

KG  
11365  
867

HENRY DRAPER MEMORIAL.

*Miscellaneous.*

*No. 49.*

KG1136 5.867



KG11365.867









February 5<sup>th</sup> 1890.

2. 15

Measurements of Intensity of Spectrum taken with the 11 inch Draper Telescope. Frame B used, with centimeter scale attached. Position of hydrogen lines to be measured by means of above scale. Intensity of spectrum to be compared with wedge for each centimeter on the scale, then reading backwards for each centimeter taking the points on the spectrum half way between those already measured.

Plate C 411.  $\lambda$  Camis Majoris

F 16.82 G 20.78 H. 23.27 H. 24.90  $\lambda$  25.62

|         | H     | Br.  | H    | Br.  |      |       |
|---------|-------|------|------|------|------|-------|
| G 20.78 | 10.54 | 8.5? | 15.9 | 8.10 | -5.4 | 8.50? |
|         | 11.64 | 7.0  |      |      | -4.9 | 8.10  |
|         | 12.74 | 6.2  | 16.9 | 6.65 | -4.4 | 7.00  |
|         | 13.84 | 5.7  |      |      | -3.9 | 6.65  |
|         | 14.94 | 5.6  | 17.9 | 5.75 | -3.4 | 6.20  |
|         | 20.4  | 5.6  |      |      | -2.9 | 5.75  |
|         | 21.4  | 5.6  | 18.9 | 5.65 | -2.4 | 5.70  |
|         | 22.4  | 5.7  |      |      | -1.9 | 5.65  |
|         | 23.4  | 5.8  | 19.9 | 5.65 | -1.4 | 5.60  |
|         | 24.4  | 5.9  |      |      | -0.9 | 5.65  |
|         | 25.4  | 6.35 | 20.9 | 5.6  | -0.4 | 5.60  |
|         | 26.4  | 7.35 |      |      | +0.1 | 5.60  |
|         |       |      | 21.9 | 5.6  | +0.6 | 5.60  |
|         |       |      |      |      | +1.1 | 5.60  |
|         |       |      | 22.9 | 5.6  | +1.6 | 5.70  |
|         |       |      |      |      | +2.1 | 5.60  |
|         |       |      | 23.9 | 5.6  | +2.6 | 5.80  |
|         |       |      |      |      | +3.1 | 5.60  |
|         |       |      | 24.9 | 6.4  | +3.6 | 5.90  |
|         |       |      |      |      | +4.1 | 6.40  |
|         |       |      | 25.9 | 7.2  | +4.6 | 6.35  |
|         |       |      |      |      | +5.1 | 7.20  |
|         |       |      | 26.9 | 7.8  | +5.6 | 7.35  |
|         |       |      |      |      | +6.1 | 7.80  |

February 5, 1890  
 Plate C475 d Tauri  
 (f) 14.51 (g) 18.48 (h) 20.86 (i) 22.53

| g 18.48 | H    | Br.  | H    | Br.  |      |      |
|---------|------|------|------|------|------|------|
|         | 13.7 | 7.2  | 14.2 | 6.60 | -4.8 | 7.20 |
|         | 14.7 | 6.1  | 15.2 | 5.50 | -4.3 | 6.60 |
|         | 15.7 | 5.35 | 16.2 | 5.30 | -3.8 | 6.10 |
|         | 16.7 | 5.4  | 17.2 | 5.25 | -3.3 | 5.50 |
|         | 17.7 | 5.4  | 18.2 | 5.30 | -2.8 | 5.35 |
|         | 18.7 | 6.15 | 19.2 | 5.75 | -2.3 | 5.30 |
|         | 19.7 | 6.05 | 20.2 | 6.00 | -1.8 | 5.40 |
|         | 20.7 | 58.5 | 21.2 | 5.60 | -1.3 | 5.25 |
|         | 21.7 | 59.5 | 22.2 | 6.45 | -0.8 | 5.40 |
|         | 22.7 | 7.30 | 23.2 | 7.5  | -0.3 | 5.30 |
|         |      |      |      |      | +0.2 | 6.15 |
|         |      |      |      |      | +0.7 | 5.75 |
|         |      |      |      |      | +1.2 | 6.05 |
|         |      |      |      |      | +1.7 | 6.00 |
|         |      |      |      |      | +2.2 | 5.85 |
|         |      |      |      |      | +2.7 | 5.60 |
|         |      |      |      |      | +3.2 | 5.95 |
|         |      |      |      |      | +3.7 | 6.45 |
|         |      |      |      |      | +4.2 | 7.30 |
|         |      |      |      |      | +4.7 | 7.50 |

Plate C429. d Aurigae  
 (f) 14.81 (g) 18.73 (h) 21.21 (i) 22.83 (j) 23.93

| g 18.73 | H    | B.   | H    | B.   |      |      |
|---------|------|------|------|------|------|------|
|         | 13.7 | 8.0  | 14.2 | 7.10 | -5.0 | 8.00 |
|         | 14.7 | 6.6  | 15.2 | 6.25 | -4.5 | 7.10 |
|         | 15.7 | 5.85 | 16.2 | 5.75 | -4.0 | 6.60 |
|         | 16.7 | 5.55 | 17.2 | 5.65 | -3.5 | 6.25 |
|         | 17.7 | 5.50 | 18.2 | 5.70 | -3.0 | 5.85 |
|         | 18.7 | 5.55 | 19.2 | 5.70 | -2.5 | 5.75 |
|         | 19.7 | 5.75 | 20.2 | 5.80 | -2.0 | 5.55 |
|         | 20.7 | 5.65 | 21.2 | 5.70 | -1.5 | 5.65 |
|         | 21.7 | 5.75 | 22.2 | 5.75 | -1.0 | 5.50 |
|         | 22.7 | 6.10 | 23.2 | 6.60 | -0.5 | 5.70 |
|         | 23.7 | 6.70 | 24.2 | 7.55 | 0.0  | 5.55 |
|         | 24.7 | 7.90 | 25.2 | 8.4  | +0.5 | 5.70 |
|         |      |      |      |      | +1.0 | 5.75 |
|         |      |      |      |      | +1.5 | 5.80 |
|         |      |      |      |      | +2.0 | 5.65 |
|         |      |      |      |      | +2.5 | 5.70 |
|         |      |      |      |      | +3.0 | 5.75 |
|         |      |      |      |      | +3.5 | 5.75 |
|         |      |      |      |      | +4.0 | 6.10 |
|         |      |      |      |      | +4.5 | 6.60 |
|         |      |      |      |      | +5.0 | 6.70 |
|         |      |      |      |      | +5.5 | 7.55 |
|         |      |      |      |      | +6.0 | 7.90 |
|         |      |      |      |      | +6.5 | 8.40 |

February 5 1890  
 Plate C 1032. *f* Cassiopeiae  
 (F) 15.49 (G) 19.43 (H) 21.89 (I) 23.51 & 24.61

| G 19.43 | H    | Br. | H    | Br.  | Br.       |
|---------|------|-----|------|------|-----------|
| 13.5    | 8.0  |     | 14.0 | 7.7  | -5.9 8.00 |
| 14.5    | 7.3  |     | 15.0 | 6.55 | -5.4 7.70 |
| 15.5    | 6.3  |     | 16.0 | 5.8  | -4.9 7.30 |
| 16.5    | 5.4  |     | 17.0 | 5.45 | -4.4 6.55 |
| 17.5    | 5.3  |     | 18.0 | 5.35 | -3.9 6.30 |
| 18.5    | 5.35 |     | 19.0 | 5.35 | -3.4 5.80 |
| 19.5    | 5.40 |     | 20.0 | 5.45 | -2.9 5.40 |
| 20.5    | 5.50 |     | 21.0 | 5.45 | -2.4 5.45 |
| 21.5    | 5.50 |     | 22.0 | 5.5  | -1.9 5.30 |
| 22.5    | 5.60 |     | 23.0 | 5.7  | -1.4 5.35 |
| 23.5    | 5.90 |     | 24.0 | 6.3  | -0.9 5.35 |
| 24.5    | 6.75 |     | 25.0 | 7.4  | -0.4 5.35 |
| 25.5    | 7.70 |     | 26.0 | 8.3  | +0.1 5.40 |
|         |      |     |      |      | +0.6 5.45 |
|         |      |     |      |      | +1.1 5.50 |
|         |      |     |      |      | +1.6 5.45 |
|         |      |     |      |      | +2.1 5.50 |
|         |      |     |      |      | +2.6 5.50 |
|         |      |     |      |      | +3.1 5.60 |
|         |      |     |      |      | +3.6 5.70 |
|         |      |     |      |      | +4.1 5.90 |
|         |      |     |      |      | +4.6 6.30 |
|         |      |     |      |      | +5.1 6.75 |
|         |      |     |      |      | +5.6 7.40 |
|         |      |     |      |      | +6.1 7.70 |
|         |      |     |      |      | +6.6 8.30 |

Plate C 493 *α* Canis Minoris

| F 15.71   | G 19.00   | H 21.44 | I 23.19 (& 24.21)? |
|-----------|-----------|---------|--------------------|
| 14.0 8.4  |           |         | -5.0 8.40          |
| 15.0 6.95 | 14.5 7.80 |         | -4.5 7.80          |
| 16.0 5.90 | 15.5 6.40 |         | -4.0 6.95          |
| 17.0 5.50 | 16.5 5.75 |         | -3.5 6.40          |
| 18.0 5.55 | 17.5 5.60 |         | -3.0 5.90          |
| 19.0 5.70 | 18.5 5.75 |         | -2.5 5.75          |
| 20.0 5.75 | 19.5 5.80 |         | -2.0 5.50          |
| 21.0 5.95 | 20.5 6.00 |         | -1.5 5.60          |
| 22.0 6.05 | 21.5 6.05 |         | -1.0 5.55          |
| 23.0 7.05 | 22.5 6.35 |         | -0.5 5.75          |
| 24.0 8.10 | 23.5 7.4  |         | 0.0 5.70           |
|           |           |         | +0.5 5.80          |
|           |           |         | +1.0 5.75          |
|           |           |         | +1.5 6.00          |
|           |           |         | +2.0 5.95          |
|           |           |         | +2.5 6.05          |
|           |           |         | +3.0 6.05          |
|           |           |         | +3.5 6.35          |
|           |           |         | +4.0 7.05          |
|           |           |         | +4.4 7.40          |
|           |           |         | +5.0 8.10          |

\* Meas. under lens on  
 edge of break.

February 5-1890. &  
 Plate C 1042  $\alpha$  Tauri.  
 (F) 15.30 (G) 19.24 (H) 21.69 (I) 23.31

| G. 1924 | H    | B <sub>2</sub> |      |      |      |       |
|---------|------|----------------|------|------|------|-------|
|         | 13.7 | 7.8            | 14.2 | 7.40 | -5.5 | 7.80  |
|         | 14.7 | 6.5            | 15.2 | 6.00 | -5.0 | 7.40  |
|         | 15.7 | 5.7            |      |      | -4.5 | 6.50  |
|         | 16.7 | 5.25           | 16.2 | 5.40 | -4.0 | 6.00  |
|         | 17.7 | 5.30           | 17.2 | 5.30 | -3.5 | 5.70  |
|         | 18.7 | 5.60           | 18.2 | 5.90 | -3.0 | 5.40  |
|         | 19.7 | 6.05           | 19.2 | 6.00 | -2.5 | 5.25  |
|         | 20.7 | 6.50           | 20.2 | 6.40 | -2.0 | 5.30  |
|         | 21.7 | 6.60           | 21.2 | 6.50 | -1.5 | 5.30  |
|         | 22.7 | 7.10           | 22.2 | 6.60 | -1.0 | 5.90  |
|         |      |                | 23.2 | 8.3? | -0.5 | 5.60  |
|         |      |                |      |      | 0.0  | 6.00  |
|         |      |                |      |      | +0.5 | 6.05  |
|         |      |                |      |      | +1.0 | 6.40  |
|         |      |                |      |      | +1.5 | 6.50  |
|         |      |                |      |      | +2.0 | 6.50  |
|         |      |                |      |      | +2.5 | 6.60  |
|         |      |                |      |      | +3.0 | 6.60  |
|         |      |                |      |      | +3.5 | 7.10  |
|         |      |                |      |      | +4.0 | 8.30? |

Plate C. 1043  $\alpha$  Orionis  
 (F) 15.23 (G) 19.20 (H) 21.67 (I) 23.33

| G. 1920 | H    | B <sub>2</sub> |      |      |      |       |
|---------|------|----------------|------|------|------|-------|
|         | 13.7 | 7.6            | 14.2 | 7.2  | -5.5 | 7.60  |
|         | 14.7 | 6.25           | 15.2 | 6.10 | -5.0 | 7.20  |
|         | 15.7 | 5.75           | 16.2 | 5.50 | -4.5 | 6.25  |
|         | 16.7 | 5.65           | 17.2 | 5.45 | -4.0 | 6.10  |
|         | 17.7 | 5.50           | 18.2 | 5.70 | -3.5 | 5.75  |
|         | 18.7 | 5.80           | 19.2 | 6.0  | -3.0 | 5.50  |
|         | 19.7 | 6.35           | 20.2 | 6.5  | -2.5 | 5.65  |
|         | 20.7 | 6.60           | 21.2 | 6.7  | -2.0 | 5.45  |
|         | 21.7 | 6.70           | 22.2 | 7.0  | -1.5 | 5.45  |
|         | 22.7 | 7.20           | 23.2 | 8.3? | -1.0 | 5.50  |
|         |      |                |      |      | -0.5 | 5.70  |
|         |      |                |      |      | 0.0  | 5.80  |
|         |      |                |      |      | +0.1 | 6.00  |
|         |      |                |      |      | +0.5 | 6.35  |
|         |      |                |      |      | +1.0 | 6.50  |
|         |      |                |      |      | +1.5 | 6.60  |
|         |      |                |      |      | +2.0 | 6.70  |
|         |      |                |      |      | +2.5 | 6.70  |
|         |      |                |      |      | +3.0 | 7.00  |
|         |      |                |      |      | +3.5 | 7.20  |
|         |      |                |      |      | +4.0 | 8.30? |

February 6, 1890.

3 15

Plate 523  $\alpha$  VirginisF 14.71 G 18.68 h 21.17 H 22.78  $\alpha$  23.89

| H      | Br.  |       |      |      |      |       |       |       |  |
|--------|------|-------|------|------|------|-------|-------|-------|--|
|        |      | 14.3  | 7.80 | -4.4 | 7.80 | -2.20 | 9.120 |       |  |
| G 18.7 | 14.8 | 6.950 | 1.53 | 6.30 | -3.9 | 6.95  | -1.35 | 9.460 |  |
|        | 15.8 | 5.90  | 1.63 | 5.75 | -3.4 | 6.30  | .70   | 9.720 |  |
|        | 16.8 | 5.60  | 1.73 | 5.65 | -2.9 | 5.90  | .30   | 9.880 |  |
|        | 17.8 | 5.60  | 1.83 | 5.60 | -2.4 | 5.75  | .15   | 9.940 |  |
|        | 18.8 | 5.60  | 1.93 | 5.60 | -1.9 | 5.60  | .00   | 10.00 |  |
|        | 19.8 | 5.70  | 2.03 | 5.65 | -1.4 | 5.65  | .05   | 9.980 |  |
|        | 20.8 | 5.75  | 2.13 | 5.70 | -0.9 | 5.60  | .00   | 10.00 |  |
|        | 21.8 | 5.80  | 2.23 | 5.90 | -0.4 | 5.60  | .00   | 10.00 |  |
|        | 22.8 | 6.25  | 2.33 | 6.50 | +0.1 | 5.60  | .00   | 10.00 |  |
|        | 23.8 | 7.35  | 2.43 | 8.10 | +0.6 | 5.60  | .00   | 10.00 |  |
|        |      |       |      |      | +1.1 | 5.70  | .10   | 9.960 |  |
|        |      |       |      |      | +1.6 | 5.65  | .05   | 9.980 |  |
|        |      |       |      |      | +2.1 | 5.75  | .15   | 9.940 |  |
|        |      |       |      |      | +2.6 | 5.70  | .10   | 9.960 |  |
|        |      |       |      |      | +3.1 | 5.80  | .20   | 9.920 |  |
|        |      |       |      |      | +3.6 | 5.90  | .30   | 9.880 |  |
|        |      |       |      |      | +4.1 | 6.25  | .65   | 9.740 |  |
|        |      |       |      |      | +4.6 | 6.50  | .90   | 9.640 |  |
|        |      |       |      |      | +5.1 | 7.35  | 1.75  | 9.300 |  |
|        |      |       |      |      | +5.6 | 8.10  | 2.50  | 9.000 |  |

Plate 411  $\alpha$  Canis MajorisF 16.91 G 20.87 h 23.33 H 24.98  $\alpha$  26.08

| H      | Br.  |      |      |      |      |      |       |       |       |
|--------|------|------|------|------|------|------|-------|-------|-------|
|        |      | 15.4 | 8.40 | -5.0 | 7.90 | -5.5 | 8.40  | -2.75 | 8.90  |
| G 20.9 | 15.9 | 7.90 | 15.4 | 8.40 | -5.5 | 7.90 | -2.25 | 9.10  |       |
|        | 16.9 | 6.50 | 16.4 | 7.35 | -4.0 | 6.50 | -4.5  | 7.35  | -1.70 |
|        | 17.9 | 5.80 | 17.4 | 6.20 | -4.5 | 7.35 | -4.0  | 6.50  | -0.85 |
|        | 18.9 | 5.65 | 18.4 | 5.70 | -3.0 | 5.80 | -3.5  | 6.20  | -0.55 |
|        | 19.9 | 5.60 | 19.4 | 5.65 | -3.5 | 6.20 | -3.0  | 5.80  | -0.15 |
|        | 20.9 | 5.75 | 20.4 | 5.60 | -2.0 | 5.65 | -2.5  | 5.70  | -0.05 |
|        | 21.9 | 5.75 | 21.4 | 5.60 | -2.5 | 5.70 | -2.0  | 5.65  | .00   |
|        | 22.9 | 5.80 | 22.4 | 5.50 | -1.0 | 5.60 | -1.5  | 5.65  | .00   |
|        | 23.9 | 5.80 | 23.4 | 5.85 | -1.5 | 5.65 | -1.0  | 5.60  | .00   |
|        | 24.9 | 6.20 | 24.4 | 5.90 | 0.0  | 5.75 | -0.5  | 5.60  | .00   |
|        | 25.9 | 6.85 | 25.4 | 6.30 | -0.5 | 5.60 | 0.0   | 5.75  | .00   |
|        | 26.9 | 8.00 | 26.4 | 7.15 | +1.9 | 5.75 | +0.5  | 5.60  | .00   |
|        |      |      |      |      | +0.5 | 5.60 | +1.0  | 5.75  | .00   |
|        |      |      |      |      | +2.9 | 5.80 | +1.5  | 5.50  | .00   |
|        |      |      |      |      | +1.5 | 5.50 | +2.0  | 5.80  | .00   |
|        |      |      |      |      | +3.9 | 5.80 | +2.5  | 5.85  | .00   |
|        |      |      |      |      | +2.5 | 5.85 | +3.0  | 5.80  | .00   |
|        |      |      |      |      | +4.9 | 6.20 | +3.5  | 5.90  | .00   |
|        |      |      |      |      | +3.5 | 5.90 | +4.0  | 6.20  | .00   |
|        |      |      |      |      | +5.9 | 6.85 | +4.5  | 6.30  | .00   |
|        |      |      |      |      | +1.5 | 6.30 | +5.0  | 6.85  | .00   |
|        |      |      |      |      | +6.9 | 8.00 | +5.5  | 7.15  | .00   |
|        |      |      |      |      | +5.5 | 7.15 | +6.0  | 8.00  | .00   |

February 6, 1890.

Plate 493

α Bootis Minoris

F 15.09 B 19.01 h 21.48 H 23.16 α 24.19?

G 19.0

| H    | B <sub>r</sub> | T <sub>3.5</sub> | G 5.75                |
|------|----------------|------------------|-----------------------|
| 14.0 | 8.40?          | 14.5 7.55        | -5.0 8.40? -2.65 8.94 |
| 15.0 | 6.85           | 15.5 6.40        | -4.5 7.55 -1.80 9.28  |
| 16.0 | 6.05           | 16.5 5.65        | -4.0 6.85 -1.10 9.56  |
| 17.0 | 5.65           | 17.5 5.60        | -3.5 6.40 -0.65 9.74  |
| 18.0 | 5.75           | 18.5 5.65        | -3.0 6.05 -0.30 9.88  |
| 19.0 | 5.85           | 19.5 5.80        | -2.5 5.65 +0.10 10.04 |
| 20.0 | 5.85           | 20.5 6.05        | -2.0 5.65 +0.10 10.10 |
| 21.0 | 5.95           | 21.5 6.15        | -1.5 5.60 +0.15 10.06 |
| 22.0 | 6.10           | 22.5 6.35        | -1.0 5.75 0.00 10.00  |
| 23.0 | 6.70           | 23.5 7.50        | -0.5 5.65 +0.10 10.04 |
| 24.0 | 7.70           | 24.5 8.30        | 0.0 5.85 -0.10 9.96   |
|      |                |                  | +0.5 5.80 -0.05 9.98  |
|      |                |                  | +1.0 5.85 -0.10 9.96  |
|      |                |                  | +1.5 6.05 -0.30 9.88  |
|      |                |                  | +2.0 5.95 -0.20 9.92  |
|      |                |                  | +2.5 6.15 -0.40 9.84  |
|      |                |                  | +3.0 6.10 -0.35 9.86  |
|      |                |                  | +3.5 6.35 -0.60 9.76  |
|      |                |                  | +4.0 6.70 -0.95 9.62  |
|      |                |                  | +4.5 7.50 -1.75 9.30  |
|      |                |                  | +5.0 7.70 -1.95 9.22  |
|      |                |                  | +5.5 8.30 -2.55 8.98  |

Plate 1043 α Orionis

F 15.31 G 19.23 h 21.69 H 23.32? G 5.90

G 19.2

| H    | B <sub>r</sub> | T <sub>3.5</sub> | G 5.90                          |
|------|----------------|------------------|---------------------------------|
| 14.2 | 7.25           | 13.7 8.20        | 9.08 -5.0 7.25 -5.5 8.20 -2.30  |
| 15.2 | 6.25           | 14.7 6.20        | 9.46 -5.5 8.20 -5.0 7.25 -1.35  |
| 16.2 | 5.55           | 15.7 5.75        | 9.88 -4.0 6.25 -4.5 6.20 -0.30  |
| 17.2 | 5.50           | 16.7 5.60        | 9.86 -4.5 6.20 -4.0 6.25 -0.35  |
| 18.2 | 5.75           | 17.7 5.60        | 10.06 -3.0 5.55 -3.5 5.75 +0.15 |
| 19.2 | 5.75           | 18.7 5.85        | 10.14 -3.5 5.75 -3.0 5.55 +0.35 |
| 20.2 | 6.50           | 19.7 6.25        | 10.12 -2.0 5.50 -2.5 5.60 +0.30 |
| 21.2 | 6.80           | 20.7 6.75        | 10.16 -2.5 5.60 -2.0 5.50 +0.40 |
| 22.2 | 6.80           | 21.7 6.75        | 10.12 -1.0 5.75 -1.5 5.60 +0.30 |
| 23.2 | 8.10           | 22.7 7.35        | 10.06 -1.5 5.60 -1.0 5.75 +0.15 |
|      |                |                  | 10.02 0.0 5.75 -0.5 5.85 +0.05  |
|      |                |                  | 10.06 -0.5 5.85 0.0 5.75 +0.15  |
|      |                |                  | 9.86 +1.0 6.50 +0.5 6.25 -0.35  |
|      |                |                  | 9.76 +0.5 6.25 +1.0 6.50 -0.60  |
|      |                |                  | 9.66 +2.0 6.80 +1.5 6.75 -0.85  |
|      |                |                  | 9.64 +1.5 6.75 +2.0 6.80 -0.90  |
|      |                |                  | 9.66 +3.0 6.80 +2.5 6.75 -0.85  |
|      |                |                  | 9.64 +2.5 6.75 +3.0 6.80 -0.90  |
|      |                |                  | 9.42 +4.0 8.10 +3.5 7.35 -1.45  |
|      |                |                  | 9.12 +3.5 7.35 +4.0 8.10 -2.20  |

February 6<sup>th</sup> 1890

Plate 475 α Tauri.

F 14.50 G 18.46 H 20.98 H 22.54

G 18.5-

| H.   | B.   | 13.0 |      | G 5.55 |       |
|------|------|------|------|--------|-------|
| 14.5 | 6.20 | 14.0 | 6.90 | -4.5   | 6.90  |
| 15.5 | 5.35 | 15.0 | 5.65 | -4.0   | 6.20  |
| 16.5 | 5.25 | 16.0 | 5.60 | -3.5   | 5.65  |
| 17.5 | 5.35 | 17.0 | 5.60 | -3.0   | 5.35  |
| 18.5 | 5.45 | 18.0 | 5.55 | -2.5   | 5.60  |
| 19.5 | 5.60 | 19.0 | 5.75 | -2.0   | 5.25  |
| 20.5 | 5.75 | 20.0 | 6.00 | -1.5   | 5.60  |
| 21.5 | 5.95 | 21.0 | 5.95 | -1.0   | 5.35  |
| 22.5 | 7.05 | 22.0 | 6.40 | -0.5   | 5.55  |
| 23.5 | 8.10 | 23.0 | 7.80 | 0.0    | 5.45  |
|      |      |      |      | +0.5   | 5.75  |
|      |      |      |      | +1.0   | 5.60  |
|      |      |      |      | +1.5   | 6.00  |
|      |      |      |      | +2.0   | 5.75  |
|      |      |      |      | +2.5   | 5.95  |
|      |      |      |      | +3.0   | 5.95  |
|      |      |      |      | +3.5   | 6.40  |
|      |      |      |      | +4.0   | 7.05  |
|      |      |      |      | +4.5   | 7.80  |
|      |      |      |      | +5.0   | 8.10  |
|      |      |      |      |        | -1.35 |
|      |      |      |      |        | -0.65 |
|      |      |      |      |        | -0.10 |
|      |      |      |      |        | +0.20 |
|      |      |      |      |        | -0.05 |
|      |      |      |      |        | +0.30 |
|      |      |      |      |        | -0.05 |
|      |      |      |      |        | +0.20 |
|      |      |      |      |        | 0.00  |
|      |      |      |      |        | +0.10 |
|      |      |      |      |        | -0.20 |
|      |      |      |      |        | -0.05 |
|      |      |      |      |        | -0.45 |
|      |      |      |      |        | -0.20 |
|      |      |      |      |        | -0.40 |
|      |      |      |      |        | -0.40 |
|      |      |      |      |        | -0.85 |
|      |      |      |      |        | -1.50 |
|      |      |      |      |        | -2.25 |
|      |      |      |      |        | -2.55 |

Plate 1032 γ Cassiopeiae

G 19.5

| F 15.53 | G 19.48 | H 21.99 | H 23.57 | G 5.35 |       |
|---------|---------|---------|---------|--------|-------|
| 14.00   | 8.10    | 13.5    | 8.35    | -6.0   | 8.35  |
| 15.0    | 6.60    | 14.5    | 7.40    | -5.5   | 8.10  |
| 16.0    | 5.80    | 15.5    | 6.10    | -5.0   | 7.40  |
| 17.0    | 5.35    | 16.5    | 5.45    | -4.5   | 6.60  |
| 18.0    | 5.30    | 17.5    | 5.35    | -4.0   | 6.10  |
| 19.0    | 5.30    | 18.5    | 5.35    | -3.5   | 5.80  |
| 20.0    | 5.35    | 19.5    | 5.35    | -3.0   | 5.45  |
| 21.0    | 5.45    | 20.5    | 5.45    | -2.5   | 5.35  |
| 22.0    | 5.50    | 21.5    | 5.45    | -2.0   | 5.35  |
| 23.0    | 5.65    | 22.5    | 5.60    | -1.5   | 5.30  |
| 24.0    | 6.45    | 23.5    | 6.10    | -1.0   | 5.35  |
| 25.0    | 7.40    | 24.5    | 6.95    | -0.5   | 5.35  |
| 26.0    | 8.40?   | 25.5    | 8.00    | 0.0    | 5.35  |
|         |         |         |         | +0.5   | 5.35  |
|         |         |         |         | +1.0   | 5.45  |
|         |         |         |         | +1.5   | 5.45  |
|         |         |         |         | +2.0   | 5.45  |
|         |         |         |         | +2.5   | 5.50  |
|         |         |         |         | +3.0   | 5.60  |
|         |         |         |         | +3.5   | 5.65  |
|         |         |         |         | +4.0   | 6.10  |
|         |         |         |         | +4.5   | 6.45  |
|         |         |         |         | +5.0   | 6.95  |
|         |         |         |         | +5.5   | 7.40  |
|         |         |         |         | +6.0   | 8.00  |
|         |         |         |         | +6.5   | 8.40? |
|         |         |         |         |        | -3.00 |
|         |         |         |         |        | -2.75 |
|         |         |         |         |        | -2.05 |
|         |         |         |         |        | -1.25 |
|         |         |         |         |        | -0.75 |
|         |         |         |         |        | -0.45 |
|         |         |         |         |        | -0.10 |
|         |         |         |         |        | 0.00  |
|         |         |         |         |        | 0.00  |
|         |         |         |         |        | +0.05 |
|         |         |         |         |        | 0.00  |
|         |         |         |         |        | +0.05 |
|         |         |         |         |        | 0.00  |
|         |         |         |         |        | 0.00  |
|         |         |         |         |        | -0.10 |
|         |         |         |         |        | -0.10 |
|         |         |         |         |        | -0.15 |
|         |         |         |         |        | -0.25 |
|         |         |         |         |        | -0.30 |
|         |         |         |         |        | -0.75 |
|         |         |         |         |        | -1.10 |
|         |         |         |         |        | -1.60 |
|         |         |         |         |        | -2.05 |
|         |         |         |         |        | -2.65 |
|         |         |         |         |        | -3.05 |

February 6, 1890.

Plate 429  $\alpha$  Aurigae

714.89 G 18.80 h 21.28 H 22.92  $\alpha$  24.01

G 18.8

| H    | Br.   |                 |       | G 5.60                |
|------|-------|-----------------|-------|-----------------------|
| 13.8 | 7.80  | <del>14.3</del> |       | -5.0 7.80 -2.20 9.12  |
| 14.8 | 6.60  | 14.3            | 7.25- | -4.5 7.25 -1.65 9.34  |
| 15.8 | 5.80  | 15.3            | 6.20  | -4.0 6.60 -1.00 9.60  |
| 16.8 | 5.65  | 16.3            | 5.70  | -3.5 6.20 -0.60 9.76  |
| 17.8 | 5.60  | 17.3            | 5.60  | -3.0 5.80 -0.20 9.92  |
| 18.8 | 5.60  | 18.3            | 5.60  | -2.5 5.70 -0.10 9.96  |
| 19.8 | 5.60  | 19.3            | 5.65  | -2.0 5.65 -0.05 9.98  |
| 20.8 | 5.65- | 20.3            | 5.75- | -1.5 5.60 0.00 10.00  |
| 21.8 | 5.75- | 21.3            | 5.75  | -1.0 5.60 0.00 10.00  |
| 22.8 | 6.20  | 22.3            | 5.90  | -0.5 5.60 0.00 10.00  |
| 23.8 | 6.75- | 23.3            | 6.80  | 0.0 5.60 0.00 10.00   |
| 24.8 | 7.75- | 24.3            | 7.50  | +0.5 5.65 -0.05 9.98  |
| 25.8 | 8.45? | 25.3            | 8.00  | +1.0 5.60 0.00 10.00  |
|      |       |                 |       | +1.5 5.75 -0.15 9.94  |
|      |       |                 |       | +2.0 5.65 -0.05 9.98  |
|      |       |                 |       | +2.5 5.75 -0.15 9.94  |
|      |       |                 |       | +3.0 5.75 -0.15 9.94  |
|      |       |                 |       | +3.5 5.90 -0.30 9.88  |
|      |       |                 |       | +4.0 6.20 -0.60 9.76  |
|      |       |                 |       | +4.5 6.80 -1.20 9.52  |
|      |       |                 |       | +5.0 6.75 -1.15 9.54  |
|      |       |                 |       | +5.5 7.50 -1.90 9.24  |
|      |       |                 |       | +6.0 7.75 -2.15 9.14  |
|      |       |                 |       | +6.5 8.00 -2.40 9.04  |
|      |       |                 |       | +7.0 8.45? -2.85 8.86 |

✓

Plate  $\alpha$  Aurigae (Cythere)

February 7, 1890  
 Plate C 523 α Virginii.  
 F 14.76 G 18.68 L 21.12 H 22.78 α 23.88

| H       | Br     |      |      |      |      |       |       |
|---------|--------|------|------|------|------|-------|-------|
| G. 18.7 | * 6.00 | 14.2 | 7.80 | -4.5 | 7.80 | -2.20 | 9.12  |
|         | 5.90   | 15.2 | 6.45 | -4.0 | 6.70 | -1.40 | 9.44  |
| 15.7    | 5.90   |      |      | -3.5 | 6.45 | -0.85 | 9.66  |
| 16.7    | 5.55   | 16.2 | 5.75 | -3.0 | 5.90 | -0.30 | 9.88  |
| 17.7    | 5.55   | 17.2 | 5.55 | -2.5 | 5.75 | -0.15 | 9.94  |
| 18.7    | 5.60   | 18.2 | 5.60 | -2.0 | 5.55 | +0.05 | 10.02 |
| 19.7    | 5.65   | 19.2 | 5.60 | -1.5 | 5.55 | +0.05 | 10.02 |
| 20.7    | 5.70   | 20.2 | 5.70 | -1.0 | 5.55 | +0.05 | 10.02 |
| 21.7    | 5.75   | 21.2 | 5.65 | -0.5 | 5.60 | 0.00  | 10.00 |
| 22.7    | 6.15   | 22.2 | 5.75 | 0.0  | 5.60 | 0.00  | 10.00 |
| 23.7    | 6.75   | 23.2 | 6.65 | +0.5 | 5.60 | 0.00  | 10.00 |
|         |        | 24.2 | 7.90 | +1.0 | 5.65 | -0.05 | 9.98  |
|         |        |      |      | +1.5 | 5.70 | -0.10 | 9.96  |
|         |        |      |      | +2.0 | 5.70 | -0.10 | 9.96  |
|         |        |      |      | +2.5 | 5.65 | -0.05 | 9.98  |
|         |        |      |      | +3.0 | 5.75 | -0.15 | 9.94  |
|         |        |      |      | +3.5 | 5.75 | -0.15 | 9.94  |
|         |        |      |      | +4.0 | 6.15 | -0.55 | 9.78  |
|         |        |      |      | +4.5 | 6.65 | -1.05 | 9.58  |
|         |        |      |      | +5.0 | 6.75 | -1.15 | 9.54  |
|         |        |      |      | +5.5 | 7.90 | -2.30 | 9.08  |

Discordant. Second measure 7.00 First measure wrong.  
 Second measure adopted.

February 18, 1890.

Plate C 1269 Solar Spectrum, Image No. 1.

F 15.76 G 19.72 h 22.21 H 23.94

| G 19.7<br>cutoff. | H    | B    |      |      |      | G = 5.10 |       |       |
|-------------------|------|------|------|------|------|----------|-------|-------|
|                   |      |      | 14.2 | 6.70 | -5.5 | 6.70     | -1.60 | 9.36  |
|                   | 14.7 | 6.30 | 15.2 | 5.70 | -5.0 | 6.30     | -1.20 | 9.52  |
|                   | 15.7 | 5.35 | 16.2 | 5.05 | -4.5 | 5.70     | -0.60 | 9.86  |
|                   | 16.7 | 5.00 | 17.2 | 5.45 | -4.0 | 5.35     | -0.25 | 9.90  |
|                   | 17.7 | 5.00 | 18.2 | 5.45 | -3.5 | 5.05     | +0.05 | 10.02 |
|                   | 18.7 | 5.00 | 19.2 | 5.00 | -3.0 | 5.00     | +0.10 | 10.04 |
|                   | 19.7 | 5.15 | 20.2 | 5.20 | -2.5 | 5.45     | -0.35 | 9.86  |
|                   | 20.7 | 5.25 | 21.2 | 5.25 | -2.0 | 5.00     | +0.10 | 10.04 |
|                   | 21.7 | 5.35 | 22.2 | 5.35 | -1.5 | 5.45     | -0.35 | 9.86  |
|                   | 22.7 | 5.50 | 23.2 | 5.65 | -1.0 | 5.00     | +0.10 | 10.04 |
|                   | 23.7 | 5.75 | 24.2 | 6.70 | -0.5 | 5.00     | +0.10 | 10.04 |
|                   | 24.7 | 7.25 | 25.2 | 8.30 | 0.0  | 5.15     | -0.05 | 9.98  |
|                   |      |      |      |      | +0.5 | 5.20     | -0.10 | 9.96  |
|                   |      |      |      |      | +1.0 | 5.25     | -0.15 | 9.94  |
|                   |      |      |      |      | +1.5 | 5.25     | -0.15 | 9.94  |
|                   |      |      |      |      | +2.0 | 5.35     | -0.25 | 9.90  |
|                   |      |      |      |      | +2.5 | 5.35     | -0.25 | 9.90  |
|                   |      |      |      |      | +3.0 | 5.50     | -0.40 | 9.84  |
|                   |      |      |      |      | +3.5 | 5.65     | -0.55 | 9.78  |
|                   |      |      |      |      | +4.0 | 5.90     | -0.80 | 9.68  |
|                   |      |      |      |      | +4.5 | 6.70     | -1.60 | 9.36  |
|                   |      |      |      |      | +5.0 | 7.25     | -2.15 | 9.14  |
|                   |      |      |      |      | +5.5 | 8.30     | -3.20 | 8.72  |

Plate 2745 No. 1

F 21.69 G 20.77 h 20.18 H 19.81

|       |      |       |      |
|-------|------|-------|------|
| 21.97 | 7.40 | 22.17 | —    |
| 21.57 | 5.75 | 21.77 | 6.50 |
| 21.17 | 5.25 | 21.37 | 5.25 |
| 20.77 | 5.15 | 20.97 | 5.15 |
| 20.37 | 5.15 | 20.57 | 5.15 |
| 19.97 | 5.20 | 20.17 | 5.15 |
| 19.57 | 5.40 | 19.77 | 5.20 |
| 19.17 | 6.05 | 19.37 | 5.65 |
| 18.77 | 6.65 | 18.97 | 6.40 |
| 18.37 | 7.30 | 18.57 | 6.75 |

February 18, 1890.  
Plate 2745 No. 2.

F 21.61 G 20.68 h 20.16 H 19.73

| H     | B <sub>n</sub> |       |      |
|-------|----------------|-------|------|
| 21.88 | 6.25           | 22.08 | 7.90 |
|       |                | 21.68 | 5.25 |
| 21.48 | 4.80           | 21.28 | 4.00 |
| 21.08 | 4.00           | 20.88 | 4.00 |
| 20.68 | 4.00           | 20.48 | 4.00 |
| 20.28 | 4.00           | 20.08 | 4.00 |
| 19.88 | 4.00           | 19.68 | 4.00 |
| 19.48 | 4.20           | 19.28 | 5.00 |
| 19.08 | 5.55           | 18.88 | 5.95 |
| 18.68 | 6.05           | 18.48 | 6.45 |
| 18.28 | 6.70           | 18.08 | 8.00 |

Plate 2745 No. 3

F 21.61 G 20.68 h 20.12 H 19.74

|       |      |       |      |
|-------|------|-------|------|
| 21.88 | 7.05 | 22.08 | -    |
| 21.48 | 5.60 | 21.68 | 6.30 |
| 21.08 | 5.10 | 21.28 | 5.20 |
| 20.68 | 5.15 | 20.88 | 5.00 |
| 20.28 | 5.20 | 20.48 | 5.10 |
| 19.88 | 5.25 | 20.08 | 5.05 |
| 19.48 | 5.35 | 19.68 | 5.15 |
| 19.08 | 6.60 | 19.28 | 5.80 |
| 18.68 | 6.95 | 18.88 | 6.80 |
| 18.28 | 8.30 | 18.48 | 7.50 |

February 18 1890.  
Plate 2745 No. 4

F 21.61 G 20.70 h 20.13 H 19.77

| F     | B <sub>2</sub> |       |                         |
|-------|----------------|-------|-------------------------|
|       |                | 22.10 | 7.40                    |
| 21.90 | 6.25           | 21.70 | 5.15                    |
| 21.50 | 4.65           | 21.30 | 4.05                    |
| 21.10 | 4.00           | 20.90 | 4.00                    |
| 20.70 | 4.00           | 20.50 | 4.00                    |
| 20.30 | 4.10           | 20.10 | 4.10                    |
| 19.90 | 4.15           | 19.70 | 4.20                    |
| 19.50 | 4.65           | 19.30 | <del>4.20</del><br>6.10 |
| 19.10 | 6.95           | 18.90 | <del>6.10</del><br>8.30 |

Plate 2745 No. 5

F 21.65 G 20.73 h 20.18 H 19.80

| F     | B <sub>2</sub> |       |      |
|-------|----------------|-------|------|
| 21.93 | 7.20           | 21.73 | 6.20 |
| 21.53 | 5.65           | 21.33 | 5.30 |
| 21.13 | 5.05           | 20.93 | 5.00 |
| 20.73 | 5.20           | 20.53 | 5.20 |
| 20.33 | 5.25           | 20.13 | 5.25 |
| 19.93 | 5.45           | 19.73 | 5.50 |
| 19.53 | 5.75           | 19.33 | 6.75 |

October 14, 1890

Plate C 1838

Saturn

F 14.00 G 17.90 L 20.37 H 21.20

G 17.9

G 5.75

| H     | Bv.    | H     | Bv.  |     |      |      |       |
|-------|--------|-------|------|-----|------|------|-------|
| 13.90 | 6.00   | 13.40 | 6.15 | -45 | 6.15 | -1.0 | 9.84  |
| 14.90 | 5.60   | 14.40 | 5.65 | -40 | 6.00 | -.25 | 9.90  |
| 15.90 | 5.50   | 15.40 | 5.50 | -35 | 5.65 | +1.0 | 10.04 |
| 16.90 | 5.70   | 16.40 | 5.60 | -30 | 5.60 | +1.5 | 10.06 |
| 17.90 | 5.75   | 17.40 | 5.75 | -25 | 5.50 | +2.5 | 10.10 |
| 18.90 | 5.85   | 18.40 | 5.95 | -20 | 5.50 | +2.5 | 10.10 |
| 19.90 | 6.00   | 19.40 | 6.25 | -15 | 5.60 | +1.5 | 10.06 |
| 20.90 | 6.30   | 20.40 | 6.40 | -10 | 5.70 | +0.5 | 10.02 |
| 21.90 | 7.30   | 21.40 | 6.70 | -05 | 5.75 | .00  | 10.00 |
| 22.90 | 8.60 ? | 22.40 | 8.10 | 00  | 5.75 | .00  | 10.00 |
|       |        |       |      | +05 | 5.95 | -.20 | 9.92  |
|       |        |       |      | +10 | 5.85 | -.10 | 9.96  |
|       |        |       |      | +15 | 6.25 | -.50 | 9.80  |
|       |        |       |      | +20 | 6.00 | -.25 | 9.90  |
|       |        |       |      | +25 | 6.40 | -.65 | 9.74  |
|       |        |       |      | +30 | 6.30 | -.55 | 9.78  |
|       |        |       |      | +35 | 6.70 | -.95 | 9.62  |
|       |        |       |      | +40 | 7.30 | 1.55 | 9.38  |
|       |        |       |      | +45 | 8.10 | 2.35 | 9.06  |
|       |        |       |      | +50 | 8.60 | 2.85 | 8.86  |

Portion of spectrum of greater wavelength than F not contained on plate



*J*

# Examination of Photographs taken during eclipse

19

Nov. 15 1891

Plate ~~VI~~ # Plate I 4761 <sup>h</sup> 2 39 + 15

<sup>r</sup> <sup>H</sup> <sup>RA.</sup> <sup>Dec.</sup>

7.5 13.7 <sup>h</sup> 2 34 + 11 59

Plate II 4762.

15.7 16.2

<sup>h</sup> 2 53.7 + 22 4

2 48 + 20.5

(Probably defect.)

Plate III 4764.

2 50 + 7

<sup>h</sup> Plate IV 4763.

2 50 + 14

12.3 21.3

3 3.0 + 14 6

6.6 19.1

2 58.9 + 11 9

<sup>h</sup> Plate ~~VI~~ V 4765

3 4 + 15

7.5 15.7

3 7.5 + 13 3

~~3 4 + 15~~

Plate VI 4766

3 20 + 25

14.7 10.0

3 12.2 + 26 1

13.0 12.5

3 17.9 + 25 4

11.1 12.2

3 17.0 + 24 5

Plate VII 4767

3 20 + 17

Plate VIII 4768

2 32 + 14

Plate IX 4769

3 18 + 9

Miss Leland's frame used in examining plates.

The plates are measured with the <sup>h</sup> <sup>m</sup> <sup>s</sup> <sup>sec</sup> lower left hand corner

|          |          |                   |           |
|----------|----------|-------------------|-----------|
| $\chi$   | $\chi$   | Plate X 4770      | $h$       |
| $\gamma$ | $\gamma$ | R.A. Dec.         | 3 32 + 17 |
| 19.8     | 17.5     | 3 41.8 + 21 1     |           |
| 14.3     | 13.7     | $h$ 3 33.2 + 18 5 |           |
| 18.0     | 12.5     | 3 31.0 + 20 4     |           |

Plate XI 4771 3 50 + <sup>19</sup>~~17~~

Plate XII 4772 2 50 + 15

Plate XIII 4773 3 20 + 17

November 21, 1891.

Examination of Photographs taken with Smith  
Draper Telescope during Total Eclipse of the Moon  
of November 15, 1891.

2 30

Plate 4761. Ex. R.A.  $2^h 39^m$  Dec.  $+15^\circ$

| No | r    | tl   |
|----|------|------|
| 1  | 10.4 | 15.7 |
| 2  | 14.0 | 20.7 |
| 3  | 19.2 | 14.0 |

Plate 4762 Ex. R.A.  $2^h 54^m$   $+24^\circ$

|   |      |      |
|---|------|------|
| 4 | 7.5  | 23.9 |
| 5 | 9.8  | 19.8 |
| 6 | 14.0 | 19.1 |
| 7 | 18.6 | 17.5 |

Defect

Plate 4763 Ex. R.A.  $2^h 54^m$   $+16^\circ$ .  
Plate examined; nothing found.

3 00

Mrs. Fleming's frame used.

# November 24, 1891

## Examination of Eclipse plates (Continued).

2<sup>h</sup> 45<sup>m</sup> Plate I 4764 Ex. RA. 2<sup>h</sup> 57<sup>m</sup> Dec. +8°

|    | r    | H    |        |
|----|------|------|--------|
| 8  | 9.9  | 14.5 | Defect |
| 9  | 9.9  | 14.8 | Defect |
| 10 | 10.7 | 23.4 | Defect |
| 11 | 11.3 | 5.5  |        |
| 12 | 17.7 | 23.7 | Defect |
| 13 | 23.6 | 19   | Defect |

Plate 4765 Ex. RA. 3<sup>h</sup> 0.9<sup>m</sup> Dec. +17°

14 11.7 24.3

Defect.

Plate 4766 Ex.

RA. 3<sup>h</sup> 24<sup>m</sup> Dec. +26°

|    |      |      |
|----|------|------|
| 15 | 7.6  | 9.4  |
| 16 | 12.4 | 18.4 |
| 17 | 14.9 | 13.0 |
| 18 | 15.4 | 12.4 |

Plate 4767 Ex.

RA. 3<sup>h</sup> 24<sup>m</sup> Dec. +18°

|    |      |      |
|----|------|------|
| 19 | 12.7 | 16.6 |
| 20 | 20.8 | 8.5  |
| 21 | 21.7 | 11.7 |
| 22 | 22.9 | 15.4 |

Star

Plate 4768 Ex.

RA. 2<sup>h</sup> 39<sup>m</sup> +15°

H ov 23 14.4 24.3

November 25, 1891.  
Examination of Eclipse plates (Continued).

Plate 4769 Ef. RA  $3^h 24^m$  Dec.  $+10^\circ$   
24 7.4 15.8  
25 7.7 15.9

Plate 4770 Ef. RA  $3^h 39^m$  Dec.  $+19^\circ$   
plate examined; nothing found.

Plate 4771 Ef. RA  $3^h 54^m$  Dec.  $+20^\circ$   
plate examined; nothing found.

Plate 4772 Ef. RA  $2^h 54^m +16'$   
26 12.3 20.1 Defect

Plate 4773 Ef. RA  $3^h 24^m$  Dec.  $+18^\circ$   
plate examined; nothing found.

Plate 4774 Ef. RA  $3^h 54^m$  Dec.  $+20^\circ$   
plate examined; nothing found.

Plate 4775 Ef. RA  $3^h 9^m$  Dec.  $+17'$   
27 19.8 19.1

Plate 4776 Ef. RA  $3^h 54^m$  Dec.  $+28'$   
plate examined; nothing found.

Plate 4777 Ef. RA  $3^h 54^m$  Dec.  $+12'$   
28 12.0 8.3

November 25, 1891.  
 Examination of Eclipse plates (Continued).

Plate 4778 bf.

R.A. 4<sup>h</sup> 9<sup>m</sup> Dec. +21°

r H

29 9.3 17.1

Defect?

Plate 4779 bf.

R.A. 2<sup>h</sup> 39<sup>m</sup> Dec. +15°

30 23.3 19.6

Plate 4780 bf.

R.A. 2<sup>h</sup> 54<sup>m</sup> Dec. +24°

31 82 10.8

Plate 4781 bf.

R.A. 2<sup>h</sup> 54<sup>m</sup> Dec. +8°

plate examined; nothing found.











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