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1909phae.proj..600N

Dec. 11, 1909. (Saturday)

R. A. Draconis.

18 22 +58.7

25 2 W Obs Rous Rec Plot T.

6 40

Index L+B B. I

260.3 ← Comp Star Dis

319.1 ✓ ✓

88.2

129.2 41.0 ✓ / 99.2 ✓ +1.66 ✓

267.9 42.0 ✓ +1.✓6 ✓

309.9

76.2 66.0 ✓

142.2 / 108.0 ✓ +1.46 ✓

Index R+a A.

162.4 69.6 ✓

232.0

354.0 ✓0.2 ✓

44.2 / 119.8 ✓ +1.20 ✓

175.4 ✓0.2 ✓ +1.19 ✓

225.6

343.1 70.2 ✓

53.3 / 120.4 ✓ +1.18 ✓

Mean +1.37 ✓

7 28 25

7 38 20

66 4✓. ✓

7 33 22. ✓

+✓ +30. ✓

12 33 ✓2. ✓

✓6✓2. ✓23✓ + ✓

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1909phae.proj...600W

Dec. 11, 1909.

Same Again. II

Index R.A. A.

162.9		
235.0	72.1 ✓	
354.1	47.9 ✓	
42.0	120.0 ✓	+1.19 ✓
175.9		
224.0	48.1 ✓	+1.20 ✓
343.1		
54.3	71.2 / 119.3	+1.21 ✓

Index L+B. B.

77.2		
142.2	65.0 ✓	
266.9		
310.2	43.3 ✓ / 108.3 ✓	+1.46 ✓
88.2		
132.1	43.9 ✓	+1.44 ✓
256.3		
322.3	66.0 / 109.9 ✓	+1.42 ✓

Mean +1.32 ✓

7 43 25

7 52 50 / 96 15. ✓

7 48 21. ✓

+5 30. ✓

12 48 30. ✓

A6r2. r337 ✓

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1909phae.proj..600W

Dec. 11, 1909.

Same Again III

Index L+B. B.

77.3
142.8 6 ✓. ✓
268.0
310.5 42.5 ✓ / 104.0 ✓ +1.46 ✓

87.4
133.1 47.7 ✓ +1.44 ✓
257.9
321.6 63.7 ✓ / 109.4 ✓ +1.43 ✓

Index R+a. A.

343.7
53.7 70.0 ✓
176.4
223.8 47.4 ✓ / 117.4 ✓ +1.25 ✓

356.1
42.9 46.8 ✓ +1.24 ✓
162.1
233.6 71.5 ✓ / 118.3 ✓ +1.23 ✓

7 58 5

8 7 15
✓ 20. ✓
A 2 40. ✓
✓ +30. ✓
13 3 10. 260.8 Vernier B

A6 ✓2. ✓439 ✓

Mean +1.34 ✓

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1909phae.proj...600W

Dec. 11, 1909.

S. S. Amigal

5	50	+ 47.9
2c	5	U Obs. Rome Rec.
3 8	45 13	Phot. R.

S. S. Amigal follows +47 (7.2)
by 2 min. 7 secs. and is 7.8 south of it

Comp. star very slightly precedes assumed variable and is 9.9 south of the (7.2)
In other words the Comp. star very slightly precedes, assumed Variable and is about 2.1 south of it

Measts on next page

Comp. Star is about 2.1 north of the Variable, in about the same R. A.
Comp. star not in the Dm.
Variable fol. +47° 1261 (7.2) by about 2m 7s. and is about 9.9 south of it.

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1909phae.proj..600M

Dec 11, 1909.

Var. first previs. assumed as the northern of the pair, in reacts, but as it is the southern, the following have been changed.

Index 2+a B.F.

~~Var. dis.~~ ~~Comp. Star dis.~~

84.0

9 3 35

192.3 10 2.3

283.7

358.8 7 1.1 / 2 3.4 / 176.6 ± 0.06

103.4

180.6 77.2 ∓ 0.02

272.9

10.3 97.4 / 174.6 ∓ 0.10

Index A+B. A.

5.8

98.0 92.2

195.2 74.0

269.2 166.2 ∓ 0.26

16.8

87.9 71.1 ∓ 0.26

186.5

282.1 96.6 / 166.7 ∓ 0.2

9 10 0

13 3

9 6 4

+ 3 0

14 7 14

26 2. 22.4

Mean ∓ 0.14

∴ Var is 0.14 magn. brtr. than Comp. Star, which is about 2' north of it.

Z. P. A.

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1909phae.proj...600W

Dec. 14, 1909 (Tuesday)

Halley's Comet (Photometric Means of nucleus)

3	23	+12.5
1	3	
2	20	
9	40	

Daniels Comet

6	27	+88.6
1	52	
4	35	
7	25	

Halley's Comet

3	23	+12.5
2	33	
0	50	
11	10	

Comets Not Measured

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1909phae.proj..600M

Dec. 14, 1909.

R. S. Cephei

4 34 +81.0

3 9

1 25

10 35

W Obs. Rocc Rec. Phot T

Double Star Mes Lal) = Burnham's Cat. 2883 (E. I),

5 33 -2.7

3 28

2 5

9 55

W Obs. Rocc Rec.

Phot R. one prism removed.

P. A. 231. Dist 30 Mags 6.5, 6.8.

Meas's on next page.

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1909phae.proj...600W

Dec. 14, 1909

9 45 10

Index R+a. A.

182.6 ⟨ Comps. E Dis.
261.0 ⟩ 2.4
358.5 2 3.1
81.6 1 6 1.5 0.3

181.0 ⟩ 2.2
259.8
357.7 2 0.3
78.0 1 5 9.1 0.40

Index L+B. B.

87.4 2 6.1
173.5
267.8 2 3.6
351.4 1 6 9.7 0.20

90.8 2 0.2 0.24
171.6
268.1 2 4.7
352.8 1 6 5.5 0.27

Mean 0.31

9 54 40
9 9 0.
9 49 5.
+5 -4.
14 49 1.
26 5.5 61 20

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1909phae.proj..600W

Dec. 14, 1909.

δ Orionis.

5	22	-0.4
3	58	W Obs Roux Ref.
F	27	Phot R, one prism removed
10	36	

Indy L+B
335 ← Bdr Obs
48.2
214.6
227.8

10 32 35

Became cloudy again stopping measurements.

Ws watch used for times
Walch 4 secs fast.

L. P. P.

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1909phae.proj...600W

Dec. 15, 1909. (Wednesday)

δ Orionis.

5	22	-0.4
1	22	
1/8	0	
	0	

Index Rt B (I

34.7 ← Bad Disc

48.5 ~~13.8~~ 13.8 v

215.4 ~~12.2~~ 12.2 v

227.6 26.0 v -4.72 v

8 50 50

34.2 13.3 v -4.6 v -

47.5

214.0 14.4 v

228.4 27.7 v -4.v8 v

Index Rt a.

304.3 13.3 v

317.6

124.4 13.4 v

137.8 26.7 v -4.66 v

304.4 12.6 v -4.70 v

317.0

124.3 13.2 v

137.5 25.8 v -4.73 v

Mean -4.68 v

8 56 25

7 1v. v

8 v3 38. v

+v -9. v

13 v3 29. v

86v6.v78 8 v

1909phae.proj..600N

Dec. 15, 1909.

Same Again II

Index R+a

304.2
317.6 — 13.4 v

124.2
137.7 — 13.5 v — 26.9 v — −4.64 v

304.1
317.2 — 13.1 v — −4.68 v

124.8
137.6 — 12.8 v — 25.9 v — −4.73 v

Index L+B

214.3
227.7 — 13.4 v

34.0
47.7 — 13.7 v — 27.1 v — −4.63 v

214.6
227.9 — 13.3 v — −4.64 v

34.3
47.8 — 13.5 v — 26.8 v — −4.65 v

mean −4.66 v

Gen. " −4.67 v

8 58 0

9 3 5

1 v. v

9 0 32. v

+v −9. v

14 0 23. v

Δ6v6. vΔ36 v

1909phae.proj...600N

Dec 15. 1909.

S. S. Aurigae

5 50 +47.9
3 20 W. Obs Rowe Rec.
2 30
9 30 Phot. R. one prism removed

9 48 25

Index Below. A.

3552 ⊄ Var Obs
88.8 93.6 v
181.0
261.0 ⊄ 0.0 v
173.6 v −0.12 v

2.0
79.6 77.6 v −0.12 v
174.0
269.9 95.9 v
173.9 v −0.12 v

Index Above. B.

269.0
356.8 ⊄ 7.8 v
91.6
169.7 78.1 v
169.9 v −0.27 v

273.5
348.0 74.5 v −0.22 v
83.4
180.0 96.6 v
171.1 v −0.17 v

Mean −0.17 v

9 55 55
104 20. v
9 v2 10. v
tv −9. v
14 v2 1. v
⊄6v6.6194 v

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1909phae.proj..600W

Dec. 15, 1909.

Y Camelop.

7	24	+76.3
4	21	
3	20	W Obs. Rough Rec. Phot T
8	40	

Index Above A.

269.1 ← Comp Star Dis I

312.6 43.5ᵛ

91.7

126.2 $\frac{34.5^{v}}{78.0}$ +2.25ᵛ

274.3

305.8 31.5ᵛ +2.24ᵛ

85.0

132.3 $\frac{47.3^{v}}{78.8^{v}}$ +2.23ᵛ

Index Below B.

174.3

226.3 ᵛ2.0ᵛ

1.6

38.4 $\frac{36.8^{v}}{88.8^{v}}$ +1.95ᵛ

180.8

217.4 36.6ᵛ +1.94ᵛ

353.1

46.2 $\frac{ᵛ31.1^{v}}{89.7^{v}}$ +1.92ᵛ

mean +2.09ᵛ

10 17 20

10 24 20

41 40.ᵛ

10 20 ᵛ0.ᵛ

+ᵛ −9.ᵛ

ᵛ5 20 41.ᵛ

86ᵛ6.6394ᵛ

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1909phae.proj...600N

Dec. 15, 1909.

Same Again. II

Index Below. B.

10 27 45

172.5
226.4 ν3.9 ν
0.0
38.4 38.4 ν
92.3 ν +1.4ν ν

180.8
219.2 38.4 ν +1.42 ν
351.2
47.5 ν6.3 ν
94.7 ν +1.79 ν

Index Above. A.

83.7 ν1.ν ν
135.2
275.9 31.3 ν
307.2 42.4 ν +2.12 ν

89.1
126.3 37.2 ν +2.03 ν
2.630
314.8 ν1.4 ν.
49.0 ν +1.94 ν

Mean +1.92 ν

10 35 15
63 0. ν
10 31 30. ν
+ν −9. ν
1ν 31 21. ν
46ν6.6460 ν

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1909phae.proj..60CM

Dec. 15, 1909.

Same Again. III
Index Above.

76.4
10 38 5 132.8
272.0
307.5

87.4
128.9

Stopped by clouds. of Y Camelop.
Troubled throughout previous observations x
(as well as throughout all the observations)
by clouds.
P.A. could not be read at end owing to
clouds but region thoroughly identified

Troubled, especially, in last half of second group
on Y Camelop., by clouds.

W's watch used for times
Watch 9 secs fast.

L. P. P.

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1909phae.proj...600M

Dec. 16, 1909 (Thursday)

δ Orionis.

5	22	−0.4
1	12	W. Obs. Poor Rec
4	10	
7	50	Phot. R. one prism removed.

Meas's on next page.

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1909phae.proj..60CM

Dec. 16. 1909.

Indus L+B

213.2
229.1 15.9

35.4
46.4 11.0
26.9 4.64

216.1
226.4 10.3 4.64

33.7
50.4 16.7
27.0 4.63

Indus R+a.

1221
1394 17.3

3064
316.6 10.2
27.5 4.59

125.9
136.4 10.5 4.70

3044
318.8 14.4
24.9 4.81

Mean 4.67

8 32 38

8 39 50
72 20.
8 36 10.
+r 0 0.
47 36 10
86 7. 66

Y. P. P.

J

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1909phae.proj...600W

Dec. 17, 1909 (Friday)

Halley's Comet

3	23		+12.5
2	23	W. Obs.	Rous Rec. Phot T.
-1	0		
11	0		

Cloudy. Abandoned

5 Orionis

5	22		-0.4
2	47	W. Obs.	Rous Rec.
2	35	Phot R.	one prism removed
9	25		

Stopped by clouds.

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1909phae.proj..600M

Dec 18, 1909 (Saturday)

Halley's Comet. (Photometric Measts of Nucleus)

3 23 +12.5

1 8 W. the Rowan Ree Plot T

2 15

9 45

Index left B.

83.3. & comp star sis

8 23 10 131.7 44.4

271.6

304.4 32.8 / 41.2 +2.16

94.0 32.0 +2.14

126.0

262.1 50.9 / 42.9 +2.11

Index Right. A.

357.1 45.2

42.3

180.0 37.7 / 40.9 +2.17

359.1 37.9 +2.14

37.0

179.7 44.5 / 42.4 +2.12

224.2 Mean +2.14

8 33 45

56 55

A 26 26

45 −12

13 26 10

A649. 612

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1909phae.proj...600N

Dec 18, 1909.

Comp. Star precedes +13°. 535 (7.0)
by 34 secs and is about 1'.8 north of it

Comp Star has a somewhat fainter star preceding it by 11 secs. and is 2'.2 south of it.

∴ Comp. Star = +13° 534 (9.5)

Comet has a very good nucleus tonight. The coma can be easily seen and, although somewhat faint, — the brighter part of the coma being about 1' in diameter and the total nebulosity about 2'.5 in diameter. This last mentioned nebulosity is quite faint out round the borders.

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1909phae.proj..60CM

Dec. 18, 1909.

R. X Draconis

18 49 +592
27 14
8 25 Wolbo Bouw Rec. Phot T

Indep R.A.

72.9 ← Comp. Star Dis

9 33 20

142.1 69.2 ✓
262.0
310.7 68.7 ✓
117.9 ✓ +1.24 ✓

81.2 72.1 ✓ +1.16 ✓
133.3
251.7 72.6 ✓
324.3 124.7 ✓ +1.09 ✓

Indep L+B B.

334.2 67.6 ✓
61.8
171.6 66.0 ✓
225.6 141.6 +0.74 ✓

348.2 79.7 ✓ +0.74 ✓
47.9
153.4 82.2 ✓
235.6 141.9 ✓ +0.74 ✓

Mean +0.74 ✓

9 40 20
73 40. ✓
9 36 +0. ✓
+ -10. ✓
14 36 32. ✓
86 9.60 ✓

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1909phae.proj..600W

Dec. 18, 1909.

Same Again. II.

Index L+B B.

331.5
60.2 +27
168.8 +7.1
225.9 +14.2 +0.66

352.0 +2.0 +0.70
50.0

154.1 +3.4
237.5 +14.4 +0.72

Index Ata. A.

251.0
326.3 +7.3
82.6
133.9 +12.6 +1.02

263.7 +2.9 +1.02
316.6

69.8
145.6 +12.7 +1.00

Mean +0.86

9 43 40

9 51 45

9 47 42.
+ -14.
14 47 24.
+6+9.6163

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1909phae.proj..600N

Dec 18.1909.

Same again III

Index R+a A.

251.2
327.1 76.9
82.1
133.8 51.7 / 127.6 +1.03

264.0
313.6 49.6 +1.10
72.5
144.5 72.0 / 121.6 +1.16

Index L+B B.

154.7 43.3
238.0
347.3 60.6
47.9 143.9 +0.70

169.6
227.0 57.4 +0.71
335.2
60.7 142.5 / 142.9 +0.72

Mean +0.90

9 57 35

10 6 25

4 0.
10 2 0.
+5 −12.
15 1 42.
2659.6262

1909phae.proj...600W

Dec. 18, 1909.

Same Again. IV

Index L+B B.

156.6
237.0 +0.4
354.0 +4.6
48.6 13 +5.0 +0.85

168.5
227.4 +5.9 +0.82
336.7
58.4 +1.7 140.6 +0.76

Index R+a A.

70.9
145.8 74.9
263.1 +3.9
317.0 12.8.8 +1.00

80.7 +4.1 +1.00
134.8
251.8 7 +2.2
327.0 129.3 +0.99

Mean +0.91

10 10 10

10 20 10
30 20.
10 +5 10.
+5 −12.
15 14 +3
8659.63+3

P.A. 276 Vernier B.

70's watch used for times
Watch 18 secs fast

L. P. P.

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1909phae.proj..600M

Dec. 20, 1909 (Monday).

Halley's Comet

3	23	+12.4
1	23	
2	0	
10	0	

Sky too bright, with moon near. Abandoned.

R. Z. Draconis

18	22	+587
25	37	
7	15	

W Obs Comm Rec.

Phot T

For means, see fol. pages.

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1909phae.proj...600W

Dec 20, 1909.

Index L+B B I

264.1 < Comps Star Dis

7 36 10

312.9 48.8 v

95.7

124.6 24.9 v

77.7 v +2.26 v

273.7 31.6 v +2.1V v

305.1

79.8 V4.0 v

133.8 AV.6 v +2.0 4 v

Index R+a A.

175.4 46.8 v

222.2

1.1 34.7 v

35.8 A1.V v +2.1V v

181.5 33.6 v

215.1 +2.10 v

353.2 V1.9 v

45.1 AV.V v +2.04 v

Mean +2.12 v

7 43 5

79 V. v

7 39 3A. v

+V -1V. v

12 39 23. v

A661.V27 4 v

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1909phae.proj..600M

Dec. 20, 1909.

Same Again. II

Index A+A A.

169.9 ✓5.0 ✓
224.9
3.1 31.6 ✓
34.7 A6.6 ✓ +2.01 ✓

182.2 3✓.A ✓ +1.96 ✓
218.0
351.0 ✓4.A ✓
45.8 90.6 ✓ +1.90 ✓

Index L+B B.

82.9 ✓2.2 ✓
135.1
273.7 32.3 ✓
306.0 A4.✓ ✓ +2.06 ✓

94.0 29.1 ✓ +2.09 ✓
123.1
270.4 ✓3.3 ✓
323.7 A2.4 ✓ +2.12 ✓

Mean +2.02 ✓

7 45 55

7 52 40
9A 3✓. ✓
7 49 1A. ✓
+5 -1✓. ✓
12 49 3. ✓
A661. ✓340 ✓

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1909phae.proj...600W

Dec 20, 1909.

Same Again. III

Index L+B. B.

84.5
132.7 ⌀4.2 ✓
271.9
307.2 3✓.3 ✓ / ⌀3.✓ ✓ +2.09 ✓

93.3
125.3 3 2.0 ✓ +2.0⌀ ✓
261.9
316.7 ✓⌀.⌀ ✓ / ⌀6.⌀ ✓ +2.00 ✓

Index A+a A.

351.1
47.7 ✓6.6 ✓
179.2
216.1 36.9 ✓ / 93.✓ ✓ +1.⌀2 ✓

1.0
39.6 3⌀.6 ✓ +1.96 ✓
168.4
227.7 ✓9.3 ✓ / 97.9 ✓ +1.71 ✓

Mean +1.90 ✓

7 58 10

8 4 55

3 ✓. ✓

⌀ 1 32. ✓

+✓ −1✓. ✓

13 1 17. ✓

⌀661. ✓426 ✓

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1909phae.proj..600M

Dec. 20. 1909.

Same Again IV

Index R+a A.

349.7
44.2 ~~4.~~

179.0
218.2 39.2 ~~3.7~~ 93.7 +1.82

356.9 42.1
39.0 +1.66

167.2 63.8 105.9 +1.51
231.0

Index L+B B.

258.6 60.0
318.6

89.9 35.0 95.0 +1.78
124.9

268.6 39.0 +1.74
307.6

78.9 ~~9~~.0 94.0 +1.71
137.9

8 10 10

8 18 20

20 30.

2 14 15.

+~~5~~ -15.

13 14 0 P.A. 81.0 Vernier B

2661.~~5~~~~5~~14

Mean +1.70"

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1909phae.proj..600

Dec 20, 1909

Same Again
Indep L+B B. E

261.3
326.2 64.9
88.0
128.9 40.9 / 105.8 ± 1.52

268.8 42.2 ± 1.56
311.0
78.4 60.6
139.0 102.8 ± 1.59

Indep A+a. A.

165.8 62.4
228.2
359.1 41.3
40.4 103.7 ± 1.57

179.2 39.9 ± 1.62
219.1
345.6 59.1
44.7 99.0 ± 1.62

Mean ± 1.59

8 26 40

8 33 15
59 57
29 58
+5 −15
13 29 43
66 1.5623

1909phae.proj..600W

Dec. 20. 1909.

S. S. Aurigae

5	50	+47.9
2	55	W. Obs. Poor Rec
2	55	Phot R. one person removed
9	5	

Index Below B.

343.4 ← Var. Dis.
97.8 114.4 v
352.7
84.6 91.9 v
206.3 v
153.7 v +0.v0 v

175.0
263.0 88.0 v +0.42 v
343.8
94.2 110.4 v
198.4 v
161.6 v +0.3v v

Index Above A.

76.3
187.9 111.6 v
268.2
356.0 87.7 v
199.3 v
160.7 v +0.37 v

260.5
355.8 95.3 v +0.42 v
76.8
186.0 109.2 v
204.5 v
155.5 v +0.47 v

Mean +0.42 v

8 59 30

9 7 5
6 3v. v
9 3 1. v
+v -1v. v
14 3 3. v
861. v v v 4 v

1909phae.proj..600W

Dec. 20, 1909.

Double Star (Nero-Last) = Burnham's Cat 372

0	35	+70.7
4	5	W. Obs Power Rec. Phot R no prism removed.
3	30	

Index

Seeing too poor to measure so close a double

W's watch used for times.
Watch 15 secs fast

L. A. P.

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1909phae.proj..600M

Dec. 21. 1909 (Tuesday)

S S Aurigae

5	50	+47.9
1	40	
4	10	
7	50	U. Obs. Rough Res.

Phot R., one prism removed.

Index Below

	102.3	← Comp Star Obs
7 56 40	161.7	59.4 v
	90.9	42.8 v
	174.7	43.2 v +0.71 v

The above set was taken with the greatest difficulty and should not be used. The moon is very bright and the sky is hazy (with more or less cloud). The settings were not only extremely difficult but somewhat uncertain as the variable seemed fainter with the ordinary eyepiece than last night. The above settings were made merely to get an approximate idea of its brightness. After the above settings the eye gave out under the great strain so that no more, even approximate, settings could be made

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1909phae.proj...600

Dec. 21, 1909.

R. Z. Draconis

18	22
26	32
8	10

+58.7

W Obs. Rowe Rec Phot I

Index R+B B.

79.6
138.0 58.4
269.1
308.0 38.9 97.3 +1.72

89.4 35.2 +1.62
124.6
254.2 60.0 100.2 +1.65
319.2

Index R+a A.

346.1 62.2
48.3
175.9 44.9 107.1 +1.49
220.8

354.5 42.1 +1.42
36.6
161.2 70.4 112.5 +1.36
231.6

Mean +1.55

8 27 35

8 35 45
6 3 20.
2 31 40.
+5 −17.
13 31 23.
2662.563−

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1909phae.proj..600M

Dec. 21, 1909.

Same Again. II

Index Rt A. A.

342.1
47.0 64.9 ✓
175.2
220.5 $\frac{42.3}{110.2}$ ✓ +1.41 ✓

357.7
37.2 39.5 ✓ +1.49 ✓
167.0
231.0 $\frac{64.0}{103.5}$ ✓ +1.47 ✓

Index Lt B B.

258.6
317.8 59.2 ✓
88.8
127.0 $\frac{38.2}{97.4}$ ✓ +1.72 ✓

268.2
306.6 38.4 ✓ +1.72 ✓
78.2
137.2 $\frac{59.0}{97.4}$ ✓ +1.72 ✓

Mean +1.60 ✓

8 39 50

8 50 5

49 55 ✓
44 54 ✓
+5 -13. ✓
13 44 41. ✓
Δ662.572 ✓ PA. 81.0 Vernier B

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1909phae.proj...600W

Dec. 21, 1909.

ō drums.

5	22	−0.4
3	57	W Obs. Rover Rec.
1	25	
10	35	Phot R. one prism removed

Index R+a

304.2		
317.9	13.7 v	
124.2		
137.7	13.5 v	
	27.2 v	4.62 v
304.1		
317.4	13.3 v	4.64 v
124.3		
137.5	13.2 v	
	26.5 v	4.67 v

Index L+B.

215.0		
228.2	13.2 v	
34.2		
48.4	14.2 v	
	27.4 v	4.60 v
215.1		
228.1	13.0 v	4.64
34.2		
47.7	13.5 v	
	26.5 v	4.67 v

Mean 4.64

9 56 25

10 4 15

40. v

10 0 20. v

+v −17. v

1v 0 3. v

862.62 v D v

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1909phae.proj..600M

Dec 21. 1909

Fourth Type Star +2° 4709

23	39	+2.7
28	29	W. Obs Rowe Ref
4	50	Plot T.

Abandoned. Too low.

W's watch used for times
Watch 17 secs. fast.

L. P. P.

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1909phae.proj...600W

Dec. 23. 1909. (Thursday).

δ Orionis. Phot. R. one prism removed.
W. sto. W. rec.

5 22 −0.4
4 9
−1 13
10 49

Index R + A.

304.3 13.0
317.3
124.2 13.4
138.0 26.4 4.6v

304.3 13.4 4.6v
317.7
124.4 13.4
137.8 26.8 4.6v

Index L + B.

215.6 12.7
228.3
34.2 14.2
48.4 26.9 4.64

215.2 13.0 4.62
228.2
34.4 14.3
48.7 27.3 4.61

Mean 4.64

10 12 6.
3 8. v
10 1 34 v v
+v −16.
1v 1 18. v
8664.62 v 9 v

We watch 16 secs. fast. L. A. P.

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1909phae.proj..600M

Dec. 24. 1909. (Friday.)

Fourth Type +2° 4709 Phot. V.

W. obs. Michael Corcoran 22 c,

23	3v	+1.0
2v	v1	
+2	16	

Full Ap.

Col. 6. with Ord. E. P.

" v in Photometer.

Index Left + Above B.

177.5 → 4th Type dis-

7 36 20

218.0	40.v v	
3.8		
30.3	26.v v	
	67.0 v	−2.61 v

182.8	30.2 v	−2.60 v
213.6		
0.8	36.6 v	
37.4	67.4 v	−2.v9 v

Index Right + Below A.

91.5		
	32.0 v	
123.5		
276.6	24.2 v	
300.8	v6.2 v	−301 v

7 44 30

95.7	23.6 v	−3.09 v
119.3		
274.8	24.6 v	
303.4	v2.2 v	−3.1v v

2	0	v0. v
7	4 0	2v. v
+v		−12. v
12	40	7.
466v.	v279 v	

P.A 166.2 Ver B

Mean −2.24 v

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1909phae.proj...600N

Dec. 24. 1909.

Fourth Type +34° 4v00 Phot. I.
21 36 +34.2 W. obs. Corcoran rec.
26 27 Color. v in Ord. E. P.
+4 v1 Color. v in Photometer.
Full Ap.

Index left B.
355.8 → 4th Type dir.
8 11 40 39.2 43.4v
181.4
215.8 34.4v
77.2v −2.26v

1.2
36.1 34.9v −2.26v
177.5
220.4 42.9v
77.2v −2.26v

Index Right A.
267.0 40.4v
307.4
90.1 37.9v
126.0 76.3 −2.31v

8 19 50
31 30.v
2 1v 4v.v
+v −1.2.v
13 1v 27.v
2 66v.v v v 24 P. A 251.8 Va B

270.0 90.0
306.9 127.0 37.0v −2.27v
86.9 266.8
134.0 308.7 41.9v
78.9v −2.23v

Mean −2.26v

Something wrong with last set above; this set retaken.

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1909phae.proj..600M

Dec 24, 1909
4th Type +14° 1283
5 59 +14.8
3 19
2 40 Full Sp.

Index Right + Above A.

9 8 5

162.2		→ 4th Type dis.
235.0	72.8 v	
342.0		
49.8	67.8 v	
	140.6 v	-0.76 v
164.2	68.6 v	-0.74 v
232.8		
341.0		
54.6	73.6 v	
	142.2 v	-0.73 v

Index Left + Below B.

78.2		
141.0	62.8 v	
257.0		
319.0	62.0 v	
	124.8 v	-1.09 v
77.5	63.0 v	-1.05 v
140.5		
256.0		
321.3	65.3 v	
	128.3 v	-1.01 v

Mean -0.90 v

9 15 35

	23 40. v	
9	11 v 0. v	
+v	-10. v	
14	11 32.	

866 v. v 914 v

P-A 203.0 Van B

Color v in Photometer.

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1909phae.proj...600W

Dec. 24. 1909.

δ Orionis. Phot. R. One prism removed.

5 22 −0.4 W. obs. Corcoran rec.

4 37

−0 4 ✓

11 1 ✓

Index Left + Below

34.2 → S + brtr. dis

10.17 5 48.5 14.3 ✓

215.0

227.5 12.5 ✓ / 26.8 ✓ 4.6 ✓ ✓

34.5 4.69 ✓

47.5 13.0 ✓

214.5 12.9 ✓ / 25.9 ✓ 4.73 ✓

227.4

Index Right + Above

304.6 13.3 ✓

317.9

124.8 12.9 ✓ / 26.2 ✓ 4.70 ✓

137.7

304.2 13.2 ✓ 4.66 ✓

317.4

124.0 14.0 ✓ / 27.2 ✓ 4.62 ✓

138.0

Mean 4.68 ✓

1 10 26 0

43 ✓. ✓

10 21 32. ✓

+✓ −12. ✓

1✓ 21 14. ✓

4.66 ✓ .6397 ✓ W'z watch used for times. 18 secs. fast

L. P. P. ✓

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1909phae.proj..600W

Dec. 27. 1909. (Monday)

δ Orionis. Phot. R. One prism removed,
H. ds. Corcoran rec.

√	22	−0.4
1	√2	
−3	3 0	
+A	3.0	

Index Left + Below

7 24 50

214.6	13.6 √		
228.2			
34.4	13.3 √		
47.7	26.9 √	−4.64 √	
214.3	13.8 √		−4.6 √ √
228.1			
34.6	12.9 √		
47.5	26.7 √	−4.66 √	

Index Right + Above

124.3	13.8 √		
138.1			
304.1	14.0 √		
318.1	27.8 √	−4.57 √	
123.9	14.3 √		−4.60 √
138.2			
304.8	12.8 √		
317.6	27.1 √	−4.63 √	

Mean −4.62 √

7 33 40

√A 30. √

7 29 15. √

+√ −22. √

12 2A √3. √

A66A. √200 √

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1909phae.proj...600N

Dec 27, 1909

Index Right & Above

124.1

~~137.9~~ 137.9 13.2 v

304.2

317.5 13.3 v / 27.1 v -4.63 v

123.8 13.2 v -4.63 v

137.6

304.4 13.2 v / 27.0 v -4.63 v

317.6

Index Left & Below

34.8 13.6 v

48.4

214.3 13.4 v / 27.0 v -4.63 v

227.7

34.4 13.2 v -4.64 v

47.6

214.8 12.6 v / 25.8 v -4.73 v

Mean -4.66 v

Gen. " -4.64 v

7 41 30

7 49 45

9 1 1 v

7 4 v 3 a v

+v -22 v

12 4 v 16 v

4.66 a. v 3 1 v -

L. P. P.

1909phae.proj..600W

Dec. 27. 1909.

Double Star (Nov List) = Burnham's Cat. 10930.

21 16 +61.4

26 √2

+√ 36

W's watch used for time 2 2 secs. fast

Y. P. P.

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1909phae.proj...600W

Dec. 22. 1909. (Tuesday).

δ Orionis. Phot. R. One frame removed.
W. Sa. Corcoran rec.

5	22	−0.4
2	0	
− 3	22	
+ 4	34	

Index Left & Below

214.6	13.1	
227.7		
34.1	13.9	
48.0	27.0	−4.63
214.8	13.2	−4.64
228.0		
34.2	13.6	
47.8	26.4	−4.65

Index Right & Above

123.8	13.7	
137.5		
303.7	13.9	
317.6	27.6	−4.59

Mean − 4.62

7250

7360

6 √0.

7 3 2 √.

√ −16.

12 3 9.

+669.√022

W's watch used for times, 16 sec fast
slightly troubled by clouds in above partial
& last part of above partial group but
great care exercised & the partial group obtain-
ed is considered good.

L. P. A.

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1909phae.proj..600M

Dec. 30, 1909 (Thursday).

Halley's Comet. Meast. of nucleus. Phot. T. Wolbr. Leeman rec.

~~6~~

2	29	+11.A
2	36	
+0	7	

For measts. see fol. page

Nucleus of comet seems a little pointer than usual tonight & coma a little more extensive & pronounced Cetus (although rather faint) can be traced around about nucleus for a radius of 2', being also somewhat stronger for a radius of 1'

Comp. Star = +11° 345 (A.O)

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1909phae.proj..600N

Dec 30, 1909

Index Left + Above B.

8 5 25

100.0 ← 10.3 ✓ Comp. Star Obs.
118.3
281.7
293.5 11.8 ✓ / 30.1 ✓ +4.40 ✓

100.0 15.0 ✓ +4.26 ✓
115.0
278.6 18.9 ✓ / 33.9 ✓ +4.13 ✓

Index Right + Below A.

8.5
28.2 19.7 ✓
191.7 14.5 ✓ / 34.2 ✓ +4.11 ✓

10.5 15.7 ✓ +4.15 ✓
26.2
189.4 17.3 ✓ / 33.0 ✓ +4.19 ✓

Mean +4.20 ✓

8 17 5
22 30. ✓
2 11 15. ✓
+5 -11. ✓
13 11 4. ✓

£671.5494 ✓ W'z watch used for timing 11 secs. fast.

L. P. P.

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1909phae.proj..600M

Dec. 31. 1909. (Friday).

Halley's Comet. 40 in. Corcoran vac. reflect. of Nucleus. Phot. F.

2	29	+11.2
2	2	
−0	21	
+11	39	

Comet precedes +11° 33′ (7.3) by about 48″ and is about 3′ north of it.

Comp. Star = +11° 337 (9.0)

Nucleus of comet seems rather faint as it did last night; nucleus fairly well defined total nebulosity (although faint) traced for a distance of about 2′ radius from the nucleus. Brighter part of coma (although somewhat faint) traced for a distance of about 1′ radius from nucleus.

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1909phae.proj...600W

Dec 31, 1909

Index Above A.

92.0 ~~2A.V~~ Comp. Star Leo.

7 42 15 120.5

278.6 19.9 V

298.5 ~~4A.4~~ V +3.34 V

97.8 20.2 V +3.46 V

118.0

276.0 23.3 V

299.3 ~~4.3~~ V +3.~~V~~A V

Index Below B.

4.0 2~~V~~.4 V

29.4

187.0 2~~V~~.3 V

212.3 ~~V~~0.7 V +3.24 V

6.7 +3.2~~V~~ V

26.5 19.A V

183.7 30.4 V

214.1 ~~V~~0.2 V +3.26 V

Mean +3.36 V

7 55 15

97 30. V

7 4A 4~~V~~. V

+~~V~~ -1.4. V

12 4A 31. V

A672.~~V~~337 V

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1909phae.proj..600M

Dec. 31. 1909.

δ Orionis. W., obs. Corcoran rec.
Phot. R., one focus removed

√	22	−0.4
3	√7	
1	2√	
10	3√	

Index Right + Above

124.2		
138.3	14.1 √	
304.4		
317.7	13.3 √ / 27.4 √	−4.60 √
124.1		
137.8	13.7 √	−4.60 √
304.2		
317.8	13.6 √ / 27.3 √	−4.61 √

Index Left + Below

34.5		
47.9	13.4 √	
214.5		
227.6	13.1 √ / 26.√ √	−4.67 √
34.6		
47.9	13.3 √	−4.67 √
214.5		
227.8	13.3 √ / 26.6 √	−4.67 √

Mean −4.64 √

9 12 20

9 21 10

	3 3	30. √
9	16	4√. √
+√		−14. √
14	16	31. √

4672. √ 948 √

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1909phae.proj...600W

Dec. 31. 1909.

Double Star (new list) = Burnham's Cat. 4169.
Phot. R. one prism removed
W. by Corcoran rec.

7 31 -1F.2
4 43 P.A. 305° Dist 7"
-2 4A Mags 7.2 7.4
+9 12

Index Left + Above

9575

176.8 ±7.6 → South fol. & ltr. dia.
264.4
1.0 78.6
79.6 166.2 0.26

181.2 ±0.1 0.26
261.3
356.6 ±√.6
82.2 16√.7 0.27

Index Right + Below

86.0
174.6 ±8.6
271.2
351.0 79.8
168.4 0.22

89.2 ±0.8 0.22
170.0
267.2 ±7.4
354.6 160.2 0.22
Σ. P. A. Means 0.24

1070

4 √. √
10 2 2. √
+√ -1F. √
1√ 1 4A √
672.6263

We watched next for times 14 sec past

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1909phae.proj..600N

Jan. 3, 1910 (Monday)

Halley's Comet. Square Bar Thermometer.

2 17 +10.0

2 37
+0 20

W. Obs. Rowe Rec.

Ballou 103 Prod. 3451

7	45	0.0	0	51	32.5
7	46	0.0	0	52	32.7
7	47	0.0	0	53	32.9

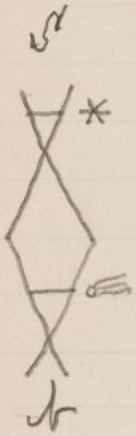
Comp Star in foll. meas is
D.M. + 10° 386 (8.2)

Transits for position of Comet.

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1909phae.proj...600W

Jan 3, 1910.



	1	6	40.4	Comet
I	1	7	6.4	Comet
	1	8	28.3	Star
	1	8	39.4	Star
~~—~~	~~1~~	~~9~~	~~18.5~~	~~Comet~~
II	1	9	52.0	Comet
		10	18.5	"
	1	11	40.4	Star
		11	51.4	"
III	1	13	14.2	Comet
		13	41.2	"
	1	15	3.2	Star
		15	14.3	"
IV	1	16	14.7	Comet
		16	42.8	"
	1	18	4.9	Star
		18	16.0	"
V	1	19	4.8	Comet
		19	33.5	"
	1	20	55.6	Star
		21	6.7	"

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1909phae.proj..600W

Jan 3, 1910.

VI	1	21	37.9	Comet
		22	6.3	"
	1	23	29.3	Star
		23	40.8	"
VII	1	24	18.5	Comet
		24	47.4	"
	1	26	10.6	Star.
		26	21.9	"
VIII	1	27	33.5	Comet
		28	2.2	"
	1	29	26.2	Star
		29	37.4	"

Comet in northern half inside square.
Star in southern half outside square

~~1 38 30.0 Comet~~

Sky more or less hazy with light floating clouds at times during observations. Light cloud & haze especially troublesome in fourth set and in seventh set, — also somewhat so

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1909phae.proj...600W

Jan 3. 1910.

in eighth set.

Ballon 103			Prod. 3451		
8	49	0.0	1	55	43.0
8	50	0.0	1	56	43.1
8	51	0.0	1	57	43.3

L. A. P.

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1909phae.proj..600M

Jan 4, 1910. (Tuesday).

Halley's Comet. Least. of Nucleus.

2 17 +10.0

2 37 Wdbs. Roun Rec Phot T.

0 20

Trdy Above A

76.4 ← 64.7" Comp. Star dec.

7 55 10 141.1

267.2 43.7"

310.9 108.4" +1.4"

88.0 43.4" +1.44"

131.4

252.1 66.1"

318.2 109.5" +1.43"

Trdy Below B.

340.2

51.2 71.0"

173.0

219.8 46.2" 117.2" +1.24"

357.0 46.0" +1.32"

43.0

168.8 60.0"

228.8 106.0" +1.51"

mean +1.41"

8 9 25

4 3 5" "

2 1 2" "

+5 -7" "

13 2 11" "

Comp. Star $\overset{\text{bar above}}{\wedge}$ = +10° 29 5" (9.5")

676.5 432"

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1909phae.proj...600W

Jan 4. 1910

δ Orionis

5	22	−0.4
4	7	W. Obs. Rows Rec
1	15	
10	43	Phot R. one prism removed.

Index L+B. B.

33.5 ← 14.5" Bstr. Lis.
48.0

214.8
226.8 12.0" / 26.5" −4.67"

8 57 40

34.7 12.7" −4.65"
47.4

213.7
228.0 14.3" / 27.0" −4.63"

Index R+a A.

304.0
317.5 13.5"
124.3
137.2 12.9 / 26.4 −4.62"

304.1 13.3" −4.65"
317.4
123.7
137.6 13.9" / 27.2" −4.62"
mean −4.65"

9 5 30

	3	10.5"
9	1	3.5"
+5		−7."
14	1	26."

α676.5 α43"

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1909phae.proj..600M

Jan 4, 1910

Double Star (Nico list) = Burnham's Cat 2763

5	23	+18.3
4	43	W. Obs. Power Rec. Plate
0	40	Phot R. One prism removed
11	20	
P.A. 23		Dist. 53

Index R+A

	100.0	← South Prec + Pole Obs	
9 33 0	162.8	62.8	
	260.4		
	355.2	94.8 / 17.6	0.43
	82.8		
	177.0	94.2	0.46
	281.2	9.6	
	340.8	13 8	0.10

Index L+B

	9.9		
	71.8	61.9	
	171.8		
	266.9	95.1 / 17.0	0.44
	352.0		
	88.0	96.0	0.46
	189.5		
	249.1	9.6 / 15.6	0.47
			Mean 0.46

9	40	35
	73	31.
9	36	48.
+10		-7.
14	36	41.

L. P. P.

+676.6088 W's watch used for times Watch 7 secs fast

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1909phae.proj...600W

Jan. 7, 1910. (Friday):

χ Cephei.

0 50
2 30
1 40

+81.1
W. Obs. Rouse Rec. Phot T.
9.5 m cap. used
Index R+A A. I

46.0 ← Var. Dis.
166.7 120.7 ✓
243.6
334.4 90.8 ✓
211.5 ✓
144.5 ✓ +0.60 ✓

7 27 15

61.2 89.0 ✓ +0.53 ✓
150.2
231.7 115.3 ✓
347.0 204.3 ✓ = +0.46 ✓
155.7 ✓

7 29 10

Index L+B B.
314.3 126.1 ✓
80.4
151.6 90.9 ✓
242.5 217.0 ✓ +0.71 ✓
143.0 ✓

7 32 30± Assumed.

327.2 91.1 ✓ +0.76 ✓
65.3
137.9 123.0 ✓
260.9 221.1 ✓ +0.80 ✓
138.9 ✓

7 34 45

123 40 ✓
7 30 55 ✓
+5 −1.5 ✓
12 30 54.5 ✓

Mean +0.64 ✓

8679.5214 ✓

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1909phae.proj..600W

Jan 7, 1910.

Same Again II

Index Rt B B.

315.7
74.6 11.9 v

152.1
246.6 94.5 v
213.4 v
146.6 v +0.64 v

325.7 99.6 v
653 +0.73 v

137.8
260.7 122.9 v
222.5 v
137.5 v +0.42 v

Index Rt A A.

229.6 120.9 v
350.5

61.7
151.0 89.3 v
210.2 v
149.8 v +0.54 v

242.6 88.2 v
330.8 +0.52 v

49.0
165.5 116.5 v
204.7 v
155.3 v +0.47 v
+0.62 v
Mean ~~+0.54~~ v

7 38 40

7 40 50

7 44 0

7 45 55

169 25 v

7 42 21. v

+5 -1. v

12 42 20. v

£679.5294 v

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1909phae.proj..600W

Jan 7, 1910

Same Again III

Index Arta A.

228.1
345.0 116.9 ✓
60.8 92.2 ✓
153.0 209.1 ✓
1✓0.9 ✓ +0.✓6 ✓
247.5 92.2 ✓
329.7 +0.46 ✓
48.0 117.1 ✓
165.1 199.3 ✓
160.7 ✓ +0.37 ✓

Index L.+B. B.

136.8 12✓.2 ✓
262.0
329.8 9✓.3 ✓
65.1 220.✓ ✓
139.✓ ✓ +0.72 ✓
151.9 92.9 ✓
244.8 +0.72 ✓
312.1 127.9 ✓
80.0 220.8 ✓
139.2 ✓ +0.79 ✓

Mean +0.62 ✓

7 50 15

7 52 30

7 56 30

7 58 15

17 30. ✓

7 ✓4 22 ✓

+✓ -1. ✓

12 ✓4 21. ✓

9679.✓372 ✓

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1909phae.proj..600W

Jan. 7. 1910

Same again IV
Index L+B B.

317.3
77.2 119.9 ✓
148.7
245.9 97.2 ✓
217.1 ✓
142.9 ✓ +0.72 ✓
325.8
66.0 100.2 ✓
135.2 +0.00 ✓
259.6 124.4 ✓
224.6 ✓
134.4 ✓ +0.27 ✓

Index A+a A.

227.0 121.0 ✓
348.0
65.8 222 ✓
148.0 203.2 ✓
156.8 ✓ +0.44 ✓
245.0 82.7 ✓
327.7 +0.44 ✓
46.4 120.2 ✓
167.2 203.5 ✓
156.5 ✓ +0.45 ✓

Mean +0.62 ✓

8 6 10

8 7 55

8 10 40

8 12 30

37 15. ✓
2 9 19. ✓
+5 -1. ✓
13 9 18. ✓
2679.5+41 ✓

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1909phae.proj...600

Jan 7, 1910.

Same Again. V

Index R+a. A.

8 15 35

229.3
344.1 114.2 v
62.0
152.1 90.1 v
204.9 v
157.1 v +0.4 v

241.8 22.7 v
8 17 40
330.3 +0.4 v
48.6
164.5 115.9 v
204.4 v
157.6 v +0.4 v

Index L+B. B.

135.0
257.8 122.8 v
8 21 5
329.8
60.5 91.2 v
214.0 v
146.0 v +0.6 v

148.8 96.0 v
8 23 15
244.8 +0.7 v
311.5
80.8 129.3 v
225.3 v
134.7 v +0.2 v

773 v
A 19 24. v
+r -1. v
13 19 23. v
A679.rrrr2 v

Mean +0.6 v

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1909phae.proj..600W

Jan 7, 1910.

Same Again ‖ VI

Index R+B B.

140.0	114.4	
254.4		
326.2	96.6	
62.8	211.0	
	149.0	+0.59

8 33 25

138.0	117.3	
255.3		+0.60
328.8	94.2	
63.0	211.5	
	142.5	+0.60

8 36 20

Index R+a. A.

50.6	111.4	
162.0		
242.4	87.9	
330.3	199.3	
	160.7	+0.37
64.5	24.7	
149.2		+0.34
231.2	111.0	
342.2	195.7	
	164.3	+0.30

8 39 15

Mean +0.49

8 41 25

150	25
4 37	36.
+5	−1.
13 37	35.

4679.5 6724

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1909phae.proj...600N

Jan 7. 1910

Same again ~~IV~~ ~~VII~~

Index R+a A.

52.5
157.7 105.2
247.2
339.5 92.3 / 197.5 / 162.5 +0.33

66.3 44.4
150.7 +0.30
232.6
342.4 109.8 / 194.2 / 165.8 +0.27

Index L+B. B.

318.5 114.4
72.9
157.4
237.4 80.0 / 194.4 / 165.6 +0.27

334.0 83.4
57.4 +0.27
142.2 110.6
252.8 / 194.0 / 166.0 +0.27

mean +0.28

8 44 15

8 46 10

8 51 0

8 52 30

194 15.
α 42 34.
+v -1.
13 42 33.

α679.5754

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1909phae.proj..600N

Jan 7, 1910.

Same again. ~~IV~~ VIII

Index L+B. B.

323.6
69.5 10 v.9 v
156.1
236.0 29.9 v
106.8 v
174.2 v +0.11 v
334.4 20.7 v

8 58 55

9 1 0 +0.13 v

55.1
142.1 107.3 v
249.4 102.0 v
172.0 v +0.15 v

Index R+a A.

239.0
336.2 97.2 v
72.2
141.3 69.1 v
166.3 v -0.26 v

9 4 20

252.6 69.6 v -0.26 v
322 2
58.2
154.8 96.6 v
166,2 v -0.26 v

9 6 5

10 20. v
9 2 37. v
+v -1. v
14 2 34. v
2679.v2v1 v

Mean -0.06 v

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1909phae.proj...600N

Jan 7, 1910

Same again. ~~II~~ IX

Index R+a. A.

9 9 50

240.6
335.0 94.4

72.0
140.4 68.4 / 162.8 −0.33

9 11 20

254.2 67.4 −0.34
321.6

59.5
154.4 94.9 / 162.3 −0.34

Index L+B. B.

9 14 35

147.6 90.2
246.4
340.0
54.2 74.2 / 173.0 −0.13

9 16 10

164.2 68.0 −0.16
232.2
325.0
66.4 101.4 / 169.4 −0.20

mean −0.25

9 12 9.
+ −1.
14 12 8.
8679.924

1909phae.proj..606M

Jan 7, 1910.

Same Again ## X

Index Lt B N.

149.9
245.5 96.6
343.2
51.8 64.6 / 164.2 −0.30

163.0
231.8 68.8 −0.30
328.9
64.4 96.5 / 164.3 −0.30

Index R + a A.

63.6
147.8 84.2
255.4
319.0 63.6 / 147.4 −0.62

74.6
137.2 62.6 −0.60
245.1
331.7 86.6 / 149.2 −0.59

Mean −0.45

9 21 25

9 23 50

9 26 20

9 28 30

100 V
9 25 1.
+V −1.
14 2V 0.
α679.6007

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1909phae.proj...600W

Jan 7, 1910.

Same Again ~~II~~ XI.

Index R+a A.

64.1
147.8 23.7
259.1
316.5 ~~27.4~~ 141.1 −0.7

9 33 10

75.9
139.2 63.3 −0.7
247.4
329.2 ~~21.8~~ 14.1 −0.6 ~~−0.7~~

9 34 50

Index L+B B.

153.1
242.8 89.7
345.8
49.2 ~~63.4~~ 153.1 −0.1

9 38 30

165.4
227.4 62.0 −0.2
333.2
63.2 ~~90.0~~ 152.0 −0.4

9 40 45

147 1

9 36 49

+1 −1

14 36 48

Mean −0.6

Δ679.60 9 PA 196.8 Vernier B

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1909phae.proj..600M

Jan 7, 1910

Halley's Comet. (Photometric Measts of Nucleus)

1 58. +9.4

5 43 W Obs Prows Rei Phot T.
3 45 Comp Star = +10° 270 (9.0)

Index L+C A.

93.5 & Comp Star Obs

10 35 10

121.2 27.7 v
277.5
299.4 21.9 v
49.6 v +3.29 v

96.2 22.2 v +3.26 v
119.0
272.9 24.5 v
301.4 5 1.3 v +3.22 v

Index R+B. A.

2.8 30.4 v
33.2
186.0 22.1 v
208.1 5 2.5 v +3.16 v

7.3 21.6 v +3.16
28.9
181.8 30.9 v
212.7 5 2.5 v +3.16 v

Mean +3.21 v

10 45 10

40 20. v
10 40 10. v
+5 -1. v
15 40 9. v
4679.6 5 29 v

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1909phae.proj...600W

Jan 7, 1910

Although the comet is nearly four hours west of the meridian, the coma seems to look a little larger than when last seen. Although the coma is not so very bright, yet it seems rather abundant and W. thinks that it may have a total diameter of 5' or 6' with ordinary eyepiece

W's watch used for times
Watch 1 sec. fast.

L. P. P.

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1909phae.proj..600W

Jan. 8, 1910 (Saturday)

Halley's Comet. Photometric Measts. of Nucleus).

1 55 +103

2 75 Comp. Star = +9° 247 (9.1)

0 50 W. Obs. Bonn Rec. Phot T.

Index L+G B.

275.6 ✓ Comp Star Obs

302.8 27.2✓

90.0

122.5 32.5✓ / 9.7✓ +2.87✓

270.6

304.4 33.8✓ +2.92✓

94.9

118.6 23.7✓ / 7.5✓ +2.96✓

Index R+B L.

186.1

211.5 25.4✓

356.6

34.3 37.7✓ / 63.1✓ +2.74✓

178.4

217.7 39.3✓ +2.72✓

4.0

28.9 24.9✓ / 64.2✓ +2.71✓

mean +2.82✓

7 43 45

7 58 15

102 0.✓

7 ✓1 0.✓

+✓ -2.✓

12 ✓0 ✓8.✓

8680.✓3✓4✓

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1909phae.proj...600W

Jan 8, 1910.

Sky a little hazy. Coma thought to be seen for a radius of 2' about nucleus, but it is somewhat more strongly marked for a radius of about 1' about nucleus. The coma gradually fades out progressively from nucleus and is not particularly strong even near nucleus — at least in this slightly hazy sky. In measurements with Phot. the image of Comp. star was set as close to the nucleus (and upon coma) as could be and see the image of star + comet distinctly. The estimated distance of the two images in the comparison, was about one half (½) [or, possibly, slightly more] ~~than~~ of one minute of arc.

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1909phae.proj..600W

Jan. 8. 1910

R. S Cephei

4	35	+81.0
4	45	W. Obs Rowe Ree
0	10	Phot. T.

Abandoned. Cloudy

δ Ursae

5	22	−0.4
5	2	
0	20	
11	40	

W. Obs. Rowe Ree.

Phot. R., One prism removed

Means on following page

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1909phae.proj..600W

Jan. 8, 1910.

Index left + Below

33.6 ← Southern + Rts. Dis.

9 44 20

47.1 13.5 ✓

213.9

227.4 13.5 ✓ / 27.0 ✓ −4.63 ✓

33.7 13.2 ✓

47.5

214.2 13.2 ✓ / 27.0 ✓ −4.63 ✓

227.4

Index R + a.

304.3 13.1 ✓

317.4

124.4 13.5 ✓ / 26.6 ✓ −4.67 ✓

137.9

304.0 13.3 ✓ −4.62 ✓

317.3

124.7 12.9 ✓ / 26.2 ✓ −4.70 ✓

137.6

Mean −4.66 ✓

9 58 40

9 ✓ 0. ✓

9 47 30. ✓

+ ✓ −2. ✓

14 47 28. ✓

2620.6163 ✓

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1909phae.proj..600M

Jan. 8, 1910.

Double Star (New List) = Burnham's Cat. 3872

7	5	+22.5
5	25	W Obs. Rough Rec.
1	40	Phot. R. Obs. prism removed
10	20	

P.A.	Dist.	Mags.
	Index	
	90.6	
10 13 45	169.5	
	264.6	
	357.0	
	78.0	
	174.5	
	268.8	
	347.9	

Index
Abandoned.

The seeing is so poor for a rather close double like this that it is impossible to measure it satisfactorily tonight. High altitude also complicates matters.

Ws watch used for times
Watch 2 secs fast.

L. P. A.

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1909phae.proj..600

Jan. 10, 1910 (Monday)

Halley's Comet (Phot. Measts. of Light of Nucleus).

			43		+10.3	
3			23	U. Obs.	Rough Rec.	Phot. T.
1			40			
7	58	10	Comet precedes Comp Star by about 23 secs. + is about 12' north of it			
8	2	20	Comp. Star has a star (of about same brightness) following it by 1 min. 23 secs. and is about 4'.6 south of it			
8	5	10	Comp. Star has a somewhat brighter star following it by 57 secs. and is about 11.'5 north of it			

Comp. Star = +9° 234 (9.0)

Measts on foll. page

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1909phae.proj..600N

Jan. 10. 1910

Index Lta B.

38.6 < comp Star dist

8 23 30

64.8 26.2

221.4

239.8 18.4 / 44.6 +3.3

41.4

60.6 19.2 +3.4

218.7

242.2 23.5 / 42.7 +3.62

Index R+B A.

305.1

334.0 28.9

131.2

150.6 19.4 / 48.3 +3.35

310.4

331.3 20.9 +3.30

125.1

154.7 29.6 / 50.5 +3.25

mean +3.44

8 36 35

60 5.

A 30 2.

+5 -5.

13 29 57.

A 6 A 2. 5 6 2 5 -

1909phae.proj...600W

Jan 10, 1910.

Nucleus of comet (when examined with ordinary eyepiece as well as in photometer) seems a little fainter than on Jan 8. 1910. Estimated brightness 12.4 magn.. The coma, as seen tonight, does not seem to be as extensive as on Jan 8th but seems to cluster more closely about the nucleus. The whole appearance of the comet is a little less pronounced than on Jan. 8th The radius of the coma from nucleus is, perhaps, 1' but somewhat brighter near the nucleus. Distance of star image from nucleus, when measured, about 0.'5 or possibly a little more. Possibly coma can be traced for a radius of 1.'5 from nucleus but at this distance it is pretty faint.

H.A. at end of above remarks +3h 0m and sky very slightly hazy, or not quite pure.

The above discription, however, of nucleus + coma answers very well to conditions before beginning observations; although the altitude then was some higher. It may, however, be said that the coma seemed, perhaps, a little brighter and more pronounced before beginning observations when the altitude was a little higher.

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1909phae.proj..600W

Jan. 10. 1910.

5 Arions.

5	22	-0.4
5	22	W. Obs Power Rec Phot
0	0	Phot R. one prism removed.

Index Left.

34.7		Southern + Brth Dis
46.9	12.2	
214.0		
227.8	13.8 / 26.0	-4.72
33.9		
47.8	13.9	-4.67
214.1		
227.4	13.3 / 27.2	-4.62

Index Right

304.1		
317.0	12.9	
123.4		
137.8	14.4 / 27.3	-4.61
303.7	14.2	-4.59
317.9		
124.2		
137.8	13.6 / 27.8	-4.57

Mean -4.63

9 49 50

9 59 40

109 30.

9 54 40.

+5 -5.

14 54 40.

2602.6213

1909phae.proj...600N

Jan. 10. 1910

Double Star (New List) = Burnham's Cat 747

1 19 +30.9

5 44 W Obs Rous Rec. Phot R. one prism removed

4 25 P.A 105° Dist 57." Mags 7.6, 7.7.

Index Lt B.

168.5 ← North Rec + Beta Vis.

10 18 15 273.6 10 v.1 v

4.9

75.0 70.1 v / 17 v.2 v -0.09 v

185.6

258.9 73.3 v -0.12 v

351.4

89.6 90.2 v / 171. v -0.16

Index R+a

78.6 103.2 v

181.8

274.2 72.4 v

346.6 / 17 v.6 v -0.04 v

92.8

165.9 73.1 v -0.02

256.6 100.v v

5.1 / 101.6 v

17 0.4 v +0.03

Mean -0.07 v

10 27 0

4v 1v, v

10 22 30. v

+v -v. v

1v 22 33, v

0602. 6407 v

Ws watch used for times

Watch 5 secs fast.

L. P. P.

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1909phae.proj..600N

Jan. 11. 1910 (Tuesday).

R. Z. Draconis.

18 21 +58.8

26 46 U. Obs. Rows Rec.

8 25 Phot. T

Index Rta A. I

2892 ← Comp. Star Obs.

7 24 30

352.0 62.2 v

119.0 40.6 v

159.6 103.8 v +1.57 v

300.3 41.1 v +1.62 v

341.4

110.1 v2.9 v

169.0 100.0 v +1.66 v

Index L+B B.

200.3 v6.0 v

2563

30.1 3v.v v

65.6 91.v v +1.27 v

211.8 36.2 v +1.44 v

2486

19.0 v7.0 v

76.0 93.2 v +1.41 v

Mean +1.73 v

7 30 40

vv 10. v

7 27 3v. v

+v -2. -

12 27 27. v

2683. v190 v

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1909phae.proj...600N

Jan 11, 1910

Same Again II

Index L+C B.

203.3
255.0 +1.7
28.4
67.2 30.2 / 90.9 +1.90

209.8 +1.0 +1.02
250.8

22.0 +1.8
73.4 92.8 +1.82

Index R+a A.

110.5 +2.9
168.4
299.0
339.3 +0.3 / 93.2 +1.83

121.6 +3.6 +1.04
157.2
289.9 +6.6
346.5 92.2 +1.26

Mean +1.26

7 36 50

7 43 40

40 30.

7 40 1.

+ −0.

12 40 7.

26 03. −27 9

1909phae.proj..600M

Jan 11, 1910.

Same Again. III

Index R+A. A.

113.6
165.0 √1.4 v

362.3
334.1 31.2 v / 3.2 v + 2.10 v

122.0
156.5 3K.√ v + 2.0 A v

292.2
342.9 √0.7 v / A √.2 v + 2.0 √ v

Index L+B B.

24.2
79.6 √√.4 v

214.6
242.0 27.4 v / A 2.A + 2.11 v

24.4
65.3 K0.9 + 2.06 v

206.4
251.7 K√.3 / A 6.2 + 2.02 v

Mean + 2.07 v

7 51 0

7 59 15
110 1√. v
7 √√ A. v
+√ −A. v
12 √√ 0. v
A6A3. √3A2 v

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1909phae.proj..600W

Jan. 11, 1910

Same Again IV
Index L + B. A.

24.8
70.0 45.2 v

213.9
243.4 29.5 v
54.7 v +2.36 v

32.5
65.0 32.5 v +2.29 v

205.2
252.0 46.8 v
79.3 v +2.22 v

Index R + a. A.

293.6 49.2 v
342.8

121.4 34.6 v
156.0 a3.a v +2.0a v

300.9 34.6 v +2.10 v
335.5

113.1 4a.1 v
161.2 a2.7 v +2.12 v

Mean +2.20 v

8 4 20

8 13 5
17 25. v
a a 42. v
+v −a. v
13 a 34. v
a6a3. v 476 v

1909phae.proj..600M

Jan. 11. 1910

Same Again I

Index R.A. A.

292.8
340.7 47.9 v
120.4
155.1 34.7 v / 42.6 v +2.12 v

301.6 36.0 v +2.12 v
337.6
112.8
159.3 46.5 v / 42.5 v +2.12 v

Index Lit B B.

201.8 46.5 v
250.3
31.5
63.2 31.7 v / 40.2 v +2.19 v

212.2 31.6 v +2.20 v
243.8
24.1
71.8 47.7 v / 79.3 +2.22 v

Mean + 2.16 v

8 17 20

8 26 0

	43	20. v
42	21	40. v
+v		- 0. v
13	21	32. v

46 43. vv 67 v P.A. 82.3 Vernier B

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1909phae.proj...60cm

Jan. 11. 1910.

Halleys Comet (Phot. Measts. of Light of Nucleus

1	43	+102
4	13	
2	30	

W Obs. Rouse Rec. Phot.

Comp. Star = +9° 223 (A.7)

Index left B.

215.9 ⟨ Comp Star Dis.

8 55 35

236.7 20.8 ✓

40.5

56.4 15.9 / 36.7 +3.96 ✓

219.6

234.5 14.9 ✓ +3.96 ✓

36.5

58.2 21.7 ✓ / 36.6 ✓ +3.96 ✓

Index Right A.

129.9

145.6 15.7 ✓

305.6

327.8 22.2 ✓ / 37.9 ✓ +3.89 ✓

126.2

147.6 21.4 ✓ +3.86 ✓

308.3

325.6 17.3 ✓ / 38.7 ✓ +3.84 ✓

mean +3.91

9 8 50

4 25.1 ✓

9 2 12.1 ✓

+N −8.1 ✓

14 2 4.1 ✓

2623.5 −8.4 ✓

Remark on foll. Page.

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1909phae.proj..600M

Jan 11, 1910

In measurements of comet tonight Comps Star put upon the coma and about 0.'5 or a slightly more distant from nucleus.

Both the nucleus and coma seem a little brighter tonight than last night. It might also be added that the sky is pretty clear and somewhat clearer than last night. Nevertheless, observer can not help thinking that both the nucleus and coma are a little stronger. Radius of bright part of coma about 1'. Beyond this the coma is rather faint but can be traced for a radius of 2' or a little more. The impression of observer is that the coma, both last night and to night has grown relatively stronger closely about the nucleus than it was a few nights ago but that the outer part of the coma is not quite so pronounced

d Aurigæ

5	22	-0.4
6	2	6 Obs. Prime Rec.
0	40	Phot R, one prism removed.

Means on foll. page.

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1909phae.proj...600w

Jan 11, 1910.

Index Right

124.1 ← Southern + Brtn Nos.
137.6 13.5

304.4
317.2 12.8 / 26.3 −4.69

124.1
137.8 13.7 −4.64

304.1
318.0 13.9 / 27.6 −4.59

Index Left.

33.9
47.8 13.9

214.4
227.6 13.2 / 27.1 −4.63

33.8
47.4 13.6 −4.63

214.3
227.7 13.4 / 27.0 −4.63

Mean −4.64

10 26 0

10 32 0
0.

10 29 0
−0.

4643.64

Ws watch used for times.
Watch 8 secs. fast.

L. A. P.

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1909phae.proj..600M

Jan. 12, 1910 (Wednesday)

Halley's Comet Phot. Measts of Light of Nucleus

1	43	+10.2
2 — 1	57 — 14	W. Obs. Power Rec. Phot. T.

Abandoned. Sky too hazy

U Cephei

0	50	+81.1
3 — 2	10 — 20	

W. Obs. Power Rec. Phot. T

9.5 in. cap used

Measts on foll. page

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1909phae.proj..600W

Jan. 12. 1910.

Index R+a A. I

168.6
2868 110.2
359.9
95.0 95.1 / 213.3
146.7 +0.64

7 37 25

181.0
271.8 90.8
346.2
108.0 121.8 / 212.6
147.4 +0.63

7 39 40

+0.64

Index. L+B B.

76.7
2003 123.6
268.7
5.0 96.3 / 219.9
140.1 +0.77

7 43 15

90.5
189.1 98.6
253.9
18.8 124.9 / 223.5
136.5 +0.84

+0.80

7 45 30
- 16.5 +0.
7 41 24.
+5 -9.
12 41 19.
86 84.5 +207

Mean +0.72
2.41
9.13

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1909phae.proj..600N

Jan. 12, 1910.

Same Again II

Index R+B B.

	75.8		
7 49 25	201.2	125.4	
	271.9	94.1	
	6.0	219.5	
		140.5	+0.76
	86.8		
7 51 40	186.6	99.8	+0.78
	258.0		
	18.8	120.8	
		220.6	+0.79
		139.4	

Index R+B A.

	348.6		
7 55 50	107.8	119.2	
	181.2		
	272.1	90.9	
		210.1	
		149.9	+0.82
	359.3		
	92.6	93.3	
	169.2		+0.86
	284.6	115.4	
		208.7	
		151.3	+0.55

Mean +0.67

.41

9.08

7 57 20			
	214	15	
7	53	34.	
+5		-9.	
12	53	25.	

86 84. 537 1

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1909phae.proj..600W

Jan 12, 1910

Same Again. III

Index R + a A.

	349.5		
8 6 5	103.2	113.7 v	
	180.0	88.6 v	
	268.6	202.3 v	
		157.7 v	+0.43 v
	359.9		
8 7 50	91.7	91.8 v	+0.46 v
	170.8	113.9 v	
	284.7	205.7 v	
		154.3 v	+0.49 v

Index L + B B.

	255.9	120.5 v	
8 10 25	16.4		
	86.3		
	183.0	96.7 v	
		217.2 v	
		142.8 v	+0.72 v
	268.4		
	3.6	95.2 v	+0.69 v
	75.8		
	194.8	119.0 v	
		214.2 v	
		145.8 v	+0.66 v

8 12 55

37 15 v

A 9 19. v

+5 -9. v

13 9 10. v

α624.545° v

Mean +0.58 v

.41 v

.99 v

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1909phae.proj..600N

Jan 12. 1910

Same Again. IV

Index L + B. B.

2578
14.0 116.2 ✓
89.2
181.3 92.1 ✓
208.3 ✓
151.7 ✓ +0.54 ✓

18 17 55

269.4
359.6 90.2 ✓ +0.44 ✓
80.0
192.4 112.4 ✓
202.6 ✓
157.4 ✓ +0.43 ✓

8 20 10

Index. R + a A.

169.0
280.2 111.2 ✓
2.6
89.4 86.8 ✓
198.0 ✓
162.0 ✓ +0.34 ✓

8 22 45

185.6
264.9 79.3 ✓ +0.25 ✓
351.5
100.8 109.3 ✓
188.6 ✓
171.4 ✓ +0.16 ✓

8 24 55

85 4 ✓ ✓
21 26. ✓
+5 -9. ✓
13 21 17. ✓
864. ✓ ✓ 6 ✓ - ✓

Mean +0.36 ✓
.41 ✓
.77 ✓

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1909phae.proj..600W

Jan 12. 1910.

Same again ☰

Index R+a. A.

171.8		
279.8	108.0 v	
8 29 20		
7.3	79.1 v	
86.4	187.1 v	+0.13 v
	172.9 v	
186.1		
264.5	78.4 v	+0.12 v
8 31 35		
352.2	107.7 v	
99.7	187.9 v	+0.11 v
	174.1 v	

Index L+B. B.

80.4	110.8 v	
191.2		
8 34 50		
274.4	81.6 v	
356.0	192.4 v	+0.24 v
	167.6 v	
94.7		
176.3	81.6 v	+0.20 v
8 36 50		
263.8	106.2 v	
10.0	187.8 v	+0.17 v
	172.2 v	

132 37 v	
8 33 9. v	
+v −9. v	
13 33 0. v	

8684. v646 v

Mean +0.16 v

8.41 v

8.v7 v

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1909phae.proj..600N

Jan 12. 1910

Same Again VI

Index L+B B.

	80.8		
8 42 5	188.4	107.6	
	275.6		
	353.5	77.9	
		185.5	
		174.5	+0.10
	99.0		
8 44 15	172.6	73.6	+0.04
	261.4		
	7.1	105.7	
		179.3	−0.01

Index R+a A.

	356.6		
8 47 20	95.8	99.2	
	189.5		
	258.8	69.3	
		168.5	−0.22
	11.0		
8 49 10	80.9	69.9	−0.24
	177.8		
	274.5	96.7	
		166.6	−0.25

22 50.

8 45 42.

+5 −9.

13 45 33.

8 6 45.733

Mean −0.10

8.41

8.31

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1909phae.proj...600W

Jan 12, 1910

Same again VII

Index R+a A.

	358.7		
	92.2	93.5 v	
8 53 30			
	193.3	64.3 v	
	257.6	157.8 v	−0.42 v
	12.2		
	79.2	67.0 v	−0.36 v
8 55 25			
	175.8	97.1 v	
	272.9	164.1 v	−0.30 v

Index L+B. B.

	265.6		
	5.0	99.4 v	
8 57 55			
	103.3		
	167.6	64.3 v	
		163.7 v	−0.31 v
	279.0		
	350.0	71.0 v	−0.24 v
8 59 50			
	84.1		
	183.5	99.4 v	
		170.4 v	−0.10 v

216 40. v

α 6 40. v

+v −9. v

13 6 31. v

α 6 α 4. v α 09 v

Mean −0.30 v

α.41 v

α.11 v

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1909phae.proj..600W

Jan 12, 1910.

Same Again VIII

Index L + B B.

265.7
357.2 91.5 v

100.4
169.5 69.1 v
160.6 v −0.37 v

9 7 30

280.6
349.5 68.9 v −0.32 v

89.4
180.3 90.9 v
159.8 v −0.32 v

9 6 25

Index R + A A.

182.5
269.3 86.8 v

14.2
77.9 63.7 v
150.5 v −0.57 v

9 9 20

192.8
254.9 62.1 v −0.61 v

2.4
86.7 84.3 v
146.4 v −0.65 v

9 11 30

31 45 v

9 7 56 v

−9. v

14 7 47 v

Mean −0.50 v

8.41 v

7.91 v

8644.52 P.A 16.3 Vernier B

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1909phao.proj...600W

Jan 12, 1910

δ Arietis

5	22
6	12
0	50

-04

W. Alt. Rows Rev
Plot R. one prism removed.
Index Left, B.

214.3 ⟨ Southern + Preceding
227.6 13.3 ✓

34.4 13.2 ✓
47.6 26.5 ✓ −4.67 ✓

214.5 13.2 ✓ −4.62 ✓
227.7

34.4 13.1 ✓
47.5 26.3 ✓ −4.69 ✓

Index Right. A.

124.7 12.6 ✓
137.3

304.1 13.7 ✓
317.8 26.3 ✓ −4.69 ✓

123.6 14.0 ✓ −4.66 ✓
137.6

304.4 12.9 ✓
317.3 26.9 ✓ −4.64 ✓

Mean −4.67 ✓

10 28 25

10 33 0

	61	25 ✓
10	30	42 ✓
+✓		−9. ✓
✓	30	33. ✓

α 64 4. 6462 ✓

Wis watch used for times
Watch 9 secs fast

L. A. R. ✓

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1909phae.proj..600W

Jan. 13. 1910. (Thursday).

δ Orionis. W. obs. W. rec.
Phot R. One prism removed.

√	22	−0.4
3	31	
−1	√1	
10	9	

Index right.

124.0		Southern & Brit. obs.	
137.√	13.√		
304.√			
318.0	13.√ / 27.0	−4.63	
124.2	13.2	−4.64	
137.4			
304.9	13.7 / 26.9	−4.64	
318.6			

Index left.

215.0	13.1		
228.1			
34.7	13.3 / 26.4	−4.68	
48.0			
214.9	13.1	−4.70	
228.0			
35.0			
47.9	12.9 / 26.0	−4.72	

Mean −4.67

8	7	10
	11.8	10.
7	√9	√.
+√		−12
	12 √8	√3.

A6 Av. √409

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1909phae.proj...600M

Jan. 13. 1910.

Double Star (new list) = Burnham's Cat. 747.

W. obs. W. rec.

1 19 +30.9 P.A. 10v; Dist. 57."
4 11 Magn. 7.6, 7.2.
+2 42v

Index R + A.

89.9 ← N. prec. + Botr. Lis.
166.2 76.3v
2v7.5v
7.1 109.6v
105.9v +0.11v
174.1v

8 2v 0

81.0 +0.02v
180.2 99.2v
276.0 76.6v
3v2.6 176.4v -0.04v

Index Z + B.

180.4 78.6v
259.0
350.1 100.9v
91.0 179.5v -0.01v

171.2 -0.10v
271.1 99.9v

4 37 1v

v.2 69.6v
74.4 169.5v -0.20v

mean -0.04v

L. P. P.

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1909phae.proj..600N

Jan. 15. 1910 Saturday.

Halley's Comet (Phot. Measts of light of Nucleus)

1 38 +8.4
3 18 W. Obs. Rowe Ref. Phot T
1 40 Comp Star = +9° 199 (8.8)

Index Left.

20 9.8 ← Comps Star Obs
24 1.0
34.1
56.0

7 11 20

25.6
23 4.1
31.2
58.4

Index Right. A.

116.6 ← Comps Star Obs
149.6 33.0 v
305.8
324.7 18.9 v / √1.9 v +3.20 v

7 √2 √4. Normal by proportion.

123.4
142.6 19.2 v +3.18 v
296.5
329.5 33.0 v / √2.2 v +3.17 v

7 56 5

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1909phae.proj...600M

Jan. 15, 1910.

Index left. B.

8 6 0

30.6
58.3 27.7 v
214.8
233.5 18.7 v / 46.4 v +3.44 v

35.5
54.9 19.4 v +3.44 v
210.6
237.8 27.2 v / 46.6 v +3.43 v

Mean +3.31 v

8 9 45

244 44 v

2 1 11 v

+v -16. v

13 0 vv v

06 07. v423 v

As first two sets on previous page were rather discordant and as first set was exceptionally difficult, these first two sets were taken so that the last four sets compose the group. Measurements a little difficult on account of moonlight. Nucleus, however, rather stellar and fairly well defined. Great care exercised in the measurements. Star image just a little over 0.5 from nucleus

8 42 Moon some four days old and at the present time about 10° above the western horizon so that there is some moonlight in the sky both ordinary eyepiece and, allowing a little for moonlight the nucleus seems a little more

(over)

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1909phae.proj...600M

Jan 15, 1910.

sharply stella than on the last night of observation and possibly a slightly brighter. The coma fades off progressively from nucleus being somewhat bright closely about nucleus for a radius of 1'. The coma can be traced for a radius of ± 2' but is pretty faint in present sky conditions beyond a radius of 1'. In fact, by moving the image in the field back and forth and using indirect + shifting vision, observer thinks that he can perhaps trace the coma, sometimes, for a radius of 2.5 or possibly a little more but it is pretty faint at these outer limits and relatively much brighter in the immediate vicinity of the nucleus. Nucleus with ordinary eyepiece looks decidedly stella as it, also, did in the Photometa

ε Orionis

5	22	-0.4
5	2	
0	20	
11	40	

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1909phae.proj...600W

Jan. 15, 1910

Index Right

124.3	✓ Southern + Brtr. Dis.	
137.7	13.4	
304.0		
317.9	13.9 / 27.3	−4.61
123.6	14.4	
138.0		−4.52
304.0	13.5	
317.5	27.9	−4.56

Index Left.

34.8	13.1	
47.9		
213.8	14.0	
227.8	27.1	−4.63
33.9	14.1	−4.60
48.0		
214.0	13.7	
227.9	27.8	−4.57

Mean − 4.59

9 18 10

9 25 0

43 10.

9 21 35.

+5 −16.

14 21 19.

2647.59421

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1909phae.proj..600M

Jan 15, 1910.

R. W. Tauri.

3	58
5	58
2	0

+27.2

W. Obs Power Rec. Phot T.

Index R+A A. I.

200.8 ← Var. Dis

250.0 49.2 ✓

27.6

60.3 32.7 ✓ / 21.9 ✓ −2.14 ✓

209.4 30.8 ✓ −2.18 ✓

240.2

20.1 48.1 ✓ / 68.2 78.9 ✓ −2.23 ✓

Index L+B B.

109.5 ▽1.▽ ✓

161.0

295.5 3▽.▽ ✓ / 331.0 27.0 ✓ −2.00 ✓

116.8 33.0 ✓ −2.00 ✓

149.8

285.3 ▽3.7 ✓ / 339.0 26.7 ✓ −2.00 ✓

Mean −2.09 ✓

10 10 10

10 16 25

26 3▽. ✓

10 13 18. ✓

+▽ −16. ✓

1▽ 13 2. ✓

2627.6340 ✓

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1909phae.proj...600M

Jan 15, 1910.

Same again II
Index L+B B.

10 18 30

107.2
161.0 53.8
295.4
329.2 33.8 / 7.6 −1.90

118.8
151.5 32.7 −2.02
287.2
339.0 51.8 / 4.4 −2.06

Index R+A. A.

19.3
71.5 52.2
209.2
239.1 29.9 / 2.1 −2.13

28.8
59.2 30.4 −2.20
201.2
248.2 47.0 / 7.4 −2.27

Mean −2.11
Gen. " −2.10

10 24 0
42 30.
10 21 15.
+15 −16.
15 20 59. P.A. 309.8 Vernier B
A627.6396

W.'s watch used for times L. P. P.
Watch 16 secs fast

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1909phae.proj..600M

Jan 19, 1910 (Wednesday).

Halley's Comet (Phot Measts of Light of Nucleus)

1	38	+8.4
3	43	W. Obs. Rough Rec. Phot T.
2	5	

Abandoned. Moon too bright.

R.Z. Draconis.

18	22	4587
28	2	
9	40	

W. Obs. Rough Rec. Phot. T.

Measts. on foll. page.

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1909phae.proj...600N

Jan. 19. 1910

Index R+A A. I

102.5 ← Comp Star Dec.
165.3 62.α ν
288.5 Fν.2 ν
3337 102.0 ν +1.46 ν

112.4 43.3 ν +1.44 ν
155.7
280.7 62.α ν
3435 106.1 ν +1.ν1 ν

Index L+B. B.

12.3 61.1 ν
73.4
203.3 Fl.1 ν
244.4 102.7 ν +1.60 ν

25.8 37.α ν +1.6α ν
63.6
1960 να.6 ν
2546 96.4 ν +1.7ν ν

Mean +1.να ν

7 59 35

8 6 25

6 0. ν
α 3 0. ν
+ν -3. ν
13 2 ν7. ν

α691. ν43α ν

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1909phae.proj..600M

Jan 19.1910.

Same Again. II

Index R+B. B.

13.2
71.2 — 58.0

203.0
243.2 — 40.2 / 98.2 — +1.70

24.0
64.0 — 40.0 — +1.64

190.3
253.2 — 62.9 / 102.9 — +1.59

Index R+a A.

279.6
340.6 — 61.0

111.0
149.5 — 38.5 / 99.5 — +1.69

289.9
334.5 — 44.6 — +1.58

101.1
163.6 — 62.5 / 107.1 — +1.49

mean +1.61

8 9 15

8 16 20

2 3

a 12 4a.

+5 -3.

13 12 45

2691.5506

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1909phae.proj...600N

Jan 19, 1910.

Same Again. III

Index R+A. A.

8 20 58

280.0
340.0 60.0
110.4
153.3 42.9 / 102.9 +1.59

289.4 47.3 +1.57
334.7

100.4 61.8 / 162.2 107.1 +1.49

Index L+B B.

194.7 56.3
251.0

22.0
62.0 40.0 / 96.3 +1.75

201.5 41.8 +1.72
243.3

14.0
71.8 57.0 / 92.8 +1.69

8 30 5

50 55.
2 25 24.
+5 −3.
13 25 27.

P.A. 82.7 Vernier B

2691.55 93

Mean +1.63

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1909phae.proj..600M

Jan. 19, 1910.

Fourth Type Star +61° 667

3	45	+ 62.7
5	40	W. Obs. Rough Rec. Phot. I
1	55	Color 3 with Phot. + Ordinary eyepiece.

Index Rt A. A.

190.2		← Fourth Type Dia.
251.9	61.7 v	
20.1		
65.0	44.9 v	
	106.6 v	− 1.70 v

9 46 20

197.7	47.6 v	− 1.4 v v
245.3		
10.9		
74.0	63.1 v	
	110.7 v	− 1.40 v

Index Rt B B.

91.8		
170.4	78.6 v	
283.5		
338.0	54.5 v	
	133.1 v	− 0.91 v

103.6		
159.5	55.9 v	− 0.90 v
272.8		
351.4	78.6 v	
	134.5 v	− 0.89 v

Mean − 1.18 v

9 52 35

	98	55 v
9	49	20 v
+v		−3. v
14	49	25 v

P.A. 183.6 Vernier B

D 691.6177 v

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1909phae.proj...600N

Jan 19 ~~+0~~ 1910.

Fourth Type Star -17° 2442

8	15	-17.1
6	25	W. Obs. Power Rec Phot.
1	50	
10	10	Color 1 with ordinary eyepiece

Index R+A

	105.6	← Comp Star Dis
10 23 20	153.8	48.2 v
	279.2	66.8 v
	346.0	115.0 v +1.30 v
	93.3	74.4 v +1.22 v
	167.7	
	287.1	48.3 v
	335.4	122.7 v +1.13 v

Index L+B.

	18.6	45.6 v
	64.2	
	187.3	66.4 v
	253.7	112.0 v +1.37 v
	7.4	67.2 v +1.40 v
	74.6	
	200.4	42.6 v
	243.0	109.8 v +1.42 v

Mean +1.31 v

10 28 15

v1 3v. v

10 2v 4. v

+v -3. v P.A 211.5 Very B.

1v 2v 4v. v

2691.6430 v

Color 1 in Phot.

W's watch used for times

Watch 3 secs fast.

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1909phae.proj..600M

Jan. 20, 1910. (Thursday)
Comet a 1910.

At $5^h\ 20^m\ 30^s$ East. Time.

H. A. ☌ = $4^h\ 47^m\ 30^s$. } by circles.
Dec. = −13.0 }

Grad. 34 #1		Ha watch.
$1^h\ 44^m\ 0^s$	=	$1^h\ 34^m\ 0^s$
2 17 0.	=	6 3 0.
29 0.	=	29 0

$2^h\ 42^m\ 30^s$
4 4 30.
20 48 0. = R. A. ☌ by circle.
−2 9 = Corr. from Venus obs.
20 47 51. = Corrected obs. ☌ in R. A.

−13.0 = Dec. by circles, above.
−0.1 = Corr. by Venus obs.
−13.1 = Corrected obs. ☌ in Dec.

However, as Venus is much higher up than the comet

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Jan. 20. 1910.

At 9^h 9^m 0^s by H. S. Watch.

Venus H. A. $= +4^h\ 2^m\ 30^s$ } by circles.
" Dec. $= -7.^\circ 6$ }

~~At time of Obs. on previous page.~~ Wrong.

~~R. A. Venus = $20^h\ 4^m\ 49.^s$~~ "

At time of Obs. on previous page.

R. A. Venus $= 22^h\ 6^m\ 21.^s$ } by Almanac.
Dec. " $= -7^\circ\ 42'.$ }

S. T. $26^h\ 11^m\ 0.^s$
H. A. $4^h\ 2^m\ 30.^s$

$22^h\ 8^m\ 30.^s$ = R. A. Venus. by circle.
$22^h\ 6^m\ 21.^s$ = " " " Almanac.
$-2^m\ 9^s$ = Corr. to circle obs.

$-7.^\circ 6$ = Dec. Venus by circle.
$-7.^\circ 7$ = " " " Almanac.
$+0.^\circ 1$ = Corr. to circle obs.

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1909phae.proj..600M

Jan. 26. 1910. (Wednesday).

Fourth Type Star. +53°66

0 29 +53.1
4 29 U Obs Rome Ref Phot T
24 0 Color 1m. Large Telescope + Phot.

Index L+B B.

190.9 ∠ Comp Star Dist
250.2 √9.3 √
2.3
81.3 79.0 √
160.3 √ +0.81 √

178.8 ∠3.2 √ +0.79 √
262.0
12.0
69.0 √7.0 √
140.2 √ +0.77 √

Index R+A A.

100.8
162.5 61.7 √
267.3
355.5 ∠8.2 √
149.9 √ +0.√8 √

87.6 ∠6.2 √ +0.√8 √
174.4
280.6 62.6 √
343.2 149.4 √ +0.59 √
Mean +0.68 √

8 3 30

8 10 20

13 √0. √
8 6 √√. √
+√ -34. √
13 6 21. PA. 322.2 Vere B
∠692. √461 √

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Jan 26, 1910.

Fourth Type star +59°2810

0	2
5	7
5	5

+583

W. Obs. Rough Rec. Phot T.
Color 6in Phot

Full Aperture Used.

Index Left. B.

89.6 ✓ Fourth Type Obs
171.4 81.8 ✓
276.7
345.6 68.9 ✓ / 1 ✓ 0.7 ✓ — 0. ✓ 6 ✓

8 40 10

96.9 67.7 ✓ — 0. ✓ 3 ✓
164.6
267.8 86.0 ✓ / 1 ✓ 3.7
353.8 — 0. ✓ 0 ✓

Index Right A.

1.6
81.4 79.8 ✓
187.7 66.9 ✓ / 146.7 ✓ — 0.64 ✓
254.6

7.6 — 0.62 ✓
73.3 6 ✓ 5.9 ✓
179.7 83.1 ✓ / 149.0 ✓ — 0. ✓ 9 ✓
262.8

Mean — 0. ✓ 8 ✓

8 49 40

8.9 ✓ 0. ✓
8 44 ✓ ✓ 5. ✓
+ ✓ — 34. ✓

PA 258.8 Vous B

13 44 21. ✓

8 69 8. ✓ 7 2 ✓ ✓

1909phae.proj...600w

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1909phae.proj..600W

Jan. 26, 1910

Fourth Type Star +14° 2048.

9	7	+15.5
5	17	
3	20	
8	40	

Fourth Type Star +70° 644

10	54	+70.8
6	4	
4	50	
7	10	

W Obs. Rous Rec. Phot 7

Color 1 with ordinary eyepiece

Measts. on next page.

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1909phae.proj...600W

Jan. 26, 1910

Index R+a A.

1.0 ✓ Comp Star Dis.

9 38 35

85.2 84.2 ✓

190.8

250.0 59.2 ✓ / 143.4 ✓ +0.71 ✓

9.7 64.3 ✓ +0.64 ✓

74.0

176.9 86.5 ✓ / 150.8 ✓ +0.56 ✓

263.4

Index L+B B.

262.7 93.6 ✓

356.3

96.9 67.1 ✓ / 160.7 ✓ +0.37 ✓

164.0

277.0 67.9 ✓ +0.38 ✓

344.9

84.7 92.3 ✓ / 160.2 ✓ +0.38 ✓

177.0

mean +0.51 ✓

9 44 50

83 25 ✓

9 41 42. ✓

+5 −34. ✓

14 41 8.

869 8.6119 ✓ P.A. 154.8 Vernon B

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1909phae.proj..600M

Jan 26, 1910

δ Ursae

5	22	−0.4
7	2	W Obs Pour Rec
1	40	Phot R. one Pierce Removed

Index Left.

340 ← Southern + Brit. Obs

10 31 0

47.9	13.9″	
214.6		
227.7	13.1″ / 27.0″	−4.63″

34.6	13.1″	−4.64″
47.7		
214.0		
227.8	13.8″ / 26.9″	−4.64″

Index Right

304.1		
317.8	13.7″	
124.5		
137.4	12.9″ / 26.6″	−4.67″

304.6	13.5″	−4.63″
318.1		
124.0		
138.0	14.0″ / 27.5″	−4.59″

Mean −4.64″

10 37 20

	6δ	20.″
10	34	10.″
+″		−34.″
1″	33	36.″

δ698.6423″

W's watch used for times
Watch 34 secs fast.

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1909phae.proj...600W

Jan 26, 1910.

Comet a 1910.

The comet was looked for about six P.M and pretty soon seen. The comet was somewhat higher in the sky and more out of the fading twilight than Sunday night when W. saw it from his house. Notwithstanding the somewhat higher altitude tonight, the comet was not seen quite so early nor so easily as on Sunday night. The nucleus and tail seem fainter, although the tail tonight seemed longer. W. then turned the telescope on the comet. In the telescope the nucleus was bright, sharp, and rather round, the tail showed finely with a dark rift through the center. But W's impression was that the nucleus was not quite as bright & flamming in the telescope as a few days ago. The whole appearance, however, in the telescope was very fine. With the naked eye the tail was at least 20° long, curving southward somewhat, the end of the tail being quite broad and somewhat plume like. The tail tonight to the naked eye seemed longer than on previous nights. To summarize —— while the comet tonight both in the telescope and to the naked eye was very fine, W's impression is quite strongly that both the nucleus & tail are fainter than when last seen, although the tail is somewhat longer.

over.

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1909phae.proj..600N

Jan 26, 1912

The fact that the comet seemed fainter tonight than a few nights ago was also remarked by several observatory people.

L. P. P.

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1909phae.proj...600W

Jan. 30. 1910. (Sunday). | Hr. obs. Hr. rec.

Comet a 1910.

Hr's Watch. Ballon 103. 5 32 0.

V 32 34.

Hr. & E. T. (Hr. 132).

V^h 34. = 2^h 27^m

Hr's Watch. Circle Readings.

		H. A.	Dec.
V	49.0	= +V^h 6.V^m	+2.0 V

	5	54.0	= V 17.0		+2.00
Means =	V^h	V 3.V^m	= V^h 10.7		+2.02

Venus.

	6	10.0	= V 2.V		−V.°73
	6	14.0	= V 10.0		−V.7V
Means	6^h	14.0	= V^h 6.2^m		−V.°74

Venus. (Reduction).

21^h V4^m 39.^s −V° V9' 13." (By Almanac)

−44. +2 41.

At time of obs. = 21 V7 V5. = R. A. −V V6.V 32. = Dec.

At. 6^h 14^m E. T. R. A. Venus = 21^h V7.9^m −V° V6.V

V 34

60.

26 27.

S. T. 27 7.

R. A. = V 6.

22 1. = R. A. by Circle. −V.°74 = Dec. by Circle.

21 V8. = " " Almanac. −V.94 = " " Almanac.

(over.)

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1909phae.proj..600M

Jan. 30. 1910.

Fr. obs.
W. rec.

Comet a 1910.

(Con. from previous page).

	ν^h ν 3.ν^m
	ν 34.
	19.ν
S. T. =	26 27.
	26 46.ν
Circle R. A. =	ν 10.8
(R. A. by Circle)	21 3ν.7
Corr.	−3. (from Venus settings)
Corrected R. A. =	21^h 32^m.7

+2°.02 = Dec. by Circle,
−0.20
+1°.82 = Corrected Dec.

S. Mn. T.	R. A.	Dec.
∴ At 10^h ν3^m (S. M. T.)	21^h 33^m	+1°.8

Correction to Kobold's Ephemeris.

21^h 47^m	+7° 4ν'
22 6	+13 ν0.
19.60	+6° ν'.
8 | 1140.ν	8T 36ν'.
+142.ν	+46'.
21^h 47^m	+7° 4ν'.
+24	+46.
21^h 49.4	+8.ν31' by Ephem.
21 33.	+1.8
−16.4	−6.7 = Corr. to Ephemeris.

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1909phae.proj...600W

Feb. 1. 1910. (Tuesday).

Comet a 1910. H. obs. H. rec.

Hr. 34 V 1. Balloon 103.

2 7 18.7 5 6 0.0

A 18.9 7 0.0

Hé watch. Balloon 1.03.

5 A 30.0 V A 0.0

Hé watch Hr. 1327.

5h 18m 7.s 2h 19m 0.s

Continued on next page.

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1909phae.proj..600M

7 Feb. 1. 1910.

Contact a 1910.

	Fr. 34 V 1.			Ballon 103.		
3	48	3 V. 2		6	47	0.0
	49	3 V. 4			48	0.0

Continued on next page.

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1909phae.proj...600W

Feb. 1. 1910.

Comet a 1910. W. obs. H. rec,

(For setting circles only) 21h 40m +3°.6 = Approx. pos. ∈.

26 27

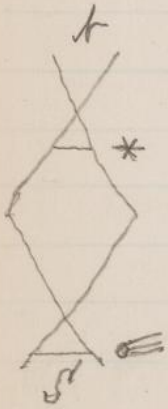
+4 +7

+7

P. A. 72.0
4.0
117.0

Times by Sr. 34 var. Observations with square bar micrometer.

3h	2m	17.0	*	Inside, north half square.
	2	25.5	*	" " " "
	4	29.5	∈	Outside south " "
	4	34.0	∈	" " " "



3h	9	4.5	*	Inside, north half square.
	9	16.0	*	" " " "
	11	23.5	∈	Outside, south " "
	11	35.5	∈	" " " "

3h	13	23.0	*	Inside, north half square.
	13	31.0	*	" " " "
	17	38.5	∈	Outside, south " "
	17	50.5	∈	" " " "

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1909phae.proj..600M

Feb 1, 1910.

Halley's Comet (Phot. Measts of Light of Nucleus)

0 55 +7.1

5 25 W. Obs. Rouse Rec. Phot. I

4 30 Comp Star +8° 173 (7.5)

Index R+a A.

297.5 ✓ Comp Star ✓

8 39 50

321.6 24.1 ✓

124.3

137.0 12.7 ✓ / 36.8 ✓ +3.9 ✓

303.4

319.1 15.7 ✓ +3.9 ✓

118.2

140.6 22.4 ✓ / 38.1 ✓ +3.8 ✓

Index L+B B.

210.0 21.0 ✓

231.0

34.8

47.7 12.9 ✓ / 33.9 ✓ +4.13 ✓

212.5 16.3 ✓ +4.03 ✓

228.8

30.0

50.8 20.8 ✓ / 37.1 ✓ +3.93 ✓

Mean + 3.9 ✓

8 50 45

90 3 ✓ ✓

a 45 ✓ 18. ✓

+✓ −30. ✓

13 44 48 ✓

£704. ✓ 72 ✓

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1909phae.proj...600W

Feb. 1, 1910.

Remarks on obs. of Kellog's Comet.

As the comet was getting rather low., W. could not wait to make a critical examination of it with the eye at the telescope. Before putting the Phot in, however, and by a somewhat quick inspection, [allowing a little for rather poor seeing due to cold and wind] the coma impresses W. as being rather more pronounced and larger than when last observed. The nucleus itself strikes one as rather faint and small (at this altitude) with the brighter part of the coma somewhat closely enveloping it. It would seem on casual inspection as if the total coma was 2' to 3' in radius — the coma progressively growing brighter up toward the nucleus, being somewhat bright closely about nucleus. As before said, however, the nucleus proper does not strike one as exceptionally bright. Comet easily seen in finder at this altitude, the diameter seeming to be several minutes of arc.

Measurements made as carefully as possible and ~~the measurements were~~ those of the nucleus proper. The observer put comparison on coma and as close to the nucleus as he could and at the same time see the two images distinctly The distance apart of these images was perhaps a little over 0.'5,

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1909phae.proj..600M

Feb. 1, 1910

R. W. Tauri.

3 58
6 18
2 20

+27.2

W Obs Power Rec. Plwd. T

Index R+A A. I

4.1 ← Var. Dis.
78.0 73.9 v
196.9
247.5 v 0.6 v
124.5 v −1.10 v

9 45 0

15.9
65.0 49.1 v −1.14 v
184.4
255.5 71.1 v
120.2 v −1.19 v

9 47 5

Index L+B B.

272.4
349.1 76.7 v
103.2
156.7 v 3.5 v
130.2 v −0.99 v

9 49 50

282.1
337.7 55.6 v −0.92 v
89.3
169.6 v 80.3 v
135.9 v −0.86 v

mean −1.03 v

9 52 50
194 45 v
9 42 41. v
+v −30. v
14 42 11. v
42704.6162 v

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1909phae.proj...600N

Feb. 1, 1910.

Same Again. II

Indus L+B. B.

	269.2		
9 56 15	349.8	80.6	
	99.2		
	161.9	62.7 / 143.3	−0.71

	278.9		
9 58 30	342.1	63.2	−0.63
	85.4		
	173.6	88.2 / 151.4	−0.78

Indus A+a. A.

	178.2		
10 1 10	259.6	81.4	
	11.9		
	70.6	58.7 / 140.1	−0.77

	190.0		
10 3 20	251.4	61.4	−0.74
	359.0		
	80.8	81.8 / 143.2	−0.71

mean −0.68

239 15

9 59 49.

+ −30.

14 59 19.

270.4 62.4 +

1909phae.proj..600M

Feb. 1. 1910.

Same Again III

Index R+A A.

	179.3		
10 6 30	263.0	a 3.7 v	
	11.8		
	69.0	57.2 v	
		140.9 v	-0.76 v
	190.4		
10 8 30	249.9	59.5 v	-0.74 v
	357.4		
	80.8	a 3.4 v	
		142.9 v	-0.72 v

Index L+B B.

	83.3		
10 11 0	174.0	90.7 v	
	274.1		
	345.7	71.6 v	
		162.3 v	-0.34 v
	96.2		
	167.8	71.6 v	-0.32 v
	263.6		
	356.2	92.6 v	
		164.2 v	-0.30 v

Mean -0.53 v

10	13	10	
	39	10. v	
10	9	42. v	
+5		-30. v	
15	9	12. v	

a704.6314 v

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1909phae.proj...600N

Feb. 1, 1910

Same Again IV

Index L+B B.

		79.4	
10	20	10	180.6 101.2 v
			273.5
			345.6 72.1 v
			173.3 v −0.13 v
			91.4
10	22	15	168.8 77.4 v −0.10 v
			260.4
			359.5 99.1 v
			176.v v −0.06 v

Index R+A. A.

			350.8
10	25	20	90.4 99.6 v
			183.0
			255.5 72.v v
			172.1 v −0.1v v
			4.5
10	27	30	78.7 74.2 v −0.1v v
			170.3
			269.5 99.2 v
			173.4 v −0.13 v

Mean −0.12 v

	−	9v	1v. v
10	23	49. v	
+v		−30. v	
1v	23	19. v	

Δ 04. 64/2 v

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1909phae.proj..600M

Feb. 1. 1910.

Same Again V

	Index R.+ A.	A.	
	348.0		
10 31 5	91.1	103.1 v	
	179.6		
	259.2	79.6 v	
		182.7 v	+0.0 v
		177.3 v	
	3.0		
10 33 30	79.3	76.3 v	+0.0 v
	166.0	107.9 v	
	273.9	184.2 v	+0.0 v
		179.0 v	

	Index L+B	B.	
	250.6		
10 36 10	5.1	114.5 v	
	86.2		
	172.7	86.5 v	
		201.0 v	+0.0 v
		159.0 v	
	265.2		
10 38 10	357.1	91.9 v	+0.0 v
	73.5		
	187.6	114.1 v	
		206.0 v	+0.0 v
		154.0 v	

10 38 10
10 v v v
10 34 44. v
+v −30. v
v 34 14. P.A. 130.3 Vern. B
8704.648) v

Mean +0.0 v

L. P. P.

W. watch used for times.
Watch 30 secs fast.

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1909phae.proj...600W

Feb. 2. 1910. (Wednesday)

Comet a 1910.

Fr. 345 1. Balloon 103.

2	14	12.5	5	10	0.0
	16	12.6		11	0.0

Fr's watch. Bal. 103.

5	12	23.	5	12	0.

Fr. 345 1. Balloon 103.

3	31	24.7	6	26	0.0
	32	24.2		27	0.0

For continuation see next page.

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1909phae.proj..600N

Feb. 2. 1910.

Comet a 1910.

Approx. setting.

21	42	+3.9
26	30	
+4	40.	
	12	
+12	3.	

21	42	+3.9
26	12	
+12	13	

Approx. Pos. of ~~Comet~~

	27			
S. J.	3	15	10.	
Circles	12	32	30.	+4.1
	21	42	40.	

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1909phae.proj...600W

Feb. 2, 1910.

R. S. Cephei

4	33	+81.0
5	18	
0	40	

W Obs. Rowe Rec. Phot T
Clouds.

Abandoned, too cloudy.

5 Aurigae

5	22	-0.4
6	2	
0	40	

W. Obs Rowe Rec
Plot R. one prism removed.

Meets on foll. page.

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1909phae.proj..600N

Feb 2. 1910.

Index Right. A.

304.1 ← Southern + Polar Dis.
3173 13.2 "
124.0
138.0 14.0 "
27.2 " −4.62 "

304.1 13.2 " −4.62 "
3173
123.8 13.2 "
137.6 27.0 −4.63 "

Index Left. B.

214.3 13.1 "
227.8
34.1 13.3 "
47.4 26.4 −4.65 "

214.4 13.1 " −4.64 "
227.9
35.0 12.5 "
47.5 26.0 " −4.72 "
Mean −4.65 "

8 59 35

9 4 50
4 25 "
9 2 12 "
+r −23. "
14 1 49.
270 r. r 46 "

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1909phae.proj...600W

Feb. 2. 1910

R. W. Taur.

3 58 +27.2
6 18 W. Obs. Rowe Ree Pilot T.
2 20

Index R+A I A.
1960 ∠ Var Obs.

9 31 10

2413 4v.3 v
25.6 30.6 v
56.2 7v.9 v −2.32 v

203.5 32.3 v −2.20 v
235.8

18.7 46.1 v
64.8 7A.4 v −2.24 v

Index L+B. B.

102.6 v 2.4 v
155.0

292.4 34.A v
327.2 A7.2 v −1.99 v

111.7 3v.6 v −2.02 v
147.3

285.3 49.A v
334.3 A4.6 v −2.06 v

Mean −2.1v v

9 38 20
69 30. v
9 34 4v. v
+v −23. v
14 34 22. v
A70v. 6072 v

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1909phae.proj..600N

Feb. 2, 1910.

Same Again II

Index D+B. B.

103.7		
154.4	v0.7 v	
291.4		
327.7	36.3 v / Δ7.0 v	−2.00 v
111.3		
146.4	3v.1 v	−2.02 v
283.1		
333.5	v0.4 v / Δ v.v v	−2.04 v

Index A+a. A.

15.7	47.7 v	
63.4		
202.9		
234.2	31.3 v / 79.0 v	−2.22 v
24.2		
56.6	32.4 v	−2.2v v
196.3		
241.2	44.9 v / 77.3 v	−2.2Δ v

Mean −2.14 v

9 41 30

9 47 45

Δ9 1v. v

9 44 3Δ. v

+v −23. v

14 44 1v. v

Δ70v. 6140 v

1909phae.proj...600W

Feb. 2, 1910

Same Again. III

Index R+a. A.

9 51 50

15.2
65.6 ~0.4~
204.1
235.7 31.6 / 42.0 -2.14

24.1
56.6 32.~ -2.24
197.2
240.2 43.0 / 7~.~ -2.33

Index L+B. B.

285.3
335.5 ~0.2~
111.8
146.2 34.4 / 24.6 -2.06

291.3
326.2 34.9 -2.03
103.7
155.7 ~2.0~ / 26.9 -2.00

Mean -2.14

9 58 35
10 2~.
9 ~~ 12.
+~ -23.
14 ~4 49.
4 70~. 62/4

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1909phae.proj..600W

Feb. 2, 1910

Same Again IV

Index L+B.	B.		
282.8			
334.5	51.7		
112.1			
147.2	35.1 / 36.4	-2.00	
290.5	35.1	-1.96	
325.6			
102.6			
157.7	55.1 / 90.2	-1.91	

Index A+a.	A.		
196.1			
240.6	44.5		
22.9			
56.1	33.2 / 77.7	-2.26	
202.8			
236.7	33.9	-2.22	
11.6			
58.4	46.8 / 80.7	-2.17	

Mean -2.09

10 1 10

10 17 10

	18	20.
10	9	10.
45		-23.
15	27	47.

Δ70 v. 6311 P.A. 310.0 Ven B

L. A. P.

W's watch used for time
Watch 23 secs fast
Stopped by clouds.

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1909phae.proj...600W

Feb. 4. 1910. (Friday).

Fr. 34 V 1.

2 33 V 9.V
34 5 9.7

Ballon 103.

5 21 0.0
22 0.0

Fr. 34 V 1.

3 V 3 12.V
V 4 12.6
V V 12.7

Ballon 103.

6 40 0.0
41 0.0
42 0.0

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1909phae.proj..600W

Feb 4. 1910

Comet a 1910. Gr. obs. Gr. rea.

21	43	+v. 2
26	v 3.	
+v	1 0	

27	7
+v	24

21	44	+v. 0
27	20	
+v	36	

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1909phae.proj...606N

Feb. 4, 1910.

3	36	4.V	E
	36	37.V	E
		V 60	*
	37	9.V	*

37	V 20	
38	23.V	
	43.V	

39	29.V	
	47.V	
	20.V	

41	18.R	E
42	4.2	E
42	10.V	*
42	26.2	*

Star southern half, outside
Coast northern " , inside.

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1909phae.proj..600W

Feb 4, 1910.

Suspected Variable near ζ Cephei.

0	50	+81.2
5	20	W Obs. Rowe Rec. Phot T
4	30	Full Aperture used.

Index R+A

~~359.8 ← Susp. Var. Dis~~
80.8
190.0
247.1

9.0
68.9
174.8
262.1

Index L+B B.

264.4 ← Susp. Var. Dis.
356.1 91.7 v
96.8
159.5 62.7 v
154.4 v −0.49 v

276.8 63.9 v −0.40 v
340.7

83.1 91.7 v
174.8 155.6 v −0.47 v

8 20 0

8 28 20
20.

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1909phae.proj...60cm

Feb. 4, 1910.

Index	R + a	A.
178.9		
258.0	79.1 v	
6.4	64.6 v	
71.0	143.7 v	−0.70 v

1863	64.1 v	−0.64 v
2504		
3579	85.7 v	
836	149.8 v	−0.58 v
		mean −0.56 v

8 42 40
71 0 v
8 35 30. v
+5 −26.
13 35 4. v
8707.5661 v P.A. 341.8 Vernon B.

As first two sets on this star did not agree very well (seeing being rather poor from dome (tents) opened shortly previously) and as seeing improved during the observations, the first two sets were retaken.

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1909phae.proj..600M

Feb. 4, 1910

R. T. Perseus.

3	20	+47.5
6	55	W. Obs. Rough Re Phot T.
3	35	

Index Above A. I

	109.0	← Comp Star Dis.	
10 27 45	152.7	F 3.7 v	
	290.0		
	325.9	37.9 v / 79.6 v	+2.21 v
	112.6		
10 30 0	144.4	31.8 v	+2.14 v
	284.6	F 3.0 v	
	337.6	52.8 v	+2.06 v

Index Below B.

	16.7		
10 33 10	58.3	F 1.6 v	
	205.1		
	233.6	28.5 v / 70.1 v	+2.50 v
	22.7		
10 35 50	52.5	29.8 v	+2.30 v
	193.8	48.3 v	
	242.1	72.1 v	+2.25 v

Mean +2.26 v

	126	F 5. v
10	31	41. v
F 5		-26. v
1 5	31	1 5. v

2707.6466 v

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1909phae.proj...600w

Feb. 4. 1910

Same Again. II
Index Below B.

135
626 49.1 v
2033
2325 29.2 v
78.3 v +2.2v v

22.6
52.6 30.0 v +2.30 v
1960
2406 44.6 v
74.6 v +2.36 v

Index Above. A.

283.4 v2.v v
335.9
113.0
148.1 35.1 v
79.6 v +1.9A v

290.6 30.0 v +2.00 v
325.6
103.0 v1.1 v
154.1 A6.1 v +2.02 v

Mean +2.1v v

10 40 25

10 42 85

10 45 30

10 47 35
16 v. v
10 44 1. v
+5 −26. v
15 43 3v. v
A7.07.6vv3 v

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1909phae.proj..600

Feb 4. 1910

Same Again III
Index Above A.

	281.2		
10 49 40	332.1	√0.9 √	
	110.8		
	146.9	36.1 √ / A7.0 √	+2.00 √
	289.8	36.4 √	+1.96 √
10 51 30	326.2		
	102.8		
	155.7	√2.9 √ / A9.3 √	+1.93 √

Indy Below B.

	191.2		
10 54 0	242.7	√1.√ √	
	20.8		
	53.1	32.3 √ / A3.A √	+2.0A √
	200.6	34.2 √	+2.04 √
10 56 20	234.8		
	10.0	√3.0 √	
	63.0	A7.2 √	+1.99

211 30. √
10 √2 √2. √
+√ −26. √
1√ √2 26. P. A. 178.8 Vernier B.
A707.6614 √

Mean +2.00 √

W's watch used for times
Watch 26 secs fast

L. P. P.

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1909phae.proj...600W

Feb. 5, 1910 (Saturday).

Z. Persei.

2 33 + 42.2
5 28 W. Obs. Roux Rec. Phot. T.
2 50

Index L+a B. I

293.9 ← Comp Star Dis.

8 21 15

323.0 29.1 ✓
117.9
17.7 ✓
135.6 46.8 ✓ +3.42 ✓

8 25 5

300.9 16.7 ✓ +3.41 ✓
317.6
110.2 30.5 ✓
140.7 47.2 ✓ +3.40 ✓

Index A+B. A.

8 28 20

203.2 24.8 ✓
232.0
28.2 18.7 ✓
46.9 47.5 ✓ +3.39 ✓

8 31 20

209.7 18.3 ✓ +3.30 ✓
228.0
20.8 33.0 ✓
53.8 51.3 ✓ +3.22 ✓

mean +3.36 ✓

106 0 ✓
a 26 30. ✓
+v −2v. ✓
13 26 v.
a70a. vv9a ✓

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1909phae.proj..600N

Feb. 5, 1910

Same Again II

Index A + B. A.

8 34 35

201.4
233.2 31.8 v
29.1
48.0 18.9 v / 15.7 v + 3.24 v

8 37 15

207.9
224.9 17.0 v +3.32 v ~~+3.42 v~~
22.8
53.2 30.4 v / 27.4 v + 3.39 v

Index L + a B.

8 40 40

113.9
142.5 28.6 v
299.4
318.1 18.7 v / 15.3 v + 3.40 v

8 43 15

116.4
137.4 21.0 v +3.28 v
293.2
324.6 31.4 v / 27.4 v + 3.17 v

Mean +3.30 v

15 v 5 v v
a 38 v 6 v
+v −2 v. v
13 38 31. v
a 70 a. v 6 a v − v

1909phae.proj...600W

Feb. 5. 1910.

Same Again. III

Index L+A B.

8 47 40

106.6
143.5 36.9 ✓
298.1
317.0 18.9 ✓ / √5.6 ✓ +3.02 ✓

8 51 40

117.6 20.2 ✓ +3.0√ ✓
137.8
290.0 34.3 ✓ / √4.√ ✓ +3.4A

Index A+B A.

8 55 20

23.1
55.0 31.9 ✓
208.6
227.6 19.0 ✓ / √6.9 ✓ +3.24 ✓

8 57 35

27.0
49.4 22.4 ✓ +3.13 ✓
199.0
232.6 33.6 ✓ / √6.0 ✓ +3.02 ✓

212 1√. ✓
& √3 4. ✓
+√ −2√. ✓
13 √2 39. ✓
A70A. √7A2

+3.09

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1909phae.proj..600N

Feb. 5, 1910.

Same Again: IV

Index R+B A.

19.8
55.1 35.3 v

206.8
227.1 20.3 v / 5.6 v +3.03 v

28.0
50.1 22.1 v +2.96 v

199.0
236.2 37.2 v / 9.3 v +2.89 v

Index L+a. B.

287.2 40.6 v
327.8

115.1 25.1 v / 6.7 v +2.65 v
140.2

295.8 25.3 v +2.61 v
321.1

105.7 42.7 v / 6.0 v +2.57 v
148.4

Mean +2.70 v

9 7 15

9 10 0

9 13 15

9 15 20

4.5 5.0 v

9 11 20. v

+5 -2.5 v

14 11 3. v

4.70 0.5910 v

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1909phae.proj...600w

Feb 5, 1910

Same Again. I

Indus L + a B.

285.6
327.1 41.5 v
113.2
141.8 28.6 v / 70.1 v +2.50 v

9 23 15

292.6
321.9 29.3 v +2.52 v
107.3
146.9 39.6 v / 68.9 v +2.54 v

9 25 30

Indus R + B. A.

199.0 40.4 v
239.4
24.3
51.8 27.5 v / 67.9 v +2.52 v

9 28 45

202.9 28.5 v +2.55 v
231.4
17.8
58.8 41.0 v / 69.5 v +2.52 v

9 31 15

Mean +2.54 v

10 8 45 v

9 27 11. v

+5 −25. v

14 26 46. v

8708.6020 v

1909phae.proj..600M

Feb. 5, 1910.

Same Again VI

Index R+B. Δ_1

		189.6		
9	36	30	240.0	$\sqrt{0.4}^v$
			24.4	
			54.0	$\frac{29.6^v}{\Delta 0.0^v}$ $+2.19^v$
			201.6	
9	38	50	230.5	$2\Delta.9^v$ $+2.22^v$
			12.6	
			62.1	$\frac{\Delta 9.\sqrt{}^v}{7\Delta.\Delta^v}$ $+2.24^v$

Index L+a B.

			99.4	
9	42	10	150.4	$\sqrt{1.0}^v$
			292.5	
			324.3	$\frac{31.\Delta^v}{\Delta 2.\Delta^v}$ $+2.11^v$
			111.8	
9	44	40	143.9	32.1^v $+2.10^v$
			281.8	
			333.2	$\frac{\sqrt{1.\Delta^v}}{\Delta 3.\sqrt{}^v}$ $+2.09^v$

Mean $+2.16^v$

	16	2	$10.^v$
9	40	32.	^{v}
$+\sqrt{}$		$-2\sqrt{}.$	^{v}
14	40	7.	^{v}

$\Delta 70\Delta.6112^v$

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1909phae.proj...600W

Feb. 5, 1910.

Same again. VII

Index A + a. B.

	102.0		
9 52 10	151.8	49.8 v	
	291.0	32.6 v	
	323.6	82.4 v	+2.12 v
	110.5		
9 55 5	145.8	35.3 v	+2.00 v
	281.1	56.3 v	
	337.4	91.6 v	+1.83 v

Index A + B. A.

	7.7		
9 57 30	62.5	54.8 v	
	200.6		
	234.7	34.7 v	+1.93 v
	20.2		
9 59 40	57.4	37.2 v	+1.96 v
	191.9		
	242.2	50.3 v	+1.98 v

24 25. v

9 56 6. v

+v −25. v

14 vv 41. v

δ 70 A. 6220 v

Mean +1.98 v

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1909phae.proj..600M

Feb. 5, 1910

Samadana VIII
Index R+B A.

10 4 25

10.8
627 V 1.9 V
199.2
235.0 3 V. A / A 7.7 V +1.9 A V

10 6 10

19.7
57.4 3 7.7 V +1.9 A V
192.4
242.4 V 0.0 / A 7.7 V +1.9 A V

Index L+a. B.

10 8 10

277.7
336.0 V A.3 V
109.2
144.9 3 V. 7 / 9 F. 0 V +1.A1 V

10 10 10

289.1
327.2 3 A. 1 V +1.A V V
99.4
152.3 V 2.9 / 9 1.0 V +1.A9

2A V V.
10 7 14. V
+V ~2V. V
1V 6 49 V

Mean +1.92 V

A70 A.629 A V

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1909phae.proj...600W

Feb. 5. 1910.

Same Again. IX

Index Lt A B.

10 12 35

280.4
335.0 ✓ 54.6 ✓
106.2
146.6 40.4 ✓ / 9 5.0 ✓ +1.78 ✓

10 14 25

288.7 38.5 ✓ +1.80 ✓
327.2
100.0
155.4 55.4 ✓ / 9 3.9 ✓ +1.81 ✓

Index R+B. A.

10 16 40

188.6 ✓ 55.4 ✓
244.0
19.2 38.5 ✓ / 9 3.9 ✓ +1.81 ✓
57.7

198.1 37.9 ✓ +1.80 ✓
236.0
8.9 56.9 ✓ / 9 6.4 ✓ +1.79 ✓
65.8

10 18 50

22 30. ✓
10 15 38. ✓
+5 −25. ✓
15 15 13. P.A. 196.4 Vernier B Vernier +1.80 ✓
A70 A. 63 5 5 +4 ✓

W's watch used for times
Watch 25 secs fast

L. P. A.

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1909phae.proj..600M

Feb. 6. 1910. (Sunday)

Comet a 1910. Time comparisons.

	Her. 3457.			Ballot 103.	
2	40	43.5	5	20	0.0
	41	43.6		21	0.0
		57.5			
4	5	~~47.5~~	6	45	0.0
4	6	57.6		46	0.0
4	12	5A.5		52	0.0

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1909phae.proj...600W

Feb. 6. 1910.

Comet a 1910. Approx places. W. obs. W. rec.

21 49 +6.2
26 V3
+V 4

27 2
+V 13

27 13
21 49
+V 24

S. S. = 27 17 30 V. T.
Circles V 26 +6.2

R. A. 119.V
45.0
164.V

For transits see fol. page.

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1909phae.proj..600M

Feb, 6. 1910.

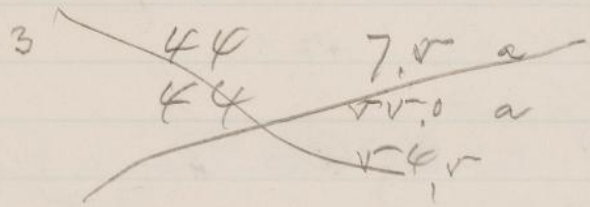
Transits.

3h	36	ν 3.7	∈	South, inside.
	37	4.0	∈	" "
	37	30.0	*	" "
	37	47.4	*	" "
	38	46 ν	∈	" "
	"	ν 2.ν	∈	" "
	39	23.ν	*	" "
	39	37.0	*	" "
	40	2ν.8	∈	" "
	4	36 ν	∈	" "
	41	3.0	*	" "
	41	14.ν	*	" "
	42	11.0	∈	" "
	42	21.7	∈	" "
	42	46.1	*	" "
	43	0.1	*	" "

Comp. Star (c) = 2 hr. +5° 4493 (4.3)
" " = A. G. 1099 ν (4.ν)

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Feb. 6. 1910.



Identification of comp. Star (c) by transits.

3	47	27.0	a	South half,	Inside	
	"	+7.0	a	"	"	"
	42	+6.4	c	North	"	"
	49	22.7	c	"	"	"

3	+0	+9.+	b	North half,	Inside,	
	+1	31.0	b	"	"	"
	+2	2.0	c	"	"	"
	+2	21.6	c	"	"	"

Star a =
" " b =
" " c = +5° 42 9 3 (A.3) = Comp. Star in previous transits.

L. P. P.

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1909phae.proj..600N

Feb. 7, 1910 (Monday)

Halley's Comet (Phot Nucl of Nucleus)

0 55 +7.0

4 55

4 0

W a Abs Rows Rec

Phot T.

Abandoned

Thickly cloudy in this region and all through the north west

δ Orionis

5 22 −0.4

5 22

0 0

W Abs Rows Rec

Phot Rows Prism removed

Most on foll page

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1909phae.proj..600W

Feb 7, 1910

Index Right

8 3 40

12.42
137.6 13.4"
303.8
317.8 14.0"
27.4" −4.60"

123.2 14.4" −4.76"
138.0
303.9 13.7"
317.6 24.7" −4.72"

Index Left.

34.6 13.1"
47.7
213.6 14.7"
228.3 27.4" −4.73"

33.4 14.4" −4.72"
48.2
213.8 14.2"
228.0 29.0" −4.64"
Mean −4.74"

8 9 30

13 10."
6 37."
+7 +7."
13 6 40."

8710.7463" Seeing poor, images blurry, steadying somewhat at times. Air cold, barometer rising, cold snaps. Observations difficult from bad images most of the time & blurry seeing.

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1909phae.proj..600N

Feb. 7, 1910.

8 17 Practically cloudy anywhere.

Double Star (Comstock's List) No 95 = b Leonis.

9	26	+10.2
6	26	
3	0	
9	0	

9 0 All cloudy in this region

We watch used for times
Watch 5 secs slow

L. P. P.

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1909phae.proj..60cm

Feb. 10. 1910 (Thursday).

Fr. 3451.

3	10	23.0
	11	23.1

Balloon 103.

5	33	0.0
	34	0.0

Fr. 3451.

4	23	34.7
	24	34.9

Balloon 103.

6	46	0.0
	47	0.0

For transits, see ~~folio~~ p. 171.

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1909phae.proj..600W

Feb. 10. 1910.

Comet a 1910. W. ob. Waterc.

21	√4	+7.6
27	~~Z~~0	
+√	26	

√	36	
√	44	+7.4
27	43	
21	√9	

A. A. 243.7
4√.0
248.7√

Transits on next page.

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1909phae.proj..60cm

Feb. 10, 1910.

Transits.

3h	54	29.5	⊏	South half, inside square.
	55	13.5	⊏	" " " "
	57	1.7	*	North half, inside "
3	57	13.5	*	" " " "
3	58	14.6	⊏	South half, inside square.
3	58	48.4	⊏	" " " "
4	0	36.6	*	North " " "
4	0	57.6	*	" " " "
~~4~~	~~1~~	~~48.1~~		
		~~49.7~~		
4	3.	12.6	⊏	South half, inside square.
	3	57.5	⊏	" " " "
	5	3.7	*	North " " "
	5	5.1	*	" " " "

Comp. star = a = +7° 4779 (5.4)

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1909phae.proj..600M

Feb. 10, 1910.

Identification of Comp. Star for Obs. of Comet.

Star	a	(Comp. Star)	4h 4m	15° 0′	South	half, inside
"	a		8	49.1	"	" "
"	b		9	57.5	"	" "
"	b		10	39.0	"	" "

∴ Comp. Star = +7° 4779 (B.D.)

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1909phae.proj..600W

Feb. 10, 1910

R T Persei.

3	20
6	10
2	50

+47.5

W Obs. Rows Rec. Plot T.

Index Above & I

111.2 ← Comp-Star Dis.

8 52 30

146.3 3v.1 v

2796

3323 ~~v2.7~~ / 7.8 v +1.97 v

98.2 v4.1 v +1.96 v v

8 54 50

152.3

290.2 3v.4 v

325.6 8.v v +1.93 v

Index Below B.

21.0 32.7 v

8 58 30

53.7

193.6 ~~44.4~~ v

238.0 77.1 v +2.28 v

12.7 48.v v +2.26 v

61.2

202.3 29.8 v

232.1 / 8.3 v +2.24 v

Mean + 2.10 v

9 0 15

226 2v. v

8 v6 36. v

tv +13. v

13 v6 49. v

8713. v8 11 v

1909phae.proj..600M

Feb 10, 1910.

Same Again II

Index Below B.

9 3 5

22.0
50.5 28.5 v

193.3
241.8 48.5 v / 77.0 v +2.28 v

9 5 30

12.1
59.8 47.7 v +2.32 v

203.6
230.9 27.3 v / 75.0 v +2.35 v

Index Above A.

9 8 0

291.2 30.7 v
321.9

101.2
148.0 46.8 v / 77.5 v +2.27 v

283.8 50.2 v +2.19 v
334.0

110.6
143.4 32.8 v / 83.0 v +2.11 v

Mean +2.26 v

9 10 5
26 40. v

9 6 40. v
+v +13. v
14 6 53. v
Δ713.5 ΔΔ1 v

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1909phae.proj..600N

Feb 10. 1910

Same Again III

Index Above. A.

293.3
324.7 31.4 v

101.3
149.6 48.3 v
79.7 v +2.20 v

9 15 30

281.2 v 0.v v +2.20 v
331.7
113.5 29.4 v
142.9 79.9 v +2.20 v

9 17 40

Index Below. B.

203.9
232.8 28.1 v

14.5
60.6 46.1 v
74.2 v +2.37

9 20 40

194.8 44.3 v +2.40 v
239.1
24.0
52.3 28.3 v
72.6 v +2.42 v

9 22 45
76 3 v. v

9 19 9. v
v +13. v
14 19 22. v

2713. v 962 v

Mean +2.30 v

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1909phae.proj..600M

Feb. 10. 1910

Same Again IV.
Index Below. B.

201.0
232.0 31.0 v
12.8
58.9 46.1 v
77.1 v +2.20 v

9 29 50

190.6 48.2 v +2.22 v
238.8
21.4
54.2 32.8 v
81.0 v +2.17 v

9 32 0

Index Above. A.

111.2 31.6 v
142.8
279.4 v-3.1 v
332.5 24.7 v +2.06 v

9 34 55

94.4 v-8.6 v +1.92 v
153.0
289.2 36.8 v
325.6 9 v.0 v +1.70 v
+2.07 v
Means = ~~+2.14~~

9 37 0

133 4v. v
9 33 26. v
+v +13. v
14 33 39. v
A713.6066 v

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1909phae.proj...600N

Feb. 10. 1910.

Same Again V

Index Above A.

9 41 15	109.0	3√.9 √	
	144.9		
	274.4	61.√ √	
	335.9	97.4 √	+1.72 √
9 43 20	95.0	√9.0 √	+1.72 √
	154.0		
	288.0	34.0 √	
	326.0	97.0 √	+1.73 √

Index Below. B.

9 45 35	21.1	34.9 √	
	56.0		
	191.0	√3.9 √	
	244.9	44.4 √	+1.9√ √
	11.0	√4.3 √	+1.94 √
	65.3		
	200.0	34.4 √	
	234.8	49.1 √	+1.94 √

Mean +1.83 √

9 47 50

17.4 0. √

9 44 30. √

+√ +13. √

14 44 43. √

4713.6144 √

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1909phae.proj..600M

Feb. 10. 1910

Same Again VI

Index Below. B.

	18.4		
9 51 40	57.5	39.1	
	190.5		
	246.6	56.1 / 95.2	+1.7 A
	6.5	89.1	+1.7 B
9 54 0	65.6		
	198.0	32.2 / 97.3	+1.7 A
	236.2		

Index Above A.

	286.2	41.2	
9 57 20	327.4		
	96.8	60.4 / 101.6	+1.6 A
	157.2		
	275.6	63.1	+1.5 A
9 59 40	338.7		
	106.1	41.7 / 105.4	+1.5 B
	147.8		

22 40.

9 55 40.

+5 +13.

14 55 53. P.A. 359.0 Ven. B Mean +1.66

£713.6221

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

L. P. P.

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1909phae.proj...600W

Feb. 14, 1910 (Monday).

Halley's Comet (Phot. Measts of Light of Nucleus)

0 41 +6.8 W Elbs. Power Rec
5 16 Phot. T.
4 35

Comp. Star = +7° 124 (8.5)
Index Left. B.

283.5 ← Comp. Star Dis

7 33 0

331.0 47.5 ✓
112.6
145.2 32.6 ✓
Δ 0.1 ✓ +2.19 ✓

291.1 30.9 ✓ +2.16 ✓
322.0

101.0 √1.0 ✓
152.0 Δ1.9 ✓ +2.14 ✓

Index Right A.

196.2 41.Δ ✓
238.0

22.0 30.6 ✓
52.6 72.4 ✓ +2.43 ✓

204.2 27.6 ✓ +2.45 ✓
231.8

14.1 43.5 ✓
57.6 71.1 ✓ +2.47 ✓

Mean +2.30 ✓

7 42 30
7√ 30. ✓
7 37 45. ✓
+√ +21. ✓
12 3Δ 6. ✓

Δ717.√26√ ✓ Remark on next page.

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1909phae.proj..600M

Feb. 14. 1910.

Region somewhat low during preceding observations of comet. Moon five days old and about half way up from western horizon to zenith. Owing to these conditions the comet seemed a little fainter than expected in the telescope. The nucleus and coma, however, were pretty well seen in the Phot. Great care was exercised in the measts., observer putting comp. star as near to nucleus as he could and see the image of nucleus and star distinctly. Distance of two images when compared, 0.5 or perhaps a little more.

R. S. Cephei

4	35	+81.0
7	5	
2	30	

W. Obs. Power Rec. Phot. T

Measts on next page

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1909phae.proj...600N

Feb. 14. 1910

Index L+B B. I.

188.2 < Comp Star Dis.

237.4 49.2 "

7.4

63.0 55.6 "
10 K.A " +1.54 "

189.1 54.1 " +1.73 "

243.2

19.6 35.5 "
55.1 A 9.6 " +1.92 "

Index R+a. A.

110.0 34.7 "

148.7

274.2 60.4 "

334.6 99.1 " +1.60 "

96.2 62.6 " +1.64 "

158.8

286.8 39.6 "

3264 102.2 " +1.60 "

mean +1.62 "

9 19 55

9 27 20

47 15. "

9 23 32. "

+5 +21. "

14 23 59. "

A 717.6000 "

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1909phae.proj..600M

Feb. 14, 1910.

Same Again II

Index R+a. 4.

106.9
147.2 40.3 v

279.2
341.3 62.1 / 102.4 v +1.60 v

93.2
157.8 64.6 v +1.54 v

283.0
325.7 42.7 / 107.3 v +1.48 v

Index L+B. B.

18.1
52.9 34.8 v

187.0
247.2 60.2 / 95.0 v +1.78 v

7.0
66.9 59.9 v +1.72 v

196.5
236.2 39.7 / 99.6 v +1.67 v

Mean + 1.63 v

9 30 30

9 33 10

9 36 50

9 39 35

20 v

9 35 1. v

+v +21. v

14 35 22. v

£717.6079 v

1909phae.proj...600N

Feb. 14, 1910.

Same Again. III

Index L+B B.

16.0

9 43 10 53.0 37.0 ✓

185.8

245.0 59.2 ✓ 96.2 ✓ +1.75 ✓

7.2

9 45 25 63.0 55.8 ✓ +1.84 ✓

Light Clouds

199.8 33.1 ✓

232.9 28.9 ✓ +1.94 ✓

Index R+a A.

287.6 36.1 ✓

9 48 25 323.7

95.9 62.3 ✓

158.2 96.4 ✓ +1.70 ✓

275.0 59.4 ✓ +1.62 ✓

334.4

106.3 40.2 ✓

146.8 99.9 ✓ +1.66 ✓

Mean +1.76 ✓

9 51 45

182 45 ✓

9 47 11. ✓

+5 +21. ✓

14 47 32. ✓

ϕ 717. 6164 ✓

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1909phae.proj..600M

Feb. 14, 1910.

Same Again. IV

Indry R+A A.

		288.2		
9	55	40	323.0	34.8 ✓
			96.8	
			157.2	60.4 ✓
				9 ✓.2 ✓ +1.78 ✓
			278.2	62.1 ✓ +1.70 ✓
9	58	15	340.3	
			167.4	34.8 ✓
			146.2	100.9 ✓ +1.63 ✓

Indry L+B. B.

			198.4	
10	1	50	234.8	36.4 ✓
			6.7	
			65.8	✓9.1 ✓
				9 ✓.✓ ✓ +1.77 ✓
			187.5	✓6.✓ ✓ +1.82 ✓
10	4	30	244.0	
			17.9	3✓.3 ✓
			53.2	91.8 ✓ +1.87 ✓

Mean +1.76 ✓

	240	1 ✓. ✓
10	0	4. ✓
+✓		+21. ✓
1✓	0	2✓. ✓

£719.62✓3 ✓

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1909phae.proj...600M

Feb. 14. 1910.

Same Again I

Index L+B. A.

	197.8	37.0 v	
10 9 25	234.8		
	9.2	√3.√ v	
	62.7	90.√ v	+1.90 v
	186.6		
10 12 45	244.5	√7.9 v	+1.24 v
	18.9		
	55.8	36.9 v	
		9F.A v	+1.79 v

Index R+a A.

	107.9	38.0 v	
10 16 40	145.9		
	275.6	√9.F v	
	335.0	97.F v	+1.72 v
	91.4	6F.√ v	+1.6A v
10 19 35	155.9		
	288.0	3√.9 v	
	323.9	100.F v	+1.6√ v

Mean +1.76 v

√A 2√. v

10 1F 36. v

+√ +21. v

√ 1F √7. v

A717.63√F v

Index 8.1 Vernier B

Sprocket. 13.5 A, 14.5 B. 15.0 C.

W's watch used for times

Watch 21 secs slow

L. P. A.

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1909phae.proj..600M

Feb. 14, 1910

Troubled more or less by light cloud and haze during observations of R. S. Cephei. Variable faint and observations somewhat difficult.

Fr. 3451			Ballon 103		
8	44	58.0	10	57	0.0
8	45	58.1	10	58	0.0

Dis. Jup. I, Phot R. W Obs Bour Rec. Compared with nearer of two Sats. on same preceding side. = Sat. III.

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1909phae.proj...600W

Feb. 14, 1910.

	9	9	39	Δ2.0		263.8
14 10 10.		"	59	Δ1.		345.8
+2 11 Δ.		10	19	Δ1.Δ	+0.3	267.5
16 22 Δ.		"	45			349.0
		11	12	Δ3.3		265.2
14 11 44.		"	31	Δ4.2		348.5
+2 11 Δ.		"	57	Δ3.Δ	+0.2	263.9
16 23 42.		12	16			348.1
		"	42	Δ3.1		263.9
14 13 17.		"	58	90.3		347.0
+2 11 7.		13	29	Δ6.7	+0.1	263.0
16 25 14.		"	59			353.3
		15	19	Δ2.1		263.9
14 14 42.		"	48	Δ1.6		346.0
+2 11 7.9		16	2	Δ1.Δ	+0.3	264.5
16 27 49.		"	18			346.1
		"	52	Δ4.0		263.7
14 17 24.		17	19	Δ5.0		347.7
+2 11 7.		"	34	Δ4.	+0.2	263.0
16 29 21.		"	49			348.0
		18	8	Δ5.3		262.5
14 14 34.		"	27	Δ5.1		349.8
+2 11 7.		"	43	Δ5.4	+0.2	263.1
16 30 31.		"	58			348.2
		19	21	Δ1.0		264.4
14 19 47.		"	37	Δ2.3		345.4
+2 11 6.		"	58	Δ1.6	+0.3	264.5
16 31 43.		20	11			346.8

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1909phae.proj..600M

Feb. 14, 1910

			9	20	37	Δ3.7	262.5
14	21	00.		"	51	Δ0.2	346.2
+2	11	√6.		21	7	Δ2.0 +0.3	264.3
16	32	√6.		"	24		344.5
				22	10	Δ5.Δ	262.2
14	22	32.		"	24	Δ4.√	348.0
+2	11	√6.		"	42	Δ√.2 +0.2	263.8
16	34	2Δ.		"	54		348.3
				23	42	Δ3.0	263.0
14	24	12.		"	55	7 9.3	346.0
+2	11	√6.		24	29	Δ1.2 +0.3	265.0
16	36	Δ.		"	38		344.3
				"	52	Δ1.2	265.0
14	2√	17.9		25	7	7√.Δ	346.2
+2	11	√6.		"	25	7Δ.√ +0.4	267.2
16	37	13.		"	45		343.0
16	37	√7 =		26	2	76.√ +0.√	269.0
16	3Δ	10		"	15	73.0 +0.7	345.5
16	3Δ	2Δ.		"	33	64.√ +1.0	272.5
16	3Δ	40.		"	45	√9.√ +1.2	337.0
16	3Δ	√3.		"	58	√√.9 +1.4	277.5
16	39	4.		27	9	√√.4 +1.4	333.4
16	39	13.		"	18	49.√ +1.7	278.0
16	39	2Δ.		"	33	43 +2.0	327.5
16	39	3Δ.		"	113	46.3 +1.Δ	283.2
16	39	√0.		"	55	39.4 +2.2	329.5
16	40	4.		28	9	32.1 +2.7	290.1
16	40	16.		"	21	26.2 +3.2	322.2

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1909phae.proj...600W

Feb 14, 1910.

16	40	20.[r]	9	28	33	24.0[r]	+3.4[r]	296.0
16	40	44.[r]		"	53			320.0
16	40	r9.[r]		29	4			Not seen Labe

Limit of Visibility

			9	29	33	24.r[r]		294.5
14	30	1.[r]	9	29	47	24.0[r]		319.0
2	11	r5.[r]	9	30	6	24.2[r]	+3.3[r]	295.0
16	41	r6.[r]	9	30	37			319.0

Seeing a little blurry, yet fairly good.

Fr. 34 51 Ballon 163

9	41	7.0	11	53	0.0
9	42	7.1	11	54	0.0

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1909phae.proj..600M

Feb. 18. 1910 (Friday)

R. Z. Cassiop.

2 36 +69.0
5 56 W. Obs. Power Rec. Phot I
3 20

Index Above A. I

16.0 ← Van Obs.
8 13 10 57.3 41.3 ✓
200.8 30.1 ✓
230.9 71.4 ✓ −2.46 ✓

21.8 30.6 ✓ −2.42 ✓
8 15 40 52.4
193.7 43.3 ✓
237.0 73.9 ✓ −2.32 ✓

Index Below B.

281.5 47.6 ✓
8 18 50 329.1
112.1 30.1 ✓
142.2 77.7 ✓ −2.26 ✓

290.0 32.5 ✓ −2.18 ✓
8 20 40 322.5
101.0 40.7 ✓
151.7 73.2 ✓ −2.10 ✓

Mean −2.30

62 20. ✓
2 17 ✓. ✓
+r 0. ✓
13 17 ✓ ✓

2721.✓✓36 ✓

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1909phae.proj...600W

Feb. 18. 1910.

Same Again. II

Index Below. B.

	281.5		
8 25 50	331.0	49.5″	
	110.0		
	142.7	32.7″ / A 2.2″	−2.13″
	289.4	34.2″	−2.06″
8 28. 20	323.6		
	99.5	32.9″ / A 1.3″	−1.99″
	152.4		

Index Above. A.

	191.5		
8 30 40	238.8	47.3″	
	21.0		
	53.9	32.9″ / A 0.2″	−2.19″
	198.0	35.4″	−2.14″
	233.4		
	12.8	48.2″ / A 3.6″	−2.09″
	61.0		

Mean −2.10″

8 32 45

117 35.″

+ 2 9 24.″

+ 0.″

13 29 24.″

A 21.″621″

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1909phae.proj..600M

Feb. 18, 1910.

Same Again III

Index Above. A.

	189.4		
	242.8	53.4	
8 43 10	18.2		
	54.4	36.2 / 89.6	−1.92
	198.3		
	234.9	36.6	−1.92
8 45 0	9.0		
	61.9	52.9 / 89.5	−1.93

Index Below. B.

	96.1		
	158.4	62.3	
8 47 40	286.2		
	325.7	39.5 / 101.2	−1.61
	107.0		
	147.4	40.4	−1.62
8 50 5	275.4		
	335.9	60.5 / 100.9	−1.63

	18	55	
A	46	29.	
+5		0.	
13	46	29.	

A721.5739

Mean −1.77

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1000phae.proj...com

Feb. 18, 1910

Same Again. IV.
Index Below. B.

	95.5	62.5 v	
8 56 45	158.0		
	285.6	40.1 v	
	325.7	102.6 v	−1.5 9 v
	105.4	41.4 v	
8 59 15	147.2		−1.5 4 v
	272.8	65.4 v	
	338.2	107.2 v	−1.4 4 v

Index Above. A.

	4.6	63.2 v	
9 2 5	67.8		
	195.4	42.3 v	
	237.7	105.5 v	−1.5 2 v
	17.5	41.3 v	
9 4 45	58.8		−1.5 1 v
	183.0	65.2 v	
	248.2	106.5 v	−1.5 0 v

mean = 1.5 2 v

242 5 0. v
9 0 42. v
+5 0. v
140 42. v
A 721.5 − A 34 v

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1909phae.proj..600M

Feb. 18. 1910.

Same Again V

Index Above A.

9 18 10	3.2		
	69.0	65.8 V	
	194.6		
	238.0	43.4 V / 109.2 V	−1.44 V
9 19 55	15.5		
	59.7	44.2 V	−1.38 V
	180.6		
	251.0	70.4 V / 114.6 V	−1.31 V

Index Below B.

9 22 20	269.8		
	340.8	71.0 V	
	104.9		
	147.6	42.7 V / 113.7 V	−1.33 V
9 24 35	283.3		
	329.8	46.5 V	−1.28 V
	89.8		
	162.2	72.4 V / 118.9 V	−1.22 V

Mean −1.33 V

	8 V	0. V
9	21	15. V
+V		0. V
14	21	15. V

8721. V 920 V

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1909phae.proj...600M

Feb. 18. 1910

Same Again. V.I

Index Below. B.

	268.3		
	338.6	70.3 v	
9 27 5	104.5		
	147.8	43.3 v	
		113.6 v	−1.34 v
	283.6		
	329.4	45.8 v	−1.32 v
9 29 15	92.6		
	162.1	69.5 v	
		115.3 v	−1.30 v

Index Above. A.

	181.0		
	250.0	69.0 v	
9 31 45	16.6		
	59.2	42.6 v	
		111.6 v	−1.32 v
	193.5		
	239.5	46.0 v	−1.34 v
	2.4		
	68.1	65.7 v	
		111.7 v	−1.34 v

Mean −1.33 v

9 34 0			
	122	√.	v
9	30	31.	v
+√		0.	v
14	30	31.	v

Δ 721.6046 v

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1909phae.proj..600M

Feb. 18, 1910.

Same again. PII

Index Above A.

	190.7		
	241.8	−1.1	
10 7 15	20.0	32.4	
	52.4	23.−	−2.09
	199.5	34.6	−2.03
10 8 30	234.1		
	8.9	−3.3	
	62.2	27.9	−1.99

Index Below B.

	98.9	−4.9	
10 10 50	153.8		
	288.7	34.0	
	322.7	28.9	−1.94
	109.5	32.9	−1.92
10 12 40	142.4		
	278.5	−3.0	
	331.5	29.9	−2.03

Mean −2.00

	39	3
10	9	−4
+−		0.
1−	9	−4.

Δ721.6312

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1909phae.proj...600N

Feb. 18. 1910.

Same Again. VIII

Index Below. B.

	99.7		
	150.4	+0.7	
10 15 15	290.7		
	321.2	30.5 / 31.2	−2.16
	111.2		
	141.0	29.8	−2.14
10 17 10	278.7		
	331.0	+2.3 / 32.1	−2.13

Index Above. A.

	9.2		
	60.0	+0.8	
10 20 5	201.5		
	232.2	30.7 / 31.5	−2.15
	21.2		
	50.1	28.9	−2.22
10 21 40	191.3		
	239.1	47.8 / 76.7	−2.29
			Mean −2.18

74 10.

10 / 32.

+ 0.

10 32.

721.6379

P.A. 28.2 Vernier B

W's watch used for times

Watch correction 0 secs.

L. A. P.

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1909phae.proj..600M

Feb. 19. 1910 (Saturday).

Fourth Type Star +59°2810

0 2 +58.3

5 47 Ø Obs Roux Ree Phot T.

5 45 Color 7 with ordinary eyepiece

Color 6 in Phot.

Index Right A.

173.2 ← Fourth Type Ecliss.

7 44 20 258.0 Δ 4.8 ν

3.0

68.9 6.9 ν

1 ν 0.7 ν −0.ν6 ν

183.0

246.9 63.9 ν −0.60 ν

356.0

78.1 Δ 2.1 ν

1F 6.0 ν −0.6ν ν

Index Left. B.

91.4

160.7 69.3 ν

262.7

350.5 Δ 7.8 ν

1ν 7.1 ν −0.44 ν

81.9 Δ 6.3 ν −0.44 ν

168.2

271.8 71.3 ν

343.1 1ν 7.6 ν −0.43 ν

Mean −0.ν2 ν

7 52 50

97 10. ν

7 4Δ 3ν. ν

+ν +3. PA. 78.3 Vera B

12 4Δ 3Δ. ν

£722, ν337 ν

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1909phae.proj...600N

Feb. 19, 1910.

Fourth Type Star +25°205

1	6	+23.8
6	26	W. Obs. Rough Rec. Plot T.
5	20	Color 6 in Plot.

Index. 1+B B.

	18.6	← Fourth Type Disc
8 17 20	57.6	39.0 v
	201.8	
	231.2	29.4 v
		68.4 v — 2.v-6 v
	21.0	
	51.4	30.4 v — 2.46 v
	194.2	
	238.0	43.8 v
		74.2 — 2.37 v

Index Rt a. A.

	281.6	
	328.9	47.3 v
	110.0	
	140.5	30.v v
		77.8 v — 2.26 v
	288.8	
	323.1	34.3 v — 2.2v v
	103.7	
	147.9	44.2 v
		72.v v — 2.24 v
		Mean — 2.36 v

8. 37 30

	v4	v0. v
8	27	2v. v
+v		+3. v
13	27	2v v

£722.v607 v

R.A. 214.8 Vera B.

Sprocket 11.5 A, 12.5 B.

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1909phae.proj..600N

Feb. 19. 1910.

Fourth. Type star + 61°667

3	44	+62.7
7	44	W. Obs Rous Rec Phot ?
4	0	

Abandoned. Too cloudy.

Double Star (New List) - Bumhara cat 1094

1	59	+79.1
7	54	
5	55	

W. Obs Rous Rec.
Phot R. one prism removed

Meats on foll. page.

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1909phee.proj...600W

Feb 19, 1910.

Index Left + Below

271.2			
349.4	78.2		
98.4			
164.5	66.1		
	144.3	0.69	
274.0			
340.5	66.5		0.61
87.2			
173.1	85.9		
	152.4	0.53	

Index R + a.

180.2			
260.8	80.6		
68			
720	652		
	1408	0.66	
188.1			
251.8	63.7		0.67
1.0			
82.0	81.0		
	144.7	0.68	
		Mean	0.64

9 47 30

9 52 40

100 10.

9 50 5

+5 +3.

14 50 8

8722.618 2

W's watch used for times
Watch 3 secs slow.

L. P. P.

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1909phae.proj..600M

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1909phae.proj..600W

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1909phae.proj..600M

Feb. 25. 1910. (Friday)

Fr. 345l.

4	40	52.√
	41	54.6

Ballou 103.

6	5	00
	6	0.0

Search for Comet Pidoux.

0	31	
4	√2	
+4	21	

+√.√

0	31	
√	√	
+4	34	

0	31	
5	40	
5	9	

+√.√

Comet not found.

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1909phae.proj...600W

Feb. 25, 1910

Halley's Comet.

~~W. obs. W. Rec~~

0	41
5	41
5	0

+6.8

Wdb Rough Rec. Phot T.

Comp Stay = +7° 89 (9.1)

Center of light of Nucleus.

Index R+A. A.

85.2 & Comp Star Obs

7 18 50

167.7 ∠2.√

271.5

335.0 $\frac{63.√}{146.0}$ +0.6√

96.2 60.∠ +0.64

157.0

260.6 $\frac{∠6.4}{147.2}$ +0.63

Index L+B B.

358.8

76.3 77.√

182.2

246.0 $\frac{63.∠}{141.3}$ +0.7√

3.7

62.8 √9.1 +0.73.

171.0

255.1 $\frac{∠4.1}{143.2}$ +0.71

mean +0.6∠

7 42 50

61 40.

7 30 √0.

+√ +14.

12 31 4.

∠72∠. √216

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1909phae.proj..600M

Feb. 25, 1910.

R. X Cassiopeiae

2	17	+66.8
7	27	W. Obs. Four Rec. Phot T
5	10	

Index A B.

189.3 ← Comp Stars

251.2 61.9 v

12.0

62.0 −0.0 v / 111.9 v +1.37 v

189.2

242.1 −2.9 v +1.22 v

0.4

72.8 72.4 v / 12 v.3 v +1.08 v

Index A+B A.

87.0

165.5 78.5 v

280.6

331.0 −0.4 v / 128.9 v +1.00 v

160.8 −1.1 v +1.04 v

151.9

269.4 74.6 v / 12 v.7 v +1.07 v

344.0

mean + 1.13 v

9 1 35

9 7 25

9 0. v

9 4 30. v

+v +14. v

14 4 44. v

2722. v266 v

1909phae.proj...600N

Feb. 25, 1910.

Same Again II

Ind. R+B A.

92.0
161.9 69.9 ✓
279.3 ~~3.6~~ ✓
332.9 ~~123.5~~ ✓ +1.12 ✓

101.0 ~~2.9~~ ✓ +1.12 ✓
153.9
271.2 ~~70.6~~ ✓
341.8 ~~123.5~~ ✓ +1.12 ✓

Ind. L+a B.

358.0
71.7 73.7 ✓
188.0 ~~5.4~~ ✓
243.4 ~~129.1~~ ✓ +1.00 ✓

10.8 ~~3.2~~ ✓ +1.04 ✓
64.0
180.2 71.4 ✓
251.6 ~~124.6~~ ✓ +1.09 ✓

mean +1.08 ✓

9 22 0

9 27 10
49 10. ✓
9 24 3~~5~~. ✓
~~+5~~ +14. ✓
14 24 49. ✓
~~2~~ 2. 6006 ✓

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1909phae.proj..600M

Feb 25, 1910

Same Agam III
Indus L+A B.

359.1
738 74.7 ✓
190.1
241.9 √1.8 ✓ / 126.√ ✓ ±1.0√ ✓

11.6
61.5 49.9 ✓ ±1.02 ✓
175.8
255.7 79.9 ✓ / 129.8 ✓ +0.98 ✓

Indus R+B. A.

268.0
341.7 73.7 ✓
100.3
151.6 √1.3 ✓ / 12√.0 ✓ ±1.08 ✓

280.8
332.0 √1.2 ✓ ±1.08 ✓
87.3
162.0 74.7 ✓ / 12√.9 ✓ ±1.07 ✓

Mean ±1.0√ ✓

9 32 25

9 37 30
69 √√. ✓
9 34 √8. ✓
+√ +14. ✓
14 3√ 12. ✓
8720.6077 ✓

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1909phae.proj...600N

Feb. 25, 1910.

Same Again IV

Index R + B. N.

9 42 40

2680
3415 } 3.5 v
1012
151.2 } 0.0 v
123.5 v +1.12 v

280.2
331.4 1.2 v +1.14 v
90.4
161.0 } 0.6 v
121.0 v +1.15 v

Index R + A B.

178.1
252.1 } 4.0 v
9.7
60.6 } 0.9 v
124.9 v +1.09 v

188.7
242.7 4.0 v +1.08 v
0.8
72.8 } 2.0 v
126.0 v +1.06 v

Mean +1.11 v

9 47 35
− 90 15. v
9 45 20. v
+ 14. v
9 45 22. v
+ 724.6149 v

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1909phae.proj..600M

Feb. 25, 1910

Same Agam. V

Indep ftA B.

178.8
2535 74.7 v

12.1
60.8 42.7 v / 123.4 v +1.12 v

189.8
240.8 √1.0 v +1.10 v

3583
72.8 74.√ v / 12√.√ v +1.07 v

Index R+B. A.

89.5
162.0 72.√ v

281.8
329.9 42.1 v / 120.6 v +1.18 v

101.6
151.4 49.8 v +1.14 v

268.5
342.5 74.0 v / 123.8 v +1.11 v

Mean +1.12 v

9 54 10

10 1 10

11 √ 20. v
9 √7 40. v
+√ +14. v
14 √7 √4. v

2728.623√+ v P.A 212.5 Vernier B.

1909phae.proj...600N

Feb. 25, 1910.

D.M. +66° 242 (7.8) (Comp Star for R.I. Cassiop). compared with +66° 243 (9.2)

Index Right A. for R. X Cass.

10 9 15

100.2 — C.S. clos.
151.4 ✓1.2 ✓

286.6
326.9 ✓0.3 ✓ / 91.✓ ✓ −1.47 ✓

107.6
146.5 38.9 ✓ −1.46 ✓

278.7
332.1 ✓3.4 ✓ / 92.3 ✓ −1.42 ✓

Index Left. B.

10.0
62.0 ✓2.0 ✓

197.2
235.4 38.2 ✓ / 90.2 ✓ −1.91 ✓

16.8
55.4 38.6 ✓ −1.46 ✓

188.1
243.0 ✓4.9 ✓ / 93.✓ −1.42 ✓

Mean −1.46 ✓

10 15 15
24 30. ✓
10 12 1✓. ✓
+✓ +14 P.A. 75.2 Venus B
1✓ 12 29. ✓
A720A. 6336 ✓

W's Watch used for times
Watch 14 secs slow

L. P. P.

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1909phae.proj..600M

Feb. 26. 1910. (Saturday.).

R X Cassiop.

2 17 +66.A
6 15
+3 2 A

Cloudy again.

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1909phae.proj...600M

Mar. 3. 1910. (Thursday).

Phot-Invest. of Nucleus of Halley's Comet.

0	41	+6.A
6	1	U.Obs. Rous Rec. Phot. T.
5	20	Comp Star = +7° 83 (8.0)

Index left B.

Comp Star Dis

8 16 35

268.5 / 341.5 73.0 ✓

102.6 / 151.0 48.4 ✓ / 121.4 ✓ +1.16 ✓

282.8 / 331.4 48.6 ✓ +1.22 ✓

93.0 / 160.3 67.3 ✓ / 115.9 ✓ +1.24 ✓

Index Right. A.

180.2 / 248.0 67.8 ✓

14.1 / 59.8 45.7 ✓ / 112.9 ✓ +1.37 ✓

193.0 / 239.0 46.0 ✓ +1.38 ✓

2.8 / 67.6 64.8 ✓ / 110.8 ✓ +1.40 ✓

Mean +1.30 ✓

7 25 35 ✓

42 10. ✓

7 21 5. ✓

+5 +50. ✓

12 21. 55. ✓

A734. 5 1 5 2 ✓

Remark on next page.

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1909phae.proj..600M

Mar. 3. 1910.

Although the region of Halley's Comet is rather low, yet it was considerably brighter than when last measured. The observer did not have time to get a critical estimate of the diameter of coma as he wanted to get the Phot. on at once and begin the measurements of nucleus but the comet impressed one as rather bright in the telescope and a few minutes of arc in diameter. The nucleus was — well defined especially in the Phot. at equalization. Much care taken in measurements of nucleus and these measurements considered good.
Observer put image of star as near nucleus as possible and set both images distinctly

R. A Cassiop.

2	17	+66.8
7	47	
5	30	

W Obs. Roux Ser. Phot T.

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1909phae.proj...600N

Mar. 3, 1910.

Index Lta I B.

358.2 ✓ Comp Star Dec

74.4 76.2 ✓

188.9

240.0 √1.1 ✓

127.3 ✓ +1.04 ✓

8.2 √√.0 ✓

63.2 +0.92 ✓

177.9

255.9 74.0 ✓

133.0 ✓ +0.92

Index R+B. A.

264.8 79.2 ✓

344.0

102.1 49.8 ✓

151.9 129.0 ✓ +1.00 ✓

279.8 √2.7 ✓ +1.02 ✓

332.5

88.4 7√.0 ✓

163.4 127.7 ✓ +1.03 ✓

Mean +1.00 ✓

8 55 30

9 3 5

11 8 3√. ✓

8 √9 1 8. ✓

+√ +√0. ✓

14 0 8. ✓

8734. √834 ✓

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1909phae.proj..600M

Mar. 3, 1910.

Same Again. II

Index R+B A.

265.0
343.5 78.5
99.9
153.1 3.2 / 131.7 +0.9K

278.8 3.2 +0.9K
332.0
86.8
165.1 78.3 / 131.5 +0.9

Index L+A. B.

176.8
253.8 77.0
9.6
63.3 3.7 / 130.7 +0.9

1868
242.6 75.8 +0.9
357.2
76.0 78.8 / 134.6 +0.8

mean +0.93

9 7 45

9 14 0
21 4
9 10 2
+ 0.
14 11 42

A7 34. 91 −

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1909phae.proj...600N

Mar. 3, 1910

Same Again III

Index L + a. B.

182.3
250.8
6.5
66.1
√9.6 / 120.1 +1.02

189.7
243.8
354.9
74.0
√4.1 / 79.1 / 133.2 +0.91

Index R + B. A.

86.2
163.7
278.6
332.6
77. / √0.0 / 131.√ +0.9√

102.6
152.6
268.6
342.4
√0.0 / 73.0 / 123.0 +1.11

Mean +0.99

9 27 8

9 32 45
√9 4√.
9 29 √2.
+√ +√0.
14 30 42.
2734.6047

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1909phae.proj..600M

Mar. 3. 1910

Same Again IV

Index R+B A.

9 36 0

90.0
162.8 72 A
279.9
331.2 √1.3 / 12 K.1 +1.10

100.6 √2 K +1.02
153.0
263.8
343.4 79.6 / 132.0 +0.9 K

Index L+a B.

357.4
74.3 76.9
189.2
243.0 √3 A / 130.7 +0.96

9.9 √3.2 +0.96
63.1
175.5
253.7 74.2 / 131.4 +0.9√

Mean +0.99

9 41 35

77 3√
9 3A KA
+√ +√0.
14 39 3A
λ 5734.610A

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1909phae.proj...600M

Mar. 3, 1910.

Same again. V

Index L + a. B.

359.8
70.0 } 0.2 v

188.2
241.2 √3.0 v / 123.2 v +1.12 v

9.8
61.5 √1.7 v +1.07 v

177.6
254.0 76.4 v / 124.1 v +1.02 v

Index R + B. A.

266.7
343.7 77.0 v

100.1
152.2 √2.1 v / 129.1 v +1.00 v

280.6
332.8 √2.2 v +1.00 v

87.0
163.5 76.√ v / 126.7 v +1.00 v

Mean +1.04 v

9 54 50
103 √√. v
9 √1 √4. v
+√ +√0. v
14 √2 4 A.P.A. 212 Vernier B
2 34 6200 v

1909phae.proj..60DW

Mar 3. 1910.

D.M. + 66° 242 (7.8) (Comp. star for R.K. Cassiop.)
compared with D.M. +66°243 (9.2)

Index Right. A.

276.4	C.S. for R K Cassiop. dec.	
334.0	57.6	
108.0	3 5.0	
143.0	9 2.6	∓1.24
287.9	37.9	∓1.22
325.8		
98.1	56.5	
154.6	9 4.4	∓1.20

9 59 55

Index Left. B.

189.5	51.4	
240.9		
18.6	34.2	
52.8	4 5.6	∓2.03
198.4	34.2	∓2.00
233.2		
8.9	53.3	
62.2	4 4.1	∓1.96

Mean ∓1.91

10 6 15

6 10.

10 3 5.

+5 +50.

15 3 55. P.A 74.8 Vernier B.

4734.6277

Ws watch used for times
Watch 50 secs slow

L. P. P.

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