

358.1 59.9 ✓ +0.84 ✓
58.0
167.8 77.5 ✓
245.3 137.4 ✓ +0.83 ✓

$10^h\ 21^m\ 40^{sec}$
35 0. ✓
10 17 30. ✓
+5 +16. ✓
15 17 46. ✓
25829.6375 ✓

mean +1.00 ✓

L. P. P.

Oct 9, 1909
Index Left & Below
347.9
66.9

10h 31m 10sec

Further obs. abandoned, Var. at full br.

~~Index, Right & Above~~

W's watch used for times 16 secs. slow

Oct. 12, 1909. (Tuesday).

R Z. Cassiop. Wt. obs. Rowe rec.

^{26}7 3 6 +69.0

20 50

−5 46

+6 14

Phot T.

9.5 in cap. used

Index Above R.+ A I

172.8 ← Var. Dis.

7 39 0 239.5 66.7

9.9 40.1

50.0 106.8 −1.49

184.0

7 40 50 228.8 44.8 −1.52

357.0 59.2

56.2 104.0 −1.56

Index Below lt+ B

86.5

7 43 50 146.0 59.5

278.5 36.3

314.8 95.8 −1.76

99.0 36.9 −1.80

7 45 20 135.9

270.1 56.0 −1.84

326.1 92.9

mean −1.66

169 0

7 42 15.

+5 +8.

12 42 23.

8592,5295 −

Oct. 12, 1909.

Same Again II
Index, Rt Below. B.

88.0
7 49 20 144.6 56.6
280.2 34.8
315.0 91.4 −1.88

99.4 36.7 −1.90
7 51 30 136.1
269.3 53.6
322.9 90.3 −1.91

Index, R.t above. A.

359.2 55.1
7 54 25 54.3
190.3 32.4
222.7 87.5 −1.98

9.2 37.8 −1.86
7 56 35 47.0
176.8 58.8
235.6 96.6 −1.74

mean −1.88

211 50.
7 52 58.
+5 +8.
12 53 6.
8592.5369

1909phae.proj..59SW

Oct. 12, 1909.

Index Rt a. A. III

0.3
8 1 40 50.8 √0.√ ✓
191.4 32.√ ✓
223.9 ɑ3.0 ✓ -2.11 ✓

10.9 32.2 ✓ -2.06 ✓
8 3 45 43.1
181.0 √3.ɑ ✓
234.8 ɑ6.0 ✓ -2.02 ✓

Index Lt Below. B.
271.5 49.7 ✓
8 7 10 321.2
103.0 2ɑ.ɑ ✓
131.8 7ɑ.√ -2.24 ✓

281.5 31.√ ✓ -2.26 ✓
8 9 30 313.0
22 √. ✓ 94.4 46.1 ✓
ɑ √ 31. ✓ 140.5 77.6 ✓ -2.27 ✓
+√ +ɑ. ✓
13 √ 39. ✓
ɑ√92.√4√√+ ✓

mean -2.16 ✓

Oct. 12, 1909.

Same again. IV

Lt Index Below. B

273.4

8 16 45 319.5 46.1 ✓

101.9

129.9 28.0 ✓ / 74.1 ✓ -2.3~~6~~7 ✓

283.0 28.8 ✓ -2.3~~6~~7 ✓

8 19 15 311.8

94.2

139.5 45.3 ✓ / 74.1 ✓ -2.37 ✓

Rt Index Above. A

183.0

8 22 5 230.5 47.5 ✓

13.3

41.6 28.3 ✓ / 75.8 ✓ -2.32 ✓

192.1 30.9 ✓ -2.28 ✓

8 24 25 223.0

2.8

50.7 47.9 ✓ / 78.8 ✓ -2.23 ✓

mean -2.32 ✓

	8 2	30 ✓
8	20	38. ✓
+5		+8. ✓
13	20	46. ✓

85 92.5562 ✓

1909phae.proj...59SW

Oct. 12, 1909.

Same again. V

Index ~~Rt~~ Above. A

1853 44.7

8 34 20 230.0

13.0 27.6

40.6 72.3 − 2.83

194.5 27.7 − 2.47

8 36 35 222.2

5.8 42.1

47.9 69.8 − 2.51

Index Rt Below B

98.4 37.7

8 39 30 136.1

284.2 25.4

309.6 63.1 − 2.74

103.8 25.7 − 2.70

8 41 25 129.5

151 50. 276.0 40.0

8 37 58. 316.0 65.7 − 2.65

+5 +8.

13 38 6.

Avg 2.5682

mean − 2.58

L. P. P.

P.A. 209.1 Vernier B

W's watch used for times

Watch 8 secs slow

Oct. 12. 1909.

Halley's Comet. W. obs. W. rec.

6 29 +16.5 (Bt. Star)

1 49

−4 40

+7 20

L. A. P.

Oct. 13. 1909 (Wednesday).

28
4 33 +81.0 R S Cephei.
21 24 W. Obs. Rowe Rec.
~7 9 Phot. T.
+4 51

Index R+a A. I.
273.7 ✓ Comp. star Dos.
7 55 5 324.2 50.5 ✓
90.5
133.6 43.1 ✓ / 93.6 ✓ +1.82 ✓

279.4 34.9 ✓ +1.82 ✓
314.3
87.8 58.3 ✓
146.1 93.2 ✓ +1.83 ✓

Index L+B B.
178.8 60.5 ✓
239.3
6.1
47.5 41.4 ✓ / 101.9 ✓ +1.61 ✓

186.0
225.7 39.7 ✓ +1.70 ✓

357.9 55.4 ✓
53.3 95.1 ✓ +1.78 ✓
mean +1.76 ✓

8 3 20
11 8 25. ✓
7 59 12. ✓
+5 +2. ✓
12 59 14. ✓
8593.5411 ✓

Oct. 13, 1909.

Same Again. II

Index D+B B.

1777

8 7 40 235.0 57.3✓

4.7 42.9✓

47.6 100.2✓ +1.65✓

184.2 40.9✓ +1.60✓

225.1

354.9 63.0✓

57.9 103.9✓ +1.56✓

Index R+A A.

91.8

145.7 53.9✓

276.0 39.1✓

315.1 93.0✓ +1.83✓

96.9 40.4✓ +1.86✓

8 15 20 137.3

23 0.✓ 271.2

8 11 30.✓ 321.3 50.1✓

+5 +2.✓ 90.5✓ +1.90✓

13 11 32.✓

Mean +1.73✓

8593.5497✓

Oct. 13, 1909.

Same Again III
Index R+A. A.

86.1
8 21 45 143.0 56.9
277.0
316.8 39.8
96.7 +1.74

97.2 40.3 +1.71
137.5
268.9 58.6
327.5 98.9 +1.62

Index L+B B.

356.7 60.7
57.4
186.4 39.5
225.9 100.2 +1.65

8.0 39.8 +1.64
8 30 0 47.8
51 45. 177.0 60.7
8 25 52. 237.7 100.5 +1.64
+5 +2.
13 25 54.
8593.5596

mean +1.62

Oct. 13. 1909.

Same again. IV

Index L + B B.

356.1
60.5
8 36 5 56.6
186.7 39.1
225.8 99.6 +1.67

7.0 41.2 +1.64
48.2
176.2 60.2
236.4 101.4 +1.62

Index R + a A.

266.7
60.5
327.2
96.3 40.6
136.9 101.1 +1.63

279.7 35.1 +1.72
8 44 40 314.8
40 45. 87.0
8 40 22. 145.8 58.8
+5 +2. 93.9 +1.81
13 40 24. mean +1.68
8593.5697

Oct. 13, 1909.

Same again. V

Index R + A. A.

8 51 20

269.2
55.7
324.9
98.2
38.0
136.2
93.7 +1.82

277.1
37.1 +1.83
314.2
86.2
55.6
141.8
92.7 +1.84

Index L + B B.

176.8
66.2
243.0
4.0
44.1
48.1
110.3 +1.41

185.9
39.7 +1.51
225.6
357.0
62.0
59.0
101.7 +1.61

mean +1.67

9 2 5
11 3 25.
8 56 42.
+5 +2.
13 56 44.
2593.5810

Oct. 13, 1909.

Same again VI
Index ~~S+B~~ B.

~~9 14 30~~
~~77.0~~
~~43.3~~
~~177.0~~
} Observer not certain that he reversed images. Began again below

178.8
237.6 58.8
9 18 20
8.3
44.1 35.8
94.6 +1.79

187.8 40.6 +1.76
228.4
358.2
55.1 56.9
97.5 +1.72

Index R+A A.
80.3
139.6 59.3
279.3 37.0
316.3 96.3 +1.75

98.6 36.0 +1.86
9 28 30
134.6
46 50.
273.1
9 23 25. P.A. 7.7 Vernier B
325.0 51.9
87.9 +1.97
+5 +2.
mean +1.81
14 23 27.
8593.5996

Oct. 13, 1909.

Observations a little difficult especially at times. Air a little chilly, seeing a little poor, troubled at times by some light cloud and haze. All possible care, however, exercised

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

L. P. P.

Oct. 15, 1909 (Friday)

R T Persei. Phot. J. W. obs. Rowe rec.

27
β 22 +45.5
21 5

-6 17.
+5 43

Index R+a
277.2 ← Comp Star Dis
7 29 10 318.5
103.3
130.6

283.8
311.8
93.9
138.3

Index L+B
Clouds
183.2
7 37 20 229.9
Clouds now thick everywhere

Oct. 15, 1909.

Same Again
Index L + B
169.6
8 49 35 243.3
1.1
51.5

181.2
8 51 30 229.8
Clouds

P.A. 180.2 Vernier B

Continually troubled by clouds and only parts of two groups could be taken. These partial groups incomplete and abandoned as of no value. It was impossible to complete either of the groups

Oct. 15. 1909.

Double Star (New List) = Burnham's Cat. 2770

29/4 23 +49.3

23 18 W Obs. Bowa Re. Phot W.

6 5

5 55 P.A. 74° Dist 8" Mags.

Index Lt A

824 ← South, Prec, & Slightly Brtr Obs

9 27 40 171.0 88.6✓

265.0 83.3✓

3483 171.9✓ 0.15✓

85.7 81.3✓ 0.16✓

167.0 89.6✓

262.8 170.9✓ 0.17✓

352.4

Index R+B

~~348.9~~ 174.5 81.8✓

~~82.8~~ 256.3 89.4✓

352.8 171.2✓ 0.17✓

82.2

0.14✓

172.9 87.3✓

9 38 0 260.2 86.6✓

352.3 173.9✓ 0.11✓

78.9

Mean 0.15✓

W's watch used for times
Watch 1 sec slow

L. P. P.

Oct. 15. 1909.

Halley's Comet.

6 7 +16,2
1 50
-4 17
+7 43

Search for Halley's Comet. L. obs.
Comet not certainly seen.
Atmospheric conditions somewhat poor.

L. P. P.

Oct. 16, 1909. (Saturday)

W Delphini; W. obs. Rowe rec.
20 31 +17.8 Phot. J.
21 15
+0 44

Index St a B.
92.8 ← Comp star Dia
7 27 30 140.3 47.5 ✓
286.4
311.4 25.0 ✓
72.5 ✓ +2.43 ✓

103.0
7 30 25 130.7 27.7 ✓ +2.52 ✓
278.3 39.6 ✓
317.9 67.3 ✓ +2.60 ✓

Index R & B A.
3.2 41.7 ✓
7 32 35 44.9
195.0 22.5 ✓
217.5 64.2 ✓ +2.71 ✓

11.2 25.7 ✓ +2.92 ✓
7 34 45 36.9
125 15 ✓ 186.5 38.2 ✓
7 31 19 ✓ 224.7 63.9 ✓ +2.72 ✓
+5 −15 ✓
12 31 4 ✓
18596.5216 ✓

mean +2.62 ✓

Oct 16, 1909

Same again II

Index R+B A.

1.8

7 37 10 45.3 43.5 ✓

194.2 29.0 ✓

223.2 72.5 ✓ +2.43 ✓

12.4 26.8 ✓ +2.54 ✓

7 40 0 39.2

185.8 39.3 ✓

225.1 66.1 ✓ +2.64 ✓

Index L+a B.

279.3 39.1 ✓

7 43 30 318.4

104.3 24.7 ✓

129.0 63.8 ✓ +2.72 ✓

281.9 26.0 ✓ +2.68 ✓

7 45 40 307.9

166 20. ✓ 96.5 39.7 ✓

7 41 35. ✓ 136.2 65.7 ✓ +2.65 ✓

+5 −15. ✓

12 41 20. ✓ mean +2.61 ✓

8596.5289 ✓

Oct. 16, 1909

Same Again III

Index L+a B.

276.0

7 48 35 316.1 40.1

105.0 25.0

130.0 65.1 +2.67

285.7 24.7 +2.67

7 51 10 310.4

96.4 40.4

136.8 65.1 +2.67

Index R+B A.

186.0 39.2

7 54 45 225.2

13.0 25.0

38.0 64.2 +2.71

196.5 23.3 +2.74

7 57 0 219.8

6.0

45.2 39.2

62.5 +2.77

mean +2.70

7	57	0
	211	30
7	52	52.
+5		-15.
12	52	37.

8596.5365+

Oct. 16, 1909

Same again IV
Index R+B A.

	185.6		
8 1 5	225.1	39.5 ✓	
	15.8	21.2 ✓	
	37.0	60.7 ✓	+2.84 ✓
	197.8	21.9 ✓	+2.77 ✓
8 4 35	219.7		
	5.7	42.4 ✓	
	48.1	64.3 ✓	+2.70 ✓

Index L+A. B.

	97.6	37.4 ✓	
8 8 0	135.0		
	284.7	24.6 ✓	
	309.3	62.0 ✓	+2.79 ✓
	105.3	21.7 ✓	+2.80 ✓
8 10 50	127.0		
	276.4	39.8 ✓	
	316.2	61.5 ✓	+2.80 ✓

mean +2.77 ✓

8 10 50
24 30. ✓
8 6 8. ✓
+5 ~15. ✓
13 5 53. ✓
85 96.5457 ✓

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Same Again V
Index B+A B.

99.9 38.0
8 16 15 137.9
285.8 22.4
308.2 60.4 +2.84

105.5 21.7 +2.84
8 18 45 127.2
278.3 38.8
317.1 60.5 +2.84

Index A+B. A.

5.1 39.4
8 21 35 44.5
194.0 26.8
220.8 66.2 +2.64

12.6 25.2 +2.66
8 24 30 37.8
186.2 40.0
226.2 65.2 +2.67

	81	5.
8	20	16.
+5		-15.
13	20	1.

8596.5556 P.A 169.3 Term. B.

mean +2.75

L. P. P.