1894phate..proj..1335.

KG
11366
v.331

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July 14, 1894.

Cloudy

8 50 Sky a little clearer.

Σ 56′ 3 Pegasi N. of 5.

21 31 +6.0
16 40
−4 51

Position angle 340°; dist. 35″; mag. 6.2 & 7.5

Index right and below
243.1 } Brighter dis.
309.0 }
Clouds thicker.

Still cloudy in this region. Abandoned.

~~Experiments~~ Guests of. faint stars near the Pole. N. of 5.

~~S~~

1 20 +88.7 Star 6.
17 8
−8 12 See below.

Index above.

258.0 34.0 ↑ Brtr. dis.
9 30 296.0
257.0 ±0.9 ↑
297.9 42.9 ↓
42 ↑

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July 14, 1894.

Index below.

345.0 K3.0 ^
28.0

345.8 K1.K ^
27.2 ~~K.K~~ v + K.1 ^

346.8 K3.2 ^
30.0

345.2 K2.7 ^
27.9 ~~K.9~~ v + K.0 ^

Index above.

77.1 K1.6 ^
118.7

76.6 39.2 ^
115.8 ~~K.K~~ v + K.2 ^

75.0 K3.0 ^
118.0

77.0 K3.0 ^
~~+2.0~~ 120.0 ~~K.0~~ v + K.0 ^

Index below.

10 ✓

163.1 K6.6 ^
209.7

165.8 K6.0 ^
211.8 ~~9.6~~ v + 3.2 ^

The above ~~is a~~ are measurements of star b (in regard of faint stars

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July 14, 1894.

near Pole) compared with bright star close by (Dec. +89° 37') by means of filar micr. R. Measurements made with much difficulty on account of bright moonlight, lack of perfect clearness in the sky, and faintness of star b. Comparison star a is too faint and close to bright star to be measured to-night. Neither star b, nor any of the other faint stars seen to-night.

Photometric Wedge Series. Spiral N. ole.

T3 Series 18 4 B.

13 58 +19.9
18 15
+ 4 17

10 32 2752 4.51
4.40
4.31 13.22 5.72

2756 3.00
3.20
3.18 9.38 4.06

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July 14, 1894.

| | | | | | |
|---|---|---|---|---|---|
| | 2768 | 3.12 | | | |
| | | 3.05 | | | |
| | | 3.10 | 9.27 | > | 4.01 |
| | 2 | | | | |
| | 2866 | 4.00 | | | |
| | | 3.90 | | | |
| | | 3.82 | 11.72 | > | 5.07 |
| | 2893 | 3.18 | | | |
| | | 3.22 | | | |
| | | 3.15 | 9.55 | > | 4.14 |
| 10 | √A 2903 | 2.45 | | | |
| | | 2.30 | | | |
| | | 2.28 | 7.03 | > | 3.04 |

D M. Wedge gone. Special. Nicks,

Series 18~~4~~5.

| | | |
|---|---|---|
| 15 | 24 | +9.1 |
| 18 | ~~4~~7 | |
| +3 | 23 | |

| | | | | | |
|---|---|---|---|---|---|
| 11 | A 3034 | 3.80 | | | |
| | | 3.75 | | | |
| | | 3.66 | 11.21 | > | 4.85 |

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July 14, 1894.

| | | | | |
|---|---|---|---|---|
| 3048 | 3.02 | | | |
| | 3.00 | | | |
| | 2.90 | 8.92 | > | 3.86 |
| 3053 | 2.77. | | | |
| | 2.85 | | | |
| | 2.97 | 8.59 | > | 3.72 |
| 3059 | 2.91 | | | |
| | 2.97 | | | |
| | 3.10 | 8.98 | > | 3.89 |
| 3066 | 4.65 | | | |
| | 4.80 | | | |
| | 4.91 | 14.36 | > | 6.22 |
| 11 33 3069 | 3.50 | | | |
| | 3.55 | | | |
| | 3.62 | 10.67 | > | 4.62 |

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July 16 1894.

Σ 2758 61 Leyguii. W. obs.

21 1 +38.1
16 5 58
− 4 3
5

Position angle 120°; dist. 15″; mag. 5.1 & 5.8

Index above.

240.0
313.9 < Brighter dis. 73.9 ∧
245.2
309.5 −0.81 ✓ 68.3 ∧ / 134.2 ∧ +2.8 ✓

Index below.

334.3
40.1 65.8 ∧

331.1
45.0 −73.9 ∧
−0.78 139.7 ∧ +2.8 ✓

330.0
44.2 74.2 ∧

337.0
40.8 −0.81 ✓ 63.8 ∧ / 134.0 ∧ +2.8 ✓

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July 16, 1894.

Index above.

64.7
132.2 67.5 ^

60.0
137.0 77.0 / 144.5 ^ −0.68 ~~±2.7~~ v

58.0
135.0 77.0 ^

62.3
131.5 69.2 / 136.2 ^ −0.60 ~~±2.6~~ v

Index below.

155.8 65.2 ^
221.0

153.3
224.2 70.9 / 136.1 ^ −0.85 ~~±2.9~~ v

Σ. 11ᴴ 1 Pegasi. Wolfe.

21 16 +19.2
16 20
— 4 56

Position angle ; dist. ; mag.
Too faint.
Thick fog coming in.

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1894phae.proj.1335.



July 16, 1894.

Σ 2594 37 Aquilae. W. ols.

19 48 −8.6
16 27
−3 21

Fog thick; no stars visible.

Became thickly foggy.

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July 17, 1894.

7 00 Cloudy.

8 00 "

8 30 Still cloudy.

9 00 Still cloudy.

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1894phae.proj.1335.



July 18, 1894.

Σ 11ᴵᴵ  1 Pegasi.  W. obs.

21  16  +19.2
16  0
+ 5  16

Σ 56'  3 Pegasi.  W. obs.

21  31  +6.0
16  7
− 5  24

Σ 2922  8 Lacertae  W. obs.

22  30  +39.0
16  10
− 6  20

Position angle 195°; dist 20"; mag. 6.0 & 6.7.

Index ~~tube~~. To right.

154.0
221.7 < Brighter obs.  67.7
153.9  70.2
224.1  137.9  +2.8  0.02

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1894phae.proj.1335.



July 18, 1894.

Index ~~about~~ to left.

| | | |
|---|---|---|
| 239.1 | | |
| 316.5 | 77.4 | |
| 241.9 | 69.0 | |
| 310.9 | 146.4 | +2.6 ˂ 0.6 ˃ |

| | | |
|---|---|---|
| 244.2 | | |
| 311.1 | 66.9 | |
| 238.5 | 76.0 | |
| 314.5 | 142.9 | +2.7 ˅ 0.72 |

Index to right.

| | | |
|---|---|---|
| 333.0 | | |
| 41.0 | 68.0 | |
| 333.2 | 67.8 | |
| 41.0 | 135.8 | +2.9 ˅ 0.26 |

| | | |
|---|---|---|
| 333.2 | | |
| 42.2 | 69.0 | |
| 334.3 | 67.7 | |
| 42.0 | 136.7 | +2.8 ˅ 0.24 |

Index to left.

| | | |
|---|---|---|
| | 58.0 | |
| 136.8 | 78.8 | |
| 65.0 | 67.0 | |
| 132.0 | 145.8 | +2.7 ˅ 0.66 |

| | |
|---|---|
| 0.82 | 0.65 |
| 0.86 | 0.72 |
| 0.82 | 0.66 |
| 0.83 | 0.67 |

0.75

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1894phae.proj.1335.



July 18, 1894.

Σ 2806 β Lyrae N. of 4c.

| | | |
|---|---|---|
| 21 | 27 | +70.0 |
| 16 | 25 | |
| −5 | 2 | |

Position angle 260°; dist. 12"; mag. 3.0 & 8.2

Index above

| | | | |
|---|---|---|---|
| 1.0 | < Brighter dis. | | |
| 14.0 | 13.0 | | |
| 0.8 | 13.7 | | |
| 14.5 | 26.7 | 4.66 | ~~67~~ ✓ |

Index below

| | | | |
|---|---|---|---|
| 88.1 | | | |
| 105.9 | 17.8 | | |
| 91.0 | 13.3 | | |
| 104.3 | 31.1 | 4.32 | ~~63~~ ✓ |

| | | | |
|---|---|---|---|
| 91.8 | | | |
| 104.0 | 12.2 | | |
| 89.0 | 17.8 | | |
| 106.8 | 30.0 | 4.40 | ~~64~~ ✓ |

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1894phae.proj.1335.



July 18, 1894.

Index above.

| | | |
|---|---|---|
| 179.2 | | |
| 195.9 | 16.7 | |
| 180.4 | 14.6 | |
| 195.0 | 31.3 | 4.32 ~~+6.9~~ ✓ |

| | | |
|---|---|---|
| 180.3 | | |
| 194.3 | 18.0 | |
| 179.0 | 16.0 | |
| 195.0 | 34.0 | 4.12 ~~4.41~~ ✓ |

| | |
|---|---|
| 4.66 | 4.32 |
| 4.32 | 4.40 |
| 4.12 | 4.70 |
| .11₂ | .14₂ |
| 4.37 | 4.44 |
| 4.42 | |

Index below.

| | | |
|---|---|---|
| 270.5 | | |
| 285.7 | 15.2 | |
| 272.0 | 11.0 | |
| 283.0 | 26.2 | 4.70 ~~4.61~~ ✓ |

Σ 2840 147 Lesphei B. W. obs.

| | | |
|---|---|---|
| 21 | 48 | +55.2 |
| 16 | 42 | |
| −5 | 6 | |

Position angle 200°; dist 20"; mag 5.9 & 7.0.

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July 18, 1894.

Index right and above

| | | |
|---|---|---|
| 331.8 | | |
| 41.5 | Brightness: | |
| | 69.5 | |
| 336.1 | 64.9 | 0.89 |
| 41.0 | 134.4 | +~~2.9~~ ✓ |

Index left and below.

| | | |
|---|---|---|
| 63.7 | | |
| 128.0 | 64.3 | |
| 60.0 | 72.0 | |
| 132.0 | 136.3 | 0.85 ~~+3.8~~ ✓ |

| | | |
|---|---|---|
| 63.1 | | |
| 129.1 | 66.0 | |
| 65.0 | 63.3 | 0.99 |
| 128.3 | 129.3 | ~~+3.0~~ ✓ |

Index right and above.

| | | |
|---|---|---|
| 158.5 | | |
| 219.5 | 61.0 | |
| 152.5 | 69.3 | 0.97 |
| 221.8 | 130.3 | ~~+3.0~~ ✓ |

| | | |
|---|---|---|
| 154.0 | | |
| 221.1 | 67.1 | |
| 155.9 | | |
| 221.5 | 65.6 | 0.92 |
| | 132.7 | ~~+2.9~~ ✓ |

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1894phae.proj.1335.



July 18, 1894.

Index left and below.

247.1

| | | | | |
|---|---|---|---|---|
| 0.89 | 0.85 | 308.0 | 60.9 | 101 |
| 0.97 | 0.99 | 243.3 | 67.6 | |
| 0.92 | 1.01 | 310.7 | 128.5 | ~~+3.0~~ |
| 0.93 | 0.95 | | | |
| | 0.94 | | | |

Experiments with wedge photometer
Measurements of stars to see if there is
any difference of absorption in different
parts of the wedge along a line at right angles
18 20 +0.1 } to wedge scale readings.
17 17 } Wedge scale readings
-1 13 } to right in all measurements.
Measurements taken at
5 different points, counting
from scale side to opposite scale.
Position 1 is pretty close to scale
side. Position 2 half way between
position 1 and 3. Position 3 in
middle, position 4 is half way
between middle and position 5.
Position 5 is pretty close to left
hand side of wedge, clock on;
~~scale readings~~ Sine of scale readings
of wedge is at right angles to
diurnal motion. W. O.

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1894phae.proj.1335.



July 18, 1894

Compared with D M. +0° 3936 (5.4)

| | | | | | |
|---|---|---|---|---|---|
| Position 1. | 6.11 | 6.20 | 6.01. | 6.11 | −.30 |
| " 2. | 6.31 | 6.32 | 6.30 | 6.33 | −.02 |
| " 3. | 6.46 | 6.62 | 6.63 | 6.57 | +.16 |
| " 4. | 6.52 | 6.61 | 6.67 | 6.60 | +.19 |
| " 5. | 6.42 | 6.40 | 6.49 | 6.44 | +.03 |
| | | | | 5)12.0 5 | |
| | | | | 6.41 | |

Compared with D M. +0° 3931 (7.0).

| | | | | | |
|---|---|---|---|---|---|
| Position 1. | 5.22 | 5.18 | 5.42. | 5.27 | −.16 |
| " 2. | 5.21 | 5.25 | 5.50 | 5.32 | −.11 |
| " 3. | 5.40 | 5.50 | 5.69 | 5.53 | +.10 |
| " 4. | 5.70 | 5.47 | 5.52 | 5.56 | +.13 |
| " 5. | 5.59 | 5.51 | 5.30 | 5.47 | +.04 |
| | | | | 5)12.1 5 | |
| | | | | 5.43 | |

Compared with D M. +0° 3940 (8.1).

| | | | | | |
|---|---|---|---|---|---|
| Position 1. | 4.65 | 4.58 | 4.21 | 4.48 | −.14 |
| " 2. | 4.65 | 4.60 | 4.39 | 4.55 | −.07 |
| " 3. | 4.70 | 4.80 | 4.60 | 4.70 | +.08 |
| " 4. | 4.97 | 4.80 | 4.60 | 4.79 | +.17 |
| " 5 | 4.71 | 4.72 | 4.31 | 4.58 | −.04 |
| | | | | 5)13.1 0 | |
| | | | | 4.62 | |

Compared with D M. +0° 3945 (8.9).

| | | | | | |
|---|---|---|---|---|---|
| Position 1. | 3.22 | 3.45 | 3.62 | 3.43 | −.24 |
| " 2. | 3.40 | 3.71 | 3.50 | 3.54 | −.13 |
| " 3. | 3.62 | 3.80 | 3.84 | 3.75 | +.08 |
| " 4 | 3.71 | 3.90 | 3.88 | 3.83 | +.16 |
| " 5 | 3.70 | 3.84 | 3.89 | 3.81 | +.14 |
| | | | | 5)13.3 6 | |
| | | | | 3.67 | |

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July 19, 1894.

Σ 2594 57 Aquilae: N. of.

19 48 −8.6
16 5
−3 43

Position angle 170°; dist. 35″; mag. 5.1 & 6.3

Index above.

8 10

245.0 < Brighter star.
309.8 64.8
240.5 71.5
312.0 136.3 Q.P. + 2.8

Index below.

330.7
45.0 74.3
335.0 64.0 QP
39.0 138.3 +2.8

335.5
36.9 61.4
329.0 75.9
~~45.9~~ 44.9 137.3 QP + ~~2.8~~

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July 19, 1894.

Index above.

| | | | |
|---|---|---|---|
| 56.3 | | | |
| 134.0 | 77.7 | | |
| 64.0 | 63.7 | | |
| 127.7 | 141.4 | 0.75 | ~~+2.7~~ ✓ |

| | | | |
|---|---|---|---|
| 65.0 | | | |
| 128.8 | 63.8 | | |
| 58.0 | 77.0 | | |
| 135.0 | 140.8 | 0.76 | ~~+1.8~~ ✓ |

Index below.

| | | | |
|---|---|---|---|
| 151.8 | | | |
| 223.5 | 71.7 | | |
| 154.1 | 64.9 | | |
| ~~220.6~~ | 219.0 | 136.6 | ~~+2.8~~ ✓ |

8 21

Σ 2637 θ Sagittae. Nicole.

20 4 +20.5

16 33

−3 31

Position angle 330°; dist. 10"; mag. 5.8 & 8.5

Index below.

8 31

| | | | |
|---|---|---|---|
| 73.0 | | | |
| 118.0 | 45.0 | Brighter disc. | |
| 80.0 | 34.1 | | |
| 114.1 | 79.1 | 2.22 | ~~+4.2~~ ✓ |

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July 19, 1894.

Index above.

| | | | |
|---|---|---|---|
| 167.9 | | | |
| 206.1 | 38.2 | | |
| 162.0 | 50.0 | | |
| 212.0 | 88.2 | 1.96 | ~~+4.0~~ ✓ |

| | | | |
|---|---|---|---|
| 162.0 | | | |
| 212.0 | 50.0 | | |
| 167.0 | 40.0 | | |
| 207.0 | 90.0 | 1.91 | ~~+3.9~~ ✓ |

Index below.

| | | | |
|---|---|---|---|
| 260.0 | | | |
| 294.0 | 34.0 | | |
| 255.0 | 46.8 | | |
| 301.8 | 80.8 | 2.17 | ~~+9.2~~ ✓ |

| | | | |
|---|---|---|---|
| 255.8 | | | |
| 304.1 | 48.3 | | |
| 259.1 | 34.8 | | |
| 293.9 | 83.1 | 2.10 | ~~+4.1~~ ✓ |

Index above.

| | | | |
|---|---|---|---|
| 351.0 | | | |
| 24.0 | 33.0 | | |
| 346.9 | 41.5 | | |
| 29.4 | 74.5 | 2.36 | ~~+4.4~~ ✓ |

8 45

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July 17, 1894.

Circumpolar Variables.

| | | ♀ Ursa Maj. | N. obs. |
|---|---|---|---|
| 12 | 33 | +60.4 | |
| 17 | 17 | | |
| +4 | 44 | | |

e 3 var; var 2 f. in finder.
e 3 var; var 2 f, in large tel.

9 23 Est. 8.2

| | | R Ursa Maj. | N. obs. |
|---|---|---|---|
| 10 | 33 | +69.3 | |
| 17 | 35 | | |
| +7 | 2 | | |

g 2 var.; var. 3 k. in finder
g 2 var; var 3 k in large tel.

9 33 Est. 8.0

Experiments with wedge photometer; continuation; as on page 15. N. obs.

| | | |
|---|---|---|
| 18 | 20 | +0.1 |
| 17 | 45 | |
| −0 | 35 | |

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July 19, 1894.

Compared with D.M. +0° 3942 (9.5)

| | | | | |
|---|---|---|---|---|
| 9 54 | Position 1. | 2.40 - 2.80 - 2.61 | 2.60 | -.24 |
| | " 2. | 2.81 - 2.88 - 2.79 | 2.83 | -.01 |
| | " 3. | 2.89 - 3.12 - 2.80 | 2.94 | +.10 |
| | " 4. | 2.71 - 2.99 - 3.23 | 2.98 | +.14 |
| 10 - 11 | " 5. | 2.65 - 2.88 - 3.05 | 2.86 | +.02 |
| | | | $\sqrt{14.21}$ | |
| | | | 2.84 | |

Above Observations made through some light cloud somewhat varying.

Sky now somewhat clearer.

Compared with star fr. D.M. +0° 3940 ( 4.5" 0.8' south

| | | | | |
|---|---|---|---|---|
| 10 25 | Position 1. | 1.40 - 1.60 - 1.65 | 1.55 | -.39 |
| | " 2. | 2.00 - 1.81 - 1.82 | 1.88 | -.06 |
| | " 3. | 2.10 - 1.95 - 1.98 | 2.01 | +.07 |
| | " 4. | 2.30 - 2.08 - 2.12 | 2.17 | +.23 |
| 10 45 | " 5. | 2.21 - 1.99 - 2.03 | 2.08 | +.14 |
| | | | $\sqrt{9.69}$ | |
| | | | 1.94 | |

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1894phae.proj.1335.



July 23, 1894.

Sky too bright and cloudy at present for variables. Clouds all over the sky.

Circumpolar Variables.

S Cygni N. ole.

20 8 +57.2

16 35

— 3 33

Sky still too bright and cloudy for variable. Will take a double, and return to variable.

Σ 11 F 1 Pegasi N. ole.

21 16 . +19.2

16 47

— 4 29

Position angle 310°; dist. 35"; mag. 4.2 & 8.7

Index above.

8 29 " 2.0

16.0 < Bright dis. 14.0

1.0 12.5

13.5 26.5 4.67 ~~+6.7~~ ✓

Dud

1894phae.proj.1335



July 23, 1894.

Index below.

| | | | |
|---|---|---|---|
| 91.0 | | | |
| 104.7 | 13.7 | | |
| 92.6 | 10.9 | | |
| 103.5 | 24.6 | 4.84 | ~~+6.8~~ ✓ |
| 91.8 | | | |
| 103.0 | 11.2 | | |
| 91.7 | 11.6 | | |
| 103.3 | 22.8 | ~~5.00~~ | ~~+7.0~~ ✓ |

Index above.

| | | | |
|---|---|---|---|
| 181.0 | | | |
| 194.0 | 13.0 | | |
| 181.9 | 11.1 | | |
| 193.0 | 24.1 | 4.88 | ~~+6.9~~ ✓ |
| 182.0 | | | |
| 193.0 | 11.0 | | |
| 181.0 | 13.1 | | |
| 194.1 | 24.1 | 4.88 | ~~+6.9~~ ✓ |

| | |
|---|---|
| 467 | 4.84 |
| 4.88 | 5.00 |
| 4.88 | 5.51 |
| 2X3 | 15.35 |
| 481 | 5.12 |

~~+9~~ 6

Index below.

| | | | |
|---|---|---|---|
| 273.0 | | | |
| 282.2 | | 09.2 | |
| 273.1 | 8.9 | | |
| 282.0 | 18.1 | 5.51 | ~~+7.5~~ ✓ |

8 . 37

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1894phae.proj.1335.



July 23, 1894.

Circumpolar Variables.

S Cygni. W. obs.

Will try for S Cygni through clouds.

| | | |
|---|---|---|
| 20 | 8 | +57.2 |
| 17 | 7 | |
| −3 | 1 | |

2 sun.

o 2 var; var. 3 fr. in large tel.; too faint for finder.

8 49 Est. 12.0

Estimate uncertain; observations made through clouds.

Sky thickly cloudy

9 30 Still thickly cloudy. No stars visible.

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July 24. 1894.

R Coronae. Hr. obs.

15 47 +29.3
17 13
+ 1 26

There is a fairly bright star apparently in position of R Coronae. There is another star on chart with which it can be compared in R. a. 15h 42m 33s and dec. +28° 44'. Call this star x provisionally.

8 57 x = variable.
Est. 9.3

R Librae Wale.

15 32 -19.2
17 B7
+ 2 5

Clouds.

There is a star on chart with which R. Librae can be compared. It is in R. a. 15h. 33 m. 43 s. and dec. -20° 51', Call this star x.

9 17 var. = x. in large tel.
var = x in finder.
Est. 9.0

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July 24, 1894.

τ Serpentis  W. obs.

18 21  +6.1
17 47
−0 34

There is a 14th mag. star apparently in position of τ Serpentis. The variable seems to shine pretty well with adjacent stars on chart. There is a faint star following the variable 7 seconds, 1.5′ south of it. Call this star a.

9 35  var. = x. in large tel. Too faint for finder.
Est. 14.0

R. Serpentis.  W. obs.

17 40  +15.9
18 6
+ 2 26

A star following variable 1 m 17.5 s., abt. 2′ south of it. Call this star a.

var. = x in large tel. Rather too faint for finder.

10 2  Est. 7.3

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July 24, 1894.

δ Scorpii. W. obs.

| | | |
|---|---|---|
| 16 | 6 | −21.9 |
| 18 | 35 | |
| + 2 | 29 | |

a faint star follows δ Scorpii 29.5 s, 3′ south of it. Call this star x.

δ Scorpii = x in large tel.

Rather too faint for finder.

10 25 allowing for altitude, est. would be alt. 11.4.

ϑ Ophiuchi. W. obs.

| | | |
|---|---|---|
| 16 | 23 | −16.3 |
| 18 | 57 | |
| + 2 | 34 | |

There is a star on old chart in R. A. 16 h. 22. m. 44 s., dec. −16° 48′. Call this x.

10 42 Var. = x in large tel.

Var = x in finder.

10 43 allowing for altitude, est. would be alt. 8.7

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July 24, 1894.

ϑ Aquarii. N. obs.

| | | |
|---|---|---|
| 20 | 40 | −5.5 |
| 19 | 8 | |
| −1 | 32 | |

There is a star on chart in R.A. 20 h. 41 m. ~~36~~ 38 s., dec. −5° 45'. This is star le in Chandler's notation, and o in Rudd's provisional notation. There is another star in R.A. 20 h. 41 m. 29 s, Dec −5° 46'. This is star fr in Rudd's provisional notation. Using Rudd's provisional notation for these two stars,

10 52 o 2 var.; var. 3 p. in longitude
o 2 var.; var. 3 p. in latitude
10 53 Obs. 8.9

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July 25. 1894.

R Camelop. H. 6h.

1f f0 +2f.1
17 vv
+3 1v

g 3 R. R 2 h ai lar tel.
g Rather fr. for finder.
9 v0 Est. 10.7

X. Libral.

No chart,

---

X Scorpii.

No chart,

---

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July 25. 14 9 K.

7 Herculis.

| | | |
|---|---|---|
| 1 A | 2 | + 30. v |
| 1 A | 30 | |
| + 0 | 2 A | |

Var. probably identified.
A star fol. var. 26 secs. 1.v north.
Call this X.
Var = X in Lar. tel.
Est. 12.6

10 32

S Cygni.

| | | |
|---|---|---|
| 20 | A | + v 7.2 |
| 19 | 10 | |
| − 0 | v A | |

p 3 Var. Var. 1.v f in Lar. tel.
Est. 13.v

10 v 7

~~Thin~~ Considerable fog and some light cloud, but not well defined.

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July 26, 1894.

Clouds and twilight.

Σ 2893 W. obs.

22 11 +72.7
16 24
− 5 47

Position angle 340°; dist. 30″ ; mag. 5.4 & 7.7.

Index to right and below.

7 55

78.0
116.8 < Brighter dis. 38.8
80.8 35.1
115.9 73.9 ~~+4.4~~ ✓

Index to left and above

171.8 *
204.0 Clouds. 32.2
170.2 35.8
206.0 68.0 ~~+4.6~~ ✓

2.38 2.57
2.53 2.45
2.48 2.66
139 168
2.46 2.56
2.51

169.0
204.8 35.8
168.6 35.8
204.5 71.7 ~~+4.5~~ ✓

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July 26, 1894.

Index right and below.

| | | |
|---|---|---|
| 260.3 | | |
| 294.2 | 33.9 | |
| 259.9 | 35.3 | |
| 295.2 | 69.2 | ~~44.5~~ ✓ |
| | | |
| 259.0 | | |
| 295.9 | 36.9 | |
| 260.0 | 34.0 | |
| 294.0 | 70.9 | ~~44.5~~ ✓ |

Index left and above.

| | | |
|---|---|---|
| 352.0 | | |
| 24.0 | 32.0 | |
| 351.6 | 33.5 | |
| 25.1 | 65.5 | 44.7 ✓ |

8 7

*

Σ 2894. P ~~XXII~~ 65 W. ole.

22 13 +37.1

16 45

— 5 28

Blonde.

Position angle 300°; dist. 15″; mag. 6.0 & 8.5

Index left and above

8 16

| | |
|---|---|
| 77.5 | |
| 116.7 | 39.2 < Brighter dis. |
| 75.1 | 43.7 |
| 118.8 | 82.9 ~~41~~ ✓ |

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1894phae.proj.1335.



July 26, 1894.

Index right and below.

| | | |
|---|---|---|
| 169.9 | | |
| 205.9 | 36.0 | |
| 169.0 | 37.8 | |
| 206.8 | 73.8 | ~~+4.4~~ ✓ |
| ~~+6~~ | | |
| 169.9 | | |
| 207.0 | 37.1 | |
| 168.6 | 37.2 | |
| 205.8 | 74.3 | ~~+4.4~~ ✓ |

Index left and above.

| | | |
|---|---|---|
| 258.0 | | Glonds. |
| 297.0 | 39.0 | |
| 259.5 | 37.6 | |
| 297.1 | 76.6 | ~~4.3~~ ✓ |

| | | |
|---|---|---|
| 2.11 | 2.38 | |
| 2.30 | 2.37 | |
| 2.16 | 2.43 | |
| .57 | .118 | |
| 2.19 | 2.39 | |
| | 2.29 | |

| | | |
|---|---|---|
| 255.1 | Glonds | |
| 298.1 | 43.0 | |
| 259.0 | 38.1 | |
| 297.1 | 81.1 | ~~+4.2~~ ✓ |

Index right and below.

| | | |
|---|---|---|
| 348.2 | | |
| 25.9 | 37.7 | |
| 349.2 | 34.8 | |
| 24.0 | 72.5 | ~~+4.4~~ ✓ |

8 30

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July 26, 1894.

$\vartheta$ Herculis W. obs.

| | | |
|---|---|---|
| 18 | 6 | +31.4 |
| 17 | 10 | |
| — 0 | 56 | |

Variable star.

~~a star follows variable 1m. 2 sec. 2.5' south of it.~~

a ~~another~~ star follows variable 56 sec. 3' north of it. Call this ~~first~~ star 4. Var. = x in large tel.

8 54. Est. 11.0

X Scorpii W. obs.

| | | |
|---|---|---|
| 15 | 34 | −21.6 |
| 17 | 33 | |
| + 1 | 39 | |

There is a very faint star following S.D. −21° 4276 (8.2) by 48.5 sec. and 6' south of it. This agrees very well with the position of the variable as indicated by the S.D., so that it is probably the variable. There is no other faint star closely adjacent.

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July 20, 1894.

There is a faint star in the same R. A. as variable 4.5' south of it. Call this star A.

var. = x in large tel.

9 24 Est. allowing for altitude alt. 13.8

χ Librae W. obs.

| | | |
|---|---|---|
| 15 | 22 | −20.2 |
| 17 | 56 | |
| + 2 | 34 | |

There is an extremely faint star in the position of χ Librae, as indicated by transits with reference to one S D. star. This is probably χ Librae. A faint star follows S D. −20° 4271 (10.) by 5 sec. and is abt. 3' south of it. Call this star x.

Variable = x in large tel.

9 40 Est +14.5 allowing for altitude 14.3

There does not seem to be any other faint star closely adjacent to variable

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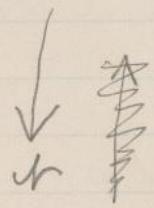


July 26, 1894.

Z Sagittarii W. obs.

| | | |
|---|---|---|
| 19 | 1 | −21.2 |
| 18 | 23 | |
| − 0 | 38 | |

Clouds.



Variable identified well by comparison with S D −21° 5340 (8.3). ~~A star~~ ~~follows it~~. It follows 5340 by its act amount in R. A. and has correct difference of declination. A ~~follow~~ star follows variable 13.5 sec., .2' south of it. Call this star v. var. = x in large tel.

allowing for some thin cloud, variable would seem to be as bright ~~certainly~~ as 10.8,

10 37 or possibly 11.0

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July 26, 1894.

γ. Capricorni. W. obs.

| | | |
|---|---|---|
| 21 | 35 | −15.0 |
| 19 | 26 | |
| −2 | 9 | |

Too cloudy

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July 27 1894.

Clouds and twilight.

Σ 27 27 γ Delphini W. obs.

| | | |
|---|---|---|
| 20 | 41 | +15.6 |
| 16 | 23 | |
| − 4 | 18 | |

Still cloudy.

Sky completely covered with clouds.

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July 28, 1894.

Cloudy first of evening.

Still cloudy, but a little clearer.

γ Capricorni. W. obs.

| | | |
|---|---|---|
| 21 | | |
| +7 | 22 | −14.7 |
| 17 | 5 | |
| −4 | 17 | |

Too low.

R Camelop. W. obs.

| | | |
|---|---|---|
| 14 | 40 | +84.1 |
| 17 | 8 | |
| + | 2 | 28 |

g 2 var.; var. 3h. in large tel.

8 40 Est. 10.8

Obsrvations made through some cloud.

Measurements of faint stars near the Pole.
Slot 6 W. obs.

9 0 Index below.

345.1 Bad. K 1.9

27.0

345.6 K 1.1

26.7 K 3.8 + K 1 ✓

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1894phae.proj.1335.



July 28, 1894

Index above.

259.2 clouds. 36.6
295.8
258.1
297.0 34.9 / 77.7 +4.3

257.3 38.7
296.0
255.8
295.6 39.4 / 74.7 +4.2

Index below.

344.8 47.3
30.1
345.0 42.7 / 47.4 +4.0
27.5

343.6 47.4
29.4
345.0 47.9 / 51.7 +3.9
30.9

Index above.

74.7 42.7
117.2
78.3 41.2 / 43.7 +4.1
119.5

Observations made with difficulty through cloud.

9 30

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1894phae.proj.1335.



July 28, 1894.

Too cloudy for anything but doubles.
Star a cannot be measured to night.
Σ 2922 & Lacaille. N vols.

| | | |
|---|---|---|
| 22 | 30 | + 39.0 |
| 18 | 13 | |
| − 4 | 17 | |

Position angle 190°; dist. 20"; mag. 6.0 & 7.0

Index to left.

| | | | | |
|---|---|---|---|---|
| 9 35 | 56.9 | | | |
| | 139.8 | < Brighter star | 82.9 | |
| | 58.8 | blends | 72.9 | |
| | 131.7 | | 155.8 v | +2.1 v 0.46 v |

Index to right.

| | | | | |
|---|---|---|---|---|
| | 151.1 | | | |
| | 226.0 | | 74.9 | |
| | 152.8 | | 68.1 | |
| | 220.9 | | 143.0 v | +2.7 v 0.71 v |
| | 165.9 | | | |
| 0.46 | 0.71 | 219.2 | 53.3 | |
| 0.60 | | 153.8 | 65.6 | |
| 0.21 | 1.22 | 217.4 | 118.9 | −3.2 v 1.22 v |
| 0.42 | 0.79 | | | |
| | 272 | | | |
| | 0.90 | | | |
| | 0.66 | | | |

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July 28, 1894.

Index to left.

| | | | |
|---|---|---|---|
| 247.6 | | | |
| 313.5 | 65.9 | | |
| 234.3 | clouds 82.9 | | |
| 317.2 | 148.8 ✓ | +2.6 ✓ | 0.60 ✓ |
| | | | |
| 234.2 | | | |
| 321.0 | 86.8 | | |
| 236.9 | 82.1 | | |
| 319 ~~317~~.0 | 168.9 | +2.2 ✓ | 0.21 ✓ |

Index to right.

| | | | |
|---|---|---|---|
| 156.7 | | | |
| 225.1 | 68.4 | | |
| 151.1 | clouds 70.9 | | |
| 222.0 | 139.3 | +2.8 ✓ | 0.79 ✓ |

9 44

Σ 3053 W. clr.

| | | |
|---|---|---|
| 23 | 56 | +65.4 |
| 18 | 40 | |
| −5 | 16 | |

Position angle 75°; dist. 15″; mag 5.8 & 7.5

Index right and above.

10 2

| | | |
|---|---|---|
| 71.2 | | |
| 130.5 | < Brighter cls. 59.3 | |
| 69.0 | 62.0 | |
| 131.0 | 121.3 ✓ | ~~✓~~ ✓ |

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July 28, 1894.

Index left and below.

| | | |
|---|---|---|
| 163.0 | | |
| 212.1 | 49.1 | |
| 163.4 | 44.6 | |
| 208.0 | 93.7 ✓ | ~~+3.8~~ ✓ |
| | | |
| 162.9 | | |
| 210.9 | 48.0 | |
| 157.9 | 55.8 | |
| 213.7 | 103.8 ✓ | ~~+3.6~~ ✓ |

Index right and above.

| | | |
|---|---|---|
| 245.0 | | |
| 310.9 | 65.9 | |
| 254.7 | 45.4 | ~~+3.8~~ ✓ |
| 300.1 | 101.3 ✓ | ~~+3.6~~ |
| | | |
| 253.0 | | |
| 301.0 | 48.0 | |
| 248.8 | 63.9 | |
| 312.7 | 111.9 ✓ | ~~+3.4~~ ✓ |

| | |
|---|---|
| 1.16 | 1.82 |
| 1.39 | 1.56 |
| 1.37 | 463 |
| 2 | 202 |
| 1.31 | 1.67 |
| 1.49 | |

Index left and below.

| | | |
|---|---|---|
| 338.0 | | |
| 35.7 | 57.7 | |
| 345.0 | 43.2 | |
| 28.2 | 100.9 ✓ | ~~+3.6~~ ✓ |

10 10

Sky now somewhat clearer, and variable brighter; will try variable.

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July 28, 1894.

γ Capricorni. W. obs.

| | | |
|---|---|---|
| 21 | 22 | −14.7 |
| 18 | 53 | |
| −2 | 29 | |

Clouds.

Variable thought at times to be ~~probably~~ suspected, but cannot be certain even of the suspicion.

There is a 9th magnitude star or object in R.A. 21h. 22m. 51s. dec −14° 40'. There seems to be a very faint star following the 9th mag. by alt. 4 sec. & 1.5' north of it. The variable is certainly as faint as this star.

The sky is now somewhat clearer, but yet not perfectly clear. The variable must be very faint, and from the brightness of the 9th mag. it would seem as if the variable must be at least 13th to 14th mag.

10 47

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July 30, 1894.

Σ 2863 · ξ Bepheri. N. ole.

21 60 +64.0
16 35
— 5 25

Position angle 280°; dist. 8"; mag. 4.8 & 6.7

Index right and above.

7 45

340.7
35.0 < Brighter dia. 1.70
345.1 5 4.3
29.2 4 4.1
9 8.4 ✓ ~~+3.7~~ ✓

Index left and below.

78.0
118.0 40.0 1.68
68.7 59.0
127.7 99.0 ✓ ~~+3.7~~ ✓

68.4
127.0 58.6 1.78
78.5 36.5
115.0 95.1 ✓ ~~+3.8~~ ✓

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July 30, 1894.

Index right and above.

| | | |
|---|---|---|
| 167.7 | | |
| 207.5 | 39.8 | |
| 163.2 | 51.8 | 1.87 |
| 215.0 | 91.6 ✓ | ~~+3.9~~ ✓ |

| | | |
|---|---|---|
| 161.0 | | |
| 215.4 | 54.4 | |
| 167.1 | 40.9 | 1.77 |
| 208.0 | 95.3 ✓ | ~~+3.8~~ ✓ |

1.70 1.68
1.87 1.88
1.77 1.79
.23.4 225
1.78 1.75
1.76
8 0

Index left and below.

| | | |
|---|---|---|
| 258.0 | | |
| 296.5 | 38.5 | 1.79 |
| 249.6 | 56.2 | |
| 305.8 | 94.7 ✓ | ~~+3.8~~ ✓ |

Experiments to see how faint companion stars can be seen.

1

T. Leporis W. ole.

21 6 +68.0
17 25
— 3 41

No faint companion stars. Abandoned.

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1894phot. proj. 1335.



July 30, 1894.

δ Cephei. W. obs.

21 37 +78.3
17 32
— 4 5

8 55 t probably sun at intervals; s 2.5

R. Ursa Maj. W. obs.

10 33 +69.4
17 44
+ 7 11.

x ~~3.5~~ 4.0
y faintly seen, but not quite steadily, probably from brightness of variable, which be quite
9 3 bright. y 1.5

δ Ursa Maj. W. obs.

12 34 +61.8
~~18~~ 7 52
~~6~~ 5 1 8

9 11 t 3
x suspected at times, but not steadily or certainly seen.

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July 30, 1894.

τ Ursa Maj. W. obs.

12 33 +60.4
18 2
+ 5 29

v easily seen.

9 19 x 2

y not certainly seen. y is pretty close to variable, and variable is pretty bright (3rd mag.)

δ Boötis. W. obs.

14 16 +54.6
18 9
+ 3 53

γ seen.
δ not certainly seen.

9 30 ε 2.

k 3 var.; var. 3 l.

9 32 Est 10.5

R Canum. W. obs.

14 40 +84.1
18 22
+ 3 42

γ and ε both seen.

9 43 ~~ε 3.5~~

γ 3.5

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July 30, 1894.

R Draconis. W. obs.

16 26 +67.3
18 37
+2 11

~~ti so~~ u easily sum
w easily sum.
x sum. pretty steadily; but about at lim. of vis.
9 57 w 4.

S Leyyni W. obs.

20 8 +57.2
18 46
−1 22

s easily sum.
t sum. pretty steadily.
10 4 t 1

p 3 var.; var. 1.5 q.
10 9 6 st. 13.3

R Cassiop. W. obs.

23 52 +49.7
19 13
−4 39

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July 30, 1894.

a sun.
β rather suspected.
variable bright; affecting faint stars near by.
allowing for brightness of variable, probably
10 35 a star 3 fainter than k could be seen.

γ Cassiop. W. obs.

0 18 +55.9
19 27
−4 51

t faintly seen.
u seen
w not certainly seen, but suspected.
10 49 u 1.5

δ Cassiop. W. obs.

1 10 +72.1
19 37
−5 33

w seen.
x and y seen.
10 57 y 1.5

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1894phae.proj.1335.



Posted to here.

July 31, 1894.

7 20 Cloudy.

7 40 Still cloudy.

8 0 " "

8 30 Sky thickly cloudy. No stars visible.

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1894phae.proj.1335.



Sept. 1. 1894.

7 5 Cloudy.

7 30 Still cloudy.

7 55 " "

8 30 " " Only one or two stars visible.

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Sept. 6. 1894.

δ Cygni ±  Y. obs.

20 A +V 7.2
1A VV
−1 13

A 3  g = V in lar. tel.
Est. 10.7

δ Bootis.

14 16 +V 4.6  Y. obs.
19 40
+V 2K

m 3 V, V 1 m in lar. tel.
A 3V  Est. 12.V

R Draconis.  Y. obs.

16 26 +67.3
20 0
+3 3K

over.

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Sept. 6. 1894.

$\underline{\underline{\ell}}$ = R in Lar. tel. W. obs.

$\underline{\underline{\ell}}$ 2 R, $\underline{\underline{R}}$ 2 $\underline{\underline{\ell}}$ in finder.

Est. 2.0

| m | R Hrs. Min. | W. obs. |
|---|---|---|
| 16 | 34 | +72.9 |
| 20 | 24 | |
| +3 | √0 | |
| 16 | 34 | |
| 20 | 34 | |
| +4 | 0 | |

$9^h$ $19^m$ d $\underline{\underline{3}}$ R R 1.0 $\underline{\underline{\ell}}$ in Large Tel.
20 36 Est. 9.0

S Cephei

| | | |
|---|---|---|
| | 97 | |
| 21 | 37 | +78.0 |
| 20 | 42 | |
| +0. | 55 | |
| | 99 | |
| 21 | 37 | |
| 20 | 48 | |
| 10 | 49 | Too high up. |

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Sept. 6. 1894.

ϒ Cassiop. Gr. obs.

0 14 +77.9

21 4

−3 10

10 3 m 3 ϒ, ϒ 3 m in lar. tel.

Est. 10.6

σ Cassiop. Gr. obs.

1 10 +72.1

21 27

+3 47

10 30 K 2 σ, σ 4 l in lar. tel.
Same in finder.
Est. 9.4

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Sept. 6. 1894.

R Aurigae. Gr. Ass.

5. 3 + 3.0

21 4

−7 9

10 0 R = l in lar. tel.

Est. 10.A

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Sept. 15. 1894.

Dun. Ledge Zone. (Special.) Sh. obs.

+9° Series 18[5]6.

21 6 +9.9

19 v

-2 1

| | | | | |
|---|---|---|---|---|
| 7 | 46 | 4727 | 4.51 | |
| | | | 4.47 | |
| | | | 4.4v | 13.43^ 5.82^ |
| | | 4741 | 3.31 | |
| | | | 3.20 | |
| | | | 3.1[4] | 9.69^ 4.20^ |
| | | 4749 | 4.70 | |
| | | | 4.43 | |
| | | | 4.4v | 14.38^ 6.23^ |
| | | 47vv | 3.7v | |
| | | | 3.60 | |
| | | | 3.40 | 10.75^ 4.65^ |

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Sept. 11. 1894.

| | | | |
|---|---|---|---|
| 4742 | 3.63 | | |
| | 3.60 | | |
| | 3.67 | 10.90^ | 4.72^ |
| 4777 | 3.65 | | |
| | 3.72 | | |
| | 3.50 | 10.87^ | 4.71^ |
| 4740 | 4.07 | | |
| | 4.10 | | |
| | 4.14 | 12.35^ | 5.35^ |
| 4765 | 4.42 | | |
| | 4.47 | | |
| | 4.92 | 14.61^ | 6.33^ |
| 4741 | 4.10 | | |
| | 4.21 | | |
| | 4.30 | 12.61^ | 5.46^ |

A 37

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Sept. 11. 1894.

Circumpolar Variable. Nr. No.

S Cephei.

| | | |
|---|---|---|
| 21 | 37 | +74.3 |
| 20 | 16 | |
| +1 | 21 | |

f 1.v S, S 1.v g in finder.
9 4 f 2.v S, S 1.v g " low tel.
Est. 9.1

R Cassiop.

| | | |
|---|---|---|
| 23 | 51 | +69.7 |
| 20 | 40 | |
| −3 | 11 | |

g 1.v R. R. 3 h in low. tel.
9 2.v g 2.0 R, R 3 h in finder
Est. 7.0

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Sept. 11. 1894.

~~to~~ R Urs. Maj.

10 3.4 +69.3

21 V

+10 31

g 2 R. R. 3 L in finder.

10 0 g 2 R, R 3.V L in Lar. tel.

East. A.O

T Urs. Maj.

12 33 +60.4

21 40

~~+10 L~~

+9 7

~~d 1.V T, T 2.V~~

d 2.V T, T 1.V e in finder.

10 22 d 2.V T, T 1.V e " Lar tel.

East. A.O

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1894phae.proj.1335.



Sept. 11. 1894.

S Aur. insf.

12 3K + 61.2
21 √3
+9 19

e 1 S. √3 f in finder.
e 2 S. √3 f " bar tel.
Est. 2.√

10 3K

S Persei.

2 A + √7.2
22 1√
−3 √3

f 2 S. S 2 g in bar tel.
f 2.√ S. S 1 g " finder.
Est. 9.3

10 √√

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Sept. 11. 1894.

ι Persei.

d 2 I. I 1e wi finder.

11 5 d 3 I. I 1e " var. tel.

Est. 9.1.

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Sept. 12. 1894.
Clouds.
Phot. images of Double Stars St. 60.
Σ 60. 7 Comps.

| | | |
|---|---|---|
| 0 | 41 | +V 7.2 |
| 19 | 30 | |
| −V | 11 | |

Too close. Abandoned.

Σ 117. 7 Comps.

| | | |
|---|---|---|
| 1 | 17 | +6.7 V |
| 19 | 6 V | |
| −V | 32 | |

Index above.

| | | |
|---|---|---|
| 91.3 | < betw. dis. | 11.8 |
| 103.1 | | |
| 91.1 | | |
| 104.7 | | |

7 V 0

13.6 / 2V.8 V — 4.77 / ~~+6.8 V~~

Index below.

| | | |
|---|---|---|
| ~~180.0~~ | | |
| | | 14.7 |
| 194.7 | | |
| 185.0 | | |
| 193.7 | | |

12.7 / 27.8 V — ~~+6.6 V~~ × 4.60

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1894phae.proj.1335.



Sept. 12, 1894.

1A 2.0
19 3.0 11.0
1A 1.0
19 4.A 13.A / 24.A ~~+6.A~~ = 4.82

Index above.

270.0
2A 4.3 14.3
270.A
2A 3.3 13.V / 26.A ~~+6.7~~ = 4.65

270.9
2A 3.1 12.2
270.1
2A 4.1 14.0 / 26.2 ~~+6.7~~ = 4.70

Index below.

2.9
13.V 10.6
~~1.4~~
14.2 12.A / 23.X ~~+6.9~~ = 4.9V

Means = 4.75

A 3V
~~1.4V~~
~~A 22.0~~
14.V
A 12.5

1894phae.proj.1335.



Sept. 12. 1894

$\Sigma$ Aft, $\chi'$ Piscium. Prob.

0 √9 +20.4
20 30
—4 29

Pro. Aug. 16√.° Dist 2√.″ Magn. √.0, √.1

Index below.

3300
√4.1 < northern dis.
3200
√6.0
Index above.
√1.0
146.2
√4.0
13√.0

A √4

7A.1√
9 86.0 ✓ +0.11 ✓
174.1
9√.2 ✓
77.0 ✓
172.2 ✓ +0.15 ✓

√7.0
133.9
√7.0 √1.0
143.7

76.9 ✓
92.7 ✓
169.6 ✓ +0.20 ✓

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1894phae.proj.1335.



Sept. 12, 1894.

Index below.

| | | |
|---|---|---|
| 144.5 | 90.7 | |
| 235.2 | | |
| 148.4 | 246 | −0.20 |
| 223.0 | 164.3 | +2.3 |

| | | |
|---|---|---|
| 148.2 | | |
| 227.5 | 79.2 | |
| 138.2 | 97.0 | 0.07 |
| 235.0 | 176.3 | +2.1 |

Index above.

| | | |
|---|---|---|
| 52.2 | | |
| 143.1 | 90.9 | |
| 57.0 | 77.4 | −0.22 |
| 134.4 | 164.3 | +2.2 |

9 17

9 05.5

5

14 05.5

Z 100 Piscium. W. Sh.

1 7 +6.9

21 7

−4 0

Pos. Aug 75.° Dist 20." Mags 4.0, 5.2

| | | |
|---|---|---|
| b +11 | b −84 | a −96 −91 |
| a +15 | a −96 | b −93 |
| a +20 | a −89 | |
| b +28 | b −90 | |
| b +07 | b −104 | |
| a +22 | a −86 | |
| a = +04 +19 | | −02 |
| b = −03 +11 | | |
| +07 | | |

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Sept. 12. 1894.

Index left + below.

337.2
K2.2 — 6 V.0

9 29

330.0
K1.V — 71.V / 136.V — +2.A — −0.84

Index right + above.

62.V
130.3 — 67.A ✓

67.0
130.0 — 63.0 ✓ / 130.A ✓ — +3.0 ✓ — 0.96

6 V.0 — 66.0
131.0

63.1
131.6 — 6A.V / 13K.V — +2.9 ✓ — −0.89

Index left + below.

1 V V.2 — 62.0
217.2

1 V 1.0
223.0 — 72.0 / 13K.0 — +2.9 ✓ — −0.90

1 V V.3 — 67.V
222.A

1 V A.K
21A.1 — V9.7 / 127.2 — +2.0 ✓ — −1.04

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1894phae.proj.1335.



Sept. 12. 1894.

Index right & above.

246.1
311.9
244.2
313.2

6 v.f

6 9.0
13 f.f

−0.88

10 9
98
9 49

Dome overlaps. Object glass a little at end of series.

Σ 3', 37 Ceti. 4 obs.

1 A −4.6
21 vv
−3 13

Pos. dig. 330°. Dist 50". Mags. 4.6, 7.3.

Index above.

344.0
28.2 = brts. dist.
350.1
26.1

40.2
36.0
76.2

2.31
~~4.3~~

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1894phae.proj.1335



Sept. 12. 1894.

Index below.

40.7
117.0
42.5
115.0

36.3

32.5
64.8

2.55
+4.5 ✓

74.5
143.0
40.8
115.9

3K.2

3K.1
6L.3

2.56
+4.6 ✓

Index above.

173.0
205.9
167.0
207.8

32.9

K0.8
73.7

2.39
+4.6 ✓

169.0
207.0
170.1
205.0

38.0

34.9
72.9

2.41
+4.14 ✓

Index below.

260.5
295.3
262.0
295.0

3 5.2

32.0
67.2

2.60
+4.6 ✓

10 5 3

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1894phae.proj.1335.



Sept. 13. 1894.

U Cephei. Phot. R. Gr. obs.

Compared with Dm. +81° 26.

0 30 +81.7

1.9 ~~+~~0

---

-1.4 -0

Wrong comp. star used. Reject obs.

Index below.

A^h 30^m 0^s

3 -1.4

23.9 < Var. dis.

3 -0.0 32.1

19.5 24.5

-6.6 +5.0

Index above.

A 3.2

A. 34. 6. 110.4 27.6

A1.9

112.1 30.2

-7.4 +4.9

A2.4

36^m 33^s 11~~2~~.9

Clouds.

A 2.0

A 44 2. 114.9 32.9

A3.0

110.6 27.6

6 0.5 +4.4

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1894phae.proj.1335.



Sept. 13. 1894.

Index below.

176.0
199.2
174.4
201.0

23.2
26.2
49.4 +v.3 v

173.7
202.2
17v.9
200.4

24.v
24.9
v3.4 +v.1 v

Index above.

26v.1
249.v
263.9
293.4

24.4
29.9
v4.3 +v.1 v

262.4
293.1
26v.0
291.9

20.3
26.9
v7.2 +v.0 v

Index below.

3vv.4
19.0
3v3.2
22.4

23.2
29.2
v2.4 +v.2 v

A 4A 20.

v1 29.

v6 0

v9 v4.

9.v2 20.

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1894phae.proj.1335.



Sept. 13. 1894.

9 h 33.

3 v 3.2
21.0 27.A
3 v v.v
20.2 2v.7 / v2.v + v.2 v

Index above.

1v 00.

Av.A
110.0 2v.2
A3.A 26.6 / v0.6 + v.2 v
110.v

17 1v.

A2.0
112.1 30.1
A3.0 2A.7 / v.A.A + v.9 v
111.7

Clouds.

Stopped by clouds.
α Cephei is about 4 mags. compared with faint star about 3' of ~~arc~~ above — that is, with faint star in about same dec. and some 3' (of arc) preceding.

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Sept. 13. 1894.

Expts. with Auxiliary Prism forming prismatic comparison of large Telescope.

Watch used in obs. to night on ν. Cephei. is about 16 sec. fast.

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1894phae.proj.1335.



Sept. 15. 1894.

Anon Algol Type star discovered
See next by Hartwig = D.M. +15° 3317 (9.2 B.)
page !! Phot R. Lr. obs.

17 v 4 ~~+17.8~~ +16.8
19 2 v
+1 31

Clouds.
Index to left
h m
8 16 240.0

217.0 77.0
230.3 92.7
323.0 169.7 +2.2 v

Index to right
h
8 29 324.0
35.0

Stopped by thick fog
Very much troubled ~~fine~~ above settings.
by cls + moonlight. Obs. difficult
Above comparisons made with ~~D.M. 13°~~
D.M. +15° 3313 (9.4 B)

Stay thickly foggy, no stars visible & growing worse.

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Sept. 17. 1894.

The star +14° 3315, observed on the previous page, is not the new Algol Type star of Hertzig. The star wanted is D.M. +14° 3311 (6.0).

The error occured in copying from telegram.

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Sept. 20. 1894.

Fr. obs.

Examination of ε Lyrae with circular 1½ inch prism in front of edge of O. G. to see what sort of image it will give.

A round image cannot be obtained with any focus of large telescope, but irregular images at all foci with very marked spectrum effects.

Hastings's Nov Var. Fr. obs.
(+17° 3311 6.4) Phot. R.

| | | |
|---|---|---|
| 17 | √2 | +17.4 |
| 20 | 20 | |
| +2 | 2.4 | |

Index left + below.

3√3.3
18.4 < Var. dis.
3√3.4 2√.√
18.2 2.4.4
√0.3 √.3 √

Hyi 40′.

1894phae.proj.1335.



Left 20. 149 K.

Index right + above.

| | | | |
|---|---|---|---|
| | 23.2 | | |
| A, 2V, 3A | 107.A | 2K.6 | |
| | A3.0 | | |
| | 106.2 | 23.2 / K7.A | V.K$^V$ |

| | | | |
|---|---|---|---|
| | AK.0 | | |
| A, 2A, 33. | 106.2 | 22.2 | |
| | A2.9 | | |
| | 107.7 | 2K.A / K7.0 | V.K$^V$ |

Index left, below.

| | | | |
|---|---|---|---|
| | 173.0 | | |
| A, 32, 31. | 197.A | 2K.A | |
| | 17K.V | | |
| | 196.V | 22.0 / K6.A | V.K$^V$ |

| | | | |
|---|---|---|---|
| | 173.2 | | |
| A, 36, 21. | 196.7 | 23.V | |
| | 171.0 | | |
| | 200.3 | 29.3 / V2.A | V.1 |

Index right, below.

| | | | |
|---|---|---|---|
| | 263.0 | | |
| A, V0, K1. | 289.0 | 26.0 | |
| | 26K.0 | | |
| | 2A7.0 | 23.0 / K9.0 | V.3$^V$ |

In the above 6 sets the var. was compared with D M. +15° 3310 (9 K B)

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Sept. 20. 1894
Var. again ± and faint star near.
~~1H° 33m 0s~~, R. Ob.

Index to right.

26 v. 1 < Var. dis.
2d 3.0 17.9
26 6. v
2d 2.0 $\frac{1v.v}{33.v}$ v 6.2 v

Index to left.

3v 6. v
12.d 16.3
3v v.0
1v.0 $\frac{20.0}{36.3}$ v 6.0 v

d, v 7. 3v.

3v v.f
13.v 16.6
3v 6.1
11.d $\frac{1v.7}{3v.3}$ 6.1 v

9. 0, 2d.

Index to right.

d 7. v
10 1.d 16.3
d 6.0
10 2.2 $\frac{16.2}{30.v}$ 6.4 v

d v.9
10 3.2 17.3
d 6.2
10 1.6 $\frac{1v.v}{32.7}$ 6.2 v

9. d. 11.

9. 11. 2.

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Sept 20, 1894.

Sudy to left.

| | | | |
|---|---|---|---|
| | 176.2 | 15.3 | |
| 9, 15, 12, | 191.5 | | |
| | 174.7 | 19.3 | |
| | 194.0 | 34.6 | 6.1 |

In the above 6 sets the var. was compared with the faint star 6 secs. p. e. = 1' worth of it. Observer recording, himself. Troubled by clouds, and obs. through more or less clouds, in both the first series.

F. Sy.

0 Cat.
Stat. R.

2 4 −2.0
22 20
−3 44

Clouds.

22 47
−3 17

−3 17
22 13
2 10

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Sept. 20. 1894.

Index to right.

| | | | |
|---|---|---|---|
| | 141.0 | < var. dis. | |
| 10 46 | 222.0 | 81.0 | |
| | 1499 | 66.9 | |
| | 216.8 | 147.9 | ~~2.6~~ v -0.62 |

Index to left.

| | | | |
|---|---|---|---|
| | 244.0 | 6K.0 | |
| | 30A.0 | | |
| | 239.0 | 69.6 | |
| | 30A.6 | 133.6 | ~~2.9~~ v -0.90 |
| | 237.1 | 7K.0 | |
| | 311.1 | | |
| | 2KV.0 | 79.K | |
| | 30K.K | 133.K | 2.9 v -0.91 |

Index to right.

| | | | |
|---|---|---|---|
| | 33K.0 | | |
| | 3K.A | 60.A | |
| | 327.0 | 72.1 | |
| | 39.1 | 132.9 | 2.9 v -092 |
| | 32A.1 | 73.1 | |
| | 41.2 | | |
| | 33.A | 6.22 | |
| | 36.0 | 135.3 | ~~2.9~~ v -087 |

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Sept. 20. 1894.

~~Sept~~

Sides to left.

6 ✓ A

12 ✓ 0 ✓ 9.2

10 ✓ A ✓ A 6 ✓ 0.K

129.0 ~~3.0~~ 129.6 ✓ − 0.99

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Sept. 21. 1894.

A. G. C. 23 K22, Phot. R., Fr. obs.

17 10.K −3 K.2
19 K9.
+2 39

Too low.

A. G. C. 2 KK07. Fr. obs.

17 √0.0 −30.2
19 √9.
+2 9

Pos. Aug. (IV. Dist 7"

☆ 16 2.3 (Brtr. Single to. rt and
27 46 206.0 dist below.
163.0 K3.7
207.7 KK.7
22.K√ K.0√

Left and above

248.2
299.1 √0.9
254.8
293.0 38.2
A9.1√ 3.9√

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Sept. 21, 1894.

251.5
293.2 41.7
247.1
298.1 $\frac{\sqrt{1.0}}{92.7}$ $\sqrt{}$ $3.4\sqrt{}$

Right and below.

342.2
26.8 44.6
343.7
30.3 $\frac{46.6}{91.2}$ $3.9\sqrt{}$

341.0
29.1 44.1
342.0
26.5 $\frac{44.\sqrt{}}{92.6}$ $3.4\sqrt{}$

Left and above

72.3
116.3 44.0
76.9
115.0 $\frac{24.1}{42.1}$ $4.1\sqrt{}$

7 58

Region low, observations difficult

Prin. comp. quite strong orange red at this alt. in large telescope.

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Sept. 21, 1894.

A. G. C. 25157 Phot. R. W. Obs.

| | | |
|---|---|---|
| 18 | 20 | -29.9 |
| 20 | 23 | |
| +2 | 03 | |

| | | |
|---|---|---|
| 18 12 V9 | -29.9 | Sm Lg. |
| 19 09 | -29.9 | |
| +6 V0 | | |

| | |
|---|---|
| 18 13 | -29.9 |
| 20 38 | |
| +2 25 | |

No companion visible.

A. G. C. 26485 Phot. R. W. Obs.

| | | |
|---|---|---|
| 19 | 14 | -EE.7 |
| 21 | 00 | |
| +1 | 46 | |

Practically below horizon, invisible.

1894phae.proj.1335.



Sept. 21, 1894.

A. G. C. 25 306. Phot R. W. obs.

| | | |
|---|---|---|
| 18 | 25 | -38.°8 |
| 21 | 7 | |
| +2 | 42. | |

Practically on horizon. No stars visible.

Comp. of $\kappa$ Cephei, with Dun. +41°26.
Phot. R. Ec. obs.

| | | |
|---|---|---|
| 0 | 30 | +41.7 |
| 21 | 24 | |
| 8 | ~~54~~ 6 | |

| | |
|---|---|
| 0 | 30 |
| 21 | 31 |
| 2 | 59 |

Indep to st. and alt obs.

| | | |
|---|---|---|
| 177.0 | < var. dis. | 16.0 |
| 193.0 | | |
| 176.8 | | |
| 193.0 | | 16.2 |
| | | 32.2 6.2 |

9 22 35

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1894phae.proj.1335.



Sept. 21, 1894.

Index to left and below.

| | | | | |
|---|---|---|---|---|
| 9 25 27 | 267.0 | 15.7 | | |
| | 282.7 | | | |
| | 267.0 | | | |
| | 282.2 | 15.2 | 30.9 | 6.3 v |
| 9 28 00 | 267.0 | 15.0 | | |
| | 282.0 | | | |
| | 267.7 | 14.4 | | |
| | 282.1 | | 29.4 | 6.4 v |

Index to right and above

| | | | | |
|---|---|---|---|---|
| 9 31 8 | 356.6 | 17.4 | | |
| | 14.0 | | | |
| | 357.0 | 16.0 | | |
| | 13.0 | | 33.4 | 6.2 v |
| 9 33 19 | 356.7 | 16.3 | | |
| | 13.0 | | | |
| | 356.2 | 16.4 | | |
| | 13.0 | | 33.1 | 6.2 v |

Index to left and below.

| | | | | |
|---|---|---|---|---|
| 9 35 56 | 88.1 | 14.4 | | |
| | 102.5 | | | |
| | 87.0 | 15.1 | | |
| | 102.1 | | 29.5 | 6.4 v |

Probably the above are obs. of wrong star. and should be omitted.

Seeing pretty good, images also

Hr. Gratings' water used. Water 1 rec. above of Balloon 103, and 13 Balloon 103. 7.5 rec. above of Water 6.5 rec. above of true time.

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Sept. 21, 1894.

Circumpolar Variables Lr. Dr.
R. Camelop.

1K 40 + AK.1
22 10
7 30.

~~b = var. in finder~~
~~b 1 var, var 2.5 c.~~

b 1 var, var 2.5 c in finder.
b = var. in large tel.
est. 8.7

.10 2

R. Lyncis. W. obs.

6 49 +55.1
22 27
8 22

6 49
22 40
8 9

m 1.5 var, var, 2.5 m in large tel.
Too ft. for finder.
Est. 11.3

10 28

Region rather low, moon somewhat bright, est, rather unsatisfactory

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T. Cephei. W. obs.

| | | |
|---|---|---|
| 21 | 5 | +67.°7 |
| 22 | 55 | |
| + 1 | 50 | |

Star k with which var. seems to want to be compared is quite a long way off, both for finder and large telescope, but as near as est. can be made at this dist. var. is about equal to star k.

10 47 Est. 5.7

Relative est. somewhat unsatisfactory on account of dist. of comp. star from var.

Dis Jup. III, S. obs. Clymer vac, Phot. R. Compared with Sat. almost due south of Sat III. This is undoubtedly Sat. II. Sat. IV, the faintest, being still farther preceding. Sat I.

B. & C. 11 h 2.

| | | | | | |
|---|---|---|---|---|---|
| 11 | 4h | √2.√ | 11 | 49 | ~~7.5~~ 6.0 |
| | 49 | √2.√ | | √0 | ~~7.5~~ 6.0 |

Balloa 103

being on the following side of the planet.

B + C. = 15.°0 slow

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Sept. 21, 1894

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 12h. | 2 | 33 18.5 | 134.0 | Comp. Sat. dis. | | 735.7 |
| | | | 49 54.0 | 230.8 | | 96.8 | 183.9 |
| 12 | 2 | 54 | | | 1 | | |
| | | 3 | 1 46.5 | 138.9 | | 93.1 | |
| | | | 11 56.5 | 232.0 | | 95.0 | |
| | | 1 | 23 7.5 | 135.1 | | | 734.7 |
| | 3 | 35 | 30 15.0 | 233.4 | | 98.3 | 183.7 |
| | | | 39 24.0 | 133.9 | 2 | 98.4 | |
| | | | 48 33.0 | 232.3 | | 98.4 | |
| | | | 57 41.5 | 136.9 | | 92.9 | 735.3 |
| | 4 | 14 | 10 55.0 | 229.8 | | | 183.8 |
| | | 4 | 21 6.5 | 137.1 | 3 | 94.4 | |
| | | | 28 15.0 | 231.5 | | 93.6 | |
| | | | 37 23.5 | 133.9 | | | 738.5 |
| | 4 | 52 | 48 33.5 | 236.6 | 4 | 92.7 | 184.6 |
| | | | 57 41.5 | 137.0 | | 94.0 | |
| | | 5 | 5 49.5 | 231.0 | | 93.4 | |
| | | | 13 57.5 | 137.9 | | | |
| | 5 | 26 | 21 6.0 | 232.8 | 5 | 94.9 | 739.5 |
| | | 4 | 29 14.5 | 135.0 | | 98.8 | 184.9 |
| | | | 41 26.5 | 233.8 | | 96.8 | |
| | | | 51 36.5 | 133.9 | | | 733.2 |
| | 6 | 9 | 1 46.5 | 232.7 | 6 | 98.8 | 183.3 |
| | | 6 | 19 3.5 | 135.8 | | 95.0 | |
| | | | 25 10.5 | 230.8 | | 96.9 | |
| | | | 33 18.5 | 139.2 | | | 739.5 |
| | 6 | 50 | 43 28.5 | 231.3 | | 92.1 | 184.9 |
| | | | 53 38.5 | 138.0 | 7 | 93.0 | |
| | | 7 | 9 53.5 | 231.0 | | 92.6 | |

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Sept. 21, 1894.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 12 | 7 | 19 | 136.5 | | | 738.0 |
| 12 | 7 | 31 | | 26 | 234.1 | 8 | 97.6 | 184.5 |
| | | | | 33 | 138.3 | | 90.8 | |
| | | | | 45 | 229.1 | | 94.2 | |
| | | | 8 | 58 | 135.0 | | | 733.8 |
| 9 | 9 | | 9 | 3 | 232.1 | 9 | 97.0 | 183.4 |
| | | | | 13 | 139.1 | | 87.4 | |
| | | | X | 22 | 227.1 | | 92.2 | |
| | | | | 32 | 140.1 | | | 733.1 |
| 9 | 46 | | | 41 | 228.0 | | 87.9 | 183.3 |
| | | | | 51 | 137.8 | 10 | 89.4 | |
| | | | 10 | 1 | 227.2 | | 88.6 | |
| | | | | 10 | 137.2 | | 86.9 | 727.3 |
| 10 | 26 | | X | 19 | 224.1 | | | 181.8 |
| | | | | 33 | 139.0 | | 88.0 | |
| | | | | 42 | 227.0 | | 87.4 | |
| | | | | 51 | 140.0 | | | |
| 11 | 8 | | 11 | 1 | 227.0 | | 87.0 | 733.1 |
| | | | | 15 | 139.0 | | 88.1 | 183.3 |
| | | | X | 24 | 227.1 | | 87.6 | |
| | | | | 32 | 141.5 | | | 735.1 |
| 11 | 45 | | | 40 | 225.8 | | 84.3 | 183.8 |
| | | | | 48 | 143.5 | | 80.8 | |
| | | | 12 | 0 | 224.3 | | 82.6 | |
| | | | | 5 | 141.2 | | 83.3 | 730.7 |
| 12 | 19 | | | 14 | 224.5 | | | 182.7 |
| | | | X | 24 | 143.0 | | 79.0 | |
| | | | | | | | 81.2 | |

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Sept. 21, 1894

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | 12 | 12 | 33 | 222.0 | | |
| | | | | 42 | 145.0 | | 735.7 |
| 12 | 12 | 53 | | 50 | 219.2 | 74.2 | 183.9 |
| | | | | 56 | 151.0 | | |
| | | | 13 | 4 | 220.5 | 69.5 | |
| | | | | 11 | 143.8 | 71.8 | 732.2 |
| 13 | 22 | | | 18 | 219.3 | 75.5 | 183.0 |
| | | | | 26 | 146.9 | | |
| | | | | 34 | 222.2 | 75.3 | |
| | | | | 40 | 147.9 | 75.4 | 730.9 |
| | | | | 50 | 219.2 | 71.3 | 182.7 |
| 13 | 54 | | | 58 | 147.0 | | |
| | | | 14 | 8 | 216.8 | 69.8 | |
| | | | | 18 | 149.0 | 70.6 | 737.2 |
| | | | | 28 | 219.3 | 70.3 | 184.3 |
| 14 | 32 | | | 34 | 152.1 | 64.7 | |
| | | | | 50 | 216.8 | 67.5 | |
| | | | 15 | 3 | 150.7 | 64.4 | 729.3 |
| | | | | 10 | 215.1 | | 182.3 |
| 15 | 14 | | | 17 | 150.5 | 62.5 | |
| | | | | 24 | 213.0 | 63.4 | |
| | | | | 30 | 154.9 | | 731.6 |
| 15 | 41 | | | 38 | 210.8 | 55.9 | 182.9 |
| | | | | 45 | 155.1 | | |
| | | | | 51 | 210.8 | 55.7 | |
| | | | | 56 | 153.0 | 55.8 | 731.8 |
| 16 | 9 | | 16 | 4 | 213.0 | 60.0 | 182.0 |
| | | | | | | 54.2 | |
| | | | | | | 57.1 | |

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Sept 21, 1894

| | | | | | |
|---|---|---|---|---|---|
| | 16 | 14 | | | |
| 12 | ~~X~~ | ~~58.0~~ | 155.8 | 54.2 | |
| 12 | ~~X~~ | 23 ~~7.0~~ | 210.0 | | |
| | | 29 ~~15.0~~ | 158.9 | | 733.3 |
| | | 35 | | 49.1 | |
| 12 16 40 | | ~~19.0~~ | 208.0 | | 183.3 |
| | | 43 ~~27.0~~ | 159.4 | 47.6 | |
| | | 51 ~~25.0~~ | 207.0 | 48.4 | |
| | 17 | 0 ~~44.0~~ | 157.9 | 49.1 | |
| | | 10 ~~54.5~~ | 207.0 | 44.0 | |
| | ~~X~~ | 18 ~~2.5~~ | 163.5 | 42.2 | |
| | | 26 ~~4.5~~ | 205.2 | 43.1 | |
| | | 32 ~~15.5~~ | 162.1 | 44.1 | |
| | | 40 ~~29.5~~ | 206.2 | 39.7 | |
| | | 50 ~~53.5~~ | 166.5 | 39.2 | |
| | | 56 ~~40.5~~ | 205.7 | 41.6 | |
| | 18 | 5 ~~40.0~~ | 164.1 | 41.7 | |
| | | 14 ~~3.5~~ | 205.8 | 39.8 | |
| | ~~18~~ | 26 ~~10.5~~ | 166.0 | 33.1 | |
| | | 36 ~~20.0~~ | 199.1 | 30.6 | |
| | | 44 ~~26.0~~ | 166.5 | 30.5 | |
| | | 56 ~~40.0~~ | 199.0 | 29.0 | |
| | 19 | 8 ~~5.5~~ | 170.0 | 25.0 | |
| | ~~19~~ | 32 ~~11.5~~ | 195.0 | 23.0 | |
| | | 46 ~~30.5~~ | 172.0 | 22.1 | |
| | 20 | 0 ~~44.5~~ | 194.1 | | |

not seen later.

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Sept. 21, 1874.

Lim - Vrè.

| | | | | | |
|---|---|---|---|---|---|
| 12 | 20 | 28 ~~12.5~~ | 17.1.9 | | 735.8 |
| | | 39 ~~23.0~~ | 195.5 | 23.6 | 184.0 |
| 12 20 50 | | 58 ~~42.0~~ | 172.9 | | |
| | | 14 ~~51.5~~ | 194.5 | 20.6 | |
| | 21 | | | 21.8 | |

Seeing fairly good.

•I

○

II. •III.

IV.

B. + C. 1872.

12 20 51.5

29 51.5

B + C. = 16.5.0 slow.

Ballou 103.

12 29 7.5 6.0

30 7.5 6.0

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Sept. 21, 1894

B & C. 1182

14 18 51.8
14 19 51.7

B & C. = 15.s7 slow.

B 594 (10 3)

14 : 19 : 7.5
14 : 20 : 7.5

Ref. Jup. III. Phot. B. W. obs. Clymer rec.
Comp. with Sat. following = Sat. I.

| | | | | |
|---|---|---|---|---|
| 14 | 41 | 34 | 75.8 | 39.3 Sat. I dis. |
| | | 41 | 115.1 | 43.8 |
| | | 50 | 71.3 | 44.9 |
| | | 57 | 116.2 | 46.4 |
| | 42 | 4 | 69.8 | 46.7 |
| | | 12 | 116.5 | 46.0 |
| | | 18 | 70.5 | 48.7 |
| | | 24 | 119.2 | 48.2 |
| | | 28 | 71.0 | 47.2 |
| | | 35 | 118.2 | 52.2 |
| | | 40 | 66.0 | 59.0 |
| | | 48 | 125.0 | 56.2 |
| | | 54 | 68.8 | 55.2 |
| | 43 | 3 | 124.0 | 58.0 |
| | | 8 | 66.0 | 61.5 |
| | | 15 | 127.5 | 60.5 |
| | | 24 | 67.0 | 57.5 |
| | | 30 | 124.5 | 58.7 |

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1894phae.proj.1335.



Sept. 26, 1894

| | | | | | | |
|---|---|---|---|---|---|---|
| 14 | 43 | 37 | 65.8 | 63.2 | | |
| | | 43 | 129.8 | 67.8 | | |
| | | 50 | 61.2 | 65.0 | | |
| | | 57 | 126.2 | 64.2 | | |
| | 44 | 6 | 62.0 | 66.1 | | |
| | | 14 | 128.6 | 67.9 | | |
| | 44 | 20 | 61.2 | 70.8 | | |
| | | 27 | 131.0 | | | |
| | | 34 | 60.9 | 68.1 | 377.0 | |
| 14 | 44 | 42 | 129.0 | | 94.2 | |
| | | 48 | 56.1 | 74.9 | | |
| | | 54 | 131.0 | 71.5 | | |
| | 45 | 3 | 55.2 | 80.6 | 385.6 | |
| 45 | 14 | 11 | 135.8 | | 96.4 | |
| | 45 | 18 | 59.5 | 75.6 | | |
| | | 25 | 135.1 | 78.1 | | |
| | | 34 | 55.9 | 78.4 | 387.2 | |
| 45 | 52 | 50 | 134.3 | | 96.8 | |
| | | 58 | 58.0 | 81.0 | | |
| | 46 | 7 | 139.0 | 79.7 | | |
| | 46 | 23 | 53.0 | 82.8 | 386.9 | |
| 46 | 37 | 34 | 135.8 | | 96.7 | |
| | | 40 | 59.1 | 79.9 | | |
| | | 50 | 139.0 | 81.4 | | |
| | 47 | 0 | 53.5 | 87.5 | 394.1 | |
| 47 | 14 | 10 | 141.0 | | 98.5 | |
| | 47 | 18 | 49.8 | 91.6 | | |
| | | 28 | 140.6 | 89.6 | | |

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1894phae.proj.1335.



Sept. 21, 1894

| | | | | | | |
|---|---|---|---|---|---|---|
| | 14 | 47 | 38 | 50.9 | | 379.8 |
| | | | 46 | 138.0 | 87.1 | 95.0 |
| 14 | 47 | 51 | 55 | 48.9 | | |
| | | | 5 | 142.0 | 93.1 / 90.1 | |
| | | 48 | 16 | 48.0 | | 381.2 |
| | | | 28 | 143.0 | 95.0 | 95.3 |
| 48 | 41 | | 56 | 46.2 | 95.8 | |
| | | | 4 | 142.0 | 95.4 | |
| | | 49 | 18 | 46.0 | | 381.0 |
| | | | 34 | 145.0 | 99.0 | 95.2 |
| 49 | 42 | | 52 | 47.0 | | |
| | | | 4 | 143.0 | 96.0 / 98.5 | |
| | | 50 | 16 | 45.2 | | 377.5 |
| | | | 28 | 143.1 | 97.9 | 94.4 |
| 50 | 34 | | 36 | 42.3 | | |
| | | | 57 | 146.9 | 104.6 / 101.2 | |
| | | | 4 | 46.0 | | |
| | | 51 | 14 | 145.5 | 99.5 | 387.1 |
| 51 | 19 | | 25 | 45.8 | | 96.8 |
| | | | 34 | 149.8 | 104.0 / 101.8 | |
| | | | 57 | 42.0 | | 376.9 |
| 52 | 16 | 52 | 13 | 148.0 | 106.0 | 94.2 |
| | | | 22 | 42.9 | 101.1 / 103.6 | |
| | | | 31 | 144.0 | | |
| | | | 52 | 41.1 | 107.8 | 383.1 |
| 53 | 4 | | 59 | 148.9 | | 95.8 |
| | | 53 | 6 | 42.0 | 109.1 | |
| | | | 20 | 151.1 | 108.4 | |

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Sept. 21, 1894

| | | | | | | |
|---|---|---|---|---|---|---|
| | 14 | 53 | 32 | 42.0 | | 387.1 |
| | | | 41 | 150.0 | 3 108.0 | 96.8 |
| 14 | 53 | 44 | 48 | 44.2 | | |
| | | | 56 | 150.9 | 106.7 / 107.4 | |
| | | 54 | 4 | 41.3 | 106.9 | 378.1 |
| 54 | 16 | | 10 | 148.2 | | 94.5 |
| | | | 20 | 42.1 | 4 | |
| | | | 28 | 146.5 | 104.4 / 105.6 | |
| | | | 36 | 40.3 | 110.7 | 380.6 |
| 54 | 52 | | 50 | 151.0 | | 95.2 |
| | | | 57 | 44.2 | 5 100.9 | |
| | | 55 | 6 | 145.1 | 105.8 | |
| | | | 14 | 41.0 | 108.8 | 383.5 |
| 55 | 29 | | 26 | 149.8 | | 95.9 |
| | | | 33 | 41.7 | 6 | |
| | | | 42 | 151.0 | 109.3 / 109.0 | |
| | | | 49 | 45.0 | 104.0 | 388.3 |
| | | | 58 | 149.0 | | 97.1 |
| 56 | 1 | 56 | 5 | 43.2 | 7 | |
| | | | 13 | 151.1 | 107.9 / 106.0 | |
| | | | 28 | 41.9 | 112.1 | 383.9 |
| | | | 40 | 154.8 | | 95.9 |
| 56 | 47 | | 55 | 39.8 | 8 | |
| | | 57 | 6 | 148.0 | 108.2 / 110.2 | |

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Sept. 21, 1894.

Lun. Vis.

| | | | | | |
|---|---|---|---|---|---|
| 14 | ~~59~~ 58 | ~~7.5~~ 18 | 84.0 | | 383.1 |
| | ~~58~~ | ~~8.5~~ 24 | 109.8 | 25.8 | 95.8 |
| 14 58 24 | | ~~9.5~~ 38 | 83.0 | | |
| | | ~~4.6~~ 57 | 106.3 | 23.3 | |
| | | | | 24.6 | |

Sat. appeared a little ruddy, images adjusted as soon as possible after sat was noticed, although there was a slight delay at first so that one or two of the very earliest readings were missed. Images a little blurry and lacking in sharpness, satellites boiling somewhat.

B & C 1182.

| | | |
|---|---|---|
| 15 | 30 | 51.0 |
| 15 | 31 | 51.0 |

Ballon 103.

| | | |
|---|---|---|
| 15 | 31 | ~~7.5~~ |
| 15 | 32 | ~~7.5~~ |

B + C. = 16.5 slow.

Ballon 103, at time of above eclipses, was 7.5 secs. slow.

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1894phae.proj.1555.



Sept. 22. 1894.

A. G. C. 26 ℰ 2 v. Fr. obs.

| | | |
|---|---|---|
| 19 | 1 v. | − ℰ ℰ. 6 |
| 19 | ℰ 3 | |
| +0 | 2 ℏ | |

Star not seen. In fact, no stars visible. Star practically on horizon. Sky also seems somewhat hazy in south.

A. G. C. 2 v − 1 v 7. Fr. obs.

| | | |
|---|---|---|
| 18 | 21 | − 29.9 |
| 20 | 3 | |
| +1 | ℰ 2 | |

| | | |
|---|---|---|
| 18 | 13 | − 29.9 |
| 20 | ℰ | |
| +1 | v 1 | |

over.

Transits, on next page.

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Sept. 22. 1894.

Index below,

3 V 2.0 < Both: Less:
17.0 2 V .0
3 V 1.7 2 V .3
17.0 V 0.3 V .3 V

Index above,

A 3.9
10 6.A 22.9
A 3.3
10 V .2 21.9
K K.A V.V V

A 4.2
10 V .1 20.9
A 4.1
10 V .0 20.9
K 1.A V .7 V

Index below,

1 7 3.7
1 9 V .A 22.1
1 7 3.2
1 9 V .0 21.A
K 3.9 V .6 V

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Sept. 22. 1894.

173.0
19v.v 22.v
172.0
196.v 2K.v / K7.0 v.K v

Index Glass.
263.0 2K.0
247.0
263.2
24v.0 21.2 / Kv.2 · v.v

8 29

Companion Star

Obs. made with difficulty. ^
very faint in photometer.

This seems to be the star wanted, as the faint companion precedes primary by 1.v secs. and is about 1.v north.
It also checks by difference from δ Sagittarii.

A. G. C. 2v306.
1f 26 -34.f
20 vf
+2 32

Star invisible. Practically on horizon.
A. G. C. 23K22 and 2KK07 too low for a

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1894phae.proj.1225.



Sept. 22. 1894.

still greater reason.

U Cephei.
Compared with +41° 26. Phot. R.
Gr. obs.

0 30 +41.7

21 1v

−3 1v

Index below.

26 2.v
24 7.9 < Var. Dis.
26 4.0 25.4
24 7.3 23.3
47.2 v 5.3 v

Index above.

3v 1.7
19.0 27.3
3v 0.8
19.8 29.0
v 6.3 v 5.0 v

3v 1.0
19.1 24.1 v
3v 2.7
19.8 26.3
v 4.8 v 5.1 v

9 19

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1894phae.proj.1335.



Sept. 22. 1894.

Index below.

| | | |
|---|---|---|
| 24.0 | | |
| 107.7 | 23.7 | |
| 23.9 | | |
| 106.1 | 22.2 / 25.9 | v v.v |
| 23.1 | 23.2 | |
| 106.9 | | |
| 24.0 | 23.9 / 27.7 | v v.4 |
| 107.9 | | |

Index above.

| | | |
|---|---|---|
| 173.0 | | |
| 194.9 | 25.9 | |
| 170.9 | | |
| 194.0 | 27.1 / 23.0 | v v.1 |

9 41

Expts. on ζ Lyrae and 11 magn. comp. with Plat. R. to see if there is any relative equation to the precision before and after reversals.

Gr. obs.

Results on next page, &c. ff.

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Sept. 22. 1894.

Image of bright companion does not disappear only at times, and there are several other images in field. Comp. very faint.

Exp. Pts. on Polaris in same manner. Tr. Obs.

| | | |
|---|---|---|
| 1 | 21 | +0A.7 |
| 22 | 40 | |
| −2 | +1 | |

Index above.

| | | |
|---|---|---|
| 91.7 | | < Polaris dis. |
| 96.9 | V.2 | |
| 92.0 | | |
| 96.0 | +.0 | |
| | 9.2 v | 9.0 v |

10 20

Index below.

| | | |
|---|---|---|
| 1A2.0 | | |
| 1A6.2 | +.2 | |
| 1A1.9 | V.1 | |
| 1A7.0 | 9.3 v | 9.0 v |

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Sept. 22. 1894

184.7
187.0 V.3
182.1
186.1 4.0
9.3 V 9.0 V

Index above.

272.0
276.7 4.7
271.9 V.1
277.0 9.8 V 4.4 V

272.0
276.9 4.9
272.0 4.0
276.0 4.9 V 9.1 V

Index below.

1. V
6.1 4.6
1. V
6.9 V.4
10.0 V 4.4 V

1.4
7.0 V.6
2.0
6.2 4.2
9.4 V 4.4 V

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Sept. 22. 1894.

Index above.

92.0
96.1 4.1
91.2 .6
96.8 9.7 4.9

91.1 .2
96.7
92.0 4.1
96.1 9.3 9.0

Index below.

101.2
106.1 .3
101.3 .6
106.9 10.9 4.6

101.9 .1
107.0
102.0 4.3
106.3 9.4 4.9

Index above.

272.0 4.0
276.0
272.0 4.0
276.0 8.0 9.3

11 3

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Sept. 24, 1894

A. G. C. 26[illegible]-6 Hr. obs.

| | | |
|---|---|---|
| 19 | 17 | -[illegible]6 |
| 19 | [illegible]7 | |
| +0 | 32 | |

No star visible in finder and only one in large telescope, at this altitude.

A. G. C. 2717. Hr. obs.

| | | |
|---|---|---|
| 18 | 13 | -29.9 |
| 19 | 17-6 | |
| +1 | 23 | |

~~Large~~ Lucky Nova.

260.8 < Brt. dis.
247.9
262.9 27.1
247.1 24.2
15.3 2.2

7 41

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Sept. 24. 1894

Index below.

3v 7.0 19.8
16.8

3v 2.7 23.3
16.6 K3.1 v .6

3v 2.7 24.2
16.9

3v 3.2 23.6
16.4 K7.4 v.4

Index above.

A1.0 2v.1
106.1

A2.1 24.0
106.1 K9.1 v.3

A2.2 24.4
107.0

A3.0 23.0
106.0 K7.4 v.4

Index below.

Clouds.
Not invisible.

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Sept. 24, 1894
Index below.

1732

July 14, 1894 —
Oct. 20, 1894

A 19

A [illegible] Lt. No.

1 [illegible]
2 [illegible]

No star [illegible] ally on horizon

17 [illegible]
21 00
+ 3 8

17 52
21 06
+ 3 14

Star found and companion seen.,
but companion is so close ~~that~~

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Sept. 24, 1894.
Index below.

A 19

173.2
196.0 22.8
172.0 24.0
196.0 46.8 V.F

A. G. C. 2 V 306. H. Rh.

14 26 -30.2
20 V 2
+2 26

No stars visible, practically on horizon

A. G. C. 24407

17 52 -30.2
21 00
+3 8

17 52
21 06
+3 14

Star found and companion seen.,
but companion is so close ~~that~~

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Sept. 24, 1894.

and discs are so large, on account of low alt. and cloud, that it is impossible to measure it or even see it.

A. G. C. 23422. W obs.

| | | |
|---|---|---|
| 17 | 12 | -34.9 |
| 21 | 18 | |
| 4 | 6 | |

Below horizon.

ν Cephei. W obs.
Comp. with 81° 26 Phot. R.

| | | |
|---|---|---|
| 0 | 30 | +81.7 |
| 21 | 21 | |
| -3 | 9 | |

| | |
|---|---|
| 0 | 30 |
| 21 | 26 |
| -3 | 2 |

left and
Index / below

83.8 < Var. dia 24.0
107.8
83.7
107.1

23.4
47.4 ✓ .4

9 4 34

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Sept. 24, 1894.

Index rt. and above.

| | | |
|---|---|---|
| 170.9 | | |
| 199.2 | 28.3 | |
| 171.3 | 26.9 | |
| 198.2 | 55.2 | V.0 |

| | | |
|---|---|---|
| 171.1 | | |
| 199.3 | 28.2 | |
| 171.2 | 28.1 | |
| 199.3 | 56.3 | V.0 |

Index left and below

| | | |
|---|---|---|
| 264.3 | | |
| 287.1 | 22.8 | |
| 262.1 | | |
| 288.7 | 26.6 | |
| | 49.4 | V.3 |

| | | |
|---|---|---|
| 262.9 | | |
| 288.0 | 25.1 | |
| 263.0 | 24.0 | |
| 287.0 | 49.1 | V.3 |

Index rt. and above

| | | |
|---|---|---|
| 351.0 | | |
| 19.5 | 28.5 | |
| 350.4 | 29.5 | |
| 19.9 | 58.0 | V.9 |

9 16 40

Mr. Waite's watch (which was used in obs.) was 14.5 fast of Ballou 103. and Ballou was 0.2 sec. slow.
∴ Mr. Waite's watch was 14.3 secs. fast of Eastern time.

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Sept. 24. 1894.

0 Cete. Phot. R. Gr. obs.

2 4 −2.°r

22 1r

−3 Kg

2r 26

−3 3A

Index right + above.

149.r

21A.r < Var. dis.

10 6 144.K 69.0

220.0 71.6

140.6 −0.76

Index left + below

23A.1 74.A

312.9

239.0 74.9

313.9 149.7 0.5-8

2K3.0

30A.A

1894phae.proj.1335.



Sept. 24. 1894.

239.A
311.K 71.6
239.V
304.7 69.2 / 140.4 ~~=A~~ -0.76

Ludex right + above.

324.1
41.V 77.K
325.V
42.1 76.6 / 154.0 ~~=V~~ -0.50

~~37~~ 9.A
~~4~~ 0.1

330.1
34.7 62.6
326.3
44.2 77.9 / 146.5 ~~=6~~ -0.64

Ludex left + below.

~~37~~ K.V
~~16~~.0 wrong index dir.

61.1
10 36 126.0 64.9
58.9
124.7 69.4 / 134.7 ~~=9~~ -0.88

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Sept. 24. 1894.

Expts, with Phot. R. for focus, first of one set of images on Alcyone and adjacent stars, and then on other images of same.

H. Obs.

Index below.

Pinion 27.4
29.7
23.6
23.9
24.0
23.3
29.5
24.0
27.5
29.9
26.32

~~Inst~~ Index below. Other images.

24.0
25.6
18.0
21.0
23.5
20.0
20.0
18.4
18.0
18.3
20.12

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Sept. 24. 1894.

Index above. Same images.

22.1
16.1
23.0
21.1
17.2
21.0
22.1
18.0
20.4
17.9

20.73

Index above. 1st images.

23.0
21.9
20.2
24.1
17.7
29.7
24.1
26.0
23.0
27.0

11 17

25.67

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1894phae.proj.1335.



Sept. 25, 1894

M. S. C. 2ᵛ 1ᵛ 7.

Fr. obs.

18 13 −29.9

20 19

+2 6

Clouds.

261.5 Clouds.

259.5 Index above and to rt.

8 2 30 287.0 < Bute dia.

266.0 27.1

285.3 19.3

K6.4 V.K

Index left and below.

353.9 21.6

8 4 35 15.5

353.8 21.2

15.0 K2.2 V.6

~~Index rt. and above.~~

353.8

8 5 31 15.5 21.7

354.0 21.0

15.0 K2.7 V.6

Index rt. and above.

83.9 22.2

8 6 34 106.1

Bals of set on next page.

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Sept. 25, 1894.

84.1
107.0 22.9
Kr. 1 v. r

83.2
8 7 22 107.5 2K.3
83.9 21.9
105.8 K6.2 v. K

Index left and below.

175.0
8 8 19 195.0 20.0
173.0 22.0
195.0 K2.0 v. 7

Some clouds at time of observation, but stars pretty well seen.

A. G. C. 24407.

17 53 -30.2 W obs.
20 48
+2 55

8 15 Clouds, no stars visible.
Region very low.

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1894phae.proj.1335.



Sept. 25, 1894.

A. G. C. 25306. W. sta.

| | | |
|---|---|---|
| 18 | 26 | −38.8 |
| 20 | 53 | |
| +2 | 29 | |

8 20 Below horizon. all cloudy

α. Cephei. W. sta.

| | | |
|---|---|---|
| 0 | 30 | +81.7 |
| 21 | 00 | |
| −3 | 30 | |

Clouds.

Index to st. and above.

| | | |
|---|---|---|
| | 175.1 | < var. dia. |
| 8 35 32 | 196.0 | 20.9 |
| | 177.0 | 18.0 |
| | 195.0 | 38.9 |

S.A

Index to left and below.

| | | |
|---|---|---|
| | 267.0 | 16.8 |
| 8 40 54 | 283.8 | |
| | 266.2 | Clouds. |
| | 284.1 | 17.9 |
| | | 34.7 |

6.1

| | | |
|---|---|---|
| | 267.2 | |
| 8 44 9 | 283.0 | 15.8 |

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1894phae.proj.1935



Sept, 25, 1894.

9 15 Cloudy all the time.
More clouds still coming.

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Sept. 26. 1894.

Generally cloudy. Too cloudy for Southern Stars.

A few stars visible.

Expts. with Phot. L. in order to determine what effect focus on the different images will have (if any) on results of light of objects.

7 15 Let on star in the west where is a partially clear space.

All cloudy again.

10.0
27.0
All cloudy again.

When it is a little clear in spots for a moment, there is so much ~~thin~~ feathery cloud, that focus cannot be obtained with any certainty.

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1894phot. proj. 1895.

Sept. 27, 1894.

A. G. C. 25306. Gr. obs.

| | | |
|---|---|---|
| 18 | 26 | −3.2 |
| 19 | 26 | |
| +1 | 30 | |

Too low.

A. G. C. 25407. Gr. obs.

| | | |
|---|---|---|
| 17 | 23 | −30.2 |
| 20 | 2 | |
| +2 | 9 | |

Cloudy.

Index to right and ~~above~~ below

| | | | |
|---|---|---|---|
| 34 H. 1 | | | |
| 25.9 | ← bntr. dia. | | |
| 340.7 | | K 1.2 | |
| 25.0 | | K 3 | |
| | | 6.1 | K 0 |

Index to left and above

| | | |
|---|---|---|
| 69.1 | K 1.7 | |
| 110.8 | | |
| 70.0 | K 9.2 | |
| 119.2 | 90.9 | 3.9 |

| | | |
|---|---|---|
| 68.6 | K 9.4 | |
| 118.0 | K 0.8 | |
| 74.2 | 90.2 | 3.9 |

Cobwebs from eyepiece

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Sept. 27. 1894.

115.0

Index to right and below

160.9
206.0 KK.1
161.2 KK.0
206.2 90.1 3.9

160.2
205.4 KK.2
163.0
207.0 KK.0 89.2 3.9

Index to left and above

251.7
296.3 KK.6
248.9 ~~KK.0~~
~~249.9~~ ~~90.6~~ ~~3.4~~ 299.9 prob.

KK.K
298.3 9K.0 3.A

7 55 15

This is the same star observed on Sept. Position angle 120°: distance 7". Star rather low: measurement rather difficult from low altitude and rather poor seeing at times.

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Sept. 27, 1894.

U Cephei. Sp. obs.

| | | |
|---|---|---|
| ~~0~~ 24 | 30 | +21,7 |
| 21. | 2 | |
| −3 | 28 | |

Index below.

8 35 15

86.0 − 18.1 < var. Lis.
104.1
86.9 −17.1
104.0 −35.2 6.1

Index above.

8 40 20

175.2
~~+96.0~~ 194.0 18.4
175.1
196.0 20.9
39.7 V.A

176.0
8 42 V0. 195.2 19.2
176.0 19.0
195.0 38.2 V.9

Index below.

8 45 10

267.5
~~283.7~~ 285.0 17.V
267.0
284.7 17.7
35.2 6.1

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Sept. 27. 1894.

| | | | |
|---|---|---|---|
| | 266.5 | 18.1 | |
| | 284.6 | | |
| A Kj vv. | 266.5 | 17.v | |
| | 284.0 | 35.6 | 6.0 |

Index above.

| | | | |
|---|---|---|---|
| | 356.0 | 19.0 | |
| 8 50 45 | 15.0 | | |
| | 354.1 | 20.A | |
| | 14.9 | 39.A | v.A |

| | | | |
|---|---|---|---|
| | 354.2 | 21.8 | |
| 8 53 30 | 16.0 | | |
| | 356.2 | 18.0 | |
| | 14.2 | 39.8 | v.8 |

Index below.

| | | | |
|---|---|---|---|
| | 87.0 | 17.0 | |
| 8 55 10 | 104.0 | | |
| | 85.8 | 19.2 | |
| | 105.0 | 36.2 | 6.0 |

| | | | |
|---|---|---|---|
| | 86.8 | 17.2 | |
| 8 57 0 | 104.0 | | |
| | 87.5 | 17.5 | |
| | 105.0 | 34.7 | 6.1 |

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Sept. 27. 1894.

Index above.

| | | | |
|---|---|---|---|
| | 176.2 | 18.5 | |
| 8 59 40 | 194.7 | | |
| | 176.0 | 18.1 | |
| | 194.1 | 36.6 | 6.0 |
| | 174.5 | 21.5 | |
| 9 2 55 | 196.0 | | |
| | 176.2 | 19.6 | |
| | 195.8 | 41.1 | 5.7 |

Index below.

| | | | |
|---|---|---|---|
| | 267.0 | 17.1 | |
| 9 6 5 | 284.1 | | |
| | 265.7 | 18.3 | |
| | 284.0 | 35.4 | 6.0 |

Expts. in order to see what effect different foci of large telescope has on the different images of Rhot. R. in light meats. W. obs.

Focus of large telescope on first image. 24.5
image extinguished.

| | | |
|---|---|---|
| | 26.0 | |
| | 28.0 | |
| | 27.8 | |
| | 27.2 | 37.0 |
| 9 3 3 | 28.0 | 55.0 |

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Sept. 27. 1894.

1st ½ mags extinguished 1st ½ mags extinguished

Focus of large telescope on second image.

~~24.8~~ ~~Prof~~ Prof. Hall resp.

31.9

32.9

33.0

9 36 33.8

29.9

11.5

32.30

Focus at 24.0

50.8

137.0

9 49 Clouds.

Focus at 27.0

Focus at 30.0

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Sept. 27. 1894.

Focus at 33.0

Focus at 36.0

Stopped by clouds: sky thickly clouded
10 25 no stars visible.

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Sept. 24. 1894

A. B. C. 24407. Fr. obs.

~~20 V~~

17 V-3 -30.2
20 K
+2 11

Index to left and above.

251.0 ∠ knk dis.
7 23 30 291.6 K0.6
250.0 K4.6
298.6 ∠9.2 3.9

Index to right and below.

339.0 K9.1
7 27 0 28.1
341.7 K V.V
27.2 9K.6 3.A

342.2
7 29 30 24.8 K2.6
339.8
28.5 K4.7 / 91.3 3.9

Index to left and above.

71.8 K3.2
7 33 50 115.0
70.5 K6.V
117.0 ∠9.7 3.9

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Sept. 28, 1894.

| | | | | | |
|---|---|---|---|---|---|
| | | | 71.6 | | |
| 7 | 36 | 53 | 117.0 | Kr. 4 | |
| | | | 69.9 | Kr. 3 | |
| | | | 115.2 | 90.7 | 3.9 |

Index to right and below.

| | | | | | |
|---|---|---|---|---|---|
| 7 | 40 | 30 | 157.7 | Kr. 1 | |
| | | | 211.8 | | |
| | | | 159.4 | Kr. 2 | |
| | | | 208.2 | 102.9 | 3.6 |

Images quite blurry at times so that observer had to wait until images became somewhat better before making settings.

Recorder by mistake used pen in recording sets although it is the original record made at the time of observation.

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Sept. 24. 1894.

Wm. P. Kk1. = 62° 96. Fr. obs.

| | | |
|---|---|---|
| 3 | 3 ~ | +62.9 |
| 20 | √ √ | |
| −6 | 37 | |
| 1 ~ | | |
| √ | 23 | |

Compared with D. M. +62° 594

Index ~~to right and~~ ~~left~~ below.

| | | |
|---|---|---|
| 337.0 | 2 var. dis. | |
| 33.1 | | |
| 344.8 | √6.1 | |
| 26.6 | K1.2 | |
| | 27.9 ~~3.7~~ | −1.71 |
| | ~~26.1~~ ~~0.3~~ | |

8 30 30

Index ~~to right and~~ above.

| | | |
|---|---|---|
| 74.2 | K1.9 | |
| 116.1 | | |
| ~~68.7~~ | 69.9 | |
| 120.4 | √0.√ | |
| | 92.K ~~3.9~~ | −1.55 |
| | ~~67.6~~ ~~0.1~~ | |

8 35 0

| | | |
|---|---|---|
| 69.4 | KA.1 | |
| 117.5 | | |
| 75.0 | | |
| 114.5 | 39.√ | |
| | 27.6 ~~4.0~~ | |
| | ~~27 2.4~~ ~~0.0~~ | −1.9F |

8 38 47

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Sept. 28. 1894.

Index below.

| | | | | |
|---|---|---|---|---|
| | 164.1 | | | |
| 8 43 0 | 204.8 | | | |
| | 159.1 | | | |
| | 210.7 | 92.3 | 3.9 | −1.85 |
| | | ~~207.7~~ | 0.1 | |
| | 158.8 | | | |
| 8 46 27 | 209.8 | | | |
| | 165.1 | 90.1 | 3.9 | −1.91 |
| | 204.2 | ~~269.9~~ | 0.1 | |

Index above.

| | | | | |
|---|---|---|---|---|
| | 255.2 | | | |
| 8 50 24 | ~~296.1~~ | 296.5 | | |
| | 250.2 | | | |
| ~~8 40 7~~ | 300.1 | 91.2 | 3.9 | −1.85 |
| 8 40 41 | | ~~266.4~~ | 0.1 | |

Mean = −1.86

Expts. in order to see what effect different foci of large telescope has on the different images of Plat. R, in light meats.

Foci of large telescope on 1st ci. image.
(2d ci. image badly extinguished.)

| | |
|---|---|
| | 28.5 |
| | 30.0 |
| | 30.0 |
| | 27.0 |
| 9 13 | 25.0 |
| | 40.5 |
| | 28.10 |

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Sept. 28, 1894.

Focus of large telescope on second image:
1st extinguished.

26.2
25.1
27.9
23.3
9 15 13 24.8
27.3
2V.6

Focus at ~~22.0~~ 26.4
55.1 Index to left.
133.5 < right image dis.
57.5 78.4
135.1 77.6
156.0 ✓ 2.✓
9 36 35

Focus at. ~~22.0~~ 23.4
61.1
133.7 72.6
~~55.7~~ 54.0
135.0 18.0
153.6 2.✓

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Sept. 28, 1894.

Focus at ~~28.0~~ 20.2

54.8
131.7 76.9

52.5
132.3 79.8
156.7 ν 2.4

Focus at ~~31.0~~ 29.2

53.7 ~~40.7~~ 40.7
134.4

51.4 ~~43.7~~
~~135.0~~ 135.1 168.8 ν 2.3

~~4~~

Focus at 32.2

56.1
134.7 78.6

53.1
134.0 80.9
159.5 ν 2.4

9 50 30

In all the settings in the above five sets, the right hand image was made to disappear and neither the position of images or focus was changed.

The star used was ν to 6 mags.

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Sept. 26. 1894.

Nova Aurigæ. Obs.

29
K 23 +32.0
22 V V
−6 −2 A
V 32

Too low and too much fog.
Regions found but class too faint
in photometer.

α Cet. Obs.

26
2 K −2, V
23 5
−3 1

26 K
23 ···· 12
−2 V 2
9 A

26 K
23 −30
− 2 3K
9 26

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Sept. 28. 1894.

Index to left and below.

10 55 25

234.0 < var. dis.
313.5 79.5
240.8 67.1
307.9 146.6 ~~2.6~~ ✓ -0.64

Index right and above.

329.7 ≡
40.5 70.8
321.9 ∝ 6.3
48.2 (=7.1 ~~2.6~~ ✓ -0.44

323.2
43.0 79.8
328.9 70.9
39.8 (=0.7 ~~2.6~~ ✓ -0.56

Index to left and ~~above~~ below

64.7
126.9 62.2
54.7
134.5 72.8 (=2.0 ~~2.7~~ ✓ -0.73

55.9
133.9 74.0
61.2
124.9 63.7 (=1.7 ~~2.7~~ ✓ -0.74

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1894phae.proj.1335.



Sept. 28. 1894.

Index to right and above.

11 8 40

| | | | | |
|---|---|---|---|---|
| 150.3 | | | | |
| 218.0 | | 67.7 | | |
| 144.0 | | | | |
| ~~223.7~~ | 224.5 | $\frac{20.5}{1K4.2}$ | ~~2.6~~ ✓ | -0.62 |

Stars rather dim and observation somewhat difficult on account of fog.

Watch used in settings to night is 23 secs. fast.

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1894phae.proj.1335.



Sept. 29. 1894.

U Cephei. Gr. Mn.

24
0 30 +4.17
20 22
-4 8

Index to left and below.

261.5
7 38 0 287.8 < var. dis.
26.3
266.6
284.8 18.2
KK. ✓ ✓ V. V ✓

Index to right and above.

355.0
20.2
7 40 28 15.2
351.1 27.9
19.0 Kα. 1 ✓ V. 4 ✓

351.4
27.7
7 43 45 19.1
354.8 21.2
16.0 Kα. 9 ✓ V. 3 ✓

Index to left and below.

87.4
16.0
7 46 32 103.4
84.0 23.2
107.2 3 p. 2 ✓ V. 4 ✓

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Sept. 29. 1894.

| | | | | |
|---|---|---|---|---|
| | | 83.4 | 24.1 | |
| 7 | 48 | 48 | 107.5 | |
| | | | 87.0 | |
| | | | 103.7 | 16.7 / 40.8 ✓ v.7 ✓ |

Index to right and above.

| | | | | |
|---|---|---|---|---|
| | | | 176.0 | 19.0 |
| 7 | 52 | 56 | 195.0 | |
| | | | 171.0 | 24.6 |
| | | | 199.6 | 47.6 ✓ v.4 ✓ |

| | | | | |
|---|---|---|---|---|
| | | | 171.2 | 24.1 |
| 7 | 56 | 7 | 199.3 | |
| | | | 175.8 | 20.0 |
| | | | 195.8 | 44.1 ✓ v.4 ✓ |

Index to left and below.

| | | | | |
|---|---|---|---|---|
| | | | 267.0 | 17.9 |
| 7 | 58 | 42 | 284.9 | |
| | | | 261.9 | 26.0 |
| | | | 287.9 | 43.9 ✓ v.6 ✓ |

| | | | | |
|---|---|---|---|---|
| | | | 263.0 | 25.1 |
| 8 | 0 | 21 | 288.1 | |
| | | | 266.1 | 14.0 |
| | | | 284.1 | 43.1 ✓ v.6 ✓ |

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- Sept. 29. 1894.

Index to right and above.

| | | | | |
|---|---|---|---|---|
| | | 355.0 | 21.1 | |
| 8 | 3 | 2 | 16.1 | |
| | | 350.9 | 29.2 | |
| | | 20.1 | √0.8 ✓ | √.3 ✓ |

| | | | | |
|---|---|---|---|---|
| | | 350.7 | 29.3 | |
| 8 | 5 | 17 | 20.0 | |
| | | 354.0 | 23.2 | |
| | | 17.2 | √2.5 ✓ | √.2 ✓ |

Index to left and below.

| | | | | |
|---|---|---|---|---|
| | | 86.1 | 14.1 | |
| 8 | 7 | 11 | 104.2 | |
| | | 83.0 | 24.7 | |
| | | 107.7 | √2.4 ✓ | √.6 ✓ |

M. P. 661. Gr. obs.

| | | | |
|---|---|---|---|
| 27 | | | |
| 3 | 32 | +62.9 | |
| 21 | 102 | | |
| ~~-9~~ | ~~28~~ | | |
| -6 | 20 | | |

Compared with D. M. +62° 594

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1894phae.proj.1825.

Sept. 29, 1894.

Index to left and above.

| | | | |
|---|---|---|---|
| | 124.9 | ∠ 59H dis. | |
| 8 37 27 | 24H.2 | 119.3 | |
| | 115.8 | 134.3 | |
| | 25H.1 | 257.6 ✓ | ~~0.4~~ ✓ |
| | | 102.4 | -1.60 |

Index to right and below.

| | | | |
|---|---|---|---|
| | 205.8 | | |
| 8 44 10 | ~~345.0~~ | 134.0 | |
| | 343.8 | | |
| | 214.0 | 122.6 | |
| | 336.6 | 260.6 ✓ | ~~0.3~~ ✓ |
| | | 99.4 | -1.67 |

| | | | |
|---|---|---|---|
| | 214.0 | 124.0 | |
| 8 50 13 | 338.0 | | |
| | 206.5 | 132.5 | |
| | 345.0 | 262.5 ✓ | ~~0.3~~ ✓ |
| | | 97.5 | -1.72 |

Index to left and above.

| | | | |
|---|---|---|---|
| | 114.3 | 140.4 | |
| 8 55 33 | 254.7 | | |
| | 122.3 | 124.3 | |
| | 246.6 | 264.7 ✓ | ~~0.2~~ ✓ |
| | | 95.3 | -1.77 |

| | | | |
|---|---|---|---|
| | 121.9 | 123.9 | |
| 9 0 35 | 245.8 | | |
| | 115.1 | 139.0 | |
| | 254.1 | 262.9 ✓ | ~~0.3~~ ✓ |
| | | 97.1 | -1.73 |

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1894phae.proj.1335



Sept. 29. 1894.

Index to right and below.

| | | |
|---|---|---|
| 25.5 | 139.0 | Var. est. 2.0 gr. brtr. than v-90, in finder; and 3.v brtr in lar. tel. |
| 164.5 | | |
| 33.0 | | |
| ~~156.1~~ | 124.0 | |
| 157.0 | 2630 ✓ | ~~0.3~~ ✓ |
| | ~~97.0~~ | -1.73 |

9 7 5
8 52 30

on 2 ~~d~~ magn slgr

Expts. in order to see what effect different foci of large telescope have on the different images of Phot. R. in light meas'ts.

W. obs.

Focus of large telescope on 1st image: 2nd being extinguished.

| | |
|---|---|
| 16.4 | |
| 13.9 | |
| 12.3 | |
| 13.0 | |
| 14.9 | |
| 20.v | 14.10 ✓ |

9 53

Focus of large telescope on second image: 1st extinguished.

| | |
|---|---|
| 14.2 | |
| 13.1 | |
| 17.4 | |
| 11.9 | |
| 19.4 | |
| 26.0 | 15.20 ✓ |

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1894phae.proj.1225.

Sept. 29. 1894.

Focus set at 4.6

235.7 < right-hand image disappears.
318.9 Δ 3.2 ✓
233.0
315.9 Δ 2.9 / 166.1 ✓ 2.3 ✓

Focus at 11.6

236.2 Δ 4.0
314.2
236.1
314.7 Δ 4.6 / 166.6 ✓ 2.4 ✓

Focus at 14.6

232.0 Δ 2.9
314.9
234.0
313.0 Δ 2.0 / 161.9 ✓ 2.3 ✓

Focus at 17.6

236.1
313.4 Δ 3.3
232.2
313.8 Δ 1.6 / 154.9 ✓ 2.4 ✓

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1894phae.proj.1335



Sept. 29, 1894.

Focus at 20.6

234.0 A1.2
315.2
233.7 A0.K
314.1 161.6 ✓ 2.4

10 14

Stars somewhat dimmer in last set on account of increasing fog.

Σ 401. Fr. obs.

27
3 2K +27.1
23. 15
4 9

Position angle 70° : distance 10" : magnitudes 6.5 : 7.0

45.5
10 30 25 142.2
40.5
146.8

Index to left and below.

Stars have entirely disappeared in fog. Watch used this morning 28 sec. slow.

Reject above last set. Obs. through clouds. Object indistinct. Observations could not be finished.

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1894phae.proj.1335.

Oct. 1. 1894.

Examination of C. D. M. −27° 13151 to see if there is any thing peculiar about it.

| | | |
|---|---|---|
| 1h | 37 | −24.0 |
| 20 | 14 | |
| +1 | ~~22~~ | |
| | 38 | |

| | |
|---|---|
| 1h | 37 |
| 20 | 17 |
| 21 | 40 |

| | | |
|---|---|---|
| 1h | 37 | −24.4 |
| 20 | 20 | |
| +1 | 43 | |

The 9.6 mag. precedes 9.0 mag. 1 m. 9.5 s. and is 3' south of it. The 9.9 mag. precedes 9.6 mag. 3.5 s. and is 3' south of it. A very faint star precedes 9.6 mag. 10 s. and is very slightly north of it. A faint star is some 1.5' north of 9.6 mag. and in about the same R.A. A faint star precedes 9.6 mag. 5 s. and is 5' north of it.

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1894phae.proj.1335.



Oct. 6. 1894.

The star ~~fro. the 9.6~~ in same R.A. as the 9.6 and 1' north of it, looks like a planetary nebula but it is so faint that observer cannot be sure of it. Neither the 9.6, 9.8 or any of the other stars look planetary.

## U Cephei

$^{2}\delta$ 30 +81.7

~~23 47~~

~~43~~

21 V-4

-2 32

Orders above.

170.1 ∠ var. dis.

9 8 30 199.0 24.9

171.0 24.9

199.9 V-7.4 K.9

Orders below.

260.8 29.V

9 10 33 290.3

261.0 24.2

289.2 V-7.7 K.9

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1894phae.proj.1335.



Oct. 1. 1894.

| | | | | | |
|---|---|---|---|---|---|
| | | | 261.1 | 27.4 | |
| 9 | 13 | 15 | 288.9 | | |
| | | | 262.5 | 28.4 | |
| | | | 290.9 | ∨6.2 | ∨.0 |

Index above.

| | | | | | |
|---|---|---|---|---|---|
| | | | 351.0 | 28.9 | |
| 9 | 16 | 39 | 19.9 | | |
| | | | 349.8 | 30.2 | |
| | | | 20.0 | ∨9.1 | 4.9 |

| | | | | | |
|---|---|---|---|---|---|
| | | | 350.7 | 29.3 | |
| 9 | 18 | 36 | 20.0 | | |
| | | | 350.0 | 30.0 | |
| | | | 20.0 | ∨9.3 | 4.9 |

Index below.

| | | | | | |
|---|---|---|---|---|---|
| | | | 82.6 | 26∨ | |
| 9 | 20 | 52 | 109.1 | | |
| | | | 81.9 | 27.2 | |
| | | | 109.1 | ∨3.7 | ∨.1 |

Expts. in order to see what effect Different Lens of large telescope have on the Phot. R. in light nearts.

W. 1 hr.

Focus of large telescope on ~~+ 2 mag~~ bright star : 2 ~~wd~~. being extinguished.

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Oct. 1, 1894.

9 29

32.0
34.8
37.0
43.0
33.8
33.0
33.6 3v.60

Focus of large telescope on faint star: bright star being extinguished.

27.8
31.2
11.2
15.2
12.1
9 37 16.0
113.v 18.92

3v.60
18.92
3/ve.v2
27.26

Focus at 21.3

9 47 10 bands.

10 4 Order below

80.4 < var. dis.
110.2 29.v
80.9 29.f
110.7 v9.3 4.9

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1894phae.proj.1335.



Oct. 1. 1894.

Focus at 24.3

10 6

82.3
108.0 2V.7
83.1 2V.7
108.8 V1.F V.2

Focus at 27.3

10 9

82.2
108.0 2V.8
83.2 2V.3
108.5 V1.1 V.2

Focus at 30.3

10 12

82.0
108.0 26.0
~~84.0~~
83.2 2V.8
108.0 V0.8 V.2

Focus at 33.3

10 14

82.1
107.8 2V.7
82.9 2V.9
108.8 V1.6 V.2

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1894phae.proj.1335.



Oct. 1. 1894.

Double images frozen record.

Focus at 21.3

10 18

169.0
~~201.8~~ ~ var. dis.
201.3 32.3
171.0 29.0
200.0 61.3 ±.2

Focus at 24.3

10 21

169.2 31.4
201.0
167.9 34.0
201.9 65.4 ±.6

Focus at 27.3

10 23

168.1 33.9
202.0
168.4 33.1
~~200.5~~ 67.0 ±.6
201.5

Focus at 30.3

10 27

169.9 31.1
201.0
169.0 32.3
201.3 63.4 ±.7

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1894phae.proj.1335.



Oct. 1. 1894.

10 29 Focus at 33.3

168.5
202.9 34.4

169.0
201.9 32.9 / 67.3 4.6

10 31

Regular set on U. Ophiuchi with focus at 27.3 Gr. Sid.

Index above.

168.2 < var. dis.
10 42 48 202.0 33.8

169.1
201.8 32.7 / 66.5 4.6

Index below.

261.0
10 45 9 290.1 29.1

262.0
289.5 27.5 / 6.6 V=0

262.0
10 48 2 289.5 27.5

260.9
289.5 28.6 / 6.1 V=0

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1894phae.proj.1335.



Oct. 1. 1894 H.

Index above.

| | | | | | |
|---|---|---|---|---|---|
| | | | 348.5 | | |
| | | | 22.9 | 34.4 | |
| 10 | 50 | 35 | | | |
| | | | 349.5 | 31.5 | |
| | | | 21.0 | 67.9 | 4.6 |
| | | | 349.0 | | |
| | | | 21.6 | 32.6 | |
| 10 | 54 | 4 | | | |
| | | | 347.9 | 34.5 | |
| | | | 22.4 | 67.1 | 4.6 |

Index below.

| | | | | | |
|---|---|---|---|---|---|
| | | | 81.9 | 27.5 | |
| | | | 109.4 | | |
| 10 | 57 | 10 | | | |
| | | | 82.0 | 26.2 | |
| | | | 108.2 | 53.7 | .1 |
| 11 | 0 | 0 | | | |

B & C 1182 — Ballou 103.

| | | | | | |
|---|---|---|---|---|---|
| 11 | 57 | 35.2 | 11 | 57 | 0.0 |
| 11 | 58 | 35.2 | 11 | 58 | 00 |

B + C. = 35$^s$ fast.

Klinkerfues Jupr. I. Phot. R. Nichols. Clymer rec.
Comp. with 1st sat fall. = Sat II.

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Oct. 1, 1894

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | 12 | 4 | 22 ~~57.0~~ | 57.5 | | 382.1 |
| 12 | 4 | 48 | | 39 ~~11.5~~ | 135.5 | 78.0 | 95.5 |
| | | | | 56 ~~31.0~~ | 55.0 | 79.1 | |
| | | | 5 | 13 ~~48.0~~ | 134.1 | 78.6 | |
| | | | | 25 ~~59.5~~ | 57.0 | | 379.4 |
| | 5 | 47 | | 41 ~~16.5~~ | 134.0 | 77.0 | 94.8 |
| | | | | 54 29.0 | 53.2 2 | 82.0 | |
| | | | 6 | 9 ~~44.0~~ | 135.2 | ~~79.5~~ | |
| | | | | 19 ~~54.5~~ | 54.4 | 80.6 | 380.4 |
| | 6 | 37 | | 33 ~~7.5~~ | 135.0 | | 95.1 |
| | | | | 44 ~~19.0~~ | 53.8 3 | 83.4 | |
| | | | | 53 ~~27.5~~ | 137.2 | 82.0 | |
| | | | 7 | 3 ~~87.5~~ | 52.1 | | 381.1 |
| | 7 | 25 | | 19 ~~54.0~~ | 137.3 | 85.2 | 95.3 |
| | | | | 33 ~~8.0~~ | 57.7 4 | 76.3 | |
| | | | | 45 ~~60.5~~ | 134.0 | 80.8 | |
| | | | | 55 ~~29.5~~ | 55.5 | 78.4 | 377.2 |
| | 8 | 14 | 8 | 11 ~~46.0~~ | 133.9 5 | | 94.3 |
| | | | | 21 ~~56.5~~ | 53.0 | 81.8 | |
| | | | | 28 ~~3.0~~ | 134.8 | 80.1 | |
| | | | | 37 ~~11.5~~ | 55.1 | 81.9 | 381.4 |
| | 8 | 59 | | 56 ~~31.0~~ | 137.0 6 | | 95.4 |
| | | | 9. | 5 ~~59.5~~ | 52.5 | 84.3 | |
| | | | | 18 ~~57.0~~ | 136.8 | 83.1 | |

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Oct. 1, 1894.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | 12 h. | 9 | 34 | | | 375.4 |
| | | | ~~10~~ | ~~9.0~~ | 52.2 | | |
| | | | | 45 | | 82.9 | 93.8 |
| | | | | ~~20.0~~ | 135.1 | | |
| 12 | 9 | 55 | 10 | 5 | | 7 | |
| | | | | ~~40.5~~ | 53.1 | 81.9 | |
| | | | | 17 | | | |
| | | | | ~~52.5~~ | 135.0 | 82.4 | |
| | | | | 24 | | | 387.7 |
| | | | | ~~59.0~~ | 57.2 | 79.7 | |
| | | | | 31 | | | 96.9 |
| | 10 | 35 | ~~11~~ | ~~6.0~~ | 136.9 | 8 | |
| | | | | 37 | | | |
| | | | | ~~41.5~~ | 55.4 | 82.8 | |
| | | | | 47 | | | |
| | | | | ~~21.5~~ | 138.2 | 81.2 | |
| | | | | ~~12~~ 11 | | | |
| | | | 11 | ~~46.5~~ | 55.1 | 78.0 | |
| | | | | 20 | | | |
| | | | | ~~55.0~~ | 133.1 | 79.1 | |
| | | | | 27 | | | |
| | | | ~~12~~ | ~~2.5~~ | 54.0 | 80.8 | |
| | | | | 38 | | | |
| | | | | ~~3.0~~ | 134.8 | 76.8 | |
| | | | | 45 | | | |
| | | | | ~~20.5~~ | 58.0 | 80.2 | |
| | | | | 55 | | | |
| | | | | ~~30.5~~ | 138.2 | 83.4 | |
| | | | | 7 | | | |
| | | | 12 | ~~41.5~~ | 54.8 | 80.6 | |
| | | | | 17 | | | |
| | | | | ~~52.5~~ | 135.4 | 77.3 | |
| | | | | 24 | | | |
| | | | | ~~59.0~~ | 58.1 | 77.3 | |
| | | | | 35 | | | |
| | | | ~~13~~ | ~~10.0~~ | 135.4 | 80.3 | |
| | | | | 43 | | | |
| | | | | ~~18.5~~ | 55.1 | 80.9 | |
| | | | | 52 | | | |
| | | | | ~~29.0~~ | 136.0 | 81.0 | |
| | | | | 3 | | | |
| | | | 13 | ~~38.5~~ | 55.0 | 77.0 | |
| | | | | 12 | | | |
| | | | | ~~47.0~~ | 132.0 | 74.6 | |
| | | | | 20 | | | |
| | | | | ~~55.0~~ | 57.4 | 74.3 | |
| | | | | 28 | | | |
| | | | ~~14~~ | ~~3.0~~ | 131.7 | 70.4 | |
| | | | | 38 | | | |
| | | | | ~~11.5~~ | 61.3 | 66.7 | |
| | | | | 44 | | | |
| | | | | ~~18.5~~ | 128.0 | 68.6 | |

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Oct, 1, 1894

| | | | | | |
|---|---|---|---|---|---|
| 12h | 13 | 51 | 59.4 | 67.9 | |
| | | 0 | | | |
| | 14 | 55.5 | 127.3 | 62.0 | |
| | | 8 | | | |
| | | 41.5 | 65.3 | 62.5 | |
| | | 14 | | | |
| | | 47.5 | 127.8 | 64.8 | |
| | | 20 | | | |
| | | 53.5 | 63.0 | 63.8 | |
| | | 27 | | | |
| | 15 | 15.0 | 126.8 | 61.8 | |
| | | 36 | | | |
| | | 10.0 | 65.0 | 60.9 | |
| | | 44 | | | |
| | | 18.0 | 125.9 | 59.9 | |
| | | 52 | | | |
| | | 26.0 | 66.0 | 54.7 | |
| | | 59 | | | |
| | | 33.0 | 120.7 | 52.7 | |
| | | 8 | | | |
| | 15 | 42.0 | 68.0 | 44.0 | |
| | | 16 | | | |
| | | 50.5 | 112.0 | 37.7 | |
| | | 25 | | | |
| | | 59.0 | 74.3 | 40.5 | |
| | | 36 | | | |
| | 16 | 1.5 | 114.8 | 37.7 | |
| | | 46 | | | |
| | | 10.5 | 72.1 | 34.7 | |
| | 16 | 1 | | | |
| | 16 | 30.0 | 111.8 | | |

not seen later.

Lim. V is.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 16 | 44 | | | |
| | 12h | 17 | 18.0 | 80.0 | 31.0 | 379.8 |
| 12 17 22 | | 17 | 46.5 | 111.0 | | 95.0 |
| | | 18 | 26 | 79.0 | 30.8 | |
| | | 18 | 41.0 | 109.8 | 30.9 | |

Seeing somewhat blurry. d mags fairly good but slightly elongated.

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Oct. 1, 1894.

| B & C 1182 | | | Ballou 103 | | |
|---|---|---|---|---|---|
| 12 | 29 | 34.5 | 12 | 29 | 0.0 |
| 12 | 30 | 34.6 | 12 | 30 | 0.0 |

B + C. = 34$^s$ fast.

Ballou 105 = 0.$^s$2 fast.

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Posted to here.

Pct. v. 1894.

Examination of C. D. M. −27° 13151 to see if there is any thing peculiar about it.

1h 3A −27.1

20 37

+1 V9.

7 23 blouds over region.

7 31 blouds again.

Faint stars not seen in ordinary eye pieces. Abandoned.

Stars near pole Fr. obs.

1 0 +88.6

21 4V

3 1V

4 4V

9 8 blouds

Regular set on α Cephei.

24
0 30 +81.7

23 25

−1 5. Comp. with Dec. +81°26.

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Oct 5. 1894.

Index below.

283.1 < comparison star dis.

10 15 30 88.0 16K.9

284.0

86.9 $\frac{162.9}{327.8}$ −2.2

Index above.

15.5

10 18 30 174.7 162.2

14.0 $\frac{162.0}{321.2}$

176.0 −1.4

14.5. 161.7

10 20 45 176.2

16.1 $\frac{161.7}{323.9}$

175.0 $\frac{}{320.6}$ −1.4

Index below.

10 22 40 104.0 162.6

266.6

103.5 $\frac{163.7}{326.1}$ ~~−1.6~~ −2.1

267.0

103.1

10 25 15 ~~268.0~~ 163.9

267.0

103.5 $\frac{163.1}{327.8}$

266.6 −2.2

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Oct. 5. 1894.

Index above.

196.2
354.5 158.3
10 27 36

194.0 162.1
356.1 320.2 −1.8

---

Comparison of Nill. +21° 26 with +21° 30.
Nhot. R. Sr. obs.
(+21° 30 disappears.)

Index to left.

254.8 < bright star dis.
10 37 16 293.8 39.0
262.0
287.7 25.7 / 64.7 4.7

Index to right.

351.1
19.0 27.9
10 40 2

346.2 39.3
25.5 67.2 4.6

343.0 42.7
10 42 26 25.7

352.0 26.8
18.8 69.5 4.5

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1894phae.proj.1335.



Oct. 5. 1894.

Index to left.

| | | | |
|---|---|---|---|
| | 79.7 | 31.4 | |
| 10 45 23 | 111.1 | | |
| | 74.0 | 42.0 | |
| | 116.0 | 73.4 | 4.4 |
| | 73.7 | 42.1 | |
| 10 47 22 | 115.8 | | |
| | 79.5 | 30.7 | |
| | 110.0 | 72.6 | 4.4 |

Index to right.

| | | | |
|---|---|---|---|
| | 169.2 | 30.9 | |
| 10 50 12 | 200.1 | | |
| | 163.9 | 41.2 | |
| | 205.1 | 72.1 | 4.4 |

Leroy Murry.

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Oct. 6. 1894.

Limit of Visibility.

Stars near pole. Fr. obs.

20 35
25 0 +44.4
-4 25

7 45 l 2.5

δ Böötis
14 16 +54.6
21 17
+7 1

14 16
21 25
+7 9

8 13 8. Böötis not certainly seen and hardly suspected, probably fainter than 14.2.
Stars seen but just at limit of visibility
9.4.

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Oct. 6. 1894.

R. Camelop. W. obs.

| | | |
|---|---|---|
| 14 | 40 | +84.1 |
| 21 | 35 | |
| + 6 | 55 | |

8 24 $p$ ~~+1.5~~ ~~2~~ 1.5.

R. Draconis. W. obs.

| | | |
|---|---|---|
| 16 | 26 | +64.3 |
| 21 | 45 | |
| + 5 | 19 | |

8 35 $\mu$ 1.5.

S. Lyncis. W. obs.

| | | |
|---|---|---|
| 20 | 8 | +57.2 |
| 22 | | |
| + 1 | 52 | |

8 57 Star just visible. $\Delta$ 3.

S. Cephei. W. obs.

| | | |
|---|---|---|
| 21 | 6 | +67.7 |
| 22 | 18 | |
| 1 | 12 | |

Abandoned.

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δ. Cephei. W. obs.

| | | |
|---|---|---|
| 21 | 37 | +78.3 |
| 22 | 37 | |
| +1 | 0 | |

| | | |
|---|---|---|
| 21 | 37 | +78.3 |
| 21 | 37 | |
| 0 | 58 | |

9 +2 ± .1.

r. s. t are rather near variable on chart, but are thought to be seen and correctly identified: variable rather bright. about 9 mag; if star q is correctly identified, its seems rather bright and if anything a little brighter than o: possibly variable.

R. Lacertæ. W. obs.

| | | |
|---|---|---|
| 23 | 51 | +49.7 |
| 23 | 10 | |
| | -41 | |
| 11 | 19 | |

star q. easily seen.
" z. " "
α. 1.5.
β at times suspected.
variable bright and near causing some

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Oct. 6. 1894.

trouble.

10 0 moon about setting and lower cd gt on horizon.

moon at the quarter tonight.

S. Cassiop. W. obs.

2H 19 +55.9

23 30

-49

11 11

w faintly but pretty clearly seen.

10 21 u 3.5

S. Cassiop. W. obs.

25
1 10 +72.1

23 43

-1 27

10 33

w + easily seen.

x 1.

y not certainly seen.

10 36 variable somewhat bright and near.

S. Persei. W. obs.

26
2 8 +57.2

23 52

-2 16

9 44

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Oct. 6. 1894.

q. easily seen.
R. seen.
S. seen at intervals.
N. 2.5.

10 41

Setting on faint star near pole. W. obs.

~~20 35~~

1 0 +88.4

0 0

-1 0

11 10

f 2. ~~ε 1.5~~
ε 1.5

q not seen.
Sturgl. now that the moon has set, looks considerably brighter in fact a star at least half a mag. fainter than I could be seen.

11. 7

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1894phae.proj.1335



Oct. 9. 1894.

W. Ephei. W. obs.

24
0 30 +81.7
20 50
-3 40
8 20

Comparison of W Ephei with D.M. 81° 26. Phot. R.
Index to right and above.

16.9 < 81 26 dis.
7 27 35 174.9 1V A.0
15.0 160.1
175.1 31 A.1 -1.7

Index to left and below.

104.8 161.4
7 29 39 266.2
105.9 1V L.1
264.0 31 9.V -1.7

105.7 1V 9.3
7 30 59 265.0
105.9 1V 9.9
265.8 31 9.2 -1.7

7 31 35 blends

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1894phae.proj.1335.

Oct. 9. 1894.

Index to right and above.

| | | | |
|---|---|---|---|
| | 194.7 | | |
| 7 32 23 | 354.8 | 160.1 | |
| | 197.0 | 157.1 | |
| | 354.1 | 317.2 | −1.6 |

| | | | |
|---|---|---|---|
| | 195.2 | | |
| 7 33 43 | 354.0 | 157.4 | |
| | 194.9 | 160.1 | |
| | 355.0 | 315.9 | −1.7 |

Index to left and below.

| | | | |
|---|---|---|---|
| | 285.0 | | |
| | | 161.9 | |
| 7 34 55 | 86.9 | | |
| | 286.2 | 159.6 | |
| | 85.8 | 321.5 | −1.9 |

Measurements made through some clouds.

Comparison of D. W. 81° 26 with 81° 30. W. obs.

Index below.

| | | | |
|---|---|---|---|
| | 22.3 | | |
| 7 43 26 | ~~+166.0~~ | < 81° 26 dis. | |
| | 165.8 | | |
| | | 143.5 | |
| 7 44 | blends. | | |
| | 20.9 | 147.5 | |
| | 168.4 | 291.0 | −0.5 |

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1894phae.proj.1335.



Oct. 9. 1894.

Index above.

110.0
τ H5 51 257.6 147.6

6 bands. 147.5 / 295.0 −0.7

τ H6 25 111.9
259.3

τ H7 Stars faint.

113.0
τ H7 34 256.8 143.8
112.1
~~261.0~~ 147.9 / 291.8 −0.6
260.0

Index below.

200.0
τ H9 18 351.0 151.0
201.9
349.0 147.1 / 294.1 −0.4

τ 50 35 Stars faint.

200.1
τ 51 28 348.1 148.0
201.0
350.8 149.8 / 297.8 −0.4

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1894phae.proj.1335.



Oct. 9. 1894.

Index above.

289.7
78.1 (4A.K
7 53 17
291.0
78.9 (4A.9
296.3 −0.7

8 7 Clouds thick and growing worse: no chance for farther work.

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1894phae.proj.1335.



Oct. 11. 1894.

U. Cephei. W. obs.

24
0 30 +81.7

21

-3 30

9 30

Index to right and above.

16.0 < 81° 26 dis

7 33 26 175.0 159.0

14.9 161.6

176.5 320.6 -1.4

Index to left and below.

~~266.1~~

285.0 161.2

7 37 51 86.2

286.0 159.1

85.1 320.3 -1.4

altered focus slightly.

285.2 159.9

7 41 2 85.1

284.2 161.9

86.1 321.4 +1.9

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1894phae.proj.1335.



Oct. 11, 1894.

Index to right and above.

| | | | | |
|---|---|---|---|---|
| | | 14.5 | 161.5 | |
| 7 | 44 | 41 | 176.0 | |
| | | 15.2 | 159.3 | |
| | | 174.5 | 320.8 | −1.9 |

| | | | | |
|---|---|---|---|---|
| | | 16.0 | 158.1 | |
| 7 | 47 | 25 | 174.1 | |
| | | 15.0 | 160.9 | |
| | | 175.9 | 319.0 | −1.7 |

Index to left and below.

| | | | | |
|---|---|---|---|---|
| | | 105.0 | 161.0 | |
| 7 | 50 | 41 | 266.0 | |
| | | 105.9 | 159.1 | |
| | | 265.0 | 320.1 | −1.8 |

Comparison of D. M. 81° 39 with W. obs.
81° 26

Index to right and below.

| | | | | |
|---|---|---|---|---|
| | | 203.0 | < 81° 26 dis. | |
| 7 | 59 | 47 | 346.3 | 143.3 |
| | | 201.0 | | |
| | | 349.9 | 148.9 | |
| | | | 292.2 | −0.6 |

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1894phae.proj.1335.



Oct. 11. 1894.

Index to left and above.

| | | | | |
|---|---|---|---|---|
| | | 290.0 | | |
| 8 | 4 | 17 | 79.8 | 149.8 |
| | | | 293.0 | 144.8 |
| | | | 77.8 | 294.6 −0.7 |

| | | | | |
|---|---|---|---|---|
| | | 292.0 | | |
| 8 | 8 | 30 | 80.0 | 142.0 |
| | | | 290.0 | 141.2 |
| | | | 81.2 | 299.2 −0.8 |

Index to right and below.

| | | | | |
|---|---|---|---|---|
| | | 19.2 | | |
| 8 | 11 | 51 | 170.6 | 151.4 |
| | | | 22.0 | 146.3 |
| | | | 168.3 | 297.7 −0.8 |

| | | | | |
|---|---|---|---|---|
| | | 22.9 | | |
| 8 | 14 | 50 | 166.7 | 143.8 |
| | | | 19.7 | 151.1 |
| | | | 170.8 | 294.9 −0.7 |

Index to left and above.

~~260.0~~ wrong image disappeared.

| | | | | |
|---|---|---|---|---|
| | | 291.1 | | |
| 8 | 19 | 14 | 80.0 | 142.9 |
| | | | 292.0 | 147.1 |
| | | | 79.1 | 296.0 −0.7 |

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1894phae.proj.1335.



Oct. 11, 1894.

M. P. HH1 = 62° 596 W. obs.

| | | |
|---|---|---|
| 27 3 | 32 | +62.9 |
| 22 | 25 | |
| − 5 | 7 | |
| 6 | 53 | |

Compared with D. M. +62° 594.

Index to right.

30.7 < 594 obs.

8 37 29

| | | |
|---|---|---|
| 159.1 | 124.4 ✓ | |
| 25.8 | 139.2 ✓ | |
| ~~+604.8~~ | 267.6 ✓ | 0.1 ✓ |
| 165.0 | 92.4 | −1.85 |

Index to left.

295.0

altered focus slightly.

9 2 48

| | | |
|---|---|---|
| 75.0 | 140.0 ✓ | |
| 302.3 | 127.4 ✓ | |
| 69.7 | 267.4 ✓ | 0.1 ✓ |
| | 92.6 | −1.84 |

| | | |
|---|---|---|
| 301.0 | 129.3 ✓ | |
| 70.3 | | |

9 7 47

| | | |
|---|---|---|
| 296.0 | 139.9 ✓ | |
| 75.9 | 269.2 ✓ | 0.1 ✓ |
| | 90.8 | −1.89 |

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1894phae.proj.1335.



Oct. 11. 1894.

Index to right.

| | | | | |
|---|---|---|---|---|
| | 205.9 | 134.0 ✓ | | |
| 9 11 57 | 343.9 | | | |
| | 211.2 | 126.3 ✓ | | |
| | 337.5 | 263 ✓ | ~~0.2~~ ✓ | |
| | | 95.7 | | -1.76 |
| | 212.0 | 127.0 ✓ | | |
| 9 16 7 | 339.0 | | | |
| | 206.3 | 137.4 ✓ | | |
| | 344.1 | 261.4 ✓ | 0.2 ✓ | |
| | | ~~95.2~~ | | -1.78 |

Index to left.

| | | | | |
|---|---|---|---|---|
| | 295.0 | 140.6 ✓ | | |
| 9 21 12 | 75.6 | | | |
| | ~~302.3~~ | 130.0 ✓ | | |
| 9 9 33 | 300.0 | 270.6 ✓ | 0.1 ✓ | |
| | 70.0 | ~~89.4~~ | | -1.93 |
| | | | | Mean = -1.54 |

W. ides.

0 Ceti.

| | | | |
|---|---|---|---|
| 26 | | | |
| 2 | 4 | | -2.5 |
| 23 | 15 | | |
| -2 | 49 | | |
| 9 | 11 | | |

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1894phae.proj.1905.



Oct. 11, 1894 H.

Index to left and below.

317.0
~~53.0~~ < comparisonstar's.
52.5 95.5

313.1 104.6
57.7 200.1 +.6
159.9. -0.38

Index to right and above.

9 55 2

22H.9
32H.5 99.6
230.2 91.5
321.7 191.1 +.4 -0.21
468.9

9 58 14

229.5
320.2 90.7
224.8 101.0
325.8 191.7 +.8 -0.22
168.3

Index to left and below.

10 1 6

311.0
57.1 106.1
319.5 90.6
50.1 196.7 +.7 -0.32
163.3

10 3 30

321.0
48.5 87.5
313.1
59.5 106.6
193.9 +.7 -0.26
166.1

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1894phae.proj.1335.



Oct. 11. 1894.

Index to right and below.

42.7
146.0 103.3
50.9 42.3
139.2 188.6 1.4 −0.22
168.4

Observations slightly difficult on account of bright moonlight.

o Ceti is brighter than comparison star.

Nova Aurigae W. obs.

| | | |
|---|---|---|
| 29 | | |
| 5 | 23 | +32.0 |
| 23 | 50 | |
| −5 | 33 | |
| 6 | 27 | |

Index to right.

10 29 38

50.0
~~110.0~~ ← north following star dis.
139.3 49.3
46.0 100.1
146.1 149.4 1.4 −0.18
170.6

Index to left.

10 35 10

314.6 102.0
56.6
317.5 92.5 −0.27
50.0 142.5 1.4
165.5

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1894phae.proj.1335.



Oct. 11, 1894.

318.7
48.0 29.3
10 34 33
313.8 102.2
56.0 1916 1.4
1685 -0.22

Index to right.

10 42 26
223.5 102.5
326.0
230.9 29.1
320.0 1916 1.4
1684 -0.22

7

230.3 90.6
10 45 27 320.9
224.1 102.9
327.0 1935 1.7
1665 -0.25

Index to left.

7

131.0 104.3
10 48 27 235.3
10 39 18 136.2 91.2 -0.30
228.0 1961 1.7
1639

The south preceding star is a little the brighter: observations quite difficult on account of bright moon light and faintness of stars.

7

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Oct. 12, 1894.

U. Lephei. W. obs.

$\overset{24}{0}$ 30 +81.7

21 0

−3 30

8 30

U. Lephei compared with 81°: 26.

Index to left and below.

~~284.0~~

286.0 < 81°: 26 dis.

7 31 50 85.5 1v9.v

285.0 160.2

85.8 320.3 v −1.2 v

Index to right and above.

196.0 1v4.3

7 35 33 354.3

197.9 1v6.1

354.0 314.4 v −1.v v

197.0 1v7.0

7 39 37 354.0

197.2 1v6.0

353.2 313.0 v −1.4 v

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Oct. 12, 1894.

Index to left and below.

105.0

7 44 35 264.6

IV 9.6 ✓

7 45 30 blowds.

IV 9.2 ✓

105.7 31 0.0 ✓ −1.7 ✓

264.9

106.2 IV 9.6 ✓

7 56 57 265.8

106.0 IV 9.0 ✓

265.0 31 4.6 ✓ −1.7 ✓

Index to right and above.

~~16.8~~

~~17.0~~

7 55 0 clouds thick.

7 56 0 ~~174.8~~

17.0 IV 7.0 ✓

8 37 57 174.0

17.6 IV 7.5 ✓

173.1 31 2.5 ✓ −1.4 ✓

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Oct. 12. 1894.

Comparison of D.M. 81°: 30 with 81°: 26.

| | | | | |
|---|---|---|---|---|
| | | | Index to left and above. | W. obs. |
| | | | 111.8 | < 81°: 26 dis. |
| 8 | 43 | 50 | 258.0 | 146.2 ✓ |
| | | | 108.0 | 147.1 ✓ |
| | | | 262.1 | 300.3 ✓ −0.9 ✓ |
| | | | Index to right and below. | |
| | | | 199.2 | 152.9 ✓ |
| 8 | 49 | 19 | 352.1 | |
| | | | 202.2 | 147.6 |
| | | | 349.8 | 300.4 ✓ −0.9 ✓ |
| | | | 202.0 | |
| 8 | 53 | 49 | 349.5 | 147.4 ✓ |
| | | | 198.7 | 153.3 ✓ |
| | | | 352.0 | 300.4 ✓ −0.9 ✓ |
| | | | Index to left and above. | |
| | | | 109.0 | 153.4 ✓ |
| 9 | 1 | 2 | 262.5 | |
| | | | 111.3 | 147.2 ✓ |
| | | | 259.1 | 301.3 ✓ −0.9 ✓ |
| | | | 111.8 | |
| 9 | 4 | 1 | ~~258.1~~ | 147.4 ✓ |
| | | | 259.2 | |
| | | | 109.0 | 153.1 ✓ |
| | | | 262.1 | 300.4 ✓ −0.9 ✓ |

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Oct. 12. 1894.

Index to right and below.

17.6
172.7 167.1 ✓
9 9 24
21.0 167.9 ✓
168.9 303.0 ✓ −1.0 ✓

Measurements through some clouds.

o Ceti. W. obs.

26
2 H −2.5
23 H
−3 0
9 0

Index to left and below.

131.0 < comparison star.
9 40 45 236.5 105. ✓
138.9
232.2 93.3 / 194.5 ✓ 1.6 ✓ −0.86
161.2

Index to right and above.

228.7
9 45 33 321.0 92.3
226.9
325.0 94.1 / 190.4 ✓ 1.4 ✓ −0.20
169.6

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Oct. 12, 1894.

224.2 101.5
9 48 32 325.7
229.1 99.5
328.5 200.9 159.1 -0.70

Index to left and below.
318.2

Clouds.

9 50 30
91.9

9 51 0 50.1
315.8

9 46 28 1022 / 994 / 165.9 -0.27

Clouds thick.

9 52 0

10 42 10 58.0

Observations difficult and made through more or less clouds: moon was far dis-
10 45 tant

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1894phae.proj.1335.



Posted to here.

Oct. 15. 1894.

U. Cephei. W. obs.

24
0 30 +81.7
21 20
-3 10
8 50

Comparison of U Cephei with 81°:26, by Phot. R.
Index to left and below.

107.0 < 81°:26 dis.
264.8
107.2 157.6 ✓
263.0 157.6 ✓
313.6 ✓ -1.6 ✓

7 32 1

Index to right and above.

198.5 157.6 ✓
353.1
197.2 157.2 ✓
352.4 309.6 ✓ -1.3 ✓

7 42 25

Altered focus slightly.

198.9 157.6 ✓
353.5
198.0 157.7 ✓
352.7 309.3 ✓ -1.2 ✓

7 47 27

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1894phae.proj.1335.



Oct. 15, 1894.

Index to left and below.

288.0
7 52 44 83.0 IV V.0 ✓
286.7 IV 7.7 ✓
84.4 312.7 ✓ −1.4 ✓

~~287.0~~
7 58 31 ~~83.8~~

Altered focus slightly.

107.2 IV 6.V ✓
8 4 7 263.7
106.8 IV 7.3 ✓
264.1 313.2 ✓ −1.4 ✓

Index to right and above.

198.0 IV 4.0 ✓
8 8 2 352.0
200.0 IV 2.0 ✓
352.0 306.0 ✓ −1.4 ✓

Comparison of D. M. 81°.30 with 81°.26.
Index to left and above. W. obs.

287.0
8 17 41 ~~84.0~~ < 81°.26 obs.
84.3
289.1 IV 7.3 ✓
82.1 IV 3.0 ✓
310.3 ✓ −1.3 ✓

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1894phae.proj.1335.

Oct. 15. 1894.

Index to right and below.

| | | | |
|---|---|---|---|
| | 199.8 | | |
| | 350.9 | IV 1.1 ✓ | |
| 8 22 37 | 197.7 | IV 4.2 ✓ | |
| | 352.5 | 30 V. 9 ✓ | −1.1 ✓ |
| | 198.0 | | |
| | 353.3 | IV V.3 ✓ | |
| 8 25 50 | 199.1 | IV 3.9 ✓ | |
| | 352.0 | 30 4.2 ✓ | −1.2 ✓ |

Wipedmickly.

Index to left and above.

| | | | |
|---|---|---|---|
| | 289.8 | | |
| | 81.0 | IV 1.2 ✓ | |
| 8 29 16 | 288.0 | IV 3.7 ✓ | |
| | 81.7 | 30 4.9 ✓ | −1.1 ✓ |
| | 288.0 | | |
| | 81.6 | IV 3.6 ✓ | |
| 8 32 0 | 290.0 | IV 0.9 ✓ | |
| | 80.9 | 30 V. ✓ | −1.0 ✓ |

Index to right and below.

| | | | |
|---|---|---|---|
| | 21.1 | IV 4.6 ✓ | |
| 8 36 0 | 169.7 | | |
| | 18.0 | IV 3.9 ✓ | |
| | 171.9 | 30 2. ✓ | −1.0 ✓ |

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Oct. 15. 1894.

W. obs.

9 22 ~~Focus 52.8~~
~~48.5~~
~~59.0~~
~~58.1~~
~~42.3~~
~~48.2~~
~~55.3~~
~~40.3~~

Focus retaken: photometer not against bearing.

9 29 ~~40.3~~
52.1
41.2
25.5
24.8
24.0
23.9
21.2
33.8
26.8
27.0
300.03 ✓

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Oct. 15, 1894.

Focus set at 30.0.
ν. Ophei compared with D.M. 81°: 2p at W. obs., different foci.

Index below. Focus at 30.0

106.0
9 38 45 265.7 < 81° : 26 dis.
104.2 159.7
267.0 $\frac{162.4}{322.1}$ -1.9

Focus at 40.0

104.1 162.6
9 41 32 266.7
105.6 160.2
265.8 $\frac{160.2}{322.4}$ -1.9

Focus at 50.0

105.8 160.2
9 44 47 266.0
103.8 $\frac{156.0}{321.2}$ -2.0
267.8

Focus at 20.0

105.0 161.7
9 46 2 266.7
106.3 $\frac{154.6}{320.3}$ -1.4
264.9

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1894phae.proj.1335



Oct. 15, 1894.

Focus at 10.0

106.8 (rej. 0
9 48 9 264.8
104.8 161.8
266.2 319.8 −1.7

Index above.
Focus at 10.0
~~356.0~~ wrong image dis.
15.0 ∠ 81° : 26 dis.
9 51 0 176.8 161.8
16.0 rej.
174.8 320.6 −1.8

Focus at 20.0

16.1
9 53 3 175.0 rej.
15.0 161.0
176.0 319.9 −1.8

Focus at 30.0

15.1
9 55 8 176.0 160.9
17.0 rej. 7.0
174.0 317.9 −1.7

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Oct. 15. 1894.

Focus at 40.0

17.7
173.2 1r5.5
17.1 1r7.7
174.8 3/3.2 −1.6

Focus at 50.0

17.0
174.5 1r7.5
18.0 1r5.0
173.0 3/2.5 −1.5

Comparison of 81° 30 with 81° 26 at different foci.
Index to left and above.

Focus at 50.0

108.5
263.0 ∠ 81° 26 dis. W. obs.
103.3 1r5.5
258.1 3/09.3 −1.2

Focus at 40.0

104.3 1r2.5
256.8
108.2 1r3.2
262.0 3/06.3 −1.1

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Oct. 15. 1894.

Focus at 30.0

108.1 1K1.1
10 6 45 262.2
109.9 1K2.3
256.2 296K −0.7

Focus at 20.0

116.0 1K0.0
10 8 44 254.0
109.3 1K1.4
261.1 299.4 −0.5

Focus at 10.0.

111.4 1K9.K
10 10 39 260.8
115.2 1K0.6
255.8 290.0 −0.5

Index to right and below.

Focus at 10.0

~~217.3~~ wrong image dis.

10 13 43 23.5 ∠ 81.0 : 26 dis.
168.0
18.0 1KK.5
173.0 1575.0
299.5 −0.4

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Focus at 20.0

| | | | |
|---|---|---|---|
| | 18.0 | | |
| 10 15 10 | 172.5 | 1V K1 | |
| | 25.0 | 139.3 | |
| | 164.3 | 293.2 | −0.6 |

Focus at 30.0

| | | | |
|---|---|---|---|
| | 24.3 | 1K 0.7 | |
| 10 19 40 | 165.0 | | |
| | 19.0 | 1V 2.0 | |
| | 171.0 | 292.7 | −0.6 |

Focus at 40.0

| | | | |
|---|---|---|---|
| | 19.2 | 1V 2.0 | |
| 10 21 25 | 171.2 | | |
| | 25.9 | 139.6 | |
| | 165.7 | 291.6 | −0.6 |

Focus at 50.0

| | | | |
|---|---|---|---|
| | 27.0 | | |
| 10 24 17 | 163.9 | 136.9 | |
| | 21.0 | 1V 0.0 | |
| | 171.0 | 246.9 | −0.6 |

Some light clouds noticed in sky when measurements were ended.

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1894phae.proj.13335



Oct. 15. 1894.

Obs. Wolbach

| | | | | |
|---|---|---|---|---|
| | | | | |
| | 2 | 4 | -2.5 | |
| | 0 | 25 | | |
| | 1 | 39 | | |
| | 10 | 21 | | |

Index to left.

| | | | | | |
|---|---|---|---|---|---|
| | 133.0 | < comparison star dis. | | | |
| 10 42 38 | 236.7 | 103.7 | | | |
| | 135.3 | | | | |
| | 233.1 | 97.8 | | | |
| | | 201 | +6 | | -0.41 |
| | | 158.5 | | | |

Index to right.

| | | | | | |
|---|---|---|---|---|---|
| | 227.3 | | | | |
| 10 45 7 | 322.8 | 95.5 | | | |
| | 224.7 | 100.6 | | | |
| | 325.3 | 196.1 | +7 | | -0.32 |
| | | 162.9 | | | |
| | | | | | |
| | 223.0 | 104.8 | | | |
| 10 47 17 | 327.8 | | | | |
| | 229.7 | 93.4 | | | |
| | 323.1 | 197.2 | +7 | | -0.35 |
| | | 161.8 | | | |

Index to left.

| | | | | | |
|---|---|---|---|---|---|
| | 135.2 | | | | |
| 10 49 54 | 232.2 | 97.0 | | | |
| | 131.2 | 106.4 | | | |
| | 237.6 | 203.4 | +6 | | -0.45 |
| | | 156.6 | | | |

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Oct. 15, 1894.

| | | | | |
|---|---|---|---|---|
| | 132.3 | | | |
| 10 52 53 | 239.5 | 107.2 | | |
| | 138.1 | 93.9 | | |
| | 232.0 | 201.1 | ~~1.6~~ | |
| | | 187.9 | | −0.40 |

Index to right.

| | | | | |
|---|---|---|---|---|
| | 229.9 | | | |
| 10 54 54 | 324.2 | 94.3 | | |
| | 224.0 | 103.5 | | |
| | 327.5 | 197.8 | 1.7 | −0.32 |
| | | 162 | | |

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Oct. 17. 1894.

U. Cephei. W. obs.

24
0 30 +81.7

21 25

−3 5

8 55

Readings for focus.

7 30 29.1
30.1
36.6
32.0
21.9
28.5
30.1
24.9
28.9
24.2

286.3

Focus set at 28.6: U Cephei compared with
Index to right and above. 81°: 26
W. obs.

15.9
175.1 ∠ 81° 26 dis.
7 36 57
15.0 159.2
175.3 160.3
31.9 −1.7

1894phae.proj.1335.



Oct. 17, 1894

Index to left and below.

| | | | |
|---|---|---|---|
| | 284.0 | 163.0 | |
| 7 | 45 | 87.0 | 42 |
| | 284.2 | 162.4 | |
| | 87.0 | 325.4 | −2.1 |

| | | | |
|---|---|---|---|
| | 284.8 | 162.4 | |
| 7 | 46 | 87.2 | 56 |
| | 284.4 | 163.3 | |
| | 87.7 | 325.3 | −2.1 |

Index to right and above.

~~194.9~~ wrong image dis.

| | | | |
|---|---|---|---|
| | 196.2 | 159.4 | |
| 7 | 49 | 355.0 | 45 |
| | 195.5 | 160.5 | |
| | 356.0 | 319.3 | −1.7 |

| | | | |
|---|---|---|---|
| | 196.3 | 159.5 | |
| 7 | 51 | 355.8 | 23 |
| | 196.8 | 159.2 | |
| | 355.0 | 317.7 | −1.6 |

Index to left and below.

| | | | |
|---|---|---|---|
| | 104.9 | 161.3 | |
| 7 | 53 | 266.2 | 14 |
| | 104.7 | 161.3 | |
| | ~~267.0~~ | 326 | −1.9 |
| | 266.0 | | |

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1894phot.proj.1335



Oct. 17. 1894.

81°:30 compared with 81°:26. W. obs.

Index to right and ~~above~~ below.

| | | | |
|---|---|---|---|
| | 199.3 | ∠ 81°:26 dis. | |
| 7 58 30 | 351.0 | 1V1.7 | |
| | 210.1 | | |
| | 339.8 | 1297 | |
| | | 241.4 | −0.2 |

Index to left and above.

| | | | |
|---|---|---|---|
| | 116.0 | | |
| 8 1 0 | ~~254.9~~ | 140.0 | |
| | 256.0 | | |
| | 108.0 | 1V3.6 | |
| | 261.1 | 293.1 | −0.6 |

| | | | |
|---|---|---|---|
| | 109.1 | 1V2.1 | |
| 8 2 57 | 261.2 | | |
| | 114.0 | 1V1.4 | |
| | 255.4 | 293.5 | −0.6 |

Index to right and below.

| | | | |
|---|---|---|---|
| | 25.0 | | |
| 8 5 55 | 165.5 | 140.5 | |
| | 21.8 | | |
| | 169.7 | 147.9 | |
| | | 244.4 | −0.5 |

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1894phae.proj.1335.



Oct. 17. 1894.

8 7 50

21.1
170.0 149.9
25.2 139.6
164.8 294.5 −0.5

Orders to left and above.

8 10 0

293.8
78.0 146.2
291.1 149.7
80.8 293.9 −0.6

D.M. 81° : 30 compared with 81° : 26
Phot. R.

Focus at 8.6. W. pls.
292.0 Orders to left and above.
8 17 56 78.0 ∠ 81° : 26 dis.
296.2 146.0
76.0 139.4
294.6 −0.4

Focus at 18.6.

294.1 143.2
8 20 17 77.3
290.1 149.7
79.8 292.9 −0.6

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1894phae.proj.1335.



Oct. 17. 1894.

Focus at 28.6.

| | | | | |
|---|---|---|---|---|
| | | 288.7 | (K 9.6 | |
| 8 | 22 | 51 | 78.3 | |
| | | | 294.0 | |
| | | | ~~76.0~~ | (K 3.1 |
| | | | 77.1 | 292.7 −0.6 |

Focus at 38.6.

| | | | | |
|---|---|---|---|---|
| | | 293.2 | (K 3.6 | |
| 8 | 25 | 31 | 77.0 | |
| | | | 288.0 | (V 5.1 |
| | | | 83.1 | 294.9 −0.8 |

Focus at 48.6

| | | | | |
|---|---|---|---|---|
| | | 287.4 | ~~3.6~~ | |
| 8 | 28 | 27 | 82.0 | (V 4.6 |
| | | | 292.4 | (K 6.7 |
| | | | 79.1 | 301.3 −0.9 |

~~Dit~~

Focus at 58.6

| | | | | |
|---|---|---|---|---|
| | | 291.2 | (V 0.1 | |
| 8 | 35 | 46 | 81.3 | |
| | | | 287.1 | (V 4.4 |
| | | | 82.5 | 304.5 −1.1 |

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1894phae.proj.1335.



Oct. 17. 1894.

Focus at 98.6.

292.0
79.1 147.1

8 39 12

293.9 144.1
78.0 291.2 −0.4

Index to right and below.

Set at 8.6

24.2
166.0 141.8

8 42 29

20.8 140.1
170.9 290.9 −0.4

Set at 98.6

20.8
170.0 149.2

8 44 22

22.3 144.6
166.9 293.8 −0.6

Set at 18.6

25.0
164.7 139.7

8 47 26

18.9 141.6
170.5 291.3 −0.4

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1894phae.proj.1335.



Oct. 17. 1894.

Set 28.6

| | | | | |
|---|---|---|---|---|
| | | 21.0 | 146.5 | |
| 8 | 49 | 28 | 167.5 | |
| | | 25.0 | 135.0 | |
| | | ~~165.5~~ | 281.5 | −0.2 |
| | | 160.0 | | |

Set at 38.6

| | | | | |
|---|---|---|---|---|
| | | 26.0 | 140.1 | |
| 8 | 53 | 0 | 166.1 | |
| | | 20.9 | 150.1 | |
| | | 171.0 | 290.2 | −0.1 |

Set at 48.6

| | | | | |
|---|---|---|---|---|
| | | 21.2 | 146.4 | |
| 8 | 55 | 21 | 167.6 | |
| | | 24.2 | 140.9 | |
| | | 165.1 | 247.3 | −0.4 |

Set at 58.6

| | | | | |
|---|---|---|---|---|
| | | 25.0 | 141.2 | |
| 8 | 57 | 41 | 166.2 | |
| | | 22.0 | 146.0 | |
| | | 168.0 | 247.2 | −0.4 |

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Oct. 17. 1894.

U. Cephei compared with 81° : 26
Pt at 9 8.6.
Index below.

| | | | | |
|---|---|---|---|---|
| | | 105.6 | ∠ 81° : 26 dis. | |
| 9 | 7 | 45 | 265.7 | 160.1 |
| | | | 105.0 | |
| | | | 266.0 | 161.0 |
| | | | | 321.1 −1.4 |
| | | | Pt at 8.6 | |
| | | | 106.0 | 159.0 |
| 9 | 9 | 46 | 265.0 | |
| | | | 105.0 | 161.3 |
| | | | 266.3 | 320.3 −1.4 |
| | | | Pt at 18.6 | |
| | | | 104.8 | 161.4 |
| 9 | 11 | 32 | 266.2 | |
| | | | 104.8 | 160.7 |
| | | | 265.5 | 322.1 −1.9 |
| | | | Pt at 28.6 | |
| | | | 106.0 | 160.1 |
| 9 | 13 | 14 | 266.1 | |
| | | | 104.0 | 163.9 |
| | | | 267.9 | 324.0 −2.0 |

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1894phae.proj.1335.



# Oct. 17. 1894.

Set at 38.6

| | | | | |
|---|---|---|---|---|
| | | 104.8 | 162.3 | |
| 9 | 15 | 13 | 267.1 | |
| | | | 104.7 | 161.3 |
| | | | 266.0 | 323.6 — 2.0 |

Set at 48.6

| | | | | |
|---|---|---|---|---|
| | | 104.8 | 161.6 | |
| 9 | 17 | 24 | 266.4 | |
| | | | 103.5 | 164.2 |
| | | | 268.0 | 325.8 — 2.1 |

Set at 58.6

| | | | | |
|---|---|---|---|---|
| | | 104.0 | 163.0 | |
| 9 | 19 | 38 | -267.0 | |
| | | | 104.0 | 163.0 |
| | | | 267.0 | 326.0 — 2.1 |

Index above. Focus at 58.6

| | | | | |
|---|---|---|---|---|
| | | 198.8 | 154.1 | |
| 9 | 21 | 41 | 352.9 | |
| | | | 196.8 | 157.3 |
| | | | 354.1 | 311.4 — 1.3 |

Focus at 48.6

| | | | | |
|---|---|---|---|---|
| | | 197.7 | 156.0 | |
| 9 | 23 | 46 | 353.7 | |
| | | | 197.0 | 156.2 |
| | | | 353.8 | 312.2 — 1.4 |

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Oct. 17. 1894

Focus at 28.6.

196.3.
354.0 157.7
196.2 157.4
355.0 316.7 −1.6

Focus at 28.6.

196.0
355.7 159.7
197.0 158.0
355.0 317.7 −1.6

Focus at 18.6.

196.7
354.1 157.4
194.8 161.3
356.1 318.7 −1.7

Focus at 8.6.

195.0
356.0 161.0
196.1
355.7 159.6
320.6 −1.4

Focus at 98.6.

195.5
353.9 160.4
195.0
356.0 161.0
321.4 −1.4

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Oct. 17. 1894.

Ordinary and Extraordinary images of a 4th mag. star, compared at convenient distance apart.

Focus at 98.6. Order to right.

9 42 45 319.8 < right hand image of lis. W. obs.
50.0 40.2
319.2 40.4
50.0 41.0 2.0

Focus at 8.6.

320.0 44.0
9 44 58 28.0
321.4 43.3
46.7 173.3 2.1

Focus at 18.6.

321.2 46.3
9 46 10 47.5
320.7 49.1
49.8 97.4 2.1

Focus at 28.6.

~~318.4~~
9 47 25 ~~319.0~~
~~318.0~~
~~319.8~~

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Oct. 17. 1894

Corns at 38.6.

~~318.2~~

9 4 25 ~~319.8~~

319.8
51.0 91.2
319.0 92.0
51.0 183.2 1.9

Corns at 28.6

320.0 89.7
9 52 9 49.7
319.8 88.2
48.0 177.9 2.0

Corns at 48.6

317.1
9 53 34 52.0 94.9
317.9 95.1
53.0 190.0 1.2

Corns at 58.6.

317.1
9 54 57 47.0 90.9
318.3 91.7
50.0 182.6 2.0

~~Corns~~ 8 wires not taken with prism moved, as there is not time before eclipse.

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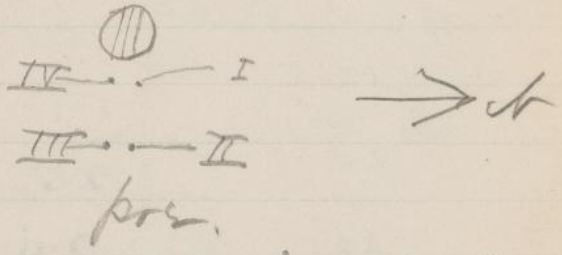
1894phae..proj.1335.



Oct. 17. 1894.

Disappearance of Jupiter I Phys. R.
Cram recorder Wils.
Compared with other satellites close
to planet equal to satellite 4

fol.




Did not have time to take comparison ~~at this~~
before beginning eclipse.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 10 | 25 | 38 | 10-27-43 | - | 42.5 | - | 104.5 | 374.9 |
| | | 49 | 54 | - | 147.0 | - | | 93.7 |
| | | 10 25 57 | 8 | - | 38.0 | - | 109.4 | |
| | 26 | 2 | 7 | | 147.4 | | 107.0 | |
| | | 20 | 25 | | 36.1 | | | |
| | | 32 | 39 | | 148.8 | | 112.7 | 371.9 |
| | | 40 | 45 | | 39.2 | | 108.6 | 93.0 |
| | | 10 26 45 | 54 | | 147.8 | | 110.6 | |
| | | 49 | 3 | | 42.0 | | | |
| | | 58 | 29 | | | | | |
| | 27 | 8 | 13 | | | | 109.0 | 387.9 |
| | | 13 | 18 | | 151.0 | | | 97.0 |
| | | 10 27 19 | 27 | | 43.1 | | 108.7 | |
| | | 22 | 37 | | 151.8 | | 108.8 | |
| | | 32 | 44 | | 42.2 | | | |
| | | 39 | 55 | | 151.2 | | 109.0 | 377.4 |
| | | 50 | 30 | - | 36.9 | | 110.2 | 94.4 |
| | | 10 27 52 | 0 | | | | 109.6 | |
| | | 55 | | | | | | |

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# Oct. 17. 1894

| | | | | | | |
|---|---|---|---|---|---|---|
| 10 | 28 | 6 | 11 | 147.1 | | |
| | | 18 | 23 | 45.8 | | 102.2 |
| | | 43 | 48 | 148.0 | | 99.0 |
| | | 52 | 57 | 49.0 | | 95.0 |
| | | 59 | 31 — 4 | 144.0 | | 96.2 |
| | 29 | 5 | 10 | 47.8 | | 90.5 |
| | | 12 | 17 | 138.3 | | 88.5 |
| | | 20 | 25 | 49.8 | | 89.0 |
| | | 29 | 34 | 138.8 | | 84.6 |
| | | 36 | 41 | 54.2 | | 83.1 |
| | | 43 | 48 | 137.3 | | 82.3 |
| | | 50 | 55 | 57.0 | | 80.4 |
| | | 56 | 32 3 | 135.4 | | 77.9 |
| | 30 | 12 | 17 | 57.5 | | 73.5 |
| | | 20 | 25 | 131.0 | | 68.0 |
| | | 28 | 33 | 63.0 | | 61.0 |
| | | 37 | 42 | 124.0 | | 55.8 |
| | | 47 | 52 | 64.2 | | 48.8 |
| | | 52 | 57 | 117.0 | | 43.8 |
| | 31 | 0 | 33 5 | 73.2 | | 38.5 |
| | | 18 | 23 | 111.7 | | ~~38.5~~ |

not on both

Limit of $\nu$ Cor

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 31 | 59 | | 34 | 4 | 98.9 | 32.0 | 379.3 |
| 32 | 13 | 10 | 32 | 22 | 18 | 110.9 | | 94.8 |
| | 27 | | | | 32 | 50.5 | 28.5 |
| | | | | | | | 30.2 |

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Oct. 17, 1894.

10 32 47 $\pm 2$ 10 9.0

Seeing rather blurry. Jupiter rather low.

| B + C. 11 f 2. | | | Balloon 103. | | |
|---|---|---|---|---|---|
| 10 | √√ | 6.0 | 10 | √3 | ~~1.0~~ |
| | √6 | 6.0 | | √4 | ~~1.0~~ |

Balloon is 1$^s$ slow.
B + C is 12.5$^s$ fast.

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Thursday Oct 18. 1894

Examination of object discovered by
20h 5m Mrs Fleming at RA 18h 36m 56s Dec — 27 5' 7".5

Spectrum of adjacent g.6 mgn extremely continuous
Spectrum of new object certainly monochromatic
and nebulous. 4 obs.

Region rather low. and more up. —
g.6 certainly has continuous spectrum,
and adjacent object thought to ~~have~~
be monochromatic. 4 obs.

W. obs.

5 0 Ceti
2 26 6 H
2 22 15
-3 49
8 11

-2.5

On dis below.

~~2 H H. 0~~
2 H H. 0
3 5 1. 9
~~2 5 H. 0~~
2 5 3. 0
3 4 3. 2

< comparison star dis.
107.9 v
90.2 v
19 A 1 v
161.9
17 v

-0.04

8 27 59

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Oct 18, 1894.

Index above.

~~251.0~~

8 37 56 ~~344.6~~

157.0
258.8 101.8 ✓
163.2 90.2 ✓
254.0 192.6 ✓ ~~1.8~~ ✓ −0.24
167.4

164.0
253.0 89.0 ✓
8 43 24
156.8 104 ✓ ✓
261.3 193 ✓ 1.7 ✓ −0.25
166.5

Index below.

65.5 101 ✓ ✓
8 47 6 171.0
72.2 99.7 ✓
161.9 192 ✓ 1.7 ✓ −0.29
164.8

73.7
163.8 90.1 ✓
8 50 30
65.0 106.0 ✓
171.3 196.1 ✓ ~~1.7~~ ✓ −0.30
163.9

Index above. (Comp star = ε in final notation)

157.0 101.1 ✓ ο Ceti is about 3.5 grades bright-
~~8~~ 9 5 41 258.1 er than comparison star both
164.9 97.7 ✓ in large tube wpe and finder.
8 45 26 252.6 189.2 ✓ ~~1.8~~ ✓ −0.17
162.4

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Oct. 18. 1894.

Moon parts full: ~~about~~ and same 15° above horizon.

U. Cephei. + 81° 26 W. obs.

| 24 | | |
|---|---|---|
| 0 | 30 | +81.7 |
| 23 | 10 | |
| -1 | 20 | |
| 10 | 40 | |

U. Cephei compared with 81°: 26.

Index to left and above.

127.8 < 81° : 26 dis.

9 12 23 289.7 161.9 ✓

127.2 162.7 ✓

289.9 324.6 ✓ −2.0 ✓

Index to right and below.

~~20.9~~ wrong image dis.

9 14 58 36.7 163.2 ✓

200.5

36.0 160.5 ✓

201.5 324.3 ✓ −2.4 ✓

36.0 160.0 ✓

9 17 57 201.0

36.9 164.1 ✓

201.0 324.1 ✓ −2.3 ✓

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1894phae.proj.1335.



Oct. 18. 1894.

Index to left and above.

| | | | | |
|---|---|---|---|---|
| | | 308.8 | | |
| 9 | 21 | 12 | 108.1 | 159.3 ✓ |
| | | | 308.2 | 161.0 ✓ |
| | | | 109.2 | 320.3 ✓ −1.4 ✓ |
| | | | 307.9 | 162.1 ✓ |
| 9 | 23 | 11 | 110.0 | |
| | | | 309.0 | 160.1 ✓ |
| | | | 109.1 | 322.2 ✓ −1.9 ✓ |

Index to right and below.

~~300.1~~ wrong image dis.

| | | | | |
|---|---|---|---|---|
| 9 | 25 | 25 | 217.0 | 162.9 ✓ |
| | | | 19.9 | |
| | | | 216.8 | 164.0 ✓ |
| | | | 20.8 | ~~326.9~~ ✓ −2.2 ✓ |

Comparison of 81°: 26 with 81°: 30.

Index to right and above. W. obs.

| | | | | |
|---|---|---|---|---|
| | | | 321.7 | < 81°: 26 dis. |
| 9 | 29 | 53 | 97.0 | ✓ |
| | | | 315.1 | 137.3 |
| | | | 102.5 | 157.6 ✓ ✓ |
| | | | | 294.7 −0.3 ✓ |

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| | | | | |
|---|---|---|---|---|
| | | 143.3 | 1 r 0.7 ✓ | |
| 9 | 34 | 5 | 194.0 | 10 |
| | | | 42.5 1 K 1 r ✓ | |
| | | | 189.0 292.2 ✓ −0.6 ✓ | |
| | | | 148.0 1 K 0.1 ✓ | |
| 9 | 36 | 7 | 188.1 | |
| | | | 143.0 1 r 0.2 ✓ | 10 |
| | | | 193.2 290.3 ✓ −0.r ✓ | |

Index to right and above.

| | | | | |
|---|---|---|---|---|
| | | | 312.2 1 r 0.0 ✓ | |
| 9 | 38 | 38 | 104.2 | 10 |
| | | | 319.3 134.7 ✓ | |
| | | | 98.0 290.7 ✓ −0.r ✓ | |
| | | | 320.4 136.4 ✓ | |
| 9 | 40 | 40 | 96.8 | |
| | | | ~~313.9~~ 1 K 2.2 ✓ | 10 |
| | | | 315.0 2 K 6.6 ✓ −0.3 ✓ | |
| | | | 103.2 | |

Index to left and below.

| | | | | |
|---|---|---|---|---|
| | | | ~~194.7~~ wrong image dis. | |
| 9 | 43 | 5 | 224.0 1 r 1.0 ✓ | |
| | | | 15.0 | |
| | | | 229.7 139.A ✓ | |
| | | | 9.5 290.A ✓ −0.r ✓ | |

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U Cephei and +81° 26.

Index to right and below.

222.2 ∠ 81° 26 dis.

15.5

10 4 43 221.7 1v3.3 ✓

16.0 1v43 ✓

307.6 ✓ −1.2 ✓

Index to left and above.

134.1 148.4 ✓

10 6 58 282.5

134.0 149.5 ✓

283.5 297.9 ✓ −0.8 ✓

134.0 149.1 ✓

10 8 48 283.1

134.0 151.0 ✓

285.0 300.1 ✓ −0.9 ✓

Index to right and below.

40.9

10 11 38 197.2 156.3 ✓

42.8

197.0 154.2 ✓

310.5 ✓ −1.3 ✓

41.8

10 13 10 196.2 154.4 ✓

41.2

196.0 154.8 ✓

309.2 ✓ −1.2 ✓

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Index to lift and above.
~~263.0~~ wrong image dis.

10 15 37

314.7
103.7 149.0 ✓
314.0 149.0 ✓
103.0 ~~149.0~~ ✓
~~29 A. 0~~ ✓ − 0. Å ✓

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Oct. 19. 1894.

Local con with square bar micrometer, of Cordoba Obs. −27°.13171 and .13173.

| | | |
|---|---|---|
| 18 | 37 | −28.0 |
| 21 | 15 | |
| 2 | 38 | |

Position zero = 115.2 +45. = 160.2

Order in transits on chronograph [9.6]. [9.6]. [9.0]. [9.0]. both in southern half.

Transits were taken at 7 h. 50 m. Eastern time.

Examination of sequence of polar stars selected by Mr Reed:

There is not much difference between β Draconis and γ Ursae Min: and by the Sb. P. there is only .2 mag: it would seem that γ Ursae Min. could be left out with advantage and β Draconis would be the better star to retain, being slightly brighter than γ Ursae Min. and making a pretty good

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Oct. 19. 1894.

interval with ζ Draconis, the interval to the eye being some 3 grades and by the sb. P. .3 mag.

Now that the sky has grown a little clearer γ Ursæ Min looks fully as bright and possibly a little brighter than β Draconis and γ would seem to be the latter star of the two to retain.

Star down Reid's middle chart, traced from Klein is uncertain from lack of similarity to Klein.

Sarg does not seem to be on Klein.

Sequence of Mr Reid seems pretty good with exception of above mentioned. all except his small diagram which was not examined: troubled somewhat by light clouds near pole during evening.

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Posted to here.

Oct. 20. 1894.

Looked at region of planetary nebula near star −27°:

13151.

| | | | |
|---|---|---|---|
| 18 | 37 | −28.0 | W. obs. |
| 21 | 35 | | |
| 2 | 58 | | |

8 Ry is so hazy that the 9.6 is faintly seen and the 9.7 only by glimpse: nothing is seen of planetary nebula and faint stars adjacent.

7 37

Above results whid into New Record Book #72. Page 1.

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1994phdt.proj..1295

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1894phstc.proj.1355

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