KG
11365
755

1903phae.proj..756C

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KE1136 5.705

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Original records of observations
made with Plot X on 5" by L. Campbell.
1903.

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KG 11365.755

1960phae.proj..1566

HARV
UNIVE
LIBRARY
JUL 17 1950

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Oct. 24, 1903, (Saturday)

E. M. T. Designation. a. d.

Too cloudy for measurements.

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1903phae.proj..756C



Oct. 26, 1903. (Monday)

E.M.T. Design.

| | | | |
|---|---|---|---|
| | Pleiades (f) | | |
| | 13.6 | +.03 | |
| | 12.2 | -.11 | 2" cap. used. |
| | 13.6 | +.03 | |
| | 13.8 | +.05 | |
| | 53.2 | .11 -.11 | |
| | 13.3 | ±.06 | |
| 8 10 | "g" | | |
| | 16.4 | +.08 | |
| | 13.8 | -.18 | 2" cap |
| | 16.6 | +.10 | |
| | 15.5 | -.01 | |
| | 62.3 | .18 -.19 | |
| | 15.6 | ±.09 | |
| " 8 12 | h | | |
| | 18.8 | .08 | |
| | 19.5 | .15 | 2" cap |
| | 16.6 | -.14 | |
| | 17.0 | -.10 | |
| | 71.9 | .23 -.24 | |
| | 18.0 | ±.12 | |
| 8 14 | "f" | | |
| | 13.6 | .01 | 2" cap. |
| | 14.0 | .05 | |
| | 12.6 | -.09 | |
| | 13.7 | .02 | |
| | 53.9 | .08 -.09 | |
| | 13.5 | ±.04 | |
| | "o" | | |
| 8 17 | 16.4 | .12 | 2" cap |
| | 15.4 | .02 | |
| | 12.3 | -.09 | |
| | 14.8 | -.04 | |
| | 60.9 | .14 -.13 | |
| | 15.2 | ±.07 | |

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1903phae..proj..756C



Oct. 26, 1903

f 19 Pleiades "L"

| | | |
|---|---|---|
| 17.4 | -.01 | |
| 17.6 | .01 | 2" cap. |
| 16.8 | -.07 | |
| 18.2 | .07 | |
| 70.0 | .08 -.08 | |
| 17.5 | ±.04 | Seeing very good. |

10 38 Vesta L +14.7 38

| | | |
|---|---|---|
| 7.2 | .04 | 2" cap |
| 5.8 | -.10 | |
| 7.8 | .00 | |
| 6.2 | -.06 | |
| 27.0 | .14 -.16 | |
| 6.8 | ±.08 | |

10 41 Vesta.

| | | |
|---|---|---|
| 5.8 | .04 | 2" cap. |
| 4.2 | -.12 | |
| 5.8 | .04 | |
| 5.8 | .04 | |
| 21.6 | .12 -.12 | |
| 5.4 | ±.06 | |

10 43 d" +14.745

| | | |
|---|---|---|
| 13.6 | .04 | 2" cap |
| 14.8 | -.04 | |
| 14.9 | -.03 | |
| 15.4 | .02 | |
| 60.7 | .06 -.07 | |
| 15.2 | ±.03 | |

10 45 Vesta

| | | |
|---|---|---|
| 4.8 | -.06. | 2" cap. |
| 4.7 | -.07 | |
| 6.2 | .08 | |
| 6.0 | .06 | |
| 21.7 | .14 -.13 | |
| 5.4 | ±.07 | |

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Oct. 26, 1903

10 47 Vesta "g" +114751

| | | |
|---|---|---|
| 15.8 | .02 | 2" cap |
| 15.8 | .02 | |
| 16.2 | .06 | |
| 14.8 | -.08 | |
| 62.6 | .10 -.08 | |
| 15.6 | ±.04 | |

(44) (492)

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1903phae.proj...756C



Oct. 27, 1903 (Tuesday)

δ 12 Pleiades f

| | | |
|---|---|---|
| 11.8 | -.04 | 2" cap |
| 13.2 | .10 | |
| 10.8 | -.14 | |
| 12.8 | .06 | |
| 48.6 | .16 -.18 | |
| 12.2 | ±.08 | |

δ 16 g

| | | |
|---|---|---|
| 13.2 | -.07 | 2" cap |
| 13.4 | -.05 | |
| 14.2 | +.03 | |
| 14.8 | +.09 | |
| 55.6 | +.12 -.12 | |
| 13.9 | ±.06 | |

δ 19 h

| | | |
|---|---|---|
| 16.3 | -.03 | 2" cap. |
| 16.1 | -.05 | |
| 17.0 | +.04 | |
| 16.8 | +.02 | |
| 66.2 | +.06 -.08 | |
| 16.6 | ±.04 | |

δ 23 f

| | | |
|---|---|---|
| 10.4 | +.04 | 2" cap. |
| 10.4 | +.04 | |
| 10.0 | .00 | |
| 9.2 | -.08 | |
| 40.0 | +.08 -.08 | |
| 10.0 | ±.04 | |

δ 26 g

| | | |
|---|---|---|
| 11.8 | +.08 | 2" cap |
| 10.2 | -.08 | |
| 11.8 | +.08 | |
| 10.4 | -.06 | |
| 44.2 | +.16 -.14 | |
| 11.0 | ±.08 | |

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1903phae.proj..756C



Oct. 27, 1903

8 30 h (Pleiades) 2" cap.

| | |
|---|---|
| 14.8 | .06 |
| 14.6 | .04 |
| 12.6 | -.16 |
| 14.6 | .04 |
| 56.6 | +14 -16 |
| 14.2 | ±.08 |

Second series more difficult than the first. artificial star became some fainter & more connections ~~connections~~ ill defined as a star Possibly became loosened.

9 30 Somewhat cloudy.

9 35 Vesta.

13.2
12.5 Reject clouds here

10 58 +14.738

| | | |
|---|---|---|
| 7.2 | .06 | 2" cap |
| 7.1 | .05 | |
| 5.3 | -.13 | |
| 6.8 | .02 | |
| 26.4 | .13 -.13 | |
| 6.6 | ±.06 | |

11 00 Vesta

| | | |
|---|---|---|
| 6.8 | -.08 | 2" cap. |
| 7.8 | .02 | |
| 7.8 | .02 | |
| 8.2 | .06 | |
| 30.6 | +.10 -.08 | |
| 7.6 | ±.04 | |

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1903phae.proj..756C



Oct. 27, 1903

11:02 +14.745

| | | |
|---|---|---|
| 15.6 | .01 | 2" cap |
| 16.8 | .13 | |
| 14.8 | -.07 | |
| 14.8 | -.07 | |
| 62.0 | -.14 -.14 | |
| 15.5 | ±.04 | |

11:04 Vesta

| | | |
|---|---|---|
| 7.2 | -.10 | 2" cap |
| 8.2 | .00 | |
| 8.4 | .02 | |
| 8.8 | .06 | |
| 32.6 | -.08 -.10 | |
| 8.2 | ±.04 | |

11:07 +14.751

| | | |
|---|---|---|
| 14.4 | -.16 | 2" cap. |
| 16.3 | +.03 | |
| 16.2 | +.02 | |
| 17.2 | +.12 | Sky good & clear seeing fairly good. |
| 64.1 | .17 -.16 | |
| 16.0 | ±.08 | |

(44) (536)

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1903phae.proj..756C



Oct. 28, 1903 (Wednesday)

JD. 6416

7 47 δ Bootis e

| | |
|---|---|
| 19.2 | .06 |
| 17.3 | -.13 |
| 18.8 | .02 |
| 19.0 | .04 |
| 74.3 | .12 -.13 |
| 18.6 | ±.06 |

7 50 Var

| | |
|---|---|
| 17.2 | -.06 |
| 18.1 | .03 |
| 17.7 | -.01 |
| 18.4 | .06 |
| 71.4 | .09 -.07 |
| 17.8 | ±.04 |

7 52 # C

| | |
|---|---|
| 12.4 | -.07 |
| 13.2 | .01 |
| 12.9 | -.02 |
| 13.8 | .07 |
| 52.3 | .08 -.09 |
| 13.1 | ±.04 |

7 54 Var

| | |
|---|---|
| 18.1 | .03 |
| 17.2 | -.06 |
| 17.1 | -.07 |
| 18.6 | .08 |
| 71.0 | .11 -.13 |
| 17.8 | ±.06 |

7 56 Thrahoj e

| | |
|---|---|
| 14.8 | -.06 |
| 15.8 | .04 |
| 14.9 | -.05 |
| 16.1 | .07 |
| 61.6 | .11 -.11 |
| 15.4 | ±.06 |

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1903phae..proj..756C



Oct 24, 1903

7 58 Var

| | |
|---|---|
| 14.6 | .07 |
| 13.2 | -.07 |
| 12.9 | -.10 |
| 14.9 | +.10 |
| 55.6 | .17-.17 |
| 13.9 | ±.08 |

A 00 f

| | |
|---|---|
| 16.1 | .02 |
| 15.8 | -.01 |
| 15.9 | .00 |
| 15.7 | -.02 |
| 63.5 | .02-.03 |
| 15.9 | ±.01 |

A 02 Var

| | |
|---|---|
| 13.6 | -.05 |
| 14.2 | .03 |
| 13.1 | -.08 |
| 14.8 | .09 |
| 55.5 | .12-.13 |
| 13.9 | ±.06 |

A 37 S Mus Maj. "C"

| | |
|---|---|
| 9.8 | -.05 |
| 10.6 | .03 |
| 10.0 | -.03 |
| 10.8 | .05 |
| 41.2 | .08-.08 |
| 10.3 | ±.04 |

A 39 Var

| | |
|---|---|
| 13.3 | .00 |
| 13.2 | -.01 |
| 12.8 | -.05 |
| 13.8 | +.05 |
| 53.1 | .05-.06 |
| 13.3 | ±.03 |

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1903phae.proj..756c



Oct. 28, 1903

f 41 star g

| | |
|---|---|
| 17.6 | .06 |
| 16.8 | -.02 |
| 17.6 | .06 |
| 16.2 | -.08 |
| 68.2 | -.12 -.10 |
| 17.0 | ±.06 |

f 43 Var.

| | |
|---|---|
| 13.4 | .02 |
| 12.8 | -.04 |
| 13.2 | .00 |
| 13.2 | .00 |
| 52.6 | .02 -.04 |
| 13.2 | ±.02 |

f 46 RHrs Maj. g

| | |
|---|---|
| f.3 | .01 |
| f.1 | -.01 |
| f.2 | .00 |
| f.0 | -.02 |
| 32.6 | .01 -.03 |
| f.2 | ±.01 |

f 48 Var

| | |
|---|---|
| 17.2 | .04 |
| 16.8 | .00 |
| 15.8 | -.10 |
| 17.4 | +.06 |
| 67.2 | .10 -.10 |
| 16.8 | ±.05 |

f 50 h

| | |
|---|---|
| 11.5 | -.06 |
| 11.3 | -.08 |
| 12.8 | +.07 |
| 12.8 | +.07 |
| 48.4 | .14 -.14 |
| 12.1 | ±.07 |

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1903phae.proj..756C



Oct 28, 1903

f 52 Var

| | |
|---|---|
| 18.0 | .07 |
| 17.7 | .04 |
| 17.6 | .03 |
| 15.8 | -.15 |
| 69.1 | .14 = 15 |
| 17.3 | ± .07 |

9 35 Cloudy in the west

1000 Too thickly cloudy.

(64) (500)

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1903phae.proj..756C



Oct. 29, 1903 (Thursday)

JD .6417

δ 54.5 Pleiades "f"

| | | |
|---|---|---|
| 12.4 | .10 | 2" cap |
| 11.4 | .00 | |
| 11.2 | −.02 | |
| 10.8 | −.06 | |
| 45.8 | −.18 = .08 | |
| 11.4 | ±.04 | |

δ 56.5 g

| | | |
|---|---|---|
| 13.6 | −.02 | |
| 13.9 | .01 | |
| 13.8 | .00 | |
| 13.7 | −.01 | |
| 55.0 | .01 = .03 | |
| 13.8 | ±.01 | |

δ 58.8 h

| | | |
|---|---|---|
| 16.2 | .11 | |
| 15.8 | .07 | |
| 14.3 | −.08 | |
| 14.0 | −.11 | |
| 60.3 | +.18 = .19 | |
| 15.1 | ±.09 | |

9 00.8 f

| | | |
|---|---|---|
| 13.2 | −.12 | |
| 13.3 | .13 | |
| 10.4 | −.16 | |
| 11.3 | −.07 | |
| 48.2 | .25 = .23 | |
| 12.0 | ±.12 | |

9 02.6 g

| | | |
|---|---|---|
| 13.9 | .00 | |
| 13.8 | −.01 | |
| 14.8 | .09 | |
| 13.0 | −.09 | |
| 55.5 | +.09 = .10 | |
| 13.9 | ±.05 | |

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1903phae..proj..756C



Oct 29/1903

9 05.4 h

| | | |
|---|---|---|
| 16.2 | .06 | |
| 15.8 | .02 | |
| 15.6 | .00 | |
| 15.0 | -.06 | 2" cap used on above preceding setting & this running on the |
| 62.6 | -.08 -.06 | pleiades. |
| 15.6 | ±.04 | |

9 25.8 (Vesta) +14738

| | | |
|---|---|---|
| 10.4 | .02 | 2" cap. |
| 10.8 | .06 | |
| 10.4 | .02 | |
| 9.0 | -.12 | |
| 40.6 | -.10 -.12 | |
| 10.2 | ±.06 | |

28.8 Vesta

| | | |
|---|---|---|
| 12.2 | .06 | |
| 10.5 | -.11 | 2" cap |
| 11.7 | .01 | |
| 12.0 | .04 | |
| 46.4 | -.11 -.11 | |
| 11.6 | ±.06 | |

32.8 +14745

| | | |
|---|---|---|
| 17.4 | -.04 | |
| 17.8 | .00 | 2" cap |
| 18.2 | .04 | |
| 17.6 | -.02 | |
| 71.0 | .04 -.06 | |
| 17.8 | ±.02 | |

9 35.0 Vesta

| | | |
|---|---|---|
| 13.0 | .08 | |
| 13.2 | .10 | |
| 11.1 | -.11 | |
| 11.4 | -.08 | 2" cap used |
| 48.7 | .18 .17 | stopped to record at 15" |
| 12.2 | .04 .09 | |

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Oct. 29, 1903

| | | | |
|---|---|---|---|
| 10 02.4 | +14,751 | | |
| | 17.4 | -.02 | 2" cap |
| | 17.2 | -.04 | |
| | 17.8 | .02 | |
| | 18.2 | .06 | |
| | 70.6 | .08-.06 | |
| | 17.6 | ±.04 | |
| | Vesta | | |
| 10 04.8 | 10.4 | .00 | |
| | 10.6 | .02 | 2" cap |
| | 10.2 | -.02 | |
| | 10.4 | .00 | |
| | 41.6 | -.02-.02 | |
| | 10.4 | ±.01 | |
| 10 06.8 | +14,738 | | |
| | 8.3 | -.06 | 2" cap |
| | 8.1 | -.08 | |
| | 9.8 | +.09 | |
| | 9.4 | +.05 | |
| | 35.6 | +.14-.14 | |
| | 8.9 | ±.07 | |
| 10 10.5 | +15,670 | | |
| | 19.3 | -.03 | 2" cap |
| | 19.8 | .08 | |
| | 18.4 | -.06 | |
| | 18.4 | -.06 | |
| | 75.9 | .11-.12 | |
| | 19.0 | ±.06 | |
| 10 12.8 | Vesta | | |
| | 9.3 | -.11 | 2" cap |
| | 10.6 | .02 | |
| | 10.8 | .04 | |
| | 10.7 | .03 | |
| | 41.4 | .09-.11 | |
| | 10.4 | ±.05 | |

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Oct 29, 1903

12 15.5 Neptune +22,1352 a

| | |
|---|---|
| 7.8 | .02 |
| 8.8 | .12 |
| 5.6 | -.20 |
| 8.K | +.08 |
| 30.6 | .22 -.20 |
| 7.6 | ±.10 |

2" cap.

12 18.6 Neptune

| | |
|---|---|
| 12.8 | -.02 |
| 12.8 | -.02 |
| 13.5 | .05 |
| 12.8 | -.02 |
| 51.9 | -.05 -.06 |
| 12.6 | ±.03 |

" "

12 21.6 C +22,1364

| | |
|---|---|
| 10.6 | +.08 |
| 8.5 | -.13 |
| 9.4 | -.04 |
| 10.6 | +.08 |
| 39.1 | .16 -.17 |
| 9.8 | ±.08 |

12 23.8 Neptune

| | |
|---|---|
| 13.1 | .03 |
| 13.6 | .08 |
| 11.8 | -.10 |
| 12.8 | .00 |
| 51.3 | .11 -.10 |
| 12.8 | ±.05 |

" "

12 26.0 b +21,1268

| | |
|---|---|
| 11.8 | -.08 |
| 13.2 | .06 |
| 12.8 | .02 |
| 12.8 | .02 |
| 50.6 | .10 -.08 |
| 12.6 | ±.04 |

" "

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1903phae.proj..756c



Oct 29, 1903

| | | | |
|---|---|---|---|
| 12 29.0 | ♆ Neptune | | 2" cap |
| | 12.0 | -.11 | |
| | 12.8 | -.03 | |
| | 13.8 | .07 | |
| | 13.8 | .07 | |
| | 52.4 | .14 -.14 | |
| | 13.1 | ±.07 | |
| 12 32.4 | α +21.1270 | | " |
| | 15.8 | -.02 | |
| | 16.2 | .02 | |
| | 16.2 | .02 | |
| | 15.6 | -.06 | |
| | 63.8 | .04 -.06 | |
| | 16.0 | ±.02 | |
| 12 57.5 | R Leo Min | | 2" cap. |
| | 9.8 | .06 | |
| | 8.8 | -.04 | |
| | 9.7 | .05 | |
| | 8.7 | -.05 | |
| | 37.0 | .11 -.09 | |
| | 9.2 | ±.05 | |
| 12 59.0 | Var | | 2" cap |
| | 11.3 | -.03 | |
| | 11.8 | .02 | |
| | 11.8 | .02 | |
| | 11.7 | .01 | |
| | 46.6 | .05 -.03 | |
| | 11.6 | ±.02 | |
| 13 01.0 | ♀ | | 2" cap |
| | 17.2 | .08 | |
| | 15.8 | -.06 | |
| | 15.8 | -.06 | |
| | 17.0 | .06 | |
| | 65.8 | .14 -.12 | |
| | 16.4 | ±.06 | |

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1903phae.proj..756C



Oct 29, 1903.

| | | | |
|---|---|---|---|
| 13 3.4 | Var | | 2" cap. |
| | 10.9 | -.08 | |
| | 11.0 | -.07 | |
| | 12.0 | .03 | |
| | 12.8 | .11 | |
| | 46.7 | -.14-.15 | |
| | 11.7 | ±.07 | |
| 13 57.0 | Lacaille f | | 2" cap. |
| | ~~13.6~~ | | |
| | 11.8 | -.06 | |
| | 13.2 | .08 | |
| | 12.4 | .00 | |
| | 12.4 | .00 | |
| | 49.8 | -.08-.06 | |
| | 12.4 | ±.04 | |
| 14 05.0 | Var | | 2" cap |
| | 4.2 | -.07 | |
| | 4.8 | -.01 | |
| | 5.2 | .03 | |
| | 5.4 | .05 | |
| | 19.6 | -.08-.08 | |
| | 4.9 | ±.04 | |
| 14 02.2 | h | | 2" cap |
| | 15.8 | -.02 | |
| | 16.2 | .02 | |
| | 16.0 | .00 | |
| | 16.2 | .02 | |
| | 64.2 | .04-.02 | |
| | 16.0 | ±.02 | |
| 14 4.2 | Var | | 2" cap |
| | 6.0 | .06 | |
| | 5.0 | -.04 | |
| | 5.6 | .02 | |
| | 5.0 | -.04 | |
| | 21.6 | -.08-.02 | |
| | 5.4 | ±.04 | |

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1903phae.proj..756c



Oct 29, 1903

14 X31.6 Lewis m 2" cap

| | |
|---|---|
| 13.8 | -.05 |
| 13.8 | .05 |
| 12.8 | -.05 |
| 12.8 | -.05 |
| 53.2 | -.10 -.10 |
| 13.3 | ±.05 |

33.0 Var 2" cap

| | |
|---|---|
| 10.2 | -.05 |
| 11.1 | .04 |
| 10.4 | -.03 |
| 11.1 | +.04 |
| 42.8 | .04-.04 |
| 10.7 | ±.04 |

3 V.O m 2" cap

| | |
|---|---|
| 16.0 | .00 |
| 15.8 | -.02 |
| 16.4 | .04 |
| 15.7 | -.03 |
| 63.9 | -.04-.05 |
| 16.0 | ±.02 |

14 3A Var 2" cap

| | |
|---|---|
| 10.4 | -.01 |
| 10.0 | -.05 |
| 10.5 | .00 |
| 11.0 | +.05 |
| 41.9 | .05-.06 |
| 10.5 | ±.03 |

14 U Monocerotis (a) 2" cap

Abandoned stars too bright

Cs Watch used = 20$^s$ slow

(136) (636)

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1903phae.proj..756C



(Friday) Oct 30, 1903

JD .6418

5:40 Too cloudy for measurements now.

7 00 Clearer.

T Herculis full aperture used.

| | | | |
|---|---|---|---|
| 24.0 | m | | |
| | 19.8 | .06 | |
| | 19.8 | .06 | |
| | 18.8 | -.04 | |
| | 18.4 | -.08 | |
| | ~~19.8~~ 19.2 | +12-12 | |
| | Var | ±.06 | |
| 26.0 | 16.2 | -.02 | |
| | 16.2 | -.02 | |
| | 16.5 | .01 | |
| | 16.6 | .02 | |
| | 65.5 | .03-.04 | |
| | 16.4 | ±.02 | |
| 28.6 | m | | |
| | 20.2 | .05 | |
| | 19.8 | .01 | |
| | 20.1 | .04 | |
| | 18.8 | .09 | |
| | ~~78.9~~ 19.7 | 10-.09 | |
| 7 31.4 | Var | ±.05 | |
| | 16.4 | .00 | |
| | 16.8 | .04 | |
| | 15.5 | -.09 | |
| | 16.8 | .04 | |
| | 65.5 | +.08-.09 | |
| | 16.4 | ±.04 | |

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1903phae.proj..756c



Oct. 30, 1903

7 +44.0 RCamelop c — Full aperture

| | | |
|---|---|---|
| | 12.0 | .02 |
| | 14.0 | .02 |
| | 13.4 | -.04 |
| | 13.6 | -.02 |
| | 55.0 | .04-.06 |
| | 13.8 | ±.02 |

47.0 Var

| | | |
|---|---|---|
| | f.0 | .00 |
| | f.2 | .02 |
| | f.6 | .06 |
| | 7.0 | -.10 |
| | 31.8 | .04-.10 |
| | f.0 | ±.04 |

49.6 d

| | | |
|---|---|---|
| | 16.2 | -.06 |
| | 17.0 | .02 |
| | 16.8 | .00 |
| | 17.2 | .04 |
| | 67.2 | .06-.06 |
| | 16.8 | ±.03 |

7 51.4 Var

| | | |
|---|---|---|
| | 7.8 | -.06 |
| | f.4 | .00 |
| | f.4 | .00 |
| | 9.2 | .08 |
| | 33.8 | .08-.06 |
| | f.4 | ±.04 |

Cs watch = 18$^{m}$ slow

(32) (68)

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Oct. 31/1903 (Saturday)
J.D. 6419

| | | | |
|---|---|---|---|
| 25.0 | Vaquilae f | | 2" cap |
| | 14.9 | .01 | |
| | 14.1 | -.07 | |
| | 15.4 | .06 | |
| | 15.0 | .02 | |
| | 59.4 | .09 - .07 | |
| | 14.8 | ±.04 | |
| 26.5 | Var | | 2" cap |
| | 14.8 | .02 | |
| | 14.8 | .02 | |
| | 14.6 | .00 | Var quite red disk |
| | 14.4 | -.02 | |
| | 58.6 | .04 - .02 | |
| | 14.6 | ±.02 | |
| 28.8 | g | | 2" cap |
| | 20.8 | .07 | |
| | 19.3 | -.08 | |
| | 20.4 | .03 | |
| | 20.0 | -.01 | |
| | 80.5 | .10 - .09 | |
| | 20.1 | ±.05 | |
| 31.0 | Var | | 2" cap |
| | 14.9 | -.07 | |
| | 16.0 | .04 | |
| | 15.4 | -.02 | |
| | 16.0 | .06 | |
| | 62.3 | .10 - .09 | |
| | 15.6 | ±.05 | |

Moon bright and setting somewhat difficult especially outlier variable itself

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1903phae.proj..756C



Oct. 31, 1903

#9 000 Pleiades f 2" cap.

| | | |
|---|---|---|
| | 13.4 | -.03 |
| | 13.6 | -.01 |
| | 13.9 | .02 |
| | 14.0 | .03 |
| | 54.9 | .05-.04 |
| | 13.7 | ±.02 |
| 020.0 | g | " |
| | 14.2 | -.01 |
| | 14.8 | -.02 |
| | 15.2 | .02 |
| | 15.8 | .08 |
| | 60.0 | 12-.16 |
| | 15.0 | ±.04 |
| 046.0 | h | " |
| | 18.2 | .06 |
| | 17.5 | -.01 |
| | 17.4 | -.02 |
| | 17.4 | -.02 |
| | 70.5 | .06-.05 |
| | 17.6 | ±.03 |
| 060.0 | f | " |
| | 14.1 | .01 |
| | 14.2 | .02 |
| | 13.8 | -.02 |
| | 13.8 | -.02 |
| | 55.9 | .03-.04 |
| | 14.0 | ±.02 |
| 082.2 | g | " |
| | 16.8 | .12 |
| | 15.4 | -.02 |
| | 15.0 | -.06 |
| | 15.0 | -.06 |
| | 62.2 | .12-.14 |
| | 15.6 | ±.06 |

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Oct. 31, 1903.

9 10.4 h. 2" cap.

| | |
|---|---|
| 18.0 | .03 |
| 18.0 | .03 |
| 17.0 | -.07 |
| 17.8 | .01 |
| 70.8 | -.07 |
| 17.7 | ±.04 |

Moon rather bright and Mars somewhat difficult but considered good.

9 41.0 +14°38 Vesta 2" cap.

| | |
|---|---|
| 10.8 | -.07 |
| 10.8 | -.07 |
| 12.2 | .07 |
| 12.1 | .06 |
| 45.9 | .13 - .14 |
| 11.5 | ±.07 |

43.4 Vesta "

| | |
|---|---|
| 16.8 | .10 |
| 15.6 | -.02 |
| 16.0 | -.08 |
| 63.4 | .02 |
| 15.8 | .12 - .10 |
| | ±.06 |

46.4 +14°45 "

| | |
|---|---|
| 20.8 | -.03 |
| 20.8 | -.03 |
| 21.2 | .01 |
| 21.6 | .05 |
| 84.4 | .06 - .06 |
| 21.1 | ±.03 |

9 48.4 Vesta "

| | |
|---|---|
| 15.6 | .01 |
| 14.8 | -.07 |
| 16.2 | .07 |
| 15.5 | .00 |
| 62.1 | .08 - .07 |
| 15.5 | ±.04 |

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1903phae.proj..756C



Oct. 31, 1903

9 5 1.0 +14,726 2" cap

| | | |
|---|---|---|
| 19.8 | -.04 | |
| 20.2 | .00 | |
| 20.4 | .02 | |
| 20.6 | .04 | |
| 1.0 | .06-.04 | |
| 20.2 | ±.02 | |

53.4 Vesta "

| | | |
|---|---|---|
| 14.6 | -.05 | Ob. somewhat difficult |
| 14.8 | -.03 | but considered good or great |
| 15.6 | .05 | care was exercised on same. |
| 15.4 | .03 | |
| 0.4 | .08-.08 | |
| 15.1 | ±.04 | |

10 30 Nothing more can be done to a good advantage tonight, moon bright and some haze in sky.

C's watch used = 18ˢ slow.

Ledgered & Plotted to here.

(64) (732)

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1903phae.proj..756C



(Tuesday) November 3, 1903

J.D. 6422

7 45.0 f Vaquilae. 2" cap.

| | |
|---|---|
| 13.0 | .01 |
| 13.0 | .01 |
| 13.4 | .05 |
| 12.2 | -.07 |
| 51.6 | .07-.07 |
| 12.9 | ±.04 |

Watch used is correct.

4 8.0 Var 2" cap

| | |
|---|---|
| 14.6 | .15 |
| 14.2 | .11 |
| 12.2 | -.09 |
| 11.4 | -.17 |
| 52.4 | .26-.26 |
| 13.1 | ±.13 |

Very hard to measure due to redness.

W 0.5 g 2" cap

| | |
|---|---|
| 15.6 | -.06 |
| 16.8 | .06 |
| 17.1 | .09 |
| 15.4 | -.08 |
| 64.9 | .15-.14 |
| 16.2 | ±.07 |

52.7 Var. 2" cap.

| | |
|---|---|
| 10.4 | .12 |
| 9.8 | .06 |
| 8.2 | -.10 |
| 8.2 | -.10 |
| 36.6 | .18-.20 |
| 9.2 | ±.10 |

Abs or above very difficult and just over 1/2 wt. Moon very light and region somewhat low.

9 33.5 +14 7 38 "Vesta" 2" cap.

| | |
|---|---|
| 4.2 | .01 |
| 3.2 | -.09 |
| 3.8 | -.03 |
| 5.2 | .11 |
| 16.4 | .12-.12 |
| 4.1 | ±.06 |

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1903phae.proj..756C



Nov. 3, 1903

| | | | |
|---|---|---|---|
| 9 35.6 | Vesta | | 2" cap |
| | 7.2 | .06 | |
| | 5.8 | -.08 | |
| | 6.8 | .02 | |
| | 6.8 | .02 | |
| | 26.6 | +.10-.08 | |
| | 6.6 | ±.04 | |
| 9 37.2 | +14.726 | | |
| | 10.2 | -.08 | |
| | 10.3 | -.07 | |
| | 11.8 | .08 | |
| | 11.8 | .08 | |
| | 44.1 | .16-.15 | |
| | 11.0 | ±.08 | |
| 9 39.0 | Vesta | | " |
| | 5.9 | .00 | |
| | 5.0 | -.09 | |
| | 6.8 | .09 | |
| | 5.8 | -.01 | |
| | 23.5 | .09-.10 | |
| | 5.9 | ±.05 | |
| 9 42.7 | +14.729 | | " |
| | 13.9 | -.13 | |
| | 15.8 | .06 | |
| | 15.4 | .02 | |
| | 15.8 | .06 | |
| | 60.9 | .14-.13 | |
| | 15.2 | ±.07 | |
| 9 44.2 | Vesta | | " |
| | 7.8 | .06 | |
| | 7.8 | .06 | |
| | 6.8 | -.04 | |
| | 6.2 | -.10 | |
| | 28.6 | .12-.14 | |
| | 7.2 | ±.06 | |

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Nov. 3, 1903

| | | | |
|---|---|---|---|
| 9 46.0 | +15.670 | | 2" cap |
| | 14.8 | .02 | |
| | 14.2 | -.04 | |
| | 14.8 | .02 | |
| | 14.7 | .01 | |
| | 58.5 | .05-.04 | |
| | 14.6 | ±.02 | |
| 9 48.2 | +14.751 | | " |
| | 15.3 | -.03 | Moon bright but observa- |
| | 15.3 | -.03 | tion fairly easy & considered |
| | 16.2 | .06 | good. |
| | 15.4 | -.02 | |
| | 62.2 | .06-.08 | |
| | 15.6 | ±.04 | |
| 10 05.0 | ~~+22.1352~~ Neptune | | 2" cap. |
| | 7.8 | -.06 | |
| | 8.2 | -.02 | |
| | 9.2 | .08 | |
| | 8.2 | -.02 | |
| | 33.4 | .04-.10 | |
| | 8.4 | ±.04 | |
| 10 07.4 | Neptune | | " |
| | 14.2 | .01 | |
| | 14.2 | .01 | |
| | 13.8 | -.03 | |
| | 14.2 | .01 | |
| | 56.4 | .03-.03 | |
| | 14.1 | ±.02 | |
| 10 10.0 | +21.1268 | | " |
| | 12.8 | .04 | |
| | 12.8 | .04 | |
| | 11.8 | -.06 | |
| | 12.0 | -.04 | |
| | 49.4 | .04-.10 | |
| | 12.4 | ±.04 | |

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Nov. 3, 1903

10 12.0 Neptune 2" cap

| | |
|---|---|
| 13.3 | -.07 |
| 14.2 | .02 |
| 14.2 | .02 |
| 14.2 | .02 |
| 55.9 | .06-.07 |
| 14.0 | ±.03 |

Moon light but these obs considered good

Ledgered Plotted Posted

164 (796)

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Wednesday November 4, 1903

JD 6422

> ov clouds in the west.

9 30 Clearer now

+14.138

2" cap.

Vesta

"

Light don't work so abandoned

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1903phae.proj..756c



Monday Nov. 9, 1903.

| | | | |
|---|---|---|---|
| 6 12.8 | m | τ Herculis | 5" ~~6~~ |
| | 14.9 | .00 | |
| | 14.6 | .03 | |
| | 15.2 | .03 | |
| | 14.8 | .01 | |
| | 59.5 | .03-.04 | |
| | 14.9 | ±.02 | |
| 16.0 | Var | " | " |
| | 10.2 | .07 | |
| | 9.4 | .01 | |
| | 8.8 | .07 | |
| | 9.6 | .01 | |
| | 38.0 | -.08-.08 | |
| | 9.5 | ±.04 | |
| 19.0 | m | " | " |
| | 17.2 | .01 | |
| | 16.8 | .05 | |
| | 18.0 | .07 | |
| | 17.2 | .01 | |
| | 69.2 | .07-.07 | |
| | 17.3 | ±.04 | |
| 6 22.0 | Var. | " | " |
| | 10.8 | .07 | |
| | 9.8 | .03 | Seeing quite blurry and air |
| | 9.8 | .03 | windy making obs. a little diff. |
| | 10.0 | .01 | |
| | 40.4 | .07-.07 | |
| | 10.1 | ±.04 | |

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1903phae.proj..756C



Nov. 9, 1903.

δ 36.0 +14.)3A Vesta 2" cap.

| | |
|---|---|
| 2.A | .00 |
| 3.0 | .02 |
| 2.4 | .04 |
| 2.A | .00 |
| 11.0 | .02 - .04 |
| 2.A | ± .02 |

δ 3A.0 Vesta "

| | |
|---|---|
| 4.A | .02 |
| 5.2 | .02 |
| 5.2 | .02 |
| 5.0 | .00 |
| 20.2 | .04 - .02 |
| 5.0 | ± .02 |

δ 40.0 +14.)26 " "

| | |
|---|---|
| 9.2 | .09 |
| 11.2 | .11 |
| 10.0 | .01 |
| 10.0 | .01 |
| 40.4 | .11 - .11 |
| 10.1 | ± .06 |

δ 42.2 Vesta " "

| | |
|---|---|
| 5.3 | .00 |
| 5.0 | .03 |
| 6.0 | .07 |
| 5.0 | .03 |
| 21.3 | .07 - .06 |
| 5.3 | ± .03 |

10 00 Watch used tonight = 5' slow.

L.P.P.

(32) (A28)

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(Wednesday) Nov. 11, 1903

J.D. 6430

d 38 Became too cloudy ~~to~~ observe.

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1903phae.proj..756C



Thursday) Nov. 12, 1903 (D.D. 6431)

R Canelop. 5" cap

full aperture

Cavatch used & corrects.

Seeing very poor & unsteady mirages dancing in the field all the time.

| | | | |
|---|---|---|---|
| A 16.4 | C | | |
| | 13.4 | .02 | |
| | 12.7 | .05 | |
| | 12.7 | .05 | |
| | 13.8 | .06 | |
| | 52.6 | .08-.10 | |
| | 13.2 | ±.04 | |
| A 19.0 | Var | | |
| | 9.8 | .04 | |
| | 10.3 | .01 | |
| | 10.9 | .07 | |
| | 9.7 | .05 | |
| | 40.7 | .08-.09 | |
| | 10.2 | ±.04 | |
| A 21.5 | d | | |
| | 17.4 | .01 | |
| | 16.4 | .11 | |
| | 18.2 | .07 | |
| | 18.0 | .05 | |
| | 70.0 | .12-.12 | |
| | 17.5 | ±.03 | |
| A 23.2 | Var | | |
| | 9.8 | .04 | |
| | 8.9 | .05 | |
| | 9.8 | .04 | |
| | 8.9 | .05 | |
| | 37.4 | .08-.10 | |
| | 9.4 | ±.04 | |

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Nov. 12, 1903

| | | | |
|---|---|---|---|
| f | 24.1 | b | 5 Hrs Min. full aperture |
| | | 11.3 | .05 |
| | | 10.2 | .06 |
| | | 11.0 | .02 |
| | | 10.6 | .02 |
| | | 43.1 | .07 - .08 |
| | | 10.8 | ± .04 |
| f | 30.0 | Var | |
| | | 11.6 | .01 |
| | | 11.4 | .03 |
| | | 11.8 | .01 |
| | | 12.0 | .03 |
| | | 46.8 | .04 - .04 |
| | | 11.7 | ± .02 |
| f | 32.2 | C | |
| | | 13.4 | .01 |
| | | 13.3 | .06 |
| | | 13.0 | .03 |
| | | 13.6 | .03 |
| | | 53.3 | .04 - .03 |
| | | 13.3 | ± .02 |
| f | 33.8 | Var | |
| | | 11.3 | .01 |
| | | 10.8 | .04 |
| | | 11.3 | .01 |
| | | 11.4 | .02 |
| | | 44.8 | .04 - .04 |
| | | 11.2 | ± .02 |

Seeing still rather poor but care exercised.

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1903phae.proj..756C



Nov. 12, 1903

~~26~~
~~q 20.0 +14.7 38~~ Vesta 2" cap

7.4
~~7.2~~
7.3
7.8

Reject light readjusted

q 30.0 Vesta
1.3
~~1.8~~
~~1.6~~
1.6

q 32.2 star X see to right

10.2
9.4
10.4
10.0

q 34.0 Vesta
1.8
1.8
2.0
1.6

Same Order

q 36.6 +14.726 Really a smaller cap should have been used above for a brighter light obtained

12.8 Reject see next page. Light readjusted once more

10.3
10.6
45.9
11.5

.13
.07
.12
.09
.20 - .21
± .10

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Nov. 12, 1900

9 40.0 +14 738 Vesta 2" cap.

| | |
|---|---|
| 9.8 | .08 |
| 8.8 | .02 |
| 8.0 | .06 |
| 9.6 | .10 |
| 34.2 | -.12 -.14 |
| 8.6 | ±.06 |

9 41.6 Vesta

| | |
|---|---|
| 10.0 | .04 |
| 9.8 | .02 |
| 8.8 | .08 |
| 10.0 | .04 |
| 38.6 | +.10 -.08 |
| 9.6 | ±.04 |

9 43.0 Vesta

| | |
|---|---|
| 9.8 | .00 |
| 9.6 | .02 |
| 9.8 | .00 |
| 10.1 | .03 |
| 39.3 | .03 -.02 |
| 9.8 | ±.01 |

9 45.0 star X=13°.688

| | |
|---|---|
| 17.0 | .02 |
| 17.2 | .00 |
| 17.0 | .02 |
| 17.4 | .02 +.02 -.04 |
| 68.6 | ±.02 |
| 17.2 | |

These observations better than those rejected, light unsteady but seeing variable & blurry

L. P.

(48) (76)

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(Saturday) Nov. 14 1903.

D -6433

R 12.0 e

12.2
12.4
12.6
12.8

Thursday. full open.

see below.

13.5 Var

| | |
|---|---|
| 16.8 | .12 |
| 15.0 | .06 |
| 16.0 | .06 |
| 15.8 | .02 |
| 62.6 | ±14 = .12 |
| 15.6 | ± .06 |

18.2 f

| | |
|---|---|
| 12.2 | .01 |
| 12.2 | .01 |
| 12.2 | .01 |
| 12.6 | .03 |
| 49.2 | .03 - .03 |
| 12.3 | ± .02 |

f certainly meas. a little ~~brighter than~~ e

21.4 Var.

| | |
|---|---|
| 14.8 | .06 |
| 14.2 | .12 |
| 16.4 | .10 |
| 16.4 | .10 |
| 61.8 | .20 = .18 |
| 15.4 | ± .10 |

8 24.0 e (over)

| | |
|---|---|
| 11.2 | .07 |
| 10.0 | .05 |
| 10.8 | .03 |
| 10.0 | .05 |
| 42.0 | .10 = .10 |
| 10.5 | ± .05 |

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Nov. 14, 1903

8 26.0 f  δ Mus maj: Full aper.

| | |
|---|---|
| 12.8 | .01 |
| 12.6 | .01 |
| 12.8 | .01 |
| 12.5 | .02 |
| 50.7 | +.02 −.03 |
| 12.7 | ±.01 |

27.2 Var.

| | |
|---|---|
| 9.8 | .10 |
| 11.1 | .03 |
| 11.1 | .03 |
| 11.0 | .02 |
| 43.0 | .08 −.10 |
| 10.8 | ±.04 |

29.0 g

| | |
|---|---|
| 15.2 | .08 |
| 15.0 | .10 |
| 14.0 | .00 |
| 14.0 | .00 |
| 58.2 | +.10 −.08 |
| 14.0 | ±.04 |

8 30.8 Var

| | |
|---|---|
| 12.0 | .09 |
| 10.4 | .07 |
| 11.0 | .01 |
| 11.0 | .01 |
| 44.4 | .09 −.09 |
| 11.1 | ±.04 |

10 9.0 +14.738 Vesta 2" Cap

| | |
|---|---|
| 0.2 | .01 |
| 0.2 | .01 |
| 0.6 | .03 |
| 0.2 | .01 |
| 1.2 | .03 −.03 |
| 0.3 | ±.02 |

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1903phae.proj..756C



Nov. 14, 1903.

| | | | |
|---|---|---|---|
| 10 12.0 | Vesta | | 2" cap. |
| | 3.4 | .01 | |
| | 2.8 | .07 | |
| | 3.8 | .03 | |
| | 3.9 | .04 | |
| | 13.9 | .07 = .08 | |
| | 3.5 | ± .04 | |
| 10 14.2 | +13.688 | | |
| | 10.8 | .04 | |
| | 10.1 | .03 | |
| | 9.8 | .06 | |
| | 10.8 | .04 | |
| | 41.5 | .08 = .09 | |
| | 10.4 | ± .04 | |
| 10 15.8 | Vesta | | |
| | 4.8 | .08 | |
| | 3.2 | .08 | |
| | 3.8 | .02 | |
| | 4.0 | .00 | |
| | 15.8 | .04 - .10 | |
| | 4.0 | ± .04 | |
| 10 18.0 | +14.726 | | |
| | 6.4 | .03 | |
| | 6.0 | .07 | |
| | 7.2 | .05 | |
| | 7.2 | .05 | |
| | 26.8 | .10 - .10 | |
| | 6.7 | ± .05 | |

Watch used tonight = 25$^s$ slow

L. F. P.

(52) (928)

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1903phae.proj..756C



Thursday Nov. 19, 1903

9 Vesta 1" cap.

Cs watch used = comet

Abandoned light not bright enough
to measure Vesta tonight.

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1903phae.proj..756C



Nov. 20, 1903 (Friday)

| | | | |
|---|---|---|---|
| 7 500 | 13.68 | Vesta | 1" cap |
| | 20.3 | .01 | |
| | 20.6 | .02 | |
| | 20.6 | .02 | |
| | 20.3 | .01 | |
| | 81.8 | .04 - .02 | |
| | 20.4 | ±.02 | |
| 7 520 | Vesta | | " |
| | 15.6 | .00 | |
| | 15.8 | .02 | |
| | 15.8 | .02 | |
| | 15.4 | -.02 | |
| | 62.6 | .04 - .02 | |
| | 15.6 | ±.02 | |
| 7 540 | 17.38 | | " |
| | 17.0 | Observer has doubt as to value of | |
| | 16.0 | these readings; might have read 5 divi- | |
| | 17.3 | sions wrong — therefore rejected. | |
| | 16.8 | | |
| 7 536 | Vesta | | " |
| | 15.8 | .02 | |
| | 15.8 | .02 | |
| | 15.0 | .06 | |
| | 15.6 | .00 | |
| | 62.2 | .06 - .04 | |
| | 15.6 | ±.02 | |
| 7 572 | 13.68 | | " |
| | 20.9 | .03 | |
| | 20.7 | .01 | |
| | 20.5 | .01 | |
| | 20.5 | .01 | |
| | 82.6 | .04 - .02 | |
| | 20.6 | ±.02 | |

Seeing somewhat poor.

Reject above see remarks of Nov. 24, 1903.

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Nov. 29, 1903

~~9 0.8 a~~ Neptune 2" cap.

8.1
8.5
8.8
9.0

Altered position of light

~~Neptune~~

9 05.0 ~~a = +22.1258~~

| | |
|---|---|
| 10.8 | .01 |
| 10.4 | .05 |
| 11.3 | .04 |
| 11.0 | .01 |
| 43.5 | .05-.06 |
| 10.9 | ±.03 |

06.4 Neptune

| | |
|---|---|
| 15.4 | .04 |
| 16.2 | .04 |
| 15.8 | .00 |
| 15.8 | .00 |
| 63.2 | .04-.04 |
| 15.8 | ±.02 |

07.8 ~~b = +21.1268~~

| | |
|---|---|
| 12.8 | .02 |
| 13.1 | .01 |
| 13.3 | .03 |
| 13.0 | .00 |
| 52.2 | .04-.02 |
| 13.0 | ±.02 |

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Nov. 20 1903

9 08.8 Neptune 2" c&p.

| | |
|---|---|
| 14.8 | .03 |
| 13.0 | .01 |
| 15.2 | .01 |
| 15.4 | .03 |
| 60.4 | .0404 |
| 15.1 | ±.02 |

seeing somewhat poor.

Ostwald used and Polaroid

L.P.P.

(32) (960)

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Saturday Nov. 21, 1903

D. 6440

δ 15.0 k — ζ Cygni full aperture.

| | |
|---|---|
| 11.8 | .02 |
| 12.2 | .06 |
| 10.6 | .10 |
| 11.8 | .02 |
| 46.4 | .10 -.10 |
| 11.6 | ±.05 |

17.0 Var

| | |
|---|---|
| 12.6 | .01 |
| 12.3 | .02 |
| 12.3 | .02 |
| 12.8 | .03 |
| 50.0 | .04 -.04 |
| 12.5 | ±.02 |

18.4 L

| | |
|---|---|
| 13.8 | .02 |
| 13.6 | .06 |
| 13.8 | .02 |
| 13.4 | .02 |
| 54.6 | .04 -.02 |
| 13.6 | ±.02 |

δ 19.6 Var

| | |
|---|---|
| 12.0 | .02 |
| 12.4 | .02 |
| 11.8 | .04 |
| 12.4 | .02 |
| 48.6 | .04 -.06 |
| 12.2 | ±.02 |

9 21.0 C — ζ Cygni 2" cf.

| | |
|---|---|
| 14.2 | .02 |
| 13.8 | .02 |
| 14.0 | .00 |
| 14.0 | .00 |
| 56.0 | .02 -.02 |
| 14.0 | ±.01 |

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Nov 21, 1903

9 23.0 Var

2" cap

| | |
|---|---|
| 16.4 | .01 |
| 15.8 | .05 |
| 16.8 | .05 |
| 16.2 | .01 |
| 65.2 | .06-.06 |
| 16.3 | ±.03 |

2 58 f

| | |
|---|---|
| 17.8 | .00 |
| 17.6 | .02 |
| 17.6 | .02 |
| 18.0 | .02 |
| 71.0 | .02-.04 |
| 17.8 | ±.02 |

9 27.6 Var

| | |
|---|---|
| 15.2 | .02 |
| 15.6 | .02 |
| 15.2 | .02 |
| 15.4 | .00 |
| 61.4 | .02-.04 |
| 15.4 | ±.02 |

" " "

" " "

8" watch used = 5s slow.

L. P. P.

(32) (992)

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Tues Nov 24, 1903

8 32.1 X+14687 Vesta 1" cap

| | | |
|---|---|---|
| | 9.8 | .04 |
| | 9.3 | .01 |
| | 9.0 | .04 |
| | 9.4 | .00 |
| | 37.5 | .04-.05 |
| | 9.4 | ±.02 |

3.30 Vesta

| | |
|---|---|
| 9.4 | |
| 9.8 | |
| 6.6 | wrong object pointed |
| 6.4 | |

4 20 Y +13689

| | | |
|---|---|---|
| | 16.6 | .00 |
| | 16.6 | .00 |
| | 16.4 | .02 |
| | 16.8 | .02 |
| | 66.4 | .02-.02 |
| | 16.6 | ±.01 |

43.6 Vesta

| | | |
|---|---|---|
| | 15.0 | .06 |
| | 14.4 | .00 |
| | 14.0 | .04 |
| | 14.4 | .00 |
| | 57.8 | .06-.04 |
| | 14.4 | ±.02 |

45.0 Vesta

| | | |
|---|---|---|
| | 14.0 | .02 |
| | 13.8 | .00 |
| | 13.4 | .04 |
| | 14.0 | .02 |
| | 55.2 | .04-.04 |
| | 13.8 | ±.02 |

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Nov 24, 1903

δ 46.6 star x 14687 Vesta cont.

| | |
|---|---|
| 9.0 | .03 |
| 9.2 | .01 |
| 9.2 | .01 |
| 9.6 | .03 |
| 37.2 | .04-.04 |
| 9.3 | ±.02 |

49.0 star y 13659

| | |
|---|---|
| 15.4 | .04 |
| 16.2 | .04 |
| 15.8 | cloudy & seeing poor. |
| 16.0 | .02 |
| 63.4 | .06-.04 |
| 15.8 | ±.02 |

Reject the obs. of Nov. 20 on Vesta as I am sure that the wrong object was observed for Vesta.

9 38 Clouds
9 45 All cloudy

(24)(10.6)

Chronometer = 6ˢ slow

L.P.

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(Wednes) Nov. 25, 1903 J.D. 6444

δ 31.0 ~~14.687~~ ~~13.668~~ x Vesta 1" cap

| | |
|---|---|
| 10.8 | .06 |
| 12.2 | .08 |
| 11.2 | .02 |
| 11.4 | .00 |
| 45.6 | .08 .08 |
| 11.4 | ±.04 |

Cs watch = 20° slow

33.0 Vesta

| | |
|---|---|
| 15.4 | .03 |
| 16.2 | .05 |
| 15.8 | .01 |
| 15.4 | .03 |
| 62.8 | 15.7 .06 .06 ±.03 |

cloudy horizon

Clearer 43.0 ~~13.659~~ 14.738 (e)

| | |
|---|---|
| 13.6 | .00 |
| 13.4 | .02 |
| 13.6 | .00 |
| 13.8 | .02 .02 .02 |
| 54.4 | |
| 13.6 | ±.01 |

44.2 Vesta

| | |
|---|---|
| 14.8 | .06 |
| 15.0 | .04 |
| 15.8 | .04 |
| 15.8 | .04 |
| 61.4 | .08 .10 |
| 15.4 | ±.04 |

δ 45.8 13.659 (y)

| | |
|---|---|
| 16.4 | .06 |
| 16.9 | .01 |
| 17.3 | .03 |
| 17.2 | .02 |
| 67.8 | .05 .07 |
| 17.0 | ±.03 |

more hazy cld coming will not continue

(20 (1036)

L.P.

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1903phae.proj..756C



(Saturday) Nov 28, 1903 JD 6447

9 15,5 14687 Vesta 1" eap

| | |
|---|---|
| 9.3 | .02 |
| 10.1 | .06 |
| 9.0 | .03 |
| 9.6 | .01 |
| 38.0 | -.07 -.07 |
| 9.5 | ±.04 |

Cs watch used = correct.

17.6 Vesta

| | |
|---|---|
| 14.1 | .10 |
| 13.2 | .01 |
| 12.8 | .03 |
| 12.4 | .07 |
| 52.5 | -.11 -.10 |
| 13.1 | ±.05 |

20.0 13659

| | |
|---|---|
| 13.2 | .08 |
| 15.0 | .10 |
| 13.9 | .01 |
| 14.0 | .00 |
| 56.1 | -.10 -.09 |
| 14.0 | ±.05 |

22.6 Vesta.

| | |
|---|---|
| 13.1 | .02 |
| 12.8 | .01 |
| 12.8 | .01 |
| 13.0 | .01 |
| 51.7 | .03 -.02 |
| 12.9 | ±.01 |

25.0 14.738

| | |
|---|---|
| 10.0 | .04 |
| 11.4 | .10 |
| 9.9 | .05 |
| 10.1 | .03 |
| 41.4 | .10 -.12 |
| 10.4 | ±.06 |

seeing very good and obs considered good also.

L.P.S.

(20)(1056)

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1903phae.proj..756C



(Monday) Nov. 30, 1903

JL 6449

8 06.4 14.687 Vesta 2" cap.

| | | |
|---|---|---|
| 5.6 | .01 | |
| 5.4 | .03 | Cs watch = 32s fast. |
| 5.8 | .01 | |
| 6.0 | .03 | |
| 22.8 | .04 - .04 | |
| 5.7 | ± .02 | |

09.0 Vesta

| | | |
|---|---|---|
| 8.8 | .00 | |
| 9.4 | .06 | |
| 7.6 | .14 | |
| 9.4 | .06 | |
| 35.0 | .12 - .14 | |
| 8.8 | ± .06 | |

11.0 13.659

| | | |
|---|---|---|
| 8.4 | .01 | |
| 7.3 | .12 | |
| 8.6 | .01 | |
| 9.6 | .11 | |
| 33.9 | .12 - .13 | |
| 8.5 | ± .06 | |

12.4 Vesta

| | | |
|---|---|---|
| 9.4 | .06 | |
| 8.2 | .06 | |
| 9.2 | .04 | |
| 8.4 | .04 | |
| 35.2 | .10 - .10 | |
| 8.8 | ± .05 | |

14.0 14.738

| | | |
|---|---|---|
| 4.2 | .02 | |
| 4.6 | .02 | |
| 4.2 | .02 | |
| 4.8 | .04 | |
| 17.8 | .06 - .04 | |
| 4.4 | ± .02 | |

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Nov. 30/1903

8 17.5 14729 Vesta cont. 2" cap

| | | |
|---|---|---|
| | 21.6 | .00 |
| | 21.8 | .02 |
| | 21.6 | .00 |
| | 21.2 | .06 |
| | 86.2 | .02-.06 |
| | 21.6 | ±.02 |

moon rather bright but seeing good & obs. considered good.

8 21.0 15.670

| | | |
|---|---|---|
| | 15.4 | .02 |
| | 15.8 | .02 |
| | 15.2 | .04 |
| | 15.8 | .02 |
| | 62.2 | .04-.06 |
| | 15.6 | ±.02 |

8 38.0 a = 22.1352 Neptune 2" cap

| | | |
|---|---|---|
| | 6.5 | .05 |
| | 5.8 | .02 |
| | 5.6 | .06 |
| | 6.2 | .02 |
| | 23.9 | .07-.08 |
| | 6.0 | ±.04 |

40.0 Neptune

| | | |
|---|---|---|
| | 10.3 | .06 |
| | 9.8 | .11 |
| | 12.2 | .13 |
| | 11.2 | .03 |
| | 43.5 | .16-.17 |
| | 10.9 | ±.04 |

42.0 b 21.1268

| | | |
|---|---|---|
| | 10.8 | .05 |
| | 10.3 | .00 |
| | 9.4 | .09 |
| | 10.8 | .05 |
| | 41.3 | .10-.09 |
| | 10.3 | ±.05 |

over

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Nov. 30, 1903

9 44.0 Neptune 2' Cap. Nept comp.

| | |
|---|---|
| 11.3 | .03 |
| 12.8 | .12 |
| 10.8 | .08 |
| 11.3 | .03 |
| 46.2 | -12 ÷ 4 |
| 11.6 | ± .06 |

9 45.6 d +21.1 2/0

| | |
|---|---|
| 16.8 | .06 Moon rather bright but |
| 18.0 | .06 stars well seen Obs. |
| 17.8 | .04 considered good |
| 17.0 | .04 |
| 69.6 | -10 ÷ 10 |
| 17.4 | ± .05 |

(4)(1104) L.P.S.

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1903phae.proj..756C



Dec. 10, 1903 Thursday

8 46.0 star α=13621 Vesta , " cap.

| | |
|---|---|
| 13.8 | .04 |
| 14.8 | .06 |
| 13.2 | .10 |
| 14.8 | .06 |
| 56.6 | .12 - .14 |
| 14.2 | ± .06 |

49.0 Vesta

| | |
|---|---|
| 13.8 | .06 |
| 14.4 | .08 |
| 14.8 | .04 |
| 14.6 | .02 |
| 57.6 | .06 - .06 |
| 14.4 | ± .03 |

+13637

52.0 star

| | |
|---|---|
| 21.6 | .06 |
| 20.6 | .04 |
| 21.2 | .02 |
| 20.8 | .02 |
| 84.2 | .08 - .06 |
| 21.0 | ± .04 |

8 54.4 Vesta

| | |
|---|---|
| 13.4 | .08 |
| 13.8 | .04 |
| 14.8 | .06 |
| 14.6 | .04 |
| 56.6 | .10 - .12 |
| 14.2 | ± .06 |

8 56.0 +14738 (e)

| | |
|---|---|
| 8.0 | .02 |
| 7.4 | .04 |
| 7.8 | .08 |
| 8.0 | .02 |
| 31.2 | .04 - .04 |
| 7.8 | ± .02 |

Chronometer = 3s fast

(20)(1124)

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1903phae.proj..756c



Dec. 16, 1903. Friday

J.D. 6460

f 53.0 α = +26.768 (9.5) Ampella Full aperture high power

| | |
|---|---|
| 16.1 | -.08 |
| 16.0 | .09 |
| 17.3 | .04 |
| 18.2 | .13 |
| 67.6 | -.17 -.17 |
| 16.9 | ±.08 |

Chronometer = 0.5 fast

57.0 Ampella

| | |
|---|---|
| 23.6 | .11 |
| 22.4 | .01 |
| 21.6 | .09 |
| 22.4 | .01 |
| 90.0 | -.11 -.11 |
| 22.5 | ±.06 |

9 03.4 β = +26.765 (9.5)

| | |
|---|---|
| 18.4 | .12 |
| 16.8 | .04 |
| 16.8 | .04 |
| 17.0 | .02 |
| 69.0 | +.12 -.10 |
| 17.2 | ±.06 |

9 05.5 Ampella

| | |
|---|---|
| 22.2 | .06 |
| 21.4 | .02 |
| 21.0 | .06 |
| 22.0 | .04 |
| 86.6 | -.10 -.08 |
| 21.6 | ±.04 |

9 08.0 γ = +26.767 (9.0)

| | |
|---|---|
| 11.2 | .03 |
| 11.2 | .03 |
| 11.6 | .01 |
| 12.0 | .05 |
| 46.0 | .06 -.06 |
| 11.5 | ±.03 |

(20) (11.44)

L. P.

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1903phae.proj..756C



Dec 14 1903 Monday

δ 094 S +23.(732) Ampella.

Full aperture
High Power

| | |
|---|---|
| 9.4 | .08 |
| 11.3 | .11 |
| 10.2 | .00 watch 0.5 slow. |
| 10.0 | .02 |
| ~~40.9~~ 10.2 | .11 − .10 ± .05 |

12.6 δ ε +23(737)

| | |
|---|---|
| ~~19.4~~ | ~~.00~~ |
| 19.6 | .02 |
| 19.0 | .04 |
| 19.8 | ~~.04~~ |
| ~~78.8~~ 19.4 | .06 − .04 ± .02 |

15.6 Ampella

| | |
|---|---|
| 26.0 | .10 |
| 25.1 | .00 |
| 24.2 | .08 |
| 25.0 | .00 |
| 100.2 25.0 | .10 − .08 ± .04 |

δ 18.8 Ampella

| | |
|---|---|
| 25.0 | .04 Seeing extremely poor |
| 24.8 | .02 but take exercise & |
| 24.6 | .00 observations good. |
| 24.0 | .06 |
| 98.4 24.6 | .06 − .06 ± .03 |

(16)(1160)

L. O. P.

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1903phae.proj..756C



(Trees) Dec. 14, 1905

JD 6464

8.0 17.0 Ampella Full aperture & high power eyepiece. 6's watch 0.1 fast

| | |
|---|---|
| 20.4 | .03 |
| 20.0 | .07 |
| 21.2 | .05 |
| 21.2 | .05 |
| 82.8 | .10 -.10 |
| 20.7 | ± .05 |

19.5 Ampella

| | |
|---|---|
| 22.2 | .14 |
| 19.9 | .09 |
| 21.0 | .02 |
| 20.0 | .08 |
| 83.1 | .16 -.17 |
| 20.8 | ± .08 |

24.0 δ 23.732

| | |
|---|---|
| 10.3 | .04 |
| 10.8 | .01 |
| 11.2 | .05 |
| 10.6 | .01 |
| 42.9 | .06 -.05 |
| 10.7 | ± .03 |

26.0 ε 23.736

| | |
|---|---|
| 16.4 | .04 |
| 16.3 | .05 |
| 17.2 | .04 |
| 17.4 | .06 |
| 67.3 | .10 -.07 |
| 16.8 | ± .05 |

8 29.4 ζ

| | |
|---|---|
| 28.3 | .02 seeing fairly good & ok |
| 29.0 | .05 considered very good |
| 28.6 | .01 |
| 28.0 | .05 |
| 113.9 | .06 -.07 |
| 28.5 | ± .03 |

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1903phae.proj..756C



Dec. 15/1903

δ 46.6 α 13.6 21 Vesta 1" cap

Low Power eyepiece

| | | |
|---|---|---|
| | 16.2 | .08 |
| | 16.1 | .07 |
| | 14.3 | .11 |
| | 15.2 | .02 |
| | 61.8 | .15 - .13 |
| | 15.4 | ± .07 |

48.1 Vesta

| | | |
|---|---|---|
| | 15.8 | .01 |
| | 16.4 | .07 |
| | 15.2 | .05 |
| | 15.4 | .03 |
| | 62.8 | .08 - .08 |
| | 15.7 | ± .04 |

50.6 13 13.6 27

| | | |
|---|---|---|
| | 18.4 | .04 |
| | 18.8 | .00 |
| | 19.2 | .04 |
| | 19.0 | .02 |
| | 75.4 | .06 - .04 |
| | 18.8 | ± .02 |

δ 53.0 Vesta

| | | |
|---|---|---|
| | 15.4 | .02 |
| | 15.6 | .00 |
| | 15.6 | .00 |
| | 15.6 | .00 |
| | 62.2 | .00 - .02 |
| | 15.6 | ± .00 |

δ 55.1 14.7 38

| | | |
|---|---|---|
| | 12.3 | .13 |
| | 10.4 | .06 |
| | 10.2 | .08 |
| | 11.0 | .00 |
| | 43.9 | .13 - .14 |
| | 11.0 | ± .07 |

seeing good & obs. considered very good

Off (40)(1200)

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1903phae.proj..756c



Wed. Dec. 16, 1903
Cloudy 9h fast. JD .6465

δ 33.0 Ampella — Full aperture
High Power

| | |
|---|---|
| 28.2 | .05 |
| 27.1 | .06 |
| 28.4 | .07 |
| 27.0 | .07 |
| 110.7 | .12 -.13 |
| 27.7 | ±.06 |

Clouds

35.δ Ampella

| | |
|---|---|
| 27.4 | .04 |
| 27.2 | .06 |
| 28.0 | .02 |
| 28.6 | .08 |
| 111.2 | .10 -.10 |
| 27.8 | ±.05 |

37.ε

| | |
|---|---|
| 19.6 | .13 |
| 17.4 | .09 |
| 18.2 | .01 |
| 18.0 | .03 |
| 73.2 | .13 -.13 |
| 18.3 | ±.06 |

39.0 ε

| | |
|---|---|
| 22.9 | .01 |
| 22.2 | .06 |
| 23.0 | .02 |
| 23.6 | .02 |
| 91.1 | .05-.06 |
| 22.8 | ±.03 |

δ 40.0 ζ

| | |
|---|---|
| 31.4 | .10 |
| 29.4 | .10 |
| 29.8 | .06 |
| 31.0 | .06 |
| 121.6 | .16 -.16 |
| 30.4 | ±.08 |

Troubled some by clouds but waited for them to clear away. Seeing somewhat poor.

(20) 1220 L. P. P.

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Dec 16/1903

R Cygni

Light don't seem to
work so R Cygni abandoned

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1903phae.proj..756c



Friday Dec. 18, 1903

Cs watch correct. Jd 6467

δ 30.0 Ampella Ampella

17.8
16.4
16.8
17.2

Full aperture
High power

per next page
for remeasures.

33.2 Ampella

16.2
16.6
15.6
17.2

altered light

δ 37.0 δ

| | |
|---|---|
| 10.2 | .01 |
| 10.3 | .02 |
| 9.8 | .03 |
| 10.0 | .01 |
| 40.3 | .03 -.04 |
| 10.1 | ± .02 |

44.0 ε

| | |
|---|---|
| 18.3 | .00 |
| 19.2 | .09 |
| 18.0 | .03 |
| 7.6 | .07 |
| 73.2 | .09-.10 |
| 18.3 | ± .05 |

48.0 ζ

| | |
|---|---|
| 23.5 | .07 |
| 24.3 | .01 |
| 24.8 | .06 |
| 24.0 | .02 |
| 96.6 | .07-.09 |
| 24.2 | ± .04 |

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1903phae.proj..756C



Dec 18, 1903

δ 51.2 Aurigae

| | |
|---|---|
| 21.2 | .10 |
| 22.2 | .00 |
| 23.4 | .12 |
| 20.0 | .02 |
| F.F.F | |
| 22.2 | 12-12 ±.06 |

δ 53.2 Aurigae

| | |
|---|---|
| 21.0 | .06 Quite cold, windy, and |
| 23.0 | .14 freezing poor. |
| 21.2 | .04 |
| 21.0 | .06 |
| F.F.F | |
| 21.6 | .14-.16 ±.02 |

(20) (1240)

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(Sat.) Dec 19, 1903

Cs watch = 15^s slow. D. 6×6A

8 8.0 13.621 Vesta. 1" cap low power

| | |
|---|---|
| 6.3 | .05 |
| 6.1 | .07 |
| 7.1 | .03 |
| 7.7 | .09 |
| 27.2 | +.12 −.12 |
| 6.8 | ±.06 |

8 10.0 Vesta

| | |
|---|---|
| 9.0 | .04 |
| 9.4 | .08 |
| 7.8 | .08 |
| 8.3 | .03 |
| 34.5 | +.12 −.11 |
| 8.6 | .06 |

8 12.8 13.627

| | |
|---|---|
| 10.6 | .05 |
| 11.2 | .01 |
| 10.8 | .03 |
| 11.8 | .07 |
| 44.4 | .08 −.08 |
| 11.1 | ±.04 |

8 16.0 Vesta

| | |
|---|---|
| 7.8 | .08 |
| 8.8 | .02 |
| 9.0 | .04 |
| 8.8 | .02 |
| 34.4 | .04 −.04 |
| 8.6 | ±.04 |

8 18.2 13.616

| | |
|---|---|
| 12.5 | .04 |
| 12.6 | .03 |
| 13.2 | .03 |
| 13.4 | .05 |
| 51.7 | .08 − .07 |
| 12.9 | ±.04 |

Seeing fairly good and Obs. considered good

(20) 4 26 0 L.M.

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(Tues) Dec. 22, 1903.

Cs watch 6[P] slow J.D. 6471

7 40.0 α 17.1561 Iris. 2" cap.
Low power.

| | |
|---|---|
| 9.7 | .05 |
| 9.8 | .04 |
| 9.7 | .05 |
| 9.8 | .06 |
| 37.0 | +11 -.09 |
| 9.2 | ±.05 |

Confirmed Iris by 20. at telescope

42.2 Iris

| | |
|---|---|
| 14.6 | .03 |
| 14.2 | .07 |
| 15.8 | .09 |
| 15.1 | .02 |
| 59.7 | -.11 +.10 |
| 14.9 | ±.08 |

44.4 β 16.1466

| | |
|---|---|
| 9.7 | .10 |
| 11.2 | .05 |
| 11.1 | .04 |
| 10.8 | .01 |
| 42.8 | +0 -.10 |
| 10.7 | ±.05 |

47.8 Iris

| | |
|---|---|
| 16.0 | .13 |
| 14.6 | .01 |
| 14.0 | .07 |
| 14.2 | .05 |
| 58.8 | -.13 |
| 14.7 | ±.06 |

7 51.0 β 16.1610

| | |
|---|---|
| 6.3 | .01 |
| 5.8 | .06 |
| 6.8 | .04 |
| 6.8 | .04 |
| 25.7 | .08 -.07 |
| 6.4 | ±.04 |

Objects low, seeing not extra good, but care exercised and obs considered fairly good.

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Dec. 2 3 1903

δ 33.5 α 13.62 Vesta 1" cap

low power

| | | |
|---|---|---|
| | 13.7 | .10 |
| | 11.8 | .04 |
| | 11.4 | .08 |
| | 12.3 | .01 |
| | 49.2 | .11 -.12 |
| | 12.2 | ±.06 |

36.0 Vesta

| | | |
|---|---|---|
| | 13.3 | .07 |
| | 11.8 | .08 |
| | 12.4 | .02 |
| | 13.1 | .04 |
| | 50.5 | .11 -.10 |
| | 12.6 | ±.05 |

38.0 β 13.627

| | | |
|---|---|---|
| | 16.6 | .06 |
| | 15.4 | .06 |
| | 16.0 | .08 |
| | 15.8 | .02 |
| | 63.8 | .06 -.08 |
| | 10.0 | ±.04 |

39.6 Vesta

| | | |
|---|---|---|
| | 12.4 | .03 |
| | 12.8 | .01 |
| | 12.6 | .01 |
| | 13.0 | .03 |
| | 50.8 | .04 -.04 |
| | 12.7 | ±.02 |

δ 41.0 γ 13.616

| | | |
|---|---|---|
| | 16.4 | .04 |
| | 15.6 | .04 |
| | 15.8 | .02 |
| | 16.0 | .00 |
| | 63.8 | .04 -.06 |
| | 15.9 | ±.02 |

f. f. f.

(40)(1200)

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1903phae.proj..756C



Dec 26, 1903 (Saturday)

Cincinnati 10" refr. J.D. 6475

Capella

Too faint in poor unsteady seeing to measure satisfactorily

ρ 44.0 α Iris. 1" cap. low power

| | | |
|---|---|---|
| | Δ1 | .05 |
| | Δ2 | .01 |
| | Δ0 | .03 |
| | Δ2 | .01 |
| 33.2 | Δ3 | .05-.05 ± .02 |

45.2 Iris

| | | |
|---|---|---|
| | 12 Δ | .00 |
| | 13.0 | .02 |
| | 12 Δ | .00 |
| | 12.6 | .02 |
| 61.2 | 12.0 | .02-.02 ± .01 |

46.0 β

| | | |
|---|---|---|
| | 9 Δ | .05 |
| | 10 Δ | .05 |
| | 10.2 | .01 |
| | 10.4 | .01 |
| 41.2 | 10.3 | .06-.06 ± .03 |

α 48.2 Iris

| | | |
|---|---|---|
| | 14.0 | .06 |
| | 13.6 | .02 |
| | 13.6 | .04 |
| | 12 Δ | .06 |
| 53.4 | 13.4 | .08-.10 ± .04 |

L. P.

(16) (1316)

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1903phae.proj..756C



Monday Dec 28, 1903
Cloudy 5" slow.

8 58.0 ζ Iris full aperture

Light brighter Double rubber.

| | | |
|---|---|---|
| | 21.8 | .09 |
| | 23.7 | .10 |
| | 23.2 | .05 |
| | 22.0 | .07 |
| | 90.7 | .15-.16 |
| | 22.7 | ±.08 |

9 00.0 Iris.

| | | |
|---|---|---|
| | 26.8 | .04 |
| | 27.4 | .02 |
| | 27.2 | .00 |
| | 27.4 | .02 |
| | 108.8 | .04-.04 |
| | 27.2 | ±.02 |

9 02.5 ~~B~~ δ

| | | |
|---|---|---|
| | 32.2 | .12 |
| | 34.0 | .06 |
| | 34.2 | .08 |
| | 30.2 | .02 |
| | 133.6 | .14-.14 |
| | 33.4 | ±.07 |

9 05.0 Iris

| | | |
|---|---|---|
| | 26.3 | .10 |
| | 28.0 | .07 |
| | 27.4 | .01 |
| | 27.6 | .03 |
| | 109.3 | .11-.10 |
| | 27.3 | ±.05 |

(6) (1332)
L. P.

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Wed. Dec 30, 1903

Cs watch 18^s slow JD 6479

7 34.0 α Ins. full aperture Moon bright.

| | | |
|---|---|---|
| | 38.6 | .03 |
| | 39.3 | .10 |
| | 37.2 | .11 |
| | 38.0 | .03 |
| | 153.1 | .13 −.14 |
| | 38.3 | ±.05 |
| 36.5 | Ins | |
| | 40.9 | .04 |
| | 41.2 | .01 |
| | 41.6 | .03 |
| | 41.4 | .01 |
| | 165.1 | .04 −.05 |
| | 41.3 | ±.02 |
| 38.0 | β | |
| | 37.5 | .02 |
| | 38.0 | .03 |
| | 38.4 | .07 |
| | 37.0 | .07 |
| | 150.9 | .10 −.09 |
| | 37.7 | ±.05 |
| 39.6 | Ins | |
| | 42.2 | .10 |
| | 40.0 | .12 |
| | 41.0 | .02 |
| | 41.8 | .06 |
| | 163.0 | .12 −.12 |
| | 41.2 | ±.06 |
| 7 41.6 | δ | |
| | 47.8 | .08 |
| | 47.0 | .00 |
| | 46.4 | .06 |
| | 47.8 | .00 |
| | 189.2 | .08 −.06 |
| | 47.0 | ±.04 |

(20)(3552)

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1903phae.proj..756C



(Tues) Jan 5, 1904.
JD. 6485 Cs watch 13ᵐ fast

> 44.0 ε Iris full apt low power

35.2
35.6
37.0
36.8

attend light

> 46.0 Iris

| | |
|---|---|
| 33.8 | .02 |
| 34.2 | .02 |
| 35.0 | .10 |
| 32.8 | .12 |
| 135.8 | .12 -.14 |
| 34.0 | ±.06 |

47.6 ε 17.1492

| | |
|---|---|
| 32.0 | .01 |
| 32.6 | .03 |
| 33.0 | .09 |
| 31.0 | .11 |
| 128.6 | .12 -.12 |
| 32.1 | ±.06 |

50.0 Iris

| | |
|---|---|
| 33.8 | .06 |
| 32.8 | .04 |
| 33.3 | .01 |
| 33.0 | .02 |
| 132.9 | .07 -.06 |
| 33.2 | ±.03 |

52.0 ζ 16.1363

| | |
|---|---|
| 15.0 | .07 |
| 15.0 | .07 |
| 17.1 | .14 |
| 16.8 | .11 |
| 62.9 | .15 -.14 |
| 15.7 | ±.07 |

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1903phae.proj..756C



Jan. 5 1904

7 538 N 17.1469 Iris (cont.)

| | |
|---|---|
| 35.4 | .10 |
| 33.8 | .06 |
| 34.0 | .04 |
| 34.3 | .01 |
| 137.5 | .10 -.10 |
| 34.4 | ± .05 |

) 550 Iris

| | |
|---|---|
| 33.6 | .05 |
| 33.0 | .01 |
| 33.0 | .01 |
| 32.8 | .03 |
| 132.4 | .05 -.05 |
| 33.1 | ± .02 |

(24) (1376)

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1903phae.proj..756C



# Friday Jan. 15, 1904

> 40.0 E 17.1492 6.1 Iris full apert low power

| | |
|---|---|
| 16.1 | .00 |
| 16.4 | .03 |
| 15.8 | .03 |
| 16.0 | .01 |
| 64.3 | .03 - .04 |
| 16.1 | ± .02 |

> 42.4 Iris

| | |
|---|---|
| 28.2 | .10 |
| 27.0 | .02 |
| 26.8 | .04 |
| 27.0 | .02 |
| 109.0 | .10 - .08 |
| 27.2 | ± .04 |

17.1469

> 45.0 ~~B 77~~ ~~16.1 26.8~~

| | |
|---|---|
| 19.8 | .00 |
| 19.8 | .00 |
| 19.8 | .00 |
| 20.0 | .02 |
| 79.4 | .02 |
| 19.8 | ± .00 |

7 47.8 Iris

| | |
|---|---|
| ~~20.0~~ | |
| ~~21.~~ 25.4 | .01 |
| 25.0 | .05 |
| 25.4 | .01 |
| 26.3 | .08 |
| .102 . 1 : 25.5 | .08 - .07 |
| | ± .04 |

7 50.0 E 17.1492

| | |
|---|---|
| 16.5 | .06 |
| 17.2 | .06 |
| 16.8 | .02 |
| 16.3 | .03 |
| 66.8 | .08 - .09 |
| 16.6 | |

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1903phae.proj..756C



Jan 15, 1904

> 530 θ ~~17.14.41.8~~ Iris cent.

| | | |
|---|---|---|
| 26.0 | .05 | artificial star somewhat red |
| 24.8 | .07 | & seeing not over good. |
| 25.2 | .03 | |
| 26.0 | .05 | Cs watch used and = 1/2 m fast. |
| 102.0 | -10.10 | |
| 25.5 | +.05 | |

(24) (1400)

L.P.

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(Friday) Feb. 5, 1904

Watch used = 1 slow JD .6516

10 15.0 χ 16.514 Vesta Full aperture low power

| | |
|---|---|
| 10.6 | .02 |
| 11.2 | .06 |
| 11.0 | .04 |
| 10.0 | .06 |
| 42.6 | -.10 -.08 |
| 10.6 | ± .04 |

Light really too reddish especially when up near its brightest.

16.6 Vesta

| | |
|---|---|
| 14.8 | .06 |
| 16.0 | .06 |
| 15.4 | .00 |
| 15.2 | .02 |
| 61.4 | .06 -.08 |
| 15.4 | ± .04 |

χ

18.4 γ 15.531

| | |
|---|---|
| 13.8 | .04 |
| 15.8 | .16 |
| 13.8 | .04 |
| 13.4 | .08 |
| 56.8 | -.16 -.16 |
| 14.2 | ± .08 |

20.6 Vesta

| | |
|---|---|
| 15.8 | .03 |
| 16.2 | .07 |
| 14.8 | .07 |
| 15.2 | .03 |
| 62.0 | +.0 -.10 |
| 15.5 | ± .05 |

10 22.0 χ 16.514

| | |
|---|---|
| 10.8 | .06 |
| 11.0 | .04 |
| 12.0 | .06 |
| 11.6 | .02 |
| 45.4 | .08 -.10 |
| 11.4 | ± .04 |

Seeing fairly good but slot extra so care exercised to obs. consider good.

(20) (1420)

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1903phae.proj..756C



Saturday Feb. 20, 1904.

Cs watch used & correct - JD 6531

| | | |
|---|---|---|
| +16.514 | Vesta | + full aperture |
| Vesta | | |
| +15.531 | | Camera measure satisfactorily due to ~~star~~ por artificial images |
| Vesta | | |
| +17.656 | | |

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1903phae.proj..756C



Mar. 30, 1904 (Wednesday)

J.D. 6570

Vesta Fiducapent

| | | |
|---|---|---|
| 7 54.7 | +20.804 | |
| | 34.4 | .04 |
| | 34.6 | .02 |
| | 35.8 | .10 |
| | 34.4 | .04 |
| | 19.2 | .10-10 |
| | 34.8 | ±.05 |
| 7 56.3 | Vesta | |
| | 31.8 | .07 |
| | 33.0 | .05 |
| | 33.2 | .07 |
| | 32.0 | .05 |
| | 10.0 | 12-12 |
| | 32.5 | ±.06 |
| 7 58.5 | +21.692 | |
| | 31.8 | .04 |
| | 31.6 | .02 |
| | 30.6 | .08 |
| | 31.5 | .01 |
| | 5.5 | .07-.08 |
| | 31.4 | ±.04 |
| 8 000 | Vesta | |
| | 32.8 | .06 |
| | 31.7 | .05 |
| | 31.6 | .06 |
| | 32.7 | .05 |
| | 8.8 | 11-11 |
| | 32.2 | ±.06 |
| 8 02.5 | +21.692 | |
| | 30.4 | .04 |
| | 29.7 | .11 |
| | 31.6 | .08 |
| | 31.4 | .06 |
| | 3.1 | .11-.15 |
| | 30.8 | ±.07 |

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Mar. 30/1904

P 03 2 ~~28.~~ 20.8 ~~8~~ Vesta Cont.

33.7 oz
34.6 " Seeing very good altho
32.8 07 moon near the full.
33.0 05 Obs. considered quite good.

14.1
3 3.5

13-12
+06

Cs watch used = 0.5 m fast of B 394

L. P. P.

(24)(1444)

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1903phae.proj..756C



Saturday April 2, 1904

L. C. Obs.

G. E. Washburn, Jr.

Pleiades

| | | | |
|---|---|---|---|
| 8:20.4 | * 1a | 28.2 | |
| f 20.3 | | 3.6 | .06 |
| | | 5.6 | .12 |
| | | 4.3 | .01 |
| | | 3.4 | .08 |
| | | 4.2 | 13-14 |
| | | | ±.07 |
| 8:22.2 | * b Maia | 28.2 | |
| f 22.1 | | 16.2 | .09 |
| | | 16.1 | .10 |
| | | 17.4 | .03 |
| | | 18.6 | .15 |
| | | 17.1 | 18-19 |
| 8:24.2 | * c Electra | 28.2 | ±.09 |
| f 24.1 | | 19.2 | .14 |
| | | 17.3 | .05 |
| | | 17.4 | .04 |
| | | 17.4 | .04 |
| | | 17.8 | .14-13 |
| * b merofz | | 28.2 | ±.07 |
| 8:26.2 | | 21.2 | .24 |
| f 26.1 | | 25.0 | .14 |
| | | 25.2 | .16 |
| | | 23.0 | .06 |
| | | 23.6 | -30 -30 |
| 8:28.0 | * d Taygeta | 28.2 | ±.15 |
| f 27.9 | | 24.4 | .02 |
| | | 22.0 | .23 |
| | | 24.8 | .06 |
| | | 25.8 | .16 |
| | | 24.2 | 24-22 |
| 8:29.7 | * e Alcyone | 28.2 | ±.12 |
| f 29.6 | | 38.8 | .26 |
| | | 35.8 | .01 |
| | | 33.6 | .26 |
| | | | 30 |

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April 2, 1904.

Pleiades. (Continued)

| | | | |
|---|---|---|---|
| 8;34.0 | +23.561 *7 28.2 | | |
| f 33.9 | 47.2 | .01 | |
| | 48.5 | .12 | |
| | 47.9 | .06 | |
| | 45.6 | .17 | |
| | 47.3 | .10-.18 | |
| | | ±.09 | |
| 8;37.7 | +23.561 *F7 —— | | |
| f 37.6 | 26.3 | .12 | |
| | 24.8 | .03 | |
| | 23.4 | .17 | |
| | 26.0 | .09 | |
| | 25.1 | .21-.20 | |
| | | ±.10 | |
| 8; | *f —— | | |
| 8;39.0 | *f —— | | |
| f 38.9 | 32.1 | .02 | |
| | 32.8 | .05 | |
| | 31.8 | .05 | |
| | 32.4 | .01 | |
| | 32.3 | .06-.07 | |
| | | ±.03 | |
| 8;40.2 | *g —— | | |
| f 40.1 | 31.8 | .06 | |
| | 32.9 | .05 | |
| | 31.9 | .05 | |
| | 32.8 | .04 | |
| | 32.4 | .09-.11 | |
| | | ±.05 | |
| 8;41.4 | *h —— | | |
| f 41.3 | 37.0 | .17 | |
| | 34.8 | .05 | |
| | 34.8 | .05 | |
| | 34.7 | .06 | |
| | 35.3 | .17-.16 | |
| | | ±.09 | |

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April 2, 1904.

Pleiades. (Continued)

| | | | |
|---|---|---|---|
| 8 | 43.4 | Xj — | |
| 8 | 43.3 | 43.9 | .03 |
| | | 43.4 | .02 |
| | | 43.8 | .02 |
| | | 43.3 | .03 |
| | | 4 3.60 | .05 - .05 ± .02 |

*

Note:— Seeing very windy telescope moving, but care exercised & Obs. considered good.

* See Klein's atlas of Pleiades for Notation used

Cs watch used = 0.1m fast

These corrs. deemed only approximate

(4A) (1492)

The new photog. shade used tonight for the first time on the plot. This shade is to reduce the light of the stars in the field of the telescope so that they may be measured better.

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1903phae.proj..756C



April 14, 1904 (Thursday)

Campbell Obs. Cs watch = 7m 2s fast

) 40.4 a 28.2 Pleiades 5" Plate X.

| | | |
|---|---|---|
| 17.8 | .08 | Small wedge called "a" |
| 18.1 | .05 | Large wedge called "b" |
| 20.4 | .18 | |
| 18.3 | .03 | |
| 74.6 | .18 - .16 | |
| 18.6 | ± .08 | |

K37 a' 28.2

| | |
|---|---|
| 31.0 | .06 |
| 28.8 | .16 |
| 31.0 | .06 |
| 30.8 | .04 |
| 121.6 | .16 - .16 |
| 30.4 | ± .08 |

45 K b 28.2

| | |
|---|---|
| 33.6 | .04 |
| 33.6 | .04 |
| 33.4 | .02 |
| 32.0 | .12 |
| 6 | .10 - .12 |
| 33.2 | ± .06 |

47.0 b' 28.2

| | |
|---|---|
| 39.4 | .01 |
| 41.0 | .15 |
| 39.3 | .02 |
| 38.2 | .13 |
| 157.9 | .15 - .16 |
| 39.5 | ± .08 |

) 49.2 c 28.2

| | |
|---|---|
| 39.8 | .08 |
| 40.0 | .06 |
| 41.2 | .06 |
| 41.6 | .10 |
| 162.6 | .16 - .14 |
| 40.6 | ± .08 |

over

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1903phae.proj..756C



Apr. 14, 1904

Pleiades (cont)

> 5-2.0 d 20.0 ~~24.2~~

| | |
|---|---|
| 36.4 | .04 |
| 37.0 | .06 |
| 37.0 | .06 |
| 35.0 | .14 |
| 25.8 | .16-.14 |
| 36.4 | ±.08 |

C 20.0

5-4.4

| | |
|---|---|
| 32.0 | .05 |
| 34.0 | .15 |
| 32.1 | .04 |
| 31.8 | .07 |
| 9.9 | .15-.16 |
| 32.5 | ±.08 |

5 6.0 e 20.0

| | |
|---|---|
| 42.2 | 01 |
| 41.6 | 05 |
| 42.6 | 05 |
| 42.0 | 01 |
| 42.4 | .06-.06 |
| 42.1 | ±.03 |

> 37.8 f 20.0

| | |
|---|---|
| 44.6 | .07 |
| 46.6 | .13 |
| 46.0 | .07 |
| 44.0 | .13 |
| 21.2 | .20-.20 |
| 45.3 | ±.10 |

8 00 f —

| | |
|---|---|
| 36.8 | .12 |
| 36.6 | .06 |
| 36.0 | .00 |
| 36.7 | .07 |
| 1 | .13-.12 |
| 36.4 | ±.06 |

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1903phae.proj..7566



Ref. 141804

Pleiades (Cont)

P 3.0 g —

| | |
|---|---|
| 39.0 | .09 |
| 38.6 | .05 |
| 38.8 | .07 |
| 36.0 | .21 |
| 32.4 | .21-.21 |
| 38.1 | ±.10 |

5.4 h —

| | |
|---|---|
| 41.3 | .03 |
| 42.0 | .04 |
| 41.4 | .02 |
| 41.6 | .00 |
| 23 | .05- |
| 41.6 | ±.02 |

>.6 i —

| | |
|---|---|
| 48.5 | .05 |
| 48.0 | .00 |
| 47.7 | .03 |
| 47.6 | .04 |
| 31.8 | .05-.07 |
| 48.0 | ±.03 |

8 9.7 j —

| | |
|---|---|
| 50.3 | .07 |
| 49.0 | .06 |
| 49.6 | .00 |
| 49.6 | .00 |
| 38.5 | .07-.06 |
| 49.6 | ±.03 |

This j is as faint a star as can be measured with low power (56) (1548) L P.P.

Above only experimental.

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1903phae.proj..756C



Saturday April 16, 1904

J.D. 65-87

Cs watch > dft font of B 374.

Meas. of stands. in Pleiades.

C. Obs. & Rec.

5" tel. Plate I. wedges a & b

a set for faint star, and settings

made with b.

| | | | |
|---|---|---|---|
| 49.8 | a | Pleiades | |
| | 31.5 | .03 | wedge a set at 46.8 |
| | 32.1 | .03 | |
| | 31.7 | 01 | |
| | 31.8 | .00 | |
| | 7.1 | .03-.04 | |
| | 31.8 | ±.02 | |
| 52.8 | a' | | |
| | 30.8 | .05 | |
| | 30.2 | 01 | |
| | 29.8 | 05 | |
| | 30.4 | 01 | |
| | 1.2 | .06-.06 | |
| | 30.3 | ±.03 | |
| 55.0 | b | | |
| | 29.6 | 01 | |
| | 29.5 | 00 | |
| | 29.4 | 01 | |
| | 29.6 | 00 | |
| | .21 | .01-.01 | |
| | 29.5 | .00 | |
| 57.2 | b' | | |
| | 27.6 | 06 | |
| | 26.8 | 02 | |
| | 27.0 | 00 | |
| | 26.8 | 02 | |
| | .2 | .06-.04 | |
| | 27.0 | ±.02 | |

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Apr. 16-1904

Δ 00.6 a Rhcadders cont.

| | | |
|---|---|---|
| | 25.f | .08 |
| | 24.f | .02 |
| | 24.0 | .10 |
| | 25.2 | .02 |
| | 19.8 | .10-.12 |
| | 25.0 | ±.06 |
| 4.0 | d | |
| | 24.6 | .02 |
| | 24.2 | .02 |
| | 24.4 | .00 |
| | 24.2 | .02 |
| | 24.4 | .02-.04 |
| | | ±.02 |
| 6.4 | e | |
| | 18.9 | .13 |
| | 20.6 | .04 |
| | 20.4 | .02 |
| | 20.f | .06 |
| | 7 | .12-.13 |
| | 20.2 | ±.06 |
| 9.8 | e | |
| | 19.2 | .02 |
| | 19.0 | .04 |
| | 19.6 | .02 |
| | 19.8 | .04 |
| | 16 | .06-.06 |
| | 19.4 | ±.03 |
| Δ 11.2 | d | |
| | 22.2 | .06 |
| | 22.6 | .02 |
| | 23.4 | .06 |
| | 23.2 | .04 |
| | 9.4 | .10-.08 |
| | 22.8 | ±.04 |

f = fainter star too faint to measure at present position of small image a=

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Apr. 16, 1904

Pleiades cont.

δ 13.2 C

| | |
|---|---|
| 25.8 | .06 |
| 24.8 | .04 |
| 25.0 | .02 |
| 25.2 | 00 |
| 25.2 | .0606 |
| 8 | ±.03 |

15.0 b'

| | |
|---|---|
| 26.6 | .05 |
| 27.2 | .01 |
| 27.6 | .05 |
| 27.0 | .01 |
| 28.4 | .06-.06 |
| 27.1 | ±.03 |

17.2 b

| | |
|---|---|
| 30.0 | 05 |
| 29.2 | 03 |
| 29.6 | 01 |
| 29.2 | 03 |
| 30.0 | .06-.06 |
| 29.5 | ±.03 |

20.0 a'

| | |
|---|---|
| 30.4 | 02 |
| 30.6 | 00 |
| 30.8 | 02 |
| 30.6 | 00 |
| 30.6 | .02-.02 |
| 24 | ±.01 |

21.4 a

| | |
|---|---|
| 31.4 | 02 |
| 31.6 | 04 |
| 31.0 | 02 |
| 30.9 | 03 |
| 31.2 | .06-.05 |
| 9 | ±.03 |

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apr. 16, 1904

Pleiades

Result a at 58.0

f 23.0 a

| | |
|---|---|
| 26.3 | .01 |
| 26.4 | .02 |
| 26.0 | .04 |
| 26.6 | .02 |
| 26.4 | .04-.05 ±.02 |

23.0 f

| | |
|---|---|
| 23.0 | .00 |
| 22.2 | .08 |
| 23.0 | .00 |
| 23.6 | .06 |
| 11.8 | .06-.08 |
| 23.0 | ±.04 |

26.4 g

| | |
|---|---|
| 23.2 | .02 |
| 23.0 | .00 |
| 22.8 | .02 |
| 23.0 | .00 |
| .0 | .02-.02 |
| 23.0 | ±.01 |

28.4 h

| | |
|---|---|
| 15.6 | .02 |
| 15.0 | .04 |
| 16.2 | .08 |
| 14.8 | .06 |
| 16 | .10-.10 |
| 15.4 | ±.05 |

30.0 h

| | |
|---|---|
| 15.0 | .01 |
| 15.0 | .01 |
| 15.6 | .05 |
| 14.7 | .04 |
| .3 | .05-.06 |
| 15.1 | ±.03 |

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Apr. 16, 1904.

δ 32.6 g Pleiades cont.

| | |
|---|---|
| 22.0 | .04 |
| 21.6 | .08 |
| 22.8 | .04 |
| 23.0 | .06 |
| 14 | .10 - .12 |
| 22.4 | ± .06 |

34.0 f

| | |
|---|---|
| 22.8 | 03 |
| 23.0 | 05 |
| 22.0 | 05 |
| 22.2 | 03 |
| 20 | .08 - .08 |
| 22.5 | ± .04 |

δ 36.0 e

| | |
|---|---|
| 24.4 | 02 |
| 25.0 | 04 |
| 24.0 | 06 |
| 25.2 | .06 |
| 18.6 | 10 - .08 |
| 24.6 | ± .04 |

Rather difficult towards end of series alt. low.

(88) (1636) L. P.

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1903phae.proj..7566



(Thursday) Apr 21, 1904
JD 6592

Cs watch 24s fast at 7h 0m

Meas of Standards in Pleiades
C Obs — Rec.

Wedge a set and measures made with large wedge b.

Pleiades

Wedge a set at 47.4

| | | | |
|---|---|---|---|
| 34.5 | a | | |
| | 32.6 | .02 | |
| | 32.2 | .02 | |
| | 32.8 | .04 | |
| | 32.2 | .02 | |
| | 8 | .06 - .04 | |
| | 32.4 | ± .02 | |
| 36.5 | a' | | |
| | 30.6 | .04 | |
| | 29.8 | .04 | |
| | 30.0 | .02 | |
| | 30.4 | .02 | |
| | 8 | .06 - .06 | |
| | 30.2 | ± .03 | |
| 38.2 | b | | |
| | 30.0 | .06 | |
| | 29.2 | .02 | |
| | 29.6 | .02 | |
| | 28.9 | .05 | |
| | 37.7 | -.08 -.07 | |
| | 29.4 | ± .04 | |
| 39.6 | b | | |
| | 27.6 | .04 | |
| | 26.6 | .06 | |
| | 27.0 | .02 | |
| | 27.4 | .02 | |
| | 6 | .06 - .08 | |
| | 27.2 | ± .04 | |

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Apr 21, 1904

Pleiades cont

41.4 C

| | |
|---|---|
| 26.4 | .04 |
| 25.9 | .01 |
| 26.4 | .04 |
| 25.5 | .05 |
| 26.0 (2) | .08 - .06 ± .04 |

d

43.0

| | |
|---|---|
| 24.4 | .03 |
| 24.2 | .03 |
| 24.6 | .01 |
| 24.4 | .01 |
| (20) 24.5 | .04 - .04 ± .02 |

46.2 e

| | |
|---|---|
| 16.6 | .00 |
| 16.2 | .04 |
| 16.8 | .04 (2) |
| 17.0 | .04 |
| (6.26) 16.6 | .06 - .04 ± .02 |

49.0 ~~f~~ e

| | |
|---|---|
| 17.0 | .08 |
| 16.0 | .02 |
| 16.2 | .00 |
| 15.6 | .06 |
| (8) 16.2 | .08 - .08 ± .04 |

51.0 d

| | |
|---|---|
| 24.0 | .00 |
| 23.9 | .01 |
| 24.2 | .02 |
| 23.8 | .02 |
| (15.9) 24.0 | .02 - .03 ± .01 |

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April 21, 190x

Pleiades Cont.

| | | | |
|---|---|---|---|
| 7 | 52.6 | C | |
| | | 25.8 | .00 |
| | | 26.0 | .02 |
| | | 25.4 | .04 |
| | | 25.8 | .00 |
| | | 30 | .02 - .04 |
| | | 25.8 | ± .02 |
| | 53.8 | f | |
| | | 26.4 | .04 |
| | | 26.5 | .03 |
| | | 27.0 | .02 |
| | | 27.2 | .04 |
| | | 27.1 | .06 - .07 |
| | | 26.8 | ± .03 |
| | | 4 | |
| | | f | |
| | 55.0 | 29.8 | .03 |
| | | 29.8 | .03 |
| | | 29.3 | .02 |
| | | 29.0 | .05 |
| | | 19 | .06 - .07 |
| | | 29.5 | ± .03 |
| | 56.4 | a | |
| | | 30.6 | .02 |
| | | 30.4 | .00 |
| | | 30.8 | .04 |
| | | 30.0 | .04 |
| | | 18 | .06 - .04 |
| | | 30.4 | ± .02 |
| 7 | 57.6 | a | |
| | | 31.5 | .01 |
| | | 31.4 | .00 |
| | | 31.4 | .01 |
| | | 31.2 | .02 |
| | | 15 | .01 - .02 |
| | | 31.4 | ± .01 |

OVER

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April 21, 1904

Pleiades Cont.

~~Reset to 0h~~

Impossible to measure faint stars than ε without resetting wedge & and actuals of stars so low that the latter is rather ~~hardly worth the while~~ worthless, as stars are very near the horizon. Observations throughout difficult on account of rather high wind. Moon also near the first quarter

8 03

(56) (1692) L.P.

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(Friday) April 2, 1904

J.D. 65-93

Pleiades. C Obs. & Rec.

Wedge a set & meas made with wedge b.

Wedge a set at 44.0

Comet b = 9th feet at 7.06 of B394

> 35.0 ~~a~~ Mercury

| | |
|---|---|
| 37.4 | .04 |
| 37.2 | 02 |
| 36.8 | 02 |
| 36.8 | .02 |
| 2 | .06-.04 |
| 37.0 | ±.02 |

> 37.6 a

| | |
|---|---|
| 34.6 | 03 |
| 35.8 | 09 |
| 34.4 | 05 |
| 34.8 | 01 |
| 36 | -.09 -.09 |
| 34.9 | ±.04 |

40.0 ~~b~~ a

| | |
|---|---|
| 34.2 | 03 |
| 33.6 | 03 |
| 34.0 | 01 |
| 33.8 | 01 |
| 15.6 | 04 -.04 |
| 33.9 | ±.02 |

41.2 b

| | |
|---|---|
| 32.6 | 06 |
| 32.4 | 06 |
| 31.8 | 02 |
| 31.0 | 10 |
| 7.8 | .10 -.12 |
| 32.0 | ±.06 |

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1903phae.proj..756C



Apr. 22, '04.

7 42.0 ℞b'

| | |
|---|---|
| 28.9 | 04 |
| 29.4 | 01 |
| 29.2 | 01 |
| 29.6 | 03 |
| 29.3 | .04 - .05 ± .02 |

43.2 ℞c

| | |
|---|---|
| 28.4 | 04 |
| 27.6 | 06 |
| 28.0 | 00 |
| 28.2 | 02 |
| 28.0 | .06 - .06 ± .03 |

44.8 ℞d

| | |
|---|---|
| 27.8 | 10 |
| 26.8 | 00 |
| 26.0 | 02 |
| 26.4 | .04 |
| 26.8 | .10 - .12 ± .06 |

45.0 e

| | |
|---|---|
| 25.2 | 04 |
| 24.8 | 00 |
| 24.6 | 02 |
| 24.4 | .06 |
| 24.8 | .04 - .06 ± .02 |

7 49.0 ℞e

| | |
|---|---|
| 25.0 | 01 |
| 25.2 | 03 |
| 24.8 | 01 |
| 24.6 | 03 |
| 24.9 | .04 - .04 ± .02 |

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1903phae.proj..7566



apr. 22, 04.

| | | |
|---|---|---|
| 5 50.6 | d | |
| | 27.8 | 06 |
| | 27.2 | 00 |
| | 27.0 | 02 |
| | 27.0 | 02 |
| | 27.0 | .06-.04 |
| | 27.2 | ±.02 |
| 5 52.0 | c | |
| | 28.4 | 05 |
| | 27.2 | 07 |
| | 28.0 | 01 |
| | 28.0 | 01 |
| | 27.9 | .07-.07 |
| | | ±.04 |
| 5 53.0 | b | |
| | 28.8 | 01 |
| | 29.0 | 01 |
| | 28.6 | 03 |
| | 29.2 | 03 |
| | 28.9 | .04-.04 |
| | | ±.02 |
| 5 54.2 | a | |
| | 31.4 | 00 |
| | 31.3 | 01 |
| | 31.7 | 03 |
| | 31.0 | 04 |
| | 31.4 | .03-.05 |
| | | ±.04 |
| 5 55.4 | a' | |
| | 32.2 | 06 |
| | 33.0 | 02 |
| | 32.6 | 02 |
| | 33.3 | 06 |
| | 32.8 | .07-.08 |
| | | ±.04 |

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1903phae.proj..756c



Apr. 22, 1904

) 57.4 a*

| | |
|---|---|
| 33.2 | 06 |
| 33.8 | 00 |
| 34.0 | 02 |
| 34.2 | 04 |
| 15.2 | .06 - .06 |
| 33.8 | ± .03 |

) 59.0 α Tauri

| | |
|---|---|
| 39.8 | 02 |
| 40.4 | 04 |
| 40.2 | 02 |
| 39.6 | 04 |
| 0 | .06 - .06 |
| 40.0 | ± .03 |

Means of Mercury & α Tauri were added to ~~lower~~ means of ~~stars~~ in pleiades.

8 00 Altitude of Pleiades now too low for further measures

(64) (1856) LPP

1903phae.proj..756C



Sept 6, 1904 (Tuesday)

Measures of comp ~~*~~ for Ceres.
L.C. OB.

Wedge a = ~~2~~ 30.0

Star e

~~16.9~~
~~7 45 0~~ ~~21.4~~
20.5

altered wedge a - to 30.0

Star ~~*~~ f

| | | |
|---|---|---|
| 7 47 30 | 26.6 | .00 |
| | 27.5 | .09 |
| | ~~2~~ 25.9 | .07 |
| | 26.4 | .02 |
| | 26.6 | ±.04 |

Star ~~*~~ e

| | | |
|---|---|---|
| 7 49 0 | 28.0 | .09 |
| | 27.7 | .06 |
| | 26.0 | .11 |
| | 26.8 | .03 |
| | 27.1 | ±.07 |

Star ~~*~~ l

| | | |
|---|---|---|
| 7 52 0 | 16.8 | .05 |
| | 16.9 | .04 |
| | 17.8 | .05 |
| | 17.6 | .03 |
| | 17.1 | ±.04 |

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Sep 6, 1904

Star m

| | | |
|---|---|---|
| 7 53 30 | 25.4 | .08 |
| | 24.0 | .06 |
| | 24.0 | .06 |
| | 25.0 | .04 |
| | 24.6 | ±.06 |

Star γ

| | | |
|---|---|---|
| 7 56 0 | 22.1 | .05 |
| | 22.4 | .02 |
| | 23.0 | .04 |
| | 23.1 | .05 |
| | 22.6 | ±.04 |

Star x

~~8h 2.0~~

| | | |
|---|---|---|
| 7 58 0 | 31.0 | .06 |
| | 30.0 | .04 |
| | 30.4 | .00 |
| | 30.0 | .04 |
| | 30.4 | ±.04 |

Star a

~~8h 6.0~~

~~16.0~~

~~16.0~~

wrong star

Star a

| | | |
|---|---|---|
| 8 7 30 | 22.0 | .09 |
| | 23.4 | .05 |
| | 23.0 | .01 |
| | 23.2 | .03 |
| | 23.1 | ±.04 |

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Sep 6, '04

| | Star S | |
|---|---|---|
| 8 12 0 | 14.0 | .05 |
| | 13.5 | .00 |
| | 13.4 | .01 |
| | 13.1 | .06 |
| | 14.0 | ±.07 |
| | 13.5 | |

Identt. of S somewhat doubtful.

Star C on eyepiece finds that S was correctly identified after all, and will hold the measures.

8 20 Region too low to positively identify the remaining stars in this region

see Chart for notation

(32) (1788)

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Oct 6, 1904 (Thursday)

LD 6761 2 C. Obs.

Region of New Algol Var.

Wedge a = 11,8

see Ob's vis. record book p 203 for notation used

> 9.0 star x

| | |
|---|---|
| 30.0 | 02 |
| 29.6 | 02 |
| 29.8 | 00 |
| 29.6 | .02 |
| 29.9 | |
| 2.98 | ±02 |

> 11.0 star a

| | |
|---|---|
| 22.8 | .06 |
| 20.6 | .16 |
| 22.5 | .03 |
| 23.0 | .08 |
| 22.9 | |
| 2.22 | ±08 |

> 13.5 star b

| | |
|---|---|
| 20.3 | .01 |
| 21.2 | .10 |
| 19.6 | .06 |
| 19.8 | .04 |
| 20.1 | |
| 20.2 | ±05 |

16.0 star y

| | |
|---|---|
| 23.8 | .03 |
| 23.0 | .05 |
| 24.2 | .07 |
| 23.0 | .05 |
| 23.5 | |
| 2.35 | ±05 |

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Oct 6, 1903

Algol Var (cont)

> 19.2 star c

~~10.8~~

~~11.8~~ Wrong star repeat

10.6

10.2

> 20.0 Var

~~13.4~~

| | |
|---|---|
| 21.2 | .02 |
| ~~20.4~~ | .10 |
| 21.8 | .04 |
| ~~22.2~~ 21.4 | .08 |
| | ±.06 |

> 27.4 Star X

| | |
|---|---|
| 30.2 | .02 |
| 29.6 | .04 |
| 30.0 | .00 |
| 30.4 | .04 |
| 30.0 | ±.02 |

8 14.4 Var T Cassiop.

Wedge a = ~~15.0~~ 14.0

| | |
|---|---|
| 14.0 | .04 |
| 14.4 | .00 |
| 14.8 | .04 |
| 14.6 | .02 |
| 14.4 | ±.02 |

16.8 e

| | |
|---|---|
| 29.2 | .01 |
| 28.3 | -.08 |
| 29.8 | .07 |
| 29.10 | .01 |
| 29.1 | ±.04 |

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Oct. 6, 1904.

δ 20.0 g T Cas (Cont)

| | |
|---|---|
| 24.4 | .02 |
| 27.8 | .02 |
| 28.0 | .04 |
| 27.0 | .06 |
| 27.6 (22) | ±.04 |

23.5. Var

| | |
|---|---|
| 15.0 | .02 |
| 14.6 | .02 |
| 15.6 | .02 |
| 14.4 | .04 |
| 14.8 (30) | ±.02 |

9 21.5 a Standards in Pleiades.

Wedge a = ~~5.0~~ 10.0

| | |
|---|---|
| 40.0 | 07 |
| 39.0 | .03 |
| 39.5 | .02 |
| 38.8 | .05 |
| 39.3 (13) | ±.04 |

23.8 a

| | |
|---|---|
| 38.3 | .02 |
| 37.8 | .03 |
| 38.2 | .01 |
| 38.0 | .01 |
| 38.1 (3) | ±.02 |

25.5 b

| | |
|---|---|
| 37.1 | .07 |
| 36.6 | .08 |
| 36.2 | .02 |
| 36.6 | .02 |
| 36.4 | ±.05 |

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Oct. 6, 1904

Pleiades (cont.)

9 27.0 b'

| | |
|---|---|
| 34.6 | .02 |
| 34.2 | .02 |
| 34.6 | .02 |
| 34.4 | .00 |
| 34.4 (18) | ±.02 |

29.0 C

| | |
|---|---|
| 33.8 | .08 |
| 33.0 | .00 |
| 32.5 | .05 |
| 32.8 (01) | .02 |
| 33.0 | ±.04 |

d

30.4 31.6 .00

| | |
|---|---|
| 31.7 | .01 |
| 31.7 | .01 |
| 31.6 | .00 |
| 31.6 | ±.00 |

32.4 e

| | |
|---|---|
| 29.2 | .01 |
| 29.1 | .02 |
| 29.6 | .03 |
| 29.4 | .01 |
| 29.3 | ±.02 |

9 34.0 f

| | |
|---|---|
| 28.6 | .03 |
| 27.7 | .06 |
| 28.6 | .03 |
| 28.4 | .01 |
| 28.3 | ±.04 |

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Oct 6, 1904.

Pleiades (cont.)

| | | | |
|---|---|---|---|
| 9 36.2 | g | | |
| | 28.6 | .01 | |
| | 28.8 | .03 | |
| | 28.0 | .05 | |
| | 28.6 | .01 | |
| | 28.30 | ±.02 | |
| 38.1 | h | | |
| | 27.8 | .04 | |
| | 26.8 | .06 | |
| | 27.5 | .01 | |
| | 27.4 | .00 | |
| | 27.4 | ±.03 | |
| 40.6 | i | | |
| | 22.4 | .03 | |
| | 22.8 | .01 | |
| | 22.9 | .02 | |
| | 22.8 | .01 | |
| | 22.7 | ±.02 | |
| 42.6 | k | | |
| | 12.6 | .06 | |
| | 13.4 | .02 | |
| | 13.6 | .04 | |
| | 13.4 | .02 | |
| | 13.2 | ±.04 | |
| 56.0 | a | | |
| | 39.3 | .04 | |
| | 38.8 | .01 | |
| | 39.0 | .01 | |
| | 38.6 | .03 | |
| | 39.7 | ±.03 | |

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Oct 6, 1904

Pleiades (cont)

| | | |
|---|---|---|
| 9 55 f.1 | a' | |
| | 38.0 | .00 |
| | 37.8 | .02 |
| | 38.2 | .02 |
| | 38.0 | .00 |
| | 38.0 | .00 |
| 10 00.0 | b | |
| | 36.2 | .00 |
| | 36.2 | .00 |
| | 36.4 | .02 |
| | 36.2 | .00 |
| | 36.2 | .00 |
| 01.3 | b' | |
| | 34.1 | .01 |
| | 34.1 | .01 |
| | 33.8 | .02 |
| | 34.2 | .02 |
| | 34.0 | ±.02 |
| 02.3 | c | |
| | 32.6 | .06 |
| | 31.8 | .02 |
| | 31.6 | .06 |
| | 31.8 | .02 |
| | 32.0 | ±.04 |
| 03.4 | d | |
| | 29.6 | .10 |
| | 31.0 | .04 |
| | 31.2 | .06 |
| | 30.8 | .02 |
| | 30.6 | ±.06 |

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Oct 6, 1904

Pleiades (cont)

10 5.4 e

| | |
|---|---|
| 28.0 | 00 |
| 28.1 | 01 |
| 28.1 | 01 |
| 28.0 | 00 |
| 28.0 | ±.00 |

6.8 f

| | |
|---|---|
| 26.8 | 05 |
| 26.4 | 01 |
| 26.6 | 03 |
| 25.4 | 09 |
| 26.3 | ±.04 |

10.0 g

| | |
|---|---|
| 27.0 | 06 |
| 25.6 | 09 |
| 26.6 | 02 |
| 26.4 | 00 |
| 26.4 | ±.04 |

12.0 h

| | |
|---|---|
| 23.8 | 06 |
| 24.4 | 00 |
| 24.8 | 04 |
| 24.8 | 04 |
| 24.4 | ±.04 |

13.6 i

| | |
|---|---|
| 20.0 | 00 |
| 19.6 | 04 |
| 20.2 | 02 |
| 20.4 | 04 |
| 20.0 | ±.02 |

(32)(132)

Jounsdd

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1903phae.proj..756c



HD-6764 Oct. 4, 1904 (Friday) L.C. Obs.

7 22.6 x — 15.49 05 algol Var.

Wedge a = 1.50

| | | |
|---|---|---|
| | 29.2 | 07 |
| | 30.0 | 01 |
| | 29.6 | 03 |
| | 29.8 | 01 |
| | 29.9 | ±.03 |

26.0 a

| | | |
|---|---|---|
| | 20.8 | .02 |
| | 20.8 | .02 |
| | 21.0 | .00 |
| | 21.4 | .04 |
| | 21.0 | ±.02 |

29.0 Var

17.0
16.8
19.6 Wrong star observed for the Var.
19.0

Reject this set.

32.0 b

| | | |
|---|---|---|
| | 20.4 | 00 |
| | 20.4 | 00 |
| | 21.0 | 06 |
| | 19.8 | 06 |
| | 20.4 | ±.03 |

34.0 ~~b~~

| | | |
|---|---|---|
| | 25.6 | 12 |
| | 25.0 | 02 |
| | 25.4 | 06 |
| | 25.2 | 04 |
| | 25.2 | ±.06 |

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Oct. 7, 1904

Algol Var (cont)

7 35.4 Var

| | |
|---|---|
| 22.0 | 04 |
| 22.4 | 08 |
| 21.0 | 06 |
| 20.8 | .08 |
| 6.2 | |
| 21.6 | ±06 |

38.0 ~~X~~ C

| | |
|---|---|
| 9.6 | 01 |
| 9.8 | 03 |
| 9.6 | 01 |
| 9.0 | 05 |
| 2.0 | |
| 09.5 | ±02 |

40.0 Var

| | |
|---|---|
| 22.4 | 06 |
| 22.0 | 02 |
| 21.4 | 04 |
| 21.2 | 06 |
| 2.0 | |
| 21.8 | ±04 |

7 42.0 χ

| | |
|---|---|
| 30.8 | 02 |
| 30.6 | 00 |
| 30.4 | 02 |
| 30.8 | 02 |
| 2.6 | |
| 30.6 | ±02 |

9 51.8 a Standards in Pleiades

Wedge a = 1.50

| | |
|---|---|
| 38.6 | ~~0~~05 |
| 39.0 | 01 |
| 39.5 | 04 |
| 39.3 | 02 |
| 39.4 | ±03 |

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Oct 7, 1904.

| | | | |
|---|---|---|---|
| 9 53.3 | a' | Pleiades cont. | |
| | 38.5 | .04 | |
| | 37.4 | .07 | |
| | 38.4 | .03 | |
| | 38.2 | .01 | |
| | 38.1 (5) | ±.04 | |
| 55.1 | b | | |
| | 37.1 | .03 | |
| | 36.6 | .02 | |
| | 36.6 | .02 | |
| | 36.8 | .00 | |
| | 36.8 (31) | ±.02 | |
| 56.7 | b | | |
| | 33.6 | .03 | |
| | 33.8 | .01 | |
| | 34.6 | .07 | |
| | 33.7 | .02 | |
| | 33.9 (37) | ±.03 | |
| 59.0 | c | | |
| | 33.0 | .03 | |
| | 33.2 | .05 | |
| | 32.3 | .04 | |
| | 32.4 | .03 | |
| | 32.7 (29) | ±.04 | |
| 10 0.4 | d | | |
| | 31.1 | .06 | |
| | 32.2 | .05 | |
| | 31.8 | .01 | |
| | 31.6 | .01 | |
| | 31.7 (27) | ±.03 | |

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Oct-7/1904

10 1.8 e Pleiaden (cont)

| | |
|---|---|
| 29.6 | 03 |
| 30.2 | 03 |
| 30.0 | 01 |
| 29.8 | 01 |
| 119 / 29.9.6 | ±.02 |

3.3 f

| | |
|---|---|
| 28.8 | 02 |
| 28.5 | 01 |
| 28.5 | 01 |
| 28.6 | 00 |
| 24 / 28.6 | ±.01 |

4.6 g

| | |
|---|---|
| 27.8 | 00 |
| 28.0 | 03 |
| 27.4 | 04 |
| 28.0 | 02 |
| 29.32 / 31.28 | ±.02 |

6.2 h

| | |
|---|---|
| 26.6 | 02 |
| 26.7 | 01 |
| 27.1 | 03 |
| 26.8 | 00 |
| 26.32 | ±.02 |

8.4 i

| | |
|---|---|
| 24.8 | 04 |
| 25.2 | 00 |
| 25.6 | 04 |
| 25.4 | 02 |
| 10 / 25.2 | ±.02 |

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Oct 6, 1904

Pleiades (cont.)

| | | | |
|---|---|---|---|
| 10 | 10.0 | J | |
| | | 22.4 | 01 |
| | | 22.7 | 02 |
| | | 22.4 | 01 |
| | | 22.5 | 00 |
| | | 22.5 (20) | ±.01 |
| | 12.4 | J' | |
| | | 13.0 | 09 |
| | | 11.4 | 07 |
| | | 12.0 | 01 |
| | | 12.0 (4) | 01 |
| | | 12.1 | ±.04 |
| | 21.0 | a | |
| | | 38.4 | 04 |
| | | 38.8 | 00 |
| | | 39.0 | 02 |
| | | 39.0 (32) | 02 |
| | | 38.8 | ±.02 |
| | 24.0 | b | |
| | | 35.8 | 04 |
| | | 35.6 | 06 |
| | | 36.8 | 06 |
| | | 36.6 (8) | 04 |
| | | 36.2 | ±.05 |
| | 25.7 | C | |
| | | 32.6 | 00 |
| | | 32.7 | 01 |
| | | 32.6 | 00 |
| | | 32.4 | .02 |
| | | 32.6 (23) | ±.01 |

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Oct 27, 1904

10 27.4 d. Pleiades (cont.)

| | | |
|---|---|---|
| | 30.8 | 08 |
| | 31.8 | 02 |
| | 32.0 | 04 |
| | 31.6 | 00 |
| | 6 2 | |
| | 31.6 | ±.04 |
| 28.7 | e | |
| | 28.4 | 01 |
| | 29.5 | .02 |
| | 29.8 | .05 |
| | 29.6 | .03 |
| | 13 | |
| | 29.3 | ±.05 |
| 30.0 | f | |
| | 27.7 | 05 |
| | 26.8 | 04 |
| | 27.4 | 02 |
| | 27.0 | 02 |
| | 9 | |
| | 27.2 | ±.03 |
| 31.4 | g | |
| | 27.1 | 05 |
| | 27.4 | 02 |
| | 28.0 | 04 |
| | 28.0 | 04 |
| | 5 | |
| | 27.6 | ±.04 |
| 32.7 | h | |
| | 26.8 | 04 |
| | 26.2 | 02 |
| | 26.0 | 04 |
| | 26.4 | 00 |
| | 14 | |
| | 26.4 | ±.02 |

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Oct 7, 1904

Pleiades (cont)

10 34.4 m

| | | |
|---|---|---|
| | 23.8 | 04 |
| | 24.0 | 02 |
| | 24.4 | 02 |
| | 24.8 | 06 |
| | 24.2 | ±04 |

36.6 J

| | | |
|---|---|---|
| | 21.2 | 04 |
| | 22.0 | 04 |
| | 21.8 | 02 |
| | 21.2 | 04 |
| | 21.6 | ±04 |

38.2 J

| | | |
|---|---|---|
| | 14.2 | 04 |
| | 13.6 | 02 |
| | 14.0 | 02 |
| | 13.6 | 02 |
| | 13.8 | ±02 |

39.8 a

| | | |
|---|---|---|
| | 37.0 | 06 |
| | 37.8 | 02 |
| | 38.0 | 04 |
| | 37.4 | 02 |
| | 37.6 | ±04 |

10 41.2 b

| | | |
|---|---|---|
| | 32.8 | 02 |
| | 33.2 | 02 |
| | 33.0 | 00 |
| | 33.2 | 02 |
| | 33.0 | ±02 |

(136) (268)

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J.D. 6771 Oct. 17, 1904

| | | | |
|---|---|---|---|
| 9 23.0 | a | Pleiades | |
| | 39.8 | .01 | Wedge a = ~~120~~ 11.0 |
| | 39.6 | .01 | |
| | 39.7 | 00 | |
| | 39.8 | .01 | |
| | 39.7 | ±.01 | |
| 25.0 | a | | |
| | 37.6 | 01 | |
| | 37.2 | 03 | |
| | 37.4 | 01 | |
| | 37.8 | 03 | |
| | 37.5 | ±.02 | |
| 27.0 | b | | |
| | 37.4 | .04 | |
| | 37.2 | .02 | |
| | 36.8 | 02 | |
| | 36.6 | 04 | |
| | 37.0 | ±.03 | |
| 28.5 | b | | |
| | 34.6 | 02 | |
| | 33.9 | 05 | |
| | 34.6 | 02 | |
| | 34.7 | 03 | |
| | 34.4 | ±.03 | |
| 30.0 | c | | |
| | 32.7 | 00 | |
| | 32.6 | 01 | |
| | 32.9 | 02 | |
| | 32.7 | .00 | |
| | 32.7 | ±.01 | |

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Oct 17, 1904

Pleiades cont

| | | | |
|---|---|---|---|
| 9 | 32.0 | d | |
| | | 31.1 | 03 |
| | | 31.5 | 01 |
| | | 31.6 | 02 |
| | | 31.4 | 00 |
| | | 31.4 | ±.02 |
| | 33.6 | e | |
| | | 29.4 | 01 |
| | | 28.8 | 05 |
| | | 29.6 | 03 |
| | | 29.4 | 01 |
| | | 29.3 | ±.02 |
| | 35.2 | f | |
| | | 28.8 | 03 |
| | | 28.2 | 03 |
| | | 28.6 | 01 |
| | | 28.4 | 01 |
| | | 28.5 | ±.02 |
| | 37.0 | g | |
| | | 28.0 | 03 |
| | | 28.6 | 03 |
| | | 28.2 | 01 |
| | | 28.4 | 01 |
| | | 28.3 | ±.02 |
| | 38.6 | h | |
| | | 26.8 | 00 |
| | | 26.8 | 00 |
| | | 27.0 | 02 |
| | | 26.4 | 04 |
| | | 26.80 | ±.02 |

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Oct. 17, 1904

Pleiades (Cont.)

| | | | |
|---|---|---|---|
| 4 | 40.4 | i | |
| | | 24.8 | 00 |
| | | 25.0 | 02 |
| | | 24.6 | 02 |
| | | 24.8 | 00 |
| | | 24.8 | ±.01 |
| | 43.0 | ~~1~~ | |
| | | 23.0 | 00 |
| | | 22.8 | 02 |
| | | 23.0 | 00 |
| | | 23.3 | 03 |
| | | 23.0 | ±.01 |
| 10 | 0.0 | a | |
| | | 39.6 | 02 |
| | | 40.0 | 02 |
| | | 39.8 | 00 |
| | | 39.7 | 01 |
| | | 39.8 | ±.01 |
| | 2.0 | a | |
| | | 37.2 | 06 |
| | | 38.4 | 06 |
| | | 37.8 | 00 |
| | | 37.8 | 00 |
| | | 37.8 | ±.03 |
| | 5.4 | b | |
| | | 36.2 | 03 |
| | | 35.6 | 03 |
| | | 35.8 | 01 |
| | | 36.0 | 01 |
| | | 35.9 | ±.02 |

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Oct. 17, 1904

| | | | |
|---|---|---|---|
| 7.0 | b' | Pleiades Cont. | |
| | 33.8 | .01 | |
| | 34.0 | .01 | |
| | 33.8 | .01 | |
| | 34.0 | .01 | |
| | 33.9 | ±.01 | |
| 8.6 | c | | |
| | 33.0 | .00 | |
| | 33.2 | .02 | |
| | 32.8 | .02 | |
| | 33.2 | .02 | |
| | 33.0 | ±.02 | |
| 10.0 | d | | |
| | 32.0 | .00 | |
| | 31.6 | .04 | |
| | 32.4 | .04 | |
| | 32.0 | .00 | |
| | 32.0 | ±.02 | |
| 11.4 | e | | |
| | 30.6 | .00 | |
| | 30.8 | .02 | |
| | 30.4 | .02 | |
| | 30.6 | .00 | |
| | 30.6 | ±.01 | |
| 12.6 | f | | |
| | 29.4 | .06 | |
| | 29.0 | .02 | |
| | 28.6 | .02 | |
| | 28.4 | .04 | |
| | 28.8 | ±.04 | |

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Oct. 17, 1904.

Pleiades (cont'd.)

10 13 4 9

| | |
|---|---|
| 28.5 | 02 |
| 28.2 | 01 |
| 28.2 | 01 |
| 28.4 | 01 |
| 28.3 | ±.01 |

15.0

| | |
|---|---|
| 27.0 | 00 |
| 26.8 | 02 |
| 27.2 | 02 |
| 26.9 | 01 |
| 27.0 | ±.01 |

16.6

| | |
|---|---|
| 25.0 | 00 |
| 24.8 | 02 |
| 25.0 | 00 |
| 25.0 | 00 |
| 25.0 | ±.00 |

10 19.0

| | |
|---|---|
| 23.8 | 01 |
| 23.6 | 03 |
| 24.0 | .01 |
| 24.2 | .03 |
| 23.9 | ±.02 |

Moon somewhat bright but sky clear & seeing very good, making observations less difficult.

(96) (364)

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OB .24 (90K (Cygnus)
J2.6778

A 56 V var V captured.

| | | |
|---|---|---|
| | 31.4 | .02 |
| | 31.1 | .01 |
| | 30.8 | .04 |
| | 31.6 | .04 |
| | 9 | |
| | 31.2 | ±.03 |

a = 2.0

9 04 d

| | | |
|---|---|---|
| | 29.4 | .02 |
| | 29.6 | .00 |
| | 29.6 | .00 |
| | 29.8 | .02 |
| | 29.6 | ±.01 |

06 var

| | | |
|---|---|---|
| | 31.7 | .03 |
| | 31.3 | .01 |
| | 31.2 | .02 |
| | 31.4 | .00 |
| | 31.4 | ±.02 |

08.4 c

| | | |
|---|---|---|
| | 32.2 | .04 |
| | 31.6 | .02 |
| | 31.8 | .00 |
| | 31.8 | .00 |
| | 31.8[4] | ±.02 |

10.8 var

| | | |
|---|---|---|
| | 31.4 | .00 |
| | 31.4 | .00 |
| | 31.6 | .02 |
| | 31.2 | .02 |
| | 31.4 | ±.01 |

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Oct. 24, 1904

9 12.4 d  V Cephei (cont.)

| | |
|---|---|
| 30.2 | .03 |
| 29.8 | .01 |
| 29.6 | .03 |
| 29.9 | .00 |
| 29.9 | ±.02 |

Moon light & obs a little difficult but care used & obs. considered good.

(24) (###)

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Nov. 12, 1904 (Saturday)

L.C. Obs.

> 30.0 e V Cephei

| | |
|---|---|
| 29.8 | .02 |
| 29.4 | .02 |
| 29.0 | .06 |
| 30.4 | .08 |
| 29.6 | ±.04 |

small wedge = 0.5
meas. made with large wedge

~~S~~ var

| | |
|---|---|
| 29.8 | .05 |
| 30.4 | .01 |
| 30.8 | .05 |
| 30.2 | .01 |
| 30.3 | ±.03 |

d

| | |
|---|---|
| 27.5 | .02 |
| 28.1 | .04 |
| 27.4 | .03 |
| 27.8 | .01 |
| 27.7 | ±.02 |

var

| | |
|---|---|
| 29.8 | .03 |
| 30.2 | .01 |
| 30.0 | .01 |
| 30.2 | .01 |
| 30.1 | ±.02 |

d

| | |
|---|---|
| 27.6 | .01 |
| 27.4 | .01 |
| 27.8 | .03 |
| 27.2 | .03 |
| 27.5 | ±.02 |

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Nov. 12, 1904

| var | V Cephei Cont. |
|---|---|
| 30.5 | .02 |
| 30.2 | .01 |
| 30.0 | .03 |
| 30.4 | .01 |
| 30.3 | ±.02 |

7 39,0 c

| | |
|---|---|
| 29.6 | 00 |
| 29.8 | 02 |
| 29.8 | 02 |
| 29.6 | 02 |
| 29.6 | ±.02 |

(28) (416)

Seeing quite good, but wind rather breezy. Ob. considered very good.

Dec. 29, 1904. (Thursday)

AD 6844 12" Ilor. Tel. Crow Recorder

L.C. Observer

S.Y.

| | | | |
|---|---|---|---|
| 1er 56.2 | o Ceti. | 35700 | 40.9 |
| | 692 | | |
| | 830 | | |
| | 784 | | |
| | 823 | | |
| | 3129 / 7.82 | | |
| 58.3 | ¢ E | 00 | 429 |
| | 963 | | |
| | 955 | | |
| | 932 | | |
| | 968 | | |
| | 2178 / 9.54 | | |

per next page

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Glens Dec 29, 1904

| | | | |
|---|---|---|---|
| Pl 56.2 | Var. | 35 7 00 | 40.9 |
| | 692 | .90 | |
| | 830 | .48 | |
| | 784 | .02 | |
| | 823 | .41 | |
| | 7.82 | ±.45 | |
| 58.3 | 2 | 00 | 42.9 |
| | 963 | .09 | |
| | 955 | .01 | |
| | 932 | .22 | |
| | 968 | .14 | |
| | 954 | ±.12 | |
| 59.3 | Var | 35700 | 44.1 |
| | 772 | .28 | |
| | 753 | .09 | |
| | 740 | .04 | |
| | 709 | .35 | |
| | 7.174 | ±.19 | |
| 8.0 | ~~B~~ Ceti | 35700 | 52.7 |
| | 858 | .24 | Changed eye piece |
| | 872 | .38 | |
| | 792 | .42 | |
| | 833 | .01 | |
| | 8.1345 | ±.26 | |
| 9.6 | € E | 00 | 54.3 |
| | 1029 | .62 | |
| | 972 | .05 | |
| | 942 | .25 | |
| | 925 | .42 | |
| | 3868 | | |
| | 967 | ±.34 | |

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Yerkes Dec 29, 1904.

| | | | | |
|---|---|---|---|---|
| 2h 10.5 | Var. | 35700 | 55.2 | |
| | 793 | .17 | | |
| | 759 | .17 | | |
| | 725 | .51 | | |
| | 828 | .52 | | |
| | 3035 | | | |
| | 7.76 | ±.34 | | |
| 11.4 | ¢ ε | 00 | 56.1 | |
| | 981 | .72 | | |
| | 912 | .03 | | |
| | 875 | .34 | | |
| | 869 | .40 | | |
| | 37 | | | |
| | 9.09 | ±.37 | | |
| 12.3 | Var. | 00 | 57.1 | |
| | 813 | .31 | | |
| | 793 | .11 | | |
| | 762 | .20 | | |
| | 761 | .21 | | |
| | 3129 | | | |
| | 7.82 | ±.21 | | |
| 14.5 | o Ceti | 00 | 59.2 | |
| | 858 | | | |
| | 923 | | Stopped by clds. | |
| 22.9 | Var. | 00 | 67.7 | |
| | 923 | .33 | Scat. clds. | |
| | 972 | .16 | | |
| | 988 | .32 | (Var Lost red) | |
| | 942 | .14 | | |
| | 225 | | | |
| | 9.56 | ±.24 | | |

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Glens. Dec 29, 1904.

| | | | |
|---|---|---|---|
| 24.3 | E | 356 59 | 68.7 |
| | 1077 | .12 | |
| | 1103 | .14 | |
| | 1078 | .11 | |
| | 1099 | .10 | |
| | 357 | ±.12 | |
| | 10.49 | | |
| 25.2 | Var. | | |
| | 961 | .15 | |
| | 977 | .01 | |
| | 993 | .17 | |
| | 971 | .05 | |
| | 302 | ±.10 | |
| | 9.76 | | |
| 26.0 | E | | |
| | 1139 | .23 | |
| | 1112 | .04 | |
| | 1113 | .03 | |
| | 1101 | .05 | |
| | 665 | ±.11 | |
| | 11.16 | | |
| 26.7 | Var. | 59 | 71.3 |
| | 967 | .95 | |
| | 882 | .10 | |
| | 831 | .41 | |
| | 817 | .55 | |
| | 287 | ±.50 | |
| | 8.72 | | |
| 50.2 | Q Cirietis | 25 11 | 95.7 |
| | 917 | .17 | |
| | 956 | .22 | Not very red. |
| | 953 | .19 | |
| | 911 | .33 | |
| | 137 | ±.20 | |
| | 9.34 | | |

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Ng Lun's. Dec 29, 1904.

| | | | | |
|---|---|---|---|---|
| 51.8 | β | 2444 | 96.9 | |
| | 978 | .00 | | |
| | 1004 | .26 | Col run out | |
| | 953 | .25 | | |
| | 29.35 9.78 | ±.17 | | |
| 59.2 | Ng Triang. | 3412 | 83.4 | |
| | 1225 | .11 | | |
| | 1202 | .12 | | |
| | 1208 | .06 | | |
| | 1223 | .09 | | |
| | 12.58 14 | ±.10 | | |
| Zero.3 | k | 12 | 84.0 | |
| | 1067 | .45 | | |
| | 1116 | .04 | | |
| | 1133 | .21 | | |
| | 1132 | .20 | | |
| | 11.12 48 | ±.22 | | |
| 1.2 | Var. | 13 | 85.2 | |
| | 1217 | .13 | | |
| | 1187 | .17 | | |
| | 1197 | .07 | | |
| | 1217 | .13 | | |
| | 12.04 18 | ±.12 | | |
| 4.2 | ~~β~~ Hagu 24 | 3411 | 86.7 | |
| | 1151 | .09 | | |
| | 1168 | .08 | | |
| | 1156 | .04 | | |
| | 1165 | .05 | | |
| | 11.60 0 | ±.06 | | |

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Glens Dec 29, 1904.

| | | | |
|---|---|---|---|
| 6.2 | Var. | 3 4 19 | 89.2 |
| | 1193 | .33 | |
| | 1207 | .19 | |
| | 1237 | .11 | |
| | 1268 | .42 | |
| | 105 | | |
| | 1226 | ±.26 | |
| 18.0 | Q Persei. | 35 32 | 55.4 |
| | 1112 | .38 | |
| | 1059 | .15 | |
| | 1059 | .15 | |
| | 1062 | .12 | |
| | 29 | | |
| | 10.745 | ±.20 | |
| 19.7 | e | 32 | 57.3 |
| | 1099 | .34 | |
| | 1047 | .18 | |
| | 1047 | .18 | |
| | 1068 | .03 | |
| | 261 | | |
| | 10.655 | ±.18 | |
| 20.4 | Var. | 32 | 57.4 |
| | 1059 | .26 | |
| | 1042 | .09 | |
| | 1018 | .15 | |
| | 1012 | .21 | |
| | 131 | | |
| | 10.335 | ±.18 | |
| 23.1 | ζ Ceti | 33 | 59.2 |
| | 1138 | .15 | |
| | 1122 | .01 | |
| | 1122 | .01 | |
| | 1110 | .13 | |
| | 92 | | |
| | 11.235 | ±.08 | |

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St Louis Dec 29, 1904.

| | | | |
|---|---|---|---|
| 3a 24.2 | Var. | 35 31 | 60.5 |
| | 1071 | .05 | |
| | 1093 | .17 | |
| | 1077 | .01 | |
| | 1062 | .14 | |
| | 1076.3 | .09 | |

Hz

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Yerkes. Dec 29, 1904.

| | | | | |
|---|---|---|---|---|
| 37.5 | Vulpeculae | 85 | 52 | 83.7 |
| | 859 | .45 | | |
| | 822 | .08 | | |
| | 813 | .01 | | |
| | 761 | .53 | | |
| | 8.14 | ±.27 | | |
| 38.4 | d | | 38 | 84.2 |
| | 747 | 32 | | |
| | 710 | 05 | | |
| | 658 | .57 | | |
| | 744 | .29 | | |
| | 7.15 | ±.31 | | |
| 39.7 | Var. | | 58 | 83.9 |
| | 723 | .05 | | |
| | 771 | .07 | | |
| | 784 | .06 | | |
| | 782 | .04 | | |
| | 7.78 | ±06 | | |
| 42.0 | d | | 37 | 84.4 |
| | 914 | .82 | | |
| | 852 | 20 | | Dec. |
| | 832 | 00 | | |
| | 732 | 1.00 | | |
| | 8.32 | ±.50 | | |
| 43.3 | Var | 86 | 02 | 84.2 |
| | 614 | .47 | | |
| | 682 | .21 | | |
| | 661 | 00 | | |
| | 688 | .27 | | |
| | 6.61 | ±21 | | |

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N Lunc. Dec 29, 1904.

| | | | | |
|---|---|---|---|---|
| 3ʰ 58.3 | R Tauri | 10 | 18 | 35.7 |
| | 1002 | .17 | | 163 |
| | 1007 | .12 | | |
| | 1021 | .02 | | |
| | 1045 | .26 | | |
| | 10.17.5 | ±.19 | | |
| 59.0 | ℓ | | 12 | 36.9 |
| | 858 | .06 | | |
| | 851 | .01 | | |
| | 843 | .09 | | |
| | 859 | .07 | | |
| | 8.52.1 | ±.06 | | |
| 59.7 | Var. | | 19 | 37.4 |
| | 913 | .23 | | |
| | 951 | .15 | | |
| | 953 | .17 | | |
| | 927 | .09 | | |
| | 9.36.4 | ±.16 | | |
| 4ʰ 2.1 | O | | 08 | 38.3 |
| | 1161 | .13 | | |
| | 1158 | .10 | | |
| | 1132 | .16 | | |
| | 1142 | .06 | | |
| | 11.48.3 | ±.11 | | |
| 3.0 | Var | | 19 | 40.5 |
| | 960 | .02 | | |
| | 973 | .15 | | 162 |
| | 954 | .04 | | |
| | 947 | .11 | | |
| | 9.58.4 | ±.08 | | |

4ʰ 0 S.T. = 9ʰ 15 E.T.

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yours. Dec 29, 1904.

| | | | |
|---|---|---|---|
| 15.6 | ω Tauri | 16 07 | 53.8 |
| | 1181 | .01 | |
| | 1167 | .13 | |
| | 1191 | .11 | |
| | 1180 | .00 | |
| | 11.80 | ±.06 | |
| 16.7 | ζ | 06 | 55.2 |
| | 1121 | .17 | |
| | 1102 | .02 | |
| | 1101 | .03 | |
| | 1094 | .10 | |
| | 11.04 | ±.08 | |
| 17.5 | Var. | 06 | 55.7 |
| | 1182 | .004 | |
| | 1192 | .14 | |
| | 1177 | .01 | |
| | 1162 | .16 | |
| | 11.78 | ±.09 | |
| 18.6 | ξ | 02 | 57.0 |
| | 1221 | .14 | |
| | 1219 | .12 | |
| | 1197 | .10 | |
| | 1190 | .17 | |
| | 12.07 | ±.13 | |
| 19.2 | Var. | 07 | 57.3 |
| | 1152 | .14 | |
| | 1137 | .01 | |
| | 1133 | .05 | |
| | 1128 | .10 | |
| | 11.38 | ±.08 | |

163

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γ Leon. Dec 29, 1904.

| | | | | |
|---|---|---|---|---|
| Aer | 41.2 | γ Camel. | 6601 | 64.5 |
| | | 912 | .32 | |
| | | 892 | .12 | |
| | | 863 | .17 | |
| | | 853 | .27 | |
| | | 32.0 / 4.00 | ±.22 | 4 |
| | 42.2 | α | 65 7/8 | 65.3 |
| | | 1028 | .11 | |
| | | 1037 | .02 | |
| | | 1042 | .03 | |
| | | 1049 | .10 | |
| | | 15.6 / 10.39 | ±.06 | |
| | 43.1 | Var | 6601 | 65.3 |
| | | 1013 | .38 | |
| | | 967 | .09 | |
| | | 965 | .10 | |
| | | 955 | .20 | |
| | | 30.0 / 9.75 | ±.19 | |
| | 44.2 | ε | 06 | 65.9 |
| | | 11.77 | .09 | |
| | | 1197 | .11 | |
| | | 1189 | .03 | |
| | | 1182 | .04 | |
| | | 11.82 / 2.5 | ±.07 | |
| | 44.9 | Var. | 07 | 66.0 |
| | | 968 | .24 | |
| | | 909 | .35 | |
| | | 973 | .29 | |
| | | 928 | .16 | Hz |
| | | 17 / 9.44 | ±.26 | |

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Thurs Dec 29, 1904.

5 23.7 Q Orionis 8 21 90.3

| | | |
|---|---|---|
| 1125 | .38 | V Faint invisible |
| 1081 | .06 | Faint than "o" |
| 1063 | .24 | |
| 1078 | .09 | |
| 3467 | | |
| 1.0867 | ±.19 | |

25.9 g 8 20 92.5

| | |
|---|---|
| 1114 | .27 |
| 1111 | .30 |
| 1145 | .04 |
| 1193 | .52 |
| 1163 | |
| 11.41 | ±.28 |

26.7 Var. 22 93.2

| | |
|---|---|
| 1080 | .24 |
| 1071 | .15 |
| 1042 | .14 |
| 1032 | .24 |
| 2225 | |
| 10.56 | ±.19 |

27.7 C 20 94.1

| | |
|---|---|
| 1099 | .14 |
| 1069 | .14 |
| 1088 | .05 |
| 1078 | .05 |
| 3332 | |
| 10.893 | ±.10 |

28.4 Var. 23 94.8

| | |
|---|---|
| 1110 | .02 |
| 1093 | .15 |
| 1138 | .30 |
| 1092 | .16 |
| 4333 | |
| 1.08 | ±.16 |

16.2

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12" Hor Tel.
LC. obs.
Zones W. Rec.
JD 6845.

Fri Dec 30, 1904.

| | | | | |
|---|---|---|---|---|
| 2m | 23.2 | α Persei | 54 42 | 79.0 |
| | | 954 | .02 | |
| | | 947 | .05 | |
| | | 952 | .00 | |
| | | 955 | .03 | |
| | | 9.52 | ±.02 | |
| | 29.2 | C | 41 | 78.2 |
| | | 978 | .11 | |
| | | 998 | .09 | |
| | | 1003 | .14 | |
| | | 978 | .11 | |
| | | 9.89 (357) | ±.11 | |
| | 25.3 | Var. | | |
| | | 941 | .29 | |
| | | 987 | .17 | |
| | | 986 | .16 | |
| | | 968 | .02 | |
| | | 9.70 (282) | ±.16 | |
| | 26.7 | f | 58 | 80.0 |
| | | 1034 | .07 | |
| | | 1043 | .02 | |
| | | 1059 | .18 | |
| | | 1027 | .14 | |
| | | 10.41 (163) | ±.10 | |
| | 27.5 | Var. | 48 | 81.3 |
| | | 997 | .08 | 1.63 |
| | | 966 | .23 | |
| | | 986 | .03 | |
| | | 1008 | .19 | |
| | | 9.89 (357) | ±.13 | |

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Yori Dec 30, 1904.

| | | | | |
|---|---|---|---|---|
| 30.5 | R Aquilæ | 24 | 53 | 29.8 |
| | 859 | .06 | | |
| | 878 | .13 | | |
| | 881 | .16 | | |
| | 842 | .23 | | |
| | 260 | ±.14 | | |
| | A. 65 | | | |
| 31.6 | S | | 29 | 80.5 |
| | 924 | .29 | | |
| | 942 | .11 | | |
| | 972 | .19 | | |
| | 975 | .22 | | |
| | 213 | ±.20 | | |
| | 9.53 | | | |
| 32.2 | Var. | | 56 | 81.4 |
| | 892 | .40 | | |
| | 852 | .00 | | |
| | 822 | .30 | | |
| | 841 | .11 | | |
| | 207 | ±.20 | | |
| | 8.52 | | | |
| 33.5 | n | | 58 | 81.7 |
| | 1129 | .21 | | |
| | 1163 | .13 | | |
| | 1171 | .21 | | |
| | 1138 | .12 | | |
| | 201 | ±.17 | | |
| | 11.50 | | | |
| 34.3 | Var. | | 58 | 83.3 |
| | 897 | .41 | | |
| | 864 | .08 | | |
| | 838 | .18 | | |
| | 827 | .29 | | |
| | 226 | ±.24 | | |
| | 8.5-6 | | | |

H 4

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Gridlee 30, 1904

| | | | | |
|---|---|---|---|---|
| 2a 35.7 | o Ceti. | 35658 | 82.4 | |
| | 872 | .11 | | |
| | 879 | .18 | | |
| | 847 | .14 | | |
| | 847 | .14 | | |
| | | P. 6.1 24.5 | ±.14 | |
| 36.4 | E | 58 | 87.9 | |
| | 1083 | .03 | | |
| | 1090 | .07 | | |
| | 1081 | .05 | | |
| | 1089 | .03 | | |
| | | 10.86 34.23 | ±.04 | |
| 37.3 | Var. | | | |
| | 889 | .03 | | |
| | 897 | .05 | | |
| | 900 | .08 | | |
| | 884 | .08 | | |
| | | P. 9 37.0 | ±.06 | |
| 38.3 | γ | 35708 | 79.3 | |
| | 793 | .43 | | |
| | 845 | .09 | | |
| | 847 | .11 | | |
| | 859 | .23 | | |
| | | P. 36 14.4 | ±.22 | |
| 39.3 | Var | 35658 | 86.0 | |
| | 859 | .06 | | |
| | 879 | .14 | | |
| | 863 | .02 | | |
| | 858 | .07 | | |
| | | 8.65 35.9 | ±.07 | |

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Fri Dec 30, 1904

| | | | | |
|---|---|---|---|---|
| 45.2 | Ω Yruang. | 3403 | 73.7 | |
| | 1293 | .13 | | |
| | 1283 | .03 | | |
| | 1277 | .03 | | |
| | 1269 | .11 | | |
| | 12.80 (3 2 2) | ±.04 | | |
| 46.0 | Ik | 3402 | 73.9 | |
| | 1127 | .00 | | |
| | 1131 | .04 | | |
| | 1127 | .00 | | |
| | 1122 | .05 | | |
| | 11.27 (10 7) | ±.02 | | |
| 46.7 | Var. | 04 | 74.8 | |
| | 1262 | .04 | | |
| | 1269 | .11 | | |
| | 1261 | .03 | | |
| | 1242 | .16 | | |
| | 12.58 (23 4) | ±.04 | | |
| 48.0 | Kagen 24 | 3359 | 75.1 | |
| | 1138 | .07 | | |
| | 1154 | .09 | | |
| | 1137 | .08 | | |
| | 1152 | .07 | | |
| | 1145 (8 1) | ±.04 | | |
| 48.7 | Var. | 3408 | 76.5 | |
| | 1248 | .13 | | |
| | 1228 | .07 | | |
| | 1235 | .00 | | |
| | 1229 | .06 | | |
| | 12.35 (14 0) | ±.06 | | |

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Fridler 30, 1904.

| | | | | |
|---|---|---|---|---|
| 2er 49.6 | α Andromedæ | 3402 | 77.2 | |
| | 1232 | .04 | Star q. prob. observed | |
| | 1249 | .13 | for var last night. | |
| | 1219 | .17 | | |
| | 1242 | .06 | | |
| | 12,36 | ±.10 | | |
| 54.9 | χ Ceti | 35858 | 41.9 | |
| | 1192 | .04 | | |
| | 1212 | .24 | Haze | |
| | 1177 | .11 | | |
| | 1172 | .16 | | |
| | 11,88 | ±.14 | | |
| 55.8 | C | 60 | 43.2 | |
| | 1145 | .08 | | |
| | 1161 | .08 | | |
| | 1170 | .17 | | |
| | 1134 | .16 | | |
| | 11,53 | ±.12 | | |
| 56.4 | Var. | 58 | 43.4 | |
| | 1219 | .13 | | |
| | 1218 | .12 | | |
| | 1197 | .09 | | |
| | 1191 | .15 | | |
| | 12,06 | ±.12 | | |
| 57.2 | d | 62 | 44.5 | |
| | 1172 | .12 | | |
| | 1172 | .12 | | |
| | 1159 | .03 | | |
| | 1140 | .20 | | |
| | 11,60 | ±.12 | | |

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1903phae.proj..7566



Fri Dec. 30, 1904.

| | | | |
|---|---|---|---|
| 58.0 | Var. | 358 58 | 45.2 |
| | 1195 | .01 | Clearer |
| | 1159 | .35 | |
| | 1219 | .25 | |
| | 1202 | .08 | 64 |
| | 11.77 | ±.17 | |
| 3d 3.7 | Persei | 35 38 | 45.7 |
| | ~~1099~~ | | |
| | 1149 | .29 | |
| | 1189 | .11 | |
| | 1192 | .14 | |
| | ~~1182~~ | .04 | |
| | 11.78 | ±.14 | |
| 4.4 | e | 33 | 46.9 |
| | 1155 | .07 | |
| | 1167 | .19 | |
| | 1142 | .06 | |
| | 1129 | .19 | |
| | 11.48 | ±.13 | |
| 5.2 | Var. | 33 | 46.9 |
| | 1137 | .05 | |
| | 1137 | .05 | |
| | 1137 | .05 | |
| | 1117 | .15 | |
| | 11.32 | ±.08 | |
| 6.0 | e | 36 | 47.1 |
| | 1167 | .07 | |
| | 1201 | .27 | |
| | 1169 | .05 | |
| | 1159 | .15 | |
| | 11.74 | ±.14 | |

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Fri Dec 30, 1904.

| | | | | |
|---|---|---|---|---|
| 3ea 6.8 | R Persei. | 35 32 | 48.2 | |
| | 1138 | .03 | | |
| | 1133 | .02 | | |
| | 1138 | .03 | | |
| | 1131 | .04 | 163 | |
| | 20 | | | |
| | 11.35 | ±.03 | | |
| 19.2 | α Aurigæ. | 14 28 | 74.5 | |
| | 1126 | .02 | | |
| | 1112 | .12 | | |
| | 1127 | .03 | | |
| | 1133 | .09 | | |
| | 9 8 | | | |
| | 11.24 | ±.06 | | |
| 20.0 | d. | 45 | 75.8 | |
| | 1127 | .12 | | |
| | 1113 | .02 | | |
| | 1108 | .07 | | |
| | 1113 | .02 | | |
| | 6 1 | | | |
| | 11.15 | ±.06 | | |
| 20.7 | Var. | 29 | 76.1 | |
| | 1207 | .16 | | |
| | 1199 | .08 | | |
| | 1180 | .11 | | |
| | 1177 | .14 | | |
| | 36 3 | | | |
| | 11.91 | ±.12 | | |
| 23.2 | e | 32 | 79.8 | |
| | 1129 | .00 | | |
| | 1140 | .11 | | |
| | 1125 | .04 | | |
| | 1122 | .07 | | |
| | 11 6 | | | |
| | 11.29 | ±.06 | | |

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Fri Dec 30, 1904.

| | | | | |
|---|---|---|---|---|
| 23.9 | Var. | 1428 | | 79.2 |
| | 1165 | .15 | | |
| | 1146 | .04 | | Haze |
| | 1148 | .02 | | |
| | 1139 | .11 | | H4. |
| | 19 8 | | | |
| | 11.50 | ±.08 | | |
| 32.1 | Nova Persei | 4343 | | 67.5 |
| | 1260 | .27 | | |
| | 1233 | .00 | | |
| | 1206 | .27 | | |
| | 1233 | .00 | | |
| | 13 2 | | | |
| | 12.33 | ±.14 | | |
| 32.8 | O | 50 | | 68.2 |
| | 1131 | .14 | | |
| | 1132 | .15 | | |
| | 1090 | .27 | | |
| | 1114 | .03 | | |
| | 6 7 | | | |
| | 11.17 | ±.15 | | |
| 33.7 | Var. | 44 | | 68.6 |
| | 1253 | .25 | | |
| | 1241 | .13 | | |
| | 1218 | .10 | | |
| | 1199 | .29 | | |
| | 11 1 | | | |
| | 12.28 | ±.19 | | |
| 34.4 | S | 44 | | 68.7 |
| | 1219 | .14 | | |
| | 1219 | .16 | | |
| | 1194 | .11 | | |
| | 1187 | .18 | | |
| | 19 | | | |
| | 12.05 | ±.16 | | |

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1903phae.proj..756c



Gridler 30, 1904.

| | | | | |
|---|---|---|---|---|
| 3 | 35.1 | Nova Persei | 4343 | 69.7 |
| | | 1196 | .23 | |
| | | 1207 | .12 | |
| | | 1221 | .02 | |
| | | 1252 | .33 | 164. |
| | | 12.19 (7 6) | ±.18 | |
| | 52.2 | Q Persei. | 10 20 | 31.6 |
| | | 1133 | .17 | Region hazy |
| | | 1132 | .16 | |
| | | 1102 | .14 | |
| | | 1099 | .17 | |
| | | 11.16 (6 6) | ±.16 | |
| | 53.3 | e | 13 | 37.9 |
| | | 1034 | .33 | |
| | | 1031 | .30 | |
| | | 982 | .19 | |
| | | 958 | .63 | |
| | | 10.01 (0 5) | ±.31 | |
| | 53.9 | Var. | 19 | 33.3 |
| | | 1058 | .24 | |
| | | 1028 | .06 | |
| | | 1010 | .24 | |
| | | 1042 | .08 | |
| | | 10.34 (13 8) | ±.16 | |
| | 54.7 | o | 10 06 | 42.7 |
| | | 1163 | .28 | |
| | | 1147 | .12 | |
| | | 1124 | .11 | |
| | | 1107 | .28 | |
| | | 11.35 (14 1) | ±.20 | |

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Fri Dec 30, 1904.

| | | | |
|---|---|---|---|
| 55.4 | Var | 1019 | 35.0 |
| | 1028 | .16 | ~~Still~~ hazy |
| | 1046 | .34 | Obs. difficult on |
| | 994 | .18 | account of haze. |
| | 981 | .31 | 164. |
| | 10.12 | ±25 | |
| 21h 18.1 | ~~Var~~ Faint. | 1604 | 58.2 |
| | 1223 | .23 | Field very hazy. |
| | 1201 | .01 | ~~Interrupted~~ Light clds. |
| | 1196 | .04 | |
| | 1182 | .18 | |
| | 12.00 | ±12 | |
| 19.0 | f | 03 | 59.4 |
| | 1160 | .10 | |
| | 1162 | .08 | |
| | 1181 | .11 | |
| | 1176 | .06 | |
| | 11.70 | ±09 | |
| 19.6 | Var. | 04 | 59.6 |
| | 1232 | .12 | |
| | 1233 | .13 | |
| | 1217 | .03 | |
| | 1197 | .23 | |
| | 12.20 | ±13 | |
| 20.2 | h | 01 | 60.4 |
| | 1248 | .24 | |
| | 1242 | .18 | |
| | 1204 | .20 | |
| | 1201 | .23 | |
| | 12.24 | ±21 | |

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Grid Dec 30, 1904.

| | | | |
|---|---|---|---|
| 4h 20.6 | 9 Jan. | 1605 | 60.7 |
| | 1180 | .06 | Grid 2 comet plates. |
| | 1183 | .09 | |
| | 1164 | .10 | 9. 16. 4 |
| | 1168 | .06 | 165 |
| | | 29 5 ±0f | |
| | | 11.7f | |

4h 20 S. T = 9h 30 E.T.

Lost on account of haze

1903phae.proj..7566



(more) Jan. 16, 1903 5h

9 34 30 Aslewd Eunomia (19)

L. E. Observ

very Red.

| | |
|---|---|
| 8.4 | .12 |
| 7.2 | .00 |
| 6.2 | .10 |
| 7.1 | .01 |
| 7.2 | ±.06 |

9 35 30 α +13.2019 (9.0)

| | |
|---|---|
| 6.1 | .03 |
| 5.8 | .00 |
| 5.5 | .03 |
| 5.8 | .00 |
| 5.8 | ±.02 |

37.2 Aslewd

| | |
|---|---|
| 6.9 | .07 |
| 6.3 | .01 |
| 5.9 | .03 |
| 5.9 | .03 |
| 6.2 | ±.04 |

38.5 β +13.2027 (9.1)

| | |
|---|---|
| 4.8 | .04 |
| 4.4 | .00 |
| 4.2 | .02 |
| 4.4 | .00 |
| 4.4 | ±.02 |

(16)(4 32)

Aslewd

Stopped by clouds.

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Mon. Jan. 23, 1905.
J.D.

f 0.0 Aster. 51 Nemausa

5.0
5.2
5.6
6.0

a = 11.0

Repeat

f 4.2 X

18.8
18.4
18.8
19.0

6.0 Y

22.4
23.2
23.1
22.8

f 15.0 Aster. 15 Eunomia

18.4
20.2
19.6
20.0

a = 0

Repeat

f 17.0 L

18.0
20.2
20.1

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Jan. 23, 1904

Aster. 15 Eunomia

B

previous obs should be repeated. Moon visit & some haze making meas. difficult. No credence placed on these observations. Both asteroids identified.

Aster.

X

Y

1903phae.proj..756C



Sat. Jan. 28, 1905

10 37 15 Eunomia. $\underline{a} = 0,0$

| | | |
|---|---|---|
| | 20.4 | .00 |
| | 20.6 | .02 |
| | 20.8 | .04 |
| | 20.0 | .04 |
| | 20.4 | ±.02 |

38 $\chi$ +13.2019 (90)

| | | |
|---|---|---|
| | 48 | .08 |
| | 10.6 | .10 |
| | 9.2 | .04 |
| | 9.8 | .02 |
| | 38.4 | ±.06 |
| | 9.6 | |

39 $\beta$ +13.2027 (9.1)

| | | |
|---|---|---|
| | 5.8 | .00 |
| | 6.0 | .06 |
| | 5.6 | .02 |
| | 5.4 | .04 |
| | 23.2 | ±.03 |
| | 5.8 | |

40 Aster.

| | | |
|---|---|---|
| | 18.0 | .00 |
| | 17.2 | .08 |
| | 18.6 | .06 |
| | 18.0 | .00 |
| | 71.8 | ±.04 |
| | 18.0 | |

42 $\gamma$ +14.1971 (7.8)

| | | |
|---|---|---|
| | 24.6 | .00 |
| | 24.0 | .02 |
| | 24.4 | .02 |
| | 24.8 | .02 |
| | 24.6 | ±.02 |

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1003phae.proj..7566



Jan 28, 1905.

10 44 $\chi$ + 14.1962 (7.9)

| | |
|---|---|
| 24.8 | 02 |
| 25.2 | 02 |
| 24.6 | 04 |
| 25.4 | 04 |
| 25.0 | ±.03 |

Aster.

10 46

| | |
|---|---|
| 17.8 | 02 |
| 18.0 | 04 |
| 17.2 | 04 |
| 17.6 | 00 |
| 17.6 | ±.02 |

02. considered good.
seeing good.

Vesta.

11 02 Vesta

| | |
|---|---|
| 25.2 | 02 |
| 26.0 | .06 |
| 24.6 | 08 |
| 25.6 | 02 |
| 25.4 | ±.04 |

03 $\alpha$ + 3.2714 (8.0)

| | |
|---|---|
| 27.4 | 04 |
| 26.6 | 04 |
| 26.0 | 02 |
| 27.2 | 02 |
| 27.0 | ±.03 |

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Jan 28, 1905

11 05 Vesta

| | |
|---|---|
| 25.3 | 03 |
| 24.6 | 04 |
| 25.2 | 02 |
| 25.1 | 01 |
| 25.0 | ±.02 |

06 β +5.2690 (7.8)

| | |
|---|---|
| 28.4 | 02 |
| 28.8 | 02 |
| 28.6 | 00 |
| 28.4 | 02 |
| 28.6 | ±.02 |

11 08 Vesta

| | |
|---|---|
| 25.6 | 00 |
| 25.4 | 02 |
| 26.0 | 04 |
| 25.2 | 04 |
| 25.6 | ±.02 |

(48) (400)

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Feb. 13, 1905 - Monday

Ammonia

Artificial light broke so had to quit -

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1903phae.proj..756c



~~Tues~~ April. 18, 1906.
Wed.

| | | | |
|---|---|---|---|
| | X | F 25. | |
| | 34.5 | | |
| 836 | 34.4 | | |
| | 34.1 | | |
| | 34.4 | | |
| | X | EQ. | |
| | 30.2 | | |
| 838 | 32.6 | | |
| | 34.1 | | |
| | 34.7 | | |
| | X | F 19 | |
| | 27.2 | | |
| | 32.6 | | |
| 840 | 35.5 | | |
| | 33.8 | | |
| | ~~33~~ 30.7 | XQ. | |
| | 29.4 | | |
| 842 | 29.4 | | |
| | 29.4 | | |

Experiment with Plot H on 5' Minute Intervals to illustrate Oak. Variable rainfall. Large amount of rain in short time. Small amount for long time. Rainfall 50 ft. would be equivalent to 8 inches in 24 hours.

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1903phae.proj..756C



Wed. Apr. 25, 1906.

Stars Exper. with Phot X

| | | | |
|---|---|---|---|
| 847 | 27.1 | 02 | 2 C.obs. |
| | 26.9 | 00 | R Cowi Region |
| | 26.4 | 05 | Meas of comp ★s. |
| | 27.2 | 03 | of sequence |
| | 27.6 | ±02 | |
| | 26.9 | | |
| | * e | | ★ St. obs |
| 853 | 27.8 | 16 | |
| | 24.5 | 17 | |
| | 26.2 | 00 | |
| | 26.2 | 00 | |
| | 24.7 | ±08 | |
| | 26.2 | | |
| 857 | * f | | ★ St obs. |
| | 27.2 | 4 | |
| | 26.8 | 5 | |
| | 25.2 | 16 | |
| | 28.3 | 10 | |
| | 27.0 | ±10 | |
| | 26.8 | | |
| | * f | | ★ St. obs |
| 900 | 24.9 | 7 | |
| | 25.5 | 1 | |
| | 27.0 | 13 | |
| | 25.0 | 6 | |
| | 22.4 | ±16 | |
| | 25.6 | | |
| | * e | | |
| 903 | 29.5 | 1 | 2 C. obs. |
| | 30.4 | 8 | |
| | 29.8 | 2 | |
| | 28.9 | 7 | |
| | 38.6 | ±04 | |
| | 29.6 | | |

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1903phae.proj..756c



April 25, 1906

| | | |
|---|---|---|
| 9 05 | * c | F. W. Ob. |
| | 27.0 | 15 |
| | 29.8 | 13 |
| | 27.4 | 11 |
| | 29.7 | 12 |
| | 28.5 | 13 |
| | * d | F. W. Ob. |
| 9 08 | | |
| | 27.5 | 16 |
| | 30.2 | 11 |
| | 29.4 | 03 |
| | 29.2 | 01 |
| | 36.3 | 08 |
| | 29.1 | |
| | * d | L.C. Obs. |
| 9 10 | 28.6 | 9 |
| | 29.8 | 3 |
| | 29.4 | 1 |
| | 30.2 | 7 |
| | 38.0 | ±5 |
| | 29.5 | |
| | * k | L.L. Obs. |
| 9 12 | 25.9 | 13 |
| | 26.2 | 16 |
| | 24.4 | 02 |
| | 21.8 | 28 |
| | 18.3 | 15 |
| | 24.6 | |
| | * h | F. W. Obs. |
| 9 15 | 22.2 | 16 |
| | 25.1 | 13 |
| | 26.1 | 23 |
| | 22.0 | 18 |
| | 15.4 | 18 |
| | 2 38 | |

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1903phae.proj..756C



April 25, 1906

α Herculis Region

| | | | |
|---|---|---|---|
| | * g | | |
| 9 23 | 31.6 | 8 | LC obs |
| | 30.8 | 0 | |
| | 30.2 | 6 | |
| | 30.7 | 1 | |
| | 30.8 | ±4 | |
| | * ~~K~~ k | | |
| 9 25 | 27.8 | 5 | LC obs |
| | 27.9 | 4 | |
| | 28.8 | 5 | |
| | 28.8 | 5 | |
| | 33.3 | | |
| | 28.3 | ±5 | |
| | * m | | LC obs. |
| 9 27 | 28.7 | 6 | |
| | 29.2 | 11 | |
| | 27.3 | 8 | |
| | 27.3 | 8 | |
| | 32.5 | | |
| | 28.1 | ±.8 | |
| | * g | | FTS Obs |
| 9 32 | 29.4 | 12 | |
| | 29.3 | 03 | |
| | 31.4 | 08 | |
| | 29.4 | 02 | |
| | 38.5 | | |
| | 29.6 | ±0.6 | |
| | * k | | FTS Obs |
| 9 34 | 27.1 | 2 | |
| | 26.4 | 5 | |
| | 27.6 | 3 | |
| | 27.6 | 3 | |
| | 27.3 | ±0.3 | |

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April 20/1906

N Univ. Reg Court.

| | | |
|---|---|---|
| 9 36 | * n | Fair Obs. |
| | 26.6 | 1 |
| | 27.3 | 6 |
| | 26.9 | 2 |
| | 29.9 | 8 |
| | 26.7 | ±4 |
| | 26.7 | |
| | Bright * left of q. L.C. obs | |
| 9 38 | 37.2 | 1.1 |
| | 37.2 | 1.1 |
| | 38.8 | 5 |
| | 40.0 | 7 |
| | 33.2 | ±.8 |
| | 38.3 | |
| 9 47 | Var | L.C. Obs. |
| | 28.9 | 0 |
| | 29.5 | 6 |
| | 28.9 | 0 |
| | 28.4 | 5 |
| | 29.9 | ±.3 |
| 9 44 | Var | Fair Obs. |
| | 27.5 | 8 |
| | 27.7 | 6 |
| | 30.8 | 20 |
| | 27.6 | 7 |
| | 33.1 | ±1.0 |
| | 28.3 | |
| 9 48 | bright * | |
| | 36.8 | 1.3 |
| | 39.0 | 1.5 |
| | 37.7 | 4 |
| | 38.4 | 3 |
| | 32.5 | ±.9 |
| | 38.1 | |

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Friday April 27 1906

R Coronæ region

Measures of Companion stars
Phot X F.S obs & red'n

For this series small wedge set at 10.0

| | | |
|---|---|---|
| 9 00 | C | F.S obs. |
| | 25.5 | |
| | 26.3 | |
| | 28.1 | |
| | 23.7 | |
| | 25.9 (23.6) | |
| 9 03 | d | " |
| | 10.0 | Reject |
| | 10.4 | small wedge |
| | 8.8 | prob. slipped |
| | 14.0 | |
| 9 08 | h star near h | " |
| | 23.7 | |
| | 21.5 | |
| | 22.3 | |
| | 21.9 | |
| | 22.4 (9.4) | |
| 9 12 | k | " |
| | 13.8 | |
| | 12.5 | |
| | 12.4 | |
| | 14.3 | |
| | 13.2 (53.0) | |

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April 27, 1906.

9 17 f H.S Ole.

7.8
10.0
9.8
9.1
36.7
9.2

@ L.C Ole.

9 22

25.2
24.8
24.6
25.2
98.8

"

9:24

23.1
20.7
20.9
22.5
87.2
21.8

"

9 25 e

10.6
10.2
13.4
12.6
46.8
11.7

"

9 27 f

5.5
5.6
5.7
5.0
21.8
5.4

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9 33 d ovi again H.S. Obs.
22.6
26.4
27.5
25.5
22.0
25.5

9 35 d again H.S. Obs.
26.1
25.3
25.2
23.0
19.6
24.9

*g U Her Region H.S. Obs.

9 40
27.6
26.7
24.6
25.5
24.4
26.1

small wedge at 15.0 hereafter.

9 42 *k
23.0
24.2
25.4
25.2
17.8
24.4

9 49 *n
20.2
17.7
18.3
20.0
76.2
19.0

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April 27, 1906

950 Van

19.2
20.0
20.9
20.3
20.1

95 p

5.1
4.2
3.1
2.8
15.2
3.8

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