KG
11365
588

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KG 11365.588

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KG-11365.586

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Jan. 2, 1908 (Thursday)

W² dbs. Rowe Rec.

7 12 Sky pretty cloudy
7 35 " still considerably cloudy but will try for

Eros

0	40	+ 23.5
2	43	
2	3	

7 39 Sky all cloudy in this region
Sky is more or less cloudy all the time and it is also getting a little late to take
7 46 up Eros and make a protracted run on it, so will abandon Eros for tonight.

Double Star No 7 (Comstock's list) = Σ 42

0	31	+ 23.5
2	54	
2	23	

Clouds somewhat thick in this region

P.A. 30° Dist. 6" Pho R.

Seeing is so bad and Double rather close that it is quite impossible to measure No 7 satisfactorily at the present time. Will try.

No 8. (Comstock's List).

P.A. 200° Dist. 0'.6 Mags. 8.0, 11.6

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Jan 2 1908

No. 8 (Comstock's List) Pho. R, the prism removed. No. 7 is a close double. In measuring No. 8 the principal component of No. 7 was compared with the 11.5 ~~mag~~ of No. 8 as it should be. Troubled during latter measurements by haze.

Index R + B +.

8, 25 50

214.8 ← North foll. + brtr. dis.		
240.8	26.1 ✓	
38.8	17.8 ✓	
56.6	43.9 ✓	
		3.56 ✓
217.8	20.1 ✓	3.46 ✓
237.9	13.4 ✓	~~3.57~~
46.0	33.5 ✓	4.16 ✓
58.4		~~3.58~~

Index L + a B.

123.2	26.3 ✓	
149.5	19.8 ✓	
307.6	46.1 ✓	
327.4		3.45 ✓
		3.50 ✓
128.7	19.3 ✓	
148.0	24.6 ✓	
305.4	43.9 ✓	
330.0		3.56 ✓

8 34 30

3.68 ✓

Mean ~~3.54~~

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1908phae.proj..589W

Jan. 2, 1908.

Double Star No. 11. (Comstock's list) =
μ Androm.

0 49 +37.7
3 55
3 6

Pho. R.

P. A. 40° Dist. 4.'5 ± Mags. 3.8, 10.8

Clouds.

Index Lt a D.
223.3 ← North Preced. & Nte. dis.
9 2 40 228.7 5.4 ✓
43.5 4.2 ✓
47.7 9.6 ✓
6.89 ✓

224.4 ~~225.7~~ 3.0 ✓ 7.06 ✓
227.4 5.2 ✓
42.8 8.2 ✓
48.0 7.23 ✓

Index R & B A.
132.8 5.8 ✓
138.6 2.0 ✓
314.6 7.8
316.6 7.34 ✓

7.64 ✓

134.5 ~~135.4~~ 1.8 ✓
9 13 45 136.3 ~~134.6~~ 4.1 ✓
314.2 5.9 ✓ 7.95 ✓
318.3

Mean 7.35 ✓

See next page for remarks

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1900phae.proj...589W

Jan. 2, 1908

Measurements ~~rather~~ difficult as bright image does not well disappear in some of the last settings. However, much care taken and measurements considered fairly good.

Fourth Type Star +11° 305

2	11	+12.3
4	48	
2	37	

Color 3 with ordinary eye-piece

Clouds

Clouds, which have been more or less troublesome throughout the evening, now becoming thick every where. No chance for any thing further.

W's watch used for times
Watch twenty one (21) seconds slow

L. P. P.

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1908phae.proj..589W

Jan. 3, 1908 (Friday)

U. Obs. Bowe Rec

Eros

1	2	+24.7
2	34	
1	32	

A + B

11.0
11.3
11.0
10.8
11.5 10.8
10.7
10.4
10.6
10.5
10.6

10 | 108-9

10.8

7 40

Neither A nor B is Eros. Place got out hurriedly and afterwards found that place was wrong. As it is getting a little late for a good run, and W is not well, will abandon Eros for tonight

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1900phae.proj...589W

jan. 3, 1908.

Double Star No. 41 (Comstock's list) =
σ^2 Eridani

4	9	-8.0
3	38	
0	31	Pho Tp.
12	0	
11	29	

P.A. 105 Dis. 1.4 ± Mags. 4.0, 8.5.

Index L+a B.

309.0 ← Math prec. + bate dis.
321.8 12.8 ✓
127.5 15.8 ✓
143.3 28.6 ✓ 4.51 ✓

8 38 40

308.1 4.51 ✓
322.3 14.2 ✓
127.6 14.4 ✓
142.0 28.6 ✓ 4.51 ✓

Index R+B A.

218.4
231.8 13.4 ✓
39.0 12.5 ✓
51.5 25.9 ✓ 4.73 ✓

4.68 ✓

218.7 13.0 ✓
231.7 14.0 ✓
38.0 27.0 ✓ 4.63 ✓
52.0

8 46 45 ✓

4.60 ✓

Mean ~~4.57~~

✓✓ 25. ✓
✓ 42 42. ✓
+✓ +21. ✓
13 43 3. ✓ = 7944 ✓ 714 ✓ +

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1908phae.proj..589W

Jan. 3, 1908

Double Star No. 86 (Comstock's List) =
75 Cancri

9 1 + 27.2

4 15
4 46
12
7 1 4

Pho: R.

P.A. 40° Dist 1.8" Mags. 6.0, 10.0

Index 4 B. B.

9 13 35

36.0 ← Prec. Southern & Retrodis.
55.4 19.4 ✓
217.4 16.5 ✓
233.9 35.9 ✓ 4.01 ✓

37.7 16.3 ✓ 4.08 ✓
54.0 17.9 ✓
217.2 33.6 ✓ 4.15 ✓
234.5

Index 4 A.
307.1 16.1 ✓
323.2 21.0 ✓
124.0 37.1 ✓ 3.93 ✓
145.0

3.96

307.1 17.4 ✓
324.5 18.1 ✓
125.5 36.1 ✓ 4.00 ✓
144.2

9 21 20
3 4 ✓✓ ✓
9 17 28 ✓
+✓ +21 ✓
14 17 49 ✓
7944 ✓9✓7 ✓

Mean 4.02 ✓

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1908phae.proj...589W

Jan. 3, 1908

Fourth Type Star +2° 1715⁻

7	25	+2.2
5	2	
2	23	
12	0	
9	37	

Pho. T.

Index R+a. A.

93.0 ← Comparison Star dis.

10 16 30

161.6	68.6 ✓	
280.2	54.6 ✓	
334.7	123.1 ✓	+1.13 ✓

101.3	51.7 ✓	+1.17 ✓
153.0	67.4 ✓	
272.0	119.1 ✓	+1.21 ✓
339.4		

Index L+B B.

1.0		
71.3	70.3 ✓	
189.8	54.2 ✓	
244.0	124.5 ✓	+1.10 ✓

9.8	53.9 ✓	+1.08 ✓
63.7	72.8 ✓	
181.4	126.7 ✓	
254.2		+1.05 ✓

Mean +1.12 ✓

10 24 40

	41	10. ✓
10	20	35. ✓
+5		+21. ✓
15	20	56. ✓

7944.639 ✓

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1908phae.proj..589W

Jan 3. 1908

ST 5 37
HA. -1 55
Dec. +1.8
P. A 206.0 Vernier B
Sprocket. -1.5 B, -0.8 C

Ub's watch used for times
Watch twenty one (21) seconds slow.

L. P. P.

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1908phae.proj..589W

Jan. 6, 1908 (Monday)
Hilo. Rouse Rec.

β Lyrae

18	46	+33.2
26	25	
+ 7	39	

7 in Cap. Pho. T.

Index L+a

194.2 ← Var. dis.
241.7 47.5 ✓
202.4 30.5 ✓
232.9 78.0 ✓
−2.25 ✓

7 29 20

22.5 27.7 ✓
50.2 44.4 ✓ −2.34 ✓
196.2 72.1 ✓
240.6 −2.45 ✓

Index R+B

286.9
327.6 ~~333.0~~ 40.7

S. T. 2 57
H. A. 8 17
Dec. +33.5
P. A. 194°.0 Vernier B
Sprocket −7.5 A, −6.5 B, −6.0 C

Remarks next page

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1908phae.proj..589W

Jan. 6, 1908.

β Lyrae ought really not to have been taken. It was very near the horizon and in the pho. especially at equalization, it was very faint and settings ~~were~~ less rather uncertain but as W had got on the general region and theoretical minimum came this evening, he thought he would attempt it. There was some difficulty in finding the variable especially as 8 Lyrae and 9 Lyrae were about invisible in the finder. They apparently however, could be seen faintly at times, and in the pho., ~~the~~ after running to the comparison star, the P. A. and the Sprocket check all right. Only three sets (such as they were) could be taken as objects at equalization practically disappeared there after. This partial group should not have over 1/4 weight and probably would best be rejected.

When W made the above remark, he was thinking that there was one complete set taken after reversal. But as only two settings were taken afterwards, this partial group is necessarily rejected

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1908phae.proj..589W

Jan. 6, 1908.

Double Star No 6 (Comstock's List) =
49 Piscium 16. Obs. Power Rec.

0	21	+15.7
3	41	
3	20	

Pho R the prism removed

P.A. 105° Dis 20" Mags. 7.0 & 10.6

Index R+a A.

131.4	12.8 ✓	
144.2	33.9 ✓	
298.5	46.7 ✓	
332.4		3.42 ✓

8 33 55

123.0	29.3 ✓	3.52 ✓
152.3	136 ✓	
310.4	42.9 ✓	
324.0		3.61 ✓

Index L+B B.

31.7	31.0 ✓	
62.7	125 ✓	
220.6	43.7 ✓	
233.3		3.57 ✓

40.6	13.2 ✓	3.55 ✓
53.8	31.4 ✓	
212.7	44.6	
244.1		3.53 ✓

Mean 3.54

8 44 40

	-7 A	3 v. ✓
A	39	1A. ✓
+v		+27. ✓
13	39	4 v. ✓

7947. v693 ✓

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1908phae.proj..589W

Jan. 6, 1908

Double Star No 108 (Comstock's List) =
61 Ursae Maj

11	34	+35.0
4	17	
13	17	
4	43	

Abandoned for the present, rather too low

6 Obs. Rowe Rec.

Double Star No 27 (Comstock's List) =
Σ 296

2	36	+48.6
4	26	
1	50	

P.A. 225° Dist. 1.'2 ±

Maigs.

~~Phot. R~~ One pair removed

Phot. R

For results see next page.

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1908phae.proj..589W

Jan. 6, 1908

~~Index~~
~~54.6~~

Index R & B A.

43.2 3.3 ✓
46.5 5.3 ✓
222.1 8.6 ✓
227.4 7.13 ✓

9 21 10

42.7 4.3 ✓ 7.16 ✓
47.0 4.0 ✓
223.1 8.3 ✓
227.1 7.20 ✓

Index L & A B. ✓

313.2 2.1
316.3 4.8 ✓
132.4 6.9 ✓
137.2 7.61 ✓

313.6 3.8 ✓ 7.34 ✓
317.4 ~~316.6~~ 5.0 ✓
132.0 8.8 ✓
137.0 7.08 ✓

9 29 20
✓0 30. ✓
9 2✓ 1✓. ✓
+✓ +27. ✓
1✓ 2✓ 42. ✓
7947.6012 ✓

Mean 7.25 ✓

Altitude rather high, on account of primary being so bright, the companion not being very remote, the alti-

(Remarks continued on next page)

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1908phae.proj..589W

Jan. 6, 1908

tude being rather high and Obs. having to exercise considerable care in order to make the primary disappear properly, the observations were somewhat difficult. Nevertheless with the great care exercised, the result is considered pretty good.

Fourth Type Star +53° 66

0 29 +53.1

5 25

4 56

Phot T.

Color 3 on large telescope

Index R.A. A.

352.6 ← Comparison Star dist.

10 25 35

80.6 88.0 ✓

186.5 64.5 ✓

251.0 152.5 ✓ +0.53 ✓

3.4 687 ✓ +0.54 ✓

72.1 82.4 ✓

174.8 151.1 ✓

257.2 +0.55 ✓

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1908phae.proj..589W

Jan. 6, 1908

Index Δ B. B.

266.0	260.7	42.3	79.9 ✓
345.9	353.0	67.8	68.5 ✓
92.0	92.5	160.1	148.4 ✓
160.5	160.3		-0.58 +0.61 ✓

275.0	274.1	63.8	67.1 ✓ +0.58 ✓
342.1	337.9	84.4	83.7 ✓
84.2	85.5	148.2	150.8 ✓
167.9	169.8		+0.56 ✓

Mean +0.56 ✓

10 42 5
10 31 35
67 40. ✓
10 33 +0. ✓
+v +27. ✓
1v 3k 17. ✓
7947.6400 ✓

S. T. 6h 5m
H. A. +5 45
Dec. +54.2
P. A. 140.6 Vernier B.
Sprocket. -0.5 B, +0.5 C

Ws watch used for times
Watch twenty seven (27s) seconds slow

L. P. R.

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1908phae.proj..589W

Jan. 8, 1907 (Wednesday).
W. dbs. Rowe Rec

Double Star No 2 (Comstock List) -
= α Androm.

0	1	+ 28.3
2	41	
2	40	

7 15 Clouds in this region.

7 33 Sky still more cloudy. No chance for anything at present.

7 48 Sky a little clearer but still a little cloudy

P.A. 275° Dist 1.2 ±
Mags.

8 2 More clouds in this region.

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1908phae.proj..589W

Jan 8, 1908

	B. + C. 1182.		B. 394.	
α	40	12.0	40	0.0
	41	12.0	41	0.0

Dis. Jup. I, Phot. R. W obs. Roue Rec. Compared with mirror and betw. (of two rather close Sats.) = Sat. III.

		9.	1	55		268.9	
14	2	28.ν	2	21	90.0ν	358.9	1 0.0ν
		-11.ν	2	37	91.8ν	268.2	
14	2	17ν	3	1	90.9ν	0.0	
			3	18		270.2	
14	3	46.ν	3	38	91.νν	1.7	2 0.0ν
		-11.ν	3	57	89.8ν	270.5	
14	3	35.νν	4	13	90.6ν	0.3	
			4	31		272.0	
14	4	58.ν	4	51	87.νν	359.5	3 +0.1ν
		-11.ν	5	6	87.8ν	271.2	
14	4	47ν	ν	24	87.6ν	359.0	
			ν	36		269.9	
14	6	12.ν	6	4	89.1ν	359.0	4 +0.1ν
		-11.ν	6	24	87.9ν	270.1	
14	6	1.ν	6	44	88.νν	358.0	

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Jan 8, 1908.

			9	7	1		273.5	
14	7	24.		7	17	Δ 2.1	356.0	+0.3
		-11.		7	29	Δ 4.1	272.9	
14	7	13		7	49	Δ 3.3	357.0	
14	7	49.		8	0		275.1	+0.1
14	8	3.		8	14	76.9	352.0	+0.6
	8	19		8	30	73.8	278.2	+0.7
	8	36.		8	46	71.0	349.2	+0.8
	8	52		9	2	68.2	281.0	+0.9
	9	10		9	20	66.0	347.0	+1.1
	9	23		9	33	63.9	284.1	+1.1
	9	36		9	46	61.4	345.5	+1.4
	9	52		10	2	58.5	290.0	+1.8
	10	3.		10	13	48.0	338.0	+1.9
	10	19		10	29	45.5	292.5	+2.2
	10	34		10	44	40.6	333.1	
14	11	2		11	12	Not seeing later		

Limit of visibility

				12	11	31.1	298.0	
14	12	21.		12	25	31.9	329.1	+2.7
		-11		12	37	31.5	297.2	
14	12	10.		13	10		329.1	

Seeing fairly good but sky somewhat hazy. The comparison satellite was the nearest of the satellites to Jupiter, immediately after the

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1908phae.proj..589W

Jan. 8, 1908

eclipse

	B. & C. 1122.		B. 394.	
9	35	9.2	35	0.0
	36	—	36	0.0
	37	9.0	37	0.0

Double Star No 108 (Comstock's List) =
61 Ursae Maj.

11	34	+ 35.0
5	15	
6	19	
12		
5	41	

P. A. 100° Dist. 2.7" Mags. 5.8, 12.2

Index Cat. B.

	312.6	← Prec. & Intr. dis.
	317.7	5.1 ✓
	132.5	7.7 ✓
	140.2	12.8 ✓
		6.26 ✓
	312.0	7.8 ✓
	319.8	4.7 ✓
	133.6	12.5 ✓
	138.3	6.31 ✓

6.28 ✓

9 56 0

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1908phae.proj..589W

Jan. 8, 1908

Index Rt 13

		A.	
224.6	~~225.0~~	3.8 ✓	
✗	228.4	6.5 ✓	
	42.3	10.3 ✓	6.74 ✓
	48.8		
	222.4	6.7 ✓	6.70 ✓
	229.1	3.9 ✓	
	43.6	10.6 ✓	
	47.5		6.67 ✓

Mean 6.49 ✓

10 4 40

~~46 40.~~

120 40. ✓

10 0 20. ✓

+r +32.

r 0 r2.

7949.62r6 ✓

Double Star No 111 (Comstock's List) =

Σ 1607

11	57	+ 36.4
5	45	
6	12	
12		
5	48	

P.A. 20° Dist. 0.5 ± Mags. ~~A.0, 0.0~~

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1908phae.proj..589W

Jan. 8, 1908.

Index L+B B.

1.0 ← Southern + brtr dia

10 32 45

83.0	82.0 ✓	
193.0	61.3 ✓	
254.3	143.3 ✓	0.71 ✓
14.5	61.5 ✓	
76.0	73.2 ✓	0.80 ✓
191.0	134.8 ✓	
264.2		0.88 ✓

Index R+L A.

277.6	72.9 ✓	
350.5	55.4 ✓	
107.0	128.3 ✓	
162.4		1.01 ✓
		0.92 ✓
		~~1.03~~
285.0	59.5 ✓	
344.5	71	
96.6		0.94 ✓
173.7	136.6	~~1.05~~

10 41 20

74 ✓ ✓

10 37 2 ✓

✓ +32 ✓

✓ 37 34 ✓

7949.6 ✓ 11 ✓

Mean ~~.92~~ 0.96 ✓

Measurements of above double a little difficult on account of somewhat blurry seeing + haze. but much care exercised and obs: considered very good. The first half of the evening was in general quite cloudy. It cleared up fairly well south

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1908phae.proj..589W

Jan. 8, 1908

of the zenith and in the region of Jupiter before eclipse time and then cleared up more thoroughly in other parts of the sky afterwards. There was however, a reddish under of haze throughout latter part of evening.

W's watch used for times
W watch thirty two (32") seconds slow

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1908phaed.proj..589W

Jan. 10, 1908 (Friday)

+28° 4704 (7.5) and companion to α Andromedae.

W. Obs. Rows Rec

~~Double Star No 2 (Comstocks list) =~~
~~α Andromedae~~ (See page 27 for comp. Star.

0 1 +28.3

2 45
2 44

Phot. T.

P. A. 275° Dist. 1.2 ± Mags

Index L+B.

117.2 19.2 ✓ 7.5 mag. dis.
136.4 10.8 ✓
298.7 30.0 ✓
309.5 +4.40 ✓

7 39 25

124.1 9.6 ✓ +4.38 ✓
133.6 ~~5.0~~ 21.0 ✓
296.9 ~~24.6~~ 30.5 ✓
317.9 ~~312.0~~ +4.37 ✓

Index R+a.

26.4 ~~26.0~~
44.0 17.6 ✓
209.5 12.9 ✓
222.4 30.5 ✓
+4.37 ✓

30.0 11.0 ✓ +4.32 ✓
41.0 21.0 ✓
208.0 32.0 ✓
229.0 +4.26 ✓

Mean +4.35

8 3 25
102 ✓0. ✓
7 ✓1 2✓. ✓
+5 37. ✓
12 ✓2 2
7951. ✓361 ✓

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1908phae.proj..589W

Jan. 10, 1908

+28° 4704 (7.5) and α Androm.

U. Obs. Powr Rec

Index Rf a		Phot T.
297.4	← 18.3 ✓	α Androm. dis
315.7	19.0 ✓	
117.4	37.3 ✓	
136.4	− 3.92 ✓	
297.3	20.2 ✓	
317.5		− 3.83 ✓
116.3	20.3 ✓	
136.6	40.5 ✓	
	− 3.74 ✓	

Index L+B		
207.4	17.6 ✓	
225.0		
27.0	19.2 ✓	
46.2	36.8	
	− 3.95 ✓	
207.3	19.2 ✓	
226.5		− 3.92 ✓
26.9	18.6 ✓	
45.5	37.8	
	− 3.89 ✓	

Mean − 3.88 ✓

8 17 45

8 55 0

42 4√ ✓

& 21 22. ✓

+√ +37. ✓

13 21 √9. ✓

79√1.√√69 ✓

S.T. 4 7 (Diff. in age between α Androm. & comp.) +4.3√ = 0.23

H.A. +4 2

Dec. +28.9

P.A. 85.8. Vernier B

Sprocket. −4.5 B, −3.5 C.

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1908phaed.proj..599W

Jan. 10, 1908

The P. A. Sprocket, etc, pertain to the two stars relatively measured in last groups, that is, to α Andromedae and the 7.5 Mag. comp. star. The first groups pertains to the companion of α Androm. and the same 7.5 Mag. comp. star but as the companion of α Androm. is so close to α itself, the sprocket and P.A. readings of that pair are not considered necessary

The preceding two groups were taken in order to find the difference in magnitude between α Androm and its companion. As α was so bright and the interval in brightness between it and its companion was so large, the device was used to measure first the companion with the 7.5 Mag. and then (in second groups) to measure α itself with the 7.5

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1908phae.proj..589W

Jan. 10, 1908

Measurement of α Androm. directly welts its faint companion by means of Phot. R.

8
8 58 55

223.8
227.5

Measurement abandoned as in the third attempted setting, a not only will not disappear but ~~it is faint~~ it cannot be made as faint as the faint companion. Clouds, also coming into this region..

Fourth Type Star +68° 617

10	35	+68.2
5	17	
5	18	
12		
6	42	

Color 5 in ordinary eyepiece

U. Ills Roma Rec
Phot T.

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1908phae.proj...scan

Jan. 10, 1908

9 59 45

Index R & B +.

109.0	← 4th Type dis.	
145.1	36.1 ✓	
294.5	25.0 ✓	
319.5	61.1 ✓	−2.82 ✓
115.1	24.9 ✓	
140.0	38.4 ✓	−2.78 ✓
286.8	63.3 ✓	
325.2		−2.74 ✓

Index Eta B-

17.5	38.5 ✓	
56.0	24.8 ✓	
204.0	63.3 ✓	
228.8		−2.74 ✓
25.4	24.6 ✓	−2.80 ✓
50.0		
197.7	35.5 ✓	
233.2	60.1 ✓	−2.86 ✓

Mean −2.79 ✓

10 7 0
126 4 ✓
10 3 22. ✓
+ ✓ +37. ✓
1 ✓ 3 ✓9. ✓
79 ✓1.627.0 ✓

S.T. 5 48
H.A. −4 54
Dec. + 67.5
P.A. 60.0 Vernier B
Sprocket −2.5 B, −1.8 C

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1908phae.proj..589W

Jan. 10, 1908.

Double Star No. 75 (Comstock's List) =
29 Monocerotis. N. ~~Obs~~ Power Rec.

8	2	-2.5
6	0	
2	2	
12		Phot. R
9	58	

P.A. 105° Dist 0.5± Mags

Index R & B A.

40.6 ← Prec. & Intr. dis.

50.0	9.4 ✓	
219.0	13.3 ✓	
232.3	22.7 ✓	
		5.01 ✓

40.4	9.6 ✓	
50.0	9.2 ✓	5.22 ✓
221.8	18.8 ✓	
231.0		5.43 ✓

Index L & a B.

310.2	10.1 ✓	
320.3	11.1 ✓	
130.6	21.2 ✓	
141.7		5.16 ✓

310.5	9.7 ✓	5.2X ✓
320.2	9.4 ✓	
130.8	19.1 ✓	
140.2		5.39 ✓

Mean 5.2X ✓

~~10 31 20~~

10 31 20

10 39 10

70 30 ✓

10 3✓ 1✓ ✓

+✓ +39 ✓

1✓ 3✓ ✓2.✓

79✓1.6499 ✓

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1900phao.proj..5897

Jan. 10, 1908

Observations in last group on double star, rather difficult. Seeing blurry on account of cold and also from the fact that a storm is coming. Troubled also a little by light cloud on front side of storm. General result, however, considered good. Most trouble experienced in last two sets on account of increasing cloudiness.

Ob's watch used for times
Watch thirty seven seconds slow.

L. P. P.

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1908phae.proj..589W

Jan. 11, 1908 (Saturday)

7 7 10 Sky more or less cloudy.

Fourth Type Stars +38° 1539 (63

6 27 +38.6

3 30

2 57

12

9 3

Phot. T.

Color 6 with ordinary eyepiece

Index Above A.

8 1 0

21.4 ← 4th Type dis

53.4 32.0 ✓

206.1 21.7 ✓

227.8 53.7 ✓ −3.11 ✓

3.20

25.0 24.7 ✓ −3.02 ✓

49.7 30.6 ✓ 3.10

201.0 55.3 ✓

231.6 −3.04 ✓

Index Below B.

290.9 34.6 ✓

325.5

115.5 21.4 ✓

136.9 56.0 ✓

−3.02 ✓

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1908phaa..proj..589

Jan. 11, 1908

−3.11 ✓

297.0 21.0 ✓
318.8 30.7 ✓
110.3 51.7 ✓
141.0 −3.20 ✓

Mean −3.1 ✓

8 7 15
2 1r. ✓
2 4 A. ✓
tr +3A. ✓
13 4 46. ✓
79 ✓ 2. ✓ 4r 0 ✓

S. T. 4 50
H. A. −2 41
Dec. + 38.1
P. A. 191.0 Vernier B
Sprocket −3.5 B, −2.5 C.

Double Star No 90 (Comstock's list) =
40 Lyncis A.B.

9 13 +35.0
4 2
5 11
12
6 49

P. A. 35° Dist. 3.5 ± Mag.

W. Obs. Rowe. Rec.

Phot R.

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1908phae.proj..589W

Jan. 11, 1908

Index R+B

40.1 ←	Prec. Southern & bits dis	
51.4	11.3 ✓	
221.4	9.6 ✓	
230.9	20.8 ✓	
~~42.0~~		5.20 ✓
42.0	9.1 ✓	
51.1	12.0 ✓	5.18 ✓
220.3	21.1 ✓	
232.3		5.17 ✓

Index L+a

310.7	10.1 ✓	
320.8	9.2 ✓	
131.6	19.3 ✓	
140.8		5.37 ✓
311.3	9.3 ✓	5.25 ✓
320.6	12.2 ✓	
129.6	21.5 ✓	
141.8		5.13 ✓

8 31 40

8 38 45

7° 2v. ✓

2 3v 12. ✓

+v +32. ✓

13 3v v0. ✓

79v2. v666 ✓

Mean 5.22 ✓

Storm coming, clouds are now coming so thick that nothing further can be done. The last group ~~As the~~ above on double star was measure through more a less cloud and with progressively increasing difficulty as the clouds were steadily becoming thicker. At times

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1908phaa..proj..5897

Jan 11, 1908

the stars at equalization were quite faint and difficult

U3 watch used for times.
Watch thirty eight (38") seconds slow

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1908phae.proj..589W

Jan. 13, 1908 (Monday)

Wdbs Rowe Re. Phot. R.

Double Star No 60. (Comstock's List) =
8 Lyncis

6	27	+61.6
3	50	
2	37	
12		
9	23	

abandoned
Too cloudy

Double Star No 80 (Comstock's List) =
Camelop. 176

8	8	+ 72.7
3	55	
4	13	
12		
7	47	

P.A. 85° Dist. 0.'7 ± Mags

Wdbs. Rowe Rec.
Phot. R.

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1908phae.proj..589W

Jan. 13, 1908

Index L + B

8 15 35

381.0 ← Prec. + beta dia

328.0	27.0 ✓	
126.8	18.9 ✓	
144.4	45.9 ✓	
		3.46 ✓
306.8	17.5 ✓	3.48 ✓
324.3	27.9 ✓	
121.3	45.4 ✓	
149.2		3.49 ✓

Index R + α

211.4	27.6 ✓	
239.0		
37.0	18.2 ✓	
55.2	45.8 ✓	
		3.47 ✓
211.6	24.3 ✓	
235.9	~~26.4~~ 24.4 ✓	3.40 ✓
32.6	~~50.7~~ 48.7 ✓	
	~~3.24~~	
	3.33 ✓	

57.0 ~~59.0~~

Mean 3.44 ✓

8 21 25

37 0. ✓

+ 18 30. ✓

+√ + ~~40.~~ ✓

13 19 10. ✓

79 ~~74~~ √√√√0 ✓

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1908phae.proj..589W

Jan. 13, 1908

Fourth Type Star +14° 1283.

6	17	+14.8
4	20	
1	57	
12		
10	3	

Wilbs Rowa Rec.
Phot. T.

Color 5 with ordinary eyepiece

Index Rt a A. Fourth type dec.

2.3	68.9 ✓	
71.2	63.8 ✓	
185.0	132.7 ✓	
248.8		−0.92 ✓

8 49 45

5.8	67.0 ✓	−0.86 ✓
72.8	71.5 ✓	
180.0	138.5 ✓	
251.5		−0.80 ✓

Index Rt B B.

279.3	52.2 ✓	
337.5		
99.4	53.6 ✓	−1.38 ✓
153.0	111.8	

282.0	52.5 ✓	−1.36 ✓
334.5	60.7 ✓	1.38
95.0	113.2	
155.7		−1.34 ✓

1 ✓

Mean −1.12

8 56 50

106 3√ ✓

6 √3 16. ✓

+√ +40. ✓

13 √3 √6. ✓

79√4.√792 ✓

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1908phae.proj..589V

Jan. 13, 1908

S. T. 4 57
H. A. -1 30
Dec. +14.4
P. A. 202°.7 Vernier B
Sprocket. -5.5 B; -4.5 C.

Full aperture used

9 20 Clouds now everywhere.

9 40 Clouds more or less everywhere and heavier masses coming again. No chance for any thing further.

W's watch used for times
Watch forty (40^{s}) seconds slow

L. P. R.

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1908phae.proj..589W

Jan. 14, 1908 (Tuesday)
U. db. Rowe Rec

Examination of double star 16, 17 Draconis, as the Dun. Echt Cat. seems to have an error in the relative positions of the two stars.

16	38	+53.2
27 8	3	
10	30	

Lower star in field is very perceptibly the brighter both in large telescope and finder. Hence northern and slightly foll. component of wide pair is very perceptibly the brighter. Neither star of this pair seems to be double at this low altitude. The pair is pretty near the horizon; there is much wind; the barometer is rising, and images are somewhat blurry. Ordinary eyepiece (power 103) used. P. A. of this pair 197.° Dist 1'.5 ± Mags 5.0, 5.9.

(The north foll. & brtr. star when one inch eyepiece is put on seems to be wedge shape and probably double although seeing is too bad to separate it. This star is probably 17 Draconis. The south prec. & fainter star shows no signs of duplicity and is probably 16 Draconis. This latter star is the upper, fainter and slightly preceding star in field when the telescope is about at sub polo.)

This proves that the Dun. Echt Cat. is in error with regard to the relative declinations of 16 and 17 Draconis. 16 Draconis is south of 17 Draconis in the sky whereas the Dun Echt Cat. makes it north. The D.M. is right and agrees with sky. 16 Draconis prec. 17 Draconis a little as is indicated by both D.M. & Dun Echt.

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1908phae..proj..589W

Jan. 14, 1908

Fourth Type Star +2° 4709

23	39	+2.7
27 ~~3~~	45	U. Obs. Rowe Rec.
4	6	Phot. T.

Color 6 with ordinary eyepiece. 9.5 Cap.

Index L+A B

	199.5	← 4th Type dis
8 10 35	235.8	36.3 ✓
	23.4	27.2 ✓ ✓
	50.6	63.5
		−2.73 ✓
	202.8	29.4 ✓ −2.65 ✓
	232.2	38.6 ✓
	17.4	68.0
	56.0	−2.57 ✓

Index R+B A.

	108.3	36.7 ✓
	145.0	26.7 ✓
	293.2	63.4 ✓
	319.9	−2.73 ✓
	112.8	28.5 ✓ −2.76 ✓
8 19 10	141.3	
	291.0	33.3 ✓
	324.3 ~~324.6~~	61.8 ✓
		−2.79 ✓

Mean −2.70 ✓

~~8 19 10~~

29 4√. ✓

8 14 √2. ✓

+√ +42. ✓

13 √ 34. ✓

795.√√2√ ✓

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1908phae.proj..589W

June. 14, 1908

S.T. 4 17
H.A. +4 33
Dec. +3.0
P.A. 167.0 Vernier B
Sprocket −9.5 B, −8.5 C

Fourth Type Star +42° 4827

23	54	+44.5
28.4	35	
4	41	

Phot. T.

Color 6 with ordinary eyepiece

Index above A.

89.7	← 4th Type Dec.	
167.1	77.4 ✓	
275.5	63.8 ✓	
339.3	141.2 ✓	
	−0.75 ✓	
96.2	63.7 ✓	−0.74 ✓
159.9	79.0 ✓	
266.6	142.7 ✓	
345.6	−0.72 ✓	

8 55 20

Index Below B. ✓

356.7	79.8 ✓
76.2	63.2 ✓
186.0	142.7 ✓
249.2	−0.72 ✓

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1908phae.proj..589W

Jan. 14, 1908

−0.68 ✓

5.5 64.5 ✓
70.0
176.1 82.5 ✓ ✓
258.6 147.0
−0.63 ✓

9 2 35
117 ✓✓. ✓
4 ✓0 ✓0. ✓
✓ ✓✓. ✓
13 ✓9 40. ✓
79 ✓✓. ✓431 ✓

Mean −0.71 ✓

S.T 4 59
H.A +4 57
Dec. +43.4
P.A. 171.6
Sprocket −2.5 a, −15 B, −0.9 C

Fourth Type Star +59° 2810

0 2 +58.3
5 10
5 8

Color 7 with ordinary eyepiece
11 dbs Rowe Rec
Phot. T.

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1908phae.proj..589W

Jan. 14, 1908

Index Left B.

9 29.0

355.6 — 83.2 4th Type Dec
78.8
184.2 653
249.5 148.5
— 0.60

357.9 73.6
71.5 798
176.0 153.4
255.8 — 0.51

— 0.56

Index Right A.

262.5 84.8
347.3
92.0 700
162.0 154.8
— 0.48

271.4 70.6
342.0 875
84.01 158.1
171.3 — 0.42

— 0.43

Mean — 0.50

9 37 15
6 6 15.
9 3 3 2.
+r +42.
14 33 r0.
79rr. 606A

S.T 5 33
H.A +5 35
Dec. +60.1
P.A. 259° Vernier B
Sprocket — 0.5 B, + 0.5 C

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1908phae.proj..589W

Jan. 14, 1908

Fourth Type Star. −1° 2312

9 33 −0.5

6 16

3 17

8 49

Color 5 with ordinary eyepiece

Index RA A.

280.0 ← Compstar dis

10 41 50

332.8 52.8 ✓

104.7 44.5 ✓

149.2 97.3 ✓ +1.72 ✓

283.3 43.4 ✓ +1.72 ✓

326.7 54.6 ✓

100.0 98.0 ✓

154.6 +1.71 ✓

Index Lt B B.

187.0 60.5 ✓

247.5 46.8 ✓

12.5 107.3 ✓

59.3 +1.48 ✓

193.6 45.7 ✓ +1.56 ✓

239.3 54.4 ✓

9.8 100.1 ✓

64.2 +1.65 ✓

10 48 5

Mean +1.64 ✓

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1908phae.proj..589W

Jan. 14, 1908

S. T. 6 43
H. A. −3 4
Dec. −2.0
P. A. 210.0 Vernier B
Sprocket −0.5 B, +0.5 C

W's watch used for times
Watch forty two (42") slow.

L. R. P.

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1908phae.proj..589W

Jan. 15. 1902. (Wednesday).

Dis. Jup. I. Hels. Hrec.

Too cloudy for photometric obs. so eclipse taken visually.

Clouds of varying density.

Hi watch used for times. Watches running very closely. for rate.

East. Time = 10^h	7^m	$0.^s$	Seen	Clouds.
10	50	0	"	"
10	54	40	"	" thick.
11	0	0	"	" somewhat thick.
11	2	0	"	" rather "
11	2	20	"	" somewhat thinner
11	3	0	"	" " "
11	3	20	"	" thinner.
11	3	23	possibly suspected	" "
11	4	0	Clouds thicker not seen.	
11	5	0	"	" " "

Watch 27 secs. slow.

L. P. P.

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1908phae.proj..589W

Jan. 16, 1908 (Thursday)

Fourth Eyepiece Star +11° 305

2 11 +12.3

3/1 25/14 U. Obs. Rowe Rec. Phot. T.

Color 5 with ordinary eyepiece

Index R+C A.

7
8 47 40

86.2 ← Comparison star dis.
166.7 80.5 ✓
275.4 65.2 ✓
340.6 145.7 ✓ +0.66 ✓

96.7 59.8 ✓ +0.74 ✓
156.5 78.5 ✓
266.7 138.3 ✓
345.2 +0.81 ✓

Index L+B. B.

353.7 ~~84.8~~ ✓
78.5
184.8 66.6 ✓
151.4 ✓
251.4 ~~248.~~ +0.55 ✓

7
8 56 30

3.8 62.9 ✓ +0.60 ✓
66.7 83.2 ✓
176.2 146.1
259.4 +0.65 ✓

Mean +0.67

104 10. ✓
7* ✓2 ✓. ✓
+✓ −17. ✓
15² ✓1 ~~K~~ ✓
.5360 ✓
79✓7. ~~7777~~ ✓

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1908phae.proj..589W

Jan 16, 1908

S.T 3 59
H.A. +1 47
Dec +12.2
P.A 73.3 Vernier B
Sprocket -4.5°B, -3.5°C

Fourth Type Star +34° 56
Abandoned for the present

Double Star Σ 99 = 4 Piscium
1 7 + 23.9
Abandoned, seeing too bad, components too close and unequal.

Double Star Σ 11' = 0' 0² Tauri

4 32 +15.6
4 40
0 8

P.A. 200° Dist 7'± Mags 5.0, 5.5

W Albs Power Rec.

Phot. R.

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1908phae.proj..589W

June 16, 1908

Index Rt a A.

179.9 ← North follows bisects
268.0 88.1 ✓
13.4 69.0 ✓
82.4 157.1 ✓ 0.44 ✓

1888 75.7 ✓ 0.44 ✓
264.5 81.1 ✓
3.2 156.8 ✓
84.3 0.44 ✓

Index Lt B. B.

99.4 73.6 ✓
173.0 65.7 ✓
283.1 139.5 ✓
349.0 0.78 ✓

99.0 73.8 ✓ 0.68 ✓
172.8 76.7 ✓
280.0 ~~290.0~~ 150.5 ✓
356.7 0.57 ✓

Mean 0.56 ✓

8 52 10

9 0 0
112 10. ✓
4 ✓6 ✓. ✓
+✓ -17. ✓
13 ✓✓ 40. ✓
79✓7.✓40✓

Measurements difficult from the fact that the double image prisms will not go up far enough to make the images reverse over each other. Tb, however, did the best possible under the circumstances by placing the images & the eye at the proper time of reversal of images, so that

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1908phae.proj..589W

Jan. 16, 1908.

the images would reverse pretty well on the retina. Hence, results considered pretty good.

Fourth Type Star +49° 41

0 8 +49.2

5 38 W. dbs. Rowe Rec.

5 30 Phots. T.

Index R+a A.

252.8 ← 4th Type dis.

9 59 58

357.4 104.6 ✓

85.5 80.3 ✓

165.8 184.9 ✓

175.1 +0.09 ✓

269.2 78.6 ✓ +0.09 ✓

347.8 106.0 ✓

73.7 184.6 ✓

179.7 175.4 +0.09 ✓

Index R+B B.

164.3 101.9 ✓

266.2 82.4 ✓

351.7 184.3 ✓

79.1 170.7 0.17 ✓

171.8 88.4 ✓ +0.20 ✓

260.2 103.9 ✓

342.2 192.3 ✓

86.1 167.7 0.23 ✓

10 6 45

6 3 ✓

10 3 18 ✓

+ ✓ −17. ✓

1 ✓ .3 1. ✓

Color 5 With ordinary eyepiece Mean +0.14 ✓

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1908phae.proj..589W

Jan. 16, 1908.

S.T. 6 11
H.A + 5 58
Dec. + 50.0
P.A. 77.2 Vernier B
Sprocket -0.5 B, +0.5 C

Fourth Type Star +70° 644

10	54	+70.8
6	20	
4	34	
12		
7	26	

Color 3 with ordinary eyepiece

Index R+A

	86.5	← Comp. star dis
10 35 50	169.9	83.4 ✓
	273.5	62.4 ✓
	335.9	145.8 ✓
		+0.66 ✓
	95.5	64.5 ✓ +0.62 ✓
	160.0	84.6 ✓ ✓
	262.8	149.1
347.4	~~347.9~~	+0.59 ✓

U. Obs. Rouse Rec. Phot. T.

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1908phae.proj..589W

Jan. 16, 1908.

Index	L+B	B.
	350.9	90.1 v
	81.0	69.6 v
	180.8	159.7 v
	250.4	+0.39 v
		+0.38 v
	3.2	67.2 v
	70.4	92.8 v
	172.0	160.0 v
	264.8	+0.38 v
		Mean +0.50 v

10	43	30
	79	20. v
10	39	40. v
+v		-17. v
10	39	23. v

79 v 9.6 v 24 v

S. T 6 45
H. A. -4 12
Dec +69.4
P. A. 154.7 Vernier B
Sprocket -4.5 B, -3.5 C

W's watch used for times.
Watch seventeen (17) seconds fast

L. A. P.

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1908phae.proj..589W

Jan. 18, 1908 (Saturday)

Double Star Σ 99 = ϕ Pisc.

+23.9

1	7
3	42
2	35

P. A. 225 Dist. 8.0± Mags. ~~5.6~~, ~~10.3~~ 5.0, 9.8

6 dls Rowe Rec. Phot R.

Index Left B

306.3		North foll. & bite dis.
324.5	18.2 ✓	
129.5	12.3 ✓	
141.8	30.5 ✓	
		4.37 ✓

7 54 40

310.0	11.0 ✓	4.59 ✓
321.0	13.9 ✓	
129.0	24.9 ✓	
142.9		4.81 ✓

Index Right A.

218.1	13.7 ✓	
231.8	10.1 ✓	
39.4	23.8 ✓	4.91 ✓
49.5		~~4.86~~

4.72 ✓

~~4.76~~

218.8	12.2 ✓	
231.0	14.7 ✓	
38.1	26.9 ✓	
52.8		4.64 ✓

Mean 4.68 ✓

8 6 45

	1	25 ✓
A	0	42
✓		13
B	0	29

795 9. ✓ 420 ✓

Measurements very difficult on account of relative brightness of primary, closeness of components, somewhat hazy seeing and very bright moonlight.

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1908phae.proj..589w

Jan. 15, 1908.

(Moon at full tonight). However, extreme care exercise and the general result considered very good.

Double Star Σ 5 = 34 Piscium

0	4
4	28
4	24

+ 10.4

Abandoned.. Moon too bright and companion too faint and close.

0 Eta.

2	12
4	42
2	30

-3.6

U. Obs. Rowe Rec.
Phot R
Index Lt. B B.

212.0 ← Variable dis.
235.4 23.4 ✓
34.9 22.1 ✓
57.0 45.5 ✓
-3.48 ✓

8 35 40

214.5 22.6 ✓
237.1 17.4 ✓
37.0 40.0 ✓
54.4 -3.77 ✓
-3.62 ✓

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1908phae.proj..589W

Jan. 18, 1908

Index	R+a	A
126.7		18.3 ✓
145.0		22.6 ✓
304.4		40.9 ✓
327.0		−3.72 ✓
125.0		22.2 ✓
147.2		17.8 ✓
306.6		40.0 ✓
324.4		−3.77 ✓
		Mean −3.68 ✓

8 48 0

	43	40. ✓
4	41	√0. ✓
+√		−13. ✓
13	41	37. ✓

79√9.√70√ ✓

S.T. 5 1
H.A. +2 45
Dec. −3.0

Double Star Σ 295 = 84 Cet
2 35 −1.2
5 5
2 30

P.A. 330° Dist 5" Mags.

Wells Rowe Rec.

Phot: R.

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1908phae.proj...589W

Jan. 18, 1908

Index

9 13 30

300.1
325.8
120.4
148.0

303.3

Clouds.
Abandoned. Sky too hazy.

Double Star Σ 750

5	29	-4.4
5	52	
0	23	

P.A. 70° Dist. 5" ± Mags

Index L+B

9 59 20

196.8 ← South Pres + brtr dis
258.3 61.✓ ✓
16.0 ✓6.0 ✓
72.0 117.✓ ✓

198.7 ✓4.3 ✓
253.6 64.✓ ✓
130 116.6 ✓
77.5

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1908phae.proj..589W

Jan 18, 1908

Index R+a

Clouds

Abandoned for eclipse. Clouds also too thick for satisfactory measurements.

W's Watch used for previous times

Watch thirteen seconds fast.

	B. + C. 1182.			B. 394.		
10	14	24.0		10	14	0.0
	15	24.0			15	0.0

Dis. Sup. III Phot R. W dbo Rowe Rec.

Compared with middle of three Sats. (before eclipse) on same preceding side = Sat II.

	10	-3.7	-37		84.0		
IV 38 16.✓		38	2.	100.0✓	184.0 ~~85.0~~	1	−0.4✓
−22.✓				100.4✓	83.9		
IV 37 ✓4✓		3A	31	100.2✓	184.3		
		3A	56				
		39	24		85.0		
IV 39 ✓5.✓		39	40	99.8✓	184.8	2	−0.4✓
−22.✓		40	2	101.✓	85.0		
IV 39 33✓		40	35	100.6✓	186.5		
		41	45		84.0		
IV 42 32.✓		42	10	101.✓	185.5	3	−0.✓
−22.✓				102.0✓	85.0		
IV 42 10.✓		42	53	101.0✓	187.0		
		43	20				
		~~43~~	39		86.0		

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1908phae.proj...589W

Jan. 18, 1908.

10	43	54	100.2	186.2		
44 11.	44	18	99.2	85.0	4	−0.4
−21.	44	52	99.7	184.2		
43 0	45	16		86.3		
47	47	37	99.7	185.0		
−21.	46	11	100.2	85.9		
45 34	46	36	99.4	186.1		
	46	52		87.0		
49 22.	47	14	99.3	186.0		
−21.	47	34	101.4	84.1	6	−0.4
47 1.	47	48	99.8	185.5		
	48	3		85.7		
48 26.	48	16	101.2	186.9		
−21.	48	32	100.7	85.9	7	−0.4
48 5.	48	51	101.0	186.6		
	49	13		88.0		
49 37.	49	29	99.9	183.9		
−21.	49	42	100.1	85.9	8	−0.3
49 16	50	5	99.8	186.0		
	50	16		85.9		
50 47.	50	30	99.7	185.6		
−21.	50	52	101.9	85.1	9	−0.4
50 26	51	31	100.8	187.0		
	51	53		84.4		
52 19.	52	8	102.6	187.0		
−21.	52	28	102.2	85.3		−0.5
51 54	52	46	102.4	187.5		

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1908phae.proj..589W

Jan. 18, 1908

	10	53	0	100.3	86.9	
17	13	26.				
			13	21	99.1	187.2	−0.4
		−21.					
17	13	5		13	32	99.7	85.2	
				13	52		184.3	
				54	8			
						100.7	85.8	
17	14	32.		14	25		186.5	
		−20.				94.7		−0.3
17	14	12.		14	40	97.7	89.1	
				14	56		183.8	
				55	27		87.0	
17	15	51.		15	44	94.0	181.0	
		−20.				90.0		
17	15	31.		15	59	92.0	92.1	−0.1
				56	14		182.1	
				16	28		93.0	
17	16	9.		16	52	+0.1	178.1	
		−20.				+1.0		+0.3
17	16	39.		57	9	+3.0	94.5	
				17	26		175.5	
				17	42		96.6	
17	18	6.		17	58	76.9	173.5	
		−20.				73.2		+0.6
17	17	46		58	15	74.2	98.5	
				18	29		172.0	
17	18	26.		18	46		102.1	
	18	47.		59	5	67.4	169.5	+0.9
						64.2		+1.0
	19	4.		19	24	61.0	105.3	+1.1
	19	16		19	36	59.0	166.3	+1.2
	19	37		19	57	53.2	107.0	+1.5
15	19	2	11	0	12	48.2	160.8	+1.7
16	0	16.		0	31	112.0	~~172.0~~	

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1900phaeproj..509W

Jan. 18, 1908

16	0	32.5	11	0	52	44.2	156.2	+2.0
	0	57		1	17	37.1	119.1	+2.4
	1	19		1	39	31.0	150.1	+2.0
	1	39		1	59			
16	2	19		2	39			

Suspected Not ~~seeing~~ clear.

Limit of Visibility

			11	3	21		121.0	
16	3	51		3	34	24.6	149.6	+3.1
		-20		4	6	24.7	124.2	
						26.6		
16	3	31		4	22		148.9	

We remembers that the last reading on preceding page was erroneously called 172.0 and that it should have been 112.0 but waited for the alteration until the end of the eclipse as he was hurrying in connection with the other settings. He was conscious at the time of the necessary change.

Observations made through varying light cloud. Clouds sometimes thicker, then thinner. These clouds ~~althou~~ served to steady the air so that the seeing was quite good. The clouds were never very dense but compelled observer to make settings slowly and with much care because of their varying density. If these clouds had not been present possibly one or two more settings could have been obtained at the end.

Eclipse considered good

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1908phae.proj..589W

Jan. 18, 1908.

B. + C. 1102.			B. 394.		
11	27	17.5	11	27	0.0
	28	17.5		28	0.0

L. A. P.

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1900phae.proj...509W

Jan. 20, 1908. (Monday).

7 10 Sky pretty thickly cloudy everywhere.
7 30 Sky still cloudy.

Fourth Type Star +2 4/5° 1886

7	36	+24.8
4	22	
3	14	
12		
8	46	

U. Ills Rowe Re:
Phot. T.

Color 4 with ordinary eyepiece.

Index R+A A.

8 21 0

275.0	← 4th Type dis.	
337.0	62.0 ✓	
105.4	44.7 ✓	
150.1	106.7 ✓	−1.49 ✓
277.2	51.8 ✓	−1.42 ✓
329.0	60.5 ✓	
97.7	112.3 ✓	−1.36 ✓
158.2		

Index L+B B.

182.4		
250.3	67.9 ✓	
8.5	53.1 ✓	
61.6	121.0 ✓	−1.17 ✓
192.2	52.1 ✓	−1.15 ✓
244.3	71.0 ✓	
0.6	123.1 ✓	
71.6		−1.13 ✓

8 26 50

1	47	√0. ✓
4	23	√√.
+√		−12.
13	23	43.

Full aperture used

Mean −1.28 ✓

7961. √√21 ✓

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1908phae.proj..589W

Jan. 20, 1908

S. T. 4 46
H. A. −2 42
Dec. +23.9
P. A. 165.8 Vernier B
Sprocket. −5.5 B, −4.5 C.

Double Star Σ 1351 = 23 Urs. Mag,

9	22	+63.6
4	57	
4	25	
12		
7	35	

P.A. 265° Dist. 0.4 ± Mags

U. Ills. Rover Reg. Phot R.

Index 2 + B

	39.1 ← Foll + btw dis.	
8 48 10	51.1	12.0 ✓
	220.6	10.2 ✓
	230.8	22.2 ✓
		5.06 ✓
	39.7	11.7 ✓
	51.4	10.4 ✓
	220.6	22.1 ✓
	231.0	5.07 ✓

5.06 ✓

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1908phae.proj..589W

Jan. 20, 1908

Index R.A.

309.1	18.8	
320.9	10.6	
130.2	22.4	v.04
140.8		5.14
		v.09
		5.14
309.8	10.2	
320.0	11.2	
129.8	21.4	
141.0		5,14
		v.08
Mean		5.10

8 56 15

104 2v

A v2 12.

v -12.

13 v2 0.

7961.v770

U Cephei

0 50 +81.1

5 30

4 40

6 Obs. Rowa Rec. Phot T.

Index Above A.

248.8 ← Var. dio. I.

9 31 20

361.7 112.9

80.6

174.1 93

206.7

1v36 +0.v0

260.7

9 33 20

352.8 92.1 +0.v0

70.6 113.8

184.4 209

154.1 +0.v0

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1908phae.proj..589W

Jan. 20, 1908

Index Below B.

9 36 20

157.3
273.3 116.0 ✓
355.0 ±5.9 ✓
80.9 201.9 ✓ +0.42 ✓
1±2.1 ✓

9 38 40

171.8
259.0 ±7.2 ✓ +0.36 ✓
342.0 107.9 ✓
89.9 19±1 ✓
164.9 ✓ +0.29 ✓

9 139 40. ✓
9 34 ±±. ✓
±± -12. ✓
14 34 43. ✓
7961.6074 ✓

Mean +0.43 ✓

Index Below B. II

9 41 25

161.0
268.4 107.4 ✓
355.1 ±3.9 ✓
79.0 19 13 ✓
16±.7 ✓ +0.21 ✓

9 43 15

173.9
257.8 ~~259.0~~ ±3.9 ✓ +0.20 ✓
343.8 10±.7 ✓
89.5 169.6 ✓
17 0.4 ✓ +0.1± ✓

Index Above A.

9 46 25

72.4 10±.7 ✓
178.1
264.5 ±±.± ✓
348.9 190.1 ✓
169.9 ✓ +0.19 ✓

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1908phae.proj..589W

Jan 20, 1908

9 48 20 ✓

179 2 ✓

9 44 ✓1. ✓

+✓ -12. ✓

14 44 39. ✓

7961.6143 ✓

86.8

167.6 80.8 ✓

254.7 103 ✓

359.0 104.3 ✓ +0.09 ✓

174.9 ✓

+0.14 ✓

mean +0.17

Index Above A III

9 50 55

75.4

180.2 104.8 ✓

268.3 77.3 ✓

345.6 102.1 ✓

177.9 ✓ +0.04 ✓

9 52 40

89.8

168.8 79.0 ✓

255.4 100.6 ✓

356.0 179.6 ✓ ≠ −0.01 ✓

+0.02 ✓

Index Below B

9 56 0

344.2

86.1 101.9 ✓

179.4 77.0 ✓

253.4 174.0 ✓ −0.04 ✓

9 58 15

217 ✓0. ✓

9 ✓4 20. ✓

+✓ -12. ✓

14 ✓4 16. ✓

7961.6210 ✓

359.5

74.3 74.8 ✓

167.7 93.4 ✓

2663 ~~266.8~~ 173.4 ✓ −0.13 ✓

−0.10 ✓

mean −0.04 ✓

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1908phae.proj..589W

Jan. 20, 1908

Index Below B.

10 1 55

347.8
86.4 92.6 ✓
181.1 71.7 ✓
252.8 170.3 ✓ −0.12 ✓

10 4 15

3.4 69.4 ✓ −0.20 ✓
72.8
167.5 98.5 ✓
266.0 167.9 ✓ −0.23 ✓

Index above A

10 7 20

260.5 99.1 ✓
349.6
92.1 69.6 ✓
161.7 159.7 ✓ −0.41 ✓

10 9 38

271.2 71.1 ✓ −0.34 ✓
342.3
79.6 99.4 ✓
174.0 169.5 ✓ −0.27 ✓

Mean −0.27 ✓

23 0 ✓
10 ✓ 4✓. ✓
+✓ −12. ✓
1✓ ✓ 33. ✓
7961.6289 ✓

Index above A. V

10 13 15

161.0 89.9 ✓
350.9 66.8 ✓
93.9 156.7 ✓ −0.44 ✓
160.7

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1908phae.proj..589W

Jan. 20, 1908

272.2
10 15 20 340.6 62.4 v −0.4 v v
82.9 47.6 v
170.5 156.0 v −0.46 v

Index Below B.

171.3
10 18 10 262.0 90.7 v
4.8 66.8 v
70.0 156.7 v −0.44 v

183.6 −0.47 v
249.3 65.7 v
351.2 88.3 v
79.5 154.0 v −0.50 v
mean −0.46 v

10 20 25
67 10 v
70 16 44. v
+v −12. v
15 16 36. v
7961.636 v v

Index Below B. VI

174.4 86.1 v
10 25 0 260.5 62.1 v
6.4 148.1 v
68.5 −0.61 v

184.0 64.4 v −0.60 v
10 27 20 248.4 85.8 v
353.5 149.7 v
78.8 −0.58 v

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1908phae.proj..589W

Jan. 20 1908

Index Above A

	85.5	82.6 v
10 29 0	168.1	59.1 v
	277.0	141.7 v
	336.1	−0.74 v
	~~96.8~~	
	96.8	62.9 v −0.73 v
10 32 10	159.7	80.0 v
113 30. v	266.6	142.9 v
10 2 22. v	3466 ~~346.5~~	−0.72 v
+v −12. v		Mean −0.66 v
1v 2 10.		
7961.644v v		

S T. 7 51
H A +5 54
Dec. +82.0
P.A 16.0 Vernon B
Sprocket −1.5 B, −0.5 C.

W's watch used for times
Watch twelve (12s) seconds fast.

L. A. P.

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1908phae.proj..589W

Jan 22, 1908 (Wednesday)

Double Star No 105 (Comstock's List) Σ 1516 AC

10	59	+72.8
3	59	
7	0	
12		
5	0	

Abandoned. Can only be seen once in a great while by casual glimpses. Barometer rising; wind strong.

59 Androm. = H. P. 340.

Double Star (Specially observed).

2	2	+38.3
4	17	
2	15	

P. A. ~~40~~ 80° Dist. 16" ± Mags.

W. Obs Rowe Rec. Phot: R

	Index R+B	A.
	100.0 ← Prec Southern + bitr obs.	
8 11 10	173.7	73.7 ✓
	284.0	64.9 ✓
	348.9	138.6 ✓
	~~99.0~~	0.80
	99.0	71.5 ✓ 0.74
	170.5	72.6 ✓
	279.4	144.1 ✓
	352.0	0.69

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1908phae.proj..589W

Jan 22, 1908

Index Lta B

4.8	80.0 ✓	
84.0	72 3 ✓	
190.9	152.3 ✓	0.53
263.2		

8.3	70.7 ✓	0.58
79.0	76 8 ✓	
186.2	147 .5 ✓	
263.0		0.62

Mean 0.66

8 21 15

32 25 ✓

& 16 12. ✓

+v −10. ✓

13 16 2 ✓

7963.vv2A ✓

W-dbs. Rowe Rec.

R. Z., Cassiops. Phot. I.

2 36 +69.0

4 58

2 22

Index Above A I

112.6 ← Variable dis.

8 58 35

144.8	32.2 ✓	
295.2	224 ✓	
317.6	54.6 ✓	−3.07 ✓

115.8	236 ✓		−3.03 ✓
9 1 30	139.4 ~~144.4~~	331 ✓	
288.4		567 ✓	
324.5			−2.99 ✓

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1908phae.proj..589W

Jan. 22, 1908

Index Below B.

17.6	38.6	
56.2	226	
205.4	61.2	
228.0		−2.81

9 4 20

25.5	23.1	−2.81
48.6	38.2	
197.8	61.3	
236.0		2.81

Mean −2.92

9 7 30

11 ✓✓.

9 2 ✓9.

+✓ −10.

14 2 49.

7963.✓A✓3

Index Below B.

17.5	36.4	
53.9	236	
205.4	60.0	
229.0		−2.86

9 10 30

25.1	23.6	−2.83
48.6	38.1	
197.8	61.6	
235.9		−2.80

9 13 0

Index Above A.

289.1	32.3	
321.4	223	
116.4	54.6	
138.7		−3.07

9 15 50

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1908phae.proj..589

Jan. 22, 1908

−2.97

294.6 22.8
317.4 36.8
109.3 59.6
146.1 −2.87

Mean −2.90

Index Above A.

289.0 33.2 III
322.2 22.4
116.0 55.6
138.4 −3.03

9 18 55
9 14 34
+v −10.
14 14 24
7963.v933

9 28 20

293.9 24.5 −2.98
318.4 33.7
111.4 58.2
146.1 −2.93

9 30 30

Index Below B.

198.6 37.2
235.8 22.2
25.3 59.2
47.5 −2.89

9 34 48

205.3 33.5 −2.88
238.8 26.6
27.8 60.1
54.4 −2.86

Mean −2.93

9 36 50
130 20.
9 32 3v.
+v −0.
14 32 2v.
7963.60vA

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1908phae.proj..589W

Jan 22, 1908

Index Below. A. IV

	200.4	32.8 ✓	
9 48 30	233.2	232 ✓	
	25.5	56.0 ✓	
	48.7	−3.02 ✓	
	204.3	254 ✓	−3.02 ✓
9 57 0	229.7	30.8 ✓	
	21.7	56.2 ✓	
	52.5	−3.01 ✓	

Index Above A.

	112.0	32.5 ✓	
9 54 5	144.5	24.6 ✓	
	293.6	57.1 ✓	
	318.2	−2.97 ✓	
	115.5	24.7 ✓	−2.92 ✓
9 56 20	140.2	34.7 ✓	
209 ✓✓ ✓	288.1	59.4 ✓	
9 ✓2 29. ✓	322.8	−2.88 ✓	
+v −10. ✓		Mean −2.97 ✓	
14 ✓2 19. ✓			
7963.6196 ✓			

S. T. 6 30
H. A +3 48
Dec. +69.8
P. A. 27.5 Vernier B
Sprocket −2.5 A, −1.5 B. −0.9 C

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1908phae.proj..589W

Jan. 22, 1908

Double Star Σ 516 = 39 Eridani

4	8	-10.6
6	45	
2	37	

P.A. 160° Dist 6"

Wdbs. Rowe Rec. Phot R.

Abandoned. Stopped by Clouds

10 34

W's watch used for times

Watch ten (10) seconds fast.

L. P. P.

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Jan. 22. 1904.

B. + C. 11 A2.			B. 394.		
12	28	V A.0	12	29	0.0
	29	V A.1		30	0.0

Came up cloudy so that eclipse could not be taken.

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1908phae.proj..589W

Jan 25, 1908 (Saturday)

U. Obs Rowe Ref.

Double Star No 7 (Comstock's list) =

Σ 42

0	31	+28.5
4	29	
3	58	

Abandoned.

Sky hazy; star not easily found; companion rather close.

Double Star Σ 131 U. Obs. Rowe Ref.

1	25	+60.0
4	42	
3	17	

Phot R

P.A. 130° Dist 14"± Mags.

Index R to A.	Northern Rec + Into dis
299.0	26.9 v
325.9	45.1 v
111.6	72.0 v
156.7	2.44 v
294.8	45.2 v
340.0	33.7 v
117.3	78.9 v
151.0	2.23 v

2.34 v

8 15 10

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1900phae.proj..503w

Jan. 25, 1907

Index Lt B	B.	
211.8	58.2	
240.0	50 2	
17.9	78.4	
68.1		2.24
193.8	58.2	2.09
252.0	30 8	
29.2	89.0	
60.0		1.94

Mean 2.22

8	24	10
	39	20.
	19	40.
		+22.
13	20	2.

7966.6

Observations in above group difficult on account of rather high altitude, difficulty in getting hold of emergent pencils, somewhat blurry seeing and hazy sky.

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1908phae.proj..589W

Jan. 25, 1908

U Cephei

0	50	+81.1
5	20	
4	30	

U Obs Rouse Rec. Phot. T.

Index above A.

	250.9 ←	Variable dia	
9 11 10	358.9	108.0 ✓	
	83.4	88.1 ✓	I
	171.5	196.1 ✓	
		163.9 ✓	
		+0.30 ✓	
	260.6	91.9 ✓	
9 13 40	352.5	107.7 ✓	+0.34 ✓
	73.3	199.6 ✓	
	181.0	160.4 ✓	
		+0.37 ✓	

Index Below B.

	162.1	108.7 ✓	
9 16 35	270.8	86.4 ✓	
	354.0	195.1 ✓	
	86.4	164.9 ✓	
		+0.29 ✓	
	172.4	90.6 ✓	+0.30 ✓
9 19 40	263.0	105.8 ✓	
61 ✓ ✓	343.7	196.4 ✓	
9 15 14. ✓	89.5 ~~90.0~~	163.6 ✓	
+✓ +22. ✓		+0.31 ✓	
14 15 36. ✓			
7966. ✓ 941 ✓			

Mean +0.32 ✓
2.41 ✓
2.73 ✓

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1900phae.proj..599w

Jan. 25, 1908

Index Below B.

	165.4	106.8 ✓	II
9 22 10	272.2	83.9 ✓	
	355.0	190.7 ✓	
	78.9	169.3 ✓	+0.20 ✓
	175.5	82.5 ✓	+0.21 ✓
9 24 55	258.0	109.3 ✓	
	340.7	191.8 ✓	
	90.6	168.2	+0.22 ✓

Index Above A.

	75.7	100.9 ✓	
9 28 0	176.6	78.9 ✓	
	267.3	179.8 ✓	
	346.2		−0.00 ✓
	88.3	78.2 ✓	−0.02 ✓
9 30 15	166.5	99.2 ✓	
	156.4	177.4 ✓	
	355.6		−0.05 ✓

10 ✓ 20 ✓

9 26 20. ✓

+✓ +22. ✓

14 26 42. ✓

7966.6019 ✓

Mean +0.10 ✓

177 8.41 ✓

8.✓1 ✓

Index above A.

	78.7	96.2 ✓	
9 33 20	174.9	75.9 ✓	
	269.0	172.1 ✓	
	344.9		−0.15 ✓

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1908phae.proj..589W

Jan. 25, 1908.

−0.11

88.7 76.1
9 35 20 164.8 100.2
257.0 176.3 −0.07
357.2

Index Below B. Hk

343.9 102.1
9 38 0 86.0 75.0
181.0 177.1 −0.05
256.0

−0.10

359.2 76.2
9 40 25 75.4 96.6
169.3 172.8 −0.14
265.9

147 V.
9 36 F6.
+V +22.
14 37 A.
7966.6091

Mean −0.10
IV A.41
A.31

Index Below B.
9 44 45 348.6 96.6
85.2 72.1
180.9 168.7 −0.21
253.0

−0.22

1.8 71.1
9 46 25 72.9 96.1
168.3 167.2 −0.24
264.4

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1900phae.proj..599W

Jan. 25, 1908

Index Above A.

9 49 25

260.9	93.0 ✓	
353.9 ~~353.7~~	66.6 ✓	
95.1	159.6 ✓	−0.39 ✓
161.7		
		−0.36 ✓
271.9	70.0 ✓	
341.9	93.1 ✓	
80.5	163.1 ✓	−0.32 ✓
173.6		

9 51 20

191 ✓✓ ✓

9 47 ✓9. ✓

+✓ +22. ✓

14 48 21. ✓

7966.6170 ✓

Mean −0.29 ✓

0.41 ✓

0.12 ✓

Index Above A. V

9 55 20

261.2	86.8 ✓	
348.0	67.1 ✓	
92.5	153.9 ✓	−0.50 ✓
159.6		
		−0.46 ✓
272.6	67.3 ✓	
339.9	90.1 ✓	
81.4	157.4 ✓	−0.43 ✓
171.5		

Index Below B.

10 1 35

174.0	90.8 ✓	
264.8	68.3 ✓	
2.7	159.1 ✓	−0.40 ✓
71.0		

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1908phae.proj..589W

Jan. 25, 1908

−0.48

184.3 65.1
249.4 85.8
352.8 150.9 −0.56
78.6

Mean −0.47
8.41
7.94

Index Below B. VI

174.9 83.9
258.8 62.5
6.0 146.4
68.5 −0.65

185.1 62.9 −0.66
248.0 82.2
355.5 145.1
77.7 ~~77.8~~ −0.67

Index Above A.

85.5 82.0
167.5 62.7
275.0 144.7
337.7 −0.68

95.0 62.9 −0.66
157.9 83.5
264.4 146.4 −0.65
347.9

Mean −0.66
8.41
7.75

10 4 10
239 20
9 9 0.
+ 22.
1 0 12.
7966.62 1

10 8 35

10 11 20

10 15 20

10 17 45
3 0.
10 13 1.
+ 22.
1 13 37.
7966.634 4

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1900phae.proj..509w

Jan. 25, 1908

S. T. 6 55
H. A. +5 58
Dec. +81.9
P A. 16.3 Vernier B
Sprocket. -1.5 B, -0.5 C.

Observations a little difficult; seeing ~~at~~ at times somewhat blurry.

W's watch used for times
Watch twenty two (22") seconds slow.

L. P. P.

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1908phae.proj..589W

Jan. 27, 1908 (Monday)

R. Z. Cassiop.

2 3 6 +69.0
3 5 5
1 2 0

Index Rta A.

109.0 ~~108.3~~ Variable Ind I

7 24 40
144.6 35.6 ✓
294.3 23 3 ✓
317.6 58.9 ✓ −2.90 ✓

113.7 27.6 ✓ −2.74 ✓
7 27 0
141.3 39 9 ✓
286.2 67 5 ✓ −2.59 ✓
326.1 ~~326.6~~

Index Rtb B.

17.0 40.6 ✓
7 31 40
57.6 27 7 ✓
~~90~~2.4 68.3 ✓ −2.56 ✓
230.1

−2.57 ✓

24.4 26.7 ✓
51.1 41.1 ✓
7 34 0
195.0 67.8 ✓ −2.58 ✓
236.1

117 20 ✓
7 29 20 ✓
+✓ +2✓.
12 29 +✓. ✓
796A. ✓207 ✓

Mean −2.66 ✓

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1900phae.proj..599W

jan. 27, 1908

Index R+B B. II

	17.0	42.3 ✓
7 37 20	59.3	26.1 ✓
	202.6	68.4 ✓ −2.56 ✓
	228.7	

−2.52 ✓

	253	
7 39 35	51.5	26.2 ✓
	192.8	44.2 ✓
	237.0	70.4 ✓ −2.49 ✓

Index R+a A.

	284.8	44.1 ✓
7 42 56	328.9	26.4
	113.6	70.5 ✓ −2.49 ✓
	140.0	

−2.46 ✓

	293.8	26.0 ✓
7 45 20	319.8	
	103.8	46.0 ✓
16 ✓ 10 ✓	149.8	72.0 ✓ −2.44 ✓
7 41 12 ✓		
+✓ +2✓.✓		Mean −2.49 ✓
12 41 43.✓		III
7962.✓290 ✓		

Index R+a A.

	285.3	42.2 ✓
7 47 45	327.5	27.5 ✓
	113.0	69.7 ✓ −2.52 ✓
	140.5	

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1908phae.proj..589W

Jan. 27, 1908

−2.50

293.3 27.8
321.1 42.7
105.5 70.5 −2.49
148.2

Indey L+B B.
193.0 42.9
235.9 49.4
22.7 72.3 −2.43
512.1

7 53 35

200.1 30.2 −2.38
230.3 45.2
16.2 75.4 −2.33
61.4

Mean −2.44

7 56 25

20A / ✓
7 ✓2 ✓
+✓ +2✓
12 ✓2 29.✓
796A. ✓36 ✓

Indey L+B B. IV
192.2 45.8
238.0 30.5
22.0 76.3 −2.31
52.5

7 59 38

201.2 −2.30
229.4 28.2
12.8 48.8
61.6 77.0 −2.28

8 1 55

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1900phae.proj..589V

Jan. 27, 1908

Index Rta A.

104.0

8 4 30

150.0 46.0 ✓

291.2 294 ✓

320.6 75.4 ✓ −2.33 ✓

112.3 29.7 ✓ −2.34 ✓

8 6 25

142.0 45.1 ✓

282.9 74.8 ✓ −2.35 ✓

328.0 ~~327.9~~

12 20 ✓

4 3 ✓ ✓

+V +2V ✓

13 3 30 ✓

7960. ✓ 441 ✓

Mean −2.32 ✓

E

Index Rta A.

102.8 46.7 ✓

8 9 45

149.5 30 ✓

291.6 76.7 ✓ −2.29 ✓

321.6

−2.25 ✓

111.9 30.6 ✓

8 12 15

142.5 48.8 ✓

281.0 79.4 ✓ −2.21 ✓

329.8

Index Rta B.

13.0 47.2 ✓

8. 15 15

60.2 33.1 ✓

199.1 80.3 ✓ −2.19 ✓

232.2

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1908phae.proj..589W

Jan. 27, 1908

−2.18

21.0

53.9 ~~54.6~~ 32.9

53.0

189.0 85.9 = 2.04

242.8

Mean −2.18

8 19 15

6 30

4 14 4.

+2

13 14 33.

7964. 16

S. T. 5 24

H. A. +2 41

Dec. +69.5

P. A. 208.5 Vernier B

Sprocket. −2.5 A., −1.5 B, −0.9 C

6" Obs Rowe Rec. Phot T.

Seeing very blurry in early part of observations of R. Z. Cassiop. Seeing more or less blurry throughout all the observations of this variable but as said above rather more so in the first half. Observations difficult throughout; altitude rather high and position of observer somewhat cramped; air somewhat cold; barometer rising rapidly; and wind very strong and gusty

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1908phae..proj..589V

Jan. 27, 1908

Eros	Wolbs	Rouse Rec.
1	59	+ 22.8
6	20	
4	21	

Eighth mag. + Star A.

28.5
28.7

9 57 Stars A + B.

13.5
13.5

9 59 Stars B + C

10.1
10.0

10 1 Stars a + D

17.5
17.6

10 10 Eighth Mag. + Star a.

28.5
28.2

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1908phae.proj..589W

Jan. 27, 1908

10 11 Stars A. + B
11.5
11.5'

10 12 Stars A + B
11.3

10 13 Stars B. + C.
12.3
12.5
12.0

10 16 Stars A. + D
18.0
18.0

Hence, Star B. is Eros and comes quite closely ~~with the~~ in position with the calculated place.

10 21 Eros now follows + 23° 296 (8.1) by eighteen seconds (18") and is about 14.' 4 south of it.

Mag. of Eros. roughly about 11.4. Shutter partly covers object glass, however.

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1908phae.proj..589W

Jan. 27, 1908

Double Star Σ 1190 = 29 Monocerotis.

8	2	- 2.6
7	21	
0	41	
12		
11	19	

P. A. 100° Dist 32".4 Mags
U. Obs Rowe Rec. Phot R. One pair removed
Index R. & A. B. Cloudy.

	131.7	10.0" Pair & bkr dis
10 49 30	141.7	
	312.7	8.3"
	321.0	18.3" 5.48"

131.2	10.7"	5.42"
141.9	8.8"	
313.2	19.5"	
322.0		5.35"

Index R. & B. A.

43.4	7.2"	
50.6	7.8"	
223.2	15.0"	
231.0		5.92"

42.4		
10 56 50	51.2	8.8" 5.81"
223.8	7.8"	
231.6	16.6"	5.70"

Mean 5.62"

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1908phae.proj..589W

Jan. 27, 1907

W's watch used for times
Watch 25" slow

L. P. P.

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1908phae.proj..589V

Jan. 28, 1908 (Tuesday)

7 5 Sky all cloudy.

Lens

1	59	+22.8
3	59	
2	0	

7 15 Sky thickly cloudy every where. No stars visible

7 50 Sky thickly cloudy every where. No chance for anything tonight, storm coming

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1908phae.proj..589W

Jan. 30, 1908 (Thursday)

Full aperture used. Color 4 with ordinary eyepiece

H.P. 3879 = +62° 2007 (5.7) Color orange.

~~22~~ 0 +63.9

~~4~~ ~~13~~ Comp Star = +62° 2012 (8.8).

~~17~~ ~~45~~

~~24~~

~~6~~ ~~15~~

22 0 +63.9

28 4 15

6 15

Index R+a A. H.P. 3879 Dec.

21.0 31.2 ✓

52.2 22.7 ✓

204.1 53.9 ✓ −3.11 ✓

226.8

−3.11

7 41 10

26.6 23.0 ✓

49.6 30.6 ✓

200.0 53.6 ✓ −3.11 ✓

230.6

Index L+B B.

290.4 32.5 ✓

322.9 20.8 ✓

115.7 53.3 ✓ −3.13 ✓

136.5

296.4 21.3 ✓ −3.12 ✓

317.7 32.6 ✓

109.7 53.8 ✓ −3.11 ✓

142.2

Mean −3.12 ✓

7 49 0

90 10. ✓

7 4r r. ✓

+r +32. ✓

12 4r 37. ✓

7971, r3.17 ✓

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1908phae.proj..589V

Jan. 30, 1908

Index L + B	B.	
289.9	32.7 ✓	
322.6	20.8 ✓	
116.8	53.5 ✓	−3.12 ✓
137.6		
295.5		−3.18 ✓
316.7	21.2 ✓	
111.0	29.7 ✓	
140.7	50.9 ✓	−3.24 ✓

Index R + a.	a.	
200.4	31.2 ✓	
231.6	20.4 ✓	
26.3	51.6 ✓	−3.20 ✓
46.7		−3.10
		3.09
205.7	22.8 ✓	
228.5	33.9 ✓	
18.7	56.7 ✓	−2.98
52.6		

1 51 30

7 59 20

110 √0. ✓
7 √√ 2√. ✓
+√ +32. ✓
12 √√ √7.
7971. √32 ✓

Mean −3.14 ✓
Gen. mean −3.13 ✓

Seeing very blurry at times especially in second groups. Observations a little difficult but extreme care exercised and result considered good.

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1908phae.proj..589W

June 30, 1908

S.T. 5 4
H.A. + 7 8
Dec. + 63°.4
P.A. 329°.5
Sprocket + -5.5 B, -4.5 C.

Barometer rising, thermometer 2° above zero, and wind gusty at times. Observations, made slowly and with as much care as possible but observations as said above somewhat difficult

U Mds. Rowe Rec. Phot. T.

Double Star No 30. (Comstock's List) = 41 Arietis (second line from p. 6. of Book List.

2	42	+26.7
5	23	
2	41	

P.A. 210° Dist 32" Mags 3.0, 10.8

U. Mds. Rowe Rec. Phot R, one prism removed.

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1908phae.proj..569w

Jan 30, 1908,

Index Above A.

9 370

317.7	2.6 ✓	
320.3	4.8 ✓	
134.4	7.4 ✓	7.45 ✓
139.2		
313.8	4.7 ✓	7.17 ✓
318.5	4.9 ✓	
134.5	9.6 ✓	6.89 ✓
139.4		

Index Below. B.

225.2	4.7 ✓	
229.9	2.9 ✓	
47.3	7.6 ✓	7.40 ✓
50.2		
		7.48 ✓
224.3	4.1 ✓	
228.4	2.9 ✓	
47.5	7.0 ✓	7.57 ✓
50.4		

Mean 7.3X ✓

9 43 30

	20	50. ✓
9	40	2 ✓. ✓
+✓		+32. ✓
14	40	✓7. ✓

7971.6110 ✓ Observations difficult on account of brightness of primary, faintness of secondary, and poor seeing. Wind gusty, air cold

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1908phae.proj..589W

Jan 30, 1908.

Double Star No 107 (Comstock's list) =
8 Leonis

11	18	+17.2
6	55	
4	23	Phot R. one prism removed
12	0	
7	37	

P.A. 345° Dist. 0'.9 ± Mag. 5.8, 11.1

Index L+B. B.

	223.4 ← South foll. + btr. dis.	
16 7 25	231.4	8.0 ✓
	43.0	9.9 ✓
	52.9	17.9 ✓ 5.53 ✓
	222.2	11.0 ✓ 5.50 ✓
	233.2	7.5 ✓
	43.8	18.5 ✓ 5.46 ✓
	51.3	

Index R+A A.

	133.0	8.8 ✓
	141.8	11.0 ✓
	311.2	19.8 ✓ 5.31 ✓
	322.2	

5.37 ✓

	131.8	11.4 ✓
	143.2	7.4 ✓
	313.5	18.8 ✓ 5.43 ✓
	320.9	

Mean 5.44 ✓

10	14	20
	21	45. ✓
10	10	52. ✓
+5		+32. ✓
10	11	24

7941.6329 ✓

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1908phae.proj..599W

Jan. 30, 1908.

W's watch used for times
Watch thirty two (32") seconds slow.

L. P. P.

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1908phae.proj..589W

Jan. 31, 1908 (Friday)

Double Star No 7 (Comstock's List) =
Σ 42. P.A. 30° Dist 6" Mags. 8.0, 8.8.

0 31 +30.0
4 17
3 46

Index R+B A.

283.4 70.6 ✓
354.0 70.0 ✓
97.8 140.6 ✓ 0.76 ✓
167.8

0.74 ✓

278.1 75.8 ✓
353.9 66.3 ✓
101.5 142.1 ✓ 0.73 ✓
167.8

Index L+a B.

185.5 75.3 ✓
260.8 64.7 ✓
13.8 140.0 ✓ 0.77 ✓
78.5

0.76 ✓
~~0.75~~

197.0 70.0
257.0 72.0 0.94 ✓
16.0 142.8 ~~0.78~~
88.0

0.80 ✓

Mean ~~0.77~~

7 54 13
98 √√. ✓
7 49 24. ✓
√ +34 ✓
12 √0 2,16 Obs Rocs Rec. Phot R. one person removed.
7972.5347 ✓ Measurements rather difficult on account of closeness of components and somewhat blurry seeing.

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1908phad.proj.:569w

Jan. 31, 1908

but the greatest possible care exercised (observer waiting for intervals of better seeing) and observations consider pretty good

Double Star No 17 (Comstock's List) =
Ψ Cassiop.

1	16	+ 67.4
5	~~16~~	
3	50	

Phot R.

Companion ~~is~~ represented in list book as close double. Put on power 270 for examination of same. With this power a doubling of companion is suspected but not certainly seen on account of somewhat blurry seeing. In Phot. R. (power 135) companion is only seen as single and is measured as such.

P. A. 110° Dist 27″ Mags 4.5, 9.1

Wdbs. Rowe Rec.

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1908phae.proj..589W

Jan. 31, 1908

Index R+a A.

	307.2	Prec + brto dis.	
8 21 0	323.2	16.0 ✓	
	129.0	12 8 ✓	
	141.0	28.0 ✓	4.55 ✓
	309.0	12.3 ✓	4.48 ✓
	321 3	1 7 7 ✓	
126.7	~~+25.6~~	30.0 ✓	4.40 ✓
	144.4		

Index f+B B.

216.5	17.6 ✓	
234.1	13 8 ✓	
37.8	31.4 ✓	4.30 ✓
51.6		
		4.31 ✓
218.0	14.0 ✓	
232.0	17 1 ✓	
35.9	31.1 ✓	4.32 ✓
53.0		

Mean 4.40 ✓

8 29 20

✓0 20. ✓

A 2✓ 10. ✓

+✓ +3K. ✓

13 2✓ 44. ✓

7972. ✓✓9✓ ✓

The P.A. and Dist. of this double check perfectly and this is the ~~correct~~ double wanted ~~but~~ Region identified. The companion, however, is much brighter than 10+11 Mag. as indicated in Comstock's List. Measurements considered good.

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1900phot.proj...569W

Jan. 31, 1908.

Double Star No. 44 (Comstock's List) =
α Tauri ++ 16° 631 (9.1)

4	28	+16.2
5	58	
1	30	

Index 1+a B.

215.7 ←	2.7 ✓	α Tauri dis.	
218.4	1.7 ✓		
35.5	4.4 ✓	8.58 ✓	
37.2			
			8.30 ✓
			~~8.28~~
216.0	2.5 ✓		
218.5	2.8 ✓		
35.4	5.3 ✓	8.12 ✓	
38.2		~~8.02~~	

Index R+B A.

124.3	3.5 ✓	
127.8	2.2 ✓	
305.2	5.7 ✓	8.02 ✓
307.4		
		7.88 ✓
125.4	2.6 ✓	
128.0	3.9 ✓	
304.4	6.5 ✓	7.74 ✓
308.8		
		8.13 ✓
		Mean ~~8.08~~

9 20 15

9 29 35

49 r 0. ✓
9 24 rr. ✓
rr +34. ✓
14 2r 29. ✓
7972.60 10 ✓

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1908phae.proj..589W

Jan. 31, 1908

(9.1)
+16° 631 + Companion to α Taurii

Index Below B.

9.2	55.7 ✓	9.1 mag. dio.	
64.9	51.8 ✓		
189.2	107.5 ✓	1.48 ✓	
241.0			
			1.46 ✓
19.0	41.2 ✓		
60.2	67.5 ✓		
180.5	108.7 ✓	1.45 ✓	
248.0			

Index Above A.

273.1	64.9 ✓	
338.0	48.0 ✓	
101.0	112.9 ✓	1.35 ✓
149.0		
		1.36 ✓
282.2	45.3 ✓	
327.5	66.8 ✓	
93.0	112.1 ✓	1.37 ✓
159.8		

Mean 1.41 ✓
f. 13 ✓
9.√4 ✓

9 46 38

10 1 5

107 3√. ✓
10 √3 4∅. ✓
+√ +34. ✓
1√ √4 22. ✓
7972.6620 ✓

See also p. 107.

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1900phae.proj...599w

Jan. 31, 1908

Measurements of α Tauri with D.M star made with ~~considerable~~ some difficulty on account of extreme brightness of α.

Measurements of companion to α and D. M. star made with much difficulty on account of brightness of α and glare of light of same on prisms but by taking great care all the measurements are considered pretty good.

W 3 watch used for times.
Watch 34" seconds slow.

Sky a little hazy.

L. P. P.

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1908phae.proj..589w

Feb. 3. 1908 (Monday).

R Z Camp. H. Obs. C. D. Campbell rec.

2	36	+69.0
4	27	
+1	−1	

Abandoned for the present.

H. P. 3879. H. Obs. C. D. C. rec.

22	0	+63.9
24	3r	
+6	3r	

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1908phac.proj.:589W

Feb. 3, 1908

under above.

- 22.5 24.3
7.515' - 50.8
- 26.6 9 2
- 25.8

- 47.7
- 231.0
- 290.8
- 321.7

- 115.7
- 136.5'
- 296.0
8.010 - 316.1

- 111.0
- 142.2
-
-

As the recorder was a new and temporary one, he got mixed up in the above partial group on the page, so that when he thought the group was finished, it was found to be unfinished, with errors incorporated also.

Sunset. tried again on fol. page, but stopped by clouds at end of third set. See also note on fol. page.

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1908phae.proj..book

Feb. 3, 1908

Index above.

8.13.20 -

- 202.0
- 230.2
- 25.5
- 47.4

24.2 ✓

21.9 ✓ / ✓0.1 ✓

3.27

- 304.5
- 227.0
- 21.6
- 51.8

22.5 ✓

30.2 ✓ / ✓2.7 ✓

3.21

3.15

Index below.

~~- 110.5~~

~~- 174.0~~

~~- Clouds 294.5~~

~~- 316.2~~

111.5

142.2

295.5

314.0

30.7 ✓

18.5 ✓ / 49.2 ✓

3.31

So many ✗ clouds that last ~~group~~ set of stations.

- See note below, also.

- Troubled continually by clouds, especially in latter part of group. Stars frequently growing dim and also frequently disappearing entirely, so that observer had to wait for stars to reappear. The comparison star being at some distance from the bright star, the ~~one~~ stars would alternately vary in brightness. This caused the measurements to be unsatisfactory. After third set above, measurements entirely stopped by clouds.

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1900phae.proj..599W

Feb. 3, 1908

If this partial group is retained, it will principally serve as an approximate ~~cross~~ check on the measurement of Jan. 30, but if retained it should not have more than one third weight. Sky is too cloudy to set images, in order to make the usual hour angle and spirachrot readings, but region thoroughly identified before reading.

Procyon Plat. 7.

W. Olis. C D Campbell Rec.

7 hrs. 34 min.	+5.5	Plat. 7.
6 " 37	"	
0 " 57	"	
11 " 3	"	

The first group on next page (112) is a measurement of diff. magn. between Procyon and +5° 1742 (7.5)

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1908phae.proj..589w

Feb. 3, 1908

Index above (See p. 111.)

31.5 ——— 7.9 ✓ Procyon dia.

9.4020 39.4

212.5

220.3 7.8 / 15.7 ✓ ✓ ✓.82 ✓

−31.5

39.0 7.5 ✓ ✓.74 ✓

211.8 9.3 / 16.8 ✓ ✓

221.1 ✓.67 ✓

−300.2

312.4 12.2 ✓

121.6 8.8 / 21.0 ✓ ✓ ✓.42 ✓

130.4

−302.0 8.6 ✓ ✓.34 ✓

9.4650 −310.6

121.5 9.0 / 17.6 ✓ ✓ ✓.57 ✓

130.5

Mean ✓.56 ✓

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1900phae.proj..589W

Feb. 3, 1908

Index below

+5° 1742 dec.

199.7

9.4850 235.2 3 ✓ ✓

22.2

47.2 2✓.0 ✓ / 60.✓ ✓ 2.44

-204.5

-229.0 24 ✓ 2.42

18.8 34.0 ✓

52.8 ✓4.✓ ✓ 2.92

-104.4 40.0 ✓

-144.4

-293.2 26.3 ✓

-319.5 66.3 ✓ 2.63

-112.5 26.4 ✓

956.20 -138.9 2.62

287.4 36.2 ✓

324.2 63.2 ✓ 2.74

Mean 2.72

The above group is a measurement of diff. magn. between +5° 1742 (3.✓) and companion to Procyon at P.A. 290° Dist. 6.0 = Comp. 4 = No. 6 of Comstock's list.

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1908phae.proj..589W

Feb. 3, 1908

Index above

256.4

10.005 353.6

87.2

160.7

-267.5

343.4

77.2

Owing to clouds, observer was uncertain as to when image disappeared in all the above ~~all~~ settings on this page, so that a new start was made on fol. page. (115).

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1908phae.proj..589W

Feb. 3, 1908

Index above

~~Star~~ Comp. at 77° dia.

10,05,30

79.8 ← 91.7 ✓

171.5

266.8 72.8 ✓

339.6 164 ✓ 0.29

- 90.0

161.4 71.4 ✓ 0.24

256.8 99.2 ✓

356.0 170.6 ✓ 0.18

- ~~351.5~~ - 359.6

~~88.0~~ - 69.6 70.0 ✓

~~179.4~~ - 168.0 96 ✓ ✓

~~25~~ 0 - 264.5 166 ✓ ✓ 0.25

- 348.0

10,15,10 83.5 93.5 ✓ 0.22

179.4 76.4 ✓

255.8 169.9 ✓ 0.19

Mean 0.23

W. watch used for times.

Watch 40. seconds slow.

The above group is a direct measurement of diff. of arc. between the fol. two companions of Procyon, being nos. 68 [A B] and 69 (A. C) of Comstock's List.

That is, Comp. at 77° Dist. 371." compared with comp. at 290° Dist. 362."

L. P. P.

over.

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1908phae.proj..589W

Feb. 4. 1908.

Summary of Measts. of Procyon and companion through +5° 1742 (7.5)

Procyon and 7.5 mags. = ~~5.56~~ (Measts.) = 5.56 "
7.5 mags. and Comp. to Procyon at 290°. = 2.78 "
∴ Mags. of Comp. at 290° = = 2.34 "

Comp. at 77° and Comp. at 290° (Measts.) = -0.23 "
∴ Mags. of Comps. at 77°: = = 2.11 "

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1908phae.proj..589W

Feb. 4, 1908 (Tuesday)

Double Star No 70 (Comstock's List) =
Procyon AD

7	32	+ 5.5
4	35	
2	57	
12		
9	3	

U Obs. Rowe Rec.

Abandoned. Seeing too bad

Double Star No 126 (Comstock's List) =
= Theta Boötis

14	21	+52.6
4	55	
9	26	
12		
2	34	

U. Obs Rowe Rec.

Abandoned. Too Low.

No. 94. Comstock's List. =
Double Star ∧ Σ 1351 = 23 Ursae Maj.

9	20	+63.6
5	0	
4	20	
12		
7	40	

P. A. 275°, Dist. 25."±

Phot R.
U Obs. Rowe Rec

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1908phae.proj..589W

Feb. 4, 1908

Index R+B

1293 ← Foll. & brte dia

141.5 12.2 ✓

310.5 9.6 ✓

320.1 21.8 ✓ 5.10 ✓

126.2 14.6 ✓ 4.84 ✓

140.8 13.2 ✓

308.0 27.8 ✓ 4.57 ✓

321.2

Index L+a

38.3 15.7 ✓

54.0 9.9 ✓

220.4 25.6 ✓ 4.75 ✓

238.3 4.8 ✓ ✓

~~4.9~~

41.4 9.2 ✓

50.6 14.2 ✓ 4.9 ✓

217.7 23.4 ✓ ~~5.04~~

231.9

7 58 6

109 ✓ ✓

7 ✓ 4 32. ✓

+✓ +4 ✓. ✓

12 ✓ ✓ 17. ✓

7976. ✓ 3 8 4 ✓

Mean 4.8 4 ✓

Seeing very poor on account of sharp cold (thermometer 4° above zero) and strong wind. Faint companion when measured in above groups frequently went entirely out of sight at Equalization so that observations were made with much difficulty.

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1908phae.proj..589v

Feb. 4, 1908.

U Cephei

0	50	+81.1
5	20	
4	30	

Abandoned. As seeing is so poor and two runs have already been made on this round, it is not desirable to make a run tonight

H.P. 3879 W. Ab. Rows Vill.

22	0	+63.9
29 ~~8~~	43	
7	43	

Phot. T.

Index Above. A.

20.0 31.0 ✓ ← 3879 Ser.

51.0 20.8 ✓

206.6 51.8 ✓ −3.19 ✓

227.4

−3.16 ✓

25.7 21.1 ✓

46.8 32.3 ✓

280.3 53.4 ✓ −3.12 ✓

232.6

8 -36 40

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1908phae.proj..589W

Feb. 4, 1908

Index Below B.

289.0 32.4 ✓
321.4 20 4 ✓
115.4 52.8 ✓ -3.15 ✓
135.8

-3.16 ✓

296.8 20.2 ✓
316.2 32 3 ✓
108.9 52.5 ✓ -3.16 ✓
141.2

Mean -3.16 ✓

8 45 55

	42	3 ✓
2	41	12 ✓
+✓		+4 ✓
13	42	3 ✓

7976. ✓ 708 ✓

S. T. 6 7
H. A. +8 9
Dec. +63.3
P. A. 150.5 Vernier B
Sprocket. -5.5 B, -4.5 C

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1900phaeproj..599W

Feb. 4, 1908

Double Star No. 98 (Comstock's list) =
α Leonis. (compared directly with companion)

10	1	+12.7
6	55	
3	6	U. Obs. Rouse Rec
12		Phot. T.
8	54	

P.A. 305° Dist 3'.0 ± Mags. 1.0, 8.0

Index Right + Below A.

	33.8	
10 8 5	40.4 ←	α Leonis dis
	213.9	7.4 ✓
	218.6	4.7 ✓
		12.1 ✓ 6.38 ✓
	34.3	5.2 ✓ 6.40 ✓
	39.5	6.7 ✓
	212.8	11.9 ✓ 6.42 ✓
	219.5	

Index Lt a B.

	302.0	8.5 ✓
	310.5	6.3 ✓
	122.9	14.8 ✓ 5.95 ✓
	129.2	
	303.1	6.9 ✓ 5.82 ✓
10 8 10	310.6	9.8 ✓
	122.0	16.7 ✓ 5.68 ✓
	131.8	

Mean 6.11 ✓

10 4 ✓
+8 +8 ✓
18 12 ✓3. ✓
7976 6284 ✓

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1908phae.proj..589W

Feb. 4, 1908

S. T. 7 30
H. A. -2 36
Dec. 11 9
P. A. 130.0 Vernier B
Sprocket +2.5 B, +3.2 C.

The distance of companion to α Leonis in above groups, being about 3', was exactly at the minimum grasping limit of photometer so that images, when prisms were run down to the eye-end, exactly reversed over each other. The seeing was pretty blurry but by waiting for moments of slightly better definition, the measurements are considered pretty good.

W's watch used for times
Watch 45s slow.

L. P. P.

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1908phae.proj..589

Feb. 7, 1908 (Friday)

Z Draconis. Ubbs Roux Rec.

11 47 +73.0
4 47
7 0
12
5 0

Phot. T.

Index R&A C.S. A.
4.2 ← ~~Cor.~~ dis I
70.3 66.1 ✓
194.6 43.1 ✓
~~237.7~~ 109.1 ✓ +1.44 ✓

7 38 35

14.3 45.6 ✓ +1.44 ✓
59.9 56.3 ✓ +1.37 ✓
183.3 ~~108.9~~ ~~1.44~~
249.6 111.9 ✓

Index L&B B.
273.4 63.8 ✓
337.2 46.4 ✓
102.2 109.2 ✓ +1.44 ✓
147.6

+1.46 ✓

285.2 44.6 ✓
329.8 62.1 ✓
94.6 106.7 +1.49 ✓
156.7

7 45 8
23 35. ✓
7 41 42. ✓
+✓ +✓0. ✓
12 42 32. ✓

7979. ✓296 ✓

Mean +1.43 ✓

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1908phae.proj..589W

Feb 7, 1908

Indey L+B B. II

275.1	62.6 ✓	
337.7	47.1 ✓	
104.0	109.7 ✓	+1.42 ✓
151.1		
		+1.50 ✓
285.7	41.1 ✓	
326.8	62 2 ✓	
94.2	103 3 ✓	+1.58 ✓
156.4		

Indey R+a A.

185.0	63.4 ✓	
248.4	45 5 ✓	
13.1	108.9 ✓	+1.44 ✓
58.6		
		+1.49 ✓
194.8	43.6 ✓	
238.4 ~~238.3~~	61 2 ✓	
6.4	104.8 ✓	+1.54 ✓
67.6		

Mean +1.✓50 ✓

III

Indey R+a A.

183.8	65.8 ✓	
249.6	48.3 ✓	
13.8	114.1 ✓	+1.32 ✓
62.1		

7 < 47. 40

7 54 20

10 2 0. ✓

7 ✓1 0 ✓

+✓ +✓0. ✓

12 ✓1 ✓0. ✓

7979. ✓360 ✓

7 57 50

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1908phae.proj...scan

Feb. 7, 1908

+1.38 v

	193.9	44.8 v
238.7	~~238.6~~	64.1 v
	4.5	108.9 v +1.44 v
	68.6	

Index L+B. B

93.2	67.2 v
168.4	41.0 v
285.4	108.2 v +1.46 v
326.4	

+1.42 v

102.2	45.4 v
147.6	66.8 v
272.7	112.2 v +1.37 v
339.5	

Mean +1.40 v

8 3 55

123 +v. v

& 1 v2. v

+v +v0. v

13 2 42. v

7979. v +436 v

8 8 30

Index L+B B. IV

91.4	66.9 v
158.3	41.7 v
284.8	108.6 v +1.45 v
326.5	

+1.44 v

107.0	42.8 v
149.8	66.2 v
273.8	109.0 v +1.44 v
340.0	

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1908phae.proj..589W

Feb. 7, 1908

Index R+a A.

4.7	65.3	
70.0	45.9	
192.7	111.2	+1.39
238.6		
		+1.40
12.2	46.6	
58.8	63.7	
184.8	110.3	+1.41
248.5		
		mean +1.42

8 16 0

24 30.

a 12 1v.

+v +v0.

13 13 v.

7979. v v0a

8 18 35

Index R+a ~~B~~ A.

4.0	62.7	
66.7	44.7	
193.3	107.4	+1.48
238.0		
		+1.39
14.6	45.1	
59.7	69.9	
183.1	115.0	+1.30
253.0		

Index L+B B

274.2	64.0	
338.2	45.7	
1035	109.7	+1.42
149.2		

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1900phae.proj.. 589w

Feb. 7, 1908

1.45

284.9	42.8 ✓	
327.7	64.6 ✓	
91.8	107.4 ✓	+1.48 ✓
156.4		

Mean +1.42 ✓

8 26 35

4 ✓ 10. ✓
2 2 3 ✓. ✓
+ ✓ +50. ✓
13 23 25. ✓

7979. ✓✓79 ✓

Index L+B B.

275.5	62.9 ✓	VI
337.8	46.2 ✓	
104.8	108.5 ✓	+1.45 ✓
151.0		

+1.43 ✓

8 55 55

284.1	42.8 ✓	
326.9	67.7 ✓	
91.3	110.5 ✓	+1.41 ✓
159.0		

Index R+a A.

184.5	61.8 ✓	
246.3	41.9 ✓	
16.9	103.1 ✓	+1.58 ✓
58.2		

+1.52 ✓

194.7	43.4 ✓	
238.1	65.2 ✓	
4.3	108.6 ✓	+1.43 ✓
69.5		

Mean +1.48 ✓

9 4 50

0 4 ✓. ✓
0 22. ✓
+ ✓ +50. ✓
14 1 12. ✓

7979. ✓✓41 ✓

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1908phae.proj..589w

Feb 7, 1908

S.T. 6 35
H.A. − 5 6
Dec. +72.2
P.A. 351.7 Vernier B.
Sprocket −0.5 A, +0.5, +1.0 C.

Double Star No 106 (Comstock's List) =
δ Leonis

11	7	+21.3
7	20	
3	47	
12		
8	13	

P.A. 345° Dist 3.1 ± Mags 2.0, 10.0

Ob Obs. Rowe Rec Phot T.

Index R + a. A.

215.6 ← 2.1 ✓ Southern brte. dis
217.7 4.1 ✓
35.0 6.2 ✓ 7.84 ✓
39.1

7.90 ✓

214.2 2.9 ✓
217.1 3.0 ✓
35.8 5.9 ✓ 7.95 ✓
38.8

10 3 50

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1900phaeproj..599W

Feb 7, 1908

Index	L & B	B.	
	123.4	4.2	
	127.6	6.2	
	303.0	10.4	6.71
	309.2		
			6.88
	122.8	4.9	
	127.7	4.0	
	305.0	8.9	7.05
	309.0		
			Mean. 7.39

10	12	40
	16	30.
10	8	15.
+5		+50.
15	9	5.

7979.6313

Measurements extremely difficult. The prisms are practically down at the eye-piece and the slightest motion of images in field causes one image to grow brighter and the other fainter. There is also a great abundance of stray light in the field but all possible care exercised in the measurements and final result considered pretty good,

S. T. 7 47
H. A. −3 23
Dec. +20.3
P. A. 168°.2 Vernier B
Sprocket. +1.5 A, +2.5 B, +3.1 C.
W's watch used for times
Watch 50s slow

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1908phae.proj..589W

Feb. 7, 1908

The theoretical minimum on Z. Draconis by the made up Ephemeris occured at about 7h 14m Eastern time this evening so that a run was attempted but all the observations showed that the variable was practically up at full brightness so that the actual minimum ~~is~~ must occur earlier than the minimum as given by Ephemeris.

E. P. P.

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1900phae.proj..599W

Feb. 8, 1908 (Saturday)

W. dbs. Rocue Rec.

Double Star No. 217 (Comstock's List) =
β Pegasi

22 57 +27.4

28 4 45

5 48 Phot. T.

P.A. 95° Dist. 4.3 ± Mags 2.2, 9.5

Index R+A

35.0 ~~35.2~~ ← Prec. & Retro. dis

7 29 36

38.2 3.2 ✓

214.4 4.7 ✓

219.1 7.9 ✓ 7.31 ✓

34.1 5.1 ✓ 7.22 ✓

39.2 3.5 ✓

214.4 8.6 ✓ 7.13 ✓

217.9

Index L+B

304.2 3.3 ✓

307.5 5.2 ✓

124.0 8.5 ✓ 7.15 ✓

129.2

7.12 ✓

303.3 4.8 ✓

308.1 3.9 ✓

124.2 8.7 ✓ 7.10 ✓

128.1

7 36 20

6 ✓ ✓✓ ✓

7 32 ✓8. ✓

+✓ +✓3. ✓

12 33 ✓1. ✓

7940. ✓23 ✓ ✓

Mean 7.17 ✓

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1908phae.proj..589W

Feb. 8, 1908

o Ceti.

2	12	-3.6
5	18	
3	6	

U. Obs. Rowe Rec. Phot R,

Index R to A. A.

116.8	36.5 ✓	Variable dis
152.5	24.2 ✓	
302.6	60.7 ✓	-2.84 ✓
326.8		
		-2.79 ✓
122.9	26.3 ✓	
149.2	37.0 ✓	
295.0	63.3 ✓	-2.74 ✓
332.0		

7 56 0

Index Lt B. B.

27.8	34.1 ✓	
61.9	24.0 ✓	
213.6	58.1 ✓	-2.93 ✓
237.6		
		-2.88 ✓
32.2	25.9 ✓	
58.1	34.6 ✓	
208.0	60.5 ✓	-2.84 ✓
242.6		

Mean -2.84 ✓

8 5 10

	121	10. ✓
A	0	35. ✓
+√		+√3. ✓
13	1	28. ✓

7980. √427 ✓

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1908phae.proj..589W

Feb. 8, 1908.

Seeing rather blurry, sharp cold and wind but dbs. waited for images to settle as much as possible before making equalizations. Observations taken with all possible care and considered pretty good

Fourth Type Star +38° 2389

12	50	+39.1
6	50	
6	.0	
12		
6	0	

W'dbs Rowe Rec. Phot T
Full aperture used.
Index R to A.

9 36 45

87.7	4th Type dbs	
166.0	78.3 ✓	
275.4	63.6 ✓	
339.0	141.9 ✓	−0.74 ✓
95.0	61.8 ✓	−0.76 ✓
156.8	77.9 ✓	
265.9	139.7 ✓	−0.78 ✓
343.8		

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1908phae.proj..589W

Feb. 8, 1908

Jordy L + B B.
352.8 83.3
76.1 61 2
183.8 144.5 −0.68
245.0

−0.64

1.4 66.4
67.8 82.8
176.4 149.2 −0.59
259.2

Mean −0.70

9 44 40
01 2v.
9 40 42.
+v +v3.
14 41 3 v.
7940.6122

S. T. 7 20
H. A. −5 35
Dec. + 37.7
P. A. 203.2 Vernier B
Sprocket −4.5 A. −3.5 B, −2.9 C

Double Star No 126 (Comstock's List)
ζ Bootis (Theta Bootes.)

14 21 +52.5
7 31
6 50
12
5 10

P.A. 180° Dist 1.1 ± Mags. 3.7, 11.2

Wds Rowe Rec. Phot R.

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1908phae.proj..589

Feb. 8, 1908

Index L+B B.

10 12 40

313.0	Northern + Ster. dis		
316.4	3.4 ✓		
134.0	3.4 ✓		
137.4	6.8 ✓	7.64 ✓	
			7.45 ✓
313.9	3.5 ✓		
317.4	4.6 ✓		
132.3	8.1 ✓	7.26 ✓	
136.9			

Index R+a A.

222.8	3.9 ✓	
226.7	2.3 ✓	
44.0	6.2 ✓	7.84
46.3		
		7.63 ✓
222.8	4.2 ✓	
227.0	3.3 ✓	
43.0	7.5 ✓	7.42
46.3		

10 18 40

31 20. ✓

10 hr 40. ✓

+hr +3. ✓

hr 16 33 ✓

7940.636 ✓

Mean 7.54 ✓

Seeing blurry on observations on above group. Observations very difficult but by waiting and exercising much care general mean considered pretty good.

W's watch used for times

Watch 53s slow

L. A. P.

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1908phae.proj..589W

Feb. 11, 1908 (Tuesday)

Fourth Type Stars - 4° 1708
Ub. Obs. Roux Rec. Phot T.
-5.1

6	44
5	14
1	30
12	
10	30

Color 4 with ordinary eyepiece

Index 1.4 B.

268.7 ← 4th Type disc.

7 51 10

339.4	70.7 ✓	
97.4	58.8 ✓	
156.2	129.5 ✓	-0.99 ✓

276.8	59.1 ✓	-0.92 ✓
335.9	77.1 ✓	
87.5	136.2 ✓	-0.85 ✓
164.6		

Index R+B A.

180.8	69.9 ✓	
250.7	56.8 ✓	-1.05 ✓
8.8	126.7 ✓	~~-1.03~~
65.6		

-1.04 ✓

191.0	57.2 ✓	
242.2	76.0 ✓	
359.0	127.2 ✓	-1.04 ✓
75.0		

Mean - 0.98 ✓

7 58 45

109 ✓✓ ✓

7 ✓4 ✓2 ✓

+✓ 1 3 ✓

12 ✓6 1 ✓

7943. ✓309 ✓

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1908phae.proj..589W

Feb. 11, 1908

S. T. 5 42
H. A. -1 7
Dec. -5.0
P. A. 116.7 Vernier A
Sprocket -3.6 A, -2.5 B, -2.0 C

Double Star No 88 (Comstock's List) =
θ Hydrae.

9	7
6	0
3	7
12	
8	53

+2.9

U. Clbs Rowe Rec. Phot. R. one prism removed
P. A. 180° Dist. 0.8 ± Mags. 3.8, 11.3

Index R+a	A.
224.4	Northern & bite dis.
229.1	4.7 ✓
45.2 48.8	3.5 ✓
48.7	8.2 ✓ 7.23 ✓
226.2	2.1 ✓ 7.42 ✓
228.3	4.8 ✓
45.3	6.9 ✓ 7.61 ✓
50.1	

8 33 10

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1908phae.proj..589W

Feb. 11, 1908

Ridey	L & B	B.
136.0		
138.8	2.8	
315.1	3.1	
318.2	5.9	7.95
137.2	~~2.2~~	7.72
139.6 ~~139.4~~	1.8	
313.7	5.5	
319.2 ~~319.0~~	7.3	7.48

Mean 7.57

8	43	10	
	76	20.	
Δ	38	10.	
+v	1	3.	
13	39	13.	

79Δ3.v6Δ9

Measurements rather difficult. Moon rather bright; companion faint; principal star rather bright and not very remote from companion.

Fourth Type Star +46° 1817

12	38	+46.2
7	10	
5	28	
12		
6	32	

Color 6 with ordinary eyepiece

6. dbs. Rowe Rec Phot T.

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1908phae.proj..589V

Feb. 11, 1908

Index Lt a B.

9 26 55

204.3 ← 4th Type dis.
226.1 21.8
28.1 17.3
45.4 39.1 −3.82 v

207.4 17.0 −3.76 v
224.4 24.8
24.5 41.0 −3.71 v
48.5

Index R + 3. A.

114.0 26.5
140.5 17.9
296.2 43.4 −3.59 v
314.1

−3.64 v

118.0 17.7
135.7 23.8
294.6 41.5 −3.69 v
318.4

Mean −3.78 v

9 35 30
62 2 v.
9 31 12. v
+v 1 3. v
14 32 15. v
79 @ 3.60 v 7 v

S.T. 7 24
H.A −5 18
Dec. +46.2
P.A. 260.2 Vernier B.
Sprocket −2.5 B, −1.5 C

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1908phae.proj..589W

Feb. 11, 1908.

Double Star No 49. (Comstock's List) =
α Aurigae measured with companion through

5	7	+45°.9
7	37	
2	30	

The star through which the measurement is made precedes α a few seconds and is about 24′ north of it. P.A. of companion to α = 145°. Dist. 2″.5 ∴ The star with which α Aurigae was measured below = +46° 949 (7.1)
W. dbs Rowe Rec Phot. T
α and +46° 949 (7.1)

Index above

125.1	4.7 ✓	α dis.
129.8	7.0 ✓	
302.4	11.7 ✓	−6.46 ✓
309.4		
		−6.50 ✓
124.4	5.9 ✓	
130.3	5.3 ✓	
302.9	11.2 ✓	−6.55 ✓
308.2		

10 6.20

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1908phae.proj..589W

Feb 11, 1908

Index Below B.

33.6	6.1 ✓
39.7	4.5 ✓
214.4	10.6 ✓ = 6.67 ✓
218.9	

− 6.74 ✓

34.2	5.2
39.4	~~4.6~~ 4.8 ✓
214.0	~~9.8~~ 10.0 ✓ = 6.80 ✓
218.8	~~218.6~~

10 13 10

19 30. ✓

10 9 4 ✓

+ ✓ 1 3. ✓

15 10 ~~42~~. ✓

Mean −6.62 ✓

7h 23.632 ✓ +46° 9 9 (7.1) and companion to α

Index Below B.

292.8	30.0 ✓	dia.
322.8	22.3 ✓	
115.0	52.5 ✓	3.16 ✓
137.5		

3.09 ✓

10 18 0

295.1 ~~295.4~~	22.9 ✓	
318.0	33.1 ✓	
108.7	56.0 ✓	3.02 ✓
141.8		

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1908phae.proj..589W

Feb. 11, 1908

Index above A.

199.1	34.7 ✓	
233.8	27.8 ✓	2.77 ✓
21.9	62.5 ✓	~~2.84~~
49.7		

2.78 (6)

202.0	27.1 ✓		
229.1	~~36.7~~	36.2 ✓	
15.3	~~63.8~~	63.3 ✓	2.74 ✓
51.5	52.0		

Mean 2.92 (2) ✓

6.62 ✓

9.54 ✓

10 28 20

46 20. ✓

10 23 10. ✓

+5 1 3. ✓

15 24 13.

79 23.641 ✓

W's watch used for times

Watch 1m 3s slow.

L. P. R.

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1908phae.proj..589W

Feb. 15, 1908. (Saturday)

22	0	+63.9
32 8	8	
10	0	

Cloudy all the forst of evening; Some reeking with ~~Clouds now~~ moisture; dew on object glass and clouds now comming again so anything further abandoned for tonight.

U. Obs Rough. Rec

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1908phae.proj..589W

Feb. 18, 1908 (Tuesday)

H.P. 3879 = +62° 2007 (5.7)

22 0 +63.9

295. 10 Color 5 in Phot.

7 10

U. Obs Rowe Rec. Phot T

Index ~~R + a~~ Above A.

23.0 ← Var. dis. I

7 15 20.

51.2 28.2 ✓

205.5 19.5 ✓

225.0 47.7 ✓ −3.38 ✓

263 21.2 ✓ −3.3~~8~~ 2 ✓

47.5 2~~6~~.8 ✓

201.6 50.0 ✓ −3.2~~5~~ 7 ✓

230.4

Index Below B.

293.0 25.0 ✓

318.0 19.2 ✓

117.3 44.2 ✓ −3.55 ✓

136.5

−3.48 ✓

296.4 19.9 ✓

316.3 26.8 ✓

113.6 46.7 ✓ −3.42 ✓

148.4

3.40 ✓

Mean 3.39

7 24 15

39 3~~5~~. ✓

7 19 4~~0~~. ✓

+v +1. ✓

12 19 4~~9~~. ✓

7990. ✓ 13~~8~~ ✓

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1908phae.proj..589

Feb. 18, 1908

Index Below	B.	II
293.5	25.2 ✓	
318.7	20.2 ✓	
116.9	45.4 ✓	−3.49 ✓
137.1		

−3.48 ✓

296.1	19.7 ✓	
315.8	26.2 ✓	
113.2	45.9 ✓	−3.46 ✓
139.4		

Index Above	A.	
280.1	31.2 ✓	
231.3	20.2 ✓	
26.4	51.4 ✓	−3.21 ✓
46.6		

−3.20 ✓

206.0	21.6 ✓	
227.6	30.3 ✓	
21.0	51.9 ✓	−3.20 ✓
51.3		

Mean −3.34 ✓

7 32 20

7 40 10

72 30. ✓

7 36 1✓. ✓

+✓ +1. ✓

12 36 16. ✓

7990. ✓ 2 ✓ 2 ✓

S.T. 5 53

H.A. +7 56

Dec. +63.3

P.A. 329.8 Vernier B

Sprocket −5.5 B, −4.5 C

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1908phae.proj..589W

Feb. 18, 1908.

Double Star ζ Ursae Majoris (Mizar)

13 19 +55.6
6 15
7 4
12
4 56

P. A. 148° Dist 14"
U. Obs. Rough Rec Phot R
Indep L+C B.
~~163.2~~
Rejct above, wrong magcdys
288.0 ← North, prec + bte dis.
8 16 5
343.1 55.1 ✓
104.7 57.3 ✓
162.0 112.4 ✓ 1.38 6 ✓

1.38 ✓
~~1.40~~

288.0 54.0 ✓
342.0 56.7 ✓
× 107.2 110.7 ✓ 1.40 ✓
163.9

Indep R+a A.
198.2 54.0 ✓
252.2 53.9 ✓
19.3 107.9 ✓ 1.47 ✓
73.2

195.5 55.3 ✓ 1.4 3 ✓
250.8 56.0 ✓ 1.39 ✓
17.8 111.3 ✓ ~~1.41~~
73.8

8 24 35
40 40. ✓
δ 20 20. ✓
+v +1. ✓
13 20 21. ✓
7990.vvvv ✓

Mean 1.4 0 ✓

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1908phae.proj..589

Feb. 18, 1908

8 33 35

Index	Rta		
		A	II
200.0	53.8 ✓		
253.8	55.2 ✓		
17.8	109.0 ✓	1.44 ✓	
73.0			
			1.46 ✓
197.2	55.1 ✓		
252.3	52.4 ✓		
19.6	107.5 ✓	1.48 ✓	
72.0			

Index	Rta	B.
108.0	55.6 ✓	
163.6	56.7 ✓	
287.0	112.3 ✓	1.36 ✓
343.7		
		1.36 ✓
104.9	58.4 ✓	
163.3	54.2 ✓	
287.2	112.6 ✓	1.36 ✓
341.8		

8 43 15

76 ✓0. ✓

3 2 2✓. ✓

+✓ +1. ✓

13 3 26. ✓

7990. ✓6 4 ✓

Mean 1.41 ✓

Seeing a little blurry but measurements considered good.

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1908phae.proj..589W

Feb. 18, 1908.

Fourth Type Star +140 ~~+285~~ 1283

6 12 +14.8
7 47
1 35

U. dbs. Rowe Rec.

Color 6 with ordinary eyepiece Phot T.

Index Right + Below A.

177.9 ← 4th type dis

9 57 20 256.7 ~~256.5~~ 78.8 ✓
4.6 60.9 ✓
65.5 139.7 ✓ −0.78 ✓

187.4 58.2 ✓ −0.74 ✓
245.6 85.4 ✓
352.1 143.6 ✓ −0.76 ✓
77.5

Index Left B.

94.2 61.8 ✓
156.0 86.6 ✓
263.3 148.4 ✓ −0.61 ✓
349.9

−0.64 ✓

84.0 84.5 ✓
168.5 ~~168.4~~ 60.9 ✓
275.3 145.4 ✓ −0.67 ✓
336.4

Mean −0.69 ✓

10 3 55
12 1 1 ✓
10 8 0 30 ✓
+5 +1 ✓
1 ✓ 0 39 ✓
7990.6254 ✓

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1908phae.proj..589W

Feb. 18, 1908

S. T 8 17
H. A. +1 56
Dec. +15.2
P-A 23.4 Vernier B
Sprocket -5.5 B, -4.5 C

Full aperture used

Fourth Type Star +14° 2048
+15.5

9	7
8	27
D 12	40
11	20

abandoned. Moon too bright and too much haze.

Double Star No 124 (Comstock's List) = η Bootis.

13	48
8	42
5	6
12	
6	54

+19.2

Sky is now becoming quite cloudy so that it would be impossible to get η Bootis. Abandoned.

W's watch used for times
Watch 1s slow.

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1908phae.proj..589W

Feb. 20, 1908. (Thursday)

Iris

10	13	+3.0
5	45	
4	28	W. Abs. Rows Rec
12		
7	32	

Phot T

23.5
23.3
7 51 0 23.4
23.5
23.6

Comp. Star precedes +2° 2305 (9.0) by 14 secs and is 5.8 south of it

8 14 Iris ~~is~~ precedes +2° 2306 (9.3) by 40 secs and is 2'.2 north of it

At 8h 13m Iris has moved about 1 sec in the right direction.

From above, Comp. Star =
10h 5m 42s.7 +2° 3'.6 Magn. 9.9 ± (1AVV).
Comp. Star not in D. M.

∴ From above Position (1AVV) of Iris at 8h 14m = 10h 5m 43s.7 +2° 22'.6 (1AVV)

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1908phaeo.proj..589

Feb 20, 1908

Index R+A 4. 1

183.7 ← Iris dis
248.8 65.1 ✓
12.7 50.4 ✓
63.1 115.5 ✓ −1.29 ✓

8 25 40

192.6 48.4 ✓ −1.32 ✓
241.0 63.2 ✓
3.4 113.6 ✓ −1.34 ✓
68.6

Index L+B A. 2

102.0 47.2 ✓
149.2 62.3 ✓
274.9 109.5 ✓ −1.43 ✓
337.2

−1.40 ✓

92.5 65.7 ✓
158.2 46.1 ✓
282.7 111.8 ✓ −1.38 ✓

8 34 40

60 20. ✓
A 30 10. ✓
+r +4. ✓
13 30 14. ✓
7992. r626 ✓

328.8 ~~328.1~~

Mean −1.36 ✓

Index L+B B. II

8 38 45

103.6 47.0 ✓
150.6 66.2 ✓
273.4 113.2 ✓ −1.34 ✓
339.6

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1908phae.proj..589W

Feb. 20, 1908.

−1.37 ✓

93.9 64.4 ✓
158.3 46.3 ✓
283.8 110.7 ✓ −1.40 ✓
329.3

Index R+a Δ.
12.7 48.1 ✓
60.8 64.5 ✓
184.2 112.6 ✓ −1.36 ✓
248.7

−1.38 ✓

3.0 66.8 ✓
69.8 48.3 ✓ −1.30
192.8 115.1 ✓ ~~−1.29~~
241.1

Mean −1.37 ✓
III

Index R+a Δ.
10.0 51.4 ✓
61.4 66.7 ✓
184.9 118.1 ✓ −1.23 ✓
251.6

−1.30 ✓

2.5 66.0 ✓
68.5 46.4 ✓
191.9 112.4 ✓ −1.36 ✓
238.3

8 48 25
87 10. ✓
43 34 ✓
+5 +4 ✓
13 43 39 ✓
7992. ✓719 ✓

9 1 20

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1908phae.proj..5897

Feb 20 1908.

Index	L+B	B.	
	282.3	49.6	
	331.9	65.6	
	94.3	115.2	-1.30
	159.9		
			-1.34
	274.2	66.0	
	340.2	45.2	
	103.6	111.2	-1.39
	148.8		
			Mean -1.32

9 13 20
14 40.
9 7 20.
+4.
14 7 24.
7992.

Index	L+B	B.	IV
	284.0		
	331.6	47.6	
	93.0	65.5	
	158.5	113.1	-1.35
	273.0	68.2	-1.32
	341.2	48.0	
	101.4	116.2	-1.28
	149.4		

9 24 20

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1908phae.proj..589W

Feb 20, 1908

Index R+a	A.	
183.4	66.5 ✓	
249.9	48.2 ✓	
13.0	114.7 ✓	−1.31 ✓
61.2		
		−1.30 ✓
192.1	47.3 ✓	
239.4	68.5 ✓	
1.8	115.8 ✓	−1.28 ✓
70.3		

Mean −1.31 ✓

Index R+a	A.	
184.9	64.4 ✓	
249.3	47.9 ✓	
10.8	112.3 ✓	−1.36 ✓
58.7		
		−1.33 ✓
193.2	46.8 ✓	
240.0	68.3 ✓	
1.2	115.1 ✓	−1.30 ✓
69.5 ~~70.4~~		

Index L+B	B.	
92.4	66.6 ✓	
159.0	44.7 ✓	
282.8	111.3 ✓	−1.39 ✓
327.5		

9 35 50
60 10. ✓
9 30 ✓. ✓
+✓ +4. ✓
14 30 9. ✓
7992. 60 K3 ✓

9 45 40

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1908phae.proj..589

Feb. 20, 1908

−1.36 ✓

	102.4	48.3 ✓
	150.7	66.1 ✓
	273.7	114.4 ✓ −1.32 ✓
	339.8	

Mean −1.34 ✓

Index L+B B. VI

	92.4	67.5 ✓
	159.9	47.5 ✓
	282.3	115.0 ✓ −1.30 ✓
	329.8	
	1	−1.31 ✓
	102.7	47.0 ✓
	149.7	67.2 ✓
	271.9	114.2 ✓ −1.32 ✓
	339.1	

Index R+a A.

	1.8	66.2 ✓
	68.0	47.0 ✓
	191.8	113.2 ✓ −1.34 ✓
	238.8	
		−1.32 ✓
	12.3	46.9 ✓
	~~59.2~~	67.8 ✓
	182.1	114.7 ✓ −1.31 ✓
	249.9	

Mean −1.32 ✓

9 56 40

	102	20. ✓
9	✓1	10. ✓
+✓		+4. ✓
14	✓1	14. ✓

7992.618A ✓

10 10 25

10 20 35

	31	0. ✓
10	1✓	30. ✓
+✓		+4. ✓
1✓	1✓	34. ✓

7992.63✓A ✓

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1908phae.proj..589W

Feb 20, 1908

Index R+a A. VII.

16 41 0

2.4	66.1 ✓	
68.5	47.9 ✓	
191.9	114.0 ✓	−1.33 ✓
239.8		
		−1.28 ✓
10.5	49.4 ✓	
59.9	68.6 ✓	
182.0	118.0 ✓	−1.24 ✓
250.6		

Index L+B B.

271.2	69.9 ✓	
340.1	~~48.1~~ 46.9 ✓	
102.9	~~118.0~~ ~~1.24~~	
149.8 ~~+51.0~~	1158 ✓	−1.28 ✓
		~~1.26~~
282.3	47.5 ✓	~~1.29~~
329.8	~~68.1~~ 66.1 ✓	−1.30
91.4	~~46.2~~ 1.28	
158.1 ~~160.1~~	114.2 ✓	−1.32 ✓
		Mean −1.28

10 50 20

9	1	20. ✓
10	4 ✓	40. ✓
+✓		+4. ✓
1 ✓	4 ✓	44. ✓

7992.6 ✓ 67 ✓

S. T. 9 14
H. A. −0 54
Dec +1.7
P. A. 337.5 Vernier A
Sprocket −1.5 B. −0.5 C

Watch used for times.
Watch 4 secs slow.

L. P. A.

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1908phae.proj..5897

Feb. 22, 1908 (Saturday)

6 dbo Rowe Rec

H.P. 3879 = +62° 2007 (5.7

22 0 +63.9

29 5 35

7 35

Phot. T.

Index Above A. I

201.6 Suspected Var. Dus

230.3 28.7 ✓

26.4 20 1 ✓

46.5 48.8 ✓ −3.33 ✓

7 28 5

206.5 26.1 ✓ −3.27 ✓

226.6 31 3 ✓

20.7 51.4 ✓ −3.21 ✓

52.0 ~~52.6~~

Index Below B.

111.6 29.3 ✓

140.9 19.6 ✓

29 65 48.9 ✓ −3.32 ✓

316.1

115.5 21.6 ✓ −3.2[illegible]

137.1 29.7 ✓

291.6 51.3 ✓ −3.2[illegible]

321.3

Mean −3.27 ✓

7 37 5

6 ✓ 10. ✓

7 32 3 ✓ ✓

+✓ +1[illegible] ✓

12 32 49. ✓

7994. ✓ 22 ✓

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1908phae.proj..589W

Feb. 22, 1908.

Index Below B. II

110.6	28.6	
139.2	19.4	
296.6	48.0	−3.36
316.0		
		−3.34
116.3	20.2	
136.5	28.9	
292.5	49.1	−3.31
321.4		

Index Above A.

19.7	31.6	
51.3	21.0	
205.7	52.6	−3.16
226.7		
		−3.21
26.2	21.1	
47.3	29.2	
202.3	50.3	−3.26
231.5		
		Mean −3.28

7 43 45

7 52 25

96 10.

7 48 ~~5~~.

+~~5~~ +14.

12 40 19

7994. ~~5~~ 33 ~~5~~ +

S.T 6 19

H.A. +~~8~~ 24

Dec. +63.3

P.A. 329.0 Vernier B.

Sprocket. −5.5 B, −4.5 C

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1900phae.proj...599

Feb 22. 1908

8 26 Somewhat bright auroral arch, NE north under pole, summit of arch, being about one fourth height of pole star

Iris

16	13	+3.0
7	8	
3	5	
12		
8	53	

9 13 Iris now follows +2°, 2297 (8.7) by 27 secs. and is 6'.3 south of it

Double Star No 120 (Comstock's list) = 43 Comae

13	5	+28.6
7	45	
5	20	
12		
6	40	

V. Ab. Rows Rec. Phot Row, remard, prism

P.A. 253° Dist 1'.6 ± Mags

∴ From above, position of Iris at $9^h\ 13^m = 10^h\ 3^m\ 38^s$ +2° 33'.5 (1875.5)
Hence, comparing this position with that of Feb. 20, the motion of Iris at the present time is about −2'.5 per hour or 61 secs. per day in R.A. and about +5'.1 (+) per day, in Dec.

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1908phae.proj..589W

Feb 22, 1908.

Index R+B A.

9 28 30

136.6 ← North Fall + Brbr Dis.
139.7 3.1 ✓
317.5 1.5 ✓
319.0 4.6 ✓ 8.49 ✓

136.8 2.2 ✓ 8.76 ✓
139.0 1.4 ✓
318.6 3.6 ✓ 9.02 ✓
320.8

Index L+a B.

45.8 4.1 ✓
49.9 3.0 ✓
226.1 7.1 ✓ 7.54 ✓
229.1

7.56 ✓

9 36 30

6 ✓ 20. ✓
9 32 40. ✓
+✓ +14. ✓
14 32 ✓4. ✓
7994.6061 ✓

46.4 2.8 ✓
49.2 4.2 ✓
225.8 7.0 ✓ 7.57 ✓
230.0

Mean 8.16 ✓

Measurements extremely difficult; emergent pencils gave trouble. Seeing poor ? Images blurry; principal companion bright and second very faint; difference of magnitude large. The principal companion is so bright that it does not disappear

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1908phae.proj..589W

Feb 22, 1908

in all parts of the field and it was with some difficulty that a position in the field could be found which would make it disappear passively well.

Double Star No 124 (Comstock's list) =
η Bootis

13	48.	+19.1
8	24.	
5	24	
12		
6	36	

P. A. 105° Dist. 1.9 ± Mags.

10 6 50

Index L + a B.

313.4	~~313.3~~ ← Prec & Beta Dis	
	317.6	4.2 ✓
	133.9	3.2 ✓
	137.1	7.4 ✓ 7.45 ✓
	314.0	2.4 ✓ 7.38 ✓
	316.4	3.6 ✓
	133.9	7.9 ✓ 7.31 ✓
	137.4	

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1908phae.proj..589W

Feb 22, 1908

A.

223.5	3.1	
226.6	2.1	
44.2	5.2	8.22 ✓
46.3		
		8.03 ✓
44.2	2.2	
46.4	~~4~~.0	
223.4	6.2	7.84 ✓
227.4		
		Mean 7.70 ✓

10 14 40

21 30. ✓

10 10 ~~+5~~ ✓

+5 +14. ✓

15 10 ✓9. ✓

7994.6326 ✓

Turned on Sirius. Examined it with ordinary eyepiece (power 103) and also with 1" positive eyepiece (power 270). No ~~con~~ trace of any companion seen. Air rather unsteady

W's watch used for times
watch 14 seconds slow

L. P. P.

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1908phae.proj..589V

Feb. 24. 1908. (Monday).

No. 42 Com. Test. = 0r Eridani.

4	9	-4.0	H. obs. H. rec.
6	12		Phot. R.
+2	3		

P. A. 77° Dist 2.'1 ± from 4th magn., or
" 25° " 100."± from 10th " (at P. A. 106° Dist 62.4)

For results, see next page.

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1908phae.proj..589W

Feb. 24. 1908.

R + B.

127.0
154.0 27.0
309.0
336.8 27.8 / 154.8 3.07

128.5
154.9 29.4 2.97
306.7
337.0 30.3 / 9.7 2.47

L + A.

310.5
337.8 27.3
128.4 30.4 / 8.1 2.93
156.2

311.8
339.0 27.2 2.90
124.4
156.9 32.5 / 9.7 2.47

Mean 2.94

A 10

A 2A / 3A

A 19 0
+V +18.
13 19 18.

7996.

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1908phae.proj..589V

Feb. 24, 1908.

No. 43 (Comm. List) = d Cancri. Phot. R. St. No. Xv. rac.

A	37	+12.v
7	37	P.A. 100° Dist 0.7 ± Disp. 4.0, 11.v
-1	0	
11	0	

	R + A.	A.	
	312.0		
9 20	315.9	3.9v	
	133.4		
	139.0	5.6v	
		9.5v	6.91v
	313.1	2.9v	7.06v
	316.0		
	138.2	5.4v	
	139.6	1.3v	7.20v
	L + B	B.	
	225.6	4.6v	
	230.2		
	183.2	4.9v	
	188.1	9.5v	6.91v
	225.5	4.1v	7.10v
	229.6		
	184.1	3.9v	
	188.0	4.0v	7.22v

over

mean 7.02v

9 41

61v

9 30 30v

+v +12.

14 30 42.

7996.6042v

1908phae.proj..589W

Feb. 24. 1908.

Measts. on prec. pair, very difficult, on account of blurry seeing, faintness of companion, high altitude and brightness of principal component, which is moderately near faint component.

Double Star Nos. 9 & Comstock's List =
= ζ Leonis. Phot. R. Yr. obs. Yr. rec.
P. A. 300°; Dist. 3,0 ± Mag. 1,0, A.V

10	1	+12,6
A.	29	
−1	3 2	
10	28	

For measts. see next page.

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1908phae.proj..589v

Feb. 24. 1908.

L + A. B.

303.0
310.0 7.0 v

123.2
129.0 5.8 v
13.6 v 6.13 v

303.4
310.6 7.2 v 6.02 v

124.6
132.5 7.9 v
15.1 v 5.90 v

A + B. A.

33.5 7.7 v
41.2

214.6
219.0 4.4 v
12.1 v 6.34 v

3K.7
39.2 5.1 v 6.K3 v

213.5
220.0 6.5 v
11.6 v 6.KA. v

Mean 6.22 v

#10 9

10 2A
37. v

10 1A 30. v
+v +1A. v
1v 1A KA.

7996.63A1 v

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1908phae.proj..589W

Feb. 25, 1908 (Tuesday)

Iris		U. Obs. Rowe Rec.
10	13	+3.0
5	43	
4	30	
12		
7	30	

7 28 Iris now follows +2° 2290 (9.0) by 29.5 secs. and is 12.7 north of it

7 38 Clouds now coming much more abundantly so that there is no chance for observing Iris Bholometrically. Storm coming.

7 52 Sky growing still more cloudy

8 5 Sky now thickly cloudy every where. No stars visible.

+2° 2290 (9.0) = 10h 0m 14.2v +2° 3v.6v (1875)

+29.5v +12.7v

At 7h 28m Iris = 10 0 43.7v +2 48.3v (1875)

Comparing this place with that on Feb. 22. p. 159. the daily motion of Iris in R. A. = −v9.v4v

" " " " " Dec. = +v.'1

also hourly " " " " R. A. = −2.v40

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1908phae.proj..589

Feb. 27. 1908. (Thursday)

B. + C. 1182.

14 56 20.0 ~~20.9~~
57

B. 394.

14 56 0.0
57 0.0

Re-app. Jup II. Phot R.
W. obs. shaw; rec. Compared with Sat I (before eclipse) on same pol. side = Sat II

							~~susp~~ seen.	
20	15	37	15	16	02			
	15	43	15	16	10	42.5	26.5	+2.1
	16	1		16	28	0.6	69.0	+1.6
	16	14		16	41	6.4	18.4	+1.4
	16	24		16	51	9.6	74.8	+1.2
	16	37		17	04	63.3	15.2	+1.1
	16	48		17	15	6 5.5	78.5	+1.0
	17	0		17	27	67.1	13.0	+0.9
	17	12		17	39	71.0	80.1	+0.7
	17	24		17	51	72.3	9.1	+0.7
	17	34		18	01	75.1	81.4	+0.6
	17	47		18	12	77.6	6.3	+0.5
	17	55		18	22	78.9	83.9	+0.4
	18	17		18	44	79.8	5.0	+0.4
	18	27		18	52	79.8	84.8	+0.4
	18	37		19	04	80.7	5.0	+0.4
	18	47		19	14		85.7	
				19	27		5.0	
20	19	50.				79.0		
		-27.		19	45		84.0	
20	19	23.		19	59		4.8	

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1908phae.proj..589W

Feb. 27. 1908.

			15	20 09	79.7 / 79.4	84.5	+0.4
				20 22	±0.1	4.7	
20	20	39.		20 31	±1.1 / ±0.6	84.8	+0.4
		-27.		20 44		5.0	
20	20	12.		20 54		86.1	
				21 05	±0.5	5.5	
20	21	26.		21 23	79.4 / ±0.0	86.0	+0.4
		-27.		21 33		5.8	
20	20	59		21 41		85.2	
				21 51	±0.7 / ±0.0 / 79.4	5.4	
20	22	7.		22 02		84.1	
		-27.		22 11		5.5	+0.4
20	21	40		22 24		83.5	
				22 33	79.1	5.6	
20	22	48.		22 42	±2.5 / ±0.3	83.7	
		-27.		22 51		3.5	+0.4
20	22	21.		23 05		86.0	
				23 15	±0.0	5.0	
20	23	35.		23 31	±0.0 / ±0.0	85.0	
		-27.		23 43		4.8	+0.4
20	23	8.		23 51		84.8	
				24 02	±0.3	4.5	
20	24	17.		24 12	±1.1 / ±0.7	84.8	
		-27.		24 22		3.5	+0.4
20	23	50.		24 33		84.6	
				25 34	79.1	4.9	
20	25	52.		25 44	79.7 / 79.4	84.0	+0.4
		-27.		25 57		4.8	
20	25	25.					

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1908phae.proj..589W

Feb. 27, 1908.

15 26 11 84.5

Limit of visibility.

	15	27	14	31.3	30.1	
20 27	40.		32	31.0	61.4	
	-27.		46	31.2	29.0	+2.0
20 27	13	28	06 (?)		60.0	

Seeing somewhat blurry which caused a little in obtaining first setting. Observations also had to be made somewhat slowly and with much care. Region a little low - storm cleared somewhat suddenly, changing from somewhat warm temperature to sharp cold. Results, however considered pretty good.

B. H. C. 1182.

15 41 26.8
42 26.7

B. 394.

15 41 00
42 00

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1908phae.proj..589W

Feb 28, 1908 (Friday)

Iris

U. dlb Rover Rec. Phot T.

9 57 +3.9
5 57
4 0
12 .
8 0

7 32 Iris foll. comp star by 48^s and is 1.8 ± north of t- 8
Index R+B A.
7.0 ← Iris Dis.
7 52 15 65.0 58.0 ✓ I
195.1 43.3 ✓
238.4 101 3 ✓ −1.62 ✓

15.4 42.9 ✓ −1.58 ✓
58.3 61 .6 ✓
184.8 104.5 ✓ −1.55 ✓
246.4

Index Lta B.
277.2 60.3 ✓
337.5 47.6 ✓
103.2 107.9 ✓ −1.47 ✓
150.8

−1.56 ✓

284.0 44.1 ✓
328.1 56.4 ✓
99.2 100.5 ✓ −1.65 ✓
155.6

Mean −1.57 ✓

8 0 45
113 0. ✓
7 6 30. ✓
+V +36. ✓
12 57 6. ✓
£000 −397 ✓

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1908phae.proj..589W

Feb. 28, 1908.

Troubled by light cloud and haze in above groups. Images faint a large part of the time.

Index Δ	B.	II
273.2	61.9 ✓	
335.1	43.5 ✓	
104.5	105.4 ✓	−1.53 ✓
148.0		
		−1.55 ✓
283.7	44.8 ✓	
328.5	58.8 ✓	
97.8	103.6 ✓	−1.57 ✓
153.8		

Index R + B	A.	
188.2	58.2 ✓	
246.4	44.0 ✓	
13.2	102.2 ✓	−1.60 ✓
57.2		
		−1.58 ✓
196.3	43.2 ✓	
239.5	60.2 ✓	
5.8	103.4 ✓	−1.57 ✓
66.0		

Mean −1.56 ✓

8 5 40

8 16 20

22 0. ✓

R 11 0. ✓

+V +36. ✓

13 11 36. ✓

R 000. ✓ 497 ✓

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1908phae.proj..589W

Feb. 28, 1908.

Index R+B A. III

188.3	59.0 ✓	
247.3	44.2 ✓	
14.0	103.2 ✓	−1.58 ✓
58.2		
196.0	41.9 ✓	−1.59 ✓
237.9	68.5 ✓	
5.2	102.4 ✓	−1.60 ✓
65.7		

Index Eta B.

98.8	58.7 ✓	
157.5	41.9 ✓	
285.5	100.6 ✓	−1.64 ✓
327.4		
		−1.60 ✓
104.4	44.8 ✓	
149.2	59.5 ✓	
275.8	104.3 ✓	−1.55 ✓
335.3		
		Mean −1.60 ✓

8 25 5

8 84 35

	−9	40. ✓
Δ	29	50. ✓
+r	✓	+36. ✓
13	30	26. ✓

Δ000.✓62Δ ✓

Index Eta B. IV

98.4	57.6 ✓	
156.0	43.3 ✓	
285.0	100.9 ✓	1.63
328.3		

8 44 45

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1908phae.proj..589W

Feb. 28, 1908

−1.60

105.2 44.4
149.6 59 2
276.3 103 6 −1.57
335.5

Hadley R+B. A.
4.2 60.8
65.0 42 9 −1.57
195.1 103.7
238.0

−1.52

14.5 46.0
60.5 62 0
185.0 108 0 1.46
247.0

8 53 40
9 A 2V.
A 49 12.
+V +36.
13 49 48.
A000.V763

Mean −1.56

9 6 45

Hadley R+B A V
3.6 63 9
67.5 39.3
197.7 103.2 −1.58
237.0

−1.54

15.1 43.0
58.1 63.9
184.6 106.3 −1.50
247.9

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1908phae.proj..589W

Feb 28, 1908

Index Lta B.

276.8	59.8	
336.6	42.8	
105.2	102.6	−1.59
148.0		
		−1.56
283.8		
328.4	44.6	
96.2	60.8	
157.0	105.4	−1.53

Mean −1.55

9 18 0

24 44

9 12 22

+36.

14 12 42.

2000.92

Index Lta B. VI

9 26 0

277.0	59.1	
336.1	43.1	
106.8	102.2	−1.60
149.9		
		−1.56
285.2	42.4	
327.6	63.3	
94.0	105.7	−1.52
157.3		

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1908phae.proj..589V

Feb. 28, 1908

Index R+B A.

187.8	60.2 ✓	
248.0	41.7 ✓	
14.5	101.9 ✓	−1.61 ✓
56.2		
		−1.60 ✓
196.3	41.6 ✓	
237.9	60.8 ✓	
5.2	102.4 ✓	−1.60 ✓
66.0		
		Mean −1.58 ✓

9 33 50

✓9 ✓0. ✓

9 29 ✓✓ ✓

+✓ +36. ✓

14 30 31. ✓

0.000. 6046 ✓

Index R+B A. VII

186.8	60.7 ✓	
246.7	41.5 ✓	
15.2	102.2 ✓	−1.60 ✓
56.7		
		−1.58 ✓
195.8	42.2 ✓	
238.0	61.9 ✓	
4.4	104.1 ✓	−1.56 ✓
66.3		

9 47 40

Index L+a B.

95.0	61.8 ✓	
156.8	40.9 ✓	
285.4	102.7 ✓	−1.59 ✓
326.3		

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1908phae.proj..589W

Feb. 28, 1908

1.58 ✓

105.5
148.2 42.7 ✓
276.2 60.3 ✓
336.5 103.0 ✓ −1.58 ✓

Mean −1.58 ✓

Index 2 to a B.

94.8 61.0 ✓ VIII
155.8 40.9 ✓
285.1 101.9 ✓ −1.61 ✓
326.0

−1.58 ✓

95.5 42.6 ✓
138.1 61.5 ✓
275.4 104.1 ✓ −1.56 ✓
336.9

Index R & B. A.

5.8 60.4 ✓
66.2 42.1 ✓
194.7 102.5 ✓ −1.60 ✓
236.8

−1.57 ✓

15.5 41.9 ✓
57.4 62.9 ✓
184.5 104.8 ✓ −1.54 ✓
247.4

Mean −1.58 ✓

T 56 0

103 40. ✓
9 ✓1 ✓0. ✓
+✓ +36. ✓
1✓ ✓2 28. ✓
.000.6197 ✓

10 4 5

10 12 40

16 4✓ ✓
10 2 22. ✓ ✓
+✓ +36. ✓
1✓ 0 ✓8. ✓
.000.6312 ✓

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1908phae.proj..589V

Feb. 28, 1908

Index R+B A. IX

5.5	60.8 ✓	
66.3	41.5 ✓	
195.3	102.3 ✓	−1.60 ✓
236.8		

−1.59 ✓

15.6	42.0 ✓	
57.6	61.1 ✓	
185.5	103.1 ✓	−1.58 ✓
246.6		

Index L+a B.

276.9	59.6 ✓	
336.5	40.9 ✓	
105.7	100.5 ✓	−1.64 ✓
146.6		

−1.62 ✓

285.4	42.1 ✓	
327.5	60.5 ✓	
96.2	102.6 ✓	−1.59 ✓
156.7		

Mean −1.60 ✓

Index L+a B. ✓ X

275.6	61.6 ✓	
337.2	41.9 ✓	
185.5	103.5 ✓	−1.57 ✓
147.4		

10 19 55

10 28 25

44 20. ✓

10 24 10. ✓

+v +36.

10 24 46. ✓

Δ000.6423 ✓

10 38 50

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1908phae.proj..589W

Feb 28, 1908

−1.57 ✓

285.4

326.7	41.3 ✓	
95.3	62.4 ✓	
157.7	103.7 ✓	−1.57 ✓

Index R & B A.

185.6	62.0 ✓	
247.6	42.0 ✓	
15.0	104.0 ✓	−1.56 ✓
57.8		

−1.57 ✓

195.5	41.6 ✓	
237.1	61.5 ✓	
5.0	103.1 ✓	−1.58 ✓
66.5		

Mean −1.57 ✓

10 47 25

	46	1v. ✓
10	43	0. ✓
+v		+36. ✓
1v	43	44. ✓

0000.6vvv4 ✓

S.T 9 42
H.A. −0 19
Dec +2.3
P.A. 263.5 Vernier B

Comp. Star in preced. series on Iris =
= +3° 2312 (9.4)

11 0 Iris now follows comp. star by 39.5/5 and is 2'.3 north of it. Hazel object observed for Iris was Iris.

It was remarked after end of first groups that observer in said groups was troubled

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1908phae.proj...589W

Feb. 28, 1908

somewhat by light cloud and haze but this was probably a mistake and was due to slightly blurry seeing and some reflected light in the sky in that position. Observer kept watch of sky throughout evening and there was no cloud perceptible to the eye. In other words the sky was clear.

U's watch used for times
Watch 36 secs. slow

L. P. P.

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1908phae.proj..589W

Feb 29, 1908 (Saturday)

Iris

10	13	+3.0
6	5	
4	8	
12		
7	52	

Abandoned for the present

D Ceti.

2	12	-3.6
6	12	
4	0	

W. Obs. Rowe Rec. Phot. R.
Indep 1+2 B.

198.5 ← Variable Dis.
254.6 56.1 ✓
27.5 37.1 ✓
64.6 93.2 ✓ -1.83 ✓

206.7 38.5 ✓ -1.83 ✓
245.2 54.6 ✓
18.9 93.0 ✓ -1.83 ✓
73.4

7 25 30

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1908phae..proj..589W

Feb. 29, 1908

Index	R+a	A.
110.3	54.7 ✓	
165.8	35.4 ✓	
298.5	90.1 ✓	−1.91 ✓
333.9		
		−1.88 ✓
116.8	46.0 ✓	
156.8	52.9 ✓	
290.7	92.9 ✓	−1.84 ✓
343.6		

Mean 1.86 ✓

9.19 ✓

Phot 7.33 ✓

7 32 15

✓7 4✓. ✓

7 2A ✓2. ✓

+✓ +42. ✓

12 29 34. ✓

2001. ✓20✓ + ✓ Ab Rou Rec.

R Z. Cassiop.

2 36 +69.8

6 50

4 14

Index Above A.

289.6 ⟵ Var Dis.

8 8 25

325.3 35.7 ✓

114.3 23.3 ✓

137.6 59.0 ✓ −2.90 ✓

294.8 25.4 ✓ −2.87 ✓

320.2 35.0 ✓

109.4 60.4 ✓ −2.84 ✓

144.4

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1908phae.proj..589W

Feb 29, 1908

Indey Below B

201.0	33.7	
234.7	23.1	
25.2	56.8	−2.98
48.3		
		−2.90
204.7	24.3	
229.0	36.8	
17.3	61.1	−2.82
54.1		
	Mean	−2.88

8 15 30

23

11

+42.

13 12 40.

2001.

Indey Below B. II

201.0	35.4	
236.4	22.4	
25.1	57.8	−2.94
47.5		
		−2.89
205.7	23.7	
229.4	36.7	
17.2	60.4	−2.84
53.9		

8 42 28

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1908phae..proj..589V

Feb 29, 1908

Index Above A.

107.9	36.0
143.9	27.7
293.3	63.7 — 2.73
321.0	

— 2.76

114.0 ~~113.9~~	26.1
140.1	36.0
287.9	62.1 — 2.78
323.9	

Mean — 2.82

8 49 5

91 2V.

2 Hv Kz.

+V +Kz.

13 46 24.

2001. V739

9 3. 50

Index Above A. III

110.0	34.0
144.0	27.4
294.3	61.7 — 2.81
321.7	

— 2.77

111.7	26.7
138.4	36.9
288.0	63.6 — 2.73
324.9	

Index Below B.

18.8	34.3
53.1	21.5
205.8	55.8 — 3.02
227.3	

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1908phae.proj..589w

Feb. 29, 1908

9	11	50	
	15	40.	v
9	7	50.	v
+5		+42.	v
14	8	32.	v

25.4 : 22.9 v
48.3 36.0 v
198.6 58.9 v 2.98 0 v
234.6

−2.96 v

Mean −2.86 v

2001. v 893 v

Seeing rather blurry, observations rather difficult. The above variable abandoned as it is found by computation that it does not vary this evening. Region thoroughly identified.

H.P. 3879 = +62° 2007 (5.7)

22	0	+63.9
32 8	30	
10	30	

6 Obs. Rowe Rec. Phot T

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1908phae.proj..589W

Feb. 29, 1908

Index L + A B.

21.8	29.0	Sus. variable dis
50.8	19.4 ✓	
206.4	48.4 ✓	−3.34 ✓
225.8		

−3.34 ✓

265	19.7 ✓	
46.2	28.7 ✓	
202.7	48.4 ✓	−3.34 ✓
231.4		

Index R + B. A.

289.8	33.3 ✓	
322.3	21.9 ✓	
116.8	55.2 ✓	−3.05 ✓
138.2		

−3.10 ✓

295.5	20.9 ✓	
316.4	32.2 ✓	
112.0	53.1 ✓	−3.14 ✓
144.2		

Mean −3.22 ✓

10 0 15

10 9 40

9 ✓✓. ✓

10 4 ✓A. ✓

+✓ +42 ✓

1✓ ✓ 40. ✓

A001, 62AA ✓

Regions thoroughly identified.

E. P. P.

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1908phae.proj..589W

Feb. 29. 1908

-9° 8569. 12h 46.2m -9° 47'

Double Star No 118 (Comstock's List) =
Σ 1682 Puazzi XII 196
W. Obs. Powe Refl Phot R.
P.A. Dist. Mags.

Index R+B

	120.4	South Foll+Brtr Dis	
10 53 10	150.8	30.4	
	303.8	22.6	
	326.4	53.0	3,14
	123.6	24.4	3.12
	148.0	29.6	
	299.2	54.0	3.10
	328.8		

Index L+a

	31.8	30.0	
	61.8	23.7	
	214.0	53.7	3.11
	237.7		
			3.12
	33.0	24.0	
	57.0	28.9	
	211.0	52.9	3.14
	239.9		

Mean 3.12

11 0 15
113 25.
10 56 42.
+5 +42
15 57 24.
2001.6649

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

L. P. S.

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1908phae.proj..589V

Mar. 3 1908 (Tuesday)

R. Z. Cassiop.

2 36 +69.0
6 12
3 36

W. obs. Rowe Rec. Phot T.

Index L+a B.

288.4 35.0 ✓
323.4 28.1 ✓
112.4 63.1 ✓ −2.74 ✓
140.5

7 17 45

−2.69 ✓

292.6 26.1 ✓
318.7 40.0 ✓
107.4 66.1 −2.64 ✓
147.4

Index R+B A.

195.9 42.1 ✓
238.0 25.5 ✓
23.4 67.6 −2.59 ✓
48.9

−2.62 ✓

204.3 25.9 ✓
230.2 40.0 ✓
15.9 65.9 −2.65 ✓
55.9

7 24 30
42 1✓. ✓
7 21 A. ✓
+✓ +✓6. ✓
12 22 4. ✓
Δ004, ✓1✓4 ✓

Mean −2.66 ✓

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1908phae.proj..589W

Mar. 3, 1908

Index R+B A.

199.0	36.2	II
235.2	238	
24.4	60.0	−2.86
48.2		
		−2.78
265.1	25.5	
238.6	39.1	
16.6	64.6	−2.69
55.7		

Index L+a B.

109.3	36.1	
145.4	27.0	
291.5	63.1	−2.74
318.5		
		−2.76
113.4	26.4	
139.8	35.4	
287.6	61.8	−2.79
323.0		
		Mean −2.77

Index L+a B. III

109.9	33.7	
143.6	25.1	
294.0	58.8	−2.91
319.1		

7 29 50

7 39 0

6 A 0.
7 3 4 2.
+ 6.
12 3 2.
A 0 0 4. 2 4 6

7 46 0

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1908phae.proj..589W

Mar 3, 1908

−2.92 ✓

114.2	24.9 ✓	
139.1	33 6 ✓	
288.4	58 .5 ✓	−2.92 ✓
322.0		

Index R+B A.

17.4	37.3 ✓	
54.7	23 9 ✓	
204.3	61 2 ✓	−2.81 ✓
228.2		

−2.78 ✓

23.4	24.1 ✓	
47.6	38 7 ✓	
196.9	62.8 ✓	−2.76 ✓
235.6		

Mean −2.85 ✓

Index R+B A. IV

20.3	32.1 ✓	
52.4	23 0 ✓	
205.0	55.1 ✓	−3.05 ✓
228.0		

−2.97 ✓

24.4	23.6 ✓	
48.0	35.5 ✓	
199.0	69 .1 ✓	−2.89 ✓
234.5		

7 54 45

100	4√.	√
7 √0	22.	√
+√	+√6.	√
12 √1	12.	√

2004. √3√6 ✓

8 9 20

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1908phae.proj..589W

Mar 3, 1908

Index L+a B.
288.4 33.2
321.6 24.5
114.1 57.7 = 2.93
138.6

= 2.90

294.1 24.1
318.2 35.9
110.3 60.0 = 2.86
146.2

Mean = 2.94

8 20 0

29 20.
α 1F F0.
+v +v6.
13 1v 36.
α00F.vv2v+

8 41 15

Index L+a B. V
289.4 33.6
323.0 22.9
114.6 56.5 = 3.00
137.5

= 2.93

293.6 24.3
317.9 35.6
108.6 59.9 = 2.86
144.2

Index R+B d.
197.4 37.5
234.9 24.4
23.8 61.9 = 2.79
48.2

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1908phae.proj..589W

Mar. 3, 1908

~~2.86~~ -2.92 ✓

205.8 ~~205.3~~ ~~22.7~~ 222 ✓
228.0 ~~35 3~~ 33.3 ✓
19.2 ~~58.0~~ ~~55.5~~ ✓ -3.04 ✓
52.5 ~~54.5~~ ~~2.94~~

Mean -2.92 ✓

8 50 0
91 ✓ ✓
A 4✓ 3A. ✓
+✓ +✓6. ✓
L3 46 34. ✓
A004. ✓740 ✓

S.T. 8 1
H.A. +5 18
Dec. +69.7
P.A. ~~207.6~~ 208.2 Vernier B
Sprocket -2.5 A, -1.5 B, -1.0 C.

Double Star No 70 (Comstock's List) =
Procyon AD

7 32 +5.5
8 22
0 50

Abandoned. Not certainly seen

Double Star ~~Pollux~~ No 71 (Comstock's List) =
Pollux AB

7 37 +28.2
8 34
0 57 Abandoned. Too high up

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1908phae.proj..589W

Mar. 3, 1908.

Double Star No 105 (Comstock's List) = Σ A.C.

11	6	+ 74.2
8	46	
2	20	
12		
9	40	

Abandoned companion too close and faint

Double Star No 57 (Comstock's List) = δ Aurigae P. d. 294°. Dist. 47" Exp. 3.0, 10.9

5	51	+37.2
9	6	
3	15	

Shot R. one prism removed

Index R+a	d.	Foll+Brtr Dis
225.2		
229.5	4.3 ✓	
46.6	1.8 ✓	
48.4	6.1 ✓	7.87 ✓
227.0	2.0 ✓	8.11 ✓
229.0	2.9 ✓	
46.2	4.9 ✓	8.35 ✓
49.1		

10 15 40

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1908phae.proj..589

Mar 3, 1908.

Index	L & B	B.		
	135.0	4.8 ✓		
	139.8	2.1 ✓		
	317.6	6.9 ✓	7.61 ✓	
	319.1			7.58 ✓
	137.3	2.2 ✓		
	139.5	4.9 ✓		
315.3	~~313.9~~	7.1 ✓	7.54 ✓	
	320.2			

Mean 7.84 ✓

10 24 35
40 1v. ✓
10 20 2. ✓
+v +v6. ✓
1v 21 4. ✓
Δ004.6397 ✓

Measurements of above double very difficult. The greatest care had to be exercised (especially in certain positions) in order to make the bright images disappear. Troubled also at times by light cloud, proximety of bright star and faintness of companion. General result, however, considered pretty good.

W's watch used for times.
Watch 56 secs. slow.

L. P. P.

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1908phae.proj..589W

Mar. 5, 1908. (Thursday)

Double Star Σ 516 = 39 Eridani (Old Double Star Book)

4 7 −10.6
6 37
2 30 P.A. 150° Dist 6" (6.0, 4.7)

W. Obs. Rough Rec. Phot. R.

Index R+B. A,

31.8 ← Bibe Duo
60.3 28.5 ✓
200.9 41.4 ✓
242.3 69.9 ✓ 2.51 ✓

7 40 45

23.5 40.8 ✓ 2.50 ✓
64.3 29.4 ✓
209.2 70.6 ✓ 2.49 ✓
239.6

Index Δ a B.

299.0 36.2 ✓
329.2 42.7 ✓
113.5 72.9 ✓ 2.41 ✓
156.2

2.38 ✓

290.5 45.6 ✓
336.1 29.0 ✓
124.0 74.6 ✓ 2.36 ✓
153.0

7 49 30
90 1v. ✓
7 4v 8. ✓
+v 1 10.
12 46 18. ✓
Obs. v 321

Measurements very difficult on account of blurry seeing and closeness of components.

Mean 2.44 ✓

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1900phae.proj.:5697

Mar. 5, 1908.

Double Star Σ 610 = 7 Camel. (In old double-star book)

4 46 +33.5
7 16
2 30

AB and C measured.

P.A. 225° Dist 25" Mags 4.0, 10.0
U. Obs. Rowe Rec. Phot R.

Index L+A B.

1320 ← North Foll & Beta Dio

8 15 20

141.2	9.2 ✓		
312.5	6.8 ✓		
319.3	16.0 ✓	5.78 ✓	
132.0	7.5 ✓		5.68 ✓
139.5	9.9 ✓		
309.9	17.4 ✓	5.59 ✓	
319.8			

Index R+B A.

43.0	8.6 ✓		
51.6	7.1 ✓		
2224	~~225.1~~	15.7 ✓	5.82 ✓
	229.5		
			5.68 ✓
42.6	7.4 ✓		
50.0	10.5 ✓		
221.0	17.9 ✓	5.53 ✓	

8 22 5 ✓
37 25. ✓
A 14 42. ✓
+√ 1 10. ✓
13 19 √2. ✓
A006. √√√√ ✓

291.5 ~~231.8~~

Mean 5.68 ✓

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1908phae.proj..589W

Mar. 5, 1908

Measurements rather difficult on account of relative brightness of principal components. Altitude high

Nova Persei

U. Obs. Rows Rec. Phot T.

3	12	+42.8
8	0	Comp. Star = +43° 732 (7.5)
4	48	Phot. Magn. of Comp. Star = 7.2v

Full aperture used.

Index left. B. Comp. Star Dis.

118.3	16.4 ✓	
134.7	10.8 ✓	
301.7	26.4 ✓	+4.68 ✓
311.7		

9 34. 40

+4.64 ✓

120.7	11.3 ✓	
132.0	16.9 ✓	
297.1	27.6 ✓	+4.59 ✓
313.4		

Index Right. A.

28.1	16.9 ✓	
45.0	10.9 ✓	
210.9	27.8 ✓	+4.57 ✓
221.8		

9 / 9 +v / 14

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1908phae..proj..589V

Mar. 5, 1908

+4.63 ✓

9	45	30	
	40	10.	✓
9	40	✓.	✓
+✓	1	10.	✓
18	41	✓.	✓

Δ006.6120 ✓

31.3 11.0 ✓
42.3 15.3 ✓
209.5 26.3 +4.69 ✓
224.8

Mean +4.64 ✓

S.T. 9 9
H.A. +5 44
Dec +43.8
P.A 259.0 Vernier B
Sprocket -6.5 B, -5.5 C.

The comps. star used in above groups is the regular comparison star for Nova Persei said star being the one in my miscellaneous table of comps. stars.

The P.A. in above reading is slightly larger than the old P.A. given on card board which latter is 256° but this is due to some strain of the prisms ~~of~~ on the track as they run up the track a little hard.

Before beginning the measurements Nova Persei was fully identified by transits and declination estimates with the square bar micrometer and the use of the chronometer.

Images kept right in center of field during measurements and great care exercised:

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1908phae.proj:.589W

Mar. 5, 1908

Fourth Type Star +59° 2810

0 2 +58.3

9 50

9 48

Abandoned, too low

Double Star No 139 (Comstock's List) =
σ Coronae A.C.

16. 9 +34.2

9 55

6 14

12

5 46

P.A. 86° Dist. 1.0± Mags 5.8, 11.0
Principal component is a rather close
double. Combined light of primary used in comparing with companion
(See fol. note.)
W. Obs Roux Rec. Phot. R

Index Lt a. B.

129.4 12.0 ✓ Rec. & Brb. Dis

141.4 7.5 ✓

311.8 19.5 ✓ 5.35 ✓

319.3

10 50 45

5.39 ✓

131.7 ~~131.3~~ 8.0 ✓

139.7 10 ✓

310.9 18.8 ✓ 5.43 ✓

324.7

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1908phae.proj..5897

Mar. 5, 1908

Index	R+B	A.
	40.4	10.7 ✓
	51.1	7.5 ✓
	224.8	18.2 ✓ 5.50 ✓
	229.3	

5.4 X 2

	41.9	8.2 ✓
50.1	~~49.8~~	11.4 ✓
	219.9	19.6 ✓ 5.32 X 3
	231.3	

Mean 5.40 ✓

10 58 55

109 40 ✓

10 54 50. ✓

15 1 10. ✓

15 56 0. ✓

f 006.6639 ✓

As companion B disappeared at equalization of A with C, the preceding is a measure of AC.

Ws watch used for times

Watch 1m 10 secs slow

L. A. P.

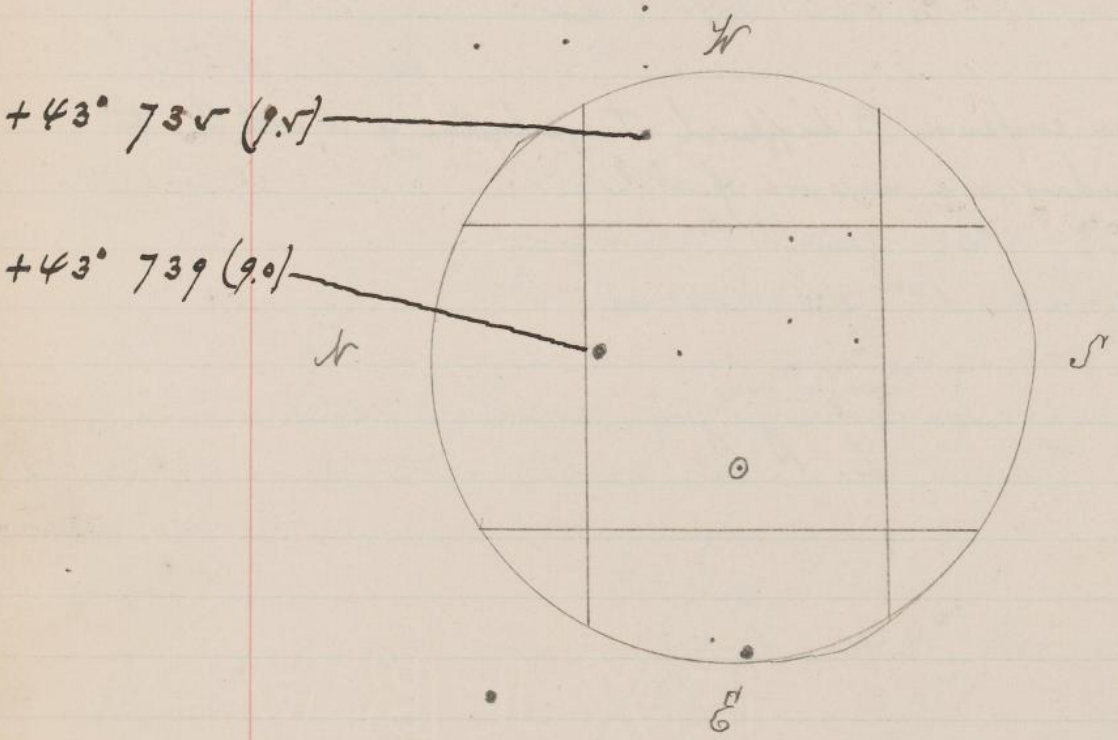
over.

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1908phae.proj..589W

Mar 6. 1908. (Friday).

A hasty sketch of region of Nova Persei was made last night on a half sheet of paper to put in my envelope of charts for use in dome. A copy of this chart is given below.



Nova Persei follows +43° 739 (9.0) (above) by 20. secs. and is 5.0 south of it.

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1900phae.proj...569W

Mar. 7, 1908 (Saturday)

Cloudy.

~~5~~ ~~50~~ +4

Var. 31. 1907.

5	50	+47.8
6	55	
1	5	

9 18 Continuously cloudy up till the present time with only momentary gaps and these very infrequent

Clouds now a little thinner

5	50
8	37
2	47

W. Obs Rock Rec. Phot R. One prism removed

Observed on p.p. 203, 204.

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1908phae.proj..589W

Mar. 7, 1908

Comp. Star in fol. 2 groups, is the star 2' or 3' due north of Var. A (Chapp. 10. #3)

Var. 31. 1907 Aurigae.

~~273.4~~
~~#4~~

~~9 57 58~~

Ridge Above A. I

99.2	77.8 ✓	Comp. star Dis.
177.8	89.0 ✓	
275.0	166 8 ✓	+0.25 ✓
4.0		
		+0.28 ✓
93.6	93.3 ✓	
186.9	71 1 ✓	
283.1 ~~282.9~~	164 4 ✓	+0.30 ✓
354.2		

9 59 30

Ridge Below B.

12.4	71.1 ✓	
83.5	99.5 ✓	
181.5	170.6 ✓	+0.18 ✓
281.0		
		+0.14 ✓
357.5	96.7 ✓	
94.2	77 2 ✓	
191.0	173 .9 ✓	+0.11 ✓
~~268.4~~ 268.2		

Mean +0.21 ✓

10 7 25

126 ✓✓ ✓

10 3 20 ✓

+V −16. ✓

15 3 12. ✓

2000.6272 ✓

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1900phae.proj..599V

Mar. 7, 1908

Index Below B. II

8.2 78 4 ✓ Comp Star D is

10 54 0 866 ~~86.4~~ 99.0 ✓

179.7 177 4 ✓ +0.05 ✓

278.7

+0.08 ✓

0.9 95.1 ✓

96.0 78 9 ✓

190.8 174 .0 ✓ +8.11 ✓

269.7

Index Above A.

284.4 69.1 ✓

353.5 96 7

90.9 ~~160~~ +0.27 ✓

187.6 165.4 ✓

2720 91.0 ✓ +0.32 ✓

3.0 69 2 ✓

181.8 160 .2 +0.38 ✓

171.8

11 5 20

119 20. ✓

10 ✓9 40. ✓

+✓ -16. ✓

1✓ ✓9 24. ✓

.0008.6663 ✓

Mean +0.20 ✓

After finishing measurements, took off Phot. + put on ordinary eyepiece, & would say that the variable is about 0.2 Mag fainter than comp. star and is about the same relative brightness as it was before beginning measurements. There has been practically no change for an hour.

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1908phae.proj..589W

Mar. 7, 1908.

Comparison star is the star 2' ~~to~~ B' due north from the variable.

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

L. P. P.

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1908phae..proj..589V

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1908phae.proj..589W

Mar 9. 1908 (Monday)

H.P 3879 = +62° 2007 (5.7)
22 0 +63.9
30 16 42
8 42

Color 4 with ordinary eyepiece
16 lbs. Rowe Rec Phot. T.

Index L+a. B.
21.2 ← Suspected Var. Dis.
52 5 31.3 ✓
205.4 202 ✓
226.6 51.5 ✓ −3.21 ✓

26.0 21.0 ✓ −3.24 ✓
47.0 29.1 ✓
200.9 50.1 ✓ −3.27 ✓
230.0

Index R+B A.
110.4 31.6 ✓
142.0 21.0 ✓
295.8 52.6 ✓ −3.16 ✓
316.8

−3.14 ✓

116.0 22.8 ✓
138.8 31.0 30.4 ✓
290.2 53.8 53.2 ✓ −3.13 ✓
320.6 ~~21.2~~ ~~3.11~~

Mean −3.19 ✓

7 31 25

7 40 15
71 40. ✓
7 3 ✓ ✓0. ✓
+ ✓ −18. ✓
12 35 32. ✓
£0 10. ✓247 ✓

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1908phae.proj..5897

Mar 9, 1908

S.T. 7 15
H.A. +9 18
Dec. +63.3
P.A. 151.6 Vernier B
Sprocket -5.5 B, -4.5 G.

Double Star No 29 (Comstock's List) =
41 Aurigae

2 42 +26.7
7 32
4 50

P.A. 270° Dist 23" Mags. (3.0, 10.7)

~~Plot~~ W. Abs. Rowe Rec. Phot R. One prism removed.

Index L+B B.
134.8 Foll+Brt Dis
140.0 5.2 ✓
316.0 3.0 ✓
319.8 8.2 ✓ 7.23 ✓

8 16 55

137.2 ~~+35.8~~ 1.8 ✓ 7.37 ✓
139.0 5.4 ✓
314.4 7.2 ✓ 7.51 ✓
319.8

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1908phae.proj..589W

Mar. 9, 1908

Index	R + a	A.
44.6	4.9	
49.5	3 4 ✓	
225.6	8.3 ✓	7.20 ✓
229.0		
		7.16 ✓
45.6	3.2 ✓	
48.8	5.4 ✓	
224.4	8.6 ✓	7.13 ✓
229.8		

Mean 7.26 ✓

8 24 30

41 2✓ ✓

a 20 42. ✓

+r -16. ✓

13 20 24. ✓

a 10. ✓✓✓9 ✓

Measurements a little difficult on account of brightness of primary, faintness of secondary, proximity of the latter to the former, and moon light (moon at the quarter), but much care exercised and observations considered pretty good.

Fourth Type Star +2° 17 15

7	25	+2.2
8	30	
1	5	

Color 5 ne large telescope

Wdbs. Rowa Rec. Phot T.

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1908phae.proj..589V

Mar. 9, 1908

Index Left B.

	Comp. Star Dis	
357.2		
76.6	78.4 ✓	
188.6	56.2 ✓	
244.8	134.6 ✓	+0.88 ✓
7.2	59.0 ✓	+0.81 ✓
66.2	82.6 ✓	
176.2	141.6 ✓	+0.74 ✓
258.8		

Index Right A.

268.1	76.4 ✓	
344.5	52.4 ✓	
100.0	128.8 ✓	+1.00 ✓
152.4		
280.9	53.1 ✓	+0.97 ✓
334.0	79.0 ✓	
85.6	132.1 ✓	+0.94
164.6		

Mean +0.89

P 20 35

9 1/2 8 26 55

47 30. ✓

9 23 47 ✓

47 -10. ✓

14 23 27. ✓

~~2010.V979~~

2010.V996 ✓

S.T. 8 58

H.A. +1 26

Dec +2.8

P.A. 205.5 Vernier B.

Sprocket −2.5 A, −1.5 B, −0.8 C.

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1908phae.proj..589W

Mar. 9. 1908

Var. 31. 1907 Aurigae.

5 50 +47.9
9 5
3 15

U. Obs. Rowa Rec. Phot T.

Index Std a B.

	192.3	~~13.1~~ ←	Comp. Star Dis		
10 11 45	240.0	~~64.0~~	~~50.9~~	47.7 ✓	
	19.2	~~196.8~~	~~26.7~~	33.6 ✓	
	52.8	~~223.5~~	~~77.6~~	~~81.3~~ ✓	+2.16 ✓
				~~2.27~~	
		17.8	37.3 ✓		~~2.10~~
		55.1	52.8 ✓		+2.04 ✓
		190.0	89.3 ✓	+1.93 ✓	
		242.0			

Index R+B A.

283.6	50.2 ✓	
333.8	36.8 ✓	
105.8	87.0 ✓	+2.00 ✓
142.6		
		+2.00 ✓
288.7	35.8 ✓	
324.5	50.6 ✓	
101.8	86.4 ✓	+2.01 ✓
152.4		
		+2.02 ✓

Mean ~~2.05~~

10	28	20
	40	5. ✓
10	20	2. ✓
+5		-10. ✓
15	19	17 ✓

0010.6387 ✓ As first ~~group~~ set seems to have an error of about 10°, this set re-taken.

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1908phae.proj..589

Mar. 9, 1908.

S T. 10 21
H. A. +4 14
Dec +48.2
P. A 46.0 Vernier B
Sprocket −1.5 B, −0.5 C

Comps. Star in preceding groups =
Star d (in AN 174, 366) =
= +47° 1268 (9.3)

Ub-3 watch used for times
Watch 18 secs. fast.

L. P. P.

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1908phae.proj..589W

Mar. 10, 1908 (Tuesday)

R. Z. Cassiops.

W. dls. Rowe Rec. Phot T.

2 36 +69.0
7 0
4 24

Index Lt a B. I

289.3 ← Var Dis.
7 42 20 322.7 33.4 ✓
183.5 25.1 ✓
138.6 58.5 ✓ −2.92 ✓

294.2 24.6 ✓ −2.89 ✓
318.8 35.3 ✓
108.9 59.9 ✓ −2.86 ✓
144.2

Index R+B. A

196.8 38.7 ✓
235.5 26.0 ✓
236 64.7 ✓ −2.69 ✓
49.6

−2.75 ✓

204.0 24.4 ✓
228.4 37.8 36.5 ✓
18.1 61.4 60.9 ✓ −2.81 ✓
54.6 55.1 54.5

7 49 25
91 4r. ✓
7 45 r 2. ✓
+r −14 ✓
12 Kr 3f. ✓
foll. r 317 ✓

Mean −2.82 ✓

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Mar. 10, 1908

Index R+B 4. 4

196.9 38.6 ✓
235.5 25.5 ✓
23.5 64.1 ✓ = 271 ✓
49.0

= 2.74 ✓

204.5 25.8 ✓
230.3 37.0 ✓
18.0 62.8 ✓ = 2.76 ✓
55.0

Index L+a B.

108.0 ~~107.6~~ 37.5 ✓
145.5 26.9 ✓
292.2 64.4 ✓ = 2.70 ✓
319.1

113.4 28.0 ✓ = 2.66 ✓
141.4 38.6 ✓
286.0 66.6 ✓ = 2.62 ✓
324.6

Mean = 2.70

8 10 45
12 40. ✓
2 6 20. ✓
+r -1F.
13 6 6. ✓
6011. ✓4✓9 ✓

Index L+a B. III

8 17 53

108.2 38.3 ✓
146.5 27.4 ✓
292.8 65.7 ✓ = 2.65 ✓
319.4

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−2.62

111.7	29.4
141.1	38.1
286.6	67.5 − 2.59
324.7	

Index R+B A.

14.5	41.3
55.8	28.1
202.6	69.4 − 2.53
230.7	

−2.50

22.6	29.7
52.3	41.2
196.3	70.9 − 2.48
236.5	

Mean −2.56

Index R+B A. IV

16.5	39.1
55.6	28.9
202.4	68.0 − 2.57
231.3	

−2.50

21.8	29.7
51.5	42.3
194.8	72.0 − 2.44
237.1	

8 25 20

43 17

α 21 38

+v −14

13 21 24

α 0 11. v v 6 v +

8 32 38

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Index	L+a	B.
	284.6	40.7 ✓
	325.3	30.5 ✓
	111.6	71.2 ✓ −2.47 ✓
	142.1	
		−2.44 ✓
	290.6	30.2 ✓
	320.8	43.1 ✓
	104.6	73.3 ✓ −2.40 ✓
	147.7	
		Mean −2.47 ✓

8 40 10

72 40. ✓

∂ 36 20. ✓

+√ −14. ✓

13 36 6. ✓

∂ 11. √66∂ ✓

8 52 35

Index	L+a	B.	V
	281.4	47.5 ✓	
	328.9	33.8 ✓	
	109.4	81.3 ✓ −2.16 ✓	
	143.2		
			−2.16 ✓
	289.2	33.1 ✓	
	322.3	48.5 ✓	
	101.1	81.6 ✓ −2.15 ✓	
	149.6		

Index	R+B	A.
	191.2	49.5 ✓
	240.7	35.9 ✓
	18.6	85.4 ✓ −2.64 ✓
	54.5	

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Mar. 10, 1908

9 2 0

114 35 ✓
8 ✓7 18 ✓
+✓ -14 ✓
13 ✓7 4 ✓
80 11. ✓80 13 ✓

9 11 30

199.0 35.6 ✓ −2.02 ✓
234.6 50.8 ✓
10.2 86.4 ✓ −2.01 ✓
61.0

Mean −2.09 ✓

Index R+B A1 VI

191.4 50.6 ✓
242.0 39.1 ✓
16.5 89.7 ✓ −1.92 ✓
55.6

−1.87 ✓

197.3 39.0 ✓
236.3 54.6 ✓
9.0 93.6 ✓ −1.82 ✓
63.6

Index L+a A.

98.6 56.0 ✓
154.6 42.4 ✓
284.4 98.4 ✓ −1.70 ✓
326.8

−1.66 ✓
~~1.64~~

9 22 20

33 ✓0. ✓
9 16 ✓✓. ✓
+✓ -14. ✓
14 16 41 ✓
80 11. ✓949 ✓

103.9 45.0 ✓
148.9 ~~58.2~~ ~~57.7~~ ~~1.59~~
276.6 ~~163.2~~ ~~101.7~~ ~~1.58~~
333.5 ~~3343~~ ~~3348~~ 56.9 ✓ −1.61 ✓
101.9

Mean −1.76 ✓

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S. T. 8 57
H. A. +6 16
Dec. +69.8
P. A. 28.0 Vernier B
Sprocket -2.5 A, -1.5 B, -1.0 C

Y. P. P.

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