KG
11365
530

1895phae.proj..531W

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phas.proj..531W

KG-11365.530

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531W

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531W

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531W

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895pnae.proj...53.w

KG 11865.530

HARVARD
UNIVERSITY
LIBRARY
MAY 8 1956

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Sept. 28. 1895.

$\pi$ Androm: Phot. $\pi$:

| | | |
|---|---|---|
| 0 | 14 | +26.1 |
| 20 | 7 | |
| -4 | 7 | |
| 7 | 53 | |

Index to left and above.

97.7 < 7.5 = comp. star dis.

7 48 55

| | | | |
|---|---|---|---|
| 168.9 | | | |
| 92.7 | 71.2 < | | |
| 173.2 | 80.5 < | | 0.54 < |
| | 151.7 < | | |

Index to right and below.

| | | | |
|---|---|---|---|
| 182.0 | | | |
| 7 52 28 | 263.1 | 81.1 < | |
| | 179.8 | 85.2 < | 0.26 < |
| | 265.0 | 166.3 < | |

| | | | |
|---|---|---|---|
| 180.4 | | | |
| 9 3 12 | 261.0 | 80.6 < | |
| | 182.6 | 78.0 < | 0.41 < |
| | 260.6 | 158.6 < | |

Index to left and ~~below~~ above.

| | | | |
|---|---|---|---|
| 272.6 | | | |
| 8 7 0 | 352.3 | 79.7 < | 0.40 < |
| | 271.9 | 79.4 < | |
| | 351.3 | 159.1 < | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Sept 28. 1895.

272.0

8 9 50 — 350.2 — 78.2 <

275.3 — 74.1 < — 0.53 <

349.4 — 152.3 <

Index to right and below.

4.7

8 10 0 — 86.5 — 81.8 <

8 1 -4.16 — 2.3 — 85.4 < — 0.24 <

87.7 — 167.2 <

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phate.proj...531w



Sept. 30, 1895.

Z Herculis: Phot T: W: obs

17 53 +15.1
20 17
2 24

Index to right and above

112.9 < var dis

7 35 36 148.0 35.1 <
118.2 r 31.0 < 2.64 <
149.2 66.1 <

118.1 r
7 37 5 148.8 30.7 <
116.9 l 32.1 < 2.76 <
149.0 62.8 <

115.4 l
7 38 18 149.1 33.7 <
112.3 r 37.5 < 2.47 <
149.8 71.2 <

112.8 r 36.2 < 2.38 <
7 39 25 149.0 37.7 <
7 ~~41 V 0~~ ~~24~~ 114.4 l 73.9 <
7 37 36 < 149.1
~~7 46~~
~~7 36 52~~
~~12 36 0~~
7 36 0

4/2.2√
2.√6

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Sept. 30. 1895

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 118.1 | l | 30.6 < | |
| 7 | 41 | 10 | 148.7 | | | 7 |
| | | | 117.2 | r | 32.7 < | |
| | | | 149.9 | | 63.3 < | 2.7 K < |
| | | | 117.0 | r | 32.3 < | |
| 7 | 43 | 42 | 149.3 | | | |
| | | | 117.8 | l | 31.0 < II | |
| | | | 148.8 | | 63.3 < | 2.7 K < |
| | | | 117.7 | l | | |
| 7 | 44 45 | 6 | 148.4 | | 30.7 < | 7 |
| | | | 118.2 | r | 30.2 < | |
| | | | 149.0 | | 61.9 < | 2.60 < |
| | | | 117.2 | r | | |
| 7 | 45 | 20 | 150.0 | | 32.8 < | 8 |
| | | | 118.0 | l | 31.6 < | 2.70 < |
| | | | 149.6 | | 64.4 < | 42.9 a |
| | | | | | | 2.7 K |

7 43 34.0 <
~~144~~
~~7 42 50.0 = a~~
~~- 60.~~
~~12 K2 K3.~~
12 K2 K9.

Compared watch used in above timing with Balloon #103 at 7h 48m 0s and found watch 43 sec. fast

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..53iw



Sept. 30. 1895.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 117.4 | l | | |
| 7 | 55 | 28 | 148.9 | | 31.5 < | |
| | | | 117.2 | r | 32.2 < | |
| | | | 149.4 | | 63.7 < | 2.73 < |
| | | | 117.9 | r | | |
| 7 | 57 | 7 | 149.2 | | 31.3 < | |
| | | | 118.2 | l | 30.5 < | |
| | | | 148.7 | | 61.8 < | 2.79 < |
| | | | 117.8 | l | 30.2 < | |
| 7 | 58 | 58 | 148.0 | | | |
| | | | 117.1 | r | 32.7 < | |
| | | | 149.8 | | 62.9 < | 2.75 < |
| | | | 117.0 | r | | |
| | | | 149.0 | | 32.0 < | |
| 8 | 0 | 22 | 117.5 | l | 31.3 < | 2.74 < |
| | | | 148.8 | | 63.3 < | 3.01 |
| | | | | | | 2.75 |
| | | | 117.8 | l | | |
| 8 | 1 | 34 | 148.1 | | 30.3 < | |
| | | | 117.2 | r | 33.0 < | |
| | | | 150.2 | | 63.3 < | 2.74 < |
| | | | 117.8 | r | 31.1 < | |
| 8 | 3 | 1 | 148.9 | | | |
| | | | 117.8 | l | 30.4 < | |
| | | | 148.2 | | 61.5 < | 2.40 < |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Sept. 30. 1895

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 118.0 | l | 30.1 < | |
| 8 | 4 | 38 | 148.9 | | | |
| | | | 116.8 | r | 33.4 < | |
| | | | 150.2 | | 63.5 < | 2.73 < |
| | | | 116.8 | r | | |
| 8 | 6 | 0 | 149.1 | | 32.3 < | |
| 8 | 3 | 48.25 < | 118.4 | l | 29.6 < | 2.79 < |
| | | -35. | 148.0 | | 61.9 < | 3.06 |
| 8 | 3 | 13.25 < | | | | 2.76 |
| | | | 117.0 | l | | |
| 8 | 15 | 18 | 149.5 | | 32.5 < | |
| | | | 117.6 | r | 31.5 < | |
| | | | 149.1 | | 63.0 < | 2.71 < |
| | | | 116.6 | r | | |
| 8 | 16 | 58 | 149.4 | | 32.4 < | V |
| | | | 117.8 | l | 30.2 < | |
| | | | 148.0 | | 62.6 < | 2.75 < |
| | | | 118.4 | l | | |
| 8 | 18 | 15 | 148.7 | | 30.3 < | |
| | | | 117.9 | r | 33.1 < | 2.73 < |
| | | | 150.4 | | 63.4 < | |
| | | | 116.0 | r | | |
| 8 | 19 | 48 | 149.9 | | 33.9 < | |
| 8 | 17 | 34.75 < | 117.2 | l | 33.3 < | |
| | | -28. | 150.5 | | 67.2 < | 2.60 < |
| 8 | 19 | 07.75 < | | | | 2.79 |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Sept. 30. 1895.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 117.0 | l | | | |
| 8 | 21 | 50 | 150.8 | | 33.8 < | | |
| | | | 117.0 | r | 33.9 < | | |
| | | | 150.9 | | 67.7 < | 2.59 < | |
| | | | 117.0 | r | | | |
| 8 | 23 | 10 | 149.8 | | 32.8 < | | |
| | | | 118.9 | l | 31.0 < | 2.72 < | |
| | | | 149.9 | | 63.8 < | | |
| | | | 118.0 | l | 30.0 < | | |
| 8 | 24 | 18 | 148.0 | | 31.4 < | | |
| | | | 117.2 | r | 61.6 < | 2.79 < | |
| | | | 149.0 | | | | |
| | | | 116.7 | r | 33.8 < | | |
| 8 | 25 | 31 | 150.5 | | 31.2 < | 2.68 < | |
| 8 | 23 | 42.25 < | 117.9 | l | 65.0 < | | |
| | | 23 | 149.1 | | | K 2.70 | |
| 8 | 23 | 19.25 < | | | | 2.70 | |
| | | | 117.2 | l | | | |
| 8 | 35 | 35 | 150.1 | | 32.9 < | | |
| | | | 116.7 | r | 33.4 < | | |
| | | | 150.1 | | 66.3 < | 2.63 < | |
| | | | 116.7 | r | | | |
| 8 | 37 | 11 | 151.8 | | 35.1 < | | |
| | | | 116.8 | l | 33.2 < | 2.56 < | |
| | | | 150.0 | | 68.3 < | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w

8

Sept. 30. 1895

| | | | | | |
|---|---|---|---|---|---|
| | | 117.1 | l | | |
| 8 | 38 | 58 | 149.1 | 32.0 < | VII |
| | | | 119.4 | ~ 31.5 < | |
| | | | 148.9 | 63.5 < | 2.73 < |
| | | | 117.7 | ~ 31.5 < | |
| 8 | 40 | 20 | 149.2 | | |
| 8 | 38 | 1.0 < | 117.2 | l 31.2 < | 2.71 < |
| | | -18 | 149.0 | 63.3 < | 2.68 |
| 8 | 37 | 43.0 < | | | |
| | | | 116.9 | l | |
| 8 | 41 | 39 | 148.0 | 31.1 < | |
| | | | 116.9 | ~ 33.4 < | 2.69 < |
| | | | 150.3 | 64.5 < | |
| | | | 116.6 | ~ 32.6 < | |
| 8 | 42 | 45 | 149.2 | | |
| | | | 117.0 | l 32.6 < | 2.67 < |
| | | | 149.6 | 65.2 < III | |
| | | | 117.0 | l | |
| 8 | 44 | 4 | 148.9 | 31.9 < | |
| | | | 116.7 | ~ 31.8 < | 2.73 < |
| | | | 148.5 | 63.7 < | |
| | | | 116.6 | ~ | |
| 8 | 45 | 15 | 150.0 | 33.4 < | |
| 8 | 43 | 25.75 < | 117.9 | l 31.3 < | 2.69 < |
| | | -15 | 149.2 | 64.7 < | 2.72 |
| 8 | 42 | 58.75 < | | | 2.70 |
| 13 | 43 | 1 1 | | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Apt. 20.4 Aqr.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 116.7 | l | | | |
| 8 | 52 | 55 | 149.7 | | 32.0 < | | |
| | | | 116.8 | r | 32.8 < | 2.68 < | |
| | | | 149.6 | | 64.8 < | | |
| | | | 117.2 | r | IX | | |
| 8 | 54 | 7 | 150.4 | | 33.2 < | | |
| | | | 116.8 | l | 31.9 < | 2.67 < | |
| | | | 148.7 | | 65.1 < | | |
| | | | 117.4 | l | | | |
| 8 | 55 | 20 | 149.7 | | 32.3 < | | |
| | | | 117.6 | r | 30.6 < | 2.75 < | |
| | | | 148.2 | | 62.9 < | | |
| | | | 117.3 | r | | | |
| 8 | 56 | 32 | 149.2 | | 31.9 < | | |
| 8 | 54 | 43.5 < | 117.9 | l | 30.6 < | 2.77 < | |
| | | -29 | 148.5 | | 62.5 < | 2.47 | |
| 8 | 54 | 20.5 | | | | 2.72 | |
| 13 | 54 | 3 √. | | | | | |
| | | | 117.0 | l | | | |
| 8 | 57 | 42 | 149.2 | | 32.2 < | | |
| | | | 117.0 | r | 32.1 < | 2.70 < | |
| | | | 149.1 | | 64.3 < | | |
| | | | 118.7 | r | 29.8 < | | |
| 8 | 58 | 53 | 148.5 | | | | |
| | | | 117.1 | l | 31.9 < | 2.40 < | |
| | | | 149.0 | | 61.7 < | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Sept. 30. 1895.

| | | | | | |
|---|---|---|---|---|---|
| | 117.2 | l | | | |
| 9 0 19 | 147.6 | | 30.4 < | | 9 |
| | 117.2 | n | 32.3 < | 2.76 < | |
| | 149.5 | | 62.7 < | | |
| | | | X | | |
| | 117.0 | n | | | |
| | 149.8 | | 32.8 < | | |
| 9 1 50 | | | | | 9 |
| 8 57 41 < | 117.0 | l | 32.2 < | 2.68 < | |
| ~~8 57 20 <~~ | 149.2 | | 65.0 < | ~~42.9~~ | |
| ~~13 9 3~~ | | | | 2.7 | |
| | 116.9 | l | 32.4 < | | |
| 9 16 22 | 149.3 | | | | 9 |
| | 116.6 | n | 33.4 < | 2.6 v < | |
| | 150.0 | | 66.8 < | | |
| | 117.3 | n | 31.6 < | | |
| 9 17 52 | 148.9 | | 32.4 < | 2.71 < | 9 |
| | 116.0 | l | 64.0 < | | 9 |
| | 148.4 | | X1 | | |
| | 116.4 | l | 31.7 < | | |
| 9 19 25 | 148.1 | | | | |
| | 118.0 | n | 32.2 < | 2.69 < | |
| | 150.8 | | 64.9 < | | |
| | 117.3 | n | | | 9 |
| | 149.1 | | 31.8 < | | |
| 9 20 34 | | | | | |
| 9 18 33.25 < | 116.9 | l | 31.5 < | 2.74 < | |
| ~~9 18 15.25 <~~ | 148.4 | | 63.3 < | ~~42.79~~ | |
| ~~9 18 3~~ | | | | 2.70 | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..53iW



Sept. 30. 1895.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 116.4 | l | | | |
| 9 | 21 | 45 | 149.5 | | 33.1 < | | |
| | | | 116.0 | r | 32.5 < | 2.66 < | |
| | | | 148.5 | | 65.6 < | | |
| | | | 115.9 | r | | | |
| 9 | 22 | 51 | 150.0 | | 34.1 < | | |
| | | | 116.8 | l | 33.1 < | 2.60 < | |
| | | | 149.9 | | 67.2 < | | |
| | | | | | | | X 11 |
| | | | 116.6 | l | | | |
| 9 | 24 | 0 | 149.6 | | 33.0 < | | |
| | | | 117.4 | r | 32.4 < | 2.66 < | |
| | | | 149.8 | | 65.4 < | | |
| | | | 116.9 | r | | | |
| 9 | 25 | 18 | 150.2 | | 33.4 < | | |
| 9 | 23 | ~~19~~ < | 117.3 | l | 33.3 < | 2.62 < | |
| | | +~~7~~6 | 150.6 | | 66.7 < | | 4 2.5 K |
| ~~9~~ | ~~23~~ | ~~17.5~~ | | | | | 2.6 K |
| 14 | 23 | 34. | | | | | |

at 9h. 29m. 0s watch was 15 sec. fast.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 116.8 | l | | | |
| 9 | 35 | 35 | 148.8 | | 32.0 < | | |
| | | | 117.8 | r | 32.9 < | 2.68 < | |
| | | | 150.7 | | 64.9 < | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Sept. 30. 1895.

| | | | | | |
|---|---|---|---|---|---|
| | | 117.2 | r | 32.1 < | |
| 9 | 37 | 29 | 149.3 | | |
| | | 117.6 | l | 31.8 < | |
| | | 149.4 | | 63.9 < | 2.72 < |
| | | 116.6 | l | XIII | |
| 9 | 39 | 9 | 148.6 | 32.0 < | |
| | | 116.8 | r | 34.1 < | 2.64 < |
| | | 150.9 | | 66.1 < | |
| | | 116.2 | r | | |
| 9 | 40 | 35 | 149.8 | 33.6 < | |
| | | 117.4 | l | 32.4 < | 2.64 < |
| 9 | 38 | 11.5 | 149.8 | 66.0 < | 2.64 |
| | | +12 | | | 2.67 |
| 9 | 38 | 23.0 | | | |
| | | 41. | | | |
| 9 | 37 | 47.5 | | | |
| | | 117.6 | l | 31.6 < | |
| 9 | 41 | 56 | 149.2 | 33.3 < | |
| | | 116.7 | r | 64.9 < | 2.68 < |
| | | 150.0 | | XIII | |
| | | 116.1 | r | | |
| 9 | 43 | 13 | 149.2 | 33.1 < | 2.66 < |
| | | 116.9 | l | 32.3 < | |
| | | 149.2 | | 65.4 < | |
| | | 116.7 | l | 32.1 < | |
| 9 | 44 | 35 | 148.8 | 33.2 < | |
| | | 117.0 | r | 65.3 < | 2.67 < |
| | | 150.2 | | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Sept. 30. 1895.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | ~~150~~ | | | |
| c | | | 116.4 | ν | | |
| 9 | 45 | 50 | 149.9 | | 33.5 < | |
| 9 | 43 | 33.5 | 116.8 | l | 32.4 < | 2.65 |
| | | +17 | 149.2 | | 65.9 < | ~~2.66~~ |
| 9 | ~~44~~ | ~~49~~.5 | | | | 2.66 |
| | | | 116.5 | l | | |
| 10 | 2 | 22 | 151.1 | | 34.6 < | |
| | | | 116.9 | ν | 32.4 < | 2.61 |
| | | | 149.3 | | 67.0 < | |
| | | | 116.8 | ν | 32.8 < | |
| 10 | 3 | 42 | 149.6 | | 33.6 < | 2.63 |
| | | | 117.0 | l | 66.4 < | |
| | | | 150.6 | | XV | |
| | | | 116.8 | l | | |
| 10 | 4 | 55 | 150.6 | | 33.8 < | |
| | | | 116.1 | ν | 32.5 < | 2.63 |
| | | | 148.6 | | 66.3 < | |
| | | | 116.4 | ν | | |
| 10 | 6 | 7 | 150.0 | | 33.6 < | |
| 10 | 4 | 16.5 | 116.2 | l | 34.3 < | 2.58 |
| | | +27 | 150.6 | | 67.9 < | |
| ~~10~~ | ~~4~~ | ~~43.5~~ | | | | ~~2.6~~ |
| 14 | 4 | 43. | | | | 2.61 |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Sept. 30. 1895.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 116.9 | l | | |
| 10 | 7 | 18 | 149.8 | | 32.9 < | |
| | | | 117.1 | r | 31.3 < | 2.71 < |
| | | | 148.4 | | 64.2 < | |
| | | | 117.4 | r | | |
| 10 | 8 | 40 | 148.4 | | 31.0 < | |
| | | | 115.1 | l | 35.5 < | 2.62 < |
| | | | 150.6 | | 66.5 < | |
| | | | 116.2 | l | XVI | |
| 10 | 9 | 50 | 151.6 | | 35.4 < | |
| | | | 117.9 | r | 32.3 < | 2.59 < |
| | | | 150.2 | | 67.7 < | |
| | | | 117.4 | r | | |
| 10 | 11 | 30 | 150.0 | | 32.6 < | |
| | | | 116.3 | l | 32.5 < | 2.67 < |
| | | | 148.8 | | 65.1 < | 42.59 |
| | | | | | | 2.65 |

10 9 19.5
+31
~~10 9 20.5~~
15 9 51.

| | | |
|---|---|---|
| 1 . | l | at $10^h$ $21^m$ 08 watch was 37 sec slow. Watch wound at this time. |
| 1 . | | |
| 1 . | r | |
| 1 . | | |
| 1 . | r | |
| 1 . | | |
| 1 . | l | |
| 1 , | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Sept. 30. Cont.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 117.2 | l | | | |
| 10 | 25 | 29 | 150.7 | | 33.5 < | | |
| | | | 115.9 | r | 34.0 < | | 2.59 < |
| | | | 149.9 | | 67.5 < | | |
| | | | 117.0 | r | 31.8 < | | |
| 10 | 26 | 59 | 148.8 | | 34.5 < | | 2.63 < |
| | | | 115.2 | l | 66.3 < | | |
| | | | 149.7 | | XVII | | |
| | | | 117.2 | l | | | |
| 10 | 28 | 24 | 150.2 | | 33.0 < | | 2.64 < |
| | | | 116.1 | r | 33.1 < | | |
| | | | 149.2 | | 66.1 < | | |
| | | | 116.8 | r | | | |
| 10 | 30 | 6 | 148.7 | | 31.9 < | | |
| 10 | 27 | 44.5 | 115.8 | l | 33.4 < | | 2.67 < |
| | | +37.0 | 149.2 | | 65.3 < | | 42.53 |
| 10 | 28 | 22.5 | | | | | 2.63 |
| | | | 117.1 | l | | | |
| 10 | 31 | 39 | 149.2 | | 32.1 < | | |
| | | | 117.2 | r | 33.6 < | | 2.73 < |
| | | | 148.8 | | 65.7 < | | |
| | | | 116.7 | r | | | |
| 10 | 32 | 55 | 147.9 | | 31.2 < | | |
| | | | 117.0 | l | 33.0 < | | 2.71 < |
| | | | 150.0 | | 64.2 < | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Sept. 30. 1895.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 115.8 | l | 3 3.1 < | |
| | | | 149.2 | | 3 1.8 < | 2.67 < |
| 10 | 34 | 5 | 116.8 | ∩ | 6 5.2 < | |
| | | | 148.6 | | XVIII | |
| | | | 117.1 | ∩ | | |
| 10 | 35 | 27 | 148.0 | | 3 0.9 < | |
| | | | 116.0 | l | 3 3.8 < | 2.69 < |
| 10 | 33 | 31.5 | 149.8 | | 6 4.7 < | 2.70 |
| | | +37. | | | | |
| 10 | 34 | 9.3 - | | | | |
| | | | 117.0 | l | | |
| 10 | 40 | 35 | 150.2 | | 3 3.2 < | |
| | | | 117.0 | ∩ | 3 2.0 < | 2.67 < |
| | | | 149.0 | | 6 5.2 < | |
| | | | 117.0 | ∩ | 3 2.4 < | |
| 10 | 43 | 25 | 149.4 | | 3 4.0 < XIX | 2.63 < |
| | | | 116.7 | l | 6 6.4 < | |
| | | | 150.7 | | | |
| | | | 115.9 | l | | |
| 10 | 44 | 45 | 148.5 | | 3 2.6 < | |
| | | | 115.2 | ∩ | 3 3.8 < | 2.62 < |
| | | | 149.0 | | 6 6.4 < | |
| | | | 115.6 | ∩ | | |
| 10 | 45 | 58 | 149.0 | | 3 3.4 < | |
| | | | 117.0 | l | 3 2.5 < | 2.65 < |
| 10 | 44 | 40.7 s - | 149.5 | | 6 5.9 < | 2.64 |
| | | 37. | | | | |
| 10 | 44 | 18.7 s | | | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Sept. 30. 1895 U.

| | | | | | |
|---|---|---|---|---|---|
| | | 117.0 | l | 32.2 < | |
| 10 | 47 | 0 | 149.2 | 32.2 < | 2.70 < |
| | | | 116.6 | r | 64.4 < |
| | | | 148.8 | | |
| | | | 117.2 | r | 29.7 < |
| 10 | 48 | 6 | 146.9 | 35.1 < | 2.68 < |
| | | | 114.4 | l | 64.8 < |
| | | | 149.5 | | |
| | | | | XX | |
| | | | 116.8 | l | 32.6 < |
| 10 | 50 | 22 | 149.4 | 33.8 < | 2.63 < |
| | | | 116.1 | r | 66.4 < |
| | | | 149.9 | | |
| | | | 116.8 | r | 33.2 < |
| 10 | 51 | 50 | 150.0 | 32.6 < | 2.65 < |
| 10 | 49 | 19.5 | 115.9 | l | 65.8 < |
| | | +38. | 148.5 | | K/2.66 |
| 10 | 49 | 57.5 | | | 2.66 |
| | | | | | 2.74 < |
| | | | 116.6 | l | 32.9 < |
| 10 | 58 | 10 | 149.5 | 30.3 < | |
| | | | 117.9 | r | 63.2 < |
| | | | 148.2 | | XXI |
| | | | 117.2 | r | 31.8 < |
| | | | 149.0 | 33.9 < | 2.65 < |
| | | | 117.6 | l | 65.7 < |
| | | | 151.5 | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Sept. 30. 1895.

| | | | | | |
|---|---|---|---|---|---|
| | | | 115.1 | l | 34.5 < |
| 11 | 1 | 55 | 149.6 | | 33.1 < 2.59 < |
| | | | 115.5 | ∩ | 67.6 < |
| | | | 148.6 | | |
| | | | 117.3 | ∩ | 31.8 < |
| 11 | 3 | 35 | 149.1 | | 34.6 < 2.63 < |
| | | | 116.1 | l | 66.4 < 2.61 |
| | | | 150.7 | | 2.65 |
| 11 | 1 | 133 | | | |
| | | 38. | | | |
| 11 | 1 | 51.3 | | | |
| | | | 115.3 | l | |
| 11 | 4 | 55 | 149.5 | | 34.2 < |
| | | | 116.2 | ∩ | 32.5 < 2.62 < |
| | | | 148.7 | | 66.7 < |
| | | | 116.7 | ∩ | XXII |
| 11 | 6 | 19 | 148.8 | | |
| | | | 117.0 | l | 32.1 < |
| | | | 149.1 | | 32.1 < 2.71 < |
| | | | | | 64.2 < |
| | | | 117.0 | l | |
| 11 | 7 | 38 | 148.1 | | 31.1 < |
| | | | 116.8 | ∩ | 31.4 < 2.77 < |
| | | | 148.2 | | 62.5 < |
| | | | 116.9 | ∩ | |
| 11 | 8 | 52 | 147.2 | | 30.3 < |
| | | | 115.1 | l | 33.4 < 2.73 < |
| | | | 148.5 | | 63.7 < 2.73 |
| | | | | | 2.71 |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Sept. 30. 1895.

At $11^h\ 17^m\ 0^s$ watch was 3 & 8cc slow

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Posted to Lere.

Oct. 1. 1895.

T. Androm: Phot T. W: obs.

| | | |
|---|---|---|
| ~~24~~ 0 | 14 | +26.1 |
| 20 | 20 | |
| −3 | 54 | |
| 8 | 6 | |

Var. compared with T.V maps.

Index to left and above.

97.9 < comp star dis.

7 35 10

| | | |
|---|---|---|
| 172.1 | | |
| 99.6 | 74.2 | 0.61 |
| 173.8 | 74.2 | |
| | 148.4 | |

Index to right and below.

184.3

7 39 45

| | | |
|---|---|---|
| 270.0 | 85.7 | |
| 184.0 | 54.7 | 0.18 |
| 268.7 | 170.4 | |

7 41 40

| | | |
|---|---|---|
| 182.7 | | |
| 268.3 | 85.6 | |
| 184.4 | 81.9 | 0.24 |
| 266.3 | 167.5 | |

Index to left and above.

7 36 32

| | | |
|---|---|---|
| 99.2 | | |
| 174.3 | 75.1 | |
| 99.1 | 73.3 | 0.61 |
| 172.4 | 148.4 | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 1. 1895.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 97.2 | | | |
| 7 | 3 | 48 | 171.7 | 74.5 | | |
| | | | 99.9 | ~~75.5~~ | | 0.58 |
| | | | 175.4 | 150.0 | | |

Index to right and below.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 183.5 | | | |
| 7 | 43 | 30. | 268.0 | 84.5 | | |
| 7 | 39 | 20 | 185.0 | 82.6 | | |
| | | | 267.6 | 167.1 | | 0.24 |

meas. of var. with 8.1 mag.

Index to right and above.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 179.6 | l | ← comp. star dis. | |
| 7 | 48 | 15 | 273.7 | | 94.1 | |
| | | | 182.7 | r | 84.6 | 0.02 |
| | | | 267.3 | | 178.7 | |
| | | | | | | |
| | | | 183.9 | r | 84.1 | |
| 7 | 49 | 50 | 268.0 | | 91.2 | 0.09 |
| | | | 180.8 | l | 175.3 | |
| | | | 272.0 | | | |
| | | | | | | |
| | | | 183.1 | l | 88.5 | |
| 7 | 51 | 8 | 271.6 | | 82.0 | 0.18 |
| | | | 184.0 | r | 170.5 | |
| | | | 266.0 | | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 1. 1895.

Index to left and below

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 277.3 | r | | |
| 7 | 54 | 0 | 359.0 | | 79.7 | |
| | | | 272.4 | l | 88.1 | 0.23 |
| | | | 00.5 | | 167.8 | |
| | | | 270.0 | l | | |
| 7 | 55 | 27 | 00.5 | | 90.5 | |
| | | | 276.4 | r | 81.9 | 0.14 |
| | | | 358.3 | | 172.4 | |
| | | | 275.4 | r | | |
| 7 | 56 | 48 | 358.0 | | 82.6 | |
| | | | 271.0 | l | 89.4 | 0.15 |
| 7 | 52 | 34.66 | 0.4 | | 172.0 | |

meas. of 8.1 with 7.5

Index ~~to left~~ above

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 95.6 | | | |
| 8 | 0 | 40 | 178.4 | | <7.5 dis. | |
| | | | 97.0 | | 82.8 | 0.35 |
| | | | 176.0 | | 79.0 | |
| | | | | | 161.8 | |
| | | | 99.4 | | | |
| 8 | 2 | 29 | 173.9 | | 74.5 | |
| | | | 95.7 | | 80.8 | 0.47 |
| | | | 176.5 | | 155.3 | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 1. 1895

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 97.2 | | | |
| 8 | 4 | 34 | 178.3 | 81.1 | | |
| | | | 98.7 | 75.7 | | 0.44 |
| | | | 194.4 | 156.8 | | |

Index below

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 187.6 | | | |
| 8 | 7 | 45 | 263.2 | 75.6 | | |
| | | | 182.0 | 84.2 | | 0.38 |
| | | | 266.2 | 159.8 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 184.9 | | | |
| 8 | 10 | 1 | 266.2 | 81.3 | | |
| | | | 184.5 | 78.3 | | 0.39 |
| | | | 265.8 | 159.6 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 188.4 | | | |
| 8 | 11 | 38 | 263.0 | 74.6 | | |
| | | | 185.2 | 89.2 | | 0.42 |
| 8 | 6 | 11.16 | 268.4 | 157.8 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | (7.5) | 3.5 | (8.1) | | | |
| | (8.1) | 4 | var. | | | |
| 8 | (7.5) | 5.5 | var. | | | W. obs |
| | var | 2.5 | (8.8) | | | |

Estimates made in West Equatorial.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct 1. 1895.

| | | | |
|---|---|---|---|
| (7.5) | 3.5 | (8.1) | |
| (8.1) | 4 | var. | } W ds |
| 8 30 (7.5) | 6 | var | |
| var | 2 | 8.8 | |

all in finder

Expts. with Phot. ☉ in order to investigate some of the diffi- culties with instrument.

The extra image of the bro star, seen last night about 3 times as far from star being compared as the distance of the bro stars, is due to the other pencil. It is not extinguished by the stud but is by the Foucault.

S st on a 3rd. magn. star: eye piece in but N rod off: four images of star in all visible, but at different times & and with different positions of eye: started 1 st with right hand image of all at extreme left of field (achromatic prisms abutting against double-image prism); when this 1 st. image is visible in the left of the field

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 1. 1895.

the eye has to be on right hand side of eye-piece as this image is moved across the field to the right the eye moves slowly to the left until after it gets a short distance by center of field at which time the eye is not to follow it has to move slowly with it to the right, but by doing so can follow it nearly to the right hand of the field.

Second Image.

When 2nd image comes in at left of field, the eye is more to the left of right hand edge of eye-piece than in the case of the 1st image: but by following the same motion with the eye as in the case of the 1st image, it can be followed over to the right of the field, although not quite as far to the right; the lateral motion of the eye with this image does not seem to be quite as great as in the case of the 1st image; this 2nd image entirely disappears when it is a little over $\frac{3}{4}$ of the way from the left hand side of field to right hand side of same.

Third image.

The 3rd image is not visible until it is nearly into the center of the field reckoning from left to right: in that case the 1st image is fully nearly over to right hand edge of field: and 2nd image is nearly $\frac{3}{4}$ of the way from left to right: 4th

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 1, 1895.

image does not appear until 3rd. image appears; 3rd. image first appears a little to left of centre of field: and as it moves across the field to right observer's eye remains pretty nearly central except that towards the last of the motion as the image nears the right hand side of field observer seems to move his eye a little to the right with advantage.

Fourth image.

Fourth image 1st. appears when it is about one quarter of the way from left to right of field: it is evident that both the 3rd and 4th images could be earlier seen if observer would get his eye farther to the left in order to grasp them sooner. 3rd and 4th images appear at about the same time but in different positions in the field as previously mentioned: when 4th image is first seen observer's eye is at extreme left of eye piece: as 4th image moves to the right across field ~~observer's eye moves slowly to the right also until it gets some three quarters of the way across part way across~~ observer seems to keep his eye about in the same position: the image gradually growing

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 1. 1895.

brighter as it goes to the right until it seems to be pretty close to right hand edge of field then observer by moving his eye a little to right can follow it a little farther to the right. this image disappears pretty close to right hand edge of field.

Taking 2nd image when the star is centrally placed in the field and the eye well placed the star image seems to be moderately round and fairly well defined but as it is moved towards lower edge of field a strong tail appears which can be somewhat obviated by observer moving his eye to lower edge of eye-piece but the star grows fainter when observer thus moves his eye: this tail is not nearly as evident in the upper half of field as in lower half: the direction of the tail is in the plane of the achromatic prisms and rotates with them: similar tail phenomena occur when the Foucault prism is put on: when the Foucault prism is put on there are 2 or 3 small points of light which revolve around the second image when the Foucault prism is rotated: ~~this second image is the one which seems to be a trailing~~ the first and second images are the principle and residual images when the Foucault prism is put on:

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct 1. 1895.

the third being only ~~rather~~ somewhat faintly seen and the fourth not at all. with Foucault prism in and achromatics run somewhat up the tube the first image has a tail when it is in the lower half of the field and the second image when it is in the upper half of the field; both being in the planes of the achromatic prisms.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 2. 1895.

| | | |
|---|---|---|
| 1V | 13 | +2.V |
| 20 | 19 | |
| XV | 6 | |

Z Herculis : Phot. T. Wilbs

| | | |
|---|---|---|
| 17 | 53 | +15.1 |
| 21 | 0 | |
| 3 | 7 | |

B and C. #1182 Ballou #103

$8^h\ 12^m\ 54^s.9$

$8^h\ 8^m\ 0.0$
$8\ \ 12\ \ 54.9$
B+C 1182 = $4^m\ 54.9^s$ fast.

When achromatic prisms are close down against double-image prism, sprocket wheel reads 1.1 divisions: but this image cannot be traced way across the field: it can, however, be traced across the field when sprocket wheel reads 1.8 divisions but with varying brilliancy: when sprocket wheel reads 2.7 divisions this image can be traced way across the field with about full and unvarying brilliancy: this is not, however, the case with the other image it requires a reading of sprocket wheel of 6.6 divisions to trace this image way across the field with full and unvarying brilliancy

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 2. 1895.

Index to right and above

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 99.7 | < var | | |
| 8 | 33 | 0 | 133.4 | | | |
| | | | 98.8 | l | 33.7 < | |
| | | | 133.0 | | 34.2 < | 2.58 < |
| | | | | | 67.9 < | |
| | | | 99.3 | l | | |
| | | | 132.7 | | 33.4 < | |
| 8 | 34 | 32 | 98.7 | | 39.4 < | 2.61 < |
| | | | 132.1 | r | 66.8 < | |
| | | | | | I | |
| | | | 98.0 | r | | |
| | | | 134.2 | | 36.2 < | |
| 8 | 36 | 8 | 98.9 | l | 33.4 < | 2.52 < |
| | | | 132.3 | | 69.6 < | |
| | | | 97.7 | l | | |
| | | | 132.3 | | 34.6 < | |
| 8 | 37 | 54 | | | 34.3 < | 2.54 < |
| | | | 99.2 | r | 68.9 < | |
| | | | 133.5 | | | |
| | | | 97.8 | r | | |
| | | | 133.0 | | 35.2 < | |
| 8 | 39 | 13 | 98.8 | l | 33.6 < | 2.55 < |
| | | | 132.4 | | 68.8 < | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 2. 1895.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 98.0 | l | | |
| 8 | 40 | 33 | 132.5 | | 34.5 < | |
| | | | 98.4 | r | 35.5 < | 2.51 < |
| | | | 133.9 | | 70.0 < | |
| | | | | | II | |
| | | | 97.6 | r | | |
| 8 | 41 | 45 | 132.8 | | 35.2 < | |
| | | | 97.7 | l | 34.7 < | 2.51 < |
| | | | 132.4 | | 69.9 < | |
| | | | 96.8 | l | | |
| | | | | | 36.0 < | |
| 8 | 43 | 5 | 132.8 | | 34.6 < | 2.49 < |
| 8 | 41 | 9 < | 97.4 | r | 70.6 < | |
| | - 4 | 5.6 < | 132.0 | | | |
| 8 | 36 | 13 < | | | | |
| | | | 146.8 | r | | |
| 8 | 53 | 32 | 180.7 | | 33.9 < | |
| | | | 147.0 | l | 34.6 < | 2.56 < |
| | | | 181.6 | | 68.5 < | |
| | | | 145.2 | l | | |
| 8 | 55 | 0 | 180.0 | | 34.8 < | |
| | | | 146.1 | r | 34.7 < | 2.52 < |
| | | | 180.8 | | 69.5 < | |
| | | | | | III | |
| | | | 146.3 | r | | |
| 8 | 56 | 29 | 180.7 | | 34.4 < | |
| | | | 146.1 | l | 35.1 < | 2.52 < |
| | | | 181.2 | | 69.5 < | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 2. 1895.

| | | | | | |
|---|---|---|---|---|---|
| | | 145.0 | l | | |
| 8 | 37 | 50 | 181.3 | | 36.3 < |
| 8 | 37 | 43.7 < | 146.6 | ~ | 34.1 < 2.49 < |
| | 4 | 37 | 180.7 | | 70.4 < |
| 8 | 50 | 48.7 < | | | |
| | | 145.0 | ~ | | |
| 8 | 59 | 13 | 181.0 | | 36.0 < |
| | | | 143.4 | l | 37.3 < 2.40 < |
| | | | 180.7 | | 73.3 < |
| | | 145.5 | l | | |
| 9 | 0 | 37 | 181.4 | | 35.9 < |
| | | | 144.4 | ~ | 37.5 < 2.40 < |
| | | | 181.9 | | 73.4 < |
| | | | | | IV |
| | | 145.6 | ~ | | |
| 9 | 2 | 13 | 180.8 | | 35.2 < |
| | | | 146.2 | l | 36.5 < 2.45 < |
| | | 182.7 | ~~179.8~~ | | 71.7 < |
| | | 145.0 | l | | |
| 9 | 3 | 25 | 180.2 | | 35.3 < |
| 9 | 1 | 21.5 < | 145.9 | ~ | 34.4 < 2.52 < |
| | 4 | 37 | 180.3 | | 69.7 < |
| 8 | 56 | 32.5 < | | | |
| | | 147.0 | ~ | | |
| 9 | 15 | 50 | 179.9 | | 32.9 < |
| | | | 142.3 | l | 40.3 < 2.40 < |
| | | | 182.6 | | 73.2 < |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 2. 1895.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 144.3 | l | | |
| 9 | 17 | 18 | 181.8 | | 37.5 < | 2.39 < |
| | | | 145.1 | r | 36.2 < | |
| | | | 181.3 | | 73.7 < | |
| | | | | | V | |
| | | | 142.4 | r | | |
| 9 | 18 | 54 | 181.3 | | 98.9 < | 2.32 < |
| | | | 145.1 | l | 37.0 < | |
| | | | 182.1 | | 75.9 < | |
| | | | 144.1 | l | | |
| | | | 182.2 | | 38.1 < | |
| 9 | 20 | 37 | | | 35.9 < | 2.38 < |
| 9 | 18 | 9.70 < | 144.8 | r | 74.0 < | |
| | 4 | 50 | 180.7 | | | |
| 9 | 13 | 14.70 < | | | | |
| | | | 145.2 | r | | |
| 9 | 22 | 5 | 182.0 | | 36.8 < | 2.35 < |
| | | | 144.8 | l | 38.1 < | |
| | | | 182.9 | | 74.9 < | |
| | | | | | VI | |
| | | | 144.1 | l | | |
| 9 | 20 | 3 | 180.8 | | 36.7 < | 2.38 < |
| | | | 144.9 | r | 37.1 < | |
| | | | 182.0 | | 73.8 < | |
| | | | 145.4 | r | | |
| 9 | 24 | 5 | 181.0 | | 35.6 < | 2.42 < |
| | | | 144.2 | l | 37.1 < | |
| | | | 181.3 | | 72.7 < | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 2. 1895.

9 25 9

9 23 30.5 <
4 55.

9 18 40.5 <

144.8 l
182.3
145.1 r
181.1

37.5 <
36.0 <
73.5 <

2.39 <

145.0 r

9 40 32

182.4
143.9 l
182.5

37.4 <
38.6 <
76.0 <

2.32 <

143.0 l

9 42 0

183.2
143.2 r
181.7

40.2 <
38.5 <
78.7 <

2.23 <

VII

144.5 r

9 42 31

181.0
142.7 l
181.9

36.5 <
39.2 <
75.7 <

2.32 <

143.8 l

9 44 54

9 42 44.25 <
4 56.
9 37 48.25 <

183.6
142.5 r
182.0

39.8 <
39.5 <
79.3 <

2.22 <

144.4 r

9 46 23

180.7
143.0 l
182.0

36.3 <
39.0 <
75.3 <

2.34 <

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...531W



# Oct. 2. 1895.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 142.9 | l | | |
| 9 | 47 | 45 | 181.1 | | 38.2 < | |
| | | | 144.3 | ~ | 38.7 < | 2.29 < |
| | | | 183.0 | | 76.9 < | |
| | | | | VIII | | |
| | | | 144.9 | ~ | | |
| 9 | 49 | 2 | 183.8 | | 38.9 < | |
| | | | 143.3 | l | 39.2 < | 2.25 < |
| | | | 182.5 | | 78.1 < | |
| | | | 143.2 | l | | |
| 9 | 50 | 25 | 183.0 | | 39.8 < | |
| 9 | 48 | 23.75 < | 143.1 | ~ | 38.9 < | 2.23 < |
| | 4 | 02. | 182.0 | | 78.7 < | |
| 9 | 43 | 27.75 < | | | | |
| | | | 144.0 | ~ | | |
| 10 | 0 | 30 | 183.0 | | 39.0 < | 2.23 < |
| | | | 144.1 | l | 39.9 < | |
| | | | 184.0 | | 78.9 < | |
| | | | | IX | | |
| | | | 142.9 | l | | |
| 10 | 2 | 6 | 182.0 | | 39.1 < | |
| | | | 144.3 | ~ | 40.7 < | 2.20 < |
| | | | 185.0 | | 79.8 < | |
| | | | 143.4 | ~ | | |
| 10 | 3 | 48 | 182.0 | | 38.6 < | |
| | | | 142.2 | l | 40.5 < | 2.22 < |
| | | | 182.7 | | 79.1 < | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



# Oct. 2. 1895.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 142.0 | l | | |
| 10 | 5 | 6 | 184.0 | | 42.0 < | |
| 10 | 2 | 54.25 < | 145.2 | n | 27.8 < | 2.20 < |
| | 4 | 56. | 183.0 | | 79.8 < | |
| 9 | 57 | 58.25 < | | | | |
| | | | 142.6 | n | | |
| 10 | 6 | 12 | 183.7 | | 41.1 < | |
| | | | 142.6 | l | 41.6 < | 2.12 < |
| | | | 184.2 | | 82.7 < | |
| | | | 142.7 | l | | |
| 10 | 7 | 14 | 183.2 | | 39.5 < | |
| | | | 144.2 | n | 37.7 < | 2.28 < |
| | | | 182.0 | | 77.2 < | |
| | | | | | X | |
| | | | 145.9 | n | | |
| 10 | 8 | 17 | 184.0 | | 38.1 < | 2.25 < |
| | | | 143.1 | l | 40.1 < | |
| | | | 183.2 | | 78.2 < | |
| | | | 140.9 | l | | |
| 10 | 9 | 28 | 185.9 | | 45.0 < | |
| 10 | 7 | 52.70 < | 144.3 | n | 36.8 < | 2.14 < |
| | 4 | 56 | 181.1 | | 81.8 < | |
| 10 | 2 | 56.70 < | | | | |
| | | | 143.4 | n | | |
| 10 | 18 | 43 | 184.3 | | 40.9 < | |
| | | | 142.0 | l | 41.8 < | 2.12 < |
| | | | 183.8 | | 82.7 < | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 2. 1895.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 144.5 | l | | | |
| 10 | 20 | 28 | 183.7 | | 39.2 < | | |
| | | | 144.3 | ~ | 39.8 < | | 2.22 < |
| | | | 184.1 | | 79.0 < | | |
| | | | | XI | | | |
| | | | 142.0 | ~ | | | |
| 10 | 21 | 39 | 185.2 | | 43.2 < | | |
| | | | 139.8 | l | 43.6 < | | 2.00 < |
| | | | 183.4 | | 86.8 < | | |
| | | | 142.9 | l | | | |
| 10 | 22 | 47 | 183.3 | | 40.4 < | | |
| 10 | 20 | 54.25 < | 144.0 | ~ | 39.0 < | | 2.21 < |
| | 4 | 56. | 183.0 | | 79.4 < | | |
| 10 | 15 | 58.25 | | | | | |
| | | | 142.8 | ~ | 40.1 | | |
| 10 | 23 | 56 | 182.9 | | 39.9 | | 2.15 |
| | | | 142.7 | l | 41.9 | | 2.18 |
| | | | 184.0 | | 81.7 | | |
| | | | | | 81.4 | | |
| | | | 142.0 | l | | | |
| 10 | 25 | 9 | 183.5 | | 41.5 < | | |
| | | | 142.6 | ~ | 41.6 < | | 2.10 < |
| | | | 184.2 | | 83.1 < | | |
| | | | | XII | | | |
| | | | 142.0 | ~ | | | |
| 10 | 26 | 31 | 182.9 | | 40.9 < | | |
| | | | 140.7 | l | 44.6 < | | 2.04 < |
| | | | 185.3 | | 85.5 < | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



# Oct. 2, 1895.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 143.0 | l | | |
| | | | 184.2 | | 41.2 < | |
| 10 | 27 | 44 | | | 40.8 < | 2.14 < |
| 10 | 25 | 50 < | 142.0 | r | 82.0 < | |
| | 4 | 56 | 182.8 | | | |
| 10 | 20 | 54 < | | | | |
| | | | 143.0 | r | | |
| | | | 182.7 | | 39.7 < | |
| 10 | 36 | 31 | | | 41.9 < | 2.15 < |
| | | | 142.0 | l | 81.6 < | |
| | | | 183.9 | | | |
| | | | 141.8 | l | | |
| | | | 182.4 | | 40.6 < | |
| 10 | 37 | 53 | | | 39.7 < | 2.19 < |
| | | | 143.8 | r | 80.3 < | |
| | | | 183.5 | | | |
| | | | XIII | | | |
| | | | 142.6 | r | | |
| | | | 184.0 | | 41.4 < | |
| 10 | 39 | 37 | | | 43.2 < | 2.06 < |
| | | | 141.2 | l | 84.6 < | |
| | | | 184.4 | | | |
| | | | 141.5 | l | | |
| | | | 185.10 | | 43.5 < | |
| 10 | 40 | 50 | | | 39.5 < | 2.11 < |
| 10 | 38 | ~~27.70=~~ | 42.7 v | | | |
| | 4 | ~~56~~ < | v6. | r | 83.0 < | |
| 10 | 33 | ~~21.70=~~ < | 46.7 v | | | |
| | | | 142.9 | | | |
| | | | 182.4 | | | |
| | | | 141.9 | r | | |
| | | | 182.9 | | 41.0 < | |
| 10 | 42 | 4 | | | 43.0 < | 2.08 < |
| | | | 140.0 | l | 84.0 < | |
| | | | 183.0 | | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 2. 1895

| | | | | | |
|---|---|---|---|---|---|
| | | 140.6 | l | | |
| 10 | 43 | 32 | 187.0 | | 46.4 < |
| | | | 142.8 | r | 39.1 < 2.04 < |
| | | | 181.9 | | 85.5 < |
| | | | | XIV | |
| | | | 143.2 | r | |
| 10 | 45 | 12 | 184.0 | | 40.8 < |
| | | | 139.1 | l | 45.7 < 2.01 < |
| | | | 184.8 | | 86.5 < |
| | | | 140.0 | l | 46.1 < |
| 10 | 46 | 35 | 186.1 | | 41.3 < 1.98 < |
| | 17 | 26 < | 143.6 | r | 87.4 < |
| 10 | 46 | 22.< | 184.9 | | |
| | — | 6 | | | |
| 10 | 39 | 26. | | | |

BandC #1182

$11^h\ 17^m\ 55^s.6$

Ballou #103

$11^h\ 13^m\ 0^s.0$

11 17 55.6

B+C 1182 = $4^m\ 55^s.6$ fast.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w

Oct. 3, 1895.

7 0 cloudy

7 30 Still cloudy; too cloudy for S. Androm.

7 45 Too cloudy for work; going worse

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 4, 1895.

7 0 cloudy.

7 30 cloudy.

8 0 Still cloudy.

8 30 Cloudy still; no chance for further work.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 5. 1895.

T. Androm: Phot T: W: obs.

| | | |
|---|---|---|
| 0 | 14 | +26.1 |
| 20 | 24 | |
| -3 | 50 | |
| 8 | 10 | |

Var. and T.V maps.

Index to right and below.

| | | | |
|---|---|---|---|
| | 215.3 | < comp. star dis. | |
| 7 38 48 | 290.3 | 75.0 < | |
| | 212.2 | 80.1 < | 0.48 < |
| | 292.3 | 155.1 < | |
| | 212.0 | | |
| 7 40 37 | 293.7 | 81.7 < | |
| | 210.0 | 82.0 < | 0.31 < |
| | 292.0 | 163.7 < | |
| | 216.1 | | |
| 7 42 7 | 291.0 | 74.9 < | |
| | 212.5 | 79.4 < | 0.49 < |
| | 291.9 | 154.3 < | |

Index to left and above.

| | | | |
|---|---|---|---|
| | 304.8 | | |
| 7 52 50 | 20.6 | 75.8 < | |
| | 307.4 | 70.8 < | 0.64 < |
| | 18.2 | 146.6 < | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



02.5.1895.

306.1
17.9 71.8<
7 54 41 304.7 76.9< 0.60<
148.7<
21.6

307.1
21.4 174.3<
7 56 20 307.7 68.5< 0.72<
7 47 33.83 16.2 142.8<

(8.1) 4 var.
(7.5) 6.5 var.
(7.5) 3.5 (8.1) all in finder: W: obs
8 0 ~~(7.5~~
var. 1.5 (8.8)
Watch used in previous timing was 6.5 sec slow.

---

Relative
Measts. (with Phot. I.) of Vesta and comp. star S.D. -21° 6170 (8.3 A.). Vesta was the brtr. of the two. Photometer not reversed in the measurements.

22 5 -21.8
21 15
0 50

22 3 -22.0
21 33
0 30

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 5. 1895.

Index corrections.

| | | | | | |
|---|---|---|---|---|---|
| | | | 143.0 | < | l Vesta dis. |
| 8 | 53 | 50 | 183.0 | | |
| | | | 141.6 | r | 40.0 < |
| | | | | | 43.8 < 2.08 < |
| | | | 185.4 | | 83.8 < |
| | | | 143.2 | r | |
| 8 | 55 | 43 | 183.7 | | 40.5 < |
| | | | 145.2 | l | 38.9 < 2.21 < |
| | | | 184.1 | | 79.4 < |
| | | | 145.1 | l | |
| 8 | 58 | 51 | 183.0 | | 37.9 < |
| | | | 142.7 | r | 42.1 < 2.19 < |
| | | | 184.8 | | 80.0 < |
| | | | 142.2 | r | |
| 8 | 59 | 41 | 184.2 | | 42.0 < |
| | | | 143.7 | l | 41.4 < 2.10 < |
| | | | 185.1 | | 83.4 < 58 |
| | 4 | 27 19 | | | 2.145 |
| 8 | 56 | 49.7 57 | | | |
| | -5 | 14. | | | |
| 8 | 51 | 35 8 | | | |
| | | | 143.1 | l | |
| 9 | 1 | 17 | 183.2 | | 40.1 < |
| | | | 142.9 | r | 41.5 < 2.15 < |
| | | | 184.4 | | 81.6 < |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 5. 1895.

| | | | | | | |
|---|---|---|---|---|---|---|
| 9 | 1 | 17 | | | | 2.15 |
| | | | 143.6 | r | | |
| 9 | 2 | 45 | 184.0 | | 40.4 < | 2.16 < |
| | | | 143.8 | l | 40.8 < | |
| | | | 184.6 | | 81.2 < | |
| | | | II | | | |
| | | | 142.8 | l | | |
| 9 | 4 | 24 | 184.0 | | 41.2 < | |
| | | | 142.1 | r | 41.4 < | 2.12 < |
| | | | 183.5 | | 82.6 < | |
| | | | 143,8 | r | | |
| 9 | 5 | 55 | 182,8 | | 39.0 < | |
| | | | 143.0 | l | 41.8 < | 2.17 < |
| | | | 184,8 | | 80.8 < | 4 \| 20 |
| | | | | | | 2.15 |

4 \| 14 21

9 3 35.2s

−5m 14

5m 8s 21.2

Bando. #1182

9h 14m 14.5s

Ballou #103

9h 9m 0.0s

9 14 14.5s <

But C1182 2d fast 5m 14.5s <

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 145.3 | l | | |
| 9 | 12 | 10 | 183.3 | | 38.0 < | |
| | | | 142.0 | r | 42.1 < | 2.19 < |
| | | | 184.1 | | 80.1 < | |
| | | | 143.8 | r | | |
| 9 | 19 | 45 | 184.9 | | 41.1 < | |
| | | | 143.2 | l | 40.7 < | 2.14 < |
| | | | 183.9 | | 81.8 < | |

III

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 5. 1895.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 18 | 10 | | | | | 19 |
| | 19 | 45⁻ | | | | | 14 |
| | | | 145.0 | l | | | |
| | | | 182.1 | | 37.1 < | | |
| 9 | 21 | 8 | 141.8 | r | 41.8 < | 2.23 < | 9 |
| | | | 183.6 | | 78.9 < | | |
| | | | 143.0 | r | | | |
| 9 | 22 | 33 | 183.4 | | 40.4 < | | 9 |
| | 4/81 | 38 < 98 | 144.8 | l | 39.0 < | 2.21 < | |
| 9 | 20 | 24.5 < | 183.8 | | 79.4 < | 4/72 | |
| | −5 | 14 < | | | | 2.1925 | |
| 9 | 15⁻ | 10.5⁻ < | | | | | |
| | | | 144.3 | l | | | |
| 9 | 23 | 58 | 183.5 | | 39.2 < | | 9 |
| | | | 143.7 | r | 40.3 < | 2.21 < | |
| | | | 184.0 | | 79.5 < | | |
| | | | 144.4 | r | | | |
| 9 | 25 | 20 | 183.9 | | 39.5 < | | 9 |
| | | | 143.9 | l | 39.7 < | 2.22 < | |
| | | | 183.6 | | 79.2 < | | 9 |
| | | | IV | | | | |
| | | | 143.8 | l | | | |
| | 27 | 15 | | | 41.2 < | | |
| 9 | 28 | 47 | 185.0 ~~183.4~~ | | 38.8 < | | 9 |
| | | | 145.0 | r | 80.0 < | 2.19 < | |
| | | | 183.8 | | | | |
| | | | 142.9 | r | 40.5 < | | |
| 9 | 29 | 8 | 183.4 | | 41.7 < | 2.13 < | 9 |
| | 4/25⁻ | 41 < | 143.3 | l | 82.2 < | 4/75⁻ | |
| 9 | 26 | 25.25⁻ −5⁻ 14 | 185.0 | | | 2.1875 | |
| 9 | 21 | | | | | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 5. 1895.

| | | | | | |
|---|---|---|---|---|---|
| | | 143.7 | l | | |
| 9 | 35 | 25 | 185.1 | | 41.4 < |
| | | | 142.9 | r | 39.8 < 2.16 < |
| | | | 182.7 | | 81.2 < |
| | | | 142.8 | r | |
| 9 | 36 | 58 | 183.2 | | 40.4 < |
| | | | 144.2 | l | 38.6 < 2.22 < |
| | | | 182.8 | | 79.0 < |
| | | | V | | |
| | | | 143.2 | l | |
| 9 | 38 | 25 | 183.6 | | 40.4 < |
| | | | 143.4 | r | 39.3 < 2.20 < |
| | | | 182.7 | | 79.7 < |
| | | | 145.2 | r | |
| | | | 183.2 | | 38.0 < |
| 9 | 39 | 39 | | | 40.2 < 2.25 |
| | 4 | 30 25 < | 144.0 | l | 78.2 < 4 \| 83 |
| 9 | 37 | 36.25 < | 184.2 | | 2.2075 |
| | -5 | 14 < | | | |
| 9 | 32 | 22.2 < | | | |
| | | | 143.8 | l | |
| 9 | 40 | 54 | 184.5 | | 40.7 < 2.17 < |
| | | | 142.9 | r | 40.3 < |
| | | | 183.2 | | 81.0 < |
| | | | 143.6 | r | |
| 9 | 42 | 31 | 183.0 | | 39.4 < 2.18 < |
| | | | 143.0 | l | 41.2 < |
| | | | 184.2 | | 80.6 < |
| | | | VI | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 5. 1895.

| | | | | | | |
|---|---|---|---|---|---|---|
| 9 | 40 | 54 | | | | 2.17 |
| 9 | 42 | 31 | | | | 2.18 |
| | | | 144.1 | l | | |
| 9 | 42 | 51 | 184.4 | | 40.3 < | |
| | | | 142.2 | ∿ | 41.6 < | 2.14 < |
| | | | 182.8 | | 81.9 < | |
| | | | 144.0 | ∿ | | |
| 9 | 45 | 7 | 183.3 | | 39.2 < | |
| | 4 \| 12 | 23 | 142.0 | l | 41.8 < | 2.16 < |
| 9 | 43 | 57.5 | 183.8 | | 81.1 < | 4 \| 25 |
| | −5 | 14 | | | | 2.1625 |
| 9 | 37 | 51.8 | | | | |
| | | | 142.2 | l | | |
| 9 | 51 | 47 | 182.7 | | 39.5 < | |
| | | | 143.2 | ∿ | 41.4 < | 2.17 < |
| | | | 184.7 | | 80.9 < | |
| | | | 143.7 | ∿ | | |
| 9 | 53 | 13 | 184.8 | | 41.1 < | |
| | | | 145.0 | l | 39.5 < | 2.18 < |
| | | | 184.5 | | 80.6 < | |
| | | | | III | | |
| | | | 145.0 | l | | |
| 9 | 54 | 30 | 182.7 | | 37.7 < | |
| | | | 144.8 | ∿ | 37.4 < | 2.34 < |
| | | | 182.2 | | 75.1 < | |
| | | | 144.2 | ∿ | | |
| | | | | | 39.5 < | |
| 9 | 56 | 4 | 183.8 | | 37.6 < | 2.28 < |
| | 4 \| 15 | 34 | 144.5 | l | 77.1 < | 4 \| 97 |
| 9 | 53 | 59.5 | 182.1 | | | 2.2425 |
| | −5 | 14 | | | | |
| 9 | 48 | 45 | | | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



D J. 5. 1895.

| | | | | | |
|---|---|---|---|---|---|
| | 144.8 | l | | | |
| 9 57 25 | 181.9 | | 37.1 < | 2.30 < | |
| | 143.0 | ∧ | 29.4 < | | |
| | 182.4 | | 76.5 < | | |
| | 142.9 | ∧ | | | |
| 9 58 50 | 182.4 | | 29.5 < | 2.22 < | |
| | 143.9 | l | 39.6 < | | |
| | 183.5 | | 79.1 < | | |
| | VIII | | | | |
| | 143.1 | l | | | |
| 10 0 13 | 184.5 | | 41.4 < | | |
| | 144.2 | ∧ | 38.9 < | 2.19 < | |
| | 183.1 | | 80.3 < | | |
| | 144.5 | ∧ | | | |
| 10 1 18 | 182.0 | | 37.5 < | | |
| 4 237 46 | 144.0 | l | 39.4 < | 2.29 < | |
| 10 59 26.5 | 143.4 | | 76.9 < | 4 10 0 | |
| −5 14 | | | | 2.25 | |
| 10 54 12.5 | | | | | |
| | 144.7 | l | | | |
| 10 11 50 | 182.5 | | 37.8 < | | |
| | 141.6 | ∧ | 42.3 < | 2.19 < | |
| | 183.9 | | 80.1 < | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 5. 1895.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 11 | 50 | | | | | 2.19 |
| | | | 144.4 | ∩ | | | |
| 10 | 12 | 22 | 184.9 | | 40.5 < | | |
| | | | 145.7 | ∪ | 37.7 < | | 2.25 < |
| | | | 183.4 | | 78.2 < | | |
| | | | | IX | | | |
| | | | 144.1 | ∪ | | | |
| 10 | 15 | 2 | 183.6 | | 39.5 < | | |
| | | | 142.2 | ∩ | 41.9 < | | 2.15 < |
| | | | 184.1 | | 81.4 < | | |
| | | | 143.2 | ∩ | | | |
| 10 | 16 | 25 | 183.6 | | 40.4 < | | 2.16 < |
| | 4 | 16 | 143.9 | ∪ | 40.9 < | | 4 \| 75 |
| | | 39 | 184.8 | | 81.3 < | | 2.1875 |
| 10 | 14 | 9.75 | | | | | |
| | -5 | 14 | | | | | |
| 10 | 8 | 55.8 | | | | | |
| | | | 144.1 | ∪ | | | |
| 10 | 17 | 57 | 185.2 | | 41.1 < | | |
| | | | 142.9 | ∩ | 40.5 < | | 2.15 < |
| | | | 183.4 | | 81.6 < | | |
| | | | 144.5 | ∩ | | | |
| 10 | 19 | 20 | 182.9 | | 39.4 < | | |
| | | | 143.9 | ∪ | 40.1 < | | 2.21 < |
| | | | 184.0 | | 79.5 < | | |
| | | | | X | | | |
| | | | 144.4 | ∪ | | | |
| 10 | 21 | 3 | 183.2 | | 38.8 < | | |
| | | | 145.2 | ∩ | 39.9 < | | 2.23 < |
| | | | 185.1 | | 78.7 < | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...531W



10 12 57
19 30
21 3

Oct. 5. 1895

| | | | | | |
|---|---|---|---|---|---|
| | | 143.8 | λ | | |
| 10 | 25 | 0 | | 40.1 < | 2.19 < |
| | | 183.9 | | 40.2 < | 478 |
| 4 | 81 | 30 | l | 80.3 < | 2.195 |
| | | 143.8 | | | |
| 10 | 20 | 22.5 | | | |
| | −5 | 14 | | | |
| 10 | 15 | 8.5 | | | |
| | | 184.0 | | | |
| | | 143.4 | l | | |
| 10 | 30 | 12 | | 39.3 < | 2.16 < |
| | | 182.7 | | 41.8 < | |
| | | 143.0 | λ | 81.1 < | |
| | | 184.8 | | | |
| | | 143.8 | λ | | |
| 10 | 31 | 51 | | 40.4 < | 2.20 < |
| | | 184.2 | | 39.3 < | |
| | | 143.7 | l | 79.7 < | |
| | | 183.0 | | | |
| | | XI | | | |
| | | 143.7 | l | | |
| 10 | 33 | 9 | | 39.3 < | 2.20 < |
| | | 183.0 | | 40.6 < | |
| | | 143.3 | λ | 79.9 < | |
| | | 183.9 | | | |
| | | 144.4 | λ | | |
| 10 | 34 | 3 | | 38.7 < | |
| | | 183.1 | | 40.9 < | 2.21 < |
| 4 | 9 | 43 | l | 79.6 < | 477 < |
| 10 | 32 | 25.7 | | | 2.1925 < |
| | −5 | 14 | | | |
| 10 | 27 | 11.8 | | | |
| | | 143.9 | l | | |
| 10 | 35 | 38 | | 39.6 < | |
| | | 183.5 | | 38.6 < | 225 < |
| | | 144.2 | λ | 78.2 < | |
| | | 182.8 | | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 5. 1895.

25

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ~~35~~ | 38 | | | | | | |
| 10 | 36 | 45 | 143.1 | ν | 41.7 < | 2.12 < | |
| | | | 184.8 | | 40.8 < | | |
| | | | 143.2 | l | 82.5 < | | |
| | | | 184.0 | | | | |
| | | | III | | | | |
| | | | 143.1 | l | | | |
| 10 | 38 | 18 | 183.0 | | 39.9 < | 2.15 < | |
| | | | 142.7 | ν | 41.5 < | | |
| | | | 184.2 | | 81.4 < | | |
| | | | 144.4 | ν | | | |
| 10 | 39 | 32 | 183.6 | | 39.2 < | 2.23 < | |
| | 4 | 30 | 143.4 | l | 39.6 < | 4 \| 75 | |
| 10 | 37 | 33.2 | 183.0 | | 78.8 < | 2.187 5 | |
| | -5 | 14 | | | | | |
| 10 | 32 | 19.2 | | | | | |
| ~~10~~ | | | 143.6 | l | | | |
| 10 | 45 | 56 | 182.2 | | 38.6 < | 2.22 < | |
| | | | 142.5 | ν | 40.6 < | | |
| | | | 183.1 | | 79.2 < | | |
| | | | 143.8 | ν | | | |
| 10 | 47 | 28 | 183.7 | | 39.9 < | 2.19 < | |
| | | | 143.8 | l | 40.4 < | | |
| | | | 184.2 | | 80.3 < | | |
| | | | III | | | | |
| | | | 142.9 | l | | | |
| 10 | 48 | ~~43~~ | 183.6 | | 40.7 < | 2.23 < | |
| | | | 144.1 | ν | 38.2 < | | |
| | | | 182.3 | | 78.9 < | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...53tw



# Oct. 5. 1895.

10 45 56
47 28
48 43

10 50 5
4 | 19 2 12

10 48 3
−5 14
10 42 49

10 51 24

10 52 39

10 54 3

10 55 30
4 | 13 34

10 53 23.5
−5 14
10 48 9.5

11 3 11

144.4 ℓ
183.0
142.5 ℓ
184.3

142.6 ℓ
184.0
143.7 ℓ
183.3

143.7 ℓ
183.9
142.2 ℓ
184.9 XIV

142.2 ℓ
184.6
144.6 ℓ
183.4

143.7 ℓ
183.0
141.9 ℓ
184.4

143.8 ℓ
182.1
144.7 ℓ
183.2

38.6 <
41.8 <
80.4 <

41.4 <
39.6 <
81.0 <

40.2 <
41.7 <
81.9 <

41.4 <
39.8 <
80.2 <

39.3 <
42.5 <
81.8 <

38.3 <
38.5 <
76.8 <

22
19
23

2.18 <
4 | 82
2.205

2.17 <

2.14 <

2.19 <

2.14 <
4 | 24
2.16

2.29 <

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 5. 1895.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 143.8 | r | | | 22.5° |
| 11 | 4 | 30 | 182.6 | | 28.8 < | | |
| | | | 142.5 | l | 41.0 < | | 2.20 < |
| | | | 182.5 | | 79.8 < | | |
| | | | | XV | | | |
| | | | 143.8 | l | | | |
| 11 | 5 | 4 | 184.1 | | 40.3 < | | |
| | | | 145.0 | r | 38.0 < | | 2.25 < |
| | | | 183.0 | | 78.3 < | | |
| | | | 144.7 | r | | | |
| 11 | 7 | 5 | 182.1 | | 38.4 < | | |
| | | | 142.6 | l | 42.4 < | | 2.17 < |
| | | | 185.0 | | 80.8 < | | |
| | 4 | 20 < 27 < | | | | | 4 ( 8 ) < |
| 11 | 5° < | 6.7 5° < | | | | | 2.21 7 5° < |
| | -5° | 14 | | | | | |
| 10 | 5°9 | 5°2.8 | | | | | |
| | | | 144.2 | l | | | |
| 11 | 8 | 20 | 185.2 | | 41.0 < | | |
| | | | 145.0 | r | 39.1 < | | 2.19 < |
| | | | 184.1 | | 80.1 < | | |
| | | | 145.2 | r | | | |
| 11 | 9 | 39 | 184.0 | | 38.8 < | | |
| | | | 142.0 ~~144.6~~ | l | 42.5 < | | 2.16 < |
| | | | 184.5 | | 81.3 < | | |
| | | | | XVI | | | |
| | | | 143.5 | l | | | |
| 11 | 11 | 1 | 184.2 | | 40.8 < | | |
| | | | 144.0 | r | 39.0 < | | 2.20 < |
| | | | 183.0 | | 79.8 < | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae..proj...531w



Oct. 5. 1895.

19
16
20

143.7
183.7
142.1
184.0 ~~184.8~~

r

l

490 <
41.9 < 2,14 <
89.9 < 4|69 <
2.172 <

11 12 16
4|41 16
11 10 19
−s 14
11 s= s=

Comp. star used in above settings is SD −21° 6170 (A.3 A.)

Bam DC #1182 Ballou #103

11h 24m 14s.9 = 11h 19m −0.0s
11 24 14.9 <
B+C fast s−m 14.9 s <

In all the preceding meants on Vesta, the Photometer was not reversed.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 8. 1895.

Z Herculis: Phot. T: W. obs.

17 53 +15.1
21 43
3 50

Index to right and above.

146.8 l
179.7 < var. dis. 32.9 <
147.2 r 31.8 < 2.69 <
179.0 64.7 <

8 38 8

147.3 r
178.0 30.7 <
8 39 39 31.6 < 2.77 <
147.4 l 62.3 <
179.0
I

146.6 l
34.1 <
8 41 27 180.7 31.6 < 2.65 <
148.2 r 65.7 <
179.8

147.3 r
31.7 <
8 43 17 179.0 34.3 < 2.64 <
146.6 l 66.0 < 2.7 r
180.9 2.69

~~8 40 25~~
8 40 30 <
~~+5 36.~~
8 35 2. <

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae..proj...531w



Oct. 8. 1895.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 147.2 | l | | |
| 8 | 45 | 0 | 179.6 | | 32.4 < | |
| | | | 148.5 | λ | 30.4 < | 2.76 < |
| | | | 178.9 | | 62.8 < | |
| | | | 149.4 | λ | | |
| 8 | 47 | 16 | 178.7 | | 29.3 < | |
| | | | 146.0 | l | 34.0 < | 2.74 < |
| | | | 180.0 | | 63.3 < | |
| | | | | II | | |
| | | | 146.0 | l | | |
| 8 | 48 | 44 | 179.9 | | 33.9 < | |
| | | | 148.0 | λ | 30.0 < | 2.72 < |
| | | | 178.0 | | 63.9 < | |
| | | | 147.4 | ν | | |
| 8 | 49 | 38 | 178.5 | | 31.1 < | |
| | | | 145.1 | l | 34.3 < | 2.66 < |
| | | | 179.4 | | 65.4 < | 42.88 |
| | | | | | | 2.72 |
| | | | 147.0 | l | | |
| 8 | 57 | 38 | 178.7 | | 31.7 < | 2.65 < |
| | | | 145.9 | λ | 34.2 < | |
| | | | 180.1 | | 65.9 < | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 8. 1895.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 146.1 | r | | | |
| 8 | 59 | 25 | 180.0 | | 33.9 < | 2.59 < | |
| | | | 147.0 | l | 33.6 < | | |
| | | | 180.6 | | 67.5 < | | |
| | | | III | | | | |
| | | | 147.0 | l | | | |
| 9 | 0 | 44 | 179.2 | | 32.2 < | | |
| | | | 146.0 | r | 32.7 < | 2.68 < | |
| | | | 178.7 | | 64.9 < | | |
| | | | 146.0 | r | | | |
| 9 | 1 | 55 | 179.0 | | 33.0 < | | |
| | | | 146.2 | l | 32.8 < | 2.65 < | |
| | | | 179.0 | | 65.8 < | 4(2.07) | |
| | | | | | | 2.64 | |
| | | | 146.9 | l | | | |
| 9 | 3 | 16 | 178.2 | | 31.3 < | 2.74 < | |
| | | | 146.3 | r | 31.8 < | | |
| | | | 178.1 | | 63.1 < | | |
| | | | 146.3 | r | | | |
| 9 | 4 | 29 | 179.8 | | 33.5 < | 2.63 < | |
| | | | 145.8 | l | 32.8 < | | |
| | | | 178.6 | | 66.3 < | | |
| | | | IV | | | | |
| | | | 145.8 | l | | | |
| 9 | 6 | 17 | 179.8 | | 34.0 < | | |
| | | | 147.2 | r | 31.4 < | 2.66 < | |
| | | | 178.6 | | 65.4 < | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae..proj...53w



Oct. 8. 1895.

9 7 39

9 5 2r. <
+5 3.6.
8 49 49 <

148.4 r
179.0
145.4 l
181.9

30.6 <
36.5 < 2.60 <
67.1 < 4(2.67
2.66

9 21 12

146.4 l
181.7
147.6 r
179.2

35.3 <
31.6 < 2.61 <
66.9 <

9 22 10

148.0 r
180.0
146.3 +5.8 l
179.8

32.0 <
33.5 < 2.66 <
65.5 <

V

9 23 23

146.9 l
179.7
147.1 r
179.7

32.8 <
32.6 < 2.66 <
65.4 <

9 24 30

9 22 49 <
+5 3.6.
9 27 13 <

147.0 r
180.0
146.6 l
181.2

33.0 <
34.6 < 2.59 <
67.6 < 4(2.52
2.63

9 35 40

146.1 l
180.7
146.6 r
179.2

34.6 <
32.6 < 2.60 <
67.2 <

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 8. 1895.

Band C #1182
$9^h\ 15^m\ 36.^s0$

Ballou #103
$9^h\ 10^m\ 0.^s0$

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 145.5 | λ | | |
| 9 | 26 | 31 | 160.0 | | 3 45 < | |
| | | | 145.9 | l | 3 4.7 < | 2.53 < |
| | | | 180.6 | | 69.2 < | |
| | | | VI | | | |
| | | | 146.2 | l | | |
| 9 | 28 | 0 | 179.8 | | 33.6 < | |
| | | | 145.1 | λ | 34.6 < | 2.57 < |
| | | | 179.7 | | 68.2 < | |
| | | | 148.2 | λ | | |
| 9 | 29 | 5 | 178.1 | | 29.9 < | |
| 9 | 27 | 19. < | 146.5 | l | 33.4 < | 2.74 < |
| | +4 | 36. | 179.9 | | 63.3 < | 4)2.44 |
| 9 | 21 | 43. < | | | | 2.61 |
| | | | 147.0 | l | | |
| 9 | 33 | 5 | 179.9 | | 32.9 < | |
| | | | 147.5 | λ | 33.6 < | 2.62 < |
| | | | 181.1 | | 66.5 < | |
| | | | 148.0 | λ | | |
| 9 | 34 | 12 | 180.0 | | 32.0 < | |
| | | | 147.0 | l | 33.4 < | 2.66 < |
| | | | 180.4 | | 65.4 < | |
| | | | VII | | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 8. 1895.

9 35 15

146.9 l
178.9
147.0 r
179.4

320 <
324 <
64.4 <

2.70 <

9 36 25

147.0 r
178.5
145.1 l
179.0

315 <
339 <
65.4 <

2.66 <

4(2.64
2.66

9 37 51

146.9 l
179.7
146.9 r
181.1

328 <
342 <
67.0 <

2.61 <

9 39 7

146.9 r
178.6
146.3 l
179.4

317 <
331 <
64.8 <

2.68 <

VIII

9 42 37

145.2 l
180.4
147.0 r
178.0

352 <
310 <
662 <

2.64 <

148.0 r
179.1
145.4 l
181.6

311 <
362 <
673 <

2.60 <

4(2.63
2.63

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 8, 1895.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 146.7 | l | | | |
| 9 | 51 | 26 | 179.9 | | 33.2 < | | |
| | | | 146.9 | r | 32.0 < | 2.67 < | |
| | | | 178.9 | | 65.2 < | | |
| | | | 147.0 | r | | | |
| 9 | 53 | 11 | 178.9 | | 31.9 < | | |
| | | | 146.0 | l | 36.1 < | 2.57 < | |
| | | | 182.1 | | 68.0 < | | |
| | | | | IX | | | |
| | | | 145.8 | l | | | |
| 9 | 55 | 1 | 182.3 | | 36.5 < | | |
| | | | 146.9 | r | 32.5 < | 2.54 < | |
| | | | 179.4 | | 69.0 < | | |
| | | | 146.8 | r | | | |
| 9 | 56 | 13 | 179.4 | | 32.6 < | | |
| 9 | √3 | √4.< | 146.6 | l | 33.7 < | 2.63 < | |
| | +K | 2K. | 180.3 | | 66.3 < | 4)2.41 | |
| 9 | √4 | 22.< | | | | 2.60 | |
| | | | 147.2 | l | | | |
| 9 | 57 | 25 | 179.6 | | 32.4 < | | |
| | | | 146.9 | r | 33.1 < | 2.66 < | |
| | | | 180.0 | | 65.5 < | | |
| | | | 145.8 | r | | | |
| 9 | 58 | 35 | 179.8 | | 34.0 < | | |
| | | | 145.8 | l | 34.0 < | 2.57 < | |
| | | | 179.8 | X | 68.0 < | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 8. 1895.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 144.4 | l | | | |
| 9 | 59 | 40 | 180.0 | | 35.6 < | |
| | | | 147.4 | r | 21.8 < | 2.59 < |
| | | | 179.2 | | 67.4 < | |
| | | | ~~147.4~~ | | | |
| | | | ~~149.1~~ | r | | |
| 10 | 1 | 21 | 178.9 | | 21.5 < | |
| 9 | 59 | 15. < | 144.8 | l | 36.4 < | 2.58 < |
| | +K | 24. < | 181.2 | | 67.9 < | 4(2.40 |
| 10 | 3 | 39. < | | | | 2.60 |
| | | | 146.0 | l | | |
| 10 | 6 | 42 | 179.1 | | 33.1 < | |
| | | | 146.0 | r | 33.9 < | 2.61 < |
| | | | 179.9 | | 67.0 < | |
| | | | 145.5 | r | | |
| 10 | 8 | 13 | 179.9 | | 34.4 < | |
| | | | 145.3 | l | 36.3 < | 2.48 < |
| | | | 181.6 | | 70.7 < | |
| | | | | XI | | |
| | | | 145.4 | l | | |
| 10 | 9 | 29 | 179.1 | | 33.7 < | |
| | | | 145.2 | r | 33.7 < | 2.59 < |
| | | | 178.9 | | 67.4 < | |
| | | | 147.4 | r | | |
| 10 | 10 | 40 | 178.3 | | 30.9 < | |
| 10 | 2 | 46. < | 146.2 | l | 32.5 < | 2.73 < |
| | +K | 24. | 178.7 | | 63.4 < | 4(2.41 |
| 10 | 13 | 10.9 | | | | 2.60 |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 8. 1895.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 146.0 | l | | | |
| 10 | 11 | 9 | 178.8 | | 32.8 < | |
| | | | 145.7 | ∼ | 35.9 < | 2.55 < |
| | | | 181.6 | | 68.7 < | |
| | | | 146.8 | ∼ | | |
| 10 | 13 | 19 | 178.8 | | 32.0 < | |
| | | | 146.6 | l | 33.7 < | 2.65 < |
| | | | 180.3 | | 65.7 < | |
| | | | XII | | | |
| | | | 145.4 | l | | |
| 10 | 14 | 4 | 178.9 | | 33.5 < | |
| | | | 145.9 | ∼ | 33.5 < | 2.61 < |
| | | | 179.4 | | 67.0 < | |
| | | | 147.5 | ∼ | | |
| 10 | 15 | 51 | 178.0 | | 30.5 < | |
| 10 | 13 | 60 < | 144.8 | l | 34.2 < | 2.69 < |
| | +K | 2K. | | | 64.7 < | 4 \| 2.50 |
| 10 | 18 | 2. < | 179.0 | | | 2.62 |
| | | | 147.1 | l | | |
| 10 | 18 | 9 | 181.7 | | 34.6 < | |
| | | | 147.8 | ∼ | 31.9 < | 2.62 < |
| | | | 179.7 | | 66.5 < | |
| | | | 145.5 | ∼ | | |
| 10 | 19 | 10 | 178.9 | | 33.4 < | |
| | | | 144.9 | l | 35.9 < | 2.53 < |
| | | | 180.8 | | 69.3 < | |
| | | | XIII | | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 8. 1895.

| | | | | | |
|---|---|---|---|---|---|
| | 146.4 | l | | | |
| 10 20 18 | 180.0 | | 33.6 < | | |
| | 147.5 | ∧ | 31.6 < | 2.67 < | |
| | 179.1 | | 65.2 < | | |
| | 148.2 | ∧ | | | |
| 10 21 42 | 178.9 | | 30.7 < | | |
| 10 19 50. < | 144.4 | l | 37.3 < | 2.57 < | |
| 4K 2K. | 181.7 | | 68.0 < | 4 \| 2,59 | |
| 10 24 1K. < | | | | 2.60 | |
| | 145.8 | l | | | |
| 10 23 20 | 181.2 | | 35.4 < | | |
| | 148.0 | ∧ | 31.0 < | 2.63 < | |
| | 179.0 | | 66.4 < | | |
| | 146.8 | ∧ | | | |
| 10 24 39 | 179.0 | | 32.2 < | | |
| | 145.8 | l | 34.4 < | 2.62 < | |
| | 180.2 | | 66.6 < | | |
| | XIV | | | | |
| | 144.2 | l | | | |
| 10 25 46 | 179.2 | | 35.0 < | | |
| | 146.8 | ∧ | 32.9 < | 2.58 < | |
| | 179.7 | | 67.9 < | | |
| | 148.6 | ∧ | 2 | | |
| 10 26 56 | 177.2 | | 18.6 < | 2.74 | |
| 10 25 10. < | 144.8 | l | 34.6 | ~~2.70~~ | |
| 4K 2K. | 179.4 | | 13.2 | 4 \| 2.57 | |
| 10 29 3K. < | | | 6 | 2.64 | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 8. 1895.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 145.1 | l | | | |
| 10 | 29 | 0 | 181.7 | | 36.6 < | | 2.61 < |
| | | | 147.2 | | 30.4 < | | |
| | | | 177.6 | | 67.0 < | | |
| | | | 146.7 | ∩ | | | |
| 10 | 30 | 5 | 179.8 | | 33.1 < | | |
| | | | 144.2 | l | 37.6 < | | 2.48 < |
| | | | 181.8 | | 70.7 < | | |
| | | | | XV | | | |
| | | | 142.6 | l | | | |
| 10 | 31 | 18 | 181.7 | | 39.1 < | | |
| | | | 147.2 | ∩ | 31.5 < | | 2.49 < |
| | | | 178.7 | | 70.6 < | | |
| | | | 145.7 | ∩ | | | |
| 10 | 32 | 29 | 178.9 | | 33.2 < | | |
| 10 | 30 | 43. < | 144.8 | l | 36.2 < | | 2.53 < |
| | +K | 2K. | ~~181.5~~ 181.0 | | 69.4 < | | 4 \| 2.11 |
| 10 | 31 | 7. < | | | | | 2.53 |
| | | | 144.8 | l | | | |
| 10 | 34 | 2 | 179.7 | | 34.9 < | | |
| | | | 147.0 | ∩ | 31.6 < | | 2.62 < |
| | | | 178.6 | | 66.5 < | | |
| | | | 146.9 | ∩ | | | |
| 10 | 35 | 0 | 177.9 | | 31.0 < | | |
| | | | 142.6 | l | 35.9 < | | 2.61 < |
| | | | 181.5 | | 66.9 < | | |
| | | | | XVI | | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...531w



Oct. 8, 1895.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 144.2 | l | | | |
| 10 | 36 | 34 | 180.4 | | 36.2 < | |
| | | | 146.9 | r | 31.5 < | 2.59 < |
| | | | 178.4 | | 67.7 < | |
| | | | 145.9 | r | | |
| 10 | 37 | 57 | 177.7 | | 31.8 < | |
| 10 | 3r | ~~vK~~ | < 144.9 + ~~44.5~~ | l | 26.0 < | 2.58 < |
| | +K | 2K | | | | 4 \| 2.40 |
| ~~10~~ | ~~K0~~ | ~~1A~~ | < 180.9 + ~~81.0~~ | | 67.8 < | 2.60 |

In last set shutter cuts off very slightly.
Star very low at time of last observation.

Observations considerably difficult especially in latter part on account of low altitude, bad seeing connected with sudden clearing and moonlight: images very blurry at times

B. and C #1182
10h 55m 36.1s

Ballou #103
10h 50m 0.0s

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 10. 1895.

Z Herculis.

17 V3 +1V.1
19 38
H V

Index right + above.

157 - 4 l
181 - 0 23.6 l
154 - 8 33.0 l 2.99
187 - 8 56.6 r

Position of observer crosses pencils.

155 - 4 r
188 - 7 33.3< r
155 - 1 32.7< l 2.64<
187 - 8 66.0< l

156 - 1 l
186 - 2 30.1< l 2.69<
153 - 7 34.5< r
188 - 2 64.6< r

154 .9 r
188 .9 34.0<
155 .2 32.0< l 2.64<
187 .2 66.0<

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 10, 1895.

6 34 18
9 26
6 32 22 <
− 5 46
6 26 36 <
6 38 35

155.0 l
187.7
155.4 n
188.4

32.7 <
33.0 < 2.65 <
65.7 < 4 (262
2.66

156.0 + l
187.7
156.3
187.4

31.7 <
31.1 l n
62.8 <

2.76 <

6 39 59

155.7 n
187.3
155.1
188.2

31.6 <
33.1 < l
64.7 <

2.69 <

II

6 41 20

157.1 l
188.4
155.2
189.5

31.3 <
34.3 <
65.6 n <

2.66 <

6 43 14
6 40 57 <
− 5 46
6 35 1

156.4 n
189.1
156.7
188.2

32.7 <
31.5 < l
64.2 <

2.71 <
4 (282
2.70

6 47 50

155.1 l
187.7
154.7
188.7

32.6 <
34.0 n
66.6 <

2.62 <

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531W



Oct. 10, 1895

| | | | | |
|---|---|---|---|---|
| | | 154.8 | ∩ | |
| 6 | 49 | 43 | 187.8 33.0 < | |
| | | | 155.0 32.7 l < | 2.65 < |
| | | | 187.7 65.7 < | |
| | | | III | |
| | | 155.6 | l | |
| 6 | 50 | 48 | 187.9 32.3 < | |
| | | | 154.0 35.1 < ∩ | 2.59 < |
| | | | 189.1 67.4 < | |
| | | 153.9 | ∩ | |
| 6 | 51 | 48 | 188.0 34.1 < | |
| 6 | 50 | 2. | 155.2 31.8 l < | 2.65 < |
| | 50 | 46 | 187.0 65.9 < | 4)2.6 - 1 |
| 6 | 44 | 16 ✓ | | 2.63 |
| | | 155.9 | l | |
| 6 | 54 | 34 | 187.6 31.7 < | |
| | | | 153.6 34.2 ∩ < | 2.65 < |
| | | | 187.8 65.9 < | |
| | | 155.2 | 33.5 ∩ < | |
| 6 | 56 | 13 | 188.7 33.4 < | 2.61 < |
| | | | 155.4 66.9 l < | |
| | | 188.8 | | |
| | | | IV | |
| | | 154.2 | l | |
| 6 | 57 | 32 | 187.8 33.6 < | |
| | | | 154.1 34.9 < ∩ | 2.56 < |
| | | | 189.0 68.5 < | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 10. 1895.

6 58 50

6 ~~56~~ 47.
−5 46

6 59 1

155.2 ~
188.6 33.4 <
154.0 34.6 l <
188.6 68.0 <

2.57 <
4 | 239
2.598
2.60

154.4 l
188.0 33.6 <
156.4 32.4 <
188.8 66.0 ~ <

7 13 35

2.64 <

155.6 ~
188.4 32.8 <
154.2 34.5 <
188.7 67.3 l <

V

9 ~~11~~ 1

2.64 <

154.4 l
189.2 32.8 <
154.8 33.5 <
188.3 66.3 ~ <

7 16 25

2.63 <

154.3 ~
188.6 34.3 <
155.4 34.4 <
189.8 68.7 l <

7 14 0

7 ~~15~~ ~~45~~.
−5 46

7 9 59

2.55 <
4 | 242
2.60

156.7 l
187.9 31.2 <
155.2 33.2 <
188.4 64.4 ~ <

7 19 2

2.70 <

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



19 2) Oct. 10. 1895.

154.0 λ
189.3 35.3 <
154.1 34.1 l <
188.2 69.4 <

VI

154.4 l
188.1 33.7 <
154.2 33.6 r <
187.8 67.3 <

2.53 <

153.9 r
188.7 34.8 <
154.5 33.4 <
187.9 68.2 l <

7 22 38
7 20 46.
— 5 46
7 15 0

2.57 <
4 | 240
2.60

155.3 l
188.6 33.3 <
154.2 34.5 r <
188.7 67.8 <

7 36 4

2.58 <

154.8 r
188.4 33.6 <
154.9 32.9 l <
187.8 66.5 <

7 35 10

2.62 <

VII

154.7 l
188.9 34.2 <
154.3 34.2 r <
188.5 68.4 <

7 24 29

2.56 <

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...531w



Oct. 10. 1895.

7 35 47

7 30 1.75
−5 46

7 29 16

155.6 λ
188.1 32.5 <
154.3 34.4 l <
188.8 66.9 <

2.61 <
4 | 237
2.59

156.1 l
187.3 31.2 <
155.7 33.9 λ
189.6 65.1 <

7 37 21

2.67 <

154.8 λ
188.8 34.0 <
155.0 33.6 l <
188.6 67.6 <

7 38 30

2.59 <

VIII

154.7 l
188.2 33.5 <
154.6 35.2 λ <
189.8 68.7 <

7 39 46

2.55 <

155.0 λ
187.9 32.9 <
154.8 33.7 l <
188.5 66.6 <

7 41 8

7 39 10.2
−5 46.

9 33 24

2.62 <
4 | 243
2.61

154.1 l
188.7 34.6 <
153.2 36.2 λ <
189.4 70.8 <

7 56 17

2.48 <

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 10, 1895.

| | | | | | | |
|---|---|---|---|---|---|---|
| 7 | 56 | 17 | 154.3 | | ∧ | |
| | | | 189.8 | 35.5 | < | |
| 7 | 57 | 53 | 153.9 | 23.6 | <l | 2.54 < |
| | | | 187.5 | 69.1 | < | |
| | | | | IX | | |
| | | | 153.6 | | l | |
| 7 | 59 | 10 | 188.0 | 34.4 | < | |
| | | | 152.9 | 36.0 | <∧ | 2.49 < |
| | | | 188.9 | 70.4 | < | |
| | | | 154.1 | | ∧ | |
| 8 | 0 | 27 | 189.1 | 35.0 | < | |
| 7 | 58 | 26.75 | 154.1 | 35.3 | l< | 2.50 < |
| | −56 | 46 | 189.4 | 70.3 | < | 4 \| 201 |
| 7 | 52 | 41 | | | | 2.50 |
| | | | 155.1 | | l | |
| 8 | 2 | 0 | 188.0 | 32.9 | < | |
| | | | 153.4 | 24.8 | ∧< | 2.59 < |
| | | | 188.2 | 67.7 | < | |
| | | | 154.1 | | ∧ | |
| 8 | 3 | 16 | 188.8 | 34.7 | < | |
| | | | 154.7 | 33.9 | <l | 6.55 < |
| | | | 188.6 | 68.6 | < | |
| | | | | X | | |
| | | | 155.0 | | l | |
| 8 | 4 | 28 | 189.1 | 34.1 | < | |
| | | | 152.7 | 36.1 | ∧< | 2.50 < |
| | | | 188.8 | 70.2 | < | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 10. 1895.

| | | | | |
|---|---|---|---|---|
| 8 | 5 | 28 | | |
| 8 | 3 | 46.7 | | |
| | −5 | 46 | | |
| 7 | 58 | 1 | | |
| | | | 153.6 | ∧ |
| | | | 188.0 | 34.4 < |
| | | | 154.0 | 34.6 l < |
| | | | 188.6 | 69.0 < |
| | | | | 2.54 < |
| | | | | 4 \| 18 < |
| | | | | 2.5 4 < |
| | | | 153.0 | l |
| 8 | 18 | 52 | 189.6 | 36.6 < |
| | | | 152.2 | 36.9 ∧ |
| | | | 189.1 | 73.5 < |
| | | | | 2.39 < |
| | | | 152.7 | ∧ |
| 8 | 20 | 34 | 189.8 | 37.1 < |
| | | | 152.9 | 35.9 < l |
| | | | 188.8 | 73.0 < |
| | | | | 2.41 < |
| | | | | X1 |
| | | | 153.0 | l |
| 8 | 21 | 57 | 189.8 | 36.8 < |
| | | | 152.9 | 36.7 < ∧ |
| | | | 189.6 | 73.5 < |
| | | | | 2.39 < |
| | | | 153.8 | ∧ |
| 8 | 23 | 0 | 189.9 | 36.1 < |
| 8 | 21 | 57.5 | 151.4 | 38.4 < l |
| | −5 | 46 | 189.8 | 74.5 < |
| 8 | 15 | 20.5 | | 2.36 < |
| | | | | 4 \| 15 5 < |
| | | | | 2.39 < |
| | | | 152.8 | l |
| 8 | 24 | 39 | 189.4 | 36.6 < |
| | | | 152.3 | 36.9 ∧ |
| | | | 189.2 | 73.5 < |
| | | | | 2.39 < |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 10. 1895.

B. and C. #1182 — Ballou #103

(8 24 33) $8^h\ 9^m\ 45^s.9 = 8^h\ 4^m\ 0^s.0$

8 9 45.9

+ 5 45.9

2.39

| | | | | | |
|---|---|---|---|---|---|
| | | | 152.6 | | r |
| 8 | 25 | 40 | 190.2 | 37.6 | < |
| | | | 152.1 | 36.7 | l |
| | | | 189.8 | 74.3 | < |
| | | | | XII | |
| | | | 152.4 | | l |
| 8 | 27 | 2 | 189.4 | 37.0 | < |
| | | | 152.2 | 37.0 r | < |
| | | | 189.2 | 74.0 | < |
| | | | 153.6 | | r |
| 8 | 28 | 30 | 190.1 | 36.5 | < |
| 8 | 26 | 26.25 | 152.8 | 37.2 | < l |
| | −5 | 46 | 190.0 | 73.7 | < |
| 8 | 20 | 40 | | | |
| | | | 153.0 | | l |
| 8 | 44 | 50 | 189.8 | 36.8 | < |
| | | | 151.7 ~~+51.4~~ | 39.3 | < r |
| | | | 191.0 | 76.1 | < |
| | | | 152.2 | | r |
| 8 | 46 | 22 | 191.4 | 39.2 | < |
| | | | 152.1 | 37.5 | < l |
| | | | 189.6 | 76.7 | < |
| | | | | XIII | |

2.37 <

2.38 <

2.39 <

4 · (37 <

2.38

2.31 <

2.29 <

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



# Oct. 10. 1895

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 151.7 | l | | |
| 8 | 47 | 44 | 189.1 | 37.4 < | | |
| | | | 152.8 | 36.9 < r | | 2.37 < |
| | | | 189.7 | 74.3 < | | |
| | | | 151.7 | r | | |
| 8 | 48 | 59 | 191.0 | 29.2 < | | 2.28 < |
| 8 | 46 | 58.7 5° | 152.2 | 37.8 < l | | 4 * 12 5° * < |
| | −5° | 46. | 190.0 | 77.1 < | | 2.31 < |
| 8 | 41 | 13 | | | | |
| | | | 153.2 | l | | |
| 8 | 50 | 34 | 190.6 | 37.4 < | | 2.28 < |
| | | | 151.1 | 39.8 < r | | |
| | | | 190.9 | 77.2 < | | |
| | | | 152.0 | r | | |
| 8 | 51 | 54 | 190.9 | 38.9 < | | 2.32 < |
| | | | 153.0 | 36.9 < l | | |
| | | | 189.9 | 75.8 < | | |
| | | | XIV | | | |
| | | | 152.0 | l | | |
| 8 | 58 | 10 | 190.1 | 38.1 < | | |
| | | | 152.3 | 37.8 < r | | 2.32 < |
| | | | 190.1 | 75.9 < | | |
| | | | 153.8 | r | | |
| 8 | 55 | 14 | 188.4 | 34.6 < | | 2.44 < |
| 8 | 53 | 58.3 5° | 152.4 | 37.5 < l | | 4 \| 136 r |
| | −5° | 46 | 189.9 | 72.1 < | | 2.34 < |
| 8 | 48 | 13 | | | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531W



Oct. 10. 1895

| | | | | | |
|---|---|---|---|---|---|
| | | 152.4 | | l | |
| 9 | 7 | 42 | 190.6 | 38.2 < | |
| | | | 151.7 | 39.4 < | 2.27 < |
| | | | 191.1 | 77.6 < | r |
| | | | 152.2 | | r |
| 9 | 9 | 15 | 190.2 | 38.0 < | |
| | | | 152.9 | 38.1 < | l 2.31 < |
| | | | 191.0 | 76.1 < | |
| | | | | XII | |
| | | | 150.8 | | l |
| 9 | 10 | 47 | 190.8 | 40.0 < | |
| | | | 150.7 | 40.8 < | r 2.17 < |
| | | | 191.5 | 80.8 < | |
| | | | 150.8 | | r |
| 9 | 12 | 0 | 192.2 | 41.4 < | 2.16 |
| 9 | 9 | 56 | 151.3 | 39.8 < | l 2.16 < |
| | −5 | 46 | 191.1 | 81.2 < | 4 (91 < |
| 9 | 4 | 10 | | | 2.23 < |
| | | | 150.1 | | l |
| 9 | 13 | 25 | 191.9 | 41.8 < | |
| | | | 150.0 | 40.6 < | r 2.12 < |
| | | | 190.6 | 82.4 < | |
| | | | 152.1 | | r |
| 9 | 14 | 37 | 190.3 | 38.2 < | |
| | | | 150.4 | 41.6 < | l 2.20 < |
| | | | 192.0 | 79.8 < | |
| | | | | XVI | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae..proj..531W



Oct. 10. 1895.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 151.3 | | l | |
| 9 | 16 | 5 | 191.0 | 39.7 < | | |
| | | | 150.7 | 40.2 < | r | 2.20 < |
| | | | 190.9 | 79.9 < | | |
| | | | 151.7 | | r | |
| 9 | 17 | 6 | 192.5 | 40.8 < | | 2.17 < |
| 9 | 17 | 18.2° | 151.2 | 29.9 < | l | 4 (69 < |
| | −5° | 46 | 191.1 | 80.7 < | | 2,172 < |
| 9 | 9 | 32 | | | | |
| | | | 149.1 | | l | |
| 9 | 28 | 36 | 192.8 | 43.7 < | | |
| | | | 152.0 | 38.9 < | r | 2,12 < |
| | | | 190.9 | 82.6 < | | |
| | | | 151.7 | | r | |
| 9 | 29 | 50 | 190.0 | 38.3 < | | 2,14 < |
| | | | 149.2 | 43.6 < | l | |
| | | | 192.9 | 81.9 < | | |
| | | | | XVII | | |
| | | | 149.1 | | l | |
| 9 | 31 | 9 | 192.6 | 43.5 < | | 2.08 < |
| | | | 151.2 | 40.6 < | r | |
| | | | 191.8 | 84.1 < | | |
| | | | 150.3 | | r | |
| 9 | 32 | 20 | 191.7 | 41.4 < | | |
| ~~9~~ | ~~30~~ | ~~31.2°~~ | 150.1 | 42.3 < | l | 2.09 < |
| 9 | 30 | 28.7° | 192.4 | 83.7 < | | 4 (43 < |
| | −5° | 46 | | | | 3,5 < |
| 9 | 24 | 43 | | | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 10. 1895.

| | | | | | |
|---|---|---|---|---|---|
| | | 151.7 | | l | |
| 9 | 34 | 9 | 192.0 | 40.3 < | |
| | | | 150.1 | 43.0 < | r |
| | | | | 83.3 < | |
| | | | 193.1 | | |
| | | | 150.6 | | r |
| 9 | 35 | 21 | 192.7 | 42.1 < | |
| | | | 151.0 | 40.1 < | l |
| | | | | 82.2 < | |
| | | | 191.1 | | |
| | | | XVIII | | |
| | | | 151.6 | | l |
| 9 | 36 | 27 | 190.9 | 39.3 < | |
| | | | 150.7 | 41.4 < | r |
| | | | 192.1 | 80.7 < | |
| | | | 151.3 | | r |
| 9 | 37 | 39 | 191.2 | 39.9 < | |
| | | | 150.1 | 43.0 < | l |
| | | | 193.1 | 82.9 < | |

9 35 54 <
− 5 46
9 30 8 <

2.11 <
4 | 11
2.13 <

< Moon up

| | | | | | |
|---|---|---|---|---|---|
| | | | 149.8 | | l |
| 9 | 48 | 45 | 191.2 | 41.4 < | |
| | | | 151.1 | ~~8.8~~ | r |
| | | 190.8 | ~~189.9~~ | 39.7 < | |
| | | | | 81.1 < | |
| | | | 150.7 | | r |
| 9 | 50 | 34 | 191.1 | 40.4 < | |
| | | | 149.8 | 43.4 < | l |
| | | | 193.2 | 83.8 < | |
| | | | XIX | | |

2.16 <

2.08 <

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



# Oct. 10. 1895.

| | | | | | |
|---|---|---|---|---|---|
| | | | 150.2 | l | |
| 9 | 51 | 36 | 191.4 | 41.2 < | 2.18 < |
| | | | 151.4 | 39.3 <r | |
| | | | 190.7 | 80.5 < | |
| | | | 150.7 | r | |
| 9 | 52 | 4 | 191.7 | 41.0 <t | 2.14 < |
| 9 | 50 | 59.5° | 150.9 | 41.0 <l | 4 \| 56 |
| 9 | 51 | 0 | 191.9 | 82.0 < | 2.14 < |
| | − 5 | 46 | | | |
| 9 | 45 | 14 | | | |
| | | | 150.7 | l | |
| 9 | 54 | 16 | 192.2 | 41.5 < | 2.11 < |
| | | | 152.2 | 41.4 <r | |
| | | | 193.7 | 82.9 < | |
| | | | 149.2 | r | |
| 9 | 55 | 14 | 192.8 | 42.6 < | 2.06 < |
| | | | 150.7 | 41.2 <l | |
| | | | 191.9 | 84.8 < | |
| | | | | XX | |
| | | | 151.0 | l | |
| 9 | 56 | 17 | 193.9 | 42.9 < | 2.01 < |
| | | | 150.5 | 43.5 <r | |
| | | | 194.0 | 86.4 < | |
| | | | 150.0 | r | |
| 9 | 57 | 15 | 192.7 | 42.7 < | 2.06 < |
| 9 | 55 | 45.5° | 151.1 | 42.1 <l | 4 \| 24 |
| 9 | − 5 | 46 | 193.2 | 84.8 < | 2.06 < |
| 9 | 50 | 0 | | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 10. 1895.

| | | | | | |
|---|---|---|---|---|---|
| | | | 149.6 | l | |
| 10 | 0 | 5 | 192.6 | 43.0 < | 2.03 < |
| | | | 151.4 | 42.6 < | |
| | | | 194.0 | 85.6 ~ < | |
| | | | 150.8 | ~ | |
| 10 | 1 | 19 | 191.3 | 40.5 < | 2.09 < |
| | | | 149.6 | 49.1 < l | |
| | | | 192.7 | 89.6 < | |
| | | | | XXI | |
| | | | 148.9 | l | |
| 10 | 2 | 32 | 192.2 | 43.3 < | 2.05 < |
| | | | 150.0 | 41.9 ~ < | |
| | | | 191.9 | 85.2 < | |
| | | | 148.2 | ~ | |
| 10 | 3 | 42 | 193.6 | 45.4 < | 1.94 < |
| | | | 149.2 | 43.5 l < | 4 \| 8 11 |
| | | | 192.7 | 88.9 < | 2.03 < |
| | | | 148.2 | l | |
| 10 | 4 | 49 | 192.8 | 44.5 < | 2.01 < |
| | | | 149.0 | 42.1 < ~ | |
| | | | 191.1 | 86.6 < | |
| | | | 148.4 | ~ | |
| 10 | 7 | 0 | 192.1 | 43.7 < | 1.90 < |
| | | | 146.9 | 47.0 < l | |
| | | | 193.9 | 90.7 < | |
| | | | | XXII | |

10 7 39
10 1 54.75
-5 46
9 56 8
10 1 54.75 <

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...531w



Oct. 10. 1895.

| | | |
|---|---|---|
| 148.3 | l | |
| 1944 | 46.1 < | 1.95 < |
| 149.8 | 42.4 λ < | |
| 192.2 | 88.5 < | |

| | | |
|---|---|---|
| 150.2 | λ | |
| 191.3 | 41.1 < | 1.93 < |
| 146.8 | 48.4 l < | 4 \| 779 |
| 195.2 | 89.5 < | 1.95 < |

10 9 49 .

10 10 51

10 A 7. <
− 46. <
10 2 21. <

Images faint; especially towards the last.

B. and C #1182 Ballou #103

$10^h\ 23^m\ 46^s.3$ = $10^h\ 18^m\ 0^s.0$
10 23 46.2

B+C 1182# is fast 5 46.2

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 11. 1895.

T. andromedae: Phot T: W: obs.
T Andromedae, and 7.5 magn. star.

| | | |
|---|---|---|
| 0 | 14 | +26.1 |
| 21 | 10 | |
| -3 | 4 | |
| 8 | 56 | |

Index to right and below.

| | | | |
|---|---|---|---|
| | 227.6 | < comp. star dis. | |
| 7 42 45 | 298.8 | 71.2 < | |
| | 224.4 | 73.8 < | 0.69 < |
| | 298.2 | 144.0 < | |

Index to left and above.

| | | | |
|---|---|---|---|
| | 318.8 | | |
| 7 46 20 | 23.3 | 64.5 < | |
| | 319.1 | 66.0 < | 0.97 < |
| | 25.1 | 130.5 < | |

| | | | |
|---|---|---|---|
| | 316.2 | < Clouds. | |
| 7 49 30 | 26.0 | 69.8 < | |
| | 318.3 | 65.7 < | 0.87 < |
| | 24.0 | 135.5 < | |

Index to right and below.

| | | | |
|---|---|---|---|
| 8 52 2 | 224.2 | | |
| | 300.1 | 75.9 < | |
| | 225.0 | 71.9 < | 0.62 < |
| | 296.9 | 147.8 < | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 11, 1895.

| | | | | | |
|---|---|---|---|---|---|
| | | 226.4 | | | |
| 8 | 53 | 58 | 296.1 | 69.7 < | |
| | | | 220.4 | 75.6 < | 0.67 < |
| | | | 296.0 | 145.3 < | |

Index to left and above.

| | | | | | |
|---|---|---|---|---|---|
| | | | 318.3 | | |
| 8 | 57 | 18 | 24.0 | 65.7 < | |
| 8 | 20 | 18.33 | 315.3 | 70.7 < | 0.85 < |
| | | | 26.0 | 136.4 < | |

~~319.0~~ γ And + 7.5 mag star

L + a

| | | | | | |
|---|---|---|---|---|---|
| | | | 319.0 | | |
| 9 | 20 | | 24.8 | 658 < | |
| | | | 318.4 | 630 < | 1.00 < |
| | | | 21.4 | 1288 < | |

| | | | | | |
|---|---|---|---|---|---|
| | | | 319.5 | | |
| 9 | 22 | | 20.1 | 638 < | |
| | | | 317.7 | 681 < | 0.94 < |
| | | | 25.8 | 1319 < | |

| | | | | | |
|---|---|---|---|---|---|
| | | | 315.4 | | |
| 9 | 23 | | 27.4 | 720 < | |
| | | | 321.2 | 630 < | 0.88 < |
| | | | 24.2 | 1350 < | |

Clouds.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 11, 1895

Clouds R + B

| | | | | |
|---|---|---|---|---|
| | | 224.4 | | |
| 9 | 30 | 297.8 | 72.4 < | |
| | | 222.0 | 72.6 < | 0.6 ∫2 |
| | | 294.6 | 146.0 < | |
| | | 226.5 | | |
| 9 | 32 | 299.4 | 72.9 < | |
| | | 225.6 | 74.0 < | 0.6 4 < |
| | | 299.6 | 146.9 < | |
| | | 226.8 | | |
| 9 | 33 | 298.8 | 72.0 < | |
| | | 219.4 | 84.6 < | - 0.4 5 < |
| 9 | 26.6 | 304.0 | 156.6 < | |

Observations made with great difficulty through clouds.

Too Cloudy to continue.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531W



Oct. 16. 12 gr.

Z Herculis. Nat. T. Fr. obs.

| | | |
|---|---|---|
| 17 | V-3 | +(V.?) |
| 19 | 4V- | |
| +1 | V 2 | |

Index to right and above.

| | | | | | |
|---|---|---|---|---|---|
| | | 154.8 | ~~334.7~~ | ɾ | |
| 6 | 46 | 9 | 187.1 | | 32.3 < |
| | | | 155.1 | l | 32.3 < 2.69 < |
| | | | 187.4 | | 64.6 < |
| | | | 155.3 | l | |
| 6 | 47 | 24 | 188.7 | | 33.4 < |
| | | | 155.7 | ɾ | 32.2 < 2.66 < |
| | | | 187.9 | | 65.6 < |
| | | | | I | |
| | | | 154.5 | ɾ | |
| 6 | 48 | 39 | 188.0 | | 33.5 < |
| | | | 154.5 | l | 31.5 < 2.68 < |
| | | | 186.0 | | 65.0 < |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 14. 1895.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 154.9 | l | 31.9 < | | |
| 6 | 49 | 47 | 186.8 | | 33.2 < | 2.67 < | |
| 6 | 47 | 59.75 < | 153.8 | r | 65.1 < | | |
| | 6 | 17 | 187.0 | | | | |
| 11 | 41 | 42.75 < | | | | | |
| | | | 155.2 | r | 33.9 < | | 7 |
| 6 | 51 | 11 | 189.1 | | 31.2 < | 2.67 < | |
| | | | 156.0 | l | 65.1 < | | |
| | | | 187.2 | | | | |
| | | | 154.7 | l | | | 7 |
| 6 | 52 | 0=13 | 187.9 | | 33.2 < | | |
| | | | 155.6 | r | 32.4 < | 2.66 < | |
| | | | 188.0 | | 65.6 < | | |
| | | | | II | | | |
| | | | 156.7 | r | | | 7/7 |
| 6 | 53 | 26 | 187.6 | | 30.9 < | | |
| | | | 154.9 | l | 33.0 < | 2.72 < | |
| | | | 187.9 | | 63.9 < | | |
| | | | 154.0 | l | | | 7 |
| 6 | 54 | 36 | 188.7 | | 34.7 < | | |
| 6 | 52 | 57.5 < | 156.6 | r | 31.1 < | 2.65 < | |
| | 6 | 17 | 187.7 | | 65.8 < | | |
| 11 | 46 | 34.5 < | | | | | |
| | | | 156.2 | l | | | 7 |
| 7 | 2 | 30 | 187.0 | | 30.8 < | | |
| | | | 155.2 | r | 34.1 < | 2.68 < | |
| | | | 189.3 | | 64.9 < | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj.:531W



Oct. 14. 1895.

| | | | Bamberg #1182 | | Ballou #193 | |
|---|---|---|---|---|---|---|
| | | | $6^h\ 59^m\ 16^s.0$ | = | $6^h\ 53^m\ 0^s.0$ | |
| | | | 154.6 | r | | |
| 7 | 3 | 46 | 190.7 | | 36.1 < | |
| | | | 155.7 | l | 32.7 < | 2.55 < |
| | | | 188.4 | | 68.8 < | |
| | | | | III | | |
| | | | 155.2 | l | | |
| 7 | 4 | 50 | 189.1 | | 33.9 < | |
| | | | 154.8 | r | 34.0 < | 2.58 < |
| | | | 188.8 | | 67.9 < | |
| | | | 155.6 | r | | |
| 7 | 6 | 0 | 188.9 | | 33.3 < | |
| 7 | 4 | 16.5 < | 155.8 | l | 31.2 < | 2.69 < |
| | 6 | 17 | 187.0 | | 64.5 < | |
| 11 | 57 | 59.5 < | | | | |
| | | | 155.7 | l | | |
| 7 | 7 | 12 | 187.0 | | 31.3 < | |
| | | | 154.0 | r | 34.2 < | 2.66 < |
| | | | 188.2 | | 65.5 < | |
| | | | 154.0 | r | | |
| 7 | 8 | 24 | 188.5 | | 34.5 < | |
| | | | 154.9 | l | 33.0 < | 2.59 < |
| | | | 187.9 | | 67.5 < | |
| | | | | IV | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 14. 1895.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 155.6 | l | | |
| 7 | 9 | 23 | 187.9 | | 32.3 < | |
| | | | 154.1 | ~ | 33.7 < | 2.64 < |
| | | | 187.8 | | 66.0 < | |
| | | | 154.1 | ~ | | |
| 7 | 10 | 37 | 188.6 | | 34.5 < | |
| | | | 155.3 | l | 32.7 < | 2.60 < |
| | | | 188.0 | | 67.2 < | |
| 7 | 8 | 54 < | | | | |
| | 6 | 13 | | | | |
| 12 | 2 | 37 < | | | | |
| | | | 155.1 | l | | |
| 7 | 17 | 29 | 188.4 | | 33.3 < | |
| | | | 153.6 | ~ | 34.8 < | 2.57 < |
| | | | 188.4 | | 68.1 < | |
| | | | 153.4 | ~ | | |
| 7 | 18 | 45 | 188.6 | | 35.2 < | |
| | | | 155.2 | l | 30.6 < | 2.65 < |
| | | | 185.8 | | 65.8 < | |
| | | | V | | | |
| | | | 155.1 | l | | |
| 7 | 19 | 48 | 187.4 | | 32.3 < | |
| | | | 154.9 | ~ | 32.8 < | 2.67 < |
| | | | 187.7 | | 65.1 < | |
| | | | 153.4 | ~ | | |
| 7 | 21 | 7 | 187.9 | | 34.5 < | |
| | | | 155.7 | l | 31.7 < | 2.64 < |
| | | | 188.4 | | 66.2 < | |
| 7 | 19 | 16.5 < | | | | |
| | 6 | 13 | | | | |
| 12 | 12 | 59.5 < | | | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 14. 1895.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 154.9 | l | | | |
| 7 | 22 | 23 | 188.0 | | 33.1 < | | |
| | | | 153.7 | ∧ | 34.1 < | 2.60 < | |
| | | | 187.8 | | 67.2 < | | |
| | | | 154.0 | ∧ | | | |
| 7 | 23 | 32 | 188.0 | | 34.0 < | | |
| | | | 153.3 | l | 35.6 < | 2.52 < | |
| | | | 188.9 | | 69.6 < | | |
| | | | VI | | | | |
| | | | 154.9 | l | | | |
| 7 | 24 | 40 | 186.1 | | 31.2 < | | |
| | | | 154.0 | ∧ | 36.4 < | 2.59 < | |
| | | | 190.4 | | 67.6 < | | |
| | | | 153.8 | ∧ | | | |
| 7 | 25 | 44 | 189.1 | | 35.3 < | | |
| 7 | 24 | 4.7 5 < | 154.7 | l | 33.7 < | 2.54 < | |
| | 6 | 17.00 | 188.4 | | 69.0 < | | |
| 12 | 17 | 47.7 5 < | | | | | |
| | | | 153.9 | l | | | |
| 7 | 37 | 22 | 187.9 | | 34.0 < | | |
| | | | 153.0 | ∧ | 35.7 < | 2.52 < | |
| | | | 188.7 | | 69.7 < | | |
| | | | 153.6 | ∧ | | | |
| 7 | 38 | 28 | 190.1 | | 36.5 < | | |
| | | | 154.6 | l | 33.6 < | 2.50 < | |
| | | | 188.2 | | 70.1 < | | |
| | | | VII | | | | |



John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 14. 1895.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 152.8 | l | | |
| 7 | 29 | 45 | 188.2 | | 34.4 < | |
| | | | 152.0 | r | 38.1 < | 2.43 < |
| | | | 190.1 | | 72.5 < | |
| | | | 152.8 | r | | |
| 7 | 40 | 49 | 189.4 | | 36.6 < | |
| 7 | 39 | 8.5 < | 154.0 | l | 34.1 < | 2.48 < |
| | 6 | 17. | 188.1 | | 70.7 < | |
| 12 | 32 | 51.5 < | | | | |
| | | | 154.8 | l | | |
| 7 | 41 | 59 | 188.2 | | 33.4 < | |
| | | | 152.7 | r | 36.7 < | 2.50 < |
| | | | 189.4 | | 70.1 < | |
| | | | 153.3 | r | | |
| 7 | 42 | 0 | 191.4 | | 38.1 < | |
| | | | 153.8 | l | 35.0 < | 2.41 < |
| | | | 188.8 | | 73.1 < | |
| | | | VIII | | | |
| | | | 154.0 | l | | |
| 7 | 44 | 3 | 187.9 | | 33.9 < | |
| | | | 153.0 | r | 35.7 < | 2.52 < |
| | | | 188.7 | | 69.6 < | |
| | | | 153.1 | r | | |
| 7 | 45 | 17 | 189.6 | | 36.5 < | |
| 7 | 43 | 34.7 < | 153.4 | l | 35.0 < | 2.46 < |
| | 6 | 17. | 188.4 | | 71.5 < | |
| 12 | 37 | 17.7 < | | | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 14. 1895.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 155.2 | l | | | |
| 7 | 53 | 52 | 187.9 | | 32.7 < | | |
| | | | 153.1 | r | 36.0 < | | 2.55 < |
| | | | 189.1 | | 68.7 < | | |
| | | | 152.0 | r | | | |
| 7 | 55 | 23 | 190.1 | | 38.1 < | | |
| | | | 153.0 | l | 35.3 < | | 2.40 < |
| | | | 188.3 | | 73.4 < | | |
| | | | IX | | | | |
| | | | 154.2 | l | | | |
| 7 | 56 | 35 | 187.8 | | 33.6 < | | 2.54 < |
| | | | 153.9 | r | 35.4 < | | |
| | | | 189.3 | | 69.0 < | | |
| | | | 152.3 | r | | | |
| 7 | 57 | 50 | 189.6 | | 37.3 < | | 2.38 < |
| ~~9~~ | ~~55~~ | ~~55~~ < | 152.0 ~~154.6~~ | l | 36.6 < | | |
| | 6 | 17 | 188.6 | | 73.9 < | | |
| 12 | 49 | 38 < | | | | | |
| | | | 154.4 | l | | | |
| 7 | 59 | 25 | 187.1 | | 32.7 < | | |
| | | | 152.3 | r | 38.7 < | | 2.46 < |
| | | | 191.0 | | 71.4 < | | |
| | | | 151.5 | r | 38.6 < | | |
| 8 | 0 | 32 | 190.1 | | 34.2 < | | 2.42 < |
| 8 | | | 154.6 | l | 72.8 < | | |
| | | | 188.8 | | | | |
| | | | X | | | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 14. 1895.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 153.4 ~~153.9~~ | l | | |
| 8 | 2 | 9 | 188.2 | | 34.8 < | |
| | | | 153.0 | ʌ | 38.1 < | 2.41 < |
| | | | 191.1 | | 72.9 < | |
| | | | 151.9 | ʌ | | |
| 8 | 3 | 8 | 189.1 | | 37.2 < | 8 |
| 8 | 1 | 18.5 < | 153.9 | l | 34.2 < | 2.46 < |
| | 6 | 17 | 188.1 | | 71.4 < | |
| 12 | 55 | 1.5 < | | | | |
| | | | 152.7 | l | | |
| 8 | 9 | 1 | 189.9 | | 37.2 < | 2.42 < 8 |
| | | | 154.7 | ʌ | 35.4 < | |
| | | | 190.1 | | 72.6 < | |
| | | | 152.5 | ʌ | 37.4 < | 2.39 |
| 8 | 10 | 13 | 189.9 | | 36.1 < | ~~2.40~~ 8 |
| | | | 153.4 | l | 73.5 < | |
| | | | 189.5 | | | |
| | | | XI | | | |
| | | | 153.8 | l | | |
| 8 | 11 | 14 | 189.6 | | 35.8 < | |
| | | | 153.6 | ʌ | 36.8 < | 2.42 < 8 |
| | | | 190.4 | | 72.6 < | |
| | | | 153.0 | ʌ | | |
| 8 | 12 | 12 | 189.4 | | 36.4 < | 8 |
| 8 | 10 | 40 < | 152.9 | l | 36.5 < | 2.41 < |
| | 6 | 17 | 189.4 | | 72.9 < | |
| 13 | 4 | 23 < | | | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae..proj..531w



Oct. 14. 1895

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 154.0 | l | | | | |
| 8 | 13 | 27 | 189.0 | | 35.0 < | | | |
| | | | 153.4 | r | 36.2 < | | 2.47 < | |
| | | | 189.6 | | 71.2 < | | | |
| | | | 153.9 | r | | | | |
| 8 | 14 | 39 | 190.9 | | 37.0 < | | 2.41 < | |
| | | | 152.8 | l | 36.1 < | | | |
| | | | 188.9 | | 73.1 < | | | |
| | | | | XII | | | | |
| | | | 152.8 | l | | | | |
| 8 | 15 | 41 | 189.8 | | 37.0 < | | 2.30 < | |
| | | | 152.6 | r | 29.4 < | | | |
| | | | 190.0 | | 76.4 < | | | |
| | | | 152.1 | r | | | | |
| 8 | 16 | 44 | 190.9 | | 38.8 < | | 2.37 < | |
| 8 | 10 | 7.7 | 154.0 | l | 35.4 < | | | |
| | 6 | 17. | 189.4 | | 74.2 < | | | |
| 8 | 8 | 5-0.8 | | | | | | |
| | | | 153.0 | l | | | | |
| 8 | 27 | 10 | 189.2 | | 36.2 < | | | |
| | | | 153.1 | r | 38.7 < | | 2.35 < | |
| | | | 191.8 | | 74.9 < | | | |
| | | | 151.9 | r | | | | |
| 8 | 28 | 26 | 191.0 | | 39.1 < | | | |
| | | | 153.0 | l | 36.4 < | | 2.33 < | |
| | | | 189.4 | | 75.5 < | | | |
| | | | | XIII | | | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 14. 1895.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 152.8 | l | | |
| 8 | 29 | 5 | 189.2 | | 36.4 < | |
| | | | 151.8 | r | 38.6 < | 2.35 < |
| | | | 190.4 | | 75.0 < | |

8 20 Auroral arch in north below pole, summit of arch being $\frac{1}{4}$ way from horizon to pole when seen: this arch was first noticed at 6h 50m this evening

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 152.2 | r | | |
| 8 | 31 | 11 | 192.2 | | 40.0 < | |
| 8 | 29 | 11 < | 152.0 | l | 37.9 < | 2.26 < |
| | 6 | 17 | 189.9 | | 77.9 < | |
| 8 | 22 | 54 < | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 152.4 | l | | 2.32 |
| 8 | 32 | 39 | 189.0 | | 36.6 < | 2.33 < |
| | | | 151.9 | r | 39.1 < | |
| | | | 191.0 | | 75.7 < | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 152.1 | r | | |
| 8 | 33 | 55 | 190.8 | | 38.7 < | 2.28 < |
| | | | 152.1 | l | 38.3 < | |
| | | | 190.4 XIV | | 77.0 < | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 153.0 | l | | |
| 8 | 35 | 9 | 190.8 | | 37.8 < | 2.27 < |
| | | | 152.2 | r | 39.8 < | |
| | | | 192.0 | | 77.6 < | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 14. 1895.

| | | | | | |
|---|---|---|---|---|---|
| 8 | 36 | 17 | 153.1 | r | 37.3 < |
| 8 | 34 | 30 < | 190.4 | | 37.3 < 2.36 < |
| | 6 | 17 | 153.0 | l | 74.6 < |
| 8 | 28 | 13 < | 190.3 | | |
| | | | 151.2 | l | |
| 8 | 46 | 4 | 189.9 | | 38.7 < |
| | | | 151.2 | r | 38.7 < 2.27 < |
| | | | 189.9 | | 77.4 < |
| | | | 151.3 | r | |
| 8 | 47 | 36 | 189.1 | | 37.8 < |
| | | | 151.1 | l | 38.6 < 2.30 < |
| | | | 189.7 | | 76.4 < |
| | | | XV | | |
| | | | 151.3 | l | |
| 8 | 48 | 42 | 190.9 | | 39.6 < |
| | | | 152.0 | r | 38.6 < 2.25 < |
| | | | 190.6 | | 78.2 < |
| | | | 152.2 | r | |
| 8 | 49 | 46 | 191.6 | | 39.4 < |
| 8 | 48 | 2 < | 152.0 | l | 38.6 < 2.25 < |
| | 6 | 17 | 190.6 | | 78.0 < |
| 8 | 41 | 45 < | | | |
| | | | 151.5 | ~~152.2~~ l | |
| 8 | 51 | 26 | 190.6 | | 39.1 < |
| | | | 150.2 | r | 41.1 < 2.19 < |
| | | | 191.3 | | 80.2 < |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 14. 1895.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 151,0 | r | | | |
| 8 | 52 | 27 | 192.0 | | 41.0 < | | |
| | | | 151.6 | l | 39.8 < | 2.17 < | |
| | | | 191.4 | | 80.8 < | | |
| | | | | XVI | | | |
| | | | 151.9 | l | | | |
| 8 | 53 | 58 | 191.3 | | 39.4 < | 2.23 < | |
| | | | 151.7 ~~152.9~~ | r | 39.5 < | | |
| | | | 191.2 | | 78.9 < | | |
| | | | 151.9 | r | | | |
| 8 | 55 | 21 | 190.2 ~~189.8~~ | | 38.3 ~~6~~ < | | |
| 8 | 53 | 20.5 < | 151.1 | l | 39.2 < | 2.27 < | |
| | 6 | 17. | | | | | |
| 8 | 47 | 3.5 < | 190.9 | | 77.5 < | | |
| | | | 148.8 | l | | | |
| 9 | 6 | 31 | 192.7 | | 43.9 < | | |
| | | | 151.7 | r | 38.7 < | 2.12 < | |
| | | | 190.4 | | 82.6 < | | |
| | | | 150.9 | r | | | |
| 9 | 7 | 50 | 190.9 | | 40.0 < | | |
| | | | 150.6 | l | 41.6 < | 2.15 < | |
| | | | 192.2 | | 81.6 < | | |
| | | | | XVII | | | |
| | | | 150.7 | l | | | |
| 9 | 8 | 54 | 192.2 | | 41.5 < | | |
| | | | 151.0 | r | 39.7 < | 2.16 < | |
| | | | 190.7 | | 81.2 < | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 14. 1895

| | | | | | |
|---|---|---|---|---|---|
| | 151.7 | r | | | |
| 9 10 2 | 191.2 | | 39.5 < | | |
| 9 28 19.2 < | 150.7 | l | +0.5 < | 2.19 < | |
| 6 17 | 191.2 | | 80.0 < | | |
| 9 2 2.2 < | | | | | |
| | 151.6 | l | | | |
| 9 11 21 | 192.2 | | 40.6 < | | |
| | 151.3 | r | +1.6 < | 2.13 < | |
| | 192.9 | | 82.2 < | | |
| | 150.9 | r | | | |
| 9 12 29 | 190.4 | | 39.5 < | | |
| | 150.0 | l | +2.0 < | 2.15 < | |
| | 192.0 | | 81.5 < | | |
| | XVIII | | | | |
| | 149.8 ~~+51.1~~ | l | | | |
| 9 14 5 | 192.0 | | 42.2 < | | |
| | 152.1 | r | 39.8 < | 2.14 < | |
| | 191.9 ~~+40.1~~ | | 82.0 < | | |
| | 151.8 | r | | | |
| 9 15 29 | 192.3 | | 40.5 < | | |
| 9 13 23.5 < | 150.7 | l | +1.7 < | 2.13 < | |
| 6 17 | 192.4 ~~+41.6~~ | | 82.2 < | | |
| 9 7 7.5 | | | | | |
| | 150.0 | l | | | |
| 9 25 30 | 192.7 | | 42.7 < | | |
| | 150.7 | r | 42.5 < | 2.05 < | |
| | 193.2 | | 85.2 < | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..scw



Oct. 14 1895.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 150.7 | ≈ | | | |
| 9 | 27 | 2 | 193.3 | | 42.6 < | | |
| | | | 151.8 | l | 40.4 < | 2.11 < | |
| | | | 192.2 | | 83.0 < | | |
| | | | XIX | | | | |
| | | | 148.9 | l | | | |
| 9 | 28 | 11 | 193.2 | | 44.3 < | | |
| | | | 150.8 ~~152.8~~ | ≈ | 42.1 < | 2.01 < | |
| | | | 192.9 | | 86.4 < | | |
| | | | 150.0 | ≈ | | | |
| 9 | 29 | 22 | 192.1 | | 42.1 < | 2.08 < | |
| 9 | 27 6 | 33.7 17 | 151.1 | l | 42.0 < | | |
| 9 | 21 | 16.8 < | 193.1 | | 84.1 < | | |
| | | | 151.0 | l | | | |
| 9 | 30 | 30 | 192.4 | | 41.4 < | | |
| | | | 148.8 | ≈ | 45.3 < | 2.00 < | |
| | | | 194.1 | | 86.7 < | | |
| | | | 149.9 | ≈ | | | |
| 9 | 31 | 46 | 193.8 | | 43.9 < | | |
| | | | 151.8 | l | 39.8 < | 2.09 < | |
| | | | 191.6 | | 83.7 < | | |
| | | | | | XX | | |
| | | | 149.2 | l | | | |
| 9 | 32 | 52 | 192.9 | | 43.7 < | 2.12 < | |
| | | | 151.6 | ≈ | 38.8 < | | |
| | | | 190.4 | | 82.5 < | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 14. 1895

| | | | | | |
|---|---|---|---|---|---|
| | | 152.1 | ν | | |
| | | 142.2 | | 40.1 < | |
| 9 | 34 11 | 149.9 | l | 43.9 < | 2.08 < |
| 9 | 32 19.7 < | 193.8 | | 84.0 < | |
| | 6 17 | | | | |
| 9 | 26 2.8 < | | | | |

| | | | | | |
|---|---|---|---|---|---|
| | | 148.8 | l | | |
| 9 | 40 27=27 | 142.6 | | 42.8 < | |
| | | 149.8 | ν | 42.2 < | 2.02 < |
| | | 192.0 | | 86.0 < | |

| | | | | | |
|---|---|---|---|---|---|
| | | 150.2 | ν | | |
| 9 | | 141.0 | | 40.8 < | |
| | 41 20 | 149.9 | l | 44.2 < | 2.05 < |
| | | 194.1 | | 85.0 < | |

XXI

| | | | | | |
|---|---|---|---|---|---|
| | | 148.4 | l | | |
| 9 | 42 51 | 141.2 | | 42.9 < | |
| | | 148.0 | ν | 44.2 < | 1.99 < |
| | | 192.2 | | 87.1 < | |

| | | | | | |
|---|---|---|---|---|---|
| | | 150.0 | ν | | |
| | | 194.2 | | 44.2 < | |
| 9 | 44 3 | 147.9 | l | 44.2 < | 1.96 < |
| 9 | 42 12.7 < | 192.1 | | 88.4 < | |
| | 6 17 | | | | |
| 9 | 35 55.7 < | | | | |

| | | | | | |
|---|---|---|---|---|---|
| | | 149.1 | l | | |
| 9 | 45 29 | 142.8 | | 43.7 < | |
| | | 150.6 | ν | 44.0 < | 1.96 < |
| | | 194.6 | | 87.7 < | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 14. 1895

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 150.4 | r | | |
| 9 | ~~46~~ 45 | ~~45~~ 46 | 193.4 | | 43.0 < | |
| | | | 149.4 | l | 42.9 < | 2.03 < |
| | | | 192.3 | | 85.9 < | |
| | | | | XXII | | |
| | | | 150.0 | l | | |
| 9 | 48 | 3 | 195.2 | | 45.2 < | |
| | | | 151.0 | r | 41.7 < | 2.00 < |
| | | | 192.7 | | 86.9 < | |
| | | | 150.2 | r | | |
| 9 | 49 | 18 | 192.1 | | 41.9 < | |
| 9 | 47 | 22.25 < | 151.1 | l | 41.5 < | 2.10 < |
| | 6 | 17 | 192.6 | | 83.4 < | |
| 9 | 41 | 5.2 < | | | | |

9 30 Rather fine streamers in connection with aurora.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 149.3 | l | | |
| 9 | 52 | 36 | 193.7 | | KK.K < | |
| | | | 152.0 | l | K0.2 < | 2.06 < |
| | | | 192.2 | | KK.6 < | |
| | | | 150.9 | l | K2.1 < | |
| 9 | 54 | 44 | 193.0 | | | 2.00 < |
| | | | 149.2 | l | KK.6 < | |
| | | | 193.8 | | K6.7 < | |
| | | | | XXIII | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...531w



Oct. 14, 1895

| | | | | | |
|---|---|---|---|---|---|
| | | 151.0 | l | | |
| 9 | 56 | 8 | 194.8 | | 43.8 < |
| | | | 151.8 | r | 40.3 < 2.0 A < |
| | | | 192.1 | | 84.1 < |
| | | | 149.1 | r | |
| 9 | 57 | 28 | 193.0 | | 43.9 < |
| | | | 148.2 | l | 44.2 < 1.96 < |
| 9 | 57 | 14 < | 192.4 | | 88.1 < |
| | 6 | 17 | | | |
| 9 | 48 | 57 < | | | |
| | | | 149.0 | l | |
| 9 | 58 | 38 | 193.4 | | 44.4 < |
| | | | 147.6 | r | 45.3 < 1.92 < |
| | | | 192.9 | | 89.7 < |
| | | | 150.2 | r | |
| 9 | 59 | 47 | 192.0 | | 41.8 < |
| | | | 148.0 | l | 45.7 < 1.94 < |
| | | | 193.7 | | 87.5 < |
| | | | XXIV | | |
| | | | 148.9 | l | |
| 10 | 0 | 47 | 195.2 | | 46.3 < |
| | | | 151.8 | r | 41.6 < 1.97 < |
| | | | 193.4 | | 87.9 < |
| | | | 150.9 | r | |
| 10 | 1 | 56 | 192.9 | | 42.0 < |
| | | | 148.1 | l | 46.7 < 1.95 < |
| 10 | 0 | 16 < | 194.8 | t | 88.7 < |
| | 6 | 17 | | | |
| 9 | 53 | 59 < | | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 14. 1895.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 147.0 | l | | | |
| 10 | 3 | 24 | 193.8 | | K6.8 < | | |
| | | | 150.4 | r | K1.6 < | 1.96 < | |
| | | | 192.0 | | K4.4 < | | |
| | | | 150.4 | r | | | |
| 10 | 4 | 29 | 192.0 ~~191.3~~ | | K1.6 < | 1.97 < | |
| | | | 149.2 | l | K7.0 < | | |
| | | | 196.2 | | K4.6 < | | |
| | | | XXV | | | | |
| | | | 148.1 | l | | | |
| 10 | 5 | 49 | 193.6 | | K5.5 < | 1.93 < | |
| | | | 149.0 | r | K4.0 < | ~~1.92~~ | |
| | | | 193.0 | | 89.5 < | | |
| | | | 149.9 | r | K1.9 < | | |
| 10 | 6 | 51 | 191.8 | | | | |
| 10 | 5 | 7.75 < | 148.4 | l | K4.5 < | 2.01 < | |
| | 6 | 17 | 192.9 | | K6.4 < | | |
| 9 | 58 | 50.8 < | | | | | |
| | | | 148.4 | l | K5.6 < | | |
| 10 | 7 | 50 | 194.0 | | | | |
| | | | 148.0 | r | K5.3 < | 1.99 < | |
| | | | 193.3 | | 90.9 < | | |
| | | | 149.7 | r | | | |
| 10 | 8 | 42 | 193.0 | | K3.3 < | | |
| | | | 148.3 | l | K3.9 < | 1.99 < | |
| | | | 192.2 | | K7.2 < | | |
| | | | XXVI | | | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...531w



Oct. 14. 1895.

| | | | | | |
|---|---|---|---|---|---|
| | | 147.5 | l | | |
| 10 | 9 | 30 | 194.9 | | K7.K < |
| | | | 149.6 | r | K3.K < 1.Kg < |
| | | | 193.0 | | 90.2 < |
| | | | 148.6 | r | KK.0 < |
| 10 | 10 | 38 | 192.6 | | |
| 10 | 9 | 10.25 < | 148.0 | l | K6.g < 1.Kg < |
| | 6 | 17 | | | |
| 10 | 2 | 53.2 < 194.9 ~~1951~~ | | | 90.9 < |

Shutter cuts off very slightly at end

Bond #1182 Ballou #103

$10^h\ 30^m\ 17.0^s$ = $10^h\ 24^m\ 0.0^s$

10 30 17.0

B+C 1182 is Fast 6 17.0

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531W

Oct. 17. 1895.

T. androm: Phot. T. W: obs

24
0 14 +26.1
21 25
2 49
9 11

left
Index to ~~right~~ and ~~below~~ above
139.7 < comp. stan dis
7 36 17 203.8 69.6 <
141.7 59.4 < +1.13 <
201.1 123.0 <

~~left~~ right ~~above~~
Index to ~~left~~ and ~~below~~ below
46.3
7 40 38 119.0 72.7 <
45.3 71.5 < 0.69 <
116.8 144.2 <

50.2
7 43 24 117.1 66.9 < 0.76 ~~0.77~~
46.0 73.6 <
119.6 140.5 <

Index to left and above
322.3
7 47 55 23.0 60.7 <
318.2 65.3 < 1.06 <
23.5 126.0 <

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..53tw



Oct. 17. 1895.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 321.2 | 63.5 < | | |
| 7 | 51 | 17 | 24.7 | 63.2 < | 1.05 < | |
| | | | 322.0 | 126.7 < | | |
| | | | 25.2 | | | |

Index to right and below.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 47.3 | | | |
| 7 | 54 | 46 | 120.0 | 72.7 < | | |
| 7 | 40 | 42.83 | 45.3 | 74.6 < | 0.63 < | |
| | | | 119.9 | 147.3 < | | |

8 15 clouds

~~8 20 stopped by clouds~~

~~8 20 8.8~~

T. Androm.

8 30 (8.8 magn) 2 var. in West Equatorial W: obs.

8 45 Stopped by clouds

| | | |
|---|---|---|
| 23 | 54 | +61.5 |
| 22 | 55 | |
| 0 | 59 | |
| 11 | 1 | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 17, 1895.

Identification of star no. 39 in list of remarkable objects on page 377 : Vol. 99: of the astronomische Nachrichten: the star is B.D +62° 2343: it is ~~blue~~ of an ~~ruthless~~ orange color: color 2 or 3 on a scale of 10

S Cephei. W: obs.

| | | |
|---|---|---|
| 21 | 37 | +78.3 |
| 24 | 17 | |
| 2 | 40 | |

10 15 Cloudy

T. Androm.

Additional sets on T. Androm made immediately after regular series: these sets should have been recorded immediately after regular series on page 107

Index to left and above.

| | | |
|---|---|---|
| 142.2 | | |
| 203.1 | 609 | |
| 142.1 | 58.2 | |
| 203.3 | 119.4 | 1.21 |

8 2 16

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w

Oct. 17. 1895

| | | | | | |
|---|---|---|---|---|---|
| | | | 143.6 | | |
| 8 | 8 | 22 | 202.2 | 58.6 | |
| | | | 144.9 | 55.3 | 1.33 |
| | | | 200.2 | 113.9 | |

10 50 Cloudy

Σ 485 W: obs.

| | | |
|---|---|---|
| 3 | 57 | +62.0 |
| 0 | 57 | |
| 3 | 0 | |
| 9 | 0 | |

Position angle = ~~110~~ 115 ; distance = 15"
magn = 6.1 and 6.2
Stars about equal : north preceding thought to be slightly brighter.

Index to left and below
20.1 ∠ northern preceding and brighter

11 1 0

| | | |
|---|---|---|
| 112.9 | 92.8 | |
| 11.3 | 101.5 | |
| 112.8 | 194.3 | |

1895.7 + 0.27

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 17. 1895

| | | | | | |
|---|---|---|---|---|---|
| | | | 11.7 | | |
| 11 | 4 | 30 | 112.3 | 100.6 | |
| | | | 14.9 | 98.9 | |
| | | | 113.8 | 199.5 | +0.37 |
| | | | | 160.5 | |
| | | | 15.4 | | |
| 11 | 6 | 20 | 112.9 | 97.5 | |
| | | | 16.4 | 97.5 | |
| | | | 113.9 | 195.0 | +0.29 |
| | | | | 165.0 | |

Index to night and above.

| | | | | | |
|---|---|---|---|---|---|
| | | | 106.4 | | |
| 11 | 8 | 5 | 207.2 | 100.8 | |
| | | | 112.8 | 88.1 | |
| | | | 200.9 | 188.9 | |
| | | | | 171.2 | +0.17 |
| | | | 113.0 | | |
| 11 | 11 | 16 | 202.7 | 89.7 | |
| | | | 103.6 | 102.8 | |
| | | | 206.4 | 192.5 | |
| | | | | 167.5 | +0.25 |
| | | | 103.9 | | |
| 11 | 13 | 28 | 205.0 | 101.1 | |
| | | | 111.4 | 88.6 | |
| | | | 200.0 | 189.7 | |
| | | | | 170.3 | +0.18 |

Seeing rather poor.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 18. 1895.

T. Andromedae: Phot. T. W: obs.

| | | |
|---|---|---|
| 0 | 14 | +26.1 |
| 21 | 37 | |
| -2 | 37 | |
| 9 | 23 | |

Nan compared with (8.8) nucleus

Index to left and above.

| | | | |
|---|---|---|---|
| 314.2 | l | < comp. stars dis. | |
| 89.4 | | 85.2 < | |
| 315.4 | r | 86.5 < | 0.16 < |
| 41.9 | | 171.7 < | |

7 50 42

Index to right and below

| | | | |
|---|---|---|---|
| 44.1 | r | | |
| 127.8 | | 83.7 < | |
| 43.8 | l | 86.0 < | 0.20 < |
| 129.8 | | 169.7 < | |

7 57 10

| | | | |
|---|---|---|---|
| 44.4 | l | | |
| 128.2 | | 83.8 < | |
| 44.0 | r | 85.8 < | 0.20 < |
| 129.8 | | 169.6 < | |

7 59 41

Index to left and above.

| | | | |
|---|---|---|---|
| 311.9 | r | | |
| 44.8 | | 92.9 < | |
| 314.8 | l | 84.4 < | 0.05 < |
| 39.2 | | 177.3 < | |

7 52 30

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 18. 1895.

7 54 8

313.0 l
38.0
313.3 ∧
42.0

85.0<
88.7< 0.12<
173.7<

Index to right and below.

8 1 45

45.0 ∧
130.6
43.6 l
130.4

85.6<
86.8< 0.14<
172.4<

The (8.8) magn. is the brighter of the two.

Var compared with (7.5) magn

Index to right and below.

8 7 48

52.8 ∧ l
118.8 < comp. stars dis

66.0<
63.5< 0.99<
129.5<

Index to left and above.

8 14 48

148.0 ∧
207.1
145.8 l
207.7

59.1<
61.9< 1.17<
121.0<

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 18. 1895.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 145.2 | l | | | |
| 8 | 16 | 41 | 207.2 | | 62.0 < | | |
| | | | 144.1 | r | 64.7 < | 1.05 < | |
| | | | 205.8 | | 126.7 < | | |
| | | | Index to right and below | | | | |
| | | | 54.2 | r | | | |
| 8 | 9 | 53 | 117.0 | | 62.8 < | | |
| | | | 54.3 | l | 65.4 < | 1.02 < | |
| | | | 119.7 | | 128.2 < | | |
| | | | 53.0 | l | | | |
| 8 | 11 | 44 | 119.3 | | 66.3 < | | |
| | | | 55.3 | r | 61.9 < | 1.02 < | |
| | | | 117.2 | | 128.2 < | | |
| | | | Index to left | | | | |
| | | | 142.1 | r | | | |
| 8 | 18 | 40 | 208.5 | | 66.4 < | | |
| | | | 147.2 | l | 59.2 < | 1.07 < | |
| 8 | 13 | 15.66 | 206.4 | | 125.6 < | | |

9 - 0 T. Androm = star C in west equatorial: W: also C is a star in provisional notation being the same one of this name used by mr. Attwill and mr. Wirth in west dome for some time back: for identification of this star see diagram

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..581w



Oct. 18. 1895.

passed on back cover of Book Series 5 bring the book which has in it the selected and revised lists of comp. stars for variables.

9 20± (8.8 magns) 3 var: var 1 c: in finder of large telescope W: obs.

R. Draconis. W: obs

| | | |
|---|---|---|
| 16 | 26 | +67.4 |
| 23 | 26 | |
| 7 | 0 | |

9 35 h 2.5 var var 1.5 g W: obs estimate = 13.0 : absolute estimate somewhat uncertain on account of haze.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531W



Oct. 18, 1895.

Cassiop. W: obs.

| | | |
|---|---|---|
| 1 | 10 | +72.1 |
| 23 | 56 | |
| −1 | 14 | |
| 10 | 46 | |

Star x seen: star y seen: var. thought to be certainly seen but very faint.

10 15 Y 1 var: in large telescope: too faint for finder: estimate = 15.0. W: obs.

R. Ursa maj. W: obs.

| | | |
|---|---|---|
| 10 | 32 | +69.2 |
| 24 | 22 | |
| 10 | 54 | |

10 30 Z 3.5 var: var 2.5 S: in large telescope: too faint for finder: W: obs estimate = 11.7

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 18. 1895

R Camelop. W. obs.

| | | |
|---|---|---|
| 14 | 40 | +84.1 |
| 0 | 47 | |
| 10 | 7 | |
| 1 | 53 | |

" o var = 9 in large teles cope: W. obs.
estimate = 10, 7

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531W



Oct. 19, 1895.

| | | | T Androm: | Phot T: | W: obs. |
|---|---|---|---|---|---|
| | | | 0 | 14 | +26.1 |
| | | | 21 | 44 | |
| | | | −2 | 30 | |
| | | | 9 | 30 | |

Index to left and above

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 160.0 | | | |
| | | | 230.6 | < comp | l | tran dis 70.6 ✓ |
| 7 | 41 | 45 | 160.1 | | r | 63.9 ✓ 0.89 |
| | | | 224.0 | | | 134.5 ✓ |

< clouds thick.

Index to right and below.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 251.0 | | r | |
| | | | | | | 70.2 ✓ |
| 8 | 9 | 18 | 321.2 | ~~321.7~~ | | |
| | | | 251.8 | | l | 66.4 ✓ 0.84 |
| | | | 318.2 | | | 136.6 ✓ |

Clouds.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 251.8 | | l | |
| 8 | 15 | 18 | 316.8 | | | 65.0 ✓ |
| | | | 251.4 | | r | 67.5 ✓ |
| | | | 318.9 | | | 132.5 ✓ 0.93 |

Index to left and above.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 160.0 | | r | 65.2 ✓ |
| | | | 225.2 | | | |
| 7 | 43 | 36 | | | | 70.2 ✓ 0.87 |
| | | | 159.9 | | l | 135.4 ✓ |
| | | | 230.1 | | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..521W



Oct 19. 1895.

| | | | |
|---|---|---|---|
| 159.7 | l | 69.9 ✓ | |
| 229.6 | | | |
| 162.8 | ν | 63.5 ✓ | 0.91 |
| 226.9 | | 133.4 ✓ | |

7 45 95

Index to right and below.

| | | | |
|---|---|---|---|
| 251.6 | ν | | |
| 319.8 | | 68.2 ✓ | |
| 252.0 | l | 66.6 ✓ | |
| 318.6 | | 134.8 ✓ | 0.88 |

8 18 47

7 59 3.2

u Cephei Phot. 5.

| | | |
|---|---|---|
| 0 | 30 | +81.7 |
| 22 | 33 | |
| -1 | 57 | |
| 10 | 3 | |

| | | |
|---|---|---|
| 0 | 50 | +81.2 |
| 22 | 50 | |
| 2 | 0 | |
| 10 | 0 | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 19. 1895.

Index to left and above

~~32.8 Barometric~~ ~~clouds.~~ Reject.

B + C # 1182 Ballon # 103

$9^h\ 19^m\ 47^s.6 = 9^h\ 13^m\ 0^s.0$

9 15 Cloudy

| | | | | |
|---|---|---|---|---|
| | 30.6 | r | | |
| 9 25 56 | 85.6 | | 55.0 | |
| | 38.0 | l | 47.0 | 1.61 |
| | 85.0 | | 102.0 | |
| | 36.5 | l | | |
| | 82.3 | | 45.8 | |
| 9 29 32 | 31.9 | r | 57.0 | 1.59 |
| | 88.9 | | 102.8 | |
| | Clouds. | | | |
| | | r | | |
| 9 -4= | Clouds. | | | |
| | | l | | |

Clouds thick.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w

Oct. 19. 1895.

10 2 Continually cloudy. No prospect of clearing.

Troubled continually by thick clouds.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 21, 1895.

T. andromm: Phot T: W: obs

| | | |
|---|---|---|
| 0 | 14 | +26.1 |
| 21 | 58 | |
| -2 | 16 | |
| 9 | 44 | |

Index to left and above.

207.9 < comparison star 62.3 <
270.2
207.0 l 65.8 < 1.02 <
272.8 128.1 <

7 48 ~~28~~

Index to right and below

298.9 l 61.5 <
0.4
298.6 r 63.5 < 1.08 <
2.1 125.0 <

7 56 53

297.0 r 65.4 <
2.4
298.7 l 61.3 < 1.05 <
0.0 126.7 <

7 59 15

Index to left and above.

206.7 l 69.7 <
270.4 68.4 < 0.94 <
205.8 r 132.1 <
273.7

7 50 48

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 21, 1895.

| | | | | | |
|---|---|---|---|---|---|
| | | 205.9 | λ | | |
| 7 | 52 | 39 | 272.3 | | 66.4< | |
| | | | 207.5 | l | 63.5< | 0.98< |
| | | | 271.0 | | 129.9< | |

Index to right and below.

| | | | | | |
|---|---|---|---|---|---|
| | | 299.3 | l | | |
| 8 | 1 | 9 | 359.3 | | 60.0< | |
| 7 | 57 | 52 | 296.9 | λ | 65.1< | 1.08< |
| | | | 2.0 | | 125.1< | |

7 45 c 1 var: var 4 ~~d~~ a : in find- er : W : obs.

Wilsons. var.

20 31 +17.7

8 38 c a 1 var: var 3 b in west equatorial W : obs.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 21, 1895.

o Ceti: PhotR: W: obs

2 4 -2.5

23 34

9 26

Index above

109.5 < comp star dis. 83.0 <

9 35 30 192.5 90.3 <

105.7 173.3 < 0.13 <

196.0

Index below

15.9 ~~103.8~~ ++ 90.1 <

9 ~~HH 38~~ 8 106.0 ~~191.2~~ 88.8 <

~~10.9~~ 16.9 178.9 < 0.02 <

105.7

18.8

9 47 22 103.6 84.8 <

15.6 88.6 <

104.2 173.4 < 0.13 <

Index above.

103.8

9 38 0 194.2 90.4 <

107.0 83.5 <

190.8 174.2 < 0.11 <

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w

Oct. 21, 1895.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 108.2 | | | |
| 9 | 40 | 48 | 193.0 | 84.8 < | | |
| | | | 104.0 | 91.4 < | 0.07 < | |
| | | | 195.4 | 176.2 < | | |
| | | | Index below. | | | |
| | | | 13.8 | | | |
| 9 | 50 | 41 | 105.9 | 92.1 < | | |
| 9 | 42 | 421 | 14.7 ~~18.5~~ | 88.8 < | −0.02 < | |
| | | | 103.5 | 180.9 < | | |
| | | | | 179.1 | | |
| | | | Same repeated Index below. | | | |
| | | | 14.5 | | | |
| 10 | 1 | 40 | 100.3 | 82.8 < | | |
| | | | 11.5 | 96.7 < | 0.01 < | |
| | | | 104.2 | 179.5 < | | |
| | | | Index above. | | | |
| | | | 108.3 ~~13.5~~ | | | |
| 10 | 12 | 18 | 191.6 | 83.3 < | | |
| | | | 102.1 | 96.1 < | 0.01 < | |
| | | | 198.2 | 179.4 < | | |
| | | | 101.8 | | | |
| 10 | 14 | 38 | 194.7 | 92.9 < | | |
| | | | 109.6 | 83.2 < | 0.07 < | |
| | | | 192.8 | 176.1 < | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 21. 1895

Index below.

| | | | |
|---|---|---|---|
| | 13.5 | | |
| | 104.7 | 91.2 < | |
| 10 5 5 | | 87.6 < | 0.02 < |
| | 17.4 | 178.8 < | |
| | 105.0 | | |
| | | | |
| | 16.5 | | |
| | 104.1 | 87.6 < | |
| 10 7 35 | | 91.3 < | 0.02 < |
| | 14.2 | 178.9 < | |
| | 105.5 | | |
| | | | |
| Index above. | | | |
| | 105.8 | | |
| | 195.0 | 89.2 < | |
| 10 10 0 | | 85.3 < | 0.10 < |
| | 107.0 | 174.5 < | |
| 10 8 32.7 | 192.9 | | |

10.3 ≠ c var. 1.5 comp.star in large tel- W. obs.
scope.

c var 2 ~~comparison~~ comp.star when eyes are at right angles to line joining stars: ~~in comp.star~~ in large tele scope: W. obs

c comp.star 1 var: in finder: W. obs

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531W

Oct. 21, 1895.

sky-gni : ~~Pl~~ W: obs

20 8 +57.2
0 48
4. 40

10 47 0 3 var var 1.5 ½ : estimate =
13.7 in large telescope. W: obs

H. P. 499. (Zelands' Var.) W. obs.

Field Glass.

11 2v a 1 var., var. 3 b in ~~Finder Eq.~~

Comp. Star a = +1° 446 (6.v)
" " b = +1° 447 (7.v)

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...531w



October 22, 1895.

| | | hrs | m | s |
|---|---|---|---|---|
| B+C 1182 | # | 7 | 40 | 57.5 |
| Ballou 103 | # | 7 | 33 | 00 |
| B+C 1182 # is East | | | 7 | 57.5 |

| | | hrs | m | s |
|---|---|---|---|---|
| B+C 1182 | # | 7 | 41 | 57.5 |
| Ballou 103 | # | 7 | 34 | 00 |

Nisp. Trolls susp. var. ~~at 20h~~ (Sw. +17° 4367)
a 0.5 var., var. 3 b in East of Equatorial, 4. do.

7 ✓

## J Androm

| | | |
|---|---|---|
| 0 | 14 | +26.1 |
| 22 | 5 | |
| 2 | 9 | |
| 9 | 51 | |

Index L & a

7
8 57 7
207.9
269.2 R 613 ✓
207.8 646 ✓ 1.07 ✓
272.4 L 125.9 ✓

208.2
7 59 27 272.4 L 64.2 ✓
206.9 63.4 ✓ 1.03 ✓
270.3 R 127.6 ✓

John C. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



October 22, 1895:

205.6 1.07 1.03

8 1 6 270.2 R 67.6
207.6 62.8 0.97
270.4 L 130.4

R + B

301.2
8 4 17 359.2 L 58.0
298.2 64.7 1.12
2.9 R 122.7

299.1
8 6 1 0.9 R 61.8
297.8 63.2 1.08
1.0 L 125.0

297.8
8 7 56 0.2 L 62.4
297.7 63.3 1.07
1.0 R 125.7 630
1.0

8 35 Tried new field glasses called the "Precedo" from Queen, the new pair of field glasses seemed to be very good indeed: images quite good and quite free from color: they seemed to be better than the Observatory pair.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 22, 1895.

| | | Obsti : | Phot R: | W: obs |
|---|---|---|---|---|
| 2 | | 4 | -2.5 | |
| 23 | | 10 | | |
| 2 | | 54 | | |
| 9 | | 6 | | |

c ○ 2 comp. star : in large telescope.
W: obs.

8 45 c ○ = comp. star : in finder but faint.
W: obs.

8 00 Cloudy

9 15 Still cloudy

9 45 Still cloudy ; worse

9 00 Thickly clouded : no chance for farther work

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531W

# Wednesday, October 23, 1895.

| | | | |
|---|---|---|---|
| B+C 1182 ± | 7 | 50 | 12.5 |
| Ballou 103 ± | 7 | 43 | 00 |

| | | | |
|---|---|---|---|
| B+C 1182 ± | 7 | 51 | 12.5 |
| Ballou 103 | 7 | 44 | 00 |

I Anderson. Fr. obs.

0 1K +26.1
22 1K
-2 0
10 0

Index to left and above

2A.6
91.0 62.4 ✓
32.3 55.6 1.24 ✓
A7.9 118.0 ✓

α Ł 10 ±

30.✓
A9.0 58.5 ✓
26.0 68.0 ✓ 1.05 ✓
9K.0 126.5 ✓

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct 23, 1895.

Index to right and below

| | | | |
|---|---|---|---|
| | 119.9 | | |
| | 17~~1~~.0 | 55.1 ✓ | |
| 121.2 | ~~174.8~~ | 53.6 ✓ | 1.45 ✓ |
| | 174.8 | 108.7 ✓ | |

---

| | | | |
|---|---|---|---|
| | 121.9 | | |
| 8 25? | 175.4 | 53.5 ✓ | |
| | 121.8 | 54.5 ✓ | 1.46 ✓ |
| 8 17.5 | 176.3 | 108.0 ✓ | |

| | | | |
|---|---|---|---|
| | 123.1 | | |
| 8 27? | 176.1 | 53.0 ✓ | |
| | 121.0 | 54.6 ✓ | 1.47 ✓ |
| | 175.6 | 107.6 ✓ | |

| | | | |
|---|---|---|---|
| | 120.4 | | |
| | 176.2 | 55.8 ✓ | |
| | 121.3 | 52.2 ✓ | 1.46 ✓ |
| | 173.5 | 108.0 ✓ | |

Clouds.

Index to left and above.

| | | | |
|---|---|---|---|
| | 203.8 | | |
| | ~~213.3~~ | 62.6 ✓ | |
| | 266.4 | 63.6 ✓ | 1.06 ✓ |
| | 207.0 | 126.2 ✓ | |
| | 270.6 | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..581w



Oct 23. 1895.

206.3
272.1
209.1
268.7

65.8 ✓
59.6 ✓
125.4 ✓

1.08 ✓

210.7
~~211.1~~
~~268.2~~
~~266.3~~
206.9
270.4

57.5 ✓
63.5 ✓
121.0 ✓

1.17 ✓

8 45 0
~~44~~ ~~20~~
8 28 0±
13 36.0

Clouds.

9

9 0 C 1 var var 3.5 a : in finder W : obs

Above notation of comp stars C and a is provisional one used in West Dome also, and is also to be found on fly sheet on back cover of book 3 : series T.

9 15 (8.8) (magn) 4 var : var 2 C : in West & equatorial W : obs

---

Miss Wells's Sus. Var.

20 31 +17.8

9 25 var 1 a : var 3.5 b : c 1 var, in West & equatorial. W : obs

9 35 var. 1.5 a : var 2 b : c 1 var. in West & equatorial. Cram obs

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...531w

Oct 23. 1895.

o Ceti : Phot R. : W : obs.

| | | |
|---|---|---|
| 2 | 4 | −2.5 |
| 0 | 18 | |
| 1 | 46 | |

Index above.

9 57 20

| | | |
|---|---|---|
| 101.0 | | |
| 186.5 | < comp star dia. | |
| | 85.5 ✓ | |
| 95.2 | 97.1 ✓ | |
| 192.3 | 182.6 ✓ | −0.05 ✓ |

| | | |
|---|---|---|
| 95.4 | | |
| | 98.6 ✓ | |
| 194.0 | 85.4 ✓ | |
| 101.8 | 184.0 ✓ | −0.08 ✓ |
| 187.2 | | |

| | | |
|---|---|---|
| 101.8 | | |
| | 83.6 ✓ | |
| 185.4 | 97.1 ✓ | |
| 96.4 | 180.7 ✓ | −0.01 ✓ |
| 193.5 | | |

Index below

| | | |
|---|---|---|
| 186.6 | | |
| | 97.1 ✓ | |
| 283.7 | 88.6 ✓ | |
| 191.6 | 185.7 ✓ | −0.11 ✓ |
| ~~277.0~~ | | |
| 280.2 | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 23. 1895.

| | | | |
|---|---|---|---|
| | 188.6 | | |
| | 278.5 | 89.9 ✓ | |
| | 185.9 | 97.0 ✓ | −0.13 ✓ |
| | 282.9 | 186.9 ✓ | |
| | | 173.1 | |
| | 186.4 | | |
| 10 9 5 | 282.7 | 96.3 ✓ | −0.14 ✓ |
| 10 3 12.5 | 189.0 | 91.0 ✓ | |
| | ~~279.8~~ | 187.3 ✓ | |
| | 280.0 | 172.7 | |

c var 1.5 comp star in ~~finder~~ W tels

10 20 large telescope

10 22 c Var = Comp. Star in finder (faint) Fr. obs.

S Cygni Fr. obs.

20 A +v 7.2

2v 10

+v 2

10 v2 0 3.v Var, var 1.v f

East 13.A in bar, tel. Fr. obs.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531W



Oct. 23. 1895 V.

H. P. 499. (Nick Leland's Var.) W. do.
Field Glass.

11 1A a 1 var., var. 3 b in ~~Field Gl.~~

John C. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..521W

Oct. 24. 1895.

T. androm: Phot T: Wiols.

| | | | |
|---|---|---|---|
| | 0 | 14 | +26.1 |
| | 21 | 54 | |
| | -2 | 20 | |
| | 9 | 40 | |

Index to left and above.

| | | | | |
|---|---|---|---|---|
| | | 207.9 | < comp. | star dis. |
| 7 | 33 | 24 | 267.9 | 60.0 ✓ |
| | | | 208.4 | 59.7 ✓ ±1.20 ✓ |
| | | | 268.1 | 119.7 ✓ |
| | 37 | 2 | 206.1 ~~207.3~~ | 63.2 ✓ |
| 7 | ~~38~~ | ~~53~~ | 269.3 ~~270.4~~ | 64.4 ✓ |
| | | | 206.8 ~~206.1~~ | 127.6 ✓ ±1.03 ✓ |
| | | | 271.2 | |
| | | | 208.1 | l |
| 7 | 38 | 48 | 269.9 | 61.8 ✓ |
| | | | 206.6 ~~204.8~~ | ~ 64.2 ✓ ±1.06 ✓ |
| | | | 270.8 | 126.0 ✓ |

Index to right and below.

| | | | | |
|---|---|---|---|---|
| | | 297.6 | ~ | |
| 7 | 42 | 5 | 0.8 | 63.2 ✓ |
| | | | 298.9 | l 60.5 ✓ ±1.11 ✓ |
| | | | 359.4 | 123.7 ✓ |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 24, 1895.

| | | | |
|---|---|---|---|
| 7 44 16 | 298 .7 | l | 62.1 ✓ |
| | 0 .8 | | 62.8 ✓ ≠1.09 ✓ |
| | 297 .8 | 2 | 124.9 ✓ |
| | 0 .6 | | |
| | 299.6 | 2 | |
| 7 45 56 | 1.1 | | 61.5 ✓ |
| 7 40 15,24 | 299.1 | l | 61.2 ✓ ≠1.13 ✓ |
| | 0.3 | | 122.7 |

u Cephei : Phot T : W. obs

| | | |
|---|---|---|
| 0 | 30 | +81.7 |
| 22 | 25 | |
| 2 | 5 | |

B+C #1182 Ballou's #103

Gh. $11^m$ $17.^s3$ = Gh. $4^m$ $0.^s0$

Comp. Star = 2 m. +21° 29 (4.6)

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..54W



Oct. 24. 1895

Index to left and above.

| | | | | | |
|---|---|---|---|---|---|
| | | 215.2 | < var dis | | |
| 8 | 19 | 56 | 263.0 | 47.8 ✓ | |
| | | 214.7 | 2 | +9.0 ✓ | 1.74 ✓ |
| | | 263.7 | | 96.8 ✓ | |
| | | 212.7 | 2 | 49.7 ✓ | |
| 8 | 23 | 3 | 262.4 | +7.8 ✓ | 1.72 ✓ |
| | | 216.2 | 1 | 97.5 ✓ | |
| | | 264.0 | | | |
| | | | Irr b. a | | |
| | | 214.7 | 1 | 50.4 ✓ | |
| 8 | 25 | 1 | 265.1 | 50.6 ✓ | 1.63 ✓ |
| | | 212.7 | 2 | 101.0 ✓ | |
| | | 263.3 | | | |
| | | 213.0 | 2 | 50.8 ✓ | |
| 8 | 27 | 19 | 263.8 | | |
| | | 214.6 | 1 | 48.1 ✓ | 1.68 ✓ |
| | | 262.7 | | 98.9 | |
| 8 | 23 | 0. | | | |
| | −7 | 17 | | | |
| 8 | 16 | 33. | | | |
| | | 212.0 | 1 a | | |
| 8 | 29 | 2 | 262.6 | 50.6 ✓ | |
| | | 211.3 | 2 | 51.7 ✓ | 1.60 ✓ |
| | | 263.0 | | 102.3 ✓ | ~~1.66~~ |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...531w



Oct. 24. 1895.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 212.2 | r | | | |
| 8 | 30 | 14 | 266.9 | | 54.7 ✓ | | |
| | | | 213.4 | l | 49.6 ✓ | 1.55 | |
| | | | 263.0 | | 104.3 ✓ | −1.58 | |
| | | | | II | r and a b | | |
| | | | 214.9 | l | | | |
| 8 | 31 | 54 | 264.1 | | 49.2 ✓ | | |
| | | | 213.0 | r | 52.8 ✓ | 1.61 ✓ | |
| | | | 265.8 | | 102.0 ✓ | | |
| | | | 211.5 | r | | | |
| | 33 | 15 | 265.4 | | 53.9 ✓ | | |
| 8. | 32 | 54 | 216.0 | l | 45.7 ✓ | 1.67 ✓ | |
| 8 | 31 | 6. | 261.7 | | 99.6 ✓ | −1.64 | |
| | −7 | 17. | | | | | |
| 8 | 23 | 49. | | | | | |
| | | | 213.2 | l b | 49.7 ✓ | | |
| 8 | 44 | 11 | 262.9 | | | | |
| | | | 211.3 | r | 55.2 ✓ | 1.54 ✓ | |
| | | | 266.5 | | 104.9 ✓ | | |
| | | | 212.0 | r | | | |
| 8 | 45 | 35 | 265.7 | | 53.7 ✓ | | |
| | | 215.1 | 216.3 | l | 48.0 ✓ | 1.61 ✓ | |
| | | | 263.1 | | 101.7 ✓ | −1.58 | |
| | | | | II | r and b. a | | |
| | | | 215.2 | l | | | |
| 8 | 47 | 24 | 263.2 | | 48.0 ✓ | | |
| | | 213.7 | 211.4 | r | 51.2 ✓ | 1.68 ✓ | |
| | | | 264.9 | | 99.2 ✓ | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..ssw



Oct. 24. 1895

| | | | | | |
|---|---|---|---|---|---|
| | 211.0 | a | | | |
| 8 49 26 | 265.3 | | 54.3 ✓ | | |
| A 46 39. | 215.2 | l | 48.2 ✓ | 1.60 ✓ | |
| -7 17. | 263.4 | | 102.5 ✓ | -1.64 | |
| A 39 22. | | | | | |
| | 213.0 | l | a | | |
| 8 50 57 | 262.6 | | 50.6 ✓ | | |
| | 211.6 | a | 53.0 ✓ | | |
| | 264.6 | | 103.6 ✓ | 1.57 ✓ | |
| | 212.0 | a | | | |
| 8 52 45 | 266.4 | | 54.4 ✓ | | |
| | 215.1 | l | 46.2 ✓ | 1.64 ✓ | |
| | 261.3 | | 100.6 ✓ | -1.60 | |
| | IV. | | l and a. b | | |
| | 214.2 | l | | | |
| 8 54 0 | 262.8 | | 48.6 ✓ | | |
| | 212.0 | a | 53.1 ✓ | 1.61 ✓ | |
| | 265.1 | | 101.7 ✓ | | |
| | 211.5 | a | 53.9 ✓ | | |
| 8 55 25 | 265.4 | | 49.1 ✓ | 1.58 ✓ | |
| A 53 17. | 212.6 | l | 103.0 ✓ | -1.60 | |
| -7 17. | 261.7 | | | | |
| A 46 0. | | | | | |
| | 213.6 | l | b | | |
| 9 4 24 | 265.0 | | 51.4 ✓ | | |
| | 213.1 | a | 51.9 ✓ | 1.58 ✓ | |
| | 265.0 | | 103.3 | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct 24, 1895

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 213.3 | λ | | | |
| 9 | 5 | 47 | | 263.8 | 50.5 ✓ | |
| | | | | 213.3 | λ 52.3 ✓ | 1.59 ✓ |
| | | | | 265.6 | 102.8 ✓ | −1.58 |
| | | | V | rand b. a | | |
| | | 216.5 | l | | | |
| 9 | 7 | 8 | | 263.7 | 47.2 ✓ | |
| | | | | 212.9 | λ 52.5 ✓ | 1.66 ✓ |
| | | | | 265.4 | 99.7 ✓ | |
| | | 211.2 | λ | | | |
| 9 | 8 | 25 | | 266.0 | 54.7 ✓ | |
| 9 | 6 | 25. | | 215.7 | l 48.1 ✓ | 1.59 ✓ |
| 9 | 7 | 12. | | 263.8 | 102.8 ✓ | −1.62 |
| 9 | 59 | 8. | | | | |
| | | 214.5 | l a | | | |
| 9 | 9 | 45 | | 264.1 | 49.6 ✓ | |
| | | | | 213.4 | λ 50.8 ✓ | 1.65 ✓ |
| | | | | 264.2 | 100.4 ✓ | |
| | | 212.9 | λ | | | |
| 9 | 11 | 8 | | 266.0 | 53.1 ✓ | |
| | | | | 214.4 | l 48.6 ✓ | 1.61 ✓ |
| | | | | 263.0 | 101.7 ✓ | −1.63 |
| | | | VI | land a. b | | |
| | | 215.2 | l | | | |
| 9 | 12 | 27 | | 263.7 | 48.5 ✓ | |
| | | | | 211.4 | λ 52.9 ✓ | 1.62 ✓ |
| | | | | 264.3 | 101.4 ✓ | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...mw



Oct. 24, 1895

| | | | | | | |
|---|---|---|---|---|---|---|
| 9 | 13 | 45 | | 212.3 | ∧ | |
| | | | | 264.6 | | 52.3 ✓ |
| 9 | 11 | 46. | | 214.9 | l | 49.1 ✓ 1.62 ✓ |
| | −7 | 17. | | 264.0 | | 101.4 ✓ −1.62 |
| 9 | 4 | 29. | | | | |
| | | | | 214.4 | l | a |
| 9 | 26 | 35 | | 264.3 | | 49.9 ✓ |
| | | | | 212.2 | ∧ | 53.7 ✓ 1.57 ✓ |
| | | | | 265.9 | | 103.6 ✓ |
| | | | | 210.3 | ∧ | |
| 9 | 28 | 24 | | 266.0 | | 55.7 ✓ |
| | | | 213.5 | ~~216.9~~ | l | 50.3 ✓ 1.51 ✓ |
| | | | | 263.8 | | 106.0 ✓ −1.54 |
| | | | | VII | | r and b: a |
| | | | | 214.2 | l | |
| 9 | 30 | 14. | | 264.8 | | 50.6 ✓ |
| | | | | 211.2 | ∧ | 55.7 ✓ 1.50 ✓ |
| | | | | 267.0 | | 106.3 ✓ |
| | | | | 210.2 | ∧ | |
| 9 | 31 | 41 | | 267.0 | | 56.8 ✓ |
| 9 | 29 | 14. | | 213.1 | l | 52.9 ✓ 1.42 ✓ |
| | −7 | 17. | | 266.0 | | 109.7 ✓ −1.46 |
| 9 | 21 | 57. | | | | |
| | | | | 214.7 | l | a |
| 9 | 33 | 9 | | 263.6 | | 48.9 ✓ |
| | | | | 211.9 | ∧ | 52.3 ✓ 1.63 ✓ |
| | | | | 264.2 | | 101.2 ✓ |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..53iw



Oct. 24, 1895.

| | | | | | |
|---|---|---|---|---|---|
| | 212.3 | ∧ | | | |
| 9 34 20 | 266.0 | | 53.7 ✓ | | |
| | 215.0 | l | 48.7 ✓ | 1.60 ✓ | |
| | 263.7 | | 102.4 ✓ | −1.62 | |
| | VIII | | l and a. b | | |
| | 213.4 | l | | | |
| 9 35 51 | 263.3 | | 49.9 ✓ | | |
| | 212.4 | ∧ | 54.4 ✓ | 1.55 ✓ | |
| | 266.8 | | 104.3 ✓ | | |
| | 211.3 | ∧ | | | |
| 9 38 10 | 265.5 | | 54.2 ✓ | | |
| 9 3r 25. | 214.0 | l | 50.0 ✓ | 1.55 ✓ | |
| −7 17. | 264.0 | | 104.2 ✓ | −1.vv | |
| 9 20 A. | | | | | |
| | 213.4 | l | b | | |
| 9 49 5 | 264.4 | | 51.0 ✓ | | |
| | 213.1 | ∧ | 53.6 ✓ | 1.54 ✓ | |
| | 266.7 | | 104.6 ✓ | | |
| | 212.2 | ∧ | | | |
| 9 50 26 | 265.9 | | 52.7 ✓ | | |
| | 213.0 | l | 52.8 ✓ | 1.50 ✓ | |
| | 265.8 | | 105.5 ✓ | −1.v2 | |
| | IX | | l r and b. a | | |
| | 214.7 | l | | | |
| 9 51 52 | 264.7 | | 50.0 ✓ | | |
| | 211.4 | ∧ | 55.6 ✓ | 1.52 ✓ | |
| | 267.0 | | 105.6 ✓ | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 24, 1895

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 212.4 | λ | | | |
| 9 | 53 | 5 | 265.0 | | 52.6 | | |
| 9 | 51 | 7. | 213.2 | l | 52.2 | | 1.54 |
| | −7 | 17. | 265.4 | | 104.8 | | −1.53 |
| 9 | 43 | 50. | | | | | |
| | | | 213.8 | l | a | | |
| 9 | 54 | ~~55~~ 50 | 264.0 ~~263.2~~ | | ~~1.~~ | | |
| | | | 211.2 | λ | 50.2 | | |
| | | | 266.5 | | 55.3 | | 1.52 |
| | | | | | 105.5 | | |
| | | | 210.6 | λ | | | |
| 9 | 55 | 55 | 266.5 | | 55.9 | | |
| | | | 213.7 | l | 49.3 | | 1.53 |
| | | | 263.0 | | 105.2 | | −1.52 |
| | | | X | | Land a. b | | |
| | | | 213.5 | l | | | |
| 9 | 57 | 8 | 264.0 | | 50.5 | | |
| | | | 210.0 | λ | 55.2 | | 1.52 |
| | | | 265.2 | | 105.7 | | |
| | | | 211.1 | λ | | | |
| 9 | 58 | 12 | 265.7 | | 54.6 | | |
| 9 | 46 | 24. | 215.0 | l | 49.0 | | 1.57 |
| | −7 | 17 | 264.0 | | 103.6 | | −1.54 |
| 9 | 39 | 11. | | | | | |
| | | | 212.8 | l | b | | |
| 10 | 13 | 34 | 265.0 | | 52.2 | | |
| | | | 211.1 | λ | 54.1 | | 1.50 |
| | | | 265.2 | | 106.3 | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...531w



Oct 24, 1895.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | 211.0 | ν | | | |
| 10 | 14 | 58 | 266.8 | | 55.8 | |
| | | | 213.0 | ι | 52.6 | 1.45 |
| | | | 265.6 | | 108.4 | −1.KR |

XI rand b. a

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 213.5 | ι | | |
| 10 | 16 | ~~36~~ 37 | 264.0 ~~263.0~~ | | 50.5 | |
| | | | 211.5 | ν | 55.2 | 1.52 |
| | | | 266.7 | | 105.7 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 211.2 | ν | | |
| 10 | 17 | 44 | 265.5 | | 54.3 | |
| 10 | 17 | 42 | 211.6 | ι | 52.8 | 1.49 |
| | −7 | 12 | 264.4 | | 107.1 | −1.50 |
| 10 | 0 | 25. | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 213.0 | ι | a | |
| 10 | 18 | 46 | 266.5 | | 53.5 | |
| | | | 209.4 | ν | 56.1 | 1.43 |
| | | | 265.5 | | 109.6 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 210.5 | ν | | |
| 10 | 20 | 2 | 266.8 | | 56.3 | |
| | | | 213.7 | ι | 51.1 | 1.48 |
| | | | 264.2 | | 107.4 | −1.46 |

XII landa. b

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 213.4 | ι | | |
| 10 | 21 | 31 | 264.1 | | 50.7 | |
| | | | 209.5 | ν | 57.2 | 1.47 |
| | | | 266.7 | | 107.9 | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531W



Oct. 24, 1895.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 210.0 | ∩ | | | |
| 10 | 22 | 48 | 266.8 | | 56.8 | | |
| 10 | 20 | 47. | 213.1 | l | 51.0 | 1.147 | |
| | −7 | 17. | 264.1 | | 107.8 | 1.147 | |
| 10 | 13 | 30. | | | | | |
| | | | 209.9 | l | b | | |
| 10 | 41 | 57 | 271.0 | | 61.1 | | |
| | | | 208.7 | ∩ | 58.3 | 1.121 | |
| | | | 267.0 | | 119.4 | | |
| | | | 207.2 | ∩ | | | |
| 10 | 43 | 37 | 269.8 | | 62.6 | | |
| | | | 210.7 | l | 56.4 | 1.121 | |
| | | | 267.1 | | 119.0 | −121 | |
| | | | XIII | | r and b, a | | |
| | | | 210.7 | l | | | |
| | | | 268.7 | | 58.0 | | |
| 10 | 45 | 28 | 207.9 | ∩ | 62.2 | 1.119 | |
| | | | 270.1 | | 120.2 | | |
| | | | 206.1 | ∩ | | | |
| 10 | 47 | 8 | 271.0 | | 64.9 | 1.18 | |
| 10 | 44 | 32. | 209.2 | l | 55.8 | −118 | |
| | −7 | 17. | 265.0 | | 120.7 | | |
| 10 | 37 | 15. | | | | | |
| | | | 212.8 | l | a | | |
| 10 | 49 | 18 | 265.7 | | 52.9 | | |
| | | | 208.1 | ∩ | 60.7 | 1.34 | |
| | | | 268.8 | | 113.6 | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 24, 1895.

| | | | | | |
|---|---|---|---|---|---|
| | | 206.4 | 1 | | |
| 10 | 50 | 53 | 268.4 | | 62.0 ✓ | |
| | | | 211.0 | 1 | 54.3 ✓ | 1.27 ✓ |
| | | | 265.3 | | 116.3 ✓ | −1.30 |
| | | | XIV | | land a. b | |
| | | | 211.6 | 1 | | |
| 10 | 52 | 28 | 265.8 | | 54.2 ✓ | |
| | | | 208.7 | 1 | 58.3 ✓ | 1.36 ✓ |
| | | | 267.0 | | 112.5 ✓ | |
| | | | 206.6 | 1 | | |
| 10 | 54 | 5 | 268.6 | | 62.0 ✓ | |
| 10 | 51 | 41. | 212.0 | 1 | 54.0 ✓ | 1.28 ✓ |
| | −7. | −7. | 266.0 | | 116.0 ✓ | −1.32 |
| 10 | 44 | 24. | | | | |
| | | | 211.2 | 1 | b | |
| 11 | 1 | 24 | 269.5 | | 58.3 ✓ | |
| | | | 209.9 | 1 | 58.1 ✓ | 1.26 ✓ |
| | | | 268.4 | | 116.8 ✓ | |
| | | | 207.2 | 1 | | |
| 11 | 2 | 56 | 270.1 | | 62.8 ✓ | |
| | | | 210.2 | 1 | 58.4 ✓ | 1.17 ✓ |
| | | | 268.6 | | 121.2 ✓ | −1.22 |
| | | | XV | | r and b. a | |
| | | | 210.9 | 1 | | |
| 11 | 4 | 21 | 268.9 | | 58.0 ✓ | |
| | | | 206.1 | 1 | 64.3 ✓ | 1.14 ✓ |
| | | | 220.14 | | 122.3 ✓ | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531W



Oct. 24, 1895.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 207.6 | r | | | | |
| | | | | | 62.6 ✓ | | | |
| 11 | 5 | 52 | 270.2 | | | | | |
| | | | | l | 55.5 ✓ | 1.123 ✓ | | |
| 11 | 3 | 34. | 211.5 | | 118.1 ✓ | | | |
| | | | 267.0 | | | −1.12 | | |
| 10 | 56 | 20. | | | | | | |
| | | | 209.9 | l | a | | | |
| | | | | | 58.4 ✓ | | | |
| 11 | 7 | 40 | 268.3 | | | | | |
| | | | 206.0 | r | 64.3 ✓ | 1.13 ✓ | | |
| | | | 270.2 | | 122.7 ✓ | | | |
| | | | 204.8 | r | | | | |
| | | | | | 66.2 ✓ | | | |
| 11 | 9 | 9 | 271.0 | | | | | |
| | | 211.3 | ~~210.0~~ | l | 56.2 ✓ | 1.14 ✓ | | |
| | | | 267.5 | | 122.4 ✓ | −1.14 | | |
| | | | XVI | | | | | |
| | | | 210.0 | l | | | | |
| | | | | | 57.0 ✓ | | | |
| 11 | 10 | 40 | 267.0 | | | | | |
| | | | 205.8 | r | 64.6 ✓ | 1.16 ✓ | | |
| | | | 270.4 | | 121.6 ✓ | | | |
| | | | 204.0 | r | | | | |
| | | | | | 67.3 ✓ | | | |
| 11 | 11 | 51. | 271.2 | | | | | |
| | | | | l | 57.6 ✓ | 1.09 ✓ | | |
| 11 | 9 | 70. | 210.4 | | 124.9 ✓ | | | |
| | 7 | 18. | 268.0 | | | −1.12 | | |
| 11 | 2 | 32. | | | | | | |
| | | | 210.2 | l | b | | | |
| | | | | | 56.6 ✓ | | | |
| 11 | 16 | 18 | | | | | | |
| | 15 | 58 | 266.8 | ~~266.0~~ | | | | |
| | | | 207.1 | r | 61.9 ✓ | 1.20 ✓ | | |
| | | | | | 118.5 ✓ | | | |
| | | | 269.0 | | | | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 24, 1895

| | | | | | |
|---|---|---|---|---|---|
| | 205.4 | r | | | |
| 11 17 38 | 271.0 | | 65.6 ✓ | | |
| | 211.0 | l | 55.0 ✓ | 1.18 ✓ | |
| | 266.0 | | 120.6 ✓ | -1.20 | |
| | XVII | | r and b. a | | |
| | 211.8 | l | | | |
| 11 18 45 | 269.6 | | 57.8 ✓ | | |
| | 205.2 | r | 67.3 ✓ | 1.08 ✓ | |
| | 272.5 | | 125.1 ✓ | | |
| | 204.8 | r | | | |
| 11 20 15 | 271.0 | | 66.2 ✓ | | |
| 11 10 18. | 210.2 | l | 60.4 | 1.05 ✓ | |
| -7 10. | 270.6 | | 126.6 ✓ | 1.06 | |
| 11 10 ✓6. | | | | | |

B. & C. #1182. Ballou #102.

~~11h 9m 5s = 11h 24m 0s.0~~

Beat at 0s.0 failed on Ballou #102.

11h 34m 17s.6 = 11h 27m 0s.0

11 34 17.6

B+C #1182 is 7m 17s.6 fast.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 24. 1895.

Enif. Stella Susp. Var. Fr. obs.

20 31 +17.4

~~a 1 Var.~~
~~c 1.V~~

11h 40m ± Var. 1 a
c 1.V var.
Var. 3 b
} in Grat Eq. Fr. obs.

H. P. 499. (Celandi Susp. Var.)

11h ??m ± a 1 Var., Var. 3 b in ~~Grat Eq.~~ Field Glass / Fr. obs.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 25. 1895.

| T. androm : | Phot. T : | W : obs. |
|---|---|---|
| 0 | 14 | +26.1 |
| 22 | 8 | |
| 12 | 6 | |
| 9 | 54 | |

Index above.

| | | | |
|---|---|---|---|
| | 208.4 | | |
| | 269.0 | 60.6< | |
| 7 47 22 | 208.0 | 61.0< | 1.16< |
| | 269.0 | 121.6< | |

| | | | |
|---|---|---|---|
| | 207.9 | | |
| | 268.8 | 60.9< | |
| 7 49 34 | 207.3 | 61.9< | 1.13< |
| | 269.2 | 122.8< | |

| | | | |
|---|---|---|---|
| | 208.2 | | |
| | 270.1 | 61.9< | |
| 7 51 17 | 207.8 | 61.9< | 1.11< |
| | 269.7 | 123.8< | |

Index below.

| | | | |
|---|---|---|---|
| | 297.8 | | |
| | 361.1 | 63.3< | |
| 7 54 9 | 299.1 | 60.3< | 1.11< |
| | 359.4 | 123.6< | |

John C. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531W



Oct. 25. 1895.

| | | | | | |
|---|---|---|---|---|---|
| | | | 297.0 | | |
| 7 | 56 | 30 | 360.0 | 63.0 < | |
| | | | 296.4 | 66.4 < | 0.99 ✓ |
| | | | 2.8 | 129.4 < | |
| | | | 298 .5 | | |
| 7 | 58 | 28 | 362 .4 | 63.9 ✓ | |
| | | | 299 .5 | 60.4 ✓ | 1.10 ✓ |
| | | | 359 .9 | 124.3 ✓ | |
| | | | 301 .2 | | |
| 8 | 4 | 28 | 358 .7 | 57.5 ✓ | |
| 7 | 56 | 32.6 | 297 .8 | 64.0 ✓ | 1.16 ✓ |
| | | | 361 .8 | 121.5 ✓ | |

10 Eri : Phot R: W. obs

2 4 -2.5

22 36

10 28

8 32

Index above.

| | | | | | |
|---|---|---|---|---|---|
| | | | 280 .5 | | |
| 8 | 31 | 29 | 5 .4 | < comp star dis | |
| | | | 278 .1 | 84.9 ✓ | |
| | | | 7 .7 | 89.6 ✓ | 0.10 ✓ |
| | | | | 174.5 ✓ | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



8 31 29 Oct. 25. 1895.

0.10

~~8~~

| | | | | |
|---|---|---|---|---|
| 8 | 33 | 45 | 280.1 | 85.9 ✓ |
| | | | 6.0 | 85.6 ✓ 0.16 ✓ |
| | | | 280.3 | 171.5 ✓ |
| | | | 5.9 | |
| | | | 283.3 | |
| 8 | 35 | 54 | 6.9 | 83.6 ✓ |
| | | | 288.9 | 80.5 ✓ 0.30 ✓ |
| | | | 9.4 | 164.1 ✓ |

Index below.

| | | | | |
|---|---|---|---|---|
| 8 | ~~43~~ 44 | ~~54~~ 54 | ~~+3.1~~ | 11.1 |
| | | | ~~94.4~~ | 95.1 |
| | | | ~~+7.1~~ | 6.3 |
| | | | ~~+05.6~~ | 101.9 |

84.0 ✓
95.6 ✓
179.6 ✓ 0.01 ✓

| | | | | |
|---|---|---|---|---|
| 8 | 45 | 41 | 4.9 | |
| | | | 101.8 | 96.9 ✓ |
| | | | 15.0 | 79.9 ✓ 0.06 ✓ |
| | | | 94.9 | 176.8 ✓ |
| | | | 12.0 | |
| 8 | 47 | 08 | 95.9 | 83.9 ✓ |
| | | | 3.2 | 97.0 ✓ −0.02 ✓ |
| 8 | 39 | 40.2 | 100.2 | 180.9 ✓ +0.63 |
| | | | | 179.1 −0.02 |
| | | | | 6 0.61 |
| | | | | +0.10 |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531W



Oct. 25. 1895.

Σ 1193 : Phot R. W: obs.

| | | |
|---|---|---|
| 8 | 7 | +72.8 |
| 23 | 45 | |
| 8 | 22 | |
| 3 | 38 | |

Position angle = 280°: distance = +5"
magn. = 6.0 and 9.2

131.0 Index ~~behind~~ to right + below.
~~+132.2 +131.1~~ ← brighter Dis.

28 45
~~25 11~~ 155.2 ~~+153.3~~ 24.2 ✓
133.0 20.8 ✓ 3.51 ✓
~~32 153.8~~ 45.0 ✓

132.8
153.5 20.7 ✓
131.2 23.7 ✓ 3.54 ✓
~~+111.9~~ 154.9 assumed. 44.4 ✓

132.0
154.8 22.8 ✓
133.4 20.6 ✓ 3.59 ✓
154.0 43.4 ✓ 3.55

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



9 28 45

Oct. 25. 1895.

3 51
54
59

Index to left and above.

| | | |
|---|---|---|
| 221.8 | | |
| 243.2 | 21.4 ✓ | |
| 222.0 | 22.7 ✓ | 3.55 ✓ |
| 244.7 | 44.1 ✓ | |
| | | |
| 221.7 | | |
| 244.0 | 22.3 ✓ | |
| 223.0 | 20.0 ✓ | 3.64 ✓ |
| 243.0 | 42.3 ✓ | |
| | | |
| 221.8 | | |
| 242.8 | 21.0 ✓ | 3.64 ✓ |
| 222.0 | 21.3 ✓ | ~~3.24~~ |
| 243.2 | 42.3 ✓ | ~~3.54~~ |
| | Mean = 21.8 | 3.61 |

9 39 52
2 68 17
9 34 8.5

Last reading in 2nd set above was undoubtedly wrong by 10° in the reading; reading is being very difficult from fact that lantern had to be used and some of electric lamp apparatus was in the way.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 25, 1895.

N 12′ : 323, Faint B : Phot R : Wisps

| | | |
|---|---|---|
| 4 | 54 | +26.5 |
| 10 | 18 | |
| 14 | 36 | |
| 7 | 24 | |

Index to left.

| | | |
|---|---|---|
| 209.0 | ← brightish | |
| 263.3 | r K.3 ✓ | |
| 207.5 | | |
| 258.2 | r 0.7 ✓ | 1.r K ✓ |
| | 10 r.0 ✓ | |

| | | |
|---|---|---|
| 206.3 | r 0.7 ✓ | |
| 257.0 | | |
| 200.2 | 66.3 ✓ | |
| 266.5 | 117.0 ✓ | 1.26 ✓ |

| | | |
|---|---|---|
| 202.0 | 61.A ✓ | |
| 263.8 | | |
| 204.3 | r r.6 ✓ | |
| 259.9 | 117.K ✓ | 1.2r ✓ |
| | | 10r |
| | | 1.3r |

Index to right.

| | | |
|---|---|---|
| 300.5 | K2.A ✓ | |
| 343.3 | | |
| 286.3 | 64.7 ✓ | blends |
| 355.0 | 111.r ✓ | 1.3A ✓ |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 25. 1895.

294.0
356.0 62.0 ✓
299.0 57.2 ✓
344.2 107.2 ✓ 1.FA ✓

10 33 38
300.0
345.9 45.9 ✓
288.9 70.1 ✓
359.0 116.0 ✓ 1.2 A ✓ mean = 1.36
1.38

Position angle = 160° : distance = 7.5"
magn = 6.0 and 7.4

Σ634 : Camel. 19. Stw: Phot R: W: obs:

5 2 +79.1
1 8
3. 54
8 6

Position angle = 0° : distance =
~5" : magn = 4.0 and 8.3
Clouds.

John C. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 25. 1895.

Index above to left and above.

| | | |
|---|---|---|
| 221.2 | | |
| 242.4 | 21.2 ✓ | |
| 218.5 | 20.0 ✓ | |
| 243.5 | 41.2 ✓ | 3.4 ✓ |

| | | |
|---|---|---|
| 221.5 | | |
| 243.0 | 21.5 ✓ | |
| 221.0 | 21.0 ✓ | |
| 242.0 | 42.5 ✓ | 3.63 ✓ |

| | | |
|---|---|---|
| 221.7 | | |
| 242.4 | 20.7 ✓ | |
| 221.3 | 24.8 ✓ | |
| 246.1 | 46.9 ✓ | ~~3.4~~ 3.4 ✓ |

.156
.052

Index to right and below

| | | |
|---|---|---|
| 310.2 | | |
| 325.8 | 16.6 ✓ | |
| 313.2 | 19.2 ✓ | |
| 333.0 | 35.4 ✓ | 4.0 ✓ |

| | | |
|---|---|---|
| 312.9 | | |
| 332.2 | 19.3 ✓ | |
| 308.6 | 29.1 ✓ | |
| 337.7 | 48.4 ✓ | 3.3 ✓ |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae..proj...531W



Oct. 25. 1895.

| | | | |
|---|---|---|---|
| | 309.9 | | |
| 11 1 23 | 336.3 | 26.4 v | |
| | 311.9 | 21.6 v | |
| | 333.5 | | |
| | | 48.0 v | 3.36 v |

10.74 B.D.S

In all the observations this evening. B & C. 11h2 was used for time. Mean -3.53

Wells. Susp. Var.
20 31 +17.2

11 2 Var. 1 a
c 1.5 Var.
Var. 2.5 b
} in East Eq. Cr. obs.

11 14 a 1 Var.
Var. 1 b
c 2 Var.
} in East Eq. Crawford obs.

Above region rather low and above estimates not fully satisfactory.

B+C. #1182. Ballou #103

$11^h\ 28^m\ 23.^s4 = 11^h\ 21^m\ 0.^s0$

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 26. 1895.

B. + C. #1182. Ballou #103

$6^h\ 29^m\ 28^s.4 = 6^h\ 22^m\ 0^s.0$

T. Andrews : Phot T : W: obs

| | | |
|---|---|---|
| 0 | 14 | +26.1 |
| 21 | 4 | |
| −3 | 10 | |
| 8 | 50 | |

Index to left and above.

31.9 < comp. stands

| | | | |
|---|---|---|---|
| 6 | 54 | 0 | 89.1 57.2 < |
| | | | 32.8 53.8 < 1.39 < |
| | | | 86.6 111.0 < |
| | | | 31.6 |
| 6 | 56 | 18 | 86.5 54.9 < |
| | | | 28.8 61.5 < 1.27 < |
| | | | 90.3 116.4 < |
| | | | 30.7 |
| 6 | 58 | 33 | 89.0 58.3 < |
| | | | 31.9 56.3 < 1.31 < |
| | | | 88.2 114.6 < |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...531w



Oct. 26. 1895.

Index to right and below.

| | | | | |
|---|---|---|---|---|
| | | 121.8 | | |
| 7 | 1 | 42 | 174.4 | 52.6 < |
| | | | 122.9 | 50.4 < 1.58 < |
| | | | 173.3 | 103.0 < |
| | | | 123.0 | |
| 7 | 3 | 49 | 175.6 | 52.6 < |
| | | | 121.8 | 54.2 < 1.49 < |
| | | | 176.0 | 106.8 < |
| | | | 123.4 | |
| 7 | 5 | 39 | 175.4 | 52.0 < |
| | | | 122.3 | 53.7 < 1.52 < |
| | | | 176.0 | 105.7 < |
| 6 | 59 | 59.8 | | |

Same repeated.

Index to left and above.

| | | | | |
|---|---|---|---|---|
| | | 210.6 | < comp from dis. | |
| 7 | 23 | 2 | 269.3 | 58.7 < |
| | | | 211.8 | 55.2 < 1.33 < |
| | | | 267.0 | 113.9 < |
| | | | 211.7 | |
| 7 | 26 | 0 | 265.0 | 53.3 < |
| | | | 208.2 | 60.4 < 1.33 < |
| | | | 268.6 | 113.7 < |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 26. 1895.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 209.3 | | | |
| 7 | ~~27~~ 29 | ~~53~~ 0 | 270.6 | ~~267.4~~ | 61.3 < | |
| | | | | 210.4 | ~~55.8~~ < | 1.26 < |
| | | | | 266.2 | 117.1 < | |

Index to right and below.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 301.5 | | | |
| 7 | 32 | 45 | 359.1 | | 57.6 < | |
| | | | | 301.6 | ~~57.4~~ < | 1.30 < |
| | | | | 359.0 | 115.0 < | |
| | | | | | | |
| | | | 302.0 | | 57.9 < | |
| 7 | 35 | 30 | 359.9 | ~~356.7~~ | ~~59.2~~ < | 126 < |
| | | | | 300.8 | 117.1 < | |
| | | | | 360.0 | | |
| | | | | | | |
| | | | 299.8 | | | |
| 1 | 37 | 20 | | 1.6 | 61.8 < | |
| 7 | 30 | 36.2 | 299.8 | | ~~59.2~~ < | 1.17 < |
| | | | 359.0 | | 121.0 < | |

In first series ~~position~~ position of observer constrained ~~on chair~~; then observer waited a little until he could observe naturally from the floor with result that the last series is much better and more accordant: as images were seen better and more naturally. First series ought to be rejected

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 26. 1895.

7 40 Clouds.

Σ 307 : η Per : Phot R : Wds

2 41 +55.4
22 25
-4 16
7 44

Index to left and above.

| | | | | |
|---|---|---|---|---|
| | | 316.0 ~~+5.4~~ | | Clouds |
| 8 | 26 | 46 | 327.2 | 11.2 < 4.8 v |
| | | | 314.3 | 13.3 < ~~4.8~~ |
| | | | 327.6 | 24.5 < |
| | | | 313.2 | |
| 8 | 29 | 5 | 328.5 | 15.3 < |
| | | | 315.5 | 12.8 < 4.55 < |
| | | | 328.3 | 28.1 < |
| | | | 316.2 | |
| 8 | 30 | 57 | 327.3 | 11.1 < 4.79 < |
| | | | 314.2 | 14.1 < |
| | | | 328.3 | 25.2 < |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 26. 1895.

Index to right and below.

| | | | | |
|---|---|---|---|---|
| | | 44.3 | | |
| 8 | 33 | 45 | 56.4 | 12.1 |
| | | | 44.8 | 12.9 |
| | | | 57.7 | 25.0 |
| | | | | 4.80 |
| | | | 43.8 | |
| 8 | 35 | 33 | 58.1 | 14.3 |
| | | | 46.1 | 10.8 |
| | | | 56.9 | 25.1 |
| | | | | 4.79 |
| | | | 45.7 | |
| 8 | 37 | 23 | 56.9 | 11.2 |
| | | | 44.4 | 13.2 |
| | | | 57.6 | 24.4 |
| | 193 | 141 | | |
| | 32 | 17 | | |
| | | | | 4.86 |

Position angle = 290 ; distance = 25"
magn. = 4.2 and 8.5.

Σ 12' 323 Jami B: Phot. R: Wds

| | | |
|---|---|---|
| 4 | 54 | 26.5 |
| 22 | 15 | |
| 5 | 39 | |
| 6 | 21 | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 26. 1895.

Position angle = 160° : distance = 7.5"
magn. = 6.0 and 7.4

Index to right.

| | | | |
|---|---|---|---|
| | 99.7 | < brighter dia | |
| 8 50 32 | 177.7 | 78.0 < | 0.88 < |
| | 108.7 | 56.9 < | |
| | 165.6 | 137.9 < | |
| | 110.2 | 57.8 < | |
| 8 | 168.0 | | |
| | 97.4 | 79.8 < | 0.82 < |
| | 177.2 | 137.6 < | |
| | 98.7 | | |
| | 177.2 | 78.5 < | |
| | 109.6 | 58.4 < | 0.84 < |
| | 168.0 | 136.9 < | 0.85 |

Index to left.

| | | |
|---|---|---|
| 204.9 | | |
| 259.1 | 54.2 < | 1.36 < |
| 203.1 | 58.4 < | |
| 261.5 | 112.6 < | |
| 205.0 | 64.6 < | 1.14 < |
| 269.6 | 58.0 < | |
| 205.2 | 122.6 < | |
| 263.2 | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 26. 1895.

| | | | | | |
|---|---|---|---|---|---|
| 8 | 57 | 32 | 205.3 ~~265.0~~ | 59.7 < | |
| 8 | 59 | 50 | 265.0 | 58.3 < | 1.24 < |
| 2 | 110 | 22 | 204.5 | 118.0 < | |
| 8 | 55 | 11 | 262.8 | | |

74

1.25

Mean = 1.25

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 28. 1895.

F. androm: Phot. F: W: obs

| | | |
|---|---|---|
| 0 | 14 | +26.1 |
| 22 | 14 | |
| −2 | 0 | |
| 10 | 0 | |

Index to left and above.

210.0

7 47 24 — comp. star dis

| | | |
|---|---|---|
| 269.6 | 59.6 < | 1.22 < |
| 211.0 | 59.2 < | |
| 270.2 | 118.8 < | |

209.7

7 49 40

| | | |
|---|---|---|
| 268.8 | 59.1 < | 1.26 < |
| 209.9 | 57.8 < | |
| 267.7 | 116.9 < | |

212.4

7 53 28

| | | |
|---|---|---|
| 266.4 | 54.0 < | 1.31 < |
| 207.9 | 60.6 < | |
| 268.5 | 114.6 < | |

Index to right and below

301.4

8 0 9

| | | |
|---|---|---|
| 359.9 | 58.5 < | 1.32 < |
| 302.4 | 55.6 < | |
| 358.0 | 114.1 < | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 28. 1895.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 303.4 | | | |
| 8 | 2 | 9 | 358.4 | 55.0 < | | |
| | | | 299.4 | 60.9 < | 1.28 < | |
| | | | 360.3 | 115.9 < | | |
| | | | 301.9 | | | |
| 8 | 4 | 37 | 360.4 | 58.5 < | | |
| | | | 301.2 | 55.1 < | 1.34 < | |
| 7 | 56 | 15.33 | 356.3 | 113.6 < | | |
| | | | 300.0 | | | |
| 8 | 6 | 24 | 357.4 | 57.4 < | | |
| | | | 300.4 | 63.1 < | 1.18 < | |
| | | | 3.5 | 120.5 < | | |
| | | | 298.2 | | | |
| 8 | 7 | 40 | 0.4 | 62.2 < | | |
| | | | 303.0 | 54.8 < | 1.26 < | |
| | | | 357.8 | 117.0 < | | |
| | | | 300.9 | | | |
| 8 | 9 | 33 | 356.0 | 55.1 < | 1.34 < | |
| | | | 300.1 | 58.1 < | | |
| | | | 358.2 | 113.2 < | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..594w



Oct. 28. 1895

Index to left and above.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 214.3 | | | |
| 8 | ~~14~~ 15 | ~~0~~ 30 | 265.1 | ~~268.2~~ | 50.8 < | |
| | | | | 210.1 | 58.8 < | 1.43 < |
| | | | | 268.9 | 109.6 < | |
| | | | | 210.1 | | |
| 8 | 15 | 24 | | 268.1 | 58.0 < | |
| | | | | 210.6 | 57.5 < | 1.29 < |
| | | | | 268.1 | 115.5 < | |
| | | | | 208.9 | | |
| 8 | 17 | 24 | | 267.3 | 58.4 < | |
| 8 | 11 | 45.83 | 210.3 | ~~211.5~~ | 57.5 < | 1.28 < |
| | | | | 267.8 | 115.9 < | |

B. + O. #1182: Ballou #103:

$8^h\ 30^m\ 42^s.7 = 8^h\ 23^m\ 0^s.0$

B + O. #1182 used for Eastern time of settings throughout this evening.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 28. 1895.

Σ 318: 20 Per: Phot R: W: obs.

| | | |
|---|---|---|
| 2 | 46 | +37.8 |
| 23 | 17 | |
| −3 | 29 | |
| 8 | 31 | |

Position angle = 250° : distance = 15″
magn.= 5.3 and 9.9.

Index to right and below.

223.9 < brighter dis.
238.0
221.0 — 14.1 <
241.6 — 20.6 < — 4.09 <
— 34.7 <

~~Index to left~~

218.5
241.8 — 23.3 <
222.2 — 17.0 < — 3.75 <
239.2 — 40.3 <

223.1
238.7 — 15.6 <
218.5 — 23.7 < — 3.81 <
242.2 — 39.3 <

*

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531W



Oct. 28. 1895.

Index to left and above.

| | | | |
|---|---|---|---|
| 126.3 ~~239.2~~ | | | |
| | 150.4 | 24.1 < | |
| | 122.2 | 15.4 < | 3.79 < |
| | 147.6 | 39.5 < | |
| | | | |
| | 131.7 | | |
| | 148.6 | 16.9 < | 3.66 < |
| | 126.1 | 25.1 < | |
| | 151.2 | 42.0 < | |
| | ~~Index~~ | | |
| 8 51 33 | 129.1 | | |
| 9 3 13 | 149.2 | 20.1 < | 4.04 < |
| 2 \| 114 46 | | 15.2 < | |
| 8 57 23 | 132.8 ~~133.1~~ | 35.3 < | |
| | 148.0 | | |

Observation rather difficult on account of brighter moonlight, faintness of stars at equalization and rather poor seeing.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 28, 1895.

Σ 390 : Camd 4 stev : Phot R : W : abs.

| | | |
|---|---|---|
| 3 | 20 | +55.0 |
| 23 | 50 | |
| -3 | 30 | |
| 8 | 30 | |

Index to right and abv

| | | |
|---|---|---|
| 128.7 | | ← brighter dis. |
| 152.7 | | |
| 130.0 | 24.0 < | 3.61 < |
| 149.0 | 19.0 < | |
| | 43.0 < | |

~~Index~~ to left and below.

| | | |
|---|---|---|
| 223.5 | | |
| 237.5 | 14.0 < | 4.18 < |
| 220.6 | 19.2 < | |
| 239.8 | 33.2 < | |

| | | |
|---|---|---|
| 220.3 | | |
| 239.0 | 18.7 < | 4.40 < |
| 224.5 | 11.3 < | |
| 235.8 | 30.0 < | |

Index to right and above

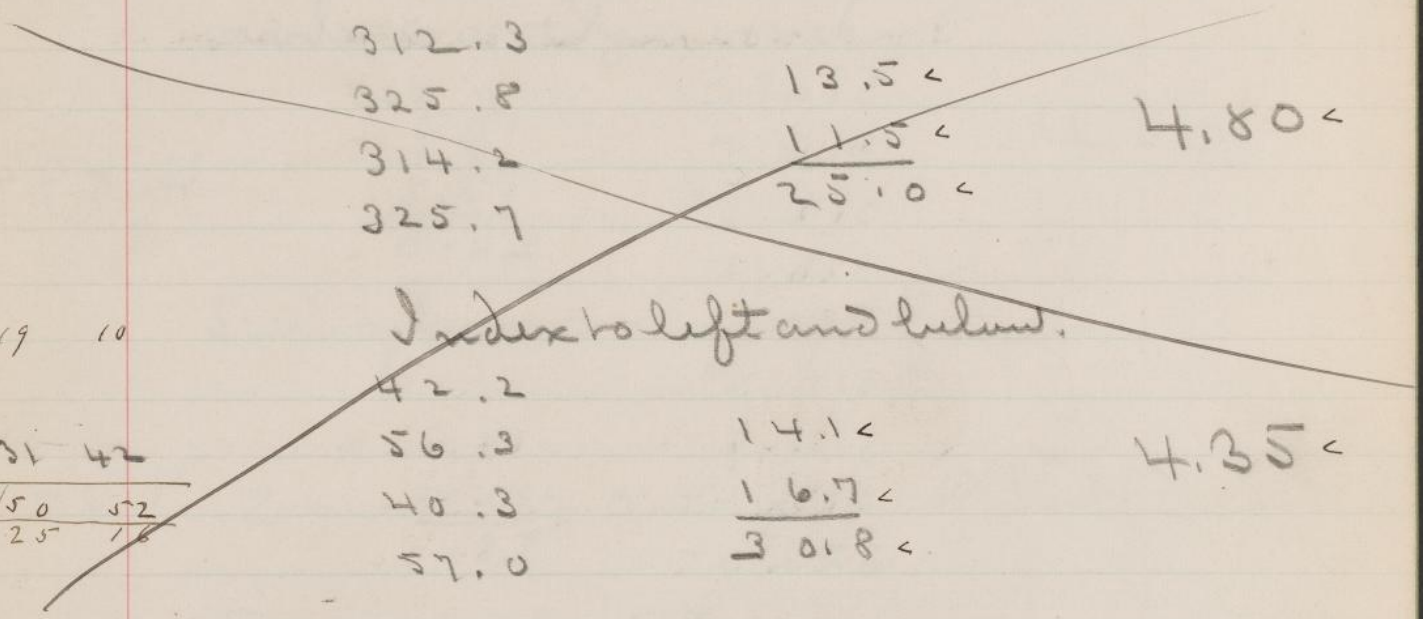
| | | |
|---|---|---|
| 314.0 | | |
| 326.0 | 12.0 < | 4.70 < |
| 312.0 | 14.2 < | |
| 326.2 | 26,2 < | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 28. 1895.



312.3
325.8
314.2
325.7

13.5 <
11.5 <
25.0 <

4.80 <

Index to left and below.

9 19 10

42.2
56.3
40.3
57.0

14.1 <
16.7 <
30.8 <

9 31 42

4.35 <

9

Reject above series as seem & was very poor. Stars faint & blurry when equalized and seemed to be alternately vanishing.

Seeing a little better: Series repeated.
Position angle = 165°: distance = 15":
magn. = 5.0 and 9.5

Same repeated

Index to left and below

221.5
238.9
224.0
237.5

17.4 <
13.5 <
30.9 <

4.34 <

9 38 35

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 28, 1895.

Index to right and above.

| | | |
|---|---|---|
| 314.2 | | |
| 324.5 | 10.3 < | |
| 312.5 | 13.7 < | 4.89 < |
| 326.2 | 24.0 < | |

| | | |
|---|---|---|
| 312.6 | | |
| 326.9 | 14.3 < | |
| 313.6 | 12.4 < | 4.66 < |
| 326.0 | 26.7 < | |

Index to left and below.

| | | |
|---|---|---|
| 41.7 | | |
| 55.5 | 13.8 < | |
| 41.3 | 15.9 < | 4.42 < |
| 54.2 | 29.7 < | |

| | | |
|---|---|---|
| 41.6 | | |
| 56.1 | 14.5 < | |
| 42.3 | 13.6 < | 4.55 < |
| 55.9 | 28.1 < | |

Index to right and above.

| | | |
|---|---|---|
| 130.0 | | |
| 147.3 | 17.3 | |
| 125.9 | 24.1 | 3.69 |
| 150.0 | 41.4 | |

Reject above set: seeing exceptionally poor

9 38 35
9 55 26
2 94 1
47 0.5
9

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...531w



Oct. 28, 1895.

| | | | |
|---|---|---|---|
| | 130.9 | | |
| 9 56 53 | 148.7 | 17.8 < | 4.06 < |
| | 130.8 | 17.2 < | |
| | 148.0 | 35.0 < | |

Seeing poor: images faint.

Σ 747 : 133 Anomis B : Phot R : W. obs

5 29 −6.1

Abandoned: too low

Σ 1.2' : 323 Tauri B : Phot. R : W. obs

| | | |
|---|---|---|
| 4 | 54 | +20.5 |
| 0 | 44 | |
| −4 | 10 | |
| 4 | 50 | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 28, 1895.

Index to right and above

| | | |
|---|---|---|
| 115.2 | < brighter dis. | |
| 169.7 | | |
| | 54.5 < | |
| 97.3 | | |
| 173.6 | 76.3 < | 0.96 < |
| | 130.8 < | |

Index to left.

| | | |
|---|---|---|
| 200.4 | | |
| | 68.4 < | |
| 268.8 | | |
| | 60.3 < | 1.00 < |
| 203.2 | | |
| 263.5 | 128.7 < | |

| | | |
|---|---|---|
| 201.2 | | |
| | 59.6 < | |
| 260.8 | | |
| | 61.6 < | 1.17 < |
| 201.3 | | |
| 262.9 | 121.2 < | |

Index to right.

| | | |
|---|---|---|
| 291.0 | | |
| | 56.7 < | |
| 347.7 | | 1.43 < |
| | 52.7 < | |
| 293.9 | | |
| 346.6 | 109.4 < | |

| | | |
|---|---|---|
| 293.1 | | |
| | 54.1 < | |
| 347.2 | | 1.37 < |
| | 57.9 < | |
| 290.4 | | |
| 348.3 | 112.0 < | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 28, 1895.

24 40

Index to left.

| | | |
|---|---|---|
| | 18.9 | |
| 10 37 3 | 79.0 | 60.1 < |
| 2 61 48 | 20.9 | 56.1 < |
| 10 30 54 | 77.0 | 116.2 < |

1,28 <

Position angle = 160°: distance = 75": magn. = 6.0 and 7.3

Σ 764: Nebr. 75: PhotR: D: obs

| | | |
|---|---|---|
| 5 | 33 | +29.4 |
| 1 | 25 | |
| 4 | 8 | |
| 7 | 52 | |

Position angle = 20 distance = 23"
6.0 and 6.8 = magn.

Index to left and below.

10 50 57

| | | |
|---|---|---|
| 104.8 | < brighter ds: | |
| 173.7 | 68.9 < | |
| 100.5 | 77.7 < | 0.64 < |
| 178.2 | 146.6 < | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 28, 1895.

Index to right and above.

| | | |
|---|---|---|
| 189.8 | | |
| 267.6 | 77.8 < | |
| 197.7 | 65.9 < | 0.70 < |
| 263.6 | 143.7 < | |

| | | |
|---|---|---|
| 194.8 | | |
| 262.1 | 67.3 < | |
| 192.0 | 74.4 < | 0.74 < |
| 266.4 | 141.7 < | |

Index to left and below.

| | | | | |
|---|---|---|---|---|
| 101.4 | | 290.9 | | |
| 175.9 | 74.5 | 355.4 | 64.5 | 0.66 |
| 104.2 | 71.4 | 290.9 | 57.8 | |
| 175.6 | 145.9 | 348.7 | 122.3 | |

Rejected: seeing poor.

| | | |
|---|---|---|
| 103.7 | | |
| 175.7 | 72.0 < | |
| 101.5 | 75.9 < | 0.62 < |
| 177.4 | 147.9 < | |

Index to right and above.

| | | |
|---|---|---|
| 197.4 | | |
| 263.0 | 65.6 < | |
| 191.1 | 75.8 < | 0.75 < |
| 266.9 | 141.4 < | |

10 50 57
11 4 24
11 5 21 ÷ 2 =
10 57 40.5

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..534w



Oct. 28. 1895

Much difficulty experienced to-night in measurements with Phot. R on account of very poor seeing: storm has just blown off suddenly: barometer rising rapidly: much wind.

Disappearance of Satellite IV Phot. R. H. Obs. Colon Records
compared with other data on the same side. (See page 127)
B. & C. 1162. Balloon 103.

| | | | | | |
|---|---|---|---|---|---|
| 13 | 41 | 43.5 | 13 | 34 | 0.0 |
| | K2 | 43.5 | | 3 | 0.0 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 14 01 05 | 14 08. | 49. | 4\|9230 | 192.9 | | | |
| 23 | 09 | 07. | 230.7 | 271.0 | 78.1 | | |
| 35 | 14 01 28 | 19. | | 194.1 | 7.4 | 190/41 | |
| 49 | | 33. | | 265.0 | 70.9 | | 0.6 |
| 02 01 | | 46 | 4\|9148 | 192.9 | | | |
| 12 | 20 | 56. | 228.7 | 264.0 | 71.1 | | |
| 26 | 14 02 10 09 | 10. | | 192.7 | 71.8 | 236/18 | |
| 39 | | 23. | | 265.2 | 72.5 | | 0.7 |
| 52 | | 36. | 4\|9207 | 196.2 | | | |
| 03 05 | 14 03 09 | 49. | 230.17 | 265.8 | 69.6 | | |
| 15 | | 59. | | 192.5 | 71.6 | 1433/1165 | |
| 25 | 11 10 | 09. | | 266.2 | 73.7 | | 0.7 |
| 36 | | 20. | 4\|9246 | 196.1 | | | |
| 48 | 14 04 03 | 32. | 231.1 | 268.2 | 72.1 | | |
| 04 18 | 12 | 02. | | 194.0 | 72.2 | 44/22 | |
| 29 | # | 13. | | 266.3 | 72.3 | | 0.7 |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct 28 1895

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 14 | 06 | 34 | 14 | 14 | 18 | | | | |
| | | 56 | | | 40 | | | | |
| | 07 | 25 | 14 | 07 | 10 | | | | |
| | | | | | 15 | | | | |
| | | | | | 09 | | | | |
| | | 43 | | | | | | | |
| | | 52 | | | 27 | | | | |
| | | | | | 26 | | | | |
| | 08 | 08 | | | 32 | | | | |
| | | 20 | 14 | 08 | 12 | | | | |
| | | | | | 16 | | | | |
| | | 28 | | | 04 | | | | |
| | | 36 | | | 12 | | | | |
| | | 44 | | | 20 | | | | |
| | | 51 | 14 | 08 | 48 | | | | |
| | 09 | 00 | | | 28 | | | | |
| | | 06 | | | 35 | | | | |
| | | 14 | | | 44 | | | | |
| | | 20 | | | 50 | | | | |
| | | 29 | 14 | 09 | 17 | | | | |
| | | 38 | | | 38 | | | | |
| | | 46 | | | 04 | | | | |
| | | 52 | | | 13 | | | | |
| | 10 | 02 | | | 22 | | | | |
| | | 13 | 14 | 09 | 50 | | | | |
| | | 20 | | | 30 | | | | |
| | | 29 | | | 36 | | | | |
| | | 38 | | | 46 | | | | |
| | | 45 | | | 57 | | | | |
| | | 54 | | | 04 | | | | |
| | 11 | 00 | 14 | 10 | 18 | | | | |
| | | 07 | | | 25 | | | | |
| | | | | | 15 | | | | |
| | | | | | 22 | | | | |
| | | | | | 29 | | | | |
| | | | | | 38 | | | | |
| | | | | | 44 | | | | |
| | | | | | 51 | | | | |
| | | 28 | 14 | | 19 | 12 | | | |

4)91 5.1 (6)
229.0

4)550.3
137.6

4)559.1
139.8

4)555.4
138.8

4)558.4
139.6

4)556.1
139.0

4)558.2
139.6

283.5 — 73.4 <
359.9
101.7 — 73.4 — = 0.6
73.3 <
175.0
97.0
175.2 — 78.2 <
102.3 — 75.8 — = 0.5 (117 / 1391 / 6950)
175.8 — 73.5 <
105.2
177.2 — 72.0 <
104.8 — 69.6 — = 0.8
171.9 — 67.1 <
103.2
173.2 — 70.0 <
104.0 — 70.3 — = 0.8
175.0 — 71.0 <
105.0
173.8 — 68.8 <
104.8 — 69.4 — = 0.8
174.8 — 70.0 <
103.6
175.0 — 72.0 <
104.1 — 71.0 — = 0.7
174.0 — 69.9 <
104.1
173.0 — 68.9 <
105.1 — 69.9 — = 0.8
176.0 — 70.9 <
105.0

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Apr 28 1895

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | 105.0 | | |
| 14 | 11 | 36 | 14 | 11 | 40 | 20 | 4\|557.2 139.3 | 173.2 | 68.2 < |
| | | 44 | | | | 28 | | 106.0 | 67.6 — = 0.9 |
| | | 50 | | | | 34 | | 173.0 | 67.0 < |
| | | 58 | | | | 42 | 4\|559.2 139.8 | 103.0 | |
| | 12 | 03 | 14 | 12 | 08 | 49 | | 174.1 | 71.1 < |
| | | 11 | | | | 55 | | 106.2 | 70.4 — = 0.8 |
| | | 18 | | 20 | | 02 | | 175.9 | 69.7 < |
| | | 26 | | | | 10 | 4\|561.0 | 107.1 | |
| | | 35 | | | | 19 | 140.2 | 173.7 | 66.6 < |
| | | | 14 | 13 | 52. | | | | |

Moved mir. slightly in field.

69.4 — = 0.8

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 15 | 13 | 23 | | | | 37 | | 104.0 | |
| | 16 | 23 | | | | ~~50~~ | | 176.2 | 72.2 < |
| | 24 | | | | | 08 | 4\|558.6 | 104.2 | |
| | 36 | | 14 | 15 | 39 | 20 | 139.6 | 174.1 | 69.9 < |
| | 44 | | | | | 28 | | 104.5 | 70.6 — = 0.7 |
| | 53 | | | | | 37 | | 175.8 | 71.3 < |
| 16 | 00 | | | | | 44 | 4\|562.8 | 105.0 | |
| | 06 | | 14 | 16 | 11 | 50 | 140.7 | 176.0 | 71.0 < |
| | 14 | | | | | 58 | | 106.4 | 68.2 < 6.96 — = 0.8 |
| | 24 | | 24 | | | 08 | | 175.0 | |
| 17 | 03 | | | | | 47 | 4\|558.9 | 103.8 | |
| | 24 | | 25 | | | 08 | 139.7 | 175.2 | 71.4 < |
| | 41 | | 14 | 17 | 34 | 25 | | 102.8 | 72.8 — = 0.7 |
| 18 | 06 | | | | | 50 | | 177.1 | 74.3 < |
| | 15 | | | | | 59 | 4\|556.9 | 104.1 | |
| | 27 | | 26 | | | 11 | 139.2 | 177.0 | 72.9 < |
| | 30 | | 14 | 18 | 28 | 14 | | 102.8 | 71.6 — = 0.7 |
| | 39 | | | | | 23 | | 175.0 | 70.2 < |
| | 48 | | | | | 32 | | 104.8 | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

Oct 28 1895

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 4 ⌊559.9 | 104.8 | | |
| 4 18 57 | | 41 | 140.0 | 178.0 | 73.2 < | |
| 19 06 | 14 19 01 | 50 | | 101.0 | 74.2 — = 0.6 | |
| 14 | | 38 | | 176.1 | 75.1 < | |
| 24 | 27 | 08 | 4 ⌊552.8 | 99.2 | | |
| 33 | 14 19 40 | 17 | 138.2 | 178.0 | 78.8 < | 122 |
| 43 | | 27 | | 101.1 | 76.1 — = 0.5 | |
| 58 | | 42 | | 174.5 | 73.4 < | |
| 20 06 | | 50 | 4 ⌊557.3 | 102.0 | | |
| 14 | 14 20 16 | 58 | 139.3 | 174.0 | 72.0 < | 63 |
| 25 | 28 | 09 | | 103.5 | | |
| | | | | | 73.2 — = 0.6 | |
| | | ~~17~~ | | ~~172.0~~ | | |
| 41 | | 25 | | 177.8 | 74.3 < | |
| 50 | | 34 | 4 ⌊550.5 | 100.7 | | |
| 21 01 | 14 21 05 | 45 | 137.6 | 171.0 | 70.3 < | |
| 09 | | 33 | | 103.8 | 70.8 — = 0.7 | |
| 21 | 29 | 05 | | 175.0 | 71.2 < | |
| 51 | | 35 | 4 ⌊560.0 | 101.2 | | |
| 22 05 | 14 22 08 | 49 | 140.0 | 175.8 | 74.6 < | 56 |
| 13 | | 37 | | 106.0 | 72.8 — = 0.7 | |
| 21 | 30 | 05 | | 177.0 | 71.0 < | |
| 46 | | 30 | 4 ⌊553.3 | 104.2 | | |
| 55 | 14 22 59 | 39 | 138.3 | 175.2 | 71.0 < | 139.3 / 69.65 |
| 23 03 | | 47 | | 102.8 | 69.6 — = 0.8 | |
| 13 | | 57 | | 171.7 | 68.3 < | |
| 34 | 31 | 16 | 4 ⌊557.6 | 102.8 | 71.9 — = 0.7 | 35 / 19 |
| 41 | 14 23 48 | 25 | 139.4 | 175.0 | 72.2 < | |
| 53 | | 37 | | 104.1 | 71.6 < | |
| 24 03 | | 47 | | 175.7 | | |
| 18 | 32 | 62 | 4 ⌊562.9 | 105.0 | | |
| 26 | | 10 | 140.7 | 175.3 | 70.3 | |

1895phae.proj..531W
John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae..proj..531w



Oct 26 1895

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 14 24 32 | | | | |
| 14 | 24 | 38 | | 22 | | | |
| | | 47 | | 31 | | | |
| | 25 | 02 | | 46 | 4 561.5 | 103.0 | |
| | | 12 | 14 25 16 | 56 | 140.4 | 177.0 | 74.0 < |
| | | 21 | 33 | 05 | | 104.8 | 73.0 — = 0.7 |
| | | 29 | | 13 | | 176.7 | 71.9 < |
| | | 45 | | 29 | 4 557.3 | 103.0 | |
| | | 54 | | 36 | 139.3 | 175.0 | 72.0 < |
| | 26 | 03 | 14 25 59 | 47 | | 106.0 | 69.6 — = 0.8 |
| | | 14 | | 58 | | 173.3 | 67.3 < |
| | | 52 | 34 | 36 | 4 558.2 | 104.0 | |
| | 27 | 06 | 14 27 14 | 30 | 139.6 | 178.0 | 71.0 < |
| | | 22 | 35 | 06 | | 105.1 | 70.0 — = 1.1 |
| | | 36 | | 20 | | 174.1 | 69.0 < |
| | | 49 | | 33 | 4 560.1 | 104.0 | |
| | 28 | 00 | | 44 | 140.0 | 177.9 | 73.9 < |
| | | 10 | 14 28 05 | 54 | | 102.2 | 73.8 — = 0.6 |
| | | 20 | 36 | 04 | | 176.0 | 73.8 < |
| | | 28 | | 12 | 4 557.9 | 104.8 | |
| | | 38 | 14 28 46 | 22 | 139.5 | 174.1 | 69.3 < |
| | | 53 | | 37 | | 105.0 | 69.2 — = 0.8 |
| | 29 | 05 | | 49 | | 174.0 | 69.0 < |
| | 30 | 37 | 38 | 21 | 4 555.7 | 102.5 | |
| | | 49 | 14 30 54 | 33 | 138.9 | 175.2 | 72.7 < |
| | | 58 | | 42 | | 102.0 | 73.4 — = 0.6 |
| | 31 | 10 | | 34 | | 176.0 | 74.0 < |
| | | 23 | 39 | 07 | | 105.5 | |
| | | | | 15 | 4 561.6 | 17 | |
| | | 42 | | 26 | 140.4 | 176.9 | 71.4 < |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct 28 1895

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | 14 31 50 39 | | | | | 71.4 < | 82 |
| 14 32 02 | 4 | 34 | 46 | | 101.2 | 74.1 — = 0.6 | 14 |
| 11 | | | 55 | | 178.0 | 76.8 < | |
| | | 40 | | | | | |
| 20 | | 35 | 04 | 4 561.5 | 103.1 | | |
| 28 | 14 32 34 | | 12 | 140.4 | 177.8 | 74.8 < | 71 |
| 39 | | | 23 | | 104.2 | 73.6 — = 0.6 | 35 |
| 48 | | | 32 | | 176.5 — | 72.3 < | |
| 59 | | | 43 | 4 564.3 | 106.1 | | |
| 33 09 | 14 33 17 | | 53 | 141.1 | 176.2 | 70.1 < | |
| 24 | 41 | | 08 | | 104.0 | 72.0 — = 0.7 | 41 20 |
| 36 | | | 20 | | 178.0 | 74.0 < | |
| 50 | | | 34 | 4 560.2 | 101.3 | | |
| 34 00 | 14 34 05 | | 44 | 140.0 | 172.0 | 70.7 < | 34 |
| 10 | | | 54 | | 102.1 | 71.7 — = 0.7 | |
| 20 | 42 | | 04 | | 174.8 | 72.7 < | |
| 28 | | | 12 | 4 554.7 | 102.0 | | |
| 41 | | | 25 — | 138.7 | 175.0 | 73.0 < | 83 41 |
| | 14 4 4 35 44 | | | | | | |

Mixed in a little in the field

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 36 47 | | 44 | 31 | | 101.2 | 74.2 — = 0.6 | |
| 37 01 | | | 45 — | | 176.5 — | 75.3 < | |
| 20 | | 45 — | 04 | 4 555.4 | 105.0 | | |
| 32 | 14 37 36 | | 16 | 138.8 | 174.9 | 69.9 < | |
| 42 | | | 26 | | 103.2 | 69.0 — = 0.8 | |
| 52 | | | 36 | | 172.3 | 69.1 < | |
| 38 29 | | 46 | 13 | 4 560.9 | 105.0 | | |
| 39 | 14 38 44 | | 23 | 140.2 | 175.7 | 70.7 < | 138 5 69 20 |
| 49 | | | 33 | | 106.2 | 69.2 — = 0.8 | |
| 58 | | | 42 | | 174.0 | 67.8 < | |

Mixed in, a little in field.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae..proj...531w



Oct 2 & 1895

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 14 39 | 25 | 47 | 09 | 4(559.9 | 106.0 | | | |
| | 36 | | 20 | 140.0 | 175.0 | 69.0 < | | 15 S 77 S |
| | 45 | 14 39 40 | 29 | | 106.2 | 67.8 — | = 0.9 | |
| | 56 | | 40 | | 172.7 | 66.5 < | | |
| 40 | 05 | | 49 | 4(556.5 | 108.0 | | | |
| | 14 | 14 40 17 | 58 | 139.1 | 170.7 | 62.7 < | | 4 S 2 2 S |
| | 21 | 48 | 06 | | 108.0 | 62.2 — | = 1.1 | |
| | 29 | | 13 | | 169.8 | 61.8 < | | |
| | 37 | | 21 | | 109.1 | | | |
| | | | 30 | 4(558.2 | 173.8 | | | |
| | 54 | 14 40 59 | 38 | 139.6 | 171.0 | 61.9 < | | 20 10 |
| 41 | 08 | | 52 | | 109.0 | 61.0 — | = 1.1 | |
| | 17 | 49 | 01 | | 169.1 | 60.1 < | | |
| | 23 | | 17 | 4(557.2 | 110.5 | | | |
| | 42 | 14 41 47 | 26 | 139.3 | 169.5 | 59.0 < | | 15 P 79 |
| | 52 | | 36 | | 110.2 | 57.9 — | = 1.3 | |
| 42 | 00 | | 44 | | 167.0 | 56.8 < | | |
| | 11 | | 55 | 4(557.7 | 112.1 | | | |
| | 21 | 56 | 05 | 139.4 | 167.1 | 55.0 < | | 8 S 42 S |
| | 36 | 14 42 28 | 20 | | 112.5 | 54.2 — | = 1.5 | |
| | 45 | | 29 | | 166.0 | 53.5 < | | |
| | 53 | | 37 | 4(561.2 | 112.2 | | | |
| 43 | 00 | 14 43 04 | 44 | 140.3 | 167.0 | 54.8 < | | |
| | 09 | | 53 | | 115.8 | 53.4 — | = 1.5 | |
| | 16 | 51 | 01 | | 167.0 | 52.0 < | | |
| | 24 | | 08 | 4(562.3 | 114.3 | | | |
| | 34 | 14 43 40 | 18 | 140.6 | 167.0 | 52.7 < | | 10 17 50 P S |
| | 43 | | 27 | | 116.0 | 50.8 — | = 1.6 | |
| | 58 | | 42 | | 166.0 | 49.0 < | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct 28 1895

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 14 44 | 10 | | | 54 | 4 554.9 | 114.0 | | |
| | ~~07~~ | | | | 138.7 | 164.~~0~~ | 50.0 < | 955 477 |
| 14 | ~~14~~ 22 | 52 | 14 44 28 | 06 | | 115.7 | 47.8 — = 1.8 | |
| | 36 | | | | | 161.2 | 45.5 < | |
| | ~~33~~ | | | 19 | | | | |
| | 44 | | | | | | | |
| | ~~41~~ | | | 28 | | | | |
| | 57 | | | | | | | |
| | ~~54~~ | | | 41 | 4 553.3 | 115.2 | | |
| | 05 | | | | 138.3 | | | |
| 45 | ~~02~~ | | 14 45 09 | 49 | | 161.1 | 45.9 < | 69 345 |
| | 12 | | | 56 | | 118.~~0~~ | 43.4 — = 2.0 | |
| | 21 | 53 | | 05 | | 159.0 | 41.0 < | |
| | 30 | | | 14 | 4 555.1 | 120.2 | | |
| | 38 | | 14 45 41 | 22 | 138.8 | 158.7 | 38.5 < | |
| | 44 | | | 28 | | 119.~~0~~ | 38.4 — = 2.3 | |
| | 52 | | | 36 | | 157.2 | ~~3~~8.2 < | |
| 46 | 01 | | | 45 | 4 555.3 | 111.9 (corr. 119.9) | | |
| | 14 | | 14 46 18 | 58 | 138.8 | 157.0 | 25.1 < | 601 300 |
| | 22 | 54 | | 06 | | 121.7 | 30.0 — = 2.9 | |
| | 37 | | | 21 | | 156.7 | 35.0 < | |
| | 47 | | | 31 | 4 553.3 | 122.8 | | 33 165 |
| | 52 | | 14 46 56 | 36 | 138.3 | 154.1 | 31.3 < | 533 |
| 47 | 00 | | | 44 | | 122.2 | ~~31.6 — = 3.1~~ | 31.6 — = 2.7 |
| | 07 | | | 51 | | 154.2 | ~~3~~2.0 < | |
| | 13 | | | 67 | | 125.0 | | |
| | 21 | | | 05 | | 163.8 | 30.8 | |
| | 28 | 65 | | 12 | | 124.2 | 31.6 | |
| | 37 | | | 21 | | 154.3 | 30.1 | |
| | 48 | | | 32 | | 127.0 | 27.3 | |
| 48 | 00 | | | 44 | | 153.1 | 26.1 | |
| | 08 | | | 52 | | 127.2 | 25.9 | |
| | 19 | 56 | | 03 | | 151.2 | 24.0 | |
| | 32 | | | 16 | | 126.2 | 25.0 | |
| | 45 | | | 29 | | 150.9 | 24.7 | |
| | 53 | | | 37 | | 129.9 | 21.0 | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct 28 1895

| | | | | | |
|---|---|---|---|---|---|
| | | | | 129.9 | |
| 14 | 49 01 | 45- | | 16-0.3 | 20.4 |
| | 10 | 5-4 | | 130.0 | 20.3 |
| 18 | 19 57 | 03 | | 14[illegible].0 | 19.0 |
| | 3[illegible] | 22 | | 130.9 | 18.1 |
| | 4[illegible] | 30 | | 130.0 | 19.1 |
| 50 | 0[illegible] | 50 | | 134.0 | 16.0 |
| | 16[illegible] 58 | 01 | | 147.7 | 13.7 |

Not seen[illegible] later

Limit of visibility -

| | | | | | | |
|---|---|---|---|---|---|---|
| 51 | 3[illegible] | 59 | 17 | 4 5.5-6.4 | 129.0 | |
| | 4[illegible] | 14 52 05 | 32 | 139.1 | 149.1 | 20.1 |
| 52 | 1[illegible] | | ~~46~~ | | ~~130.3~~ | (19.2) |
| 15- | 1[illegible] | | 03 | | 130.0 | 18.3 |
| | 3[illegible] | 0 | 24 | | 146.3 | 38.4 |

Sat. IV and companion Sat. were on ~~following side of plan. and sat.~~ preceding side of plan. and Sat. III was on following side of plan. then fore companion sat. was Sat. II.

Seeing quite blurry at times. more so at the early part of the series

| B. + C. 1142. | | | Bellow 103. | | |
|---|---|---|---|---|---|
| 1V | 2V | 43.7 | 1V | 1A | 0.0 |
| | 26 | 43.7 | | 19 | 0.0 |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



# Oct. 30. 1895.

B + C. #1182. Ballow #103.

$5^h\ 18^m\ 52.^s4 = 5^h\ 11^m\ 0.^s0 = \#103$

Z Herculis. $5^m\ 18\ 52,4 = \#1182$

#1182 is $7^m$ $52,^s4$ fast.

17 53 +15.1

20 18

2 25

Index above

5 45 39

43.5 l

76.1 < var dis 32.6 <

44.2 r 31.4 < 2.71 <

75.6 64.0 <

5 47 23

43.6 r 32.4 <

76.0 31.2 < 2.73 <

44.6 l 63.6 <

75.8

I

5 49 16

45.3 l 30.9 <

76.2 30.7 < 2.80 <

43.7 r 61.6 <

74.4

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 30. 1895.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 43.6 | r | | | |
| | | | 74.9 | | 31.3 < | | |
| 5 | 51 | 12 | | | | | |
| 5 | 48 | 22.7 < | 43.8 | l | 33.0 < | 2.70 < | |
| | −7 | 52 | | | 64.3 < | | |
| 10 | 40 | 30.8 < | 76.8 | | | | |
| | | | 44.1 | l | | | |
| 5 | 53 | 12 | 76.5 | | 32.4 < | | |
| | | | 44.2 | r | 32.9 < | 2.67 < | |
| | | | 77.1 | | 65.3 < | | |
| | | | 43.6 | r | | | |
| 5 | 54 | 36 | 77.1 | | 33.5 < | | |
| | | | 43.2 | l | 31.6 < | 2.67 < | |
| | | | 74.8 | | 65.1 < | | |
| | | | II | | | | |
| | | | 45.0 | l | | | |
| 5 | 56 | 17 | 75.8 | | 30.8 < | | |
| | | | 44.9 | r | 31.0 < | 2.79 < | |
| | | | 75.9 | | 61.8 < | | |
| | | | 44.8 | r | | | |
| 5 | 58 | 10 | 75.2 | | 30.4 < | | |
| 5 | 55 | 33.7 < | 43.9 | l | 32.2 < | 2.76 < | |
| | −7 | 52 | | | 62.6 < | | |
| 10 | 47 | 41.8 < | 76.1 | | | | |
| | | | 43.8 | l | | | |
| 6 | 4 | 52 | 75.7 | | 31.9 < | | |
| | | | 43.8 | r | 33.6 < | 2.66 < | |
| | | | 77.4 | | 65.5 < | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 30. 1895.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 44.0 | r | | | |
| 6 | 7 | 1 | 75.9 | | 21.9 < | | |
| | | | 43.9 | l | 32.2 < | 2.71 < | ✓ |
| | | | 76.1 ~~74.9~~ | | 64.1 < | | |
| | | | III | | | | |
| | | | 44.6 | l | | | |
| 6 | 8 | 39 | 76.0 | | 31.4 < | | ✓ |
| | | | 43.9 | r | 31.9 < | 2.74 < | |
| | | | 75.8 | | 63.3 < | | |
| | | | 44.4 | r | | | |
| 6 | 9 | 49 | 77.1 | | 32.7 < | | ✓ |
| 6 | 7 | 35.25 < | 44.7 | l | 30.9 < | 2.73 < | |
| | 3 | 52. | 75.6 | | 63.6 < | | |
| 10 | 59 | 43.2 < | | | | | |
| | | | 44.7 | l | | | |
| 6 | 11 | 2 | 75.2 | | 20.5 < | | ✓ |
| | | | 44.9 | r | 31.2 < | 2.80 < | |
| | | | 76.1 | | 64.7 < | | |
| | | | 43.3 | r | | | |
| 6 | 12 | 24 | 76.8 | | 33.5 < | | |
| | | | 43.6 | l | 32.0 < | 2.66 < | ✓ |
| | | | 75.6 | | 65.5 < | | |
| | | | IV | | | | |
| | | | 44.8 | l | | | |
| 6 | 13 | 38 | 76.0 | | 31.2 < | | ✓ |
| | | | 43.9 | r | 33.7 < | 2.68 < | |
| | | | 77.6 | | 64.9 < | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 30. 1895

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 41.9 | ∧ | | |
| 6 | 14 | | 77.4 | | 35.5 < | ✓ |
| 6 | 12 | 59.5 | 44.0 | l | 31.7 < | 2.60 < |
| | 7 | 52 | 75.7 | | 67.2 < | |
| 11 | 5 | 7.5 | | | | |
| | | | 45.6 | l | | |
| 6 | 25 | 40 | 75.9 | | 30.3 < | ✓ |
| | | | 43.4 | ∧ | 32.7 < | 2.75 < |
| | | | 76.1 | | 63.0 < | |
| | | | 43.0 | ∧ | | |
| 6 | 27 | 45 | 75.6 | | 32.6 < | ✓ |
| | | | 44.7 | l | 32.3 < | 2.68 < |
| | | | 77.0 | | 64.9 < | |
| | | | | V | | |
| | | | 43.6 | l | | |
| 6 | 29 | 14 | 75.8 | | 32.2 < | ✓ |
| | | | 44.2 | ∧ | 32.9 < | 2.67 < |
| | | | 77.1 | | 65.1 < | |
| | | | 43.7 | ∧ | | |
| 6 | 30 | 39 | 77.2 | | 33.5 < | ✓ |
| 6 | 28 | 19.5 | 44.1 | l | 32.6 < | 2.64 < |
| | 7 | 52 | 76.7 | | 66.1 < | |
| 11 | 20 | 27.5 | | | | |
| | | | 44.5 | l | | |
| 6 | 31 | 42 | 75.6 | | 31.1 < | ✓ |
| | | | 43.8 | ∧ | 32.4 < | 2.73 < |
| | | | 76.2 | | 63.5 < | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 30. 1895.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 41.9 | ∧ | | | |
| | | | 76.7 | | 34.8 < | | ✓ |
| 6 | 33 | 2 | 44.4 | l | 30.8 < | 2.66 < | |
| | | | 75.2 | | 65.6 < | | |
| | | | VI | | | | |
| | | | 43.8 | l | | | |
| | | | 75.9 | | 32.1 < | | |
| 6 | 34 | 6 | 42.7 | ∧ | 34.9 < | 2.61 < | ✓ |
| | | | 77.6 | | 67.0 < | | |
| | | | 42.7 | ∧ | | | |
| | | | 77.1 | | 34.4 < | | ✓ |
| 6 | 55 | 7 | 44.9 | l | 30.7 < | 2.67 < | |
| | | | 75.6 | | 65.1 < | | |
| 6 | 33 | 29.25 | | | | | |
| | 7 | 52. | | | | | |
| 11 | 25 | 37.2 | | | | | |
| | | | 42.5 | l | | | |
| | | | 76.8 | | 34.3 < | | ✓ |
| 6 | 44 | 54 | 44.0 | ∧ | 32.0 < | 2.62 < | |
| | | | 76.0 | | 66.3 < | | |
| | | | 43.1 | ∧ | | | |
| | | | 76.2 | | 33.1 < | | |
| 6 | 46 | 12 | 43.0 | l | 33.1 < | 2.64 < | ✓ |
| | | | 76.1 | | 66.2 < | | |
| | | | VII | | | | |
| | | | 43.6 | l | | | |
| | | | 77.2 | | 33.6 < | | ✓ |
| 6 | 47 | 51 | 43.7 | ∧ | 34.0 < | 2.59 < | |
| | | | 77.1 | | 67.6 < | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae..proj..531W



Oct. 30. 1895.

| | | | | | |
|---|---|---|---|---|---|
| 6 48 58 | 43.9 | 2 | | | |
| | 77.9 | | 34.0 < | | |
| 6 46 58.70 | 43.6 | 1 | 33.0 < | 2.61 < | |
| 7 52. | 76.6 | | 67.0 < | | |
| 11 39 6.8 | | | | | |
| | 43.6 | 1 | | | |
| 6 50 42 | 76.8 | | 33.2 < | | |
| | 42.7 | 2 | 35.2 < | 2.56 < | |
| | 77.9 | | 68.4 < | | |
| | 43.9 | 2 | | | |
| 6 52 9 | 77.7 | | 33.8 < | | |
| | 44.2 | 1 | 32.7 < | 2.62 < | |
| | 76.9 | | 66.5 < | | |
| | VIII | | | | |
| | 42.8 | 1 | | | |
| 6 53 12 | 76.6 | | 33.8 < | | |
| | 42.9 | 2 | 33.8 < | 2.59 < | |
| | 76.7 | | 67.6 < | | |
| | 42.8 | 2 | | | |
| 6 54 25 | 77.1 | | 34.3 < | | |
| 6 52 37. | 43.2 | 1 | 32.9 < | 2.60 < | |
| 7 52. | 76.1 | | 67.2 < | | |
| 11 44 45. | | | | | |
| | 42.9 | 1 | | | |
| 7 4 20 | 76.9 | | 34.0 < | | |
| | 41.1 | 2 | 35.4 < | 2.53 < | |
| | 76.5 | | 69.4 < | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 30, 1895.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 42.4 | ν | | | |
| 7 | 5 | 56 | 77.1 | | 34.7 < | | 7 |
| | | | 43.5 | l | 32.5 < | 2.60 < | |
| | | | 76.0 | | 67.2 < | | |
| | | | IX | | | | |
| | | | 42.7 | l | | | |
| 7 | 7 | 11 | 76.0 | | 33.3 < | 2.52 < | 7 |
| | | | 41.8 ~~42.7~~ | ν | 36.2 < | | |
| | | | 78.0 | | 69.5 < | | |
| | | | 42.2 | ν | | | |
| 7 | 9 | 51 | 77.6 | | 35.4 < | 2.55 < | 7 |
| 7 | ~~6~~ 7 | ~~49.5~~ 52 | 43.2 | l | 33.4 < | | |
| 11 | 58 | 57.5 | 76.6 | | 68.8 < | | |
| | | | 43.5 | l | | | |
| 7 | 11 | 15 | 77.3 | | 33.8 < | 2.56 < | 7 |
| | | | 42.8 | ν | 34.7 < | | |
| | | | 77.5 | | 68.5 < | | |
| | | | 42.0 | ν | | | |
| 7 | 12 | 39 | 77.9 | | 35.9 < | 2.54 < | 7 |
| | | | 43.3 | l | 33.1 < | | |
| | | | 76.4 | | 69.0 < | | |
| | | | X | | | | |
| | | | 43.5 | l | | | |
| 7 | 13 | 51 | 76.2 | | 32.7 < | | 7 |
| | | | 41.2 | ν | 36.2 < | 2.54 < | |
| | | | 77.4 | | 68.9 < | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj.:531w



Oct. 20, 1895.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 40.8 | ~ | | |
| 7 | 15 | 17 | 77.4 | | 36.6 < | ✓ |
| 7 | 13 | 15. | 42.6 | l | 33.9 < | 2.49 ✓ |
| | 7 | 32 | 76.5 | | 70.5 < | |
| 12 | 5 | 23. | | | | |
| | | | 41.8 | l | | |
| 7 | 24 | 11 | 77.6 | | 35.8 < | ✓ |
| | | | 41.8 | ~ | 35.2 < | 2.47 ✓ |
| | | | 77.0 | | 71.0 < | |
| | | | 44.0 | ~ | | |
| 7 | 26 | 11 | 77.4 | | 33.4 < | ✓ |
| | | | 41.9 | l | 35.5 < | 2.54 ✓ |
| | | | 77.4 | | 68.9 < | |
| | | | XI | | | |
| | | | 42.6 | l | | |
| 7 | 27 | 24 | 76.4 | | 33.8 < | ✓ |
| | | | 40.8 | ~ | 38.1 < | 2.44 ✓ |
| | | | 78.9 | | 71.9 < | |
| | | | 41.1 | ~ | | |
| 7 | 28 | 34 | 77.9 | | 36.8 < | ✓ |
| 7 | 26 | 36. | 41.6 | l | 35.4 < | 2.43 ✓ |
| | 7 | 32 | 77.0 | | 72.2 < | |
| 12 | 18. | 43. | | | | |
| | | | 42.7 | l | | |
| 7 | 29. | 34 | 78.1 | | 35.4 < | ✓ |
| | | | 40.9 | ~ | 37.4 < | 2.42 ✓ |
| | | | 78.3 | | 72.8 < | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 30. 1895.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 39.4 | ~ | | | | |
| 7 | 30 | 26 | 79.0 | | 29.6 < | 2.32 < | ✓ | 7 |
| | | | 41.4 | l | 36.4 < | | | 7 |
| | | | 77.8 | | 76.0 < | | | 14 |
| | | | XII | | | | | |
| | | | 42.9 | l | | | | |
| 7 | 31 | 45 | 77.2 | | 34.3 < | | ✓ | 7 |
| | | | 40.9 | ~ | 38.3 < | 2.42 < | | |
| | | | 79.2 | | 72.6 < | | | |
| | | | 41.0 | ~ | | | | |
| 7 | 32 | 50 | 79.3 | | 38.3 < | | ✓ | 7 |
| 7 | 31 | 11.20 | 42.0 | l | 36.8 < | 2.36 < | | |
| | 7 | 02. | | | 74.5 < | | | |
| 12 | 23 | 19.2 | 78.2 | ~~77.8~~ | | | | |
| | | | 42.9 | l | | | | |
| 7 | 41 | 34 | 76.8 | | 33.9 < | | ✓ | 7 |
| | | | 40.0 | ~ | 38.3 < | 2.43 < | | |
| | | | 78.3 | | 72.2 < | | | |
| | | | 41.7 | ~~42.3~~ | ~ | | | |
| 7 | 42 | 59 | 79.2 | | 37.5 < | | ✓ | 7 |
| | | | 42.6 | l | 34.7 < | 2.43 < | | 7 |
| | | | 77.3 | | 72.2 < | | | 14 |
| | | | XIII | | | | | |
| | | | 40.6 | l | | | | |
| 7 | 44 | 3 | 78.3 | ~~77.7~~ | 37.7 < | | ✓ | 7 |
| | | | 40.8 | ~ | 38.1 < | 2.32 < | | |
| | | | 78.9 | | 75.8 < | | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..53lw



Oct. 30. 1895.

| | | | | | |
|---|---|---|---|---|---|
| | 42.1 | ∩ | | | |
| 7 45 23 | 78.6 | | 36.5 < | | ✓ |
| 7 43 29.75 | 41.1 | l | 37.5 < | 2.38 < | |
| 7 52 | 78.6 | | 74.0 < | | |
| 12 35 37.8 | | | | | |
| | 41.4 | l | | | |
| 7 46 36 | 78.2 | | 36.8 < | 2.34 < | ✓ |
| | 40.6 | ∩ | 38.5 < | | |
| | 79.1 | | 75.3 < | | |
| | 41.8 | ∩ | | | |
| 7 52 54 | 78.9 | | 37.1 < | | ✓ |
| | 41.7 | l | 36.2 < | 2.40 < | |
| | 77.9 | | 73.3 < | | |
| | XIV | | | | |
| | 40.9 | l | | | |
| 7 49 33 | 78.1 | | 37.2 < | | ✓ |
| | 41.9 | ∩ | 36.1 < | 2.40 < | |
| | 78.0 | | 73.3 < | | |
| | 40.7 | ∩ | | | |
| 7 50 53 | 79.0 | | 38.3 < | | ✓ |
| 7 49 59. | 41.9 | l | 36.2 < | 2.36 < | |
| 7 52. | 78.1 | | 74.5 < | | |
| 12 42 7. | | | | | |
| | 42.5 | l | | | |
| 7 59 51 | 78.5 ~~77.9~~ | | 36.0 < | | ✓ |
| | 43.2 | ∩ | 35.1 < | 2.47 < | |
| | 78.3 | | 71.1 < | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 30, 1895.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 42.9 | ∩ | | | |
| 8 | 1 | 10 | 77.9 | | 35.0 < | | ✓ |
| | | | 40.2 | l | 38.8 < | 2.38 < | |
| | | | 79.0 | | 73.8 < | | |
| | | | XV | | | | |
| 8 | 2 | 29 | 41.0 | l | | | |
| | | | 79.5 | | 38.5 < | | |
| | | | 41.1 | ∩ | 38.7 < | 2.28 < | ✓ |
| | | | 79.8 | | 77.2 < | | |
| ~~8~~ | | | 40.4 | ∩ | 0 < | | |
| 8 | ~~3~~ 4 | ~~24~~ 10 | 79.4 ~~78.9~~ | | 39.~~5~~ | | ✓ |
| 8 | 1 | 52 | 39.9 | l | 40.3 < | 2.22 < | |
| 12 | 5-4 | 3 | 80.2 | | 79.3 < | | |
| | | | 41.2 | l | | | |
| 8 | 5 | 36 | 80.4 | | 39.2 < | | |
| | | | 40.9 | ∩ | 38.0 < | 2.28 < | ✓ |
| | | | 78.9 | | 77.2 < | | |
| | | | 39.9 | ∩ | | | |
| 8 | 7 | 7 | 78.9 | | 39.0 < | | |
| | | | 40.8 | l | 39.1 < | 2.25 < | ✓ |
| | | | 79.9 | | 78.1 < | | |
| | | | XVI | | | | |
| | | | 39.8 | l | | | |
| 8 | 8 | 12 | 81.2 | | 41.4 < | 2.16 < | ✓ |
| | | | 39.4 | ∩ | 39.8 < | | |
| | | | 79.2 ~~78.6~~ | | 81.2 < | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 30. 1895.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 40.9 | ∿ | | | |
| 8 | 9 | 45 | 79.3 | | 38.4 < | | ✓ |
| 8 | 7 | 40 | 40.3 | l | 42.3 < | 2.17 < | |
| | 7 | 52 | 82.6 | | 80.7 < | | |
| 12 | 59 | 48. | | | | | |
| | | | 40.4 | l | | | |
| 8 | 17 | 24 | 79.9 | | 39.5 < | | ✓ |
| | | | 41.1 | ∿ | 37.9 < | 2.27 < | |
| | | | 79.0 ~~78.6~~ | | 77.4 < | | |
| | | | 41.2 | ∿ | | | |
| 8 | 19 | 4 | 79.0 | | 37.8 < | | ✓ |
| | | | 41.6 | l | 38.4 < | 2.31 < | |
| | | | 80.0 | | 76.2 < | | |
| | | | XVII | | | | |
| | | | 40.0 | l | | | |
| 8 | 20 | 17 | 79.6 | | 39.6 < | | |
| | | | 39.9 | ∿ | 39.4 < | 2.22 < | ✓ |
| | | | 79.3 | | 79.0 < | | |
| | | | 40.9 | ∿ | | | |
| 8 | 21 | 42 | 79.9 | | 39.0 < | | |
| 8 | 19 | 36.75 | 38.7 | l | 40.1 < | 2.22 < | ✓ |
| | 7 | 52 | 78.8 | | 79.1 < | | |
| 13 | 11. | 44.8 | | | | | |
| | | | 40.1 | l | | | |
| 8 | 23 | 29 | 79.1 | | 39.0 < | | |
| | | | 40.6 | ∿ | 39.7 < | 2.23 < | ✓ |
| | | | 80.3 | | 78.7 < | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



# Oct. 30. 1895.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | 40.3 | ∿ | | | |
| 8 | 25 | 2 | 79.0 | | 38.7 < | | |
| | | | 40.0 | l | 39.8 < | 2.24 < | ✓ |
| | | | 79.8 | | 78.5 < | | |
| | | | XVIII | | | | |
| | | | 40.6 | l | | | |
| 8 | 26 | 19 | 81.2 | | 40.6 < | | ✓ |
| | | | 39.4 | ∿ | 40.5 < | 2.16 < | |
| | | | 79.9 | | 81.1 < | | |
| | | | 40.6 | ∿ | | | |
| 8 | 27 | 46 | 81.0 | | 40.4 < | | ✓ |
| | | | 38.5 | l | 41.9 < | 2.13 < | |
| | | | 80.4 | | 82.3 < | | |
| 8 | 25 | 09 | | | | | |
| | 7 | 52 | | | | | |
| 13 | 17 | 47 | | | | | |
| | | | 40.9 | l | | | |
| 8 | 34 | 32 | 80.4 | | 39.5 < | | ✓ |
| | | | 40.9 | ∿ | 39.5 < | 2.22 < | |
| | | | 80.4 | | 79.0 < | | |
| | | | 41.5 ~~42.4~~ | ∿ | | | |
| 8 | 36 | 48 | 78.9 | | 37.4 < | | ✓ |
| | | | 39.1 | l | 42.2 < | 2.18 < | |
| | | | 82.3 | | 80.6 < | | |
| | | | XIX | | | | |
| 8 | 38 | 15 | 41.1 | l | | | |
| | | | 80.6 | | 39.5 < | | ✓ |
| | | | 39.4 | ∿ | 41.8 < | 2.16 < | |
| | | | 81.2 | | 81.3 < | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...531w



Oct. 30. 1895.

| | | | | | |
|---|---|---|---|---|---|
| | 38.8 | ~ | | | |
| | 80.4 | | 41.6 < | | ✓ |
| 8 39 32. | 39.0 | l | 43.6 < | 2.05 < | |
| 8 37 16.70 | 52. | | 85.2 < | | |
| 13 29 24.8 | 82.6 | | | | |
| | 39.7 | l | | | |
| 8 41 28 | 81.9 | | 42.2 < | | ✓ |
| | 39.4 | ~ | 43.9 < | 2.02 < | |
| | 81.3 | | 86.1 < | | |
| | 38.7 | ~ | | | |
| 8 42 36 | 81.4 | | 42.7 < | | ✓ |
| | 39.2 | l | 42.4 < | 2.05 < | |
| | 81.7 | | 85.1 < | | |
| | XX | | | | |
| | 37.8 | l | | | |
| 8 43 39 | 81.9 | | 44.1 < | | ✓ |
| | 40.7 | ~ | 41.1 < | 2.05 < | |
| | 81.8 | | 85.2 < | | |
| | 39.7 | ~ | | | |
| 8 44 56 | 81.6 | | 41.9 < | | ✓ |
| 8 43 9.70 | 38.8 | l | 43.1 < | 2.05 < | |
| 7 52 | 81.9 80.7 | | 85.0 < | | |
| 13 35 17.8 | | | | | |

B + C #11.82 Ballou #103

8h 51m 52.9s = 8h 44m 0.0s
8 s1 s2.9
#1182 is 7m s2.9s fast.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Oct. 30, 1895.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | 40.2 | λ | | |
| 8 | 54 | 50 | 81.5 | | 41.3 < | 2.12 < |
| | | | 40.5 | ~ | 41.4 < | |
| | | | 81.9 | | 82.7 < | |
| | | | 41.1 | ~ | | |
| 8 | 56 | 20 | 80.1 | | 39.0 < | |
| | | | 39.8 | l | 39.9 < | 2.23 ~~2.20~~ |
| | | | 79.7 | | ~~79.9~~ | |
| | | | | XXI | 78.9 | |
| | | | 37.8 | l | | |
| 8 | 57 | 20 | 82.8 | | 45.0 < | |
| | | | 40.4 | ~ | 41.0 < | 2.02 < |
| | | | 81.4 | | 86.0 < | |
| | | | 39.0 ~~40.1~~ | ~ | | |
| 8 | 58 | 56 | 81.9 | | 42.9 < | |
| 8 | 56 | 57.5 < | 37.9 | l | 45.3 < | 1.96 < |
| | | 52. | 83.2 ~~81.5~~ | | ~~88~~ 88.2 < | |
| 13 | 49 | 0. < | | | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Nov. 1. 1895.

T Androm. Phot. T. Gr. obs.

| | | |
|---|---|---|
| 0 | 18 | +26.1 |
| 22 | 40 | |
| −1 | 34 | |

Too light at present.

Clymene's star Var. Gr. obs.

| | | |
|---|---|---|
| 22 | 10 | −21° 52′ |
| 23 | 25 | |

| | | |
|---|---|---|
| 22 | 4 | −22.0 |
| 23 | 25 | |
| +1 | 21 | |

Clymene's star Variable turns out to be Vesta.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Nov. 1. 1895.

| | | | |
|---|---|---|---|
| 0h | 03 | 41m-5 | Var. |
| | 04 | 18-0 | Comp. Star. |
| | 04 | 35m-5 | Var. |
| | 05m | 12-0 | Comp. Star. |
| | 05m | 42-0 | |
| | 06 | 18-0 | |
| | | 36-0 | |
| | 07 | 12-5m | |
| | 07 | 35m-0 | |
| | 08 | 10-5m | |
| | 08 | 28-5m | |
| | 09 | 05m-0 | |
| | 09 | 35m-5m | |
| | 10 | 11-0 | |
| | 10 | 29-0 | |
| | 11 | 05m-5m | |
| | 11 | 31-0 | |
| | 12 | 07-5m | |
| | 12 | 25m-0 | +0.2s |
| | 13 | 02-0 | |
| | 13 | 25m.5m | |
| | 14 | 01.5m | |
| | 14 | 19.5m | |
| | 14 | 35m.5m | -0.1s |

~~Cy~~

Cygneri star Var. turns out to be Vesta.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

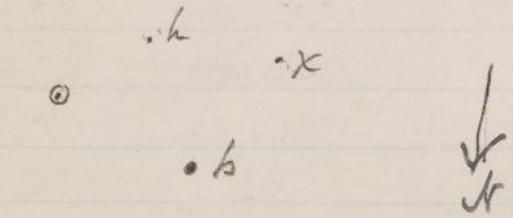
1895phae.proj..531w



Nov. 1. 1895.

Order in precedency transit var, bright star, var, bright star.
Var in southern half. Bright star in northern half.

Comps. star is b on photographic print.
b is ND − 21° 6193.




10 40 x 3 Var., Var. 4.v b Gr. ds.
Absolute est. is difficult from low altitude and bright moonlight. but var. would seem to be as faint as 9.v or 10.0 mags.

10 42 x 3 Var. Colon ds.

Σ 764 H. N. 7v Gr. ds.

| v | 3v | +29.v |
|---|---|---|
| 0 | 4v | |
| − x | k 7 | |
| 1v | | |
| 7 | 13 | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Nov. 1 1895

Pos. Am. 25.0 Dis. 25.5 Mags. 6.2 6.7

10 06

(Index below) 12.2 < bntr. dis.

26.7 74.5 <

13.8 71.8 < 0.65 <

85.6 146.3 <

Index above.

101.2

176.0 74.8 <

102.8 72.2 < 0.63 <

175.0 147.0 <

102.9

176.0 73.1 <

102.2 74.0 < 0.63 <

176.2 147.1 <

Index. below

194.2

264.3 70.1 <

190.9 73.1 < 0.71 <

264.0 143.2 <

192.1

263.3 71.2 <

197.0 67.9 < 0.79 <

264.9 139.1 <

Index above

10 10

10 8

281.0

355.9 74.9 < 0.69 <

284.9 69.3 <

354.2 144.2 <

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531W



Nov. 1 1895

Σ 2472 Gr. ds.

6 7 +36.2
1 12

4 vv
7 v

Pos. Au. 210° Dis. 10° Mags 6.0 7.0
Index to right + above

10 20

10.0< brtn. dis.
90.1 80.1<
13.7 73.3< 0.51<
87.0 153.4<

Index to left + below

105.5-
177.0 71.5<
102.8 74.0< 0.66<
176.8 145.5<

100.7
178.5 77.8<
101.0 73.7< 0.55<
174.7 151.5<

Index to right + above

197.0
265.0 68.0<
190.0 75.0< 0.71<
265.0 143.0<

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Nov. 1 1895

188.9
knob 2 for 1 −165.8
192.5−
265.0

2 3.6.9
~~3.2.4~~ 769
7 2.5 7 2.5
3 9 4 149.4 − 0.57
30.6

Index 6 left and below

242.0
356.1 74.1
280.8 75.8 0.58
356.6 149.9

10 30
10 25−

17

Σ 921. H. A. 2 Fr. obs.

6 2K +11.K
1 30
K V−K
7 6

6 2K
1 36− +11.K
K 49
7 11.

Too faint in moon light and haze.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...531w



# Nov. 3. 1895.

B. & C. 1162. Ballou 103.

17 16
16 ✓ 16.0 17 ✓ 7 0.0
6 16.0 ✓ 4 0.0

Sis of Jin. I Phot R & Obs. Colson Rec.

Compared with other and brighter sat. on preceding side. Equals Sat. III

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 17 19 05 | 27 | 21. | 47.1 | | 275.0 | | | |
| 23 | 17 19 26 | 39. | 43.3 | | 0 ×00.1 | 185.1 | | |
| 33 | | 49. | 164.4 | | 276.9 | 182.3 | | |
| 43 | | 59. | 82.2 | +0.2 | ×00.2 | 364.4 | | |
| | | | | | | 184.2 | | 175.8 |
| 53 | 28 | 09. | | | 278.1 | | | |
| 20 03 | 17 20 07 | 19. | 81.9 | | 0 ×00.0 | 185.9 | | |
| 11 | | 29. | 83.6 | | 277.1 | 183.6 | | |
| 21 | | 39. | 165.5 | | ×00.7 | 184.4 | | 175.2 |
| | | | 82.8 | +0.3 | | | | |
| 28 | | 44. | | | 279.0 < clouds thick | | | |
| 35 | 17 20 42 | 51. | | | 0 | | | |
| 49 | 29 | 05. | 81.0 | | ×00.0 | 181.0 | | |
| 56 | | 12. | 82.2 | | 278.0 | 182.2 | | |
| | | | 163.2 | | ×00.2 | 181.6 | | 178.4 |
| 21 04 | | 20. | 81.6 | +0.3 | | | | |
| 15 | 29 | 31. | 84.8 | | 276.1 | | | |
| 57 | 17 30 21 36 | 43. | 82.1 | | 0 ×00.9 | 184.8 | | |
| 22 09 | | 53. | 166.9 | | 278.0 | 182.1 | | |
| 16 | | 02. | 83.4 | +0.3 | 0 ×00.1 | 183.4 | | 176.6 |
| 26 | | 12. | | | 281.0 | | | |
| | | 42 | | | 0 ×00.1 | | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Jan 3. 1895

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 22 35 | 17 22 31 | 51 | 79.1 | | 279.0 | | 179.1 | | |
| 47 | 31 | 03 | 81.5 | | | | 181.5 | | |
| | | | 80.3 | +0.4 | 280.5 | | 180.3 | 179.7 | |
| 23 00 | | 16 | | | 276.1 | | | | |
| 10 | | | 83.9 | | | | 183.9 | | |
| 17 | 17 23 14 | 23 | 84.4 | | 280.0 | | 184.4 | | |
| 29 | | 32 | 168.3 | +0.2 | 275.7 | | 184.2 | 175.8 | |
| | | | 84.2 | | 280.2 | clouds | | | |
| 42 | | 44 | | | 274.0 | | | | |
| 52 | 32 | 57 | 86.8 | | | | 186.8 | | |
| 24 04 | 17 23 58 | 07 | 82.3 | | 277.7 | | 182.3 | | |
| 14 | | 19 | 169.1 | +0.2 | | | 184.6 | 175.4 | |
| | | 29 | 84.6 | | 276.0 | | | | |
| 25 | | 48 | | | | | | | |
| 39 | 17 24 42 | 54 | 84.3 | | 276.3 | | 183.3 | | |
| 48 | 33 | 03 | 78.8 | | 281.2 | | 188 | | |
| 57 | | 12 | 163.1 | +0.3 | 280.0 | | 181.6 | 179.4 | |
| | | 29 | 81.6 | | 276.1 | | | | |
| 25 14 | | | | | | | | | |
| 24 | | 39 | 84.2 | | 276.3 | | 184.2 | | |
| 38 | 17 25 32 | 53 | 80.8 | | 279.7 | | 180.8 | | |
| 50 | 34 | 03 | 165.0 | +0.3 | 280.0 | | 182.5 | 177.5 | |
| | | 21 | 82.5 | | 278.5 | | | | |
| 26 06 | | | | | | | | | |
| 16 | | 31 | 82.3 | | 280.3 | | 182.3 | | |
| 31 | 17 26 37 | 46 | 84.8 | | 275.2 | | 184.8 | | |
| 27 13 | 35 | 24 | 167.1 | +0.2 | 280.0 | | 183.6 | 176.4 | |
| | | 39 | 83.6 | | 279.3 | | | | |
| 24 | | | | | | | | | |
| 34 | ~~17 27 46~~ | 49 | 80.9 | | 280.2 | | 180.9 | | |
| 43 | | 38 | 161.8 | | 279.8 | | 180.9 | 179.1 | |
| 59 | 36 | 14 | 80.9 | +0.3 | 280.2 | | | | |
| | | 40 | | | 277.8 | | | | |
| 28 25 | | | | | | | | | |
| 37 | | 32 | 82.2 | +0.3 | 280.0 | | 182.2 | 177.8 | |
| 29 15 | 37 | 30 | 83.0 | +0.3 | 277.0 | | 183.0 | 177.0 | |
| 23 | | 38 | 83.0 | +0.3 | 280.0 | | 183.0 | 177.0 | |
| 27 | | 42 | 76.0 | +0.5 | 274.0 | | 176.0 | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj...531w



Aug. 31 1895—

| | | | | | | |
|---|---|---|---|---|---|---|
| 17 | 29 | 40 | 55 | +0.6 | 359.0 | 75.0 |
| | | 46 | 01 | +0.3 | 277.0 | 82.0 |
| | | 54 | 09 | +0.3 | 356.3 | 81.3 |
| | 30 | 00 | 15 | +0.5 | 280.7 | 77.6 |
| | | 06 | 21 | +0.4 | 000.0 | 79.3 |
| | | 14 | 29 | +0.5 | 282.8 | 77.2 |
| | | 23 | 38 | +0.6 | 356.5 | 73.7 |
| | | 32 | 47 | +0.7 | 282.2 | 71.3 |
| | | 38 | 53 | +0.7 | 358.7 | 71.5 |
| | | 45 | 39 00 | +0.6 | 281.9 | 74.8 |
| | | 51 | 06 | +0.6 | 358.1 | 73.2 |
| | | 57 | 12 | +0.8 | 286.8 | 68.3 |
| | 31 | 04 | 19 | +0.8 | 356.1 | 69.3 |
| | | 13 | 28 | +0.9 | 289.2 | 66.9 |
| | | 19 | 34 | +0.9 | 357.2 | 68.8 |
| | | 25 | 40 | +0.8 | 287.0 | 70.2 |
| | | 34 | 49 | +1.0 | 351.0 | Clouds thick |
| | 32 | 05 | 40 | 20 | 541 | 296.9 |

Clouds thick

34 59 43 1K Clouds a little thinner. Sat. III ~~Saturn~~ invisible. Sat. I invisible.

40 00 48 15 ~~Sat~~ Sky a little clearer so that Sat II & III are fairly well seen. Sat I invisible. Undoubtedly the eclipse is all over. Troubled by clouds throughout so that Obs. was prevented from finishing Obsn. for disappearance.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531W



Nov. 3. 1895.

| B. & C. 1162 | | | Ballou 103. | | |
|---|---|---|---|---|---|
| 17 | 56 | 14.7 | 17 | 48 | 0.0 |
| | 57 | 14.6 | | 49 | 0.0 |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Nov. 4. 1895.

| T. Androm: | Phot. T: | W: obs |
|---|---|---|
| 0 | 14 | +26.1 |
| 22 | 34 | |
| −1 | 40 | |
| 10 | 20 | |

Index to left and above.

| | | | | |
|---|---|---|---|---|
| | | 59.8 | < comp. cran dis. | |
| 7 | 31 | 5 | 101.4 | 41.6 < |
| | | | 60.1 | 46.0 < 1.98 < |
| | | | 106.1 | 87.6 < |

Index to right and below

| | | | | |
|---|---|---|---|---|
| | | 149.1 | | |
| 7 | 34 | 27 | 199.9 | 50.8 < |
| | | | 149.6 | 47.6 < 1.70 < |
| | | | 197.2 | 98.4 < |

| | | | | |
|---|---|---|---|---|
| | | 149.8 | | |
| 7 | 36 | 15 | 197.8 | 48.0 < |
| | | | 146.2 | 55.7 < 1.57 < |
| | | | 201.9 | 103.7 < |

~~Index~~

Index to left and above.

| | | | | |
|---|---|---|---|---|
| | | 238.7 | | |
| 7 | 39 | 21 | 287.0 | 48.3 < |
| | | | 239.8 | 47.0 < 1.77 < |
| | | | 286.8 | 95.3 < |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Nov. 4 1895

| | | | | | |
|---|---|---|---|---|---|
| | | | 239.0 | | |
| 7 | 4 | 7 | 286.6 | 47.6 < | |
| | | | 237.1 | 52.5 < | 1.65 < |
| | | | 289.6 | 100.1 < | |

Index to right and below

| | | | | | |
|---|---|---|---|---|---|
| | | | 330.0 | | |
| 7 | 43 | 7 | 16.3 | 46.3 < | |
| | | | 333.2 | 41.5 < | 1.97 < |
| 7 | 37 | 33.6 | 14.7 | 87.8 < | |

Same repeated
Index to left and above.

| | | | | | |
|---|---|---|---|---|---|
| | | | 60.3 | | |
| 7 | 47 | 25 | 106.3 | 46.0 < | |
| | | | 58.2 ~~68.2~~ | 49.4 < | 1.77 < |
| | | | 107.6 | 95.4 < | |

| | | | | | |
|---|---|---|---|---|---|
| | | | 58.2 | | |
| 7 | 49 | 0 | 109.1 | 50.9 < | |
| | | | 58.8 | 49.5 < | 1.65 < |
| | | | 108.3 | 100.4 < | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Nov. 4 1895.

| | | | | | |
|---|---|---|---|---|---|
| | | | 56.5 | | |
| 7 | 50 | 10 | 109.6 | 53.1 < | 1.59 < |
| | | | 58.6 | 49.8 < | |
| | | | 108.4 | 102.9 < | |

Index to right and ~~above~~ below

| | | | | | |
|---|---|---|---|---|---|
| | | | 150.2 | | |
| 7 | 52 | 23 | 197.4 | 47.2 < | 1.69 < |
| | | | 147.3 | 51.3 < | |
| | | | 198.6 ~~Zero~~ | 98.5 < | |

| | | | | | |
|---|---|---|---|---|---|
| | | | 146.3 | | |
| 7 | 54 | 7 | 200.6 | 54.3 < | 1.53 < |
| | | | 146.9 | 50.8 < | |
| | | | 197.4 | 105.1 < | |

| | | | | | |
|---|---|---|---|---|---|
| | | | 150.4 | | |
| 7 | 55 | 40 = 43 | 196.4 | 46.0 < | 1.65 < |
| 7 | 51 | 28 | 145.7 | 54.2 < | |
| | | | 199.9 | 100.2 < | |

Watch used for times of previous settings on T. Androm was 1m 7s fast.

Altitude very high and observations difficult.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Nov. 4 1895.

B + C # 1182 $8^h\ 28^m\ 18^s.0$ = Ballow # 103 $8^h\ 20^m\ 0^s.0$

$8^h\ 28^m\ 18.0$

B + C 1182 # is Fast $8^m\ 18^s.0$

B. + C. # 1182 used during rest of evening for times of settings.

Obsti: Phot. R: W: obs.

2 4 −2.5

23 40

−2 24

9 36

Index above.

5.8 < comp. standards.

8 46 23 98.8 −

93.0 <

0.0 ~~2 5 4 3.8~~ 98.2 < −0.21 <

98.2

191.2 <

168.8

Index below

268.9

8 49 22 9.9 101.0 <

93.7 < −0.28 <

272.4

6.1

194.7 <

165.3

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Nov. 4. 1895.

8 51 55

272.4
7.5
269.7
7.2 + 0.4

95.1 <
97.5 < 0.7
192.6 <
167.4

−0.24 <

Index above

59 17
54 38

359.9
99.4
4.9
95.2

277.6
99.5 < 359.2
90.3 < 174.8
189.8 < 183.4
170.2

81.6
89.1
170.7

−0.19 <

9 14 50
8 56 35

274.7
95.3
0.3
98.6

92.6 < 365.1
98.3 < 190.4
190.9 < 359.8
169.1

90.4
79.4
169.8

−0.20 <

Index below

5 54
1 48

91.8 0.2 8.2
189.7 93.6
90.4
188.6

87.4
97.9 <
98.2 <
196.1 <
163.9

−0.30 <
+0.24

8 57 26.8

α Ceti is the brighter of the two.

In the above rejected sets, wrong image disappeared.

α Ceti 2.5 comp. star: in large telescope W: obs.

John C. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Nov. 4. 1895.

$\underline{o}$ Ceti 2.5 comp. star: in finder: Wobs star faint: moonlight: absolute estimate = 9.0

| | | | |
|---|---|---|---|
| β Lyrae: | | Phot. R: | W: obs. |
| 18 | 46 | +33.2 | |
| 24 | 26 | | |
| 5 | 40 | | |

Index below.

220.7 < β Lyrae dis.
238.9
218.0 18.2<
240.8 22.8<
41.0<

9 45 34 3.71<

Index above.

307.0
332.5 25.5<
309.2 19.6<
328.8 45.1<

9 47 43 3.50<

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



9 45 34
9 47 43

Nov. 4. 1895.

309.3
9 49 59 329.0 19.7 < 3.51 <
306.5 25.2 <
331.7 44.9 <

Index below
36.6
9 51 59 61.9 25.3 < 3.62 <
40.9 17.4 <
58.3 42.7 <

40.7
9 54 5 ~~58.3~~ 17.6 < 3.71 <
38.0 23.4 <
61.4 41.0 <

Index above.
126.8
9 36 9 151.9 25.1 < 3.57 <
130.4 18.6 <
149.0 43.7 <

6 | 3 6 2
3.603

~~9 37 2.8~~

6 | 305 2.9 314.8 329.7
9 50 54.83
−8 18.00
9 42 36.83

Σ2809 : ~~I~~ IV 38? : PhotR : W : vb

21 31 − 1.0
1 15
+3 44

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



Nov. 4. 1895.

Index above.

| | | |
|---|---|---|
| 123.8 | < brighter dia. | |
| 154.3 | 30.5 < | |
| 126.6 | 26.2 < | 2.99 < |
| 152.8 | 56.7 < | |

10 18 49

Index below.

| | | |
|---|---|---|
| 217.5 | | |
| 241.0 | 23.5 < | |
| 214.7 | 28.3 < | 3.19 < |
| 243.0 | 51.8 < | |

| | | |
|---|---|---|
| 214.0 | | |
| 243.4 | 29.4 < | |
| 217.2 | 25.3 < | 3.07 < |
| 242.5 | 54.7 < | |

Index above.

| | | |
|---|---|---|
| 306.8 | 24.5 < | |
| 331.3 | 30.9 < | 3.04 < |
| 305.2 | 55.4 < | |
| 336.1 | | |

| | | |
|---|---|---|
| 304.5 | 29.5 < | |
| 334.0 | 23.9 < | 3.12 < |
| 307.7 | 53.4 < | |
| 331.6 | | |

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w



18 49

10 27 24

46 13

10 23 6.5

Index below

37.0
61.4
34.6
64.4

24.4 <
29.8 <
54.2 <

3.09 <

Position angle = 210°; distance = 30″
magn. = 6.2 and ~~7.7~~ 8.9

δ Cephei: PhotR: w.obs.

22 25 + 57.8
1 37
3 12

Index ~~below~~ above.

48 0 118.2 ~~76.9~~ ~~2.2.4~~ < var dis.
10 ~~44~~ 35 160.0 ~~76~~ 9
118.3 ~~31~~ 2
161.7 ~~69.9~~

5 .5 41.8 <
3 6 7 43.4 <
8 5.2 <
2.0 5 <

Index ~~above~~ below.

208.9
10 50 31 252.1
208.5
249.6

43.2 <
41.1 <
84.3 <

2.07 <

206.7
10 52 6 250.8
205.0
252.8

44.1 <
47.8 <
91.9 <

1.86 <

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj--531w

222

10

Nov. 4. 1895

3h 0 51

Index above.

| | | | | |
|---|---|---|---|---|
| | | 298.0 | | |
| 10 | 54 | 0 | 341.2 | 43.2 < |
| | | | 298.1 | 41.6 < 2.06 < |
| | | | 339.7 | 84.8 < |
| | | | 298.7 | |
| 10 | 55 | 28 | 339.1 | 40.4 < |
| | | | 296.3 | 44.6 < 2.05 < |
| | | | 340.9 | 85.0 < |

Index below.

| | | | | | |
|---|---|---|---|---|---|
| | | | 28.0 | | |
| 10 | 57 | 5 | 70.8 | 42.8 < | |
| | | | 29.0 | 41.2 < | 2.08 < |
| 10 | 52 | 51.7 | 70.2 | 84.0 < | 2.03 |

Stella Sieps. Var. +17° 4367 (9.1)

11h 4m { Var 1 a / c 1 Var / Var 2.5 b } Grant Eyr. Yr. obs.

11 7 { c 2 Var / Var 1.5 b / Var 1 a } " " Cran obs.

11 20 { c 2 Var. } " " Colon obs.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531w

Posted to here.

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531W

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..53.1W

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

1895phae.proj..531W

John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System