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Project PHaEDRA - Williamina P. Fleming - Variable Stars #4

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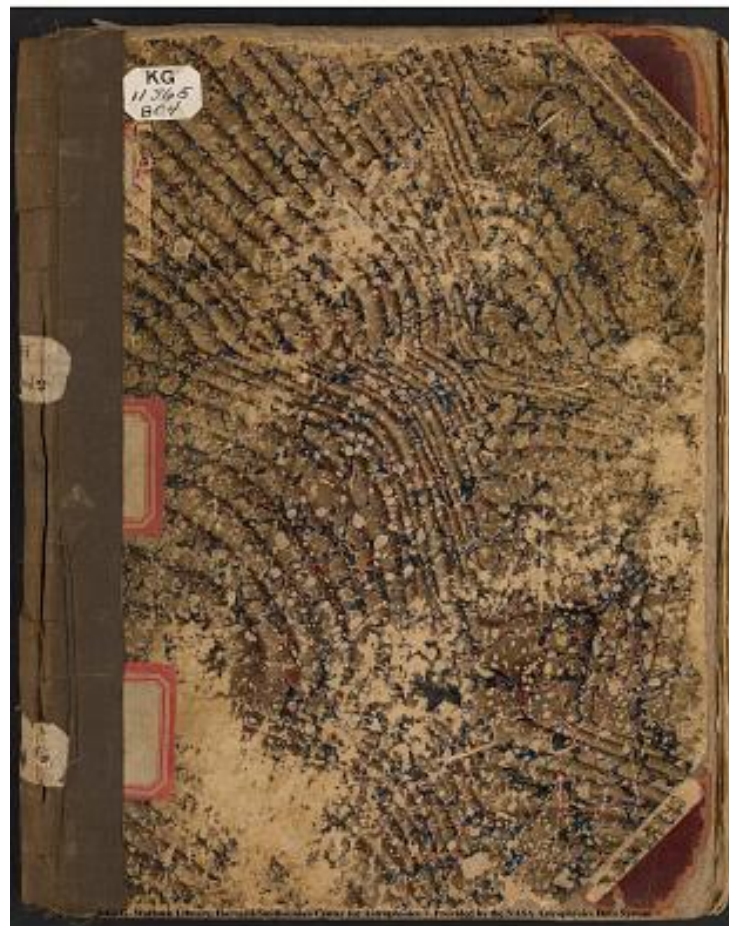
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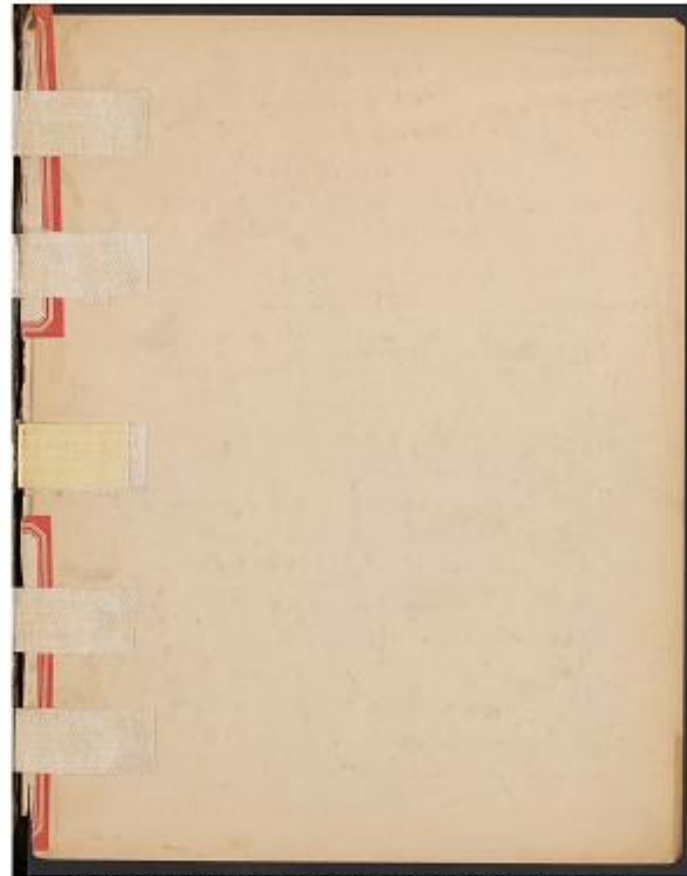
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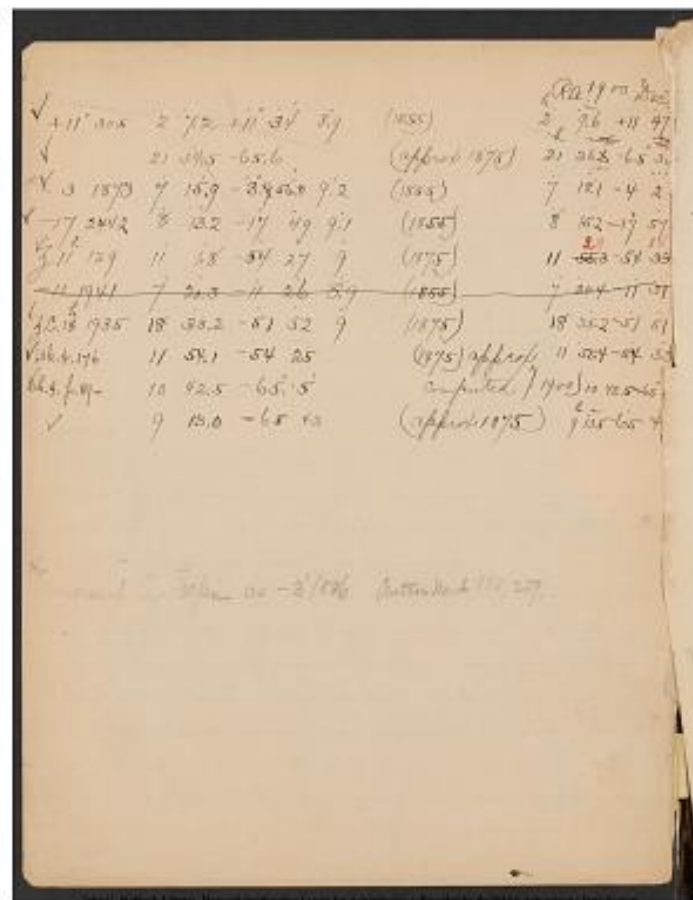
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[[7 columns]]
 |---|---|---|---|RA 1900|Dec|

+11° 30.5 | 2 7.2 | +11° 34' | 8.9 | (1855) | 2^h 9.6^m | +11 47
 |---| 21 34.5 | -65.6 |---| (approx 1875) | 21 36.6 | +11 47 | -65° 30
 | 3 1873 | 7 15.9 | -3.° 56.8 | 9.2 | (1855) | 7 18.1 | -4 2
 -17 2442 | 8 13.2 | -17 49 | 9.1 | (1855) | 8 15.2 | -17 57
 Z. 11^h 129 | 11 1.8 | -54 27 | 9 | (1875) | 11 ~~[[strikethrough]]~~ 55.3
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 Z.C. 18^h 1935 | 18 33.2 | -51 52 | 9 | (1875) | 18 35.2 | -51 51
 Bk. 4. 176 | 11 54.1 | -54 25 | (1875) approx. | 11 54.4 | -54 33
 Bk. 4 p. 89- | 10 42.5 | -65.5 | (computed 1900) | 10 42.5 | 65
 | 9 13.0 | -65 43 | (approx 1875) | 9 13.5 | -65 4

*Measured by Espin as -3° 1886. Astron. Nach. 118, 259.



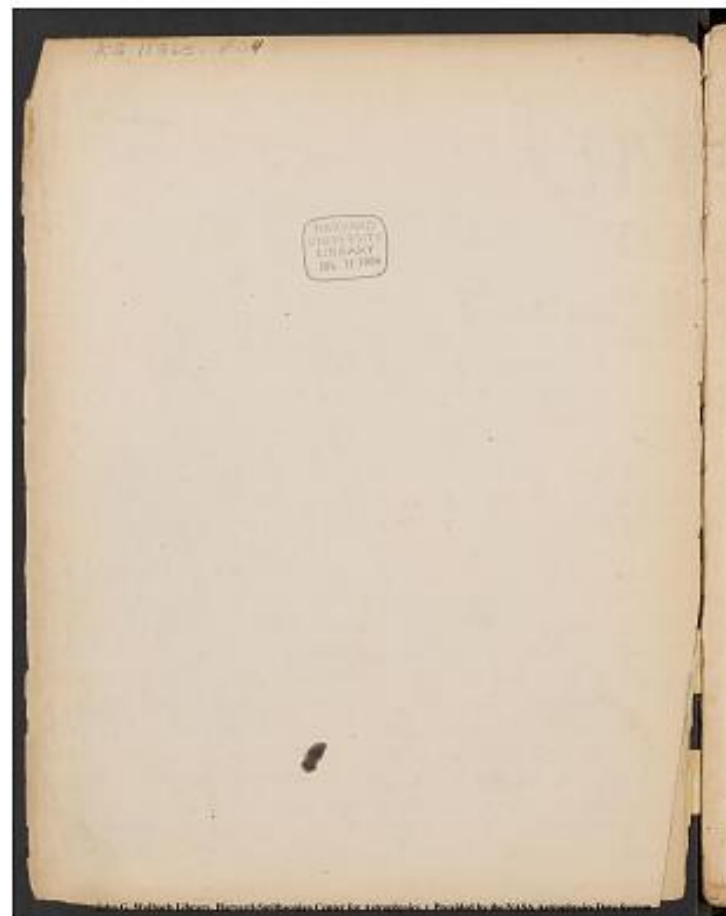
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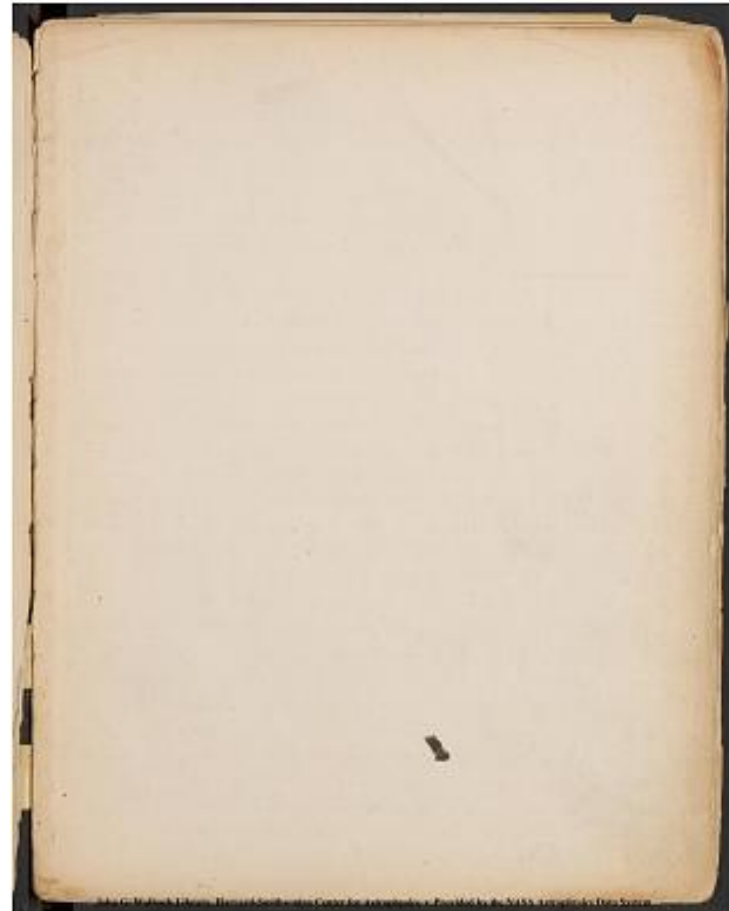
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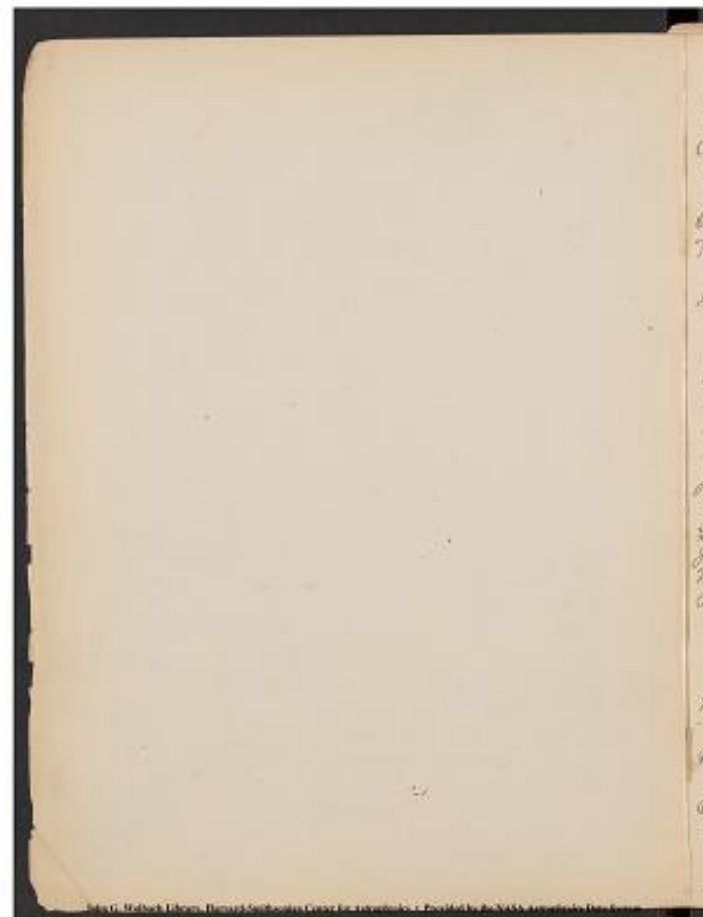
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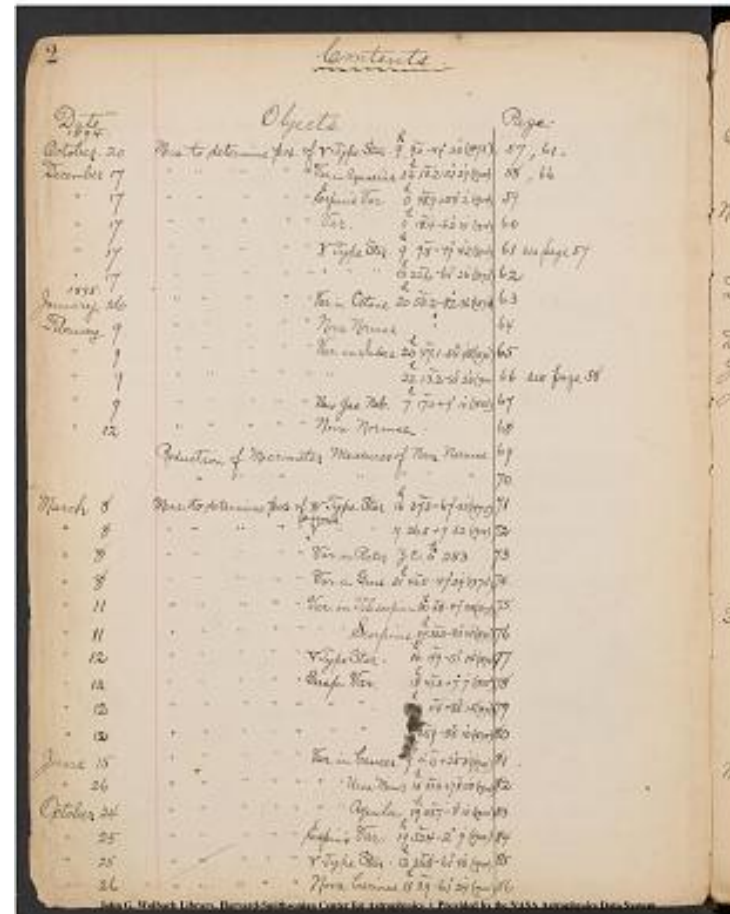
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a	8.3	10.1
b	8.6	10.4
c	9.0	10.8
v	8.8	10.6

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10.	55	60	
10.	5	6	v 3
c	10.	8	9

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c	9.3	10.8
v	9.2	10.7

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August 16, 1893

Meas. of P. S. Yendell's sus. var. (Cont.)

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b | 8.8 | 10.4 |

c | 9.2 | 10.8 |

d | 9.4 | 11.0 |

v | 9.1 | 10.7 |

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10. [[/strikethrough]]8[[/strikethrough]]9 v 0 c

10. [[/strikethrough]]8[[/strikethrough]]9 |

10. [[/strikethrough]]7[[/strikethrough]]9 | b 3 d |

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b | 9.0 | 10.4 |

c | 9.2 | 10.6 |

d | 9.4 | 10.8 |

v | 8.3 | 9.7 |

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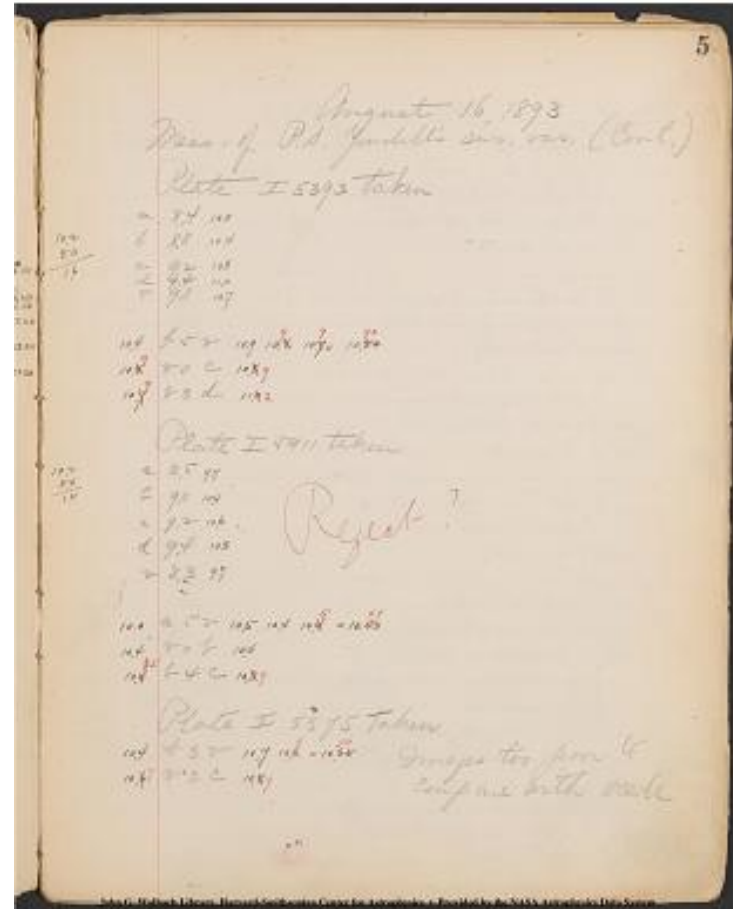
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c | 10. [[/strikethrough]]8[[/strikethrough]]9 |

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|10.4|b 3 v|10.7 10. ~~6~~7 =
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August 16, 1893.

Meas. of P. S. Yendell's sus. var. (Cont.)

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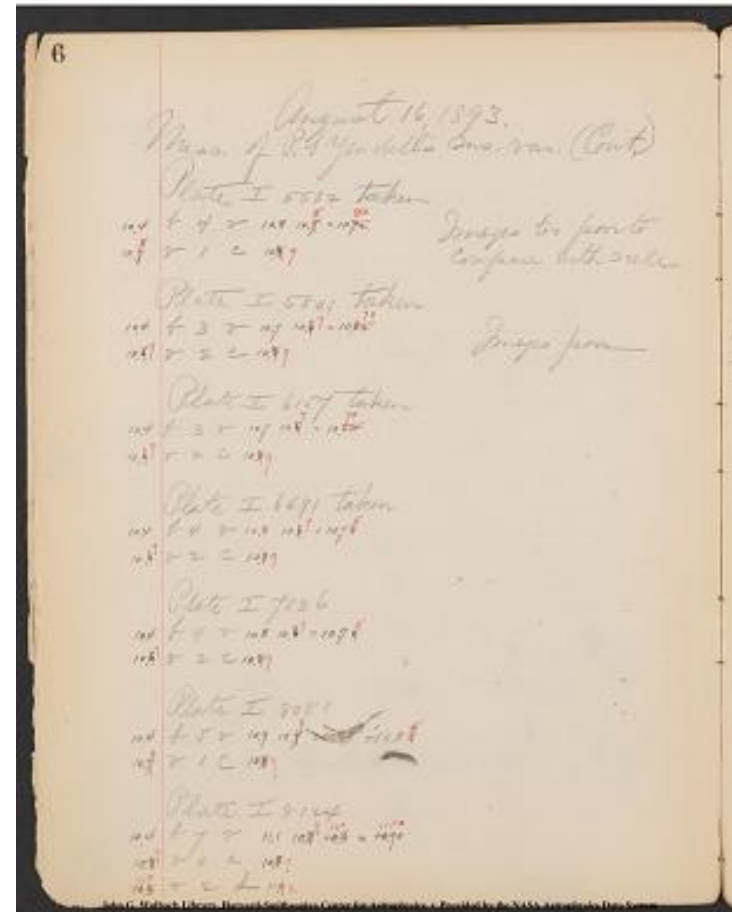
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~~[[strikethrough]]~~ |

Plate I 8124

10.4 | b 7 v | 11.1 10.9 ~~[[strikethrough]]~~ .8 ~~[[strikethrough]]~~ 11.0
~~[[strikethrough]]~~ 10.8 ~~[[strikethrough]]~~ = 11.00 ~~[[strikethrough]]~~ 10.90
~~[[strikethrough]]~~ |

10.9 ~~[[strikethrough]]~~ .8 ~~[[strikethrough]]~~ | v 0 c | 10.9 ~~[[strikethrough]]~~ .8
~~[[strikethrough]]~~ |

11.0 ~~[[strikethrough]]~~ 10.8 ~~[[strikethrough]]~~ | v 2 d | 11.2 ~~[[strikethrough]]~~
.0 ~~[[strikethrough]]~~ |

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August 16, 1893

Meas. of P.S. Yendell's sus. var. (Cont).

Plate I 8181 taken

10.4 | b 3 v 10.7 10.6 ~~5~~ = 10.65
~~0~~
 10.6 ~~5~~ | v 3 c 10.9 ~~9~~
~~10.6~~

a | ~~8.4~~ ~~7.4~~ 10.0
 b | ~~8.8~~ ~~7.8~~ 10.4
 c | ~~9.3~~ ~~8.3~~ 10.9
 d | 8.5 11.1
 v | 8.0 10.6

Plate I 8364 taken

10.9 ~~8~~ | c 2 v 11.1 ~~11.0~~
~~10.9~~ = ~~10.95~~ 11.05
 11.0 10.9 | v 1 d 11.2 ~~0~~

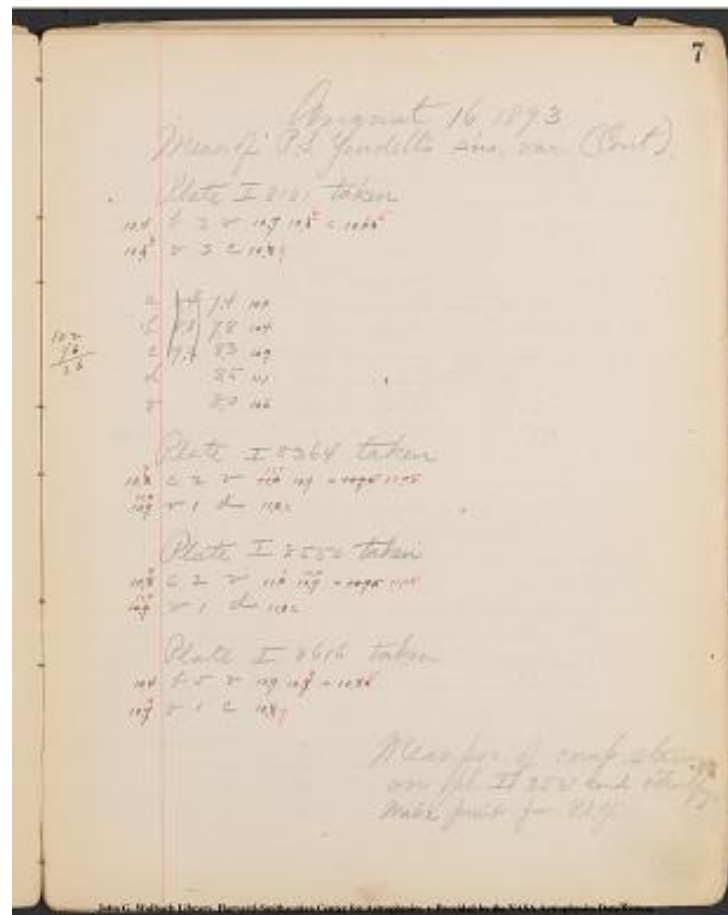
Plate I 8550 taken

10.9 ~~8~~ | c 2 v 11.1 ~~0~~
~~11.0~~ 10.9 = ~~10.95~~
 11.05
 11.0 ~~10.9~~ | v 1 d 11.2 ~~0~~
~~11.05~~

Plate I 8616 taken

10.4 | b 5 v 10.9 10.8 ~~7~~ = 10.85
~~0~~
 10.8 ~~7~~ | v 1 c 10.9 ~~8~~
~~10.8~~

Meas. pos. of comp. stars on pl I 3531 and identify, make print for P.S.Y.



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August 16, 1893

Meas. of P. S. Yendell's suspected variable in RA, 7h 5.2m +30° 42'
(approx. 1855) See in letter of Aug. 15, 1893 and accompanying chart.
B.D. +30° 1457

Plates I 3141 Taken February 22, 189 (strikethrough 1) 0
Plates I 5052 Taken December 10, 1891
Plates I 5053 Taken December 10, 1891
Plates I 5539 Taken February 5, 1892
Plates I 5630 Taken February 13, 1892
Plates I 5647 Taken February 15, 1892
Plates I 5678 Taken February 16, 1892
[[margin]] Make print and mark for P.S.Y. [[/margin]]
Plates I 5738 Taken February 18, 1892
Plates I 5862 Taken March 13, 1892
Plates I 7915 Taken January 19, 1893
Plates I 8010 Taken February 4, 1893
Plates I 8056 Taken February 15, 1893
Plates I 8145 Taken February 28, 1893

[[image - star field]]

Examined, show no evidence of variability in this star. On all these
plates it is about ~~3~~ ft brighter ~~2~~ ft than
star "a" and ~~2~~ ~~3~~ gr. brighter than star
"b". Star a = B.D. +30° 1451 Magn. 9.1

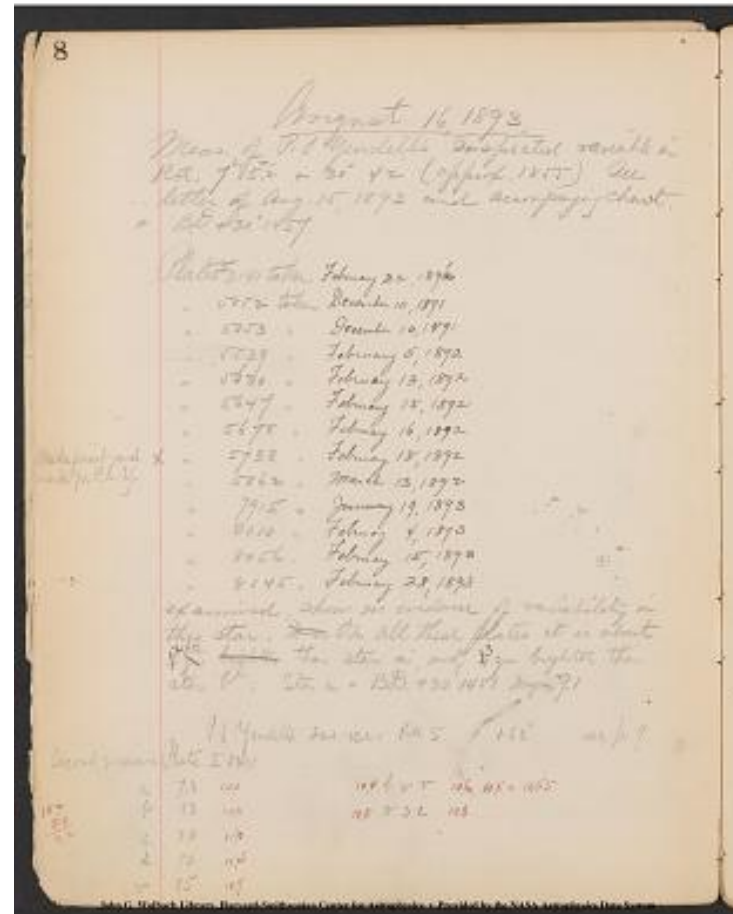
P.S. Yendell's 2nd var. RA 5 +68°
Second exposure Plate I 5411

a	7.8	10.0
b	8.3	10.5
c	8.8	11.0
d	9.2	11.4
v	8.5	10.7

10.4 b2v 10.6 10.5 = 10.55

10.5 v3c 10.8

The end



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August 17, 1893.

Summary of Paul S. Yendells sus. var. see f. 4
R.a 5 Dec. +68

| Pl. No. | Date | GM. Time | a | b | c | d | v | est. v |

|~~3351~~|~~3531~~|May 1, 1891|
|10.0[^]~~0~~||10.4[^]~~0~~||10.9[^]~~1~~||~~1~~||~~0~~||-
|10.5|10.4~~0~~||~~0~~||~~3~~

I3638|May 27 "| |10.1[^]~~1~~||10.4[^]~~0~~||10.8[^]~~1~~||
|~~0~~||~~1~~||~~1~~||~~1~~||
|10.6|10.4~~0~~||~~55~~||~~60~~

I5009|December 8 1891| |10.0[^]~~0~~||10.4[^]~~0~~||10.8[^]~~1~~||
|~~0~~||~~1~~||~~1~~||~~1~~||
|10.7|10.8~~0~~||~~0~~||~~5~~

I5393|January 9 1892| |10.0[^]~~0~~||10.4[^]~~0~~||10.8[^]~~1~~||
|~~0~~||~~1~~||~~1~~||~~1~~||11.0[^]~~1~~||
|~~0~~||~~2~~||~~2~~||~~10.7~~|10.7|10.5~~1~~||
|~~80~~||~~90~~

I5411|January 16 1892|
|~~9.9~~[^]~~1~~||~~10.4~~[^]
|~~0~~||~~1~~||~~10.6~~[^]~~1~~||~~10.8~~[^]
|~~2~~||~~2~~||
|~~9.7~~|10.43~~0~~||10.0|10.5|11.0|11.4|10.7|10.55

I5575|February 9 1892| | | | | |
|10.4~~0~~||~~65~~||~~70~~

I5582|February 9 1892| | | | | |
|10.4~~0~~||~~75~~||~~80~~

I5801|March 6 1892| | | | | |
|10.4~~0~~||~~65~~||~~70~~

I6157|April 11 1892| | | | | |
|10.4~~0~~||~~65~~||~~70~~

I6491|June 21 1892| | | | | |
|10.7~~0~~||~~0~~||~~5~~

I7838|January 3 1893| | | | | |
|10.7~~0~~||~~0~~||~~5~~

I8081|February 24 1893| | | | | |

9

August 17, 1893.

Summary of Paul S. Yendells sus. var. see f. 4
R.a 5 Dec. +68

Pl. No.	Date	Time	a	b	c	d	v	est.
I 3351	May 1	1891	10.0	10.4	10.9	-	10.5	10.4
I 3638	May 27	1891	10.1	10.4	10.8	-	10.6	10.55
I 5009	Dec 8	1891	10.0	10.4	10.8	-	10.7	10.8
I 5393	Jan 9	1892	10.0	10.4	10.8	-	10.7	10.8
I 5411	Jan 16	1892	9.9	10.4	10.8	-	10.6	10.55
I 5575	Feb 9	1892	10.4	10.4	10.4	-	10.4	10.4
I 5582	Feb 9	1892	10.4	10.4	10.4	-	10.4	10.4
I 5801	Mar 6	1892	10.4	10.4	10.4	-	10.4	10.4
I 6157	Apr 11	1892	10.4	10.4	10.4	-	10.4	10.4
I 6491	Jun 21	1892	10.7	10.7	10.7	-	10.7	10.7
I 7838	Jan 3	1893	10.7	10.7	10.7	-	10.7	10.7
I 8081	Feb 24	1893	10.7	10.7	10.7	-	10.7	10.7

The variation though small appears to be real since the M.F. star certainly higher than star & in same date, and fainter on other.

|10.8~~0~~5

I8124|February 27 1893| | | | |
|~~10.90~~11.00

I8181|March 6 1893| |10.0^[0]
|10.4^[0]|10.9^[0]|11.1^[1]
|110.6|10.6~~0~~5

I8364|April 8 1893|
|10.0|10.4|10.~~8~~9|11.~~0~~5
|~~2~~ |~~10.95~~11.05

I8550|May 19 1893| | | | |
|~~10.95~~11.05

21)99(0.47
|84
150
|147

I8618|June 19 1893| | | | |
|10.8~~0~~5

The variation though small appears to be real since the M.F. star is certainly brighter than star "c" on some dates, and fainter on others.

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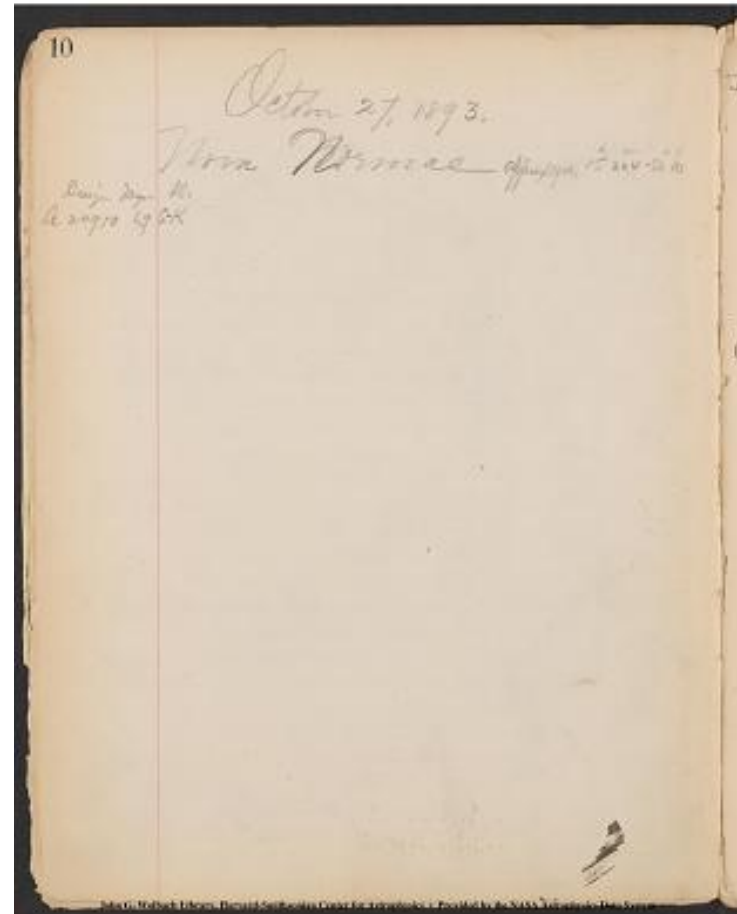
10

October 27, 1893.

Nova Normae approx 1908, $15^h 22.4^m - 50^{\circ} 10'$

Design Map bl.
A 20910 6.9 G.K

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See Mrs. F's Book
 IV Type. Diff. X 1.55 -1.55 -2.30 4. [[?]], 18.
 Log. " " 0.19033 0.19033 0.36173
 1.29687 1.29687 1.29687

1.48720	1.48720	1.65860	Entered on
s	s	s	
No. Log. 30.70	30.70	45.56	page 18.
h m s	h m s	h m s	
(a) 14 50 13.11	(b) 14 51 15.13	(c) 14 51 29.76	
30.70	30.70	45.56	

h m s	h m s	h m s
14 50 43.81	14 50 44.43	14 50 44.20

= [[?]] 3225 Mean Pos. of IV Type. 14h 50m 44.15s (1875).
 14 50 45.76

(d) Diff. X. 1.50 -1.66 -2.35
 Log. " " 0.17609 0.20412 0.37107
 1.29687 1.29687 1.29687

1.47296	1.50099	1.66794
s	s	s
No. Log. 29.71	31.70	46.55
h m s	h m s	h m s
(a) 14 50 13.11	(b) 14 51 15.13	(c) 14 51 29.76
29.71	31.70	46.55

14 50 42.82	14 51 43.43	14 50 43.21
-------------	-------------	-------------

Mean. Pos. of (d) 14h 50m 43.15s (1875)

After x measures of IV Type [[?]] were corrected
 from 3.80 and 3.85 to 2.80 and 2.85

See Mrs. F's Book
 4. page 18.

II Type. Diff. X. 1.55 -1.55 -2.30
 Log. " " 0.19033 0.19033 0.36173
 1.29687 1.29687 1.29687

1.48720	1.48720	1.65860
s	s	s
No. Log. 30.70	30.70	45.56
h m s	h m s	h m s
(a) 14 50 13.11	(b) 14 51 15.13	(c) 14 51 29.76
30.70	30.70	45.56

h m s	h m s	h m s
14 50 43.81	14 50 44.43	14 50 44.20

= [[?]] 3225 Mean Pos. of IV Type. 14h 50m 44.15s (1875).
 14 50 45.76

(d) Diff. X. 1.50 -1.66 -2.35
 Log. " " 0.17609 0.20412 0.37107
 1.29687 1.29687 1.29687

1.47296	1.50099	1.66794
s	s	s
No. Log. 29.71	31.70	46.55
h m s	h m s	h m s
(a) 14 50 13.11	(b) 14 51 15.13	(c) 14 51 29.76
29.71	31.70	46.55

14 50 42.82	14 51 43.43	14 50 43.21
-------------	-------------	-------------

Mean. Pos. of (d) 14h 50m 43.15s (1875)

After x measures of II Type d were corrected
 from 3.80 and 3.85 to 2.80 and 2.85

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October 28, 1893

Meas. to determine position of Nova Normae. The only plate available for this purpose is B9767 which is a spectrum plate. Measures will therefore be made of the hydrogen lines "G" and "h" on the preceding edge of the spectrum.

[[image]] Nova 1 2 3 4 5

Plate B 9767

[[10 columned table]]

| | | | | $|x|y|x \times 12^{\circ}[\text{s}]/\cos. \delta. 50^{\circ} 16' = .6393|[\text{underlined}]y \times 2.985|[\text{underlined}]$ | | | |

 "G"(b) 1|17.35|8.1|~~0~~|~~5~~|325.67[^][[=5
 25.67[^][[s.]]]]|24.33[^]|A.G.C. 21006|15[^][[h]] 23[^][[m]] 19.82[^][[s]] -50° 13'
 42.4[^]|17[^][[m]] 54.15[^][[s]]|38.0[^]|
 omit "G"(c) 2|13.50|11.35|253.40[^][[= 4[^][[m]] 13.40[^][[s]]]]|33.88|
 15[^][[h]] 22 8.90 =50 4.5'
 17 55.50|38.4|

"G"(a) 3|8.05|7.00|151.10[^][[=2[^][[m]] 30.10[^][[s]]]]|20.90|A.G.C.
 20940|15 20 26.94 -50 17 53.9|17 56.84|38.8|[[underlined]]
 "G"4|-----| | | | |17 55.50|38.4|
 Nova 5|7.95|10.05|149.23[^][[=2[^][[m]] 29.23[^][[s]]]]|30.00| |15 20 24.73
 -50° 8.4'|17 55.50|38.4|
 | | | | |{15 20 23.8 -50° 8.0| | |
 | | | | |{15 20 26.07 -50 8.8| | |

[[10 columned table]]

| | | | | $|x \times 12^{\circ}[\text{s}]/\cos. \delta. 50^{\circ} 16' = .6393|y \times 2.985|$ | | | |

 "h"1|17.40|7.55|326.61[^][[=5[^][[m]] 26.61[^][[s]]]]|22.54|A.G.C. 21006|15
 23 19.82 -50° 13' 42.4|17[^][[m]]
 53.2|~~51.2~~|~~36.2~~|
 omit "h"|(2|13.55|10.70|254.34[^][[=4[^][[m]] 14.34[^][[s]]]]|31.94| |15 22
 8.40 -50 |~~21.0~~|~~4.7~~| | |
 omit

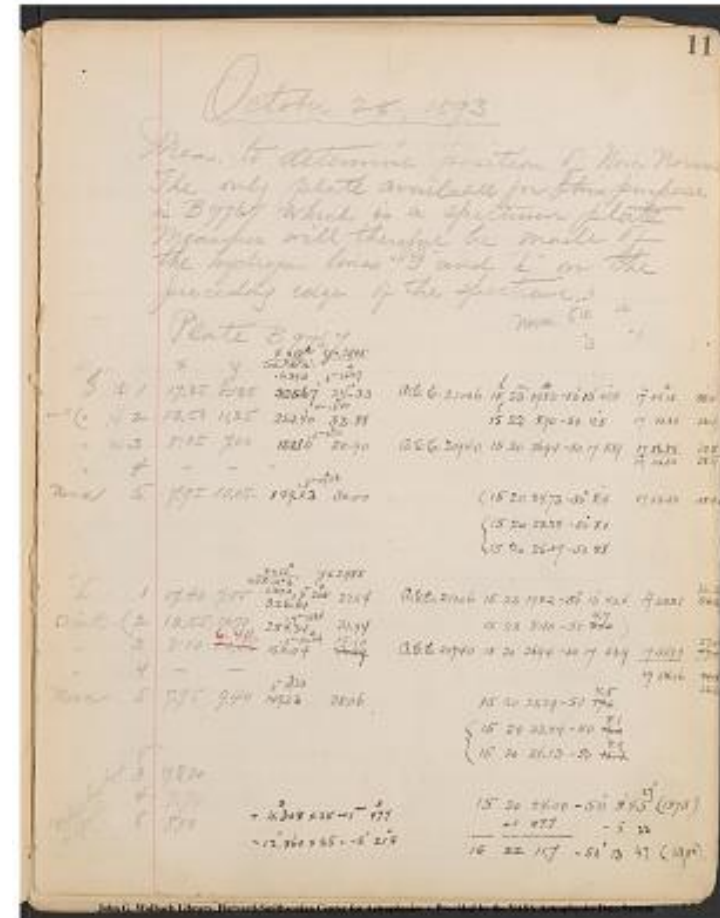
"h"3|8.10|~~10.35~~|~~6.40~~|152.04[^][[2[^][[m]]
 32.04[^][[s]]]]|~~30.89~~|~~19.10~~|A.G.C.
 20940|15 20 26.94 -50 17 53.9|17
 54.90|~~47.0~~|~~37.0~~|17[[underlined]]
 omit "h"4|-----| | | | |17 54.06|36.6|
 Nova 5|7.95|9.40|149.23[^][[2 29.23]]|28.06| |15 20 23.29 -50
 |~~17.2~~|~~8.5~~| | |
 | | | | |{15 20 22.44 -50
 |~~19.3~~|~~8.1~~| | |
 | | | | |{15 20 24.13 -50
 |~~15.1~~|~~8.9~~| | |

[[left margin]]

Vertical line dark in spectrum

3 |~~7~~|~~8.20~~

4 7.70



5 8.00

[[/left margin]]

+4.308^s × 25 = +1^m 47.7^s
-12.860" × 25 = -5' 21.5"

[[right margin]]

15 20 24.00 -50° 8.45["] (1875)

+1 47.7 -5 22

15 22 11.7 -50° 13 47 (1900).

[[/right margin]]

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November 13, 1893.

Meas. to determine position of V Type stars Nos. 3002, 3008 and 3013 contained on plate B9398.

Plate B3559

[[4 column table]]

| x | y | |

3013 ~~0~~ | 7.55 | 16.10 | 0 +
~~m~~ | 65m + 18.45n = 3 x 13.60 = 40.20 |

a | 3.65 | 17.35 | -13.40 0 + 3.30 - ~~+~~ | ~~+~~
 8.65 m - 2.75n = 3 x 3.30 = 9.90 |

b | 4.30 | 8.70 | ~~+~~ 65 - 8.65 ~~+~~ -12.75 -5.35
 [[40.2-18.45n]]/.65 = [[-9.9+2.75n]]/8.65 |

c | 22.10 | 1460 | ~~+~~ 18.45 - 2.75 ~~+~~ +5.05 +
 0.65 |

determine position. d | 17.05 | 14.05 |
~~+~~ 13.40 - 3.30 ~~+~~ |

(Plausibility?) 3013 ~~0~~ | 5.45 | 16.45 |
 |

twisted a | 1.20 | 17.30 | |

b | 3.00 | 8.75 | ~~+~~ 1.80 - 8.65 ~~+~~ |

c | 20.00 | 16.85 | ~~+~~ 18.80 - 0.45 ~~+~~ |

d | 15.05 ~~0~~ | 15.75 | ~~+~~
 +13.85 - 1.55 ~~+~~ |

Plate bursted ~~?~~ 3013 | 5.25 | 11.60 | |

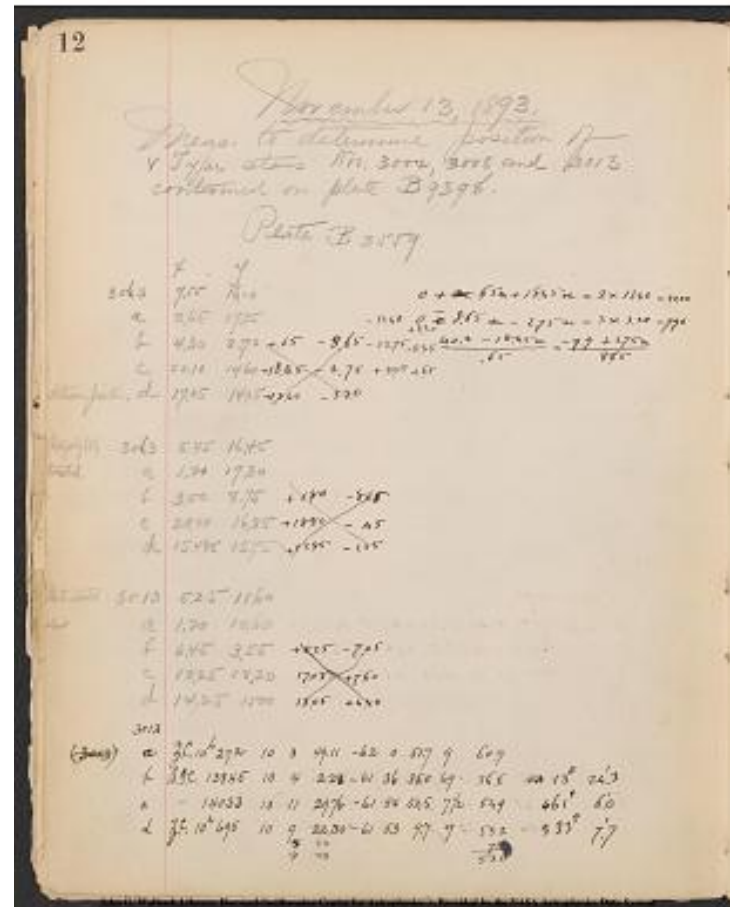
about a | 1.20 | 10.60 | |

b | 6.45 | 3.55 | ~~+~~ 5.25 - 7.05 ~~+~~ |

c | 18.25 | 18.20 | ~~+~~ 17.05 + 7.60 ~~+~~ |

d | 14.25 | 1500 | ~~+~~ 13.05 + 4.40 ~~+~~ |

3013



~~(3013)~~ ~~a~~ | Z.C. 10^{h} | 27^{m} | 10^{s} |
49.11 - 62.0 51.7 9 60.9 |

b | A.G.C. 13845 | 10^{h} | 2.28 - 61 36 35.0 6.9 36.6 ~~2x~~
 ~~13^{s}~~ 26.3' |

c | A.G.C. 14033 | 10^{h} | 29.76 - 61 54 52.5 7^{m} 54.9^{s} 6.0' |

d | Z.C. 10^{h} 695 | 10^{h} | 22.30 - 61 53 9.7 9 53.2 333^{s} 7.7' |

$\frac{5}{9} \frac{34}{23}$ [[formula]]

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13

November 13, 1893

Meas. to determine position of V type stars on plate B 9398

Plate B3559

[[3 column table]]

|---|---|---|

| | x | y |

| 3002 | 3.10 | 12.60 |

| a | 3.30 | 16.20 |

| b | 6.10 | 3.00 |

| c | 9.60 | 2.15 |

[[3 column table]]

|---|---|---|

| 3008 | 4.20 | 3.50 |

| a | 0.10 | 2.45 |

| b | 1.20 | 8.35 |

| c | 8.00 | 5.30 |

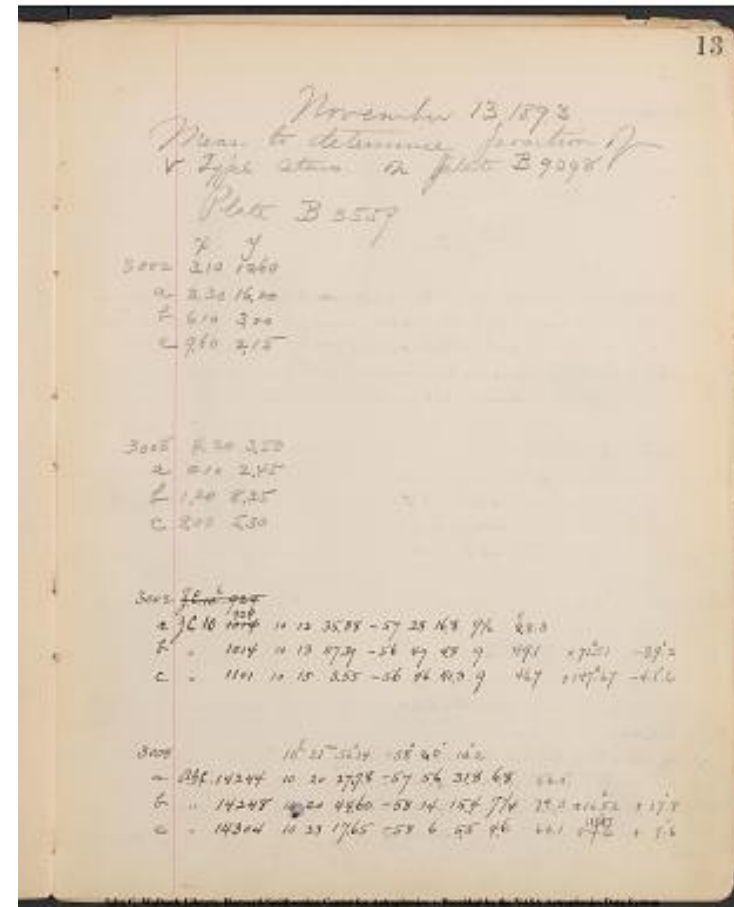
[[13 column table]]

|---|---|---|---|---|---|---|---|---|---|---|---|---|

| 3002 | ~~z.c. 10^h~~ | ~~929~~ | | | | | | | | | | | |

| a | z.c. 10 | 929 | ~~1014~~ | 12 | 12 | 35.88 |
-57 | 28 | 16.8 | 9 1/2 | ~~2~~ | ~~88.3~~ | | |

| b | z.c.10 | 1014 | 10 | 13 | 47.39 | -56 | 49 | 4.8 | 9 | 49.1 | +71^s | .51 |



-39 ^[[1]].2 |

| c | z.c. 10 | 1101 | 10 | 15 | 3.55 | -56 | 46 | 41.3 | 9 | 46.7 | +147 ^s]].67
| -41 ^[[1]].6 |

[[13 column table]]

|---|---|---|---|---|---|---|---|---|---|

| 3008 | | | 10 ^[[h]] | 21 ^[[m]] | 56^[[s]].14 | -58^[[o]] | ~~[[strikethrough]]~~
6 ~~[[/strikethrough]]~~ 0^[[l]] | 13^[[l]].2 | | |

| a | A.B.C. [[?]] | 14244 | 10 | 20 | 27.78 | -57 | 56 | 31.8 | 6.8 | 56.5 | | |

| b | A.B.C. [[?]] | 14248 | 10 | 20 | 44.60 | -58 | 14 | 15.4 | 71/4 | 74.3 |
+16.^[[s]]82 | +17^[[l]]8 |

| c | A.B.C. [[?]] | 14304 | 10 | 23 | 17.65 | -58 | 6 | 5.5 | 4.6 | 66.1 |
+169^[[s]].87 ~~[[strikethrough]]~~ 9.6 ~~[[/strikethrough]]~~ | + 9^[[l]].6 |
The end

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November 21, 1893

Meas. to determine position of V Type stars
No 3002, 3008 and 3013 on plate B 9398

Plate B 3559

[[11 columned table]]

x y Design						Magn.
3013 3	17.45	12.30	10	5	28.2	-61
57	41.5					
a	21.50	13.60	Z.C. 10 ^h	272	10 ^h	3 ^m
0'	51.7	9			49.11 ^s	-62°
b	20.80	4.90	A 13845	10	4	2.28
c	3.05	10.90	A 14033	10	11	29.76
3008	6	5.90 	8.95 	10	21	55.23
0	8.8					
b	8.75	13.80	A 14248	10	20	44.60
c	2.15	10.70	A 14304	10	23	17.65
d	11.25	2.25	Z.C. 10 ^h	1479	10	20
3002	5.65	11.30	Z.C. 10^h 	929 	10 	12
57	28	16.8	9 1/2			
a	5.30	14.90	Z.C. 10 ^h	929	10	12
b	5.30	14.90	Z.C. 10 ^h	1014	10	13
d	10.95	1.20	Z.C. 10 ^h	812	10	10

Mean Dec = 57° 1' 8.7" = log. 26409

New Set of measures. Jan. 23, 1894

[[left margin]]

[[3 columned table]]

x y
3002
a
b
d

[[left margin]]

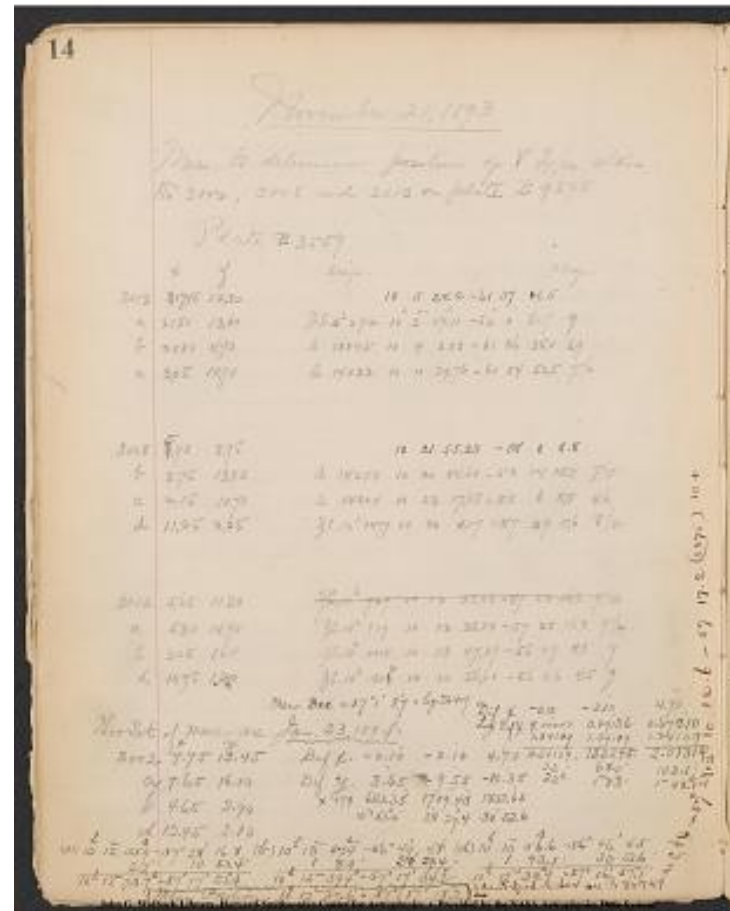
[[4 columned table]]

Dif X	-0.10	-3.10	4.70
Dif. Y	3.65	-9.55	-10.35
X179	653.35	1709.45	1852.65
	10' 53.4"	28' 29.4"	30' 52.6

[[right margin]]

[[4 columned table]]

Dif. X	-0.10	-3.10	4.70
Log. Dif. X	9.00000	0.49136	0.67210
	<u>1.34109 </u>	<u>1.34109 </u>	<u>1.34109 </u>
	10.34109	1.83245	2.01319
	2.2	68.0	103.1
	2.2 ^s	1 ^m	8.0 ^s
	1 ^m	43.1 ^s	



[[/right margin]]

[[21 columned table]]

(a) 10^h 12^m 35.9^s -57° 28' 16.8"
(b) 10^h 13^m 47.4^s -56° 49' 4.8"
(c) 10^h 10^m 56.6^s -56° 46' 4.5"
(d) 10^h 10^m 53.4^s -57° 17' 23.4"
(e) 10^h 12^m 39.4^s -57° 17' 34.2"
(f) 10^h 12^m 39.7^s -57° 16' 57.1"

Mean Position: 10^h 12^m 37.6^s -57° 17' 18.2"
Identified later as C.PD. -57° 29.3' 10 12.6 -57 17.2 (1875) 10.0

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14a

Reduction of Plate B 3559 (No. 3013)
Mean Dec. $61^{\circ} 50.8' = \text{Log. } .32626$

[[8 columned table]]
Dif of x | 4.05 | 3.35 | -14.40 | Dif of y | 1.30 | -7.40 | -1.40 |
Log of Dif. x | 0.60746 | 0.52504 | 1.15836 | x 179 | 2332.70 | 1324.60 | 250.60 |
| 1.40326 | 1.40326 | 1.40326 | | 3' 52.7" | 22' 4.6" | 4'
10.6" |
| 2.01072 | 1.92830 | 2.56152 | | | |
No. of Log. | 102.5 | 84.8 | 364.4 | | | |
| 1[^][[m]] | 42.5[^][[s]] | 1[^][[m]] | 24.8[^][[s]] | 6[^][[m]] | 4.4[^][[s]] | | | |

[[21 columned table]]
(a) 10[^][[h]] | 3[^][[m]] | 49.1[^][[s]] | -62[^]0' | 51.7" | (b) 10[^][[h]] | 4[^][[m]] | 2.3[^][[s]] | -
61[^]36' | 35.0" | (c) 10[^][[h]] | 11[^][[m]] | 29.8[^][[s]] | -61[^]54' | 52.5" |
| 1.42.5 | | 3 | 52.7" | | 1 | 24.8 | | 22 | 4.6 | | 6 | 4.4 |
4 | 10.6 |
| 10[^][[h]] | 5[^][[m]] | 31.6[^][[s]] | -61[^]56' | 59.0" | 10[^][[h]] | 5[^][[m]] | 27.1 | -
61[^]58' | 39.6" | 10[^][[h]] | 5[^][[m]] | 25.4[^][[s]] | -61[^]59' | 3.1"

[[underlined]] Mean Position V Type Star 10[^][[h]] 5[^][[m]] 28.0[^][[s]] -61[^]
58' 13.9" |

Mean Dec. = $57^{\circ} 59.8' = \text{Log. } .27579$ No (3008)
[[8 columned table]]
Dif. of x | 2.85 | -3.75 | 5.35 | Dif of y | 4.85 | 1.75 | -6.70 |
Log. Dif. of x | 0.45484 | 0.57403 | 0.72835 | x 179 | 868.15 | 313.25 |
1199.30 |
| 1.35279 | 1.35279 | | | 14' 28.2" | 5' 13.2" |
19' 59.3" |
| 1.80763 | 1.92682 | 2.08114 | | | |
No. of Log. | 64.2 | 84.5 | 120.5 | | | |
| 1[^][[m]] | 4.2[^][[s]] | 1[^][[m]] | 24.5[^][[s]] | 2[^][[m]] |
0.5[^][[s]] | | | |

[[21 columned table]]
(a) 10[^][[h]] | 20[^][[m]] | 44.6[^][[s]] | -
58[^]14' | 15.4" | (b) 10[^][[h]] | 23[^][[m]] | 17.6[^][[s]] | -
58[^]06' | 5.5" | (c) 10[^][[h]] | 20[^][[m]] | 4.2[^][[s]] | -57[^]39' | 5.6" |
| 1.4.2 | | 14 | 28.2 | | 1 | 24.5 | | 5 | 13.2 | | 2 | 0.5 |
19 | 59.3 |
| 10[^][[h]] | 21[^][[m]] | 48.8[^][[s]] | -57[^]59' | 47.2" | 10[^][[h]] | 21[^][[m]] | 53.1[^][[s]] | -
58[^]0' | 52.3" | 10[^][[h]] | 22[^][[m]] | 4.6[^][[s]] | -57[^]59' | 4.9"

[[underlined]] Mean Position. 10[^][[h]] 21[^][[m]] 55.5[^][[s]] -57[^] 59'
54.8" |

Mean Dec. $57^{\circ} 1. \text{[[strickthrough]]} 2 \text{[[strickthrough]]} 1' = \text{Log. } .26409$ (No.
3002).

[[8 columned table]]



|Dif. of X|-0.35|-2.60|5.30|Dif. y.|3.60|-9.70|-10.10|
 |-----|
 |Log. Dif. X|9.54407|0.41497|0.72428|X179|644.40|1736.30|1807.90|
 |1.34109|1.34109|1.34109|1.34109| |10' 44.4"|28'
 56.3"|30' 7.9"|
10.88516	1.75606	2.06537					
No. of Log.	7.7	57.0	116.2				
	7.7^[[s]]	57.0^[[s]]	1^[[m]] 56.2^[[s]]				

[[21 columned table]]
 (a)|10^[[h]]|12^[[m]]|35.9^[[s]]|-
 57°|28'|16.8"| (b)|10^[[h]]|13^[[m]]|47.4^[[s]]|-
 56°|49'|4.8"| (~~c~~)|10^[[h]]|10^[[m]]|56.6^[[s]]|-
 56°|46'|4.5"|
7.7		10	44.4			57.0		28	56.3			1	56.2
30	7.9	7.9											
	10^[[h]]	12^[[m]]	28.2^[[s]]	-57°	17'	32.4"							
10^[[h]]	12^[[m]]	50.4^[[s]]	-57°	17'	1.1"		10^[[h]]	12^[[m]]	52.8	-			
 57°|16'|12.4"|

Mean Position 10^[[h]] 12^[[m]] 43.8^[[s]] -57° 16' 55.3" = CPD -57° 2913
 10 12 34.2 -57 17.2 (1875)
 Identified later on B38749

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Meas. to determine position of IV Type star on plate B9422

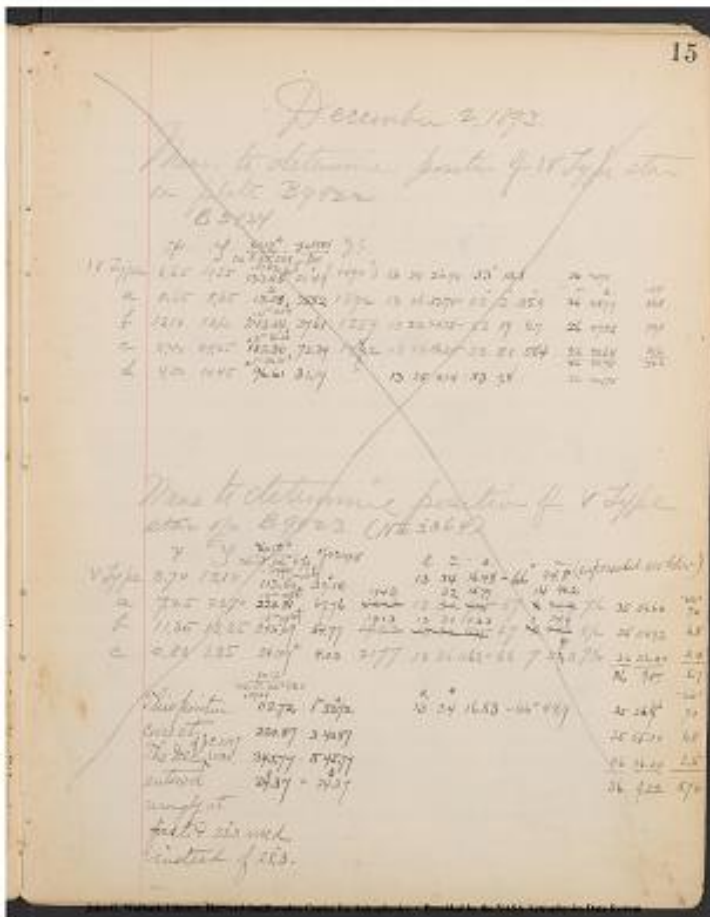
[[12 columned table]]

[illegible]

[[16 columned table]]

$$\begin{aligned}
 & \frac{[x]}{47.9} \frac{[y]}{3940} \frac{[x \times 12^{\wedge}[s]]}{[cos. \delta 66^{\circ}]} \\
 & \frac{[V \text{ Type}]}{13^{\wedge}[h]} \frac{[3.70]}{34^{\wedge}[m]} \frac{[13.10]}{16.48^{\wedge}[s.]} \frac{[112.69^{\wedge}[=1^{\wedge}[m]]]}{66^{\circ}} \frac{[52.69^{\wedge}[s.]]}{44.8^{\wedge}[m.]} \frac{[39.10]}{66^{\circ}} \\
 & \frac{[13^{\wedge}[h]]}{66^{\circ}} \frac{[34^{\wedge}[m]]}{66^{\circ}} \frac{[16.48^{\wedge}[s.]]}{66^{\circ}} \frac{[112.69^{\wedge}[=1^{\wedge}[m]]]}{66^{\circ}} \frac{[52.69^{\wedge}[s.]]}{66^{\circ}} \frac{[39.10]}{66^{\circ}} \\
 & \frac{[7.25]}{67} \frac{[22.70]}{67} \frac{[220.81^{\wedge}[-3^{\wedge}[m.]]]}{67} \frac{[40.81^{\wedge}[m.]]}{67} \frac{[67.76]}{67} \frac{[1813]}{67} \frac{[1942]}{67} \frac{[13]}{67} \frac{[30]}{67} \frac{[32]}{67} \frac{[9.23]}{67} \frac{[15.79]}{67} \frac{[14]}{67} \frac{[34.9]}{67} \frac{[48.2]}{67} \frac{[35]}{67} \frac{[56.60]}{67} \frac{[7.0]}{67} \\
 & \frac{[b]}{67} \frac{[11.35]}{67} \frac{[18.35]}{67} \frac{[345.69^{\wedge}[=5^{\wedge}[m]]]}{67} \frac{[45.69^{\wedge}[s.]]}{67} \frac{[54.77]}{67} \frac{[1942]}{67} \frac{[1813]}{67} \frac{[13]}{67} \frac{[30]}{67} \frac{[32]}{67} \frac{[9.23]}{67} \frac{[15.79]}{67} \frac{[14]}{67} \frac{[34.9]}{67} \frac{[48.2]}{67} \frac{[35]}{67} \frac{[56.60]}{67} \frac{[7.0]}{67} \\
 & \frac{[c]}{66} \frac{[0.80]}{66} \frac{[1.35]}{66} \frac{[24.37^{\wedge}[s]]}{66} \frac{[4.03]}{66} \frac{[2177]}{66} \frac{[13]}{66} \frac{[36]}{66} \frac{[11.63]}{66} \frac{[7]}{66} \frac{[2]}{66} \frac{[3]}{66} \frac{[8]}{66} \frac{[35]}{66} \frac{[54.92]}{66} \frac{[6.8]}{66} \frac{[36]}{66} \frac{[36.00]}{66} \frac{[3.4]}{66} \\
 & \frac{[x]}{48.0} \frac{[y]}{3939} \frac{[x \times 12^{\wedge}[s]]}{[cos. \delta 66^{\circ}]} \\
 & \frac{[112.72]}{66} \frac{[52.72^{\wedge}[s]]}{66} \frac{[13^{\wedge}[h]]}{66} \frac{[34]}{66} \frac{[16.53]}{66} \frac{[44.9]}{66} \\
 & \frac{[35]}{66} \frac{[56]}{66} \frac{[220.87]}{66} \frac{[345.77]}{66} \frac{[54.77]}{66} \frac{[1942]}{66} \frac{[1813]}{66} \frac{[13]}{66} \frac{[30]}{66} \frac{[32]}{66} \frac{[9.23]}{66} \frac{[15.79]}{66} \frac{[14]}{66} \frac{[34.9]}{66} \frac{[48.2]}{66} \frac{[35]}{66} \frac{[56.60]}{66} \frac{[7.0]}{66} \\
 & \frac{[220.87]}{66} \frac{[345.77]}{66} \frac{[54.77]}{66} \frac{[1942]}{66} \frac{[1813]}{66} \frac{[13]}{66} \frac{[30]}{66} \frac{[32]}{66} \frac{[9.23]}{66} \frac{[15.79]}{66} \frac{[14]}{66} \frac{[34.9]}{66} \frac{[48.2]}{66} \frac{[35]}{66} \frac{[56.60]}{66} \frac{[7.0]}{66} \\
 & \frac{[24.37^{\wedge}[s]]}{66} \frac{[4.03]}{66} \frac{[2177]}{66} \frac{[13]}{66} \frac{[36]}{66} \frac{[11.63]}{66} \frac{[7]}{66} \frac{[2]}{66} \frac{[3]}{66} \frac{[8]}{66} \frac{[35]}{66} \frac{[54.92]}{66} \frac{[6.8]}{66} \frac{[36]}{66} \frac{[36.00]}{66} \frac{[3.4]}{66}
 \end{aligned}$$

This position correct. The Dec of Z.C 2177 was entered wrongly at first



& 23.3" used instead of 28.3"
[[/left margin]]
[[/strikethrough]]

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49.1¹.3936¹y×2.985|
 |---|---|---|
 |3.75|12.65| | |
 |7.35|22.25|109.76¹[[=1¹[[m]] 49.76¹[[s]]]]|28.66'|
 |11.40|17.85|233.23¹[[=3¹[[m]] 53.23]]|15.52|
 |0.75|0.90|91.46¹[[=1¹[[m]] 31.46]]|-35.07|

[[right margin]]
 log x. (diff) +
 log 1.07700 +
 A.C. log. cos. dec.
 [[/right margin]]
 [[/left margin]]

[[strikethrough]]
 [[18 columned table]]
 |(a)|13¹[[h]]|32¹[[m]]|15.79¹[[s]]|-67°|14.8|(b)|13¹[[h]]|30¹[[m]]|9.23¹[[s]]|-
 67°|1.6|(c)|13¹[[h]]|36¹[[m]]|11.63¹[[s]]|-66°|7.5|
 | |[[underlined]]|1|49.67| |28.7| | |3|53.05| |15.5| | |-1|31.39| |-
 35.31[[/underlined]]|
 |V Type|13¹[[h]]|34¹[[m]]|5.46¹[[s]]|-66°|46.1'|
 |13¹[[h]]|34¹[[m]]|2.28¹[[s]]|-66°|46.1'| |13¹[[h]]|34¹[[m]]|40.24¹[[s]]|-
 66|42.6|

[[18 columned table]]
 |(a)|13¹[[h]]|32¹[[m]]|15.79¹[[s]]|-67°|14.8|(b)|13¹[[h]]|30¹[[m]]|9.23¹[[s]]|-
 67°|1.6|(c)|13¹[[h]]|35¹[[m]]|31.42|-66°|10.9|
 | |[[underlined]]|1|49.67| |28.7| | |3|53.23| |15.5| | |-1|31.46| |-
 35.1[[/underlined]]|
 |V Type|13¹[[h]]|34¹[[m]]|5.55¹[[s]]|-66°|46.1'|
 |13¹[[h]]|34¹[[m]]|2.46¹[[s]]|-66°|46.1'| |13¹[[h]]|33¹[[m]]|59.96¹[[s]]|-
 66|46.0|

Mean Position V Type (1875) 13¹[[h]] 34¹[[m]] 2.66¹[[s]] -66° 46.1'
 Identified later on CPD -66° 2299 13
 [[strikethrough]]13[[/strikethrough]]34.1 66° 46 (1875)
 [[/strikethrough]]

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Dec. 6, 1893.

Meas. to determine position of IV Type star on B 9422 (No. 3061). R.A. Dec.

Plate 3434

[[10 columned table]]

| x|y|x × 12^h[[s]]/cos. delta -53° 23.9'y × 2.985|Z.C. 13^h[[h]]13^h[[h]]
26^h[[m]]25.0^h[[s]]|-53° 18' 57.0"| [Comp. Pos.]

|-----|
[No. 3061 IV Type|5.15|5.50|Z.C.1490 (1900)|13^h[[h]] 24^h[[m]]

52.24^h[[s]]|-53° 11' 9.6"9|-0.1 -2.6"

|a|0.10|2.65|1592|13^h[[h]] 26^h[[m]] 32.71^h[[s]]|-53° 2 35.9|9| |

|This error assumed after reducing star.

b|[[strikethrough]]12.55|[[strikethrough]]11.55|7.55|1359|13 22 44.28|-53
17 6.7|7½| |

|c|7.95|19.20|1442|13 23 56.34|-53 51 58.4|8½| |

|d|4.30|5.40| | | | |

IV Type

[[4 columned table]]

|Dif X|-5.05|[[strikethrough]]7|[[strikethrough]]6.40|2.80|

|Log. Dif.

X.|0.70329|0. [[strikethrough]]86923|[[strikethrough]]80618|0.44716|

| [[underlined]]1.30159|1.30159|1.30159|[[underlined]]|

| 2.00488|[[strikethrough]]2.17082|[[strikethrough]]2.10777|1.74875|

|No. of

Log.|101.1^h[[s]]|[[strikethrough]]148.2^h[[strikethrough]]|[[m]]|[[strikethrough]]
h|[[s]]|[[strikethrough]]128.2^h[[strikethrough]]|[[m]]|[[strikethrough]]|[[s]]|56.
05|

| [[underlined]]1^h[[m]] 41.1^h[[s]]|2^h[[m]]

|[[strikethrough]]2|[[strikethrough]]8.2^h[[s]]|56.0^h[[s]]|[[underlined]]|

IV Type.

[[4 columned table]]

|Dif. Y.|-2.85|2.00|13.70|

|x179|510.15|358.00|2452.30|

| 8' 30.15"|5' 58.0"|40' 52.3"|

d

[[4 columned table]]

|Dif. X.|-4.20. [[strikethrough]]825|[[strikethrough]]7.25|3.65|

|Log.

X.|0.62325|[[strikethrough]]0.91645|[[strikethrough]]0.86034|0.56229|

| [[underlined]]1.30159|1.30159|1.30159|[[underlined]]|

| 1.92484|[[strikethrough]]2.21804|[[strikethrough]]2.16193|1.86388|

|No

Log.|84.0^h[[s]]|[[strikethrough]]165.2|[[strikethrough]]145.2^h[[s]]|73.0^h[[s]]|

| |

| 1^h[[m]] 24.0^h[[s]]|2^h[[m]] |[[strikethrough]]4|[[strikethrough]]25.2^h[[s]]|1

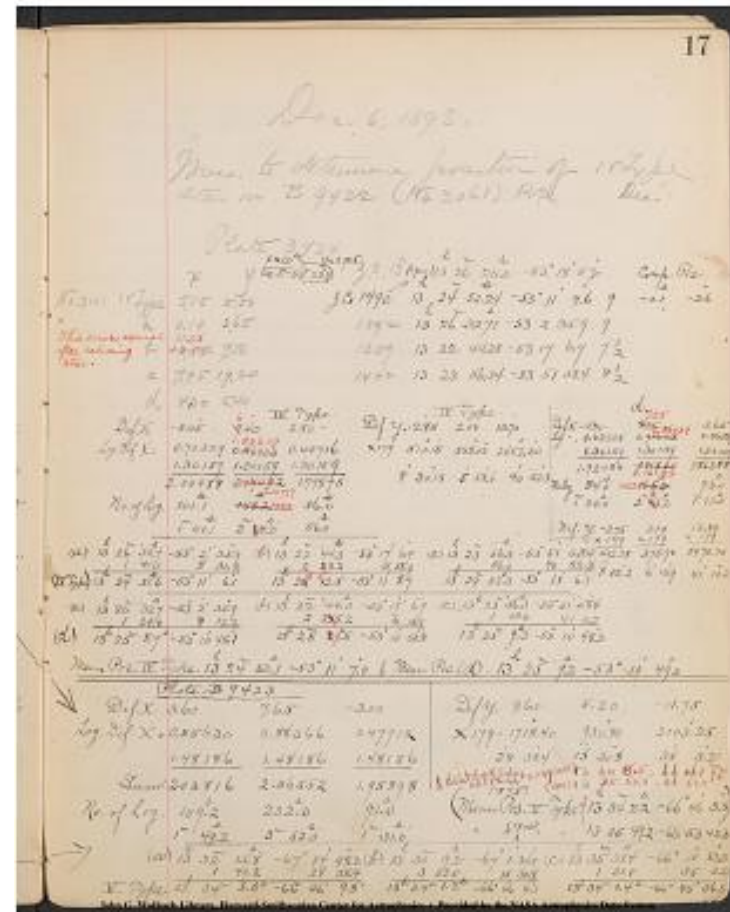
|13.0^h[[s]]|

|Dif. Y.|-2.75|2.10|13.80|

| [[underlined]]x179|x179|x179|[[underlined]]|

| 492.25|375.90|2470.20|

| 8' 12.2"|6' 15.9"|41' 10.2"|



[[21 columned table]]
 (a) $13^{\circ} 26' 32.7''$ (s) -
 $53^{\circ} 2' 35.9''$ (b) $13^{\circ} 22' 44.3''$ (s) -
 $53^{\circ} 17' 6.7''$ (c) $13^{\circ} 23' 56.3''$ (s) - $53^{\circ} 51' 58.4''$
 | 1 | 41.1 | 8 | 30.2 |
 | ~~2~~ | ~~8.2~~ | 5 | 58.0 | | 56.0 |
 | 40 | 52.3 | 51.6 | (IV Type) $13^{\circ} 24' 51.6''$ (s) -
 $53^{\circ} 11' 6.1''$ 52.5 (s) - $53^{\circ} 11' 8.7''$ | $13^{\circ} 24' 52.3''$ (s) -
 $53^{\circ} 11' 6.1''$

[[21 columned table]]
 (a) $13^{\circ} 26' 32.7''$ (s) -
 $53^{\circ} 2' 35.9''$ (b) $13^{\circ} 22' 44.3''$ (s) -
 $53^{\circ} 17' 6.7''$ (c) $13^{\circ} 23' 56.3''$ (s) - $53^{\circ} 51' 58.4''$
 | 1 | 24.0 | 8 | 12.2 |
 | ~~2~~ | ~~4~~ | 6 | 15.9 | | 1 | 13.0 |
 | 41 | 10.2 | 9.3 | (d) $13^{\circ} 25' 8.7''$ (s) - $53^{\circ} 10' 48.1''$
 $13^{\circ} 25' 9.2''$ (s) - $53^{\circ} 10' 50.8''$
 $13^{\circ} 25' 9.3''$ (s) - $53^{\circ} 10' 48.2''$

Mean Pos. IV Type. $13^{\circ} 24' 52.1''$ (s) - $53^{\circ} 11' 7.0''$
Mean Pos. (d) $13^{\circ} 25' 9.2''$ (s) - $53^{\circ} 10' 49.0''$

Plate B9423
 [[4 columned table]]
 Dif. X | 3.60 | 7.65 | -3.00 |
 Log. Dif. X | +0.55630 | 0.88366 | 0.47712 |
 | 1.48186 | 1.48186 | 1.48186 | 2.03816 | 2.36552 | 1.95898 |
 No. of Log. | 109.2 | 232.0 | 91.0 |
 | 1 | 49.2 | 3 | 52.0 | 1 | 31.0 |
31.0

[[4 columned table]]
 Dif Y | 9.60 | 5.20 | -11.75 |
 X 179 = | 1718.40 | 930.80 | 2103.25 |
 | 28' 38.4" | 15' 30.8" | 35' 3.2" |

Identified later as CPD -66 2299 (1875) 13 34 8.5 -66 46.1 9.0 mags
 (1900) 13 35 55.5 -66 53.8

(Mean Pos. 1875 V. Type. $13^{\circ} 34' 2.2''$ (s) -66 46' 3.5")
Mean Pos. 1900 V. Type. 13 35 49.2 -66 53
43.3

[[21 columned table]]
 (a) $13^{\circ} 32' 15.8''$ (s) - $67^{\circ} 14' 48.2''$ (b) $13^{\circ} 30' 9.2''$ (s) -
 $67^{\circ} 1' 34.9''$ (c) $13^{\circ} 35' 31.4''$ (s) - $66^{\circ} 10' 53.3''$
 | 1 | 49.2 | 28 | 38.4 | | 3 | 52.0 | 15 | 30.8 | | 1 | 31.0 |
 | 35 | 3.2 | 35

|V Type|13^[[h]]|34^[[m]]|5.0^[[s]]|-66°|46'|9.8"|
|13^[[h]]|34^[[m]]|1.2^[[s]]|-66°|46'|4.1"| |13^[[h]]|34^[[m]]|0.4^[[s]]|-
66°|45'|56.6"|

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Dec. 6, 1893

Meas to determine position of IV Type star on B 9436 (No. 3099) R.A.
Dec.

Dec. 31, 1900 The X readings of IV Type and
alpha were changed by Mrs. F.; and then the computation was revised.
M.C.S.

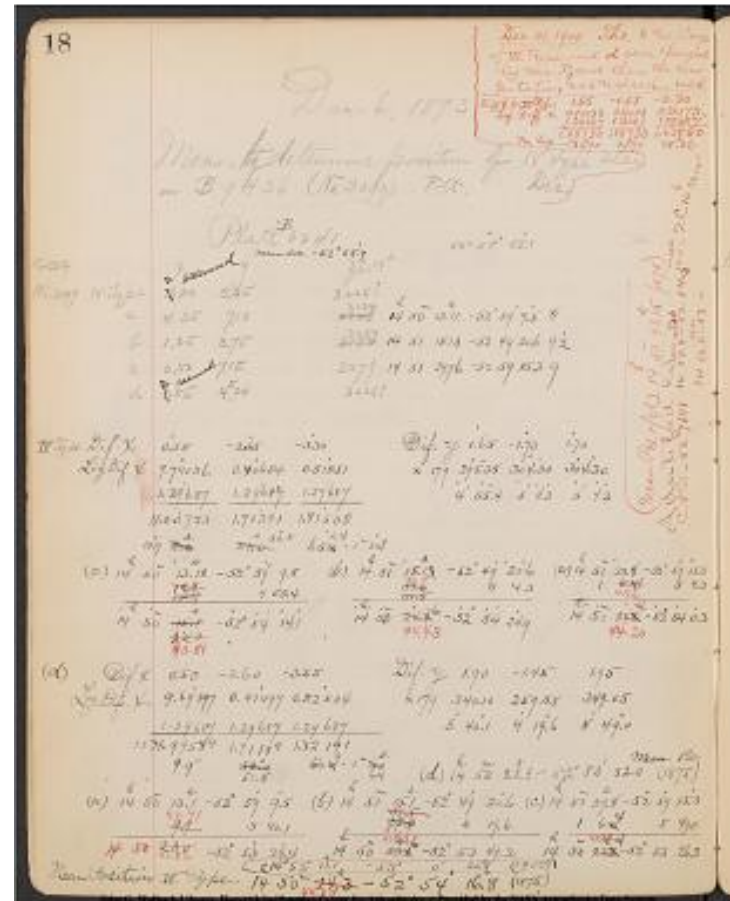
Diff X for IV Type. 1.55|-1.55|-2.30|
Log. Diff. X|0.19033|0.19033|0.36173|
1.29687|1.29687|1.29687|
1.48720|1.48720|1.65860|
No. Log|30.70^|30.70^|45.56^|

Plate B6241 52° 55' 55.1"
~~No. 309~~ mean dec. -52° 55.9'

8 columned table
x|y|Z.C. 14^|h|| | |
---|---|---|---|---|---|
No. 3099|IV
Type|~~3~~|2.80^|assumed||5.45|3225?| |
|a|4.35|7.10|~~3225~~|3180|14^|h||50^|m||
13.11^|s||-52° 59' 9.5"|8
|b|1.25|3.75|~~3180~~|3259|14 51 15.13|-52
49 20.6|9 1/2|
|c|0.50|7.15|3279|14 51 29.76|-52 59 15.3|9|
|d|~~3~~|2.85^|assumed||~~4~~|
5.20|3225?| | |

8 columned table
IV Type Dif. X|0.55|-2.55|-3.30|Dif. Y.|1.65|-1.70|1.70|
---|---|---|---|---|---|
Log. Dif. X|9.74036|0.40654|0.51851|X179|29' 5.35"|30' 4.30"|30' 4.30|
|1.29687|1.29687|1.29687|4' 55.4"|5'
4.3"|5' 4.3"|
|11.03723|1.70341|1.81538| | | |
|~~2.0~~|10.9^|s||~~51.0~~|
50.5^|s.||65.|~~4~~|4^|s.|| = 1^|m||
5.4^|s|| | | |

21 columned table
(a)|14^|h||50^|m||13.1|~~1~~|^|s||-
52° 59' 9.5|(b)|14^|h||51^|m||15.1|~~3~~|^|s||-
5° 49' 20.6|(c)|14^|h||51^|m||29.8^|s||-52° 59' 15.3"|
|10.9 2.7|30.7|



$4|55.4|$
 $51.0|$
 $1|$
 $45.6|$
 $14^{\circ}|50^{\circ}|$
 $52^{\circ}|54^{\circ}|14.1''|$
 $14^{\circ}|50^{\circ}|$
 $44.43^{\circ}|52^{\circ}|54^{\circ}|24.9|$
 $14^{\circ}|50^{\circ}|$
 $44.20^{\circ}|52^{\circ}|54^{\circ}|11.3|$

[[8 columned table]]
 IV Type Dif. X|0.50|-2.60|-3.35|Dif. Y.|1.90|-1.45|1.95|
 Log. Dif. X.|9.69897|0.41497|0.52504|X179|340.10|259.55|349.05|
 $1.29687|1.29687|1.29687|$
 $19.6''|5' 49.0''|$
 $10.99584|1.71184|1.82191|$
 $9.9^{\circ}|52.0^{\circ}|51.5^{\circ}|66.0^{\circ}|$
 $4 = 1^{\circ}|$
 $6.0^{\circ}|6.4^{\circ}|$

Mean Pos.
 (d) $14^{\circ}|50^{\circ}|23.3^{\circ}|52^{\circ} 53' 32.0$ (1875)

[[21 columned table]]
 (a) $14^{\circ}|50^{\circ}|13.1^{\circ}|$
 $52^{\circ}|59'9.5''|(b)|14^{\circ}|51^{\circ}|15.1^{\circ}|$
 $52^{\circ}|49'|20.6''|(c)|14^{\circ}|51^{\circ}|29.8^{\circ}|52^{\circ}|59'|15.3''|$
 $9.9|29.71|$
 $540.1|52.0|$
 $51.5|31.7|4|19.6|$
 $1|6.0|4|$
 $549.0|$
 $14|50|23.0|42.82|-52^{\circ}|53'|29.4''|$
 $14^{\circ}|50^{\circ}|23.0|1|6|$
 $43.43^{\circ}|52^{\circ}|53|40.2|$
 $14^{\circ}|50^{\circ}|23.0|8|4|$
 $43.21^{\circ}|52^{\circ}|53|26.3|$

Mean Position IV Type. $h 14^{\circ}|52^{\circ}|11.1^{\circ}|53^{\circ} 0' 25.8''$ (1900)
 $14^{\circ}|50^{\circ}|24.3|44.15^{\circ}|52^{\circ} 54' 16.8''$ (1876)

Mean Pos. of (d) $14^{\circ}|50^{\circ}|43.15^{\circ}|$ (1875)
 Identified later as CP.D. $-52^{\circ} 7861 14 50.8^{\circ}|1875|$ $-52 54.3$ Mags
 $10.0 = Z.C 14^{\circ}|3225$
 $14 52.6^{\circ}|1900|$ $-53 0$

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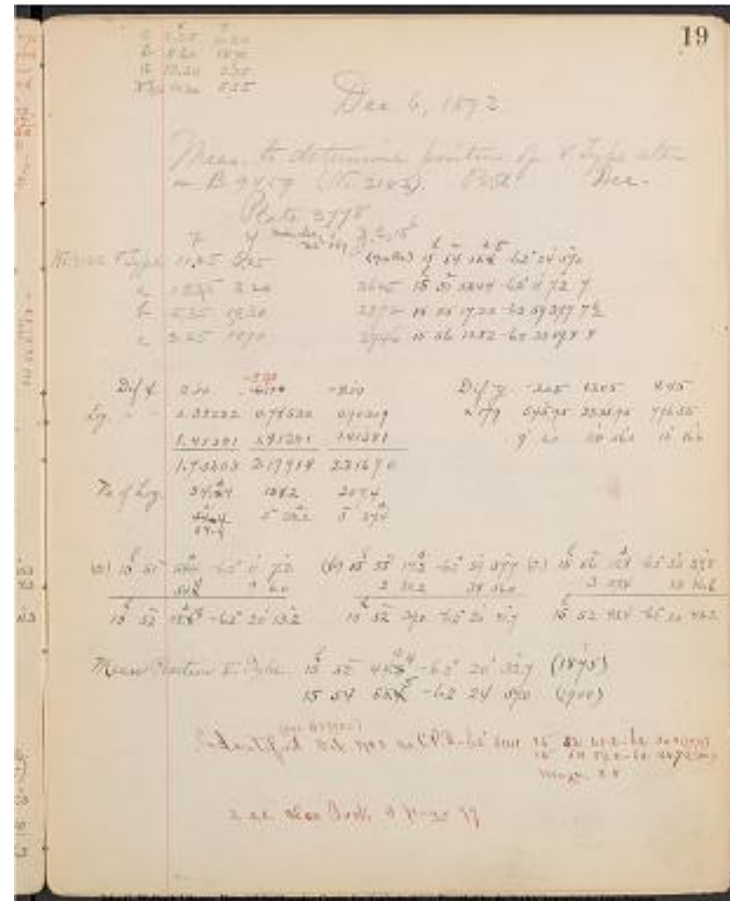
[[3 columned table]]

x	y	
c	2.35	10.20
b	5.60	18.70
a	12.30	2.35
V type	10.20	5.55

Dec. 6, 1893,
 Meas. to determine position of V. type star on B 9459 (No. 3183). R.a.
 Dec.
 Plate 3778
 {equation}
 No. 3183 V Type
 {equation}
 Dif. [4?] 2.10 6.10~~5.90~~ -5.90 -8.00
 Log. " " {equation}
 {equation}
 No. of Log.

Mean Position V Type. {equation} (1875)
 {equation} (1900)

Identified Oct. 1908 as {equation} (1875)
 {equation} (1900)
 see also Book 3 page 99



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20

Dec 6, 1893

Meas. to determine position of V Lyke star on B 9435 (No. 3090) R.Q.

Plate 3863

Mean dec:

[[3 column table]]

---|p|y|

No. 3090 v Lyke|7.50|[[crossed out]] 4.00 [[/crossed out]] 3.95|

a|9.95|0.50|

b|7.15|1505|

c|4.10|5.30|

[[8 column table]]

20666|15|7|38.5|-45|0|50.5|8 3/4|

[[/crossed out]] 20690 [[/crossed out]] 20691|15|8|23.8|-45|44|13.7|7.0|

20702|15|9|16.9|-45|15|10.0|7 1/2|

[[4 column table]]

Dif. X|2.45|-0.35|-3.40|

Log. Dif. X.|0.38917|9.54407|0.53148|

---|1.23006|1.23006|1.23006|

Log.|1.61923|10.77413|1.76154|

No. of Log.|41.6|5.9|57.8|

[[4 column table]]

Dif. Y.|-3.45|11.10|1.35|

X|179|617.55|1986.90|241.65|

---|10' 17.6"|33' 6.9"|4' 1.6"|

(a) 15 7 38.5 -45 0 50.5
41.6 10 17.6

15 8 20.1 -45 11 8.1

(b) 15 8 23.8 -45 44 13.7
5.9 33 6.9

15 8 17.9 -45 11 6.8

(c) 15 9 16.9 -45 15 10.0
57.8 4 1.6

15 8 19.1 -45 11 8.4

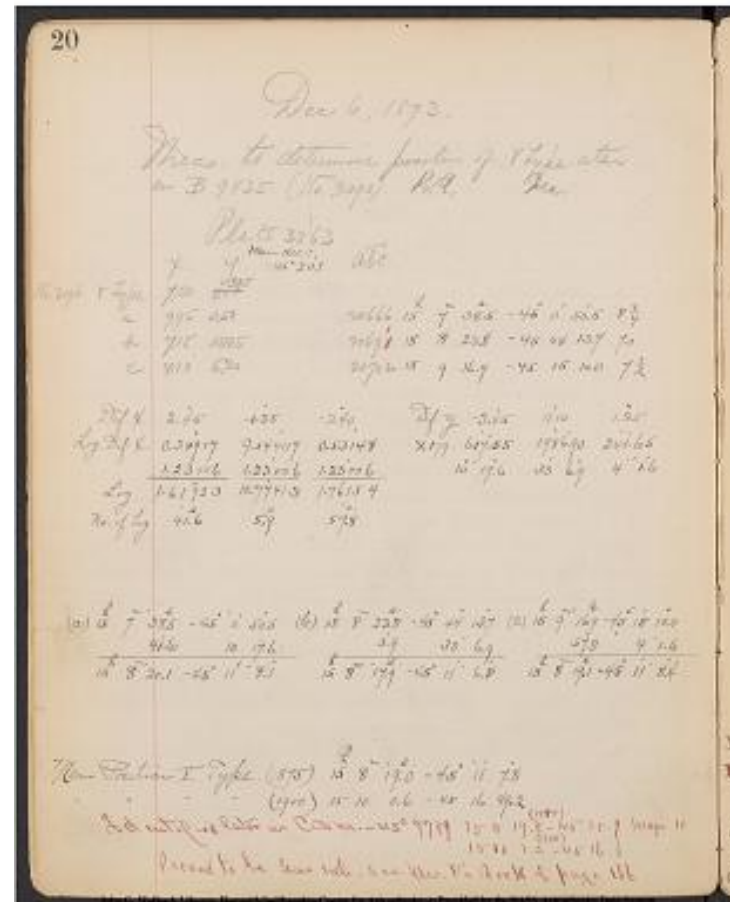
Mean Position V Type (1875) 15 8 19.0 -45 11 7.8

Mean Position V Type (1900) 15 10 0.6 -45 16 49.2

Identified later as CDM. -W5 9789 158 19.8 -W5 10.9 Magn.10

1510 1.2 -W5 16.6

Proved to the Gas. Neb. See Mrs. F's Book 2 Page 166



Project PHaEDRA - Williamina P. Fleming - Variable Stars #4
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Dec. 6, 1893

Meas. to determine position of V Type star on B 9456 (No. 3162
 ^[[Book 3. page 99 Book 4 page 62 Same star]]

Plate 3416

[[right margin]]

Reject meas.

[[/right margin]]

[[4 columned table]]

| x|y|Z.C.13^[[h]]|

|-----|

No. 3162 V Type ~~9.60~~9.30~~14.05~~ |a ~~14.05~~ | 14.10~~12.17~~ | 1217 |b ~~5.00~~ | 14.70~~1456~~ | 1456 |W.S. c ~~6.00~~ | 1.80~~1458~~ | 1458 |

Mean dec. -61° 18.2'

[[11 columned table]]

V Type | 8.75 | 23.25 | | | | | | | | |

a | 14.05 | 28.20 | 1217 | 13^[[h]] | 20 | 21.46 | -61° | 40' | 41.1 | 9½ |

b | 5.00 | 2.865 | 1456 | 13 | 24 | 10.04 | -61 | 41 | 55.2 | 7½ |

c | 4.60 | 5.10 | 1458 | 13 | 24 | 11.62 | -60 | 31 | 55.5 | 8 |

which? d^[[1]] | 1.30 | 18.30 | ~~1514~~ | 13 |

25 | 32.4 | -61 | 11 | 10.0 |

which? d^[[2]] | 1.75 | 18.30 | ~~1514~~ | 1523 |

13 | 25 | 26.18 | -61 | 11 | 14.9 |

[[8 columned table]]

Dif X | 5.30 | -3.75 | -4.15 | Dif Y | 4.95 | 5.40 | -18.15

| 0.72428 | 0.57403 | 0.61805 | x179 | 886.05 | 966.60 | 3248.85

| 1.39556 | 1.39556 | 1.39556 | 14° 46.0" | 16'

6.6" | 54' 8.8"

| 2.11984 | 1.96959 | 2.01361 | | | |

| 131.8 | 93.2 | 103.2 | | | |

| 2^[[m]] | 11.8^[[s]] | 1^[[m]] | 33.2^[[s]] | 1^[[m]] | 43.2^[[s]] |

[[8 columned table]]

d^[[1]] Dif X | 12.75 | 3.70 | 3.30 | d^[[1]] Dif Y | 9.90 | 10.35 | -13.20

| 1.10551 | 0.56820 | 0.51851 | 1772.10 | 1852.65 | 2362.80 |

| 1.39556 | 1.39556 | 1.39556 | 29° 32.1" | 30'

52.6" | 39' 22.8"

| 2.50107 | 1.96376 | 1.1~~8~~ | 91407 | | | |

| 317.0' | 92.0' | 65.2' | 82.0' | | | |

| 5^[[m]] | 17.0^[[s]] | 1^[[m]] |

32.0^[[s]] | 1^[[m]] | ~~5.2~~ | 22.0^[[s]] | | | |

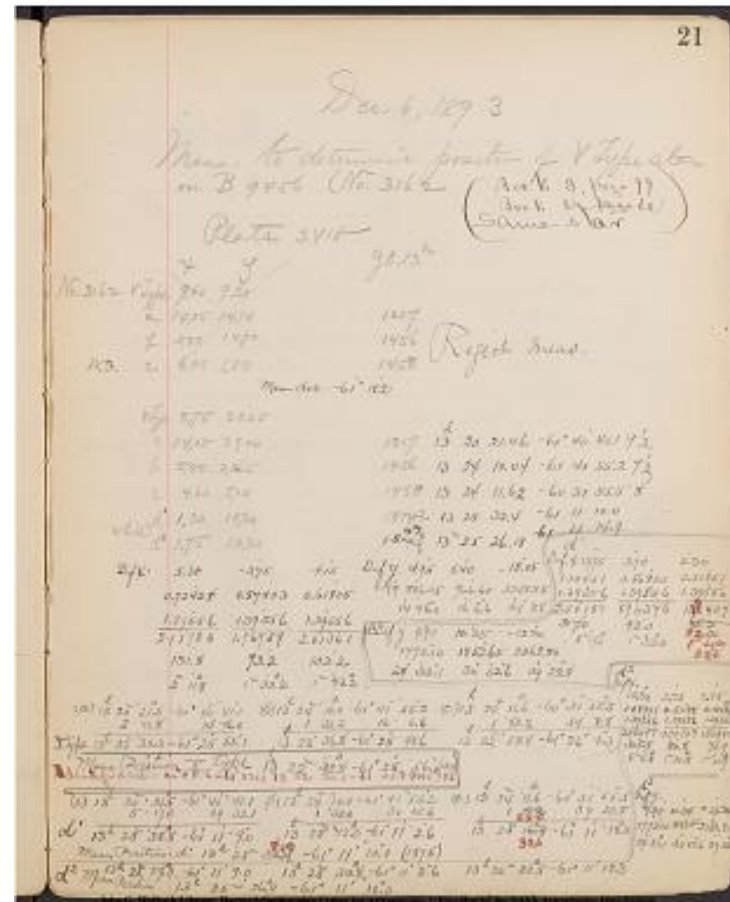
[[8 columned table]]

d^[[2]] Dif. X | 12.30 | 3.25 | 2.85 | d^[[2]] Dif Y | 9.90 | 10.35 | -13.20 |

| 1.08991 | 0.51188 | 0.45484 | 1772.10 | 1952.65 | 2362.80 |

| 1.39556 | 1.39556 | 1.39556 | 29° 32.1" | 30'

52.6" | 39' 22.8"



Dec. 6, 1893

Meas. to determine position of V Type star
 on B 9456 (No. 3162)

Plate 3416

9456

No. 3162 V Type

a 14.05 28.20 1217

b 5.00 2.865 1456

c 4.60 5.10 1458

which? d^[[1]] 1.30 18.30

25 32.4 -61 11 10.0

which? d^[[2]] 1.75 18.30

13 25 26.18 -61 11 14.9

Dif X 5.30 -3.75 -4.15

Dif Y 4.95 5.40 -18.15

0.72428 0.57403 0.61805

x179 886.05 966.60

3248.85

1.39556 1.39556 1.39556

14° 46.0" 16'

6.6" 54' 8.8"

2.11984 1.96959 2.01361

131.8 93.2 103.2

2^[[m]] 11.8^[[s]] 1^[[m]]

33.2^[[s]] 1^[[m]] 43.2^[[s]]

d^[[1]] Dif X 12.75 3.70 3.30

d^[[1]] Dif Y 9.90 10.35 -13.20

1.10551 0.56820 0.51851

1772.10 1852.65 2362.80

1.39556 1.39556 1.39556

29° 32.1" 30'

52.6" 39' 22.8"

2.50107 1.96376 1.1

91407

317.0' 92.0' 65.2'

82.0'

5^[[m]] 17.0^[[s]] 1^[[m]]

32.0^[[s]] 1^[[m]] 5.2

22.0^[[s]]

d^[[2]] Dif. X 12.30 3.25 2.85

d^[[2]] Dif Y 9.90 10.35 -13.20

1.08991 0.51188 0.45484

1772.10 1952.65 2362.80

1.39556 1.39556 1.39556

29° 32.1" 30'

52.6" 39' 22.8"

2.48547	1.90744	1.85040			
305.8	80.8	70.9			
5^[[m]] 5.8^[[s]]1^[[m]] 20.8^[[s]]1^[[m]] 10.9^[[s]]					

[[21 columned table]]
 (a)|13^[[h]]|20^[[m]]|21.5^[[s]]|-
 61°40'41.1"(b)|13^[[h]]|24^[[m]]|10.0^[[s]]|-
 61°41'55.2"(c)|13^[[h]]|24^[[m]]|11.6^[[s]]|-60°31'55.5"
 | |2|11.8| |14|46.0|1|1|33.2|
 |16|6.6|1| |1|43.2| |54|8.8|1|
 V type|13^[[h]]|22^[[m]]|33.3|-61°25'55.1"| |13^[[h]]|22^[[m]]|36.8|-
 61°25'48.6| |13^[[h]]|22^[[m]]|28.4|-61°26'4.3"

Mean Position V type 13 22 32.8 -61 25' 56.0" (1875)
 Identified earlier as CP.D. -61 8753 13 22 34.8 -61 25.9 (1875) 9.6

[[21 columned table]]
 (a)|13^[[h]]|20^[[m]]|21.5^[[s]]|-
 61°40'41.1"(b)|13^[[h]]|24^[[m]]|10.0^[[s]]|-
 61°41'55.2"(c)|13^[[h]]|24^[[m]]|11.6^[[s]]|-60°31'55.5"
 | |5|17.0| |29|32.1|1|1|32.0|
 |30|52.6|1| |1|22.0| |39|22.8|1|
 d^[[1]]|13^[[h]]|25^[[m]]|38.5^[[s]]|-61°11'9.0"|
 |13^[[h]]|25^[[m]]|42.0^[[s]]|-61°11'2.6"|
 |13^[[h]]|25^[[m]]|~~16.8~~|~~33.6~~^[[s]]|-
 61°11'18.3"

Mean Position d^[[1]]: 13^[[h]] 25^[[m]]
~~32.4~~~~8.0~~^[[s]] -61° 11' 10.0"
 (1875)

[[21 columned table]]
 {d^[[2]]|13^[[h]]|25^[[m]]|27.3^[[s]]|-61°11'9.0|
 |13^[[h]]|25^[[m]]|30.8^[[s]]|-61°11'2.6"| |13^[[h]]|25^[[m]]|22.5^[[s]]|-
 61°11'18.3|

Mean position 13^[[h]] 25^[[m]] 26.9^[[s]] -61° 11' 10.0"

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December 7, 1893

Meas. to determine position of V Type star on plate B 9456 (No. 3166)
R.A.* Dec.* [[Trans. later to Gas neb. list - Prob. Copeland's Gas neb.
13 47.0 -66.0 Copeland's pos. being wrong]]

See also book 3 Page 216 Same star meas.

Plate 3418

Mean dec. -65° 55.2'

[[8 columned table]]

X Y Z.C. 13^[[h]]			
No. 3166 V type 16.50 5.40 (1900) 13^[[h]] 46^[[m]] 31.6^[[s]] -65° 59'			
59.2			
a 17.90 5.30 2691 13^[[h]] 44^[[m]] 1.06^[[s]] -65° 53' 34.8 7½			
b 2.25 1.30 3164 13 51 28.81 -65 39 33.0 6½			
c 2.00 12.30 3192 13 51 55.83 -66 12 23.0 8½			

[[8 columned table]]

Dif. X 1.40 -14.25 -14.50 Dif Y. -10 -4.10 6.90			
Log. Dif. X 0.14613 1.15381 1.16137 X179 17.90 733.90 1235.10			
[[1.46627 1.46627 1.46627 /]] 17.9° 12'			
13.9° 20' 35.1"			
1.61240 2.62008 2.62764			
No. of Log. 41.0 41 6.9 7.0 424.3			
41.0^[[s]] 6^[[m]] 56.9^[[s]] 7^[[m]] 4.3^[[s]]			

[[21 columned table]]

(a) 13 44 1.1 -65 53 34.8 (b) 13 51 28.8 -65 39 33.0 (c) 13 51 55.8 -																				
66 12 23.0																				
41.0 17.9																				
6 56.9 12 13.9																				
7 4.3 20 35.1																				
13 44 42.1 -65 53 52.7																				
13 44 31.9 -65 51 46.9																				
13 44 51.5 -65 51 47.9																				

Mean Position V Type Star 13|44|41.8|-65|52|29.2|(1875)
13|46|31.6|-65|59|59.2|(1900)

Jan 23, 1894. New Set of Measures ^[[Identified later as PD -65 2513
13 WW 39.5 -65 53.8 (1875) magn 10.0
13 L16 218.9 -66 1.3 (1900)]]

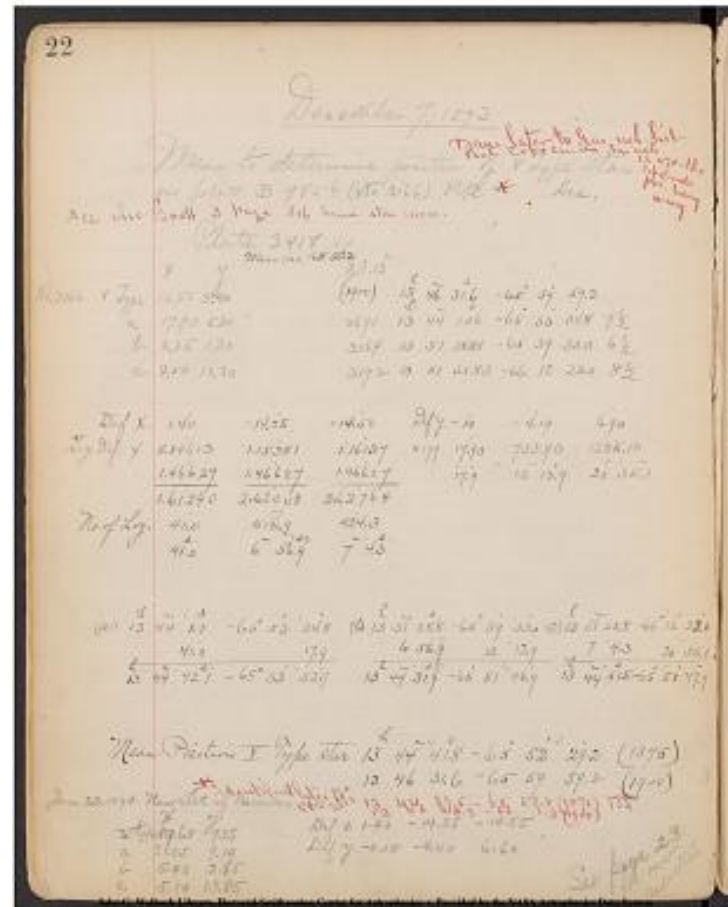
X Y|Dif.x 1.40|-14.25|-14.55
|Dif.y-0.15|-4.40|6.60

V.type 19.65 7.25

a 21.05 7.10

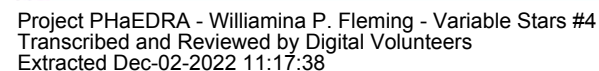
b 5.40 2.85

c 5.10 13.85 ^[[See page 23 for new red motion]]



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0.75	0.90	-3.00
------	------	-------

$$[[\text{equation}]]$$


2nd Computation

April, 5, 1895.

Plate B.3781

Mean Dec. = $-67^{\circ} 32'.2 =$

[[equation]]

Log. $0.41777 + 1.07700 = 1.49477$

[[/equation]]

[[5 columned tables]]

Diff. x. | 5.83 | 4.48 | -2.80 | -4.27

Log. Diff x | [[equations]] $0.76567 + 1.49477 = 2.26044$ | $0.65128 + 1.49477 = 2.14605$ | $0.44716 + 1.49477 = 1.94193$ | $0.63043 + 1.49477 = 2.12520$ [[/equations]]

No. of Log. | $182.2^{\Delta}[[s]]$ | $140.0^{\Delta}[[s]]$ | $87.48^{\Delta}[[s]]$ | $133.4^{\Delta}[[s]]$
 | $3^{\Delta}[[m]]$ $2.2^{\Delta}[[s]]$ | $2^{\Delta}[[m]]$ $20.0^{\Delta}[[s]]$ | $1^{\Delta}[[m]]$ $27.48^{\Delta}[[s]]$ | $2^{\Delta}[[m]]$ $13.4^{\Delta}[[s]]$

Diff. y | 6.58 | -1.22 | -4.42 | -2.14

x 179 | 1177.82 | 218.38 | 791.18 | $383.06''$

| $19' 37.82''$ | $3' 38.38''$ | $13' 11.18''$ | $6' 23.06''$

[[/5 columned tables]]

[1]

[[equation]]

$16^{\Delta}[[h]] = 16^{\Delta}[[h]]$

$34^{\Delta}[[m]] + 3 = 37^{\Delta}[[m.]]$

$2.82^{\Delta}[[s]] + 2.2 = 5.0^{\Delta}[[s.]]$

$-67^{\Delta}[[0]] = -67^{\Delta}[[0]]$

$51^{\Delta}[[1]] - 19 = 32^{\Delta}[[1]]$

$56.0^{\Delta}[[2]] - 37.8 = 18.2$

[[/equation]]

[2]

[[equation]]

$16^{\Delta}[[h]] = 16^{\Delta}[[h.]]$

$35^{\Delta}[[m]] + 3 = 37^{\Delta}[[m.]]$

$0.50^{\Delta}[[s]] + 20.0 = 20.5^{\Delta}[[s.]]$

$-67^{\Delta}[[0]] = -67^{\Delta}[[0]]$

$29^{\Delta}[[1]] + 3 = 32^{\Delta}[[1]]$

$9.7^{\Delta}[[2]] + 38.4 = 48.1^{\Delta}[[2]]$

[[/equation]]

[3]

[[equation]]

$16^{\Delta}[[h]] = 16^{\Delta}[[h]]$

$38^{\Delta}[[m]] - 1 = 37^{\Delta}[[m]]$

$48.02^{\Delta}[[s]] - 27.48 = 20.5^{\Delta}[[s.]]$

$-67^{\Delta}[[0]] = -67^{\Delta}[[0]]$

$20^{\Delta}[[1]] + 13 = 33^{\Delta}[[1]]$

$9.0^{\Delta}[[2]] + 11.2 = 20.2$

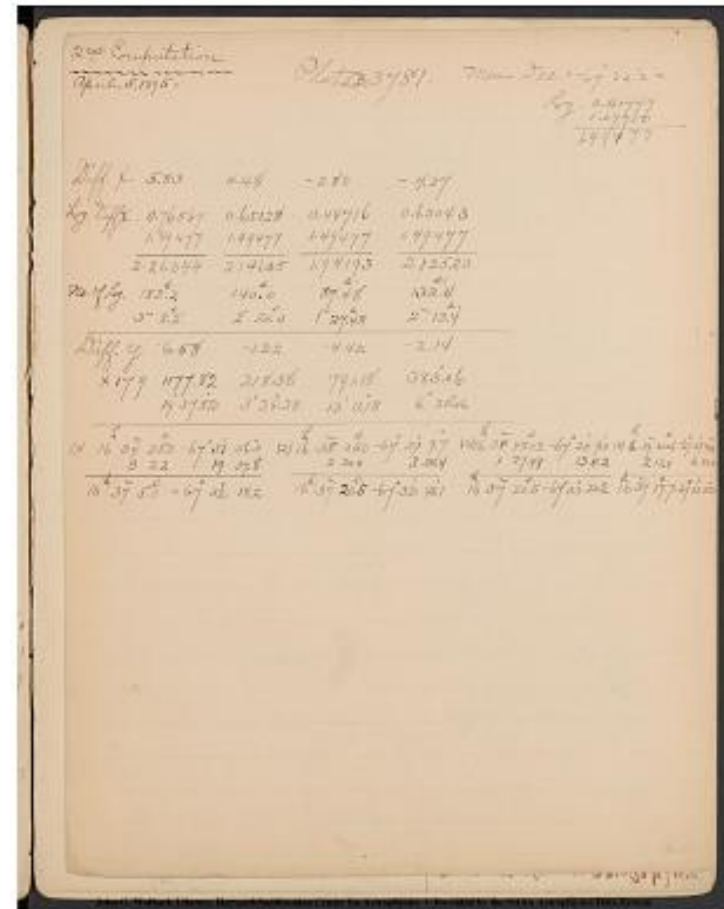
[[/equation]]

[4]

[[equation]]

$16^{\Delta}[[h]] = 16^{\Delta}[[h]]$

$39^{\Delta}[[m]] - 2 = 37^{\Delta}[[m.]]$



$$\begin{aligned}
 31.06^{[s]} - 13.4 &= 17.7^{[s.]} \\
 -67^{[0]} &= -67^{[0]} \\
 20^{[1]} + 6 &= 33^{[1]} \\
 29.1^{[2]} + 23.1 &= 52.2^{[2]}
 \end{aligned}$$

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January 10, 1894

Exam of photograph to determine variation, if any in Z.C. 19^h 1476
Astron. Nach. 3203 p. 181

Plate B 3878

a = Cordoba DM - 26° 14434 19 34 49.7 -26 16.6 9.5
b = Cordoba DM -26° 14425 19 34 26.3 -26 22.9 9.8
v? = Z.C.19^h 1476 = Cordoba DM -26° 14432 19 34 44.4 -26 18.6 9.8

Plate B3878 taken

a 2 v?

v? 3 b

Plate B4049 taken

a 3 v

v 2 b

~~Plate B 4070 taken~~

Plate B 4070 taken

a 3 v

v 2 b

Plate B 3147 taken

a 2 v

v 2 b

right margin

Plate 3418 Mean dec. 65° 55.2' = log .38927

[4 columned table]

Dif. X | 1.40 | -14.25 | -14.55 |

Log. X | 0.14613 | 1.15381 | 1.16286 |

| 1.46627 | 1.46627 | 1.46627 |

| 1.61240 | 2.62008 | 2.62913 |

No. of Log | 41.0 | 416.9 | 425.7 |

| 41.0^h | 6^m | 56.9^s | 7^m |

~~2~~ | ~~5.7~~ |

[4 columned table]

Dif. Y. | -0.15 | -4.40 | 6.60 |

X179 | 26.85 | 787.60 | 1181.40 |

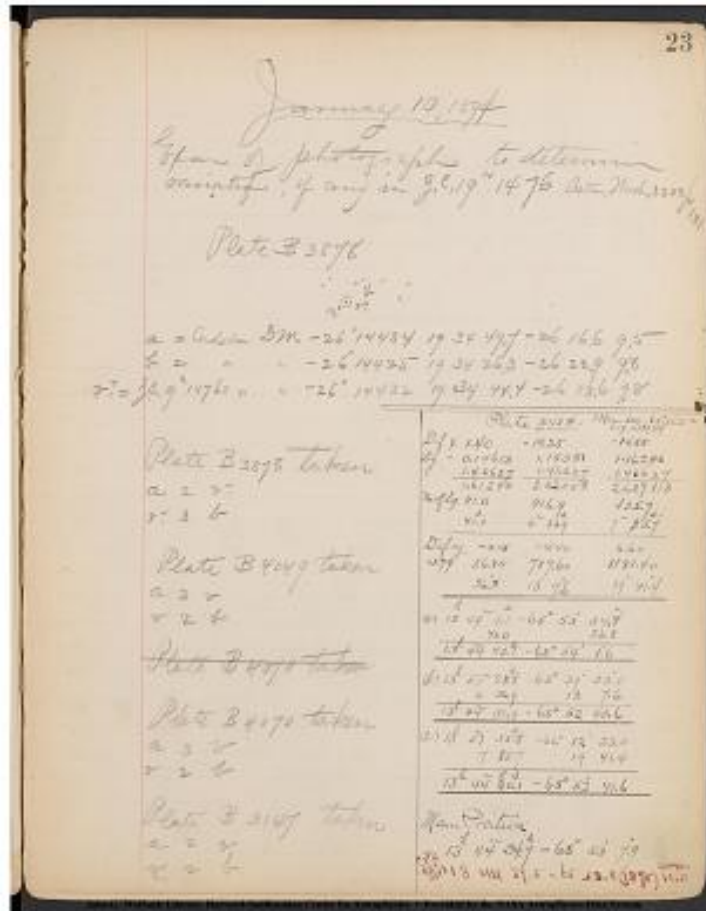
| 26.8 | 13 | 7.6 | 19 | 41.4 |

[7 columned table]

(a) | 13^h | 44^m | 1.1^s | -65° | 53' | 34.8" |

| 41.0 | | 26.8 |

| 13^h | 44^m | 42.1^s | -65° | 54' | 1.6" |



[[7 columned table]]

(b) 13^h 51^m 28.8^s -65° 39' 33.0"
| 6 56.9 | 13 | 7.6 |
| 13^h 44^m 31.9 | -65° 52' 40.6"

[[7 columned table]]

(c) 13^h 51^m 55.8^s -66° 12' 23.0"
| 7 1 ~~2~~ 5.7 |
| 19 41.4 |
| 13^h 44^m ~~3~~ 50.1^s
| -65° 52' 41.6 |

Mean Position

13^h 44^m 34.7^s -65° 53' 7.9"

CP.D. -65° 25' 13" 13 44 39.5 -65 53.8 (1875) Magn. 10.0

[[/right margin]]

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24

January 10, 1894

Portion of 19^h 1476 Z.C. (Continued).

[[left margin]]

[[underlined]]Near edge of plate[[/underlined]]

[[left margin]]

Plate B 4164 taken

[[strikethrough]]b[[/strikethrough]]a 1 v

v 1 z

v 1 b [[underlined]]Meas. no good[[/underlined]]

Plate B 4350 taken

a 1 v

v 3 b

Plate B 9862 taken

a 2 v

v 3 b

Plate B 9887 taken

a 2 v

v 3 b

Plate B 3869 taken

a 2 v

v 3 b

Plate B 5312

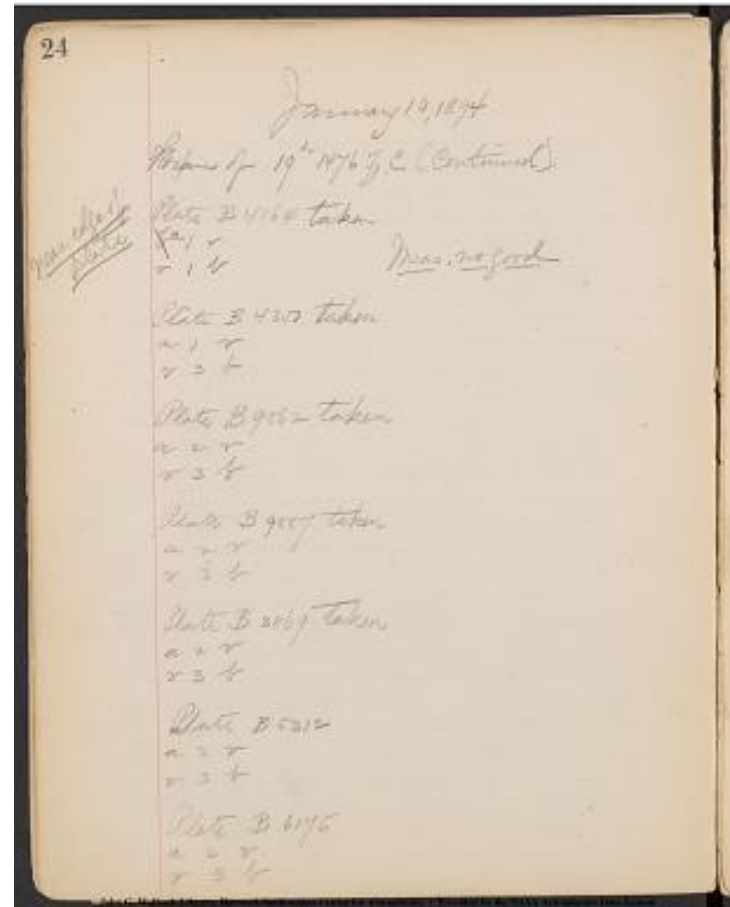
a 2 v

v 3 b

Plate B 6175

a 2 v

v 3 b



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25

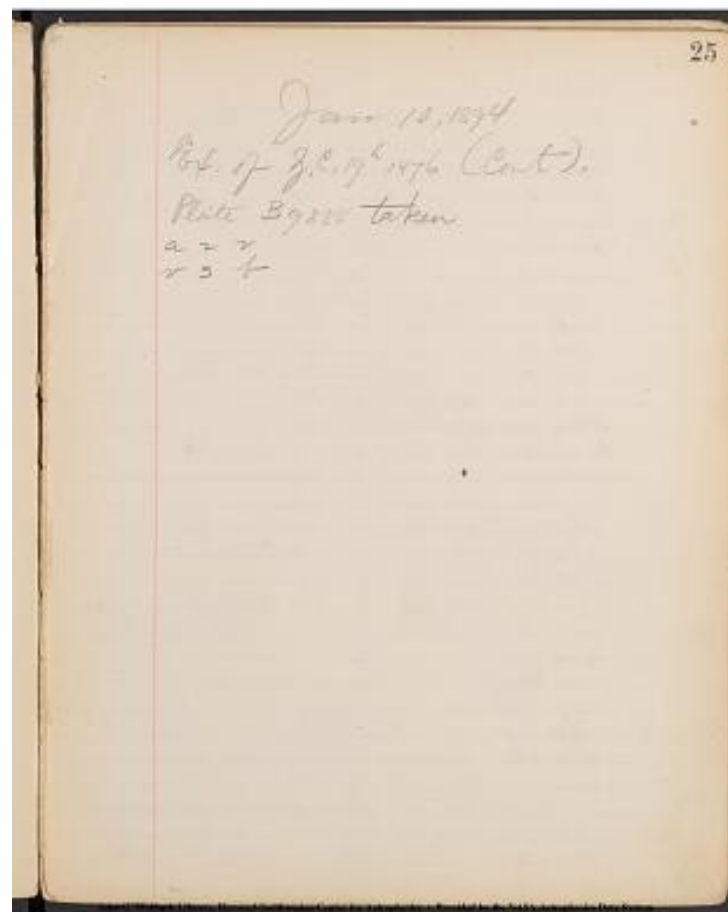
Jan 10, 1894

Ex. of Z.C. 19^h 1476 (Cont).

Plate B9888 taken

a 2 v

v 3 b



Project PHaEDRA - Williamina P. Fleming - Variable Stars #4
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January 16, 1894

Meas. of stars on D.M. Charts by means of glass square ruled in mms.

Region[^][R.A.] 0[^][h] 0[^][m] to 0[^][h] 4[^][m] Dec. 0.0° to + 1.0°

[[3 columned table]]

[[~~0[^][h]] 0[^][m] 0°|0.00|0.00|~~ x | y |

0[^][h] 0[^][m] 0°|0.00|0.00|

0[^][h] 0[^][m] +1°|0.00|19.80|

0[^][h] 4[^][m] 0°|19.80|0.00|

0 4[^][m] +1°|19.80|19.70|

[[14 columned table]]

| | | | | BD. No. | R.A. | | Dec. | | Magn. | | | |

| 1 | 0.40 | 1.25 | | 4.80[^][s] | 3.75[^]| 1 | 0[^][h] |

0[^][m] | 4.8[^][s] | +0°|4.2[^]| 9.5 | 0.0[^][s] | -0.4[^]|

| 2 | 0.90 | 10.65 | | 10.92 | 31.95 | 2 | | 0 | 12.5 | +0°|32.5 | 9.1 | -1.6 | -0.5 |

| 3 | 1.10 | 5.70 | | 13.32 | 17.10 | 3 | | 0 | 14.7 | +0°|18.0 | 8.1 | -1.4 | -0.9 |

| 4 | 3.45 | 2.80 | | 41.76 | 8.40 | 4 | | 0 | 41.0 | +0°|8.6 | 9.4 | +0.8 | -0.2 |

| 5 | 3.55 | 18.45 | | 43.08 | 55.35 | 5 | | 0 | 41.2 | +0°|56.1 | 9.3 | +1.9 | -0.7 |

| 6 | 6.05 | 1.40 | 1[^][m] | 13.32 | 4.20 | 6 | | 1 | 15.0 | +0°|4.9 | 9.5 | -1.7 | -0.7 |

| 7 | 6.90 | 8.70 | | 23.64 | 26.10 | 7 | | 1 | 23.1 | +0°|26.7 | 9.3 | +0.5 | -0.6 |

| 8 | 10.10 | 8.90 | 2 | 2.40 | 26.70 | 8 | 2 | 2.4 | +0°|26.1 | 7.9 | 0.0 | +0.6 |

| 9 | 18.60 | 8.95 | 3 | 45.48 | 26.85 | 9 | 3 | 46.9 | +0°|27.6 | 9.2 | [[underlined]] -1.4 | -

0.8 | [[underlined]]

4.8 | [[underlined]] = | | | | | [[underlined]] +3.2 -6.1 | +0.6 -

| | | | | | | | | | | 9 | 9 |

| | | | | | | | | | | ±1.03 | ±.60[^] |

[[6 columned table]]

6[^][h] 0[^][m] 0°|0.00|0.00|

6[^][h] 0[^][m] +1°|0.00|19.75|

6[^][h] 4[^][m] 0°|19.70|0.00|

6[^][h] 4[^][m] +1°|19.70|19.70|

[[15 columned table]]

| 1 | 1.25 | 8.20 | | 15.12[^][s] | 24.60[^]| 1292 | 6[^][h] |

0[^][m] | 15.2[^][s] | +0°|24.8[^]| 9.5 | -0.1 | -0.2 |

| 2 | 1.45 | 0.50 | | 17.52 | 1.50 | 1293 | | 0 | 18.0 | +0°|0.7 | 9.5 | -0.5 | +0.8 |

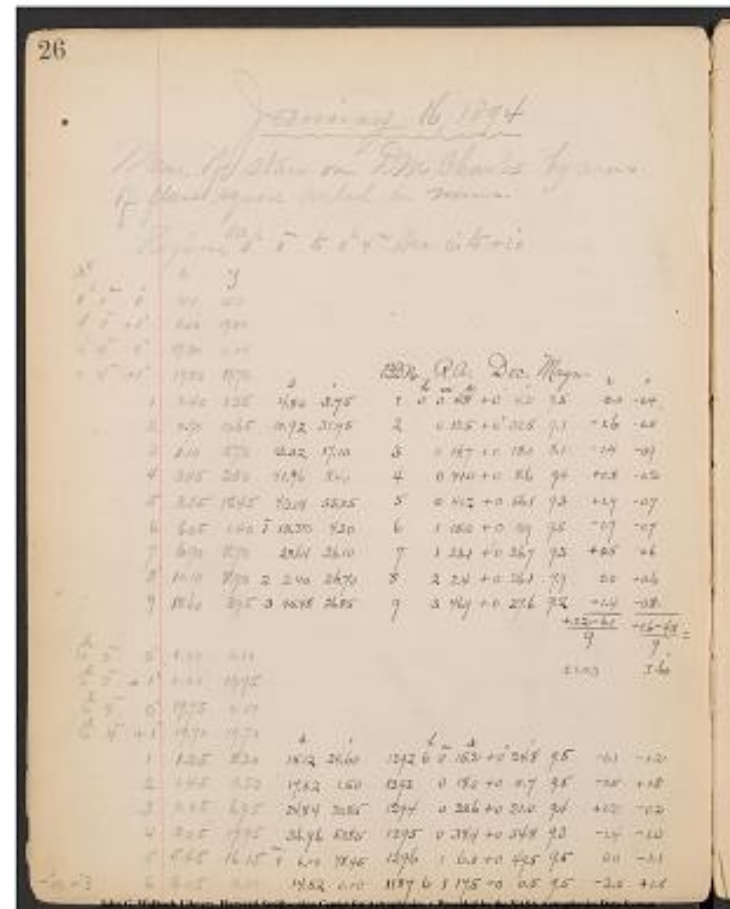
| 3 | 2.05 | 6.95 | | 24.84 | 20.85 | 1294 | | 0 | 23.6 | +0°|21.0 | 9.4 | +1.2 | -0.2 |

| 4 | 3.05 | 17.95 | | 36.96 | 53.85 | 1295 | | 0 | 38.4 | +0°|54.8 | 9.3 | -1.4 | -1.0 |

| 5 | 5.45 | 16.15 | 1[^][m] | 6.00 | 48.45 | 1296 | | 1 | 6.0 | +0°|49.5 | 9.5 | 0.0 | -1.1 |

-° or +°? | 6 | 6.15 | 0.00 | | 14.52 | 0.00 | 1187 | 6 | 1 | 17.5 | -0°|0.5 | 9.5 | -3.0 | +0.5 |

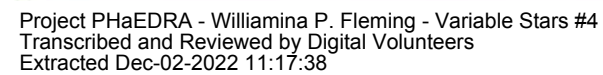
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Provided by the NASA Astrophysics Data Systems



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20	25	20	20
20	25	25	25
20	30	25	25
<u>30</u>	30	25	30
90	110	95	100

See page 135 of this book



February 28, 1894,

Meas. of new var. star or Nova in Sagittarius est RA. $19^{\circ} 8.7' [h]$ $10.5' [m]$
Dec. $-39^{\circ} 50'$ (~~1900~~ 1875.
 $^{\circ} [Identified later as CDM -39^{\circ} 13207 19^{\circ} [h]] 10.5' [m]] -39^{\circ} 47' (1900)]$
Found on exam of plate B9560 (No 3319). The spectrum contains the
line at wavelength 500, which is the characteristic feature in the
photographic spectra of ~~planetary~~ gaseous nebulae.

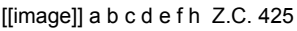
 a b c d e f h Z.C. 425

Plate B3730

[3 columned table]

var. | 7.4 | 11.4 | 11.1 | 11.2 | 11.2 = 11.17[^][v] | V 13.8 | H 11.8 |

a | 5.5 | 9.5 = Z.C. 425 19 9 50 - 39 58 9½ |

b | 6.5 | 10.5 |

c | 7.0 | 11.0 |

d | 7.4 | 11.4 |

e | 7.7 | 11.7 |

f | 8.1 | 12.1 |

g | 8.7 | 12.7 |

h | 9.1 | 13.1 |

10.7 | c 4 v | 11.1 | 11.2 | 11.2 = 11.17[^][v] |

11.2 | v 0 d | 11.2 |

11.2 | v 3 e | 11.5 |

[left margin]

95

5.5

4.0

Adopted Magns

a 9.50

b 10.32

c 10.72

d 11.19

e 11.47

f 11.85

g 12.57

h 12.97

[left margin]

Plate B3745

[3 columned table]

11.8 | f 1 v | 11.9 | 11.9 = 11.90 |

11.9 | v 7 g | 12.6 |

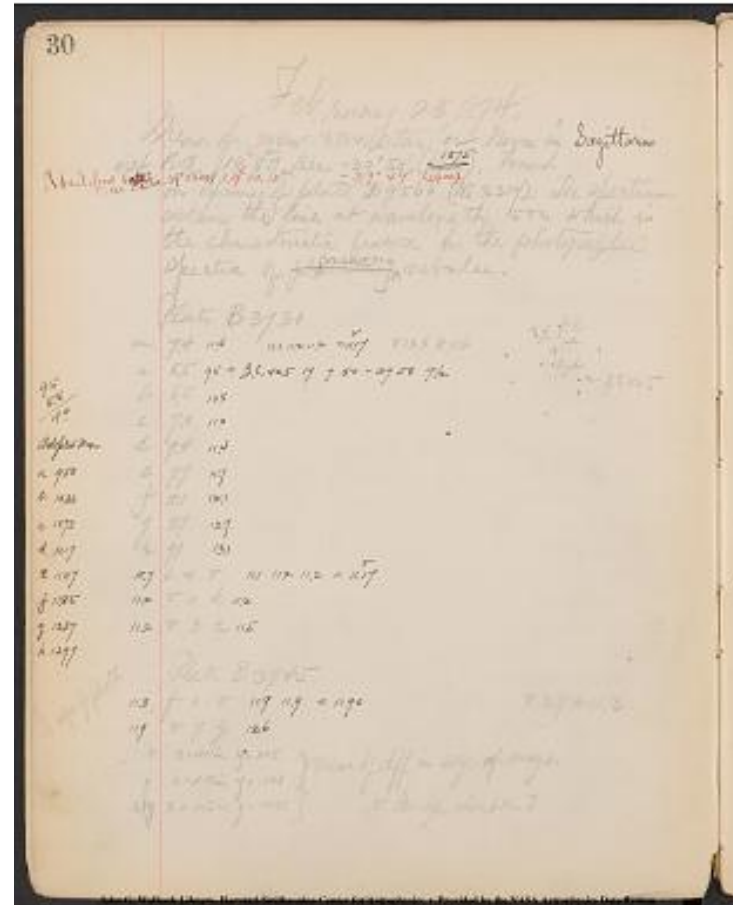
| v | x = .011 m. y = .005 | Meas. of diff in size of images. |

| f | x = .014 m. y = .003 | Meas. of diff in size of images. |

| e | ~~g~~ | x = .015 m, y = .0035 | v Image
double? |

[left margin]

On edge of plate



[[/left margin]]

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Superseded Sheet

[[3 columned table]]

xx30 | yx60

--- | --- | ---

b | 165.60 | 408.00

a | 157.50 | 36.00

c | 54.60 | 831.00

d | 512.40 | 1278.00

f | 695.50 | 198.00

g | 1728.00 | 342.00

e | 24.60 | 1908.00

k | 217.50 | 570.00 ~~285.00~~

h | 795.00 | 897.00

l | 979.50 | 303.00

n | 241.50 | 363.00

m | 187.50 | 57.00

o | 159.00 | 39.00

p | 387.60 | 214.80

q | 406.50 | 240.00

r | 337.50 | 339.00

s | 480.60 | 102.00

t | 331.50 | 24.00

u | 360.00 | 115.20

w | 307.50 | 189.00

x | 271.50 | 72.00

y | 268.50 | 16.80

z | 297.60 | 36.00

alpha | 266.40 | 22.80

[[3 columned table]]

31

Feb. 24, 1894
Memo. of new stars in (Centa.)

Plate 8204
127 127 = 1270

b	165.60	408.00
a	157.50	36.00
c	54.60	831.00
d	512.40	1278.00
f	695.50	198.00
g	1728.00	342.00
e	24.60	1908.00
k	217.50	570.00
h	795.00	897.00
l	979.50	303.00
n	241.50	363.00
m	187.50	57.00
o	159.00	39.00
p	387.60	214.80
q	406.50	240.00
r	337.50	339.00
s	480.60	102.00
t	331.50	24.00
u	360.00	115.20
w	307.50	189.00
x	271.50	72.00
y	268.50	16.80
z	297.60	36.00
alpha	266.40	22.80

Superseded Sheet

Project PHaEDRA - Williamina P. Fleming - Variable Stars #4

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Feb. 28, 1894

Meas. of new var. in (Cont.)

[[left margin]] near edge of pl.

Plate B3814

12.6|g|1|v|12.7|12.7 = 12.70

v 4.1 H 11.3

12.7|v|3|h|13.0

Image of v appears double

[[left margin]] near edge of pl

Plate B3843

11.5|e|4|~~5~~|v|11.9|11.8|12.0 = 11.90

v 24.3 H 11.3

11.8|v|0|f|11.8

12.0|v|6|g|12.6

v. has less the appearance of being double while the elongation of the image due to bad focus is not so great as that of the stars around it, See meas. on pl.3745

v14.1 H10.0

Plate. B3963

[[left margin]] Images very par

11.8|f|1|v|11.9|11.9=11.90

11.9|v|7|g|12.6|

var|9.7|11.6|11.8|11.7|11.9=11.80

[[left margin]]

9.5

7.6

1.9

[[left margin]]

a|7.6|9.5

b|8.3|10.2

c|8.7|10.7

d|9.0|10.9

e|9.4|11.3

f|9.7|11.7

g|10.4|12.3

h|12.3.

Image of v slightly hazy

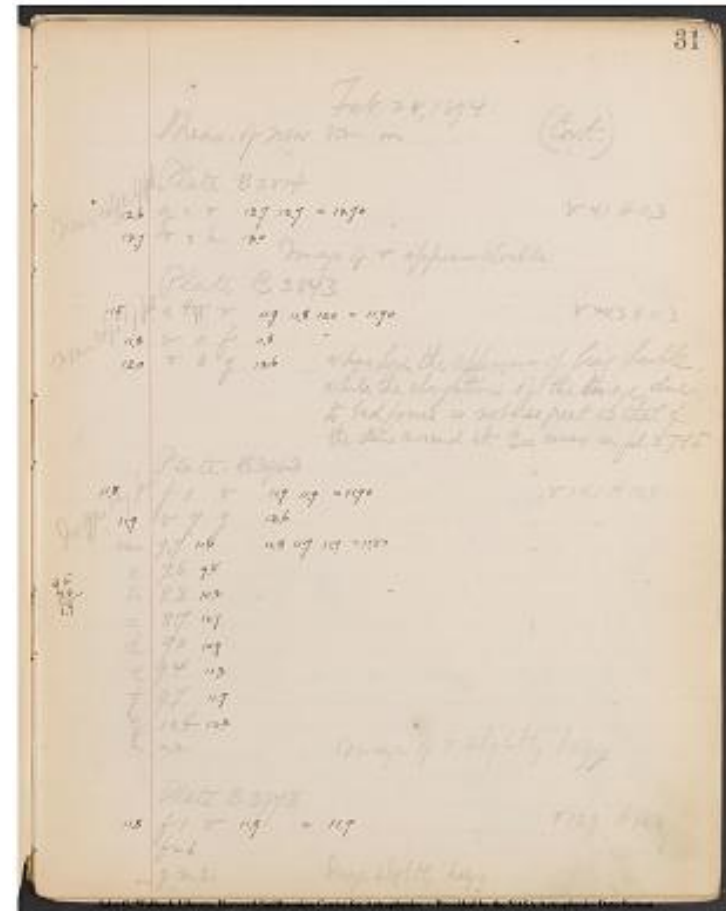
Plate B3978

11.8. f 1 v 11.9 = 11.9 v13.9 H10.0

f=6

g n.s.

Image slightly hazy



32

Feb 28, 1894, (Cont.)

Meas. of var. in

Plate B 4348

near edge of pl.

11.8 f=1

v n.s < 11.9

Plate B4991

On edge of pl.

11.2 d g v 12.1 v4.0 H19.4

e not on pl.

Image of v hazy and smaller than other image near it

Plate B5238

On edge of pl.

11.8 f 1 v 11.9 v24.3 H19.2

v 8 g

Elongate of image of v, due to bad focus, not quite so great as that of other star near. The image is however broader than the others.

Plate B5421

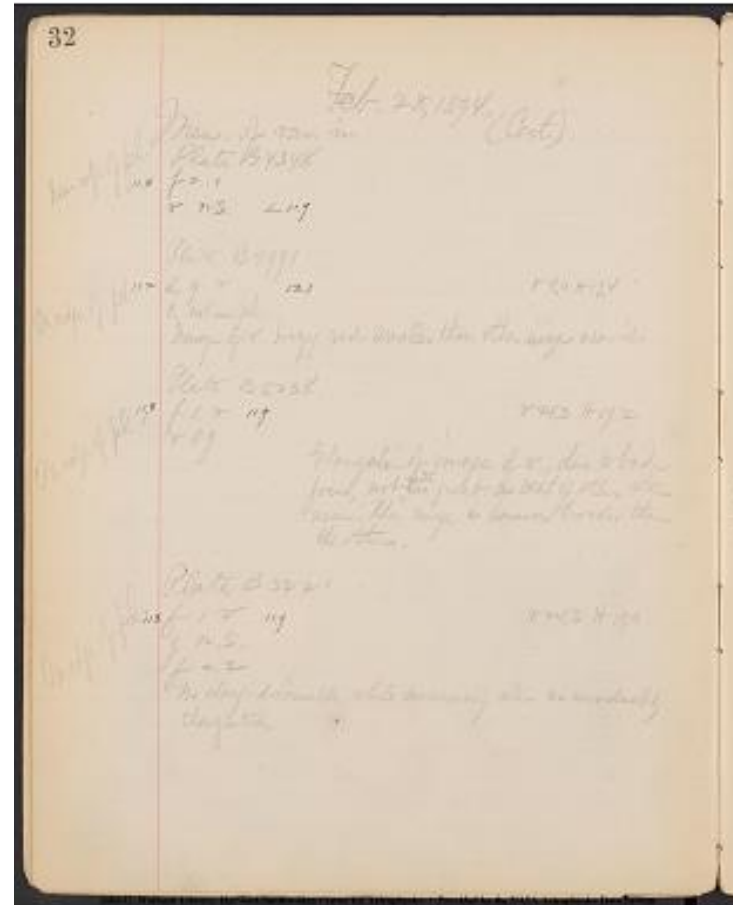
On edge of pl.

11.8 f 1 v 11.9 v24.3 H19.0

g n.s.

f=2

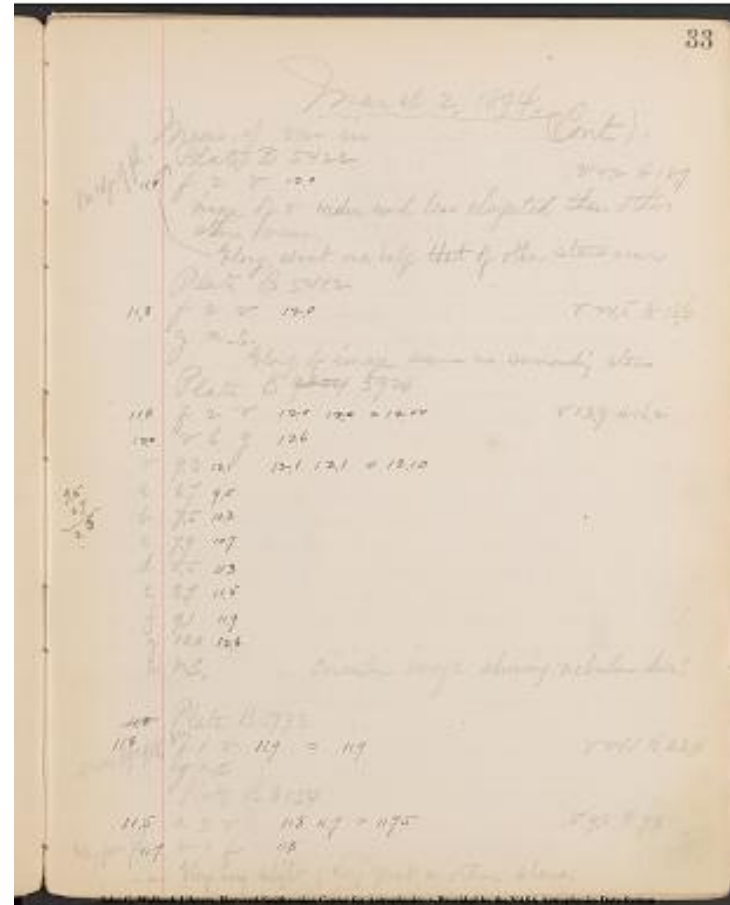
no elong. discernable, while surrounding star considerably elongated



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Men of 2, 1894.
 Greens of var in (Cont).
 Plate B 5422
 11.8 f 2 v 12.0 v 4.2 H 18.7
 on edge of pl.
 image of v wider and less elongated than other stems near.
 Elong about one half that of other stems near
 Plate B 5482
 11.8 f 2 v 12.0 vm.5 H 186
 g n. S.
 Elong. of image same as surrounding slate
 Plate B ~~9824~~ 5924
 11.8 f 2 v 12.0 12.0 = 12.00 v 13.9 H 16.2
 12.0 v 6 g 12.6
 v 9.3 12.1 12.1 12.1 = 12.10
 $9.5-6.7=2.8$
 a 6.7 9.5
 b 7.5 10.3
 c 7.9 10.7
 d 8.5 11.3
 e 8.7 11.5
 f 9.1 11.9
 g 10.0 12.8
 h N.S. Circular image showing nebulons dise?

~~11.8~~ Plate B 5993
 11.8 f i v 11.9 = 11.9 vnl.i H 23.4
 orlean edge like.
 gns.
 Plate B 6154
 11.5 e 3 v 11.8 11.7 = 11.75 v 9.0 H 98
 very poor pl. 11.7 v i f 11.8
 Elong very slight; elong great in other plans.



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34

March 2, 1894.

Meas. of new var. in (Cont.)

Plate B6155

11.8 f 2 v 12.0 = 12.0 v19.5 H9.8

g n.s.

Image shows no elongation while surrounding stars are very much elongated

Plate B78241

11.5 e 4 v 11.9 11.6 = 11.75

11.6 v 2 f 11.8

v19.3 H17.2

Image elongated like others near it?

Plate 7842

Very pan plate

11.5 e 3 v 11.8 = 11.8

f n.s.

v8.7 H7.4

Plate B9212

11.5 e 5 v 12.0 11.8 11.9 = 11.90

11.8 v o f 11.8

11.9 v 7 g 12.6

v19.3 H21.0

Image nearby circular while others near are elongated

Plate B9123

11.8 f 4 v 12.2 12.3 = 12.25

12.3 v 3 g 12.6

v9.2 H 22.2

Image shows nebulosity

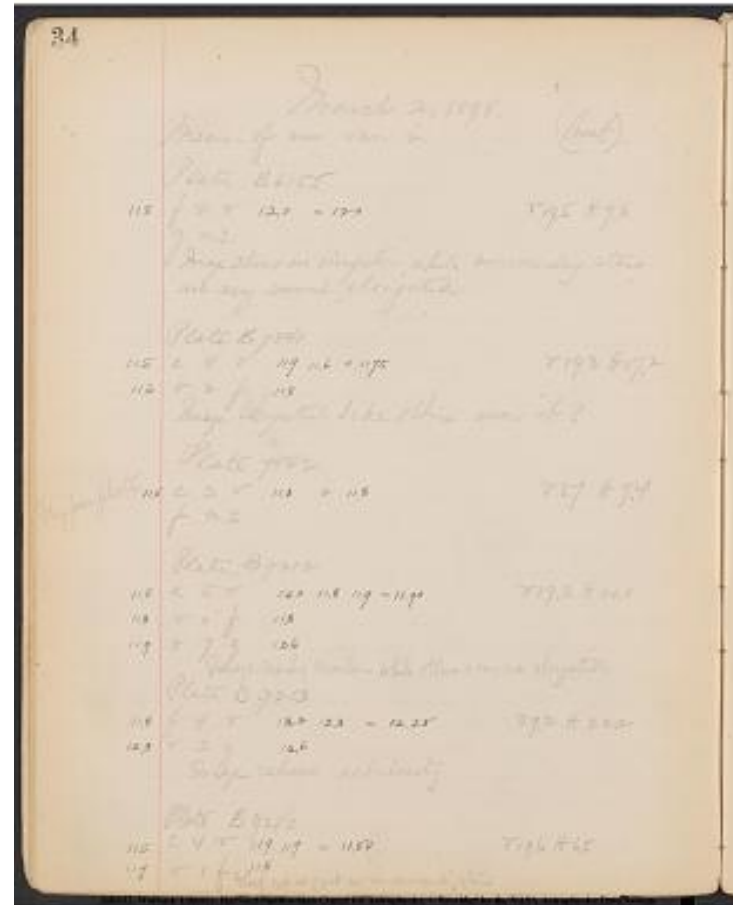
Plate B9216

11.5 C 4 v 11.9 11.7 = 11.80

11.7 v 1 f 11.8

v19.6 H6.5

Elong. not so great as in surrounding stars



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March 2, 1894

Meas. of of new var. in (Cont)

Plate 139217

11.5|e|4|v|11.9|11.7|=11.80

[[right margin]] v|9.4|H|6.5 [[/right margin]]

11.7|1|f|11.8

Image appears double. No trace of nebulosity

Plate B9410

11.5|e|5|v|12.0|11.8|=11.90

[[right margin]] v|20.1|H|22.6 [[/right margin]]

11.8|v|o|f|11.8

g n.s.

Image slightly elongated, while surrounding images are very much elongated.

Plate B9411

11.8|f|1|v|11.9|=11.9

[[right margin]] v|20.9|H|22.6 [[/right margin]]

g n.s.

Image slightly elongated. While surrounding images are very much elongated.

Plate B9412

11.8|f|1|v|11.9|=11.9

[[right margin]] v|20.6|H|22.6 [[/right margin]]

g n.s.

Image slightly elongated while surrounding images are very much elongated.

Plate B9654

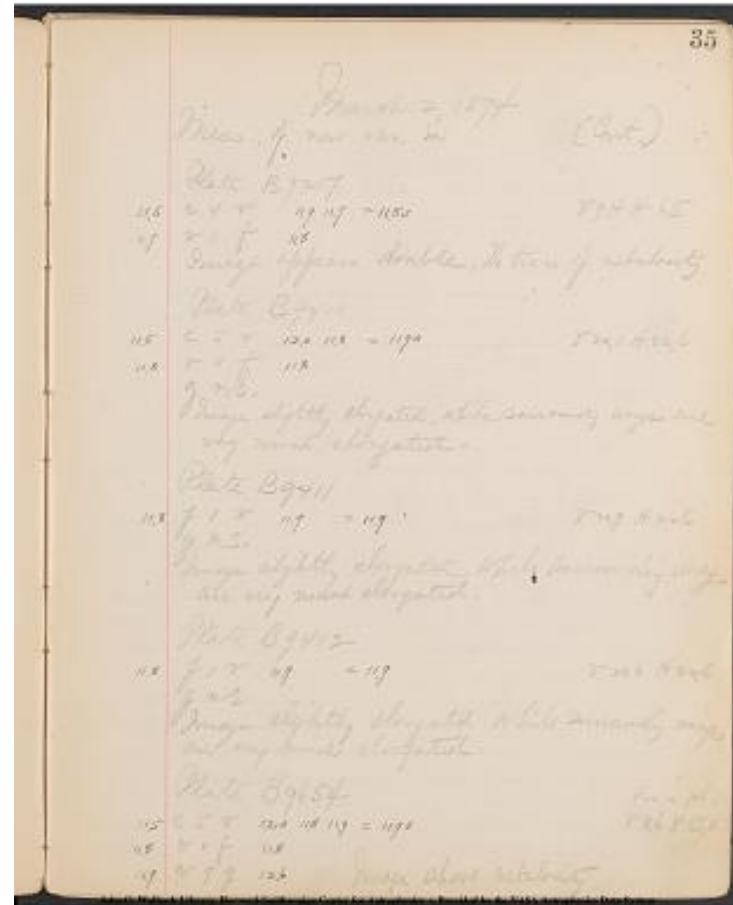
[[right margin]] Pos. on pl.

nu|8.6|H|1.5.0|[[/right margin]]

11.5|e|5|v|12.0|11.8|11.9|=11.90

11.8|v|o|f|11.8

11.9|v|7|g|12.6 Image shows nebulosity



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March 2, 1894
Meas. of new var. in (Cont).

Plate B9560 Sp. v19.2 H16.2
Pl.neb. showing line at 500.0

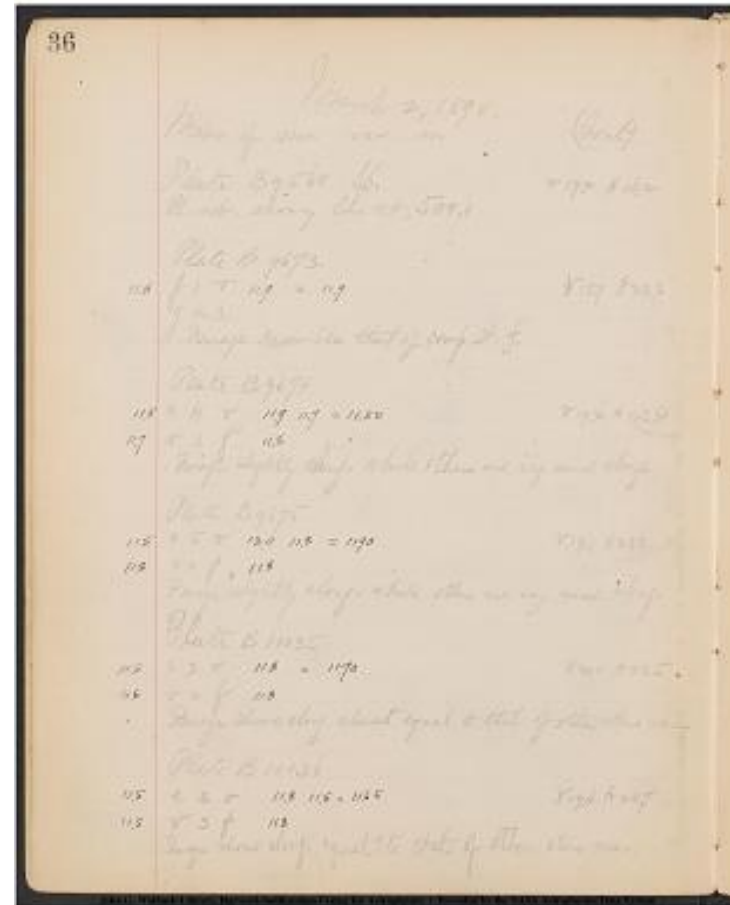
Plate B 9673.
11.8[[margin]] f i v 11.9 = 11.9 V18.9 H23.3
g n. s.
image resembles that of comp.st.f.

Plate B9674
11.5[[margin]] e H v 11.9 11.7 = 11.80 V19.2 H23.4
11.7[[margin]] v i f 11.8
Image slightly elong. while others are very much elong.

Plate B9675
11.5[[margin]] e 5 v 12.0 11.8 = 11.90 V19.1 H23.3
11.8[[margin]] v o f 11.8
Image slightly elong. while others are very much elong.

e 2
Plate B 10035
11.5[[margin]] e 3 v 11.8 = 11.70 V20.0 H23.5
11.6[[margin]] v 2 f 11.8
Image shows elong. almost equal to that of other stems near

Plate B 10036
11.5[[margin]] e 3 v 11.8 11.5 = 11.65 V19.4 H23.7
11.5[[margin]] v 3 f 11.8
Image shows elong. equal? to that of other stems near.



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March 2, 1894.

Meas. of new var. in (Cont.)

Plate B10037

[4 columned table]

11.5 | e 3 v | 11.8 11.6 = 11.70 | v 20.1 H23.5 |
11.6 | v 2 f | 11.8 |

Image shows elong. almost equal to other stars near

Plate B 10044

[4 columned table]

11.5 | e 4 v | 11.8 11.7 = 11.75 | v 19.6 H160. |
11.7 | v 1 f | 11.8 |

Image shows circular nebulous disc, while other stars near are slightly elongated

[[left margin]]

9.5 - 6.8 = 2.7

[[/left margin]]

[4 columned table]

var. |

[[/strickethrough]]9.0[[/strickethrough]]8.9|11. [[/strickethrough]]7[[/strickethrough]]

h|6| 11.7 11.7 = 11.70 |

a | [[/strickethrough]]7[[/strickethrough]]6.8| 9.5 |

b | 7.6 | 10.3 |

c | 7.8 | 10.5 |

d | 8.4 | 11.1 |

e | 8.7 | 11.4 |

f | 9.0 | 11. [[/strickethrough]]9[[/strickethrough]]7 |

g | 9.8 | 12.5 |

h | [[/strickethrough]]8.9[[/strickethrough]]n.s. |

Plate B10459

[4 columned table]

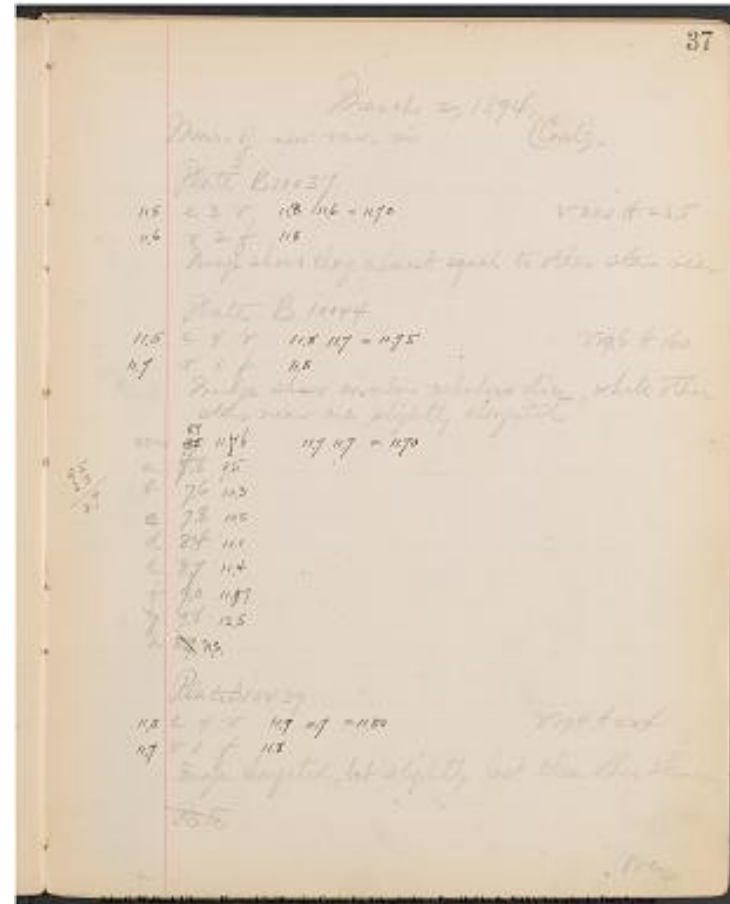
11.5 | e 4 v | 11.9 | 11.7 = 11.80 | v 19.4 H22.4 |

11.7 | v 1 f | 11.8 |

Image elongated, but slightly lest[[?]] then[[?]] other stars near

[[/strickethrough]] Plate [[/strickethrough]]

over



38
March 2, 1894.

Meas. of new var. in (Cont).

Plate B 10471

[5 column table]

11.5	c	4	v	11.9	11.7 = 11.80	v19.8H223
11.7	v	f	f	11.8		

Image elongated like other stars near.

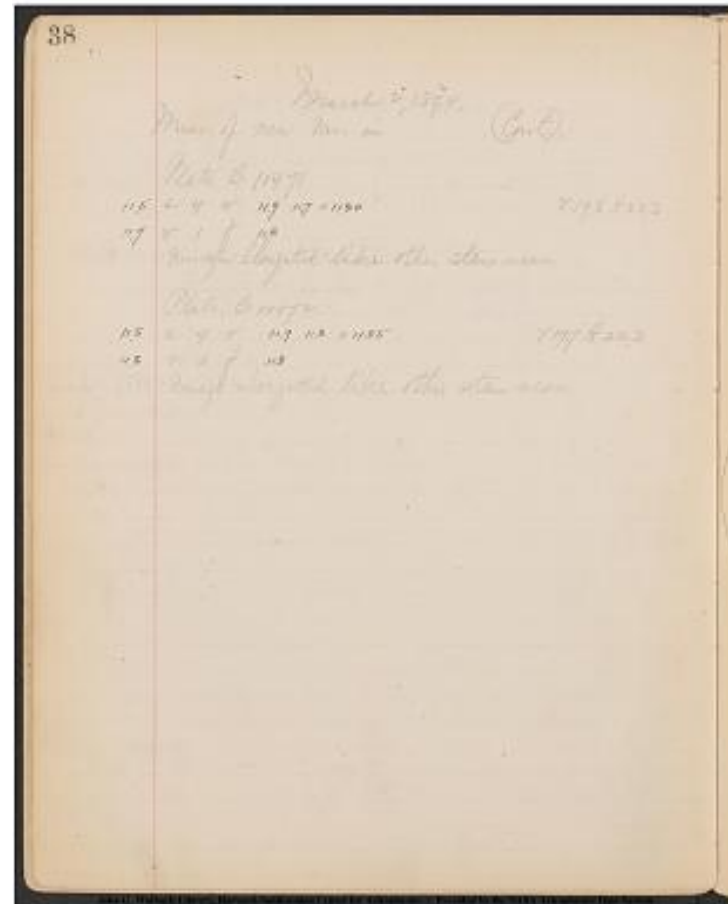
Plate B10472.

[5 column table]

11.5	e	4	v	11.9	11.8 = 11.85	v19.7H223
11.8	v	o	f	11.8		

Image elongated like other stars near.

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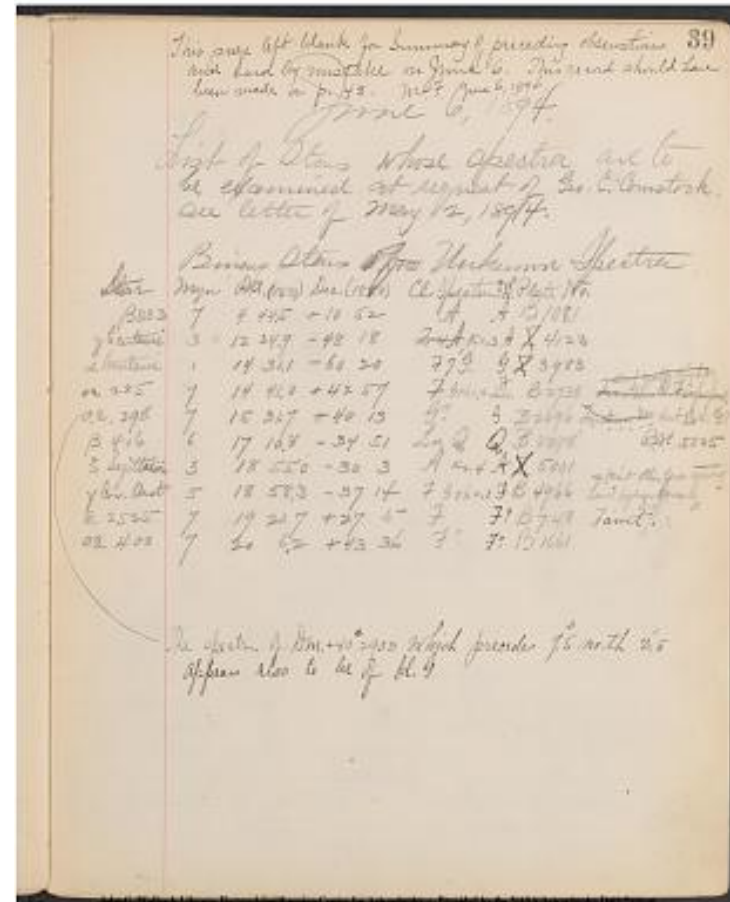
This page left blank for summary of preceding observations and used by mistake on June 6. This record should have been made on p. 48. M. F. June 6, 1894

June 6, 1894.

List of stars whose spectra are to be examined at request of Geo. C. Comstock. see letter of May 2, 1894.

Binary Stars ~~of pos~~ Unknown Spectra
 [8 columned table]
 [Star|Magn|R.A (1880)|Dec.(1880)|Cl Spectrum|E.C.P. Cl.|Plate No.] |
 [-----|-----|-----|-----|-----|-----|-----|-----|
 beta 883|7|4 44.5|+10 52|A|B1081| |
 gamma Centauri|3|12 34.9|-48
 18|~~Z4A~~|K=.3|A|~~g~~|4123| |
 alpha Centauri|1|14 31.1|-60
 20|F7G|~~G~~|Z|3983| |
 o Sigma 285|[margin]7|14 41.0|+42 57|F G + h=0.2
 double|F|B2738|~~Two stars Cl. F superposed.~~^|[about
 equally bright.]|
 o. Sigma. 298|7|15 |31.7|+40 13|G?|G|B2696|~~Two stars~~
 on DM|~~chart.~~ Both G?|
 beta 416|6|17 10.8|-34 51|L or Q|Q|B8398|B.A.C. 5825|
 xi Sagittarii|3|18 55.0|-30 3|A
 K=.4|A|~~Z~~|5001| |
 gamma Cor. Aust|5|18 58.3|-37 14|F G0h=.1|F|B4966|Limit hydrog.
 lines Q^|[alpha faint other lines strong]|
 Sigma 2525|7|19 21.7|+27 5|F|F?|B748|Faint.|
 o Sigma 400|7|20 6.2|+43 36|F?|F?|B1661| |

The spectrum of DM. +40° 2903 which precedes 7.5^h north 2.5' appears also to be of Cl. G.



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[[13 column table]]

$$[[\text{formula}]]$$

[illegible]

7 | 5 | -3 | ~~23.2~~ ~~5.2~~
~~-0.8~~
2.09 ~~4.18~~ ~~24.7~~ ~~11~~ ~~6.2~~
~~-1.8~~
+0.2 ~~8.18~~

0 | 4 | -4 | ~~0.4~~ ~~42.4~~
~~-1.9~~
2.235 ~~4~~
~~4.47~~ ~~0.4~~ ~~42.4~~
~~-1.9~~
+0.1 ~~8.47~~

13 | 14 | +6 | ~~-32.8~~ ~~9.2~~
~~-7.5~~
2.295 ~~4.59~~ ~~-37.6~~ ~~4.4~~
~~-2.7~~
0.7 ~~8.89~~

14 | 10 | +2 | ~~34.0~~ ~~16.0~~
~~-3.1~~
2.315 ~~4.63~~ ~~39.4~~ ~~11~~ ~~21.4~~
~~-23~~
0.3 ~~8.61~~

2 | 4 -6
~~-12.8~~ ~~29.2~~ ~~-4.9~~ ~~2.385~~
~~4.77~~ ~~-15.3~~ ~~26.7~~ ~~-2.4~~ ~~0.4~~ ~~8.76~~

~~8~~ ~~1~~ ~~6~~¹

4H|2 seed|d|3|
54.4|3.486|55|~~1.743~~ ~~7.486~~
|.090|~~6~~ ~~7.49~~

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Identified Feb. 1917 as C.D.M. -58° 3108 10^h
9^m~~6^s~~ 35.4^s -58 14 ^{Magn.} 10½
This C.D.M. not published until twenty years after var. was announced.

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Provided by the NASA Astrophysics Data Systems

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[note in top left corner] Positions charted. See Chart_ no
3b no

April 28, 1984

Meas. to determine position of new gaseous nebula
B10105 No ~~1484~~ 3783 on B6774, No
1484.

Plate B9200

Mean dec. = 40° $1. \overline{115}$ ~~5~~ ~~6~~ Log.
115 [symbol-check above number 5] 96

|x|y| |Z.C
a) ~~7.7~~ ~~5~~ ~~0~~ ~~2.60~~
16^h ~~1489~~ ~~16~~ ~~21~~ ~~42.41~~ ~~39~~ ~~45~~ ~~34.1~~ ~~9~~

b) 3.20 | 14.75 | 1° 1555 | 16 | 22 | 48.93 | 40 | 22 | 18.1 | 9

c) 2.20 | 6.35 | 1° 1584 | 16 | 23 | 7.05 | 39 | 57 | 3.3 | 8 1/4
Gas. net. 2.80 | 6.90 | 1-

Dif. x. 4.90° 0.40° -0.60° | Dif. y. -4.30° 7.85° -0.55° |

Log. Dif. x | 0.69020° 9.60206° 9.77815° | x 179° 76° |
 9.70° 140° 5.15° 98.45° |

1.19296 1.19296 1.19296 | 12 49.7 23 |
25.15 1 38.45 |

| 1.83316 | 10.79502 | 10.97111 |

No of Log. 76.4° 6.24° 9.36° |
 1° 16.4° 6.2° 9.4° |

[calculation]

(a) 16^h 21^m 42.4^s -39° $45'$ $34.1''$

16.4 | 12 49.7

16^h 22^m 58.8^s -39° $58'$ $23.8''$

[calculation]

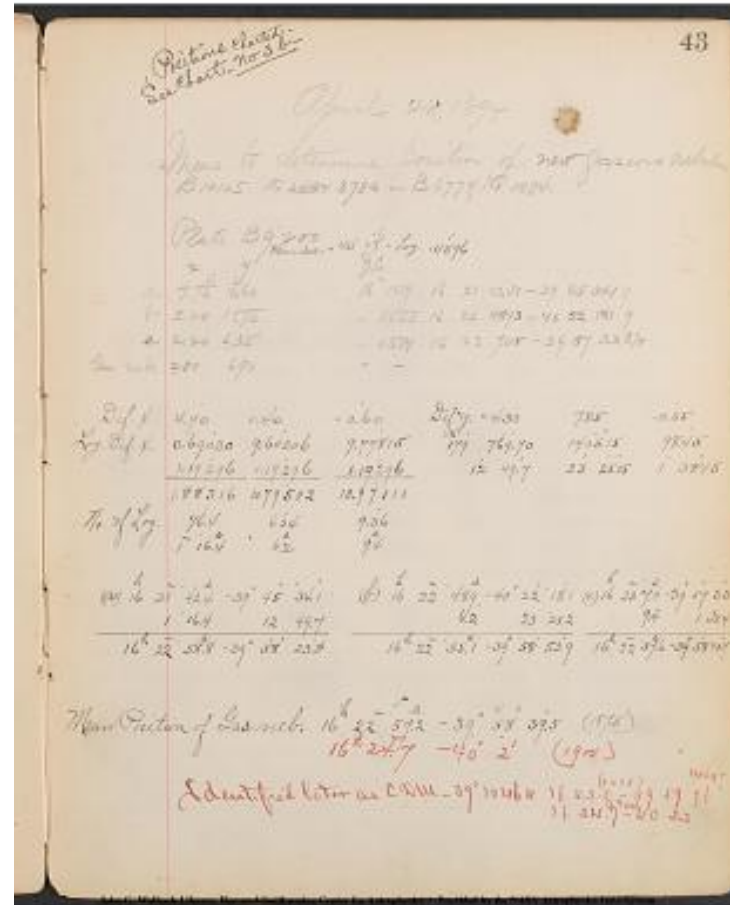
(b) 16^h 22^m 48.9^s -40° $22'$ $18.1''$

16.2 | 23 25.2

16^h 22^m 55.1^s -39° $58'$ $52.9''$

[calculation]

(e) 16^h 23^m 7.0^s -39° $57'$ $3.3''$



| | 9.4 | 138.4

|16^h|22^m|57.6^s|-39^o|58[']|41.7["]|

Mean Position of Gas neb. 16^h 22^m 57.2^s -39^o 58[']
39.5["] (1875)

16^h 24.7^m 57.2^s -40^o 2['] (1900)

[note in right margin] waqn

(1875)

Identified later as CDW -39^o 10464 16 23.0 -39 59 96

(1900)

16 24.7 -40 2.3

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Positions Charted. See Chart No. 3b

April 28, 1894

[[left margin]]
[[2 columned table]]
| x | y |
|---|
| +5.00 | -13.95 |
| -0.10 | +10.25 |
| -0.30 | -16.20 |
[[/left margin]]

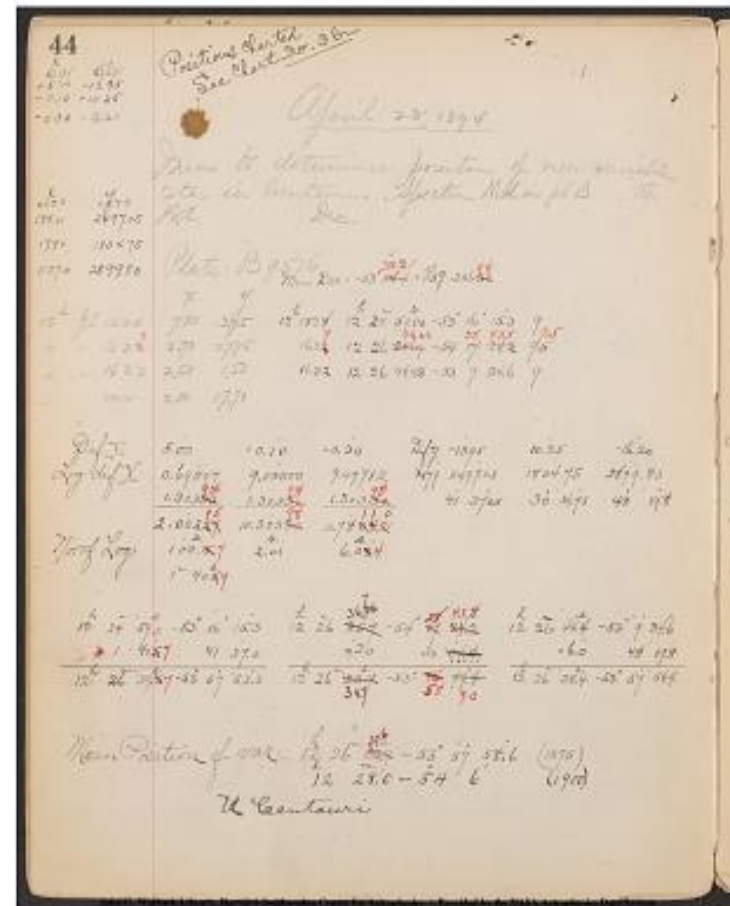
Meas. to determine position of new variable star in Centaurus. Spectrum
Md on pl B. No.
RA. Dec.

[[left margin]]
[[2 columned table]]
| x | y |
|---|
| x 1.79 | x 1.79 |
| 895.00 | 2497.05 |
| 17.90 | 1834.75 |
| 53.70 | 2899.80 |
[[/left margin]]

Plate B9516
Mean Dec. = $-53^{\circ} \text{ } 34.4' \text{ } 38.2'' = \text{Log.}$
 $.226 \text{ } 30' \text{ } 98''$

[[7 columned table]]
| x | y | | | | |
|---|
| 12^h 12^m 12^s Z.C. 1528 | 7.80 | 3.75 | 12^h 12^m 12^s 24^m 59.00^s |
| 53^o 16' 15.3" | 9 |
| 12^h 12^m 12^s Z.C. |
162^h 2^m 27.95	162^h 2^m 27.95	162^h 2^m 27.95	162^h 2^m 27.95	162^h 2^m 27.95	162^h 2^m 27.95
12 26	25.69	36.66	54		
17	28				
24.2	43.8	7.5			
9.5					
12^h 12^m 12^s Z.C. 1632	2.50	1.50	1632	12 26 44.43	-53 9 34.6
12^h 12^m 12^s var	2.80	17.70			

[[8 columned table]]
Dif. X | 5.00 | -0.10 | -0.30 | Dif. Y | -13.95 | 10.25 | -16.20 |
|---|
| Log. dif. X | 0.69897 | 9.00000 | 9.47712 | X 179 | 2497.05 | 1834.75 | 2899.80 |
| | 1.303 | 30 | 98 |
| 1.303 | 30 | 98 | 1.303 | 30 |



~~98~~ | 41' 37.05" | 30' 34.75" | 48' 19.8"
 | 2.002~~27~~ | 95 |
 | 10.303~~30~~ | 98 | 10.78~~042~~ |
~~110~~ | | | |
 No. of Log. | 100. | 5~~7~~ |
 2.01~~6.0~~ | 3~~4~~ | | | |
 | 1 40. | 5~~7~~ | | | | |

[[18 columned table]]
 | 12^h | 24^m | 59.0^s | -
 53° | 16' | 15.3" | 12^h | 26^m | ~~25.7~~ | 36. |
~~66~~ | 7^s | -
 54° | ~~17~~ | 28' | 24.2 |
~~43.8~~ | 12^h | 26^m | 44.4^s | -53° | 9' | 34.6"
 | 41 | 37.0 | 5 |
 | 30 | 34.8 | ~~2.0~~ | -
 6.0 | 48 | 19.8 |
 | 12^h | 26^m | 39. | 5~~7~~ |
 53° | 57 | 52.3 | 12^h | 26^m | ~~23.7~~ | 34.7^s |
 | -
 53° | ~~46~~ | 58' | 49.4 |
 | 9.0 | 12^h | 26^m | 38.4^s | -53° | 57' | 54.4 |

Mean Position of var. 12^h 26^m
~~33.9~~ | 37.6^s | -53° 57' 58.6" (1875)
 12^h 28.0^m -54° 6' (1900)

U Centauri

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Positions charted
See chart-No. 3b

45

April 28, 1894
Meas. to determine of new IV Type
star. B9445 No. 3120
Plate B 5255 Mean Dec. $42^{\circ}45.3' = .13411$
X Y ZC H M
a 4.25 6.10 14'H 1736 14 27 4.87 -42* 36' 6.3 9 1/2
b 4.25 14.15 " 1737 14 27 5.21 -43 0 9.8 8 1/2
c 1.90 6.00 " 1784 14 27 42.09 -42 35 50.0 9
IV Type d 1.35 10.40 ase 19745 14 27 51.59 -42 49 6.1 8 1/2
[strike] 1.25 10.95 _____
[IV Type]
Dif. X 3.00 3.00 0.65 0.10 Dif.y. -4.85 3.20 -4.95 -0.55
X
Log Dif. 0.47712 0.47712 9.81291 9.00000 179 868.15 572.80 886.05
98.45
X. 1.21111 1.21111 1.20000 1.21111 14' 28.15"
9'32.8"14'46.0"1'38.4"
1.68823 1.68823 11.02402 10.21111
No. of log 48.78s 48.78s 10.57s 1.63s
h m.
(a) 14 27 4.87 -42* 36' 6.3 (b) 14 27 5.21 -43* 0' 9.8"
48.78 14 28.2 48.78 9 32.8
h m. s h m s
14 27 53.6 -42* 50' 34.5" 14 27 54.0 -42* 50' 37.0"
h m. s h m s
(c) 14 27 42.09 -42* 35' 50.0" (d) 14 27 51.59 -42* 49' 6.1
10.57 14 46.0 1.63 1 38.4
h m. s. h m. s.
14 27 52.7 -42* 50' 36.0" 14 27 53.2 -42* 50' 44.5"
h m. s.
Mean Position IV Type. 14 27 53.4 -42* 50' 38.0" (1875.)
[Strike through IV Type]

Corrections made from identification
of B 9118 with b5252. Oct 15, 1894
[Strike through 9445]

45
Positions charted
See chart-No. 3b
April 28, 1894
Meas. to determine position of new IV Type
star. B9445 No. 3120
Plate B 5255 Mean Dec. $42^{\circ}45.3' = .13411$
X Y ZC H M
a 4.25 6.10 14'H 1736 14 27 4.87 -42* 36' 6.3 9 1/2
b 4.25 14.15 " 1737 14 27 5.21 -43 0 9.8 8 1/2
c 1.90 6.00 " 1784 14 27 42.09 -42 35 50.0 9
IV Type d 1.35 10.40 ase 19745 14 27 51.59 -42 49 6.1 8 1/2
[strike] 1.25 10.95 _____
[IV Type]
Dif. X 3.00 3.00 0.65 0.10 Dif.y. -4.85 3.20 -4.95 -0.55
X
Log Dif. 0.47712 0.47712 9.81291 9.00000 179 868.15 572.80 886.05
98.45
X. 1.21111 1.21111 1.20000 1.21111 14' 28.15"
9'32.8"14'46.0"1'38.4"
1.68823 1.68823 11.02402 10.21111
No. of log 48.78s 48.78s 10.57s 1.63s
h m.
(a) 14 27 4.87 -42* 36' 6.3 (b) 14 27 5.21 -43* 0' 9.8"
48.78 14 28.2 48.78 9 32.8
h m. s h m s
14 27 53.6 -42* 50' 34.5" 14 27 54.0 -42* 50' 37.0"
h m. s h m s
(c) 14 27 42.09 -42* 35' 50.0" (d) 14 27 51.59 -42* 49' 6.1
10.57 14 46.0 1.63 1 38.4
h m. s. h m. s.
14 27 52.7 -42* 50' 36.0" 14 27 53.2 -42* 50' 44.5"
h m. s.
Mean Position IV Type. 14 27 53.4 -42* 50' 38.0" (1875.)
[Strike through IV Type]
Corrections made from identification
of B 9118 with B5252. Oct 15, 1894
[Strike through 9445]

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46

May 3, 1894.

Count of stars in vicinity of 47 Tucanae

[[graph]]

Plate X5212.

E.C.P. obs. M.F. rec.

Sq. 30' So[^][[of centre of Cluster]] 1 cm. = 424" on a side

Sq. 30' pr.

Sq. 30' N.

Sq. 30' f.

[[right margin]]

(E.C.P.)

No. stars

[[2 columned table]]

all|br.|

---|---

12|8|

4|2|

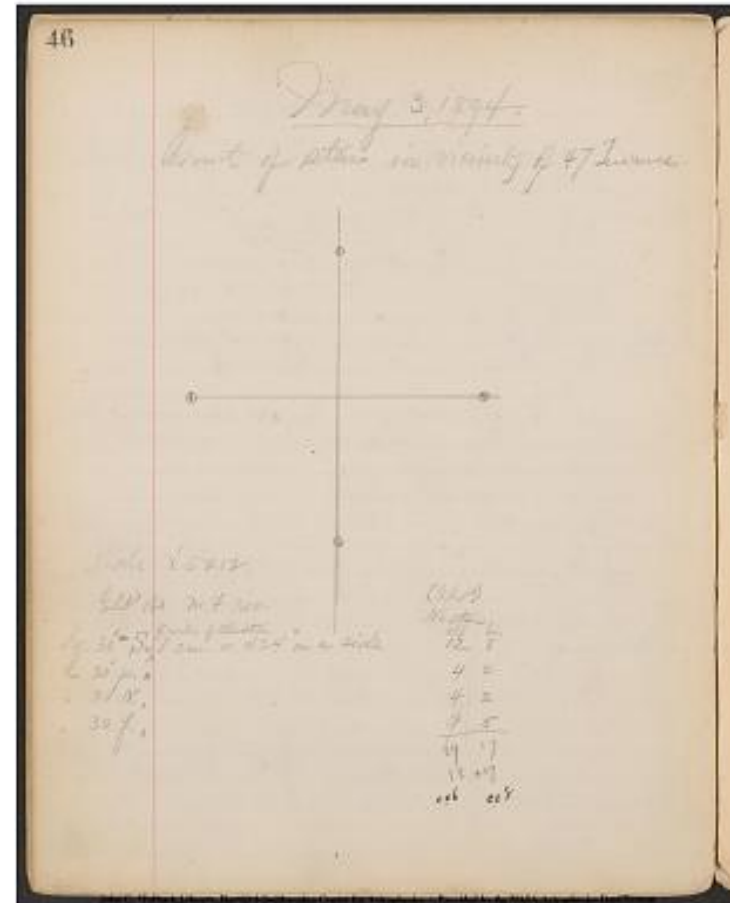
[[95]]

29|17|

12|+17|

0.06|0.08|

[[/right margin]]



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May 3, 1894

Count of stars in vicinity of omega Centauri

Plate X4695 P obs. F. rec.

[[left margin]]
Sq. 30' N centre of Cluster
Sq. 30' f
Sq. 30' S
Sq. 30' p
[[/left margin]]

[[right margin]]
No. stars
[[2 columned table]]
all |
21 | 30 |
33 | 33 |
30 | 41 |
39 | 35 |
123 | 139 | 131 Mean |
[[/right margin]]

0.66 [[?]] minutes

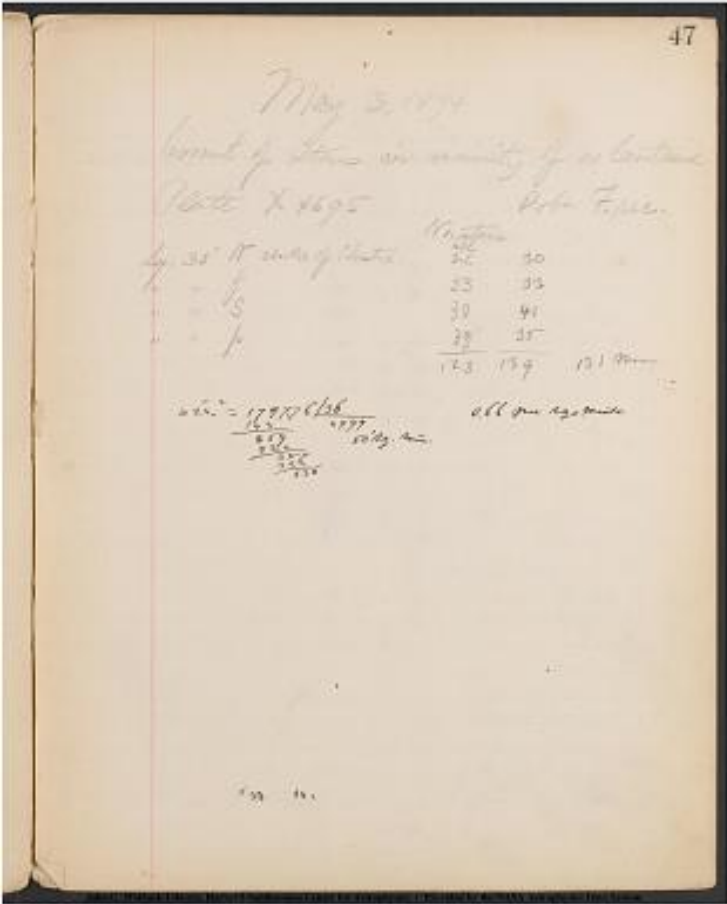
[[equation]]

424. = 17977 6/36
144 -----
----- 49.99
359 50^Rg. [[?]] min. [[?]]
324 -----

357
329

336

x
00 001



June 15, 1894

Measurement of Standard Light Squares made to test Original Burner
as standard.

E 2686 Wedge of shade glass used

[6 columned table]

No. Sq. | 1st meas | 2nd Meas | 1-2 2-3 | 1st-2nd |

1 | 7.2 | 7.2 | 0 | 2 | 0 |

2 | 7.2 | 7.0 | 1 | 1 | +2 |

3 | 7.3 | 7.1 | | | +2 |

~~4~~ | 6.7 | 6.7 |

~~2~~ | 0 | 1 | ~~0~~ | 1 | ~~0~~ |

5 | 7.3 | 7.2 | 1 | 0 | +1 |

6 | 7.2 | 7.2 | 1 | 1 | 0 |

7 | 7.1 | 7.3 | 0 | 1 | -2 |

8 | 7.1 | 7.4 | 0 | 2 | -3 |

9 | 7.1 | 7.2 | 2 | 0 | -1 |

10 | 7.3 | 7.2 | | | +1 |

7.20 | 7.20 | 5/8 | 8/8 | 6-6/9 |

1 | 1 | .06 | .10 | .13 |

E 2688 [6 columned table]

No. Sq. | 1st meas | 2nd Meas | | | |

1 | 7.2 | 7.1 | 1 | 0 | +1 |

2 | 7.1 | 7.1 | 0 | 0 | 0 |

3 | 7.1 | 7.1 | 1 | 1 | 0 |

4 | 7.2 | 7.2 | | | 0 |

~~5~~ | 6.5 | 6.6 | 2 | ~~0~~ | | |

~~6~~ | 6.6 | 6.6 | ~~5~~ | ~~0~~ | | |

~~2~~ | | | | | |

~~7~~ | 6.6 | 6.7 | 2 | ~~0~~ | 0 | |

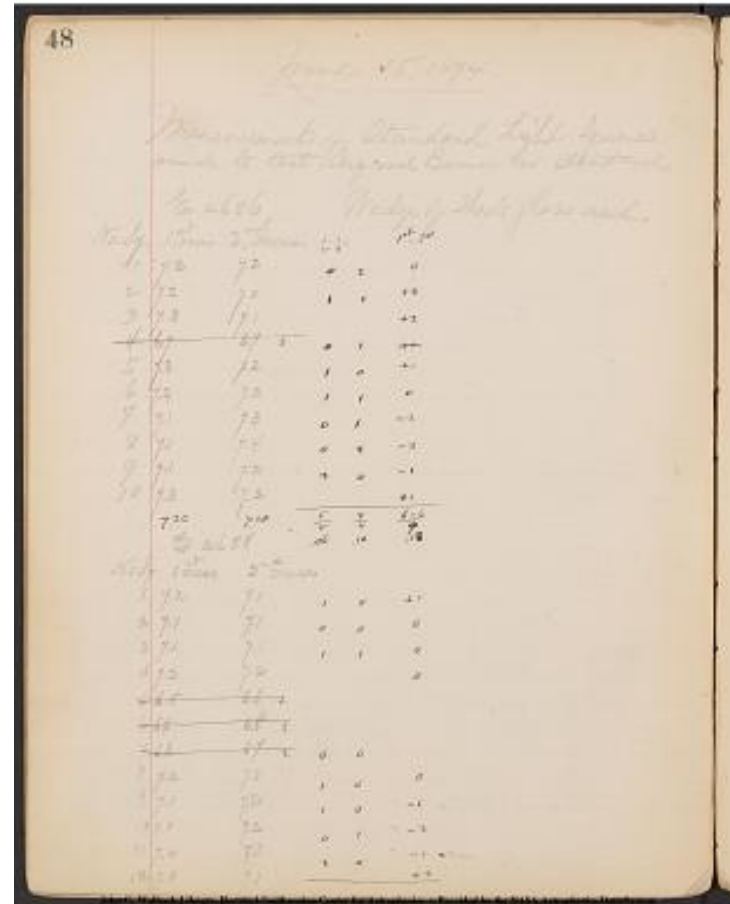
8 | 7.2 | 7.2 | 1 | 0 | 0 |

9 | 7.1 | 7.2 | 1 | 0 | -1 |

10 | 7.0 | 7.2 | 0 | 1 | -2 |

11 | 7.0 | 7.1 | 3 | 0 | -1 |

12 | 7.3 | 7.1 | 1 | +2 | 0 |



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E. 2688 Lemr.

No. Sq. 1st meas 2nd meas

13|1.2|7.1|1|0|+1|

14|1.2|7.1|0|0|+1|

||8|10|2|10|5-4|11

G 2689|7.0 + 14/11

|7.13 7.14

No. Sq. 1st meas 2nd meas

1|6.8|6.8|0|0|0

2|6.8|6.8|1|1|0

3|6.9|6.9|0|0|0

4|6.9|6.9|0|0|0

5|6.9|6.9|0|0|0

6|6.9|6.9|0|0|0

7|6.9|6.9|2|1|0

8|6.7|6.8|0|0|-1

9|-6.7|6.8|0|0|-1

10|6.7|6.8|0|0|-1

11|6.7|6.8|0|0|-1

12|6.6|6.8|||||-1~~||||~~

||3|1|2|1|0-5|12

~~||||~~13|5.8|6.0~~||||~~Caol

~~||||~~14|7.5|7.5~~||||~~u

|6.80|6.884

E2690

1st meas 2nd meas

1|7.0|4.0|0|0|0

2|7.0|7.0|0|0|0

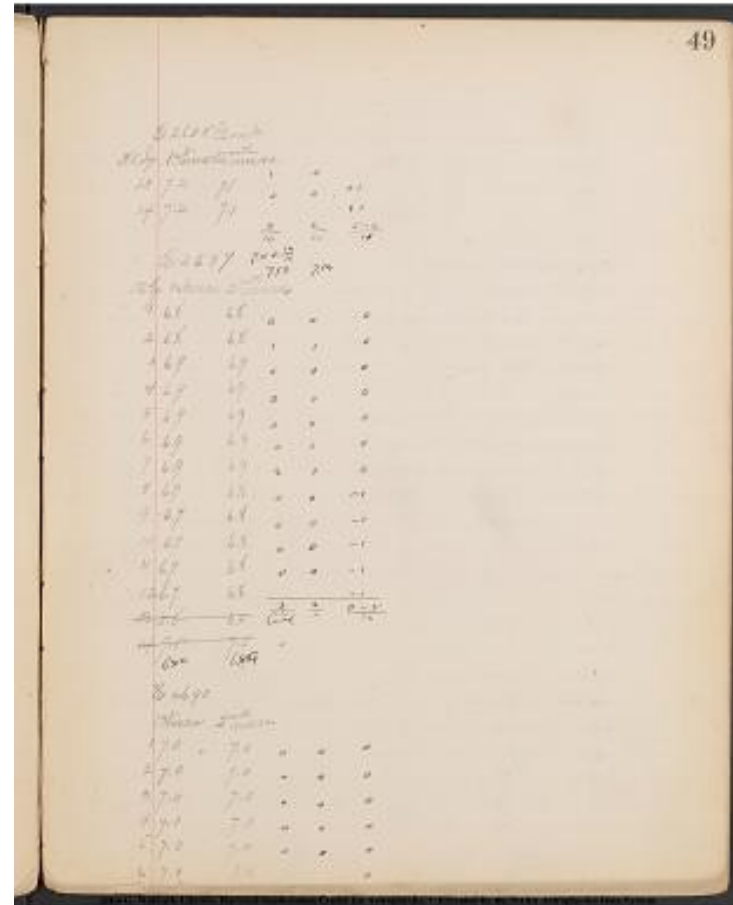
3|7.0|7.0|0|0|0

4|7.0|7.0|0|0|0

5|7.0|7.0|0|0|0

6|7.0|7.0|0|0|0

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E 2690 Cont.

Sq. No|1st meas|2nd meas

7|7.0|0|0|0

8|6.8|6.9|2|1|-1

9|6.9|6.9|1|0|0

~~10|6.4|6.5 Wirled~~

~~11|6.6|6.7~~~~0~~

12|6.8|6.8|1|1|0

13|6.9|6.9|1|1|0

14|6.9|6.9|0|0|0

|6.94|9.95

E 2691

No. Sq.|1st meas|2nd meas

1|7.0|7.0|0|0|0

2|7.0|7.0|0|0|0

3|7.0|7.0|0|0|0

4|7.0|7.0|0|0|0

5|7.0|7.0|0|0|0

6|7.0|7.0|0|0|0

7|7.0|7.0|0|0|0

8|7.0|7.0|0|0|0

9|7.1|7.0|1|0|+1

~~12|6.1 Wirled~~

11|7.0|7.0|1|0|0

12|7.0|7.0|0|0|0

13|7.0|7.0|0|0|0

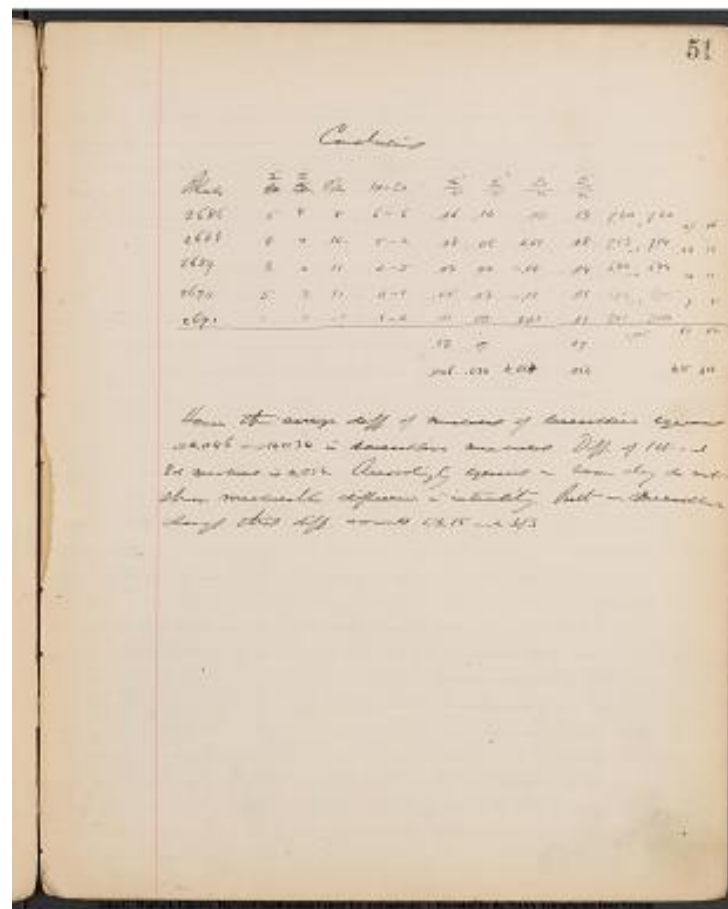
14|7.0|0|0|0

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Plate	[[sigma]]	[[sigma]]	[[sigma]]	No	1st-2nd	$\Sigma^{[1]}/v$	$\Sigma^{[2]}/v$	Δ/v	Σ/v				
-------	----------------------	----------------------	----------------------	----	---------	------------------	------------------	------------	------------	--	--	--	--

[illegible]

Hence the average diff of numbers of successive squares is ± 0.46 and ± 0.34 in successive numbers. Diff of 1st and 2nd measurements is ± 0.54 . Accordingly squares on same day do not show measurable differences in intensity. But on successive change this diff amounts 2 ± 1.5 and ± 1.3



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Thursday Oct 4, 1894

Plates B 4162 and B 11322 superposed
matching the chart images to the hydrogen line H gamma (G).
in to order to measure distance between CDM. -27° 13151 ~~[[?]]~~ and
strong bright line in spectrum south of it and supposed to be CDM. -27
93150 .029in

0.2 from F towards G P obs. F Rec. -
0.3 from F towards G adapt

0.35 from F towards G. F. obs.

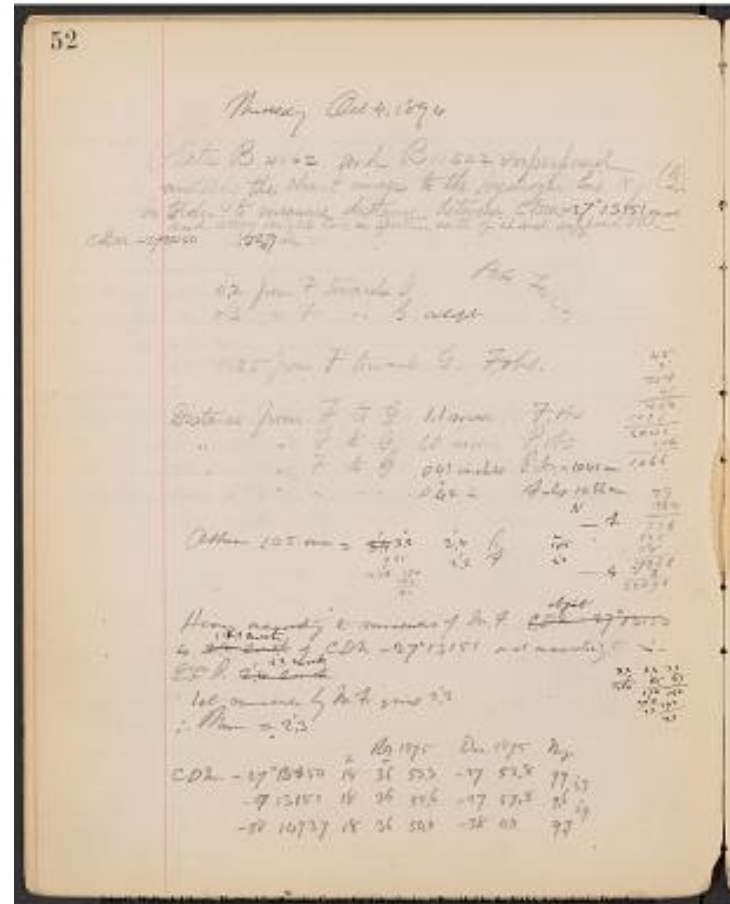
Distance from F to G 1.1 mm. F. obs
Distance from F to G 1.0 mm P. obs.
Distance from F to G .041 inches P. obs = 1041 mm
Distance from F to G .042 in F. obs 1066 mm.

[[A...?]] 1.05 mm = [[equation]] 2.4' P.
[[equation]] 2.2' F.

[[right margin]]
[[equation]]
[[equation]]
[[equation]]
[[/right margin]]

Hence according to measures of M.F. ~~[[C.D.M. -~~
27°13150~~]]~~ object is ~~[[2.2~~
south~~]]~~ 2.1' south of DCM -27°13151 and according to
E.C.P. ~~[[2.4' south]]~~ 2.2' north
1st measure by M.F. gives 2.2'
[[symbol - therefore]] Mean = 2.3'

[[4 columned table]]
| RA 1875|Dec 1875|Mg.|
CDM. -27°15~~]]~~1~~]]~~050|18^[[h]] 36^[[m]]
53.3|-27 53.8|9.9 3.7'
|-2~~]]~~8~~]]~~13151|18 36 55.6|-27 57.5|9.6 2.9|
|-28 14937|18 36 50.4|-28 0.4|9.7|



Friday, Oct 19, 1894.

Examination of the squares with the East Equatorial shows that the object is a ~~shooting~~ neb [gaseous nebula about 2.1 ~~2~~ north of CDM -27° 13.51". If neb. line is G line (H_{γ}) object must be 2.3 south 12.2' north of 9.6. If it is F line (H_{β}) line instead H_{β} or H_{γ} is 3.4'

Measures of internal ~~G~~F line of nebula lines

[[10 columned table]]

2.4|4.9|F=2.0|[4.2]]G=6.2|[2.8]]h=9.0|[.7]]H=10.7|

4.4|[4.5]]8.9|[.25]]1~~2~~1.4|[2.7]]14.2|

[[3.6]|[4.4]]|8.0|[2.5]]|10.5|[1.7]]|12.2|[12.2]]|

| | |[4.4]] |[2.6]] |[1.7]] |

[[3 columned table]]

| -4.9|4.94|

F| -~~0~~|4.4| |

| -2.4|4.62|

G|0| |

h|+2.6| |

H|+4.3| |

[[4 columned table]]

[[??] Table | | Repeat [[?]]]

| -4.9|4.94|

F|10|22|11|

G|5.1|[4.1]]|6.3|[4.1]]|5.2|[61]]

h|7.8|[2.7]]|9.1|[2.8]]|7.9|[27]]

H|8.7|[1.9]]|10.8|[1.7]]|9.4|[15]]

[[3 columned table]]

F.G.| | |

| -4.9|4.94|

4.1| | |

4.2| | |

4.2|28|17|

4.5|25|17|

4.4|25|17|

4.1|27|19|

4.1|28|17|

[[4.1]|27|15|[15]]|

[[11]|17|[17]]|62|

4.21|[8]]|2.67|170|

[[5 columned table]]

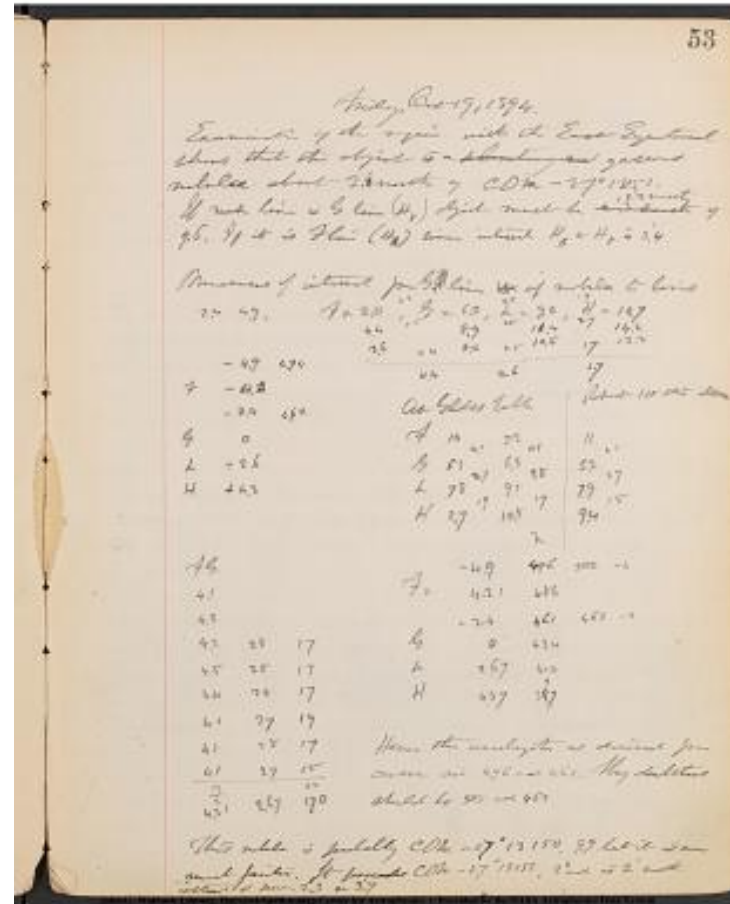
| -4.9|496|500|-4|

F=|4.2|486| | |

| -2.4|461|463|-2|

G|0|434| | |

h|2.67|410| | |



|H|4.37|3~~8~~97| | |

Hence the wavelength of desired $[[?]]$ from curve on $[[??]]$ 496 and 461.
 $[[?]]$ doubtless should be 500 and 463.

This nebula is probably CDM -27° 13150, 9.9 but it seems much fainter.
It precedes CDM -27° 13151, 2^h $[[s]]$ and is 2' north instead of nor.
2.3^h $[[s]]$ or $[[??]]$ 3.7'

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Positions charted. See Chart No. 4b

Meas. to determine position of new variable in Plate B9814 Md.
approx R.A. 20^{h} 33.9^{m} Dec. $-29^{\circ} 9'$

Diff X|Y|x1.79|x.1.79|
a|-12.33|-1.94|2207.07|347.26|
e|+0.70|+10.60|125.30|1897|107.40|
F|+3.67|-4.72|656.93|844.88|
d|+0.37|+1.53|66.23|273.87|
comp .d|-0.33|-1.17|59.07|209.43|

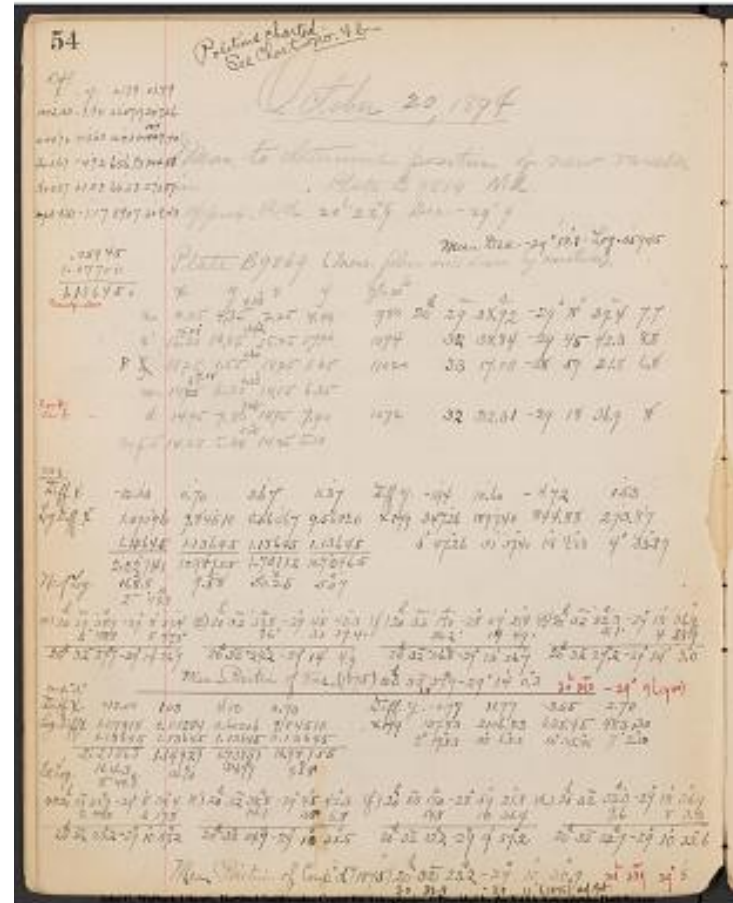
Mean Dec. $-29^{\circ} 18.1' = \text{Log } .05945$

1.07700
1.13645
~~Comp. star~~

Plate B9869 (Meas. film side down by mistake).

a|2.25|4.35|4.38|2.25|4.40|980|20|29|38.92|29° 8'
39.4|17.7|
e|15.30|15.28|16.85|16.92|15.25|17.00|1074|32|38.84|29 45
42.3|8.8|
F|18.25|1.55|1.60|18.25|1.65|1102|
33|17.00|28|59|21.8|6.8|
var.|14.|75|60|14.58|6.30|14.5
5|6.35|
Comp star b = d|14.95|7.80|7.85|14.95|7.90|1072|32|32.31|29 18
36.9|8|
Comp. "d"|14.25|5.20|5.15|14.25|5.10|

var.
Diff X|-12.33|0.70|3.67|0.37|Diff Y|-1.94|10.60|-4.72|1.53|
Log Diff.
X|1.09096|9.84510|0.56467|9.56820|X|179|347.26|1897.40|844.88|273.8
7|
|1.13645|1.13645|1.13645|1.13645|5'
47.26|31' 37.40|14' 4.88|4' 33.87|
|2.22741|10.98155|1.70112|10.70465|
No. of Log.|168.8|9.58|50.25|5.07|



| 2^h 48.8^m 48.8^s | | | | | | |

[[28 columned table]]
(a) 20^h 29^m 38.9^s -
29° 8' 39.4" (e) 20^h 32^m 38.8^s -
29° 45' 42.3" (f) 20^h 33^m 17.0^s -
28° 59' 21.8" (d) 20^h 32^m 32.3^s -29° 18' 36.9"
248.8	547.3	9.6	
37.4	50.2	1.4	4.9
5.1	33.9		
20^h 32^m 27.7^s -29° 14' 26.7"	20^h 32^m 29.2^s -		
29° 14' 4.9" | 20^h 32^m 26.8^s -29° 13' 26.7"
20^h 32^m 27.2^s -29° 14' 3.0"

Mean Pos. of Var. (1875) 20^h 32^m 27.7^s -29°
14' 0.3"
1.5 20^h 34.0^m -29° 9' (1900)

Comp. "d"

[[10 columned table]]
Diff. X. -12.00 | 1.03 | 4.00 | 0.70 | Diff. Y. -0.77 | 11.77 | -3.55 | 2.70 |
Log. Diff
X | 1.07918 | 0.01284 | 0.60206 | 9.84510 | X | 179 | 137.83 | 2106.83 | 635.45 | 483.3
0 |
| 1.13645 | 1.13645 | 1.13645 | 1.13645 | 2'
17.83" | 35' 6.83" | 10' 35.45" | 8' 3.30"
| 2.21563 | 1.14929 | 1.73851 | 10.98155 | | | | |
No. Log. 164.3 | 14.10^s | 54.77^s | 9.58^s | | | | |
| 2^h 44.3^m 44.3^s | | | | | | |

[[28 columned table]]
(a) 20^h 29^m 38.9^s -
29° 8' 39.4" (e) 20^h 32^m 38.8^s -
29° 45' 42.3" (f) 20^h 33^m 17.0^s -
28° 59' 21.8" (d) 20^h 32^m 32.3^s -29° 18' 36.9"
| 244.3 | 217.8 | 14.1 |
35 | 6.8 | 54.8 | 10 | 35.4 |
| 9.6 | 83.3 |
| 20^h 32^m 23.2^s -29° 10' 57.2"
20^h 32^m 24.7^s -29° 10' 35.5" | 20^h 32^m 22.2^s -
29° 9' 57.2" | 20^h 32^m 22.7^s -29° 10' 33.6"

Mean Position of Comp. "d" (1875) 20^h 32^m 23.2^s -29° 10'
30.9"
20 32.4 -29 11' (1875) adopt. 20^h 33.9^m 29° 5'

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Positions charted.

See. Chart[[underlined]]-No. 4b-[[underlined]]

October 20, 1894.

Meas. to determine position of new variable star in Plate B11298 Md?
 approx. RA $14^{\text{h}} 45.2^{\text{m}}$ Dec. $-46^{\circ} 6'$ (1875).

[[left margin]]

.15862

[[underlined]]1.07700[[underlined]]

1.23562

[[left margin]]

Plate B11272 Mean Dec. $-46^{\circ} 3.3' = \text{Log. } 15862$

[[11 columned table]]

x y x y Z.C. 14				
-----	-----	-----	-----	-----

comp star

c=A[[~~strickethrough~~]]a[[~~strickethrough~~]]5.10|11.90|5.10|11.90|2733|14|43|

6.10|-45° 57' 52.2" [9.2]

b=C[[~~strickethrough~~]]c b[[~~strickethrough~~]]13.85|16.25|13.85|16.25|2906|

45|36.12|-45° 44' 38.8" [9.2]

d=B[[~~strickethrough~~]]b c[[~~strickethrough~~]]11.40|1.95|11.40|1.95|2861|

44|57.16|-46° 27' 26.9" [8½]

var. |11.95|9.10|11.95|9.10| | | | | |

comp "e"|12.10|8.45|12.10|8.45| | | | | |

[[5 columned table]]

| Diff X.|Diff Y.|X × 179|Y × 1.79|

c=a|-6.85|+2.80|1226.15|501.20|

b=C|+1.90|+7.15|340.10|1279.85|

d=B|-0.55|-7.15|98.45|1279.85|

Comp "e"|+0.15|-0.65|26.85|116.35|

[[8 columned table]]

Diff X^[[var.]]|-6.85|1.90|0.55|Diff. Y.|2.80|7.15|-7.15|

Log. Diff. X|0.83569|0.27875|9.74036|X179|501.20|1279.85|1279.85|

| [[underlined]]1.23562|1.23562|1.23562[[underlined]] |8' 21.20"|21' 19.85"|

19.85"|21' 19.85"|

| 2.07131|1.51437|10.97598| | | | |

No. of Log.|117.8|32.69^[[s]]|9.46^[[s]]| | | | |

| 1^[[m]] 57.8^[[s]]| | | | |

[[21 columned table]]

(a)|14^[[h]]|43^[[m]]|6.1^[[s]]|-

45° 57' 52.2"|(c)|14^[[h]]|45^[[m]]|36.1^[[s]]|-

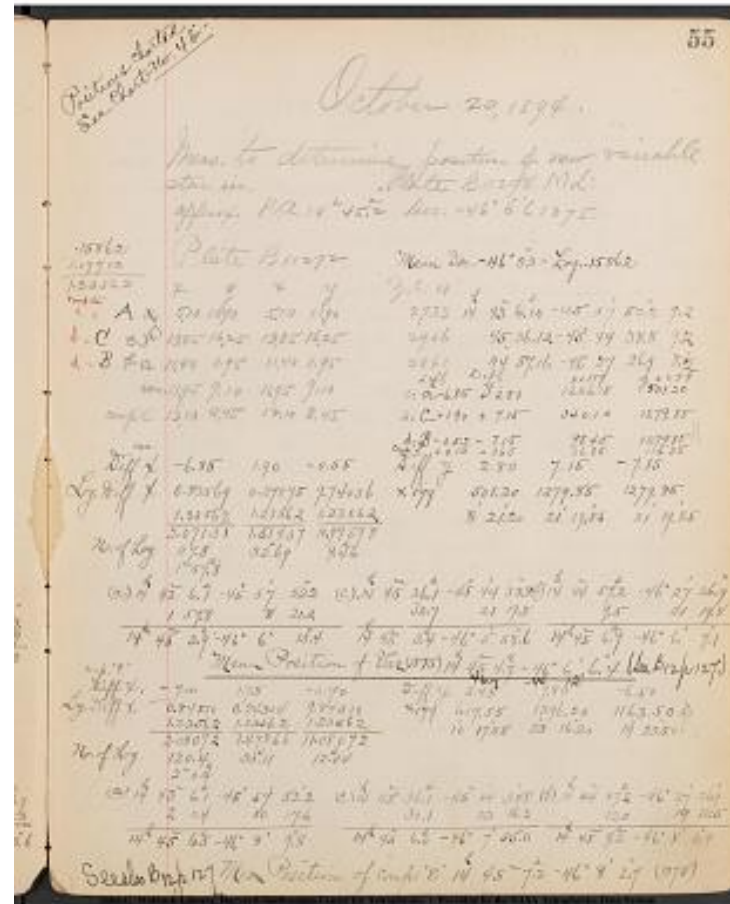
45° 44' 38.8"|(b)|14^[[h]]|44^[[m]]|57.2^[[s]]|-46° 27' 26.9"|

| [[underlined]]1|57.8| |8|21.2[[underlined]]| |[[underlined]]|32.7|

|21|19.8[[underlined]]| |[[underlined]]|9.5| |21|19.8[[underlined]]|

| 14^[[h]]|45^[[m]]|3.9^[[s]]|-46° 6' 13.4"| |14^[[h]]|45^[[m]]|3.4^[[s]]|-

46° 5' 58.6"| |14^[[h]]|45^[[m]]|6.7^[[s]]|-46° 6' 7.1"|

[[underlined]]Mean Position of Var (1875) 14^{h} [[h]]

$45^{\circ} 46' 6.4''$ $46.7''$ $4.7''$ -
 $46^{\circ} 46' 12''$
 $6.4''$ (see B 12 p 127.)

Comp. "E"

[[8 columned table]]
 Diff X. | -7.00 | 1.75 | -0.70 | Diff. Y. | 3.45 | 7.80 | -6.50 |
 Log. Diff. X. | 0.84510 | 0.24304 | 9.84510 | X179 | 617.55 | 1396.20 | 1163.50 |
 | | 1.23562 | 1.23562 | 1.23562 | 10' 17.55" | 23'
 16.20" | 19' 23.50" |
 | 2.08072 | 1.47866 | 11.08072 | | | |
 No. of Log. | 120.4 | 30.11 | 12.04 | | | |
 | 2° | $0.4''$ | | | |

[[21 columned table]]
 (a) | 14° | 43° | $6.1''$ -
 $45^{\circ} 57' 52.2''$ (c) | 14° | 45° | $36.1''$ -
 $45^{\circ} 44' 38.8''$ (b) | 14° | 44° | $57.2''$ - $46^{\circ} 27' 26.9''$ |
 | 2 | 0.4 | 10 | 17.6 | 30.1 |
 23 | 16.2 | 12.0 | 19 | 23.5 |
 | 14° | 45° | $6.5''$ - $46^{\circ} 8' 9.8''$ | 14° | 45° | $6.0''$ -
 $46^{\circ} 7' 55.0''$ | 14° | 45° | $9.2''$ - $46^{\circ} 8' 3.4''$ |

See also B 12, p 127 Mean Position of Comp "E" $14^{\circ} 45'$
 $7.2''$ - $46^{\circ} 8' 2.7''$ (1875)

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Positions Charted.
See Chart No. 4b

October 20, 1894

Meas. to determine position of new V type star on
~~B~~ 11241 No. 3491. Approx R.A. 19^{h} 40.5^m Dec. +27.9° (1855)

mean Dec. = +27° 55.0' = Log .05373

Plate I 9112

Log. 05373
1.03623
1.08996
No. of Log.

[11 columned table]

x	y	Design	R.A. 1855	R.A. 1855	R.A. 1855	Dec.	Magn.
a	1.65	5.00	4.95	5.00	4.92	4.90	B.D.
b	1.65	6.80	1.70	1.75	6.82	6.85	B.D. +27 3507
c	1.65	8.7	65	80	4.70	1.80	4.72
V Type	3.10	5.55	3.10	5.55			

[8 columned table]

Diff X	1.90	1.40	1.30	Diff Y	0.63	1.27	0.83
Log. Diff							
X	0.27875	0.14613	0.11394	163	102.69	207.01	135.29
No. of Log.	23.37	17.22	15.99				

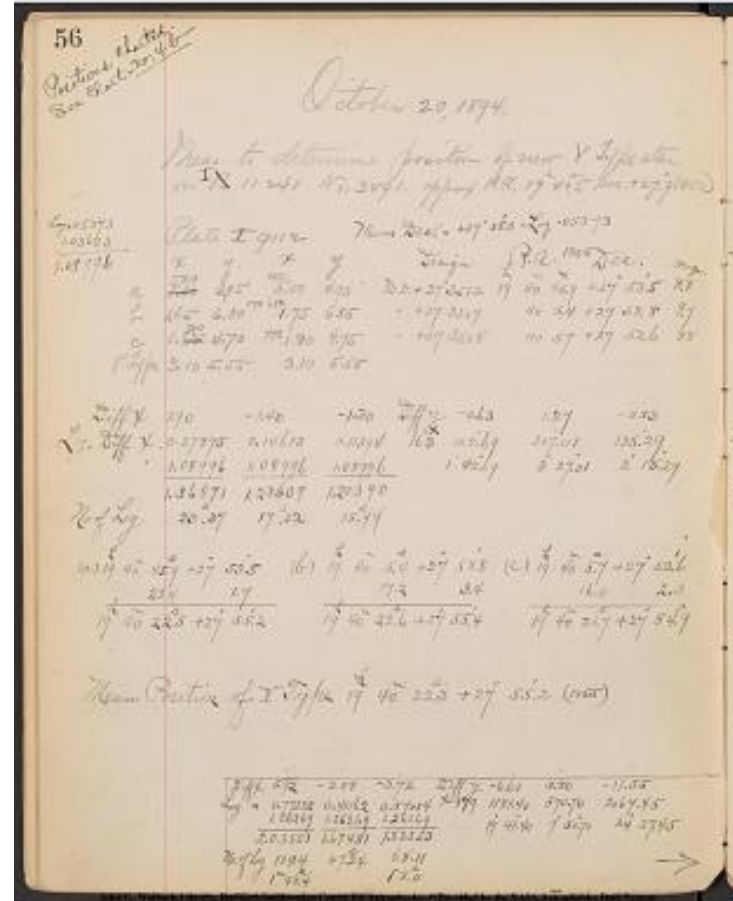
[18 columned table]

(a)	19	40	45.9	19	40	45.9	19	40	45.9	19	40	45.9	19	40	45.9	19	40	45.9	
7	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	58.8	
(c)	19	40	45.9	19	40	45.9	19	40	45.9	19	40	45.9	19	40	45.9	19	40	45.9	
1	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	23.4	
3.4	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	
19	40	45.9	19	40	45.9	19	40	45.9	19	40	45.9	19	40	45.9	19	40	45.9	19	40
22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	
19	40	45.9	19	40	45.9	19	40	45.9	19	40	45.9	19	40	45.9	19	40	45.9	19	40
22.6	22.6	22.6	22.6	22.6	22.6	22.6	22.6	22.6	22.6	22.6	22.6	22.6	22.6	22.6	22.6	22.6	22.6	22.6	
19	40	45.9	19	40	45.9	19	40	45.9	19	40	45.9	19	40	45.9	19	40	45.9	19	40
21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	

Mean Position of V Type 19^{h} 40^m 22.3^s +27° 55.2' (1855)

[8 columned table]

Diff X	5.92	2.58	3.72	Diff Y	6.60	3.30	11.55



|Log. Diff X.|0.77232|0.41162|0.57054|X179|1181.40|590.70|2067.45|
| |1.26269|1.26269|1.26269|19° 41.40"|9'
50.70"|34' 27.45|
	2.03501	1.67431	1.83323				
No. of Log	108.4	47.24^{[[s]]}	68.11				
	1^{[[m]]} 48.4^{[[s]]}		1^{[[m]]} 8.11^{[[s]]}				

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[[left margin]]

Same star measured on page 61

[[left margin]]

Positions charted See Chart. No. 4b

October 20, 1894.

Meas. to determine position of new V type star on B 10749 No 4397

{Approx RA 9^h 92^m Dec. -49° 35' (1875)

{C.D.M. -49° 42'18 99.0 -49 36 (1875) Identified later

Mean Dec. -49° 17.7 = Log. .18569

[[left margin]]

1.8569

1.07700

1.26269

[[left margin]]

Plate B7847

[[9 columned table]]

| x|y|x|y.|Design.|R.A. 1875|Dec.|Magn.|

|a|11.95^h|11.92^m|6.65|11.90|6.65|ZC. 9^h|548|9^h|6^m|56.37^s|49° 12' 50.8"|8||c|3.45^h|3.42^m|16.55|3.40|16.55|752|9 9 33.97|-49 42 25.2|8½||d|2.30^h|2.28^m|~~1.70~~|~~2.25~~|~~1.70~~|782|9 9

50.74|-48 57 49.6|7.8|

|V type|5.20|14.25|5.20|14.25| | | | |

|adj. ft 1|5.35|13.70|5.35|13.70| | | | |

|adj. br. 2|6.00|13.25|6.00|13.25| | | | |

V type

[[8 columned table]]

|Diff. X|6.72|-1.78|-2.92|Diff. Y|-7.60|2.30|-12.55|

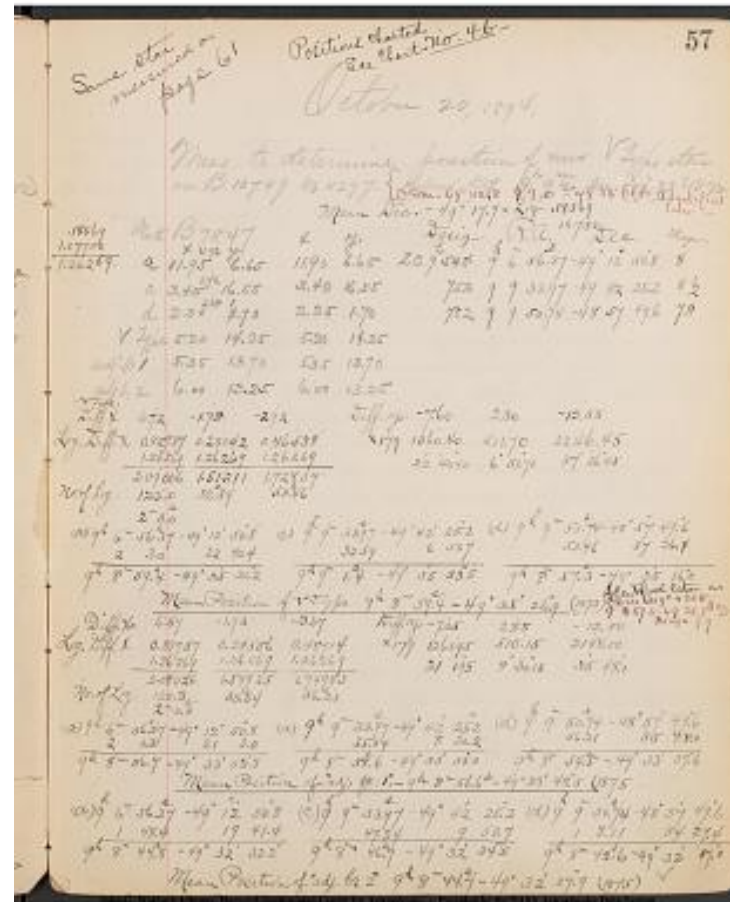
|Log. Diff. X|0.82737|0.25042|0.46538| | | | |

|1.26269|1.26269|1.26269| | | | |

|2.09006|1.51311|1.72807| | | | |

|No. of Log.|123.0^h|32.59^m|53.46^s| | | | ||2^h|3.0^m| | | | |

[[21 columned table]]

|(a)|9^h|92^m|56.37^s|49°|12'|50.8"||(c)|9^h|92^m|33.97^s|49°|42'|25.2"||(d)|9^h|92^m|50.74^s|48°|57'|49.6"||2|3.0|22|40.4|32|59||6|51.7|53|46|37|26.4||9^h|8^m|59.4^s|49°|35'|31.2"|9^h|9^m|1.4^s|49°|35'|33.5"|9^h|8^m|57.3^s|49°|35'|16.0"|Mean Position of V Type. 9^h 8^m 59.4^s - 49° 35' 26.9" (1875)

[[right margin]]
 Identified later as
 CDM -49° 42'18
 9 8 59.5 -49 35.5 (1875)
 Magn. 9.9
 [[/right margin]]

[[8 columned table]]
 Diff. X|6.57|-1.93|-3.07 |Diff. Y|-7.05|2.85|-12.00
 Log. Diff. X|0.81757|0.28556|0.48714|X 179.|1261.95|510.15|2148.00|
 |[[underlined]]1.26269|1.26269|1.26269[[/underlined]]| 21' 1.95"|8'
 30.15"|35' 48.0"|
 | 2.08026|1.54825|1.74983| | | | |
 No. of Log.|120.3|35.34^[[s]]|56.21^[[s]]| | | | |
 | 2^[[m]] 0.3^[[s]]| | | | | |

[[21 columned table]]
 (a)9^[[h]]6^[[m]]56.37^[[s]]|-49°12'50.8"|(c)9^[[h]]9^[[m]]33.97^[[s]]|-
 49°42'25.2"|(d)9^[[h]]9^[[m]]50.74^[[s]]|-48°57'49.6"|
 | 2|0.3| 21|2.0| | 35.34| 8|30.2| | 56.21| 35|48.0|
 | 9^[[h]]8^[[m]]56.7|-49°33'52.8"| 9^[[h]]8^[[m]]58.6^[[s]]|-
 49°33'55.0"| 9^[[h]]8^[[m]]54.5^[[s]]|-49°33'37.6"|

[[underlined]]Mean Position of "adj. ft 1." — 9^[[h]] 8^[[m]] 56.6^[[s]] -49°
 33' 48.5"[[/underlined]] (1875 .

[[21 columned table]]
 (a)9^[[h]]6^[[m]]56.37^[[s]]|-49°12'50.8"|(c)9^[[h]]9^[[m]]33.97^[[s]]|-
 49°42'25.2"|(d)9^[[h]]9^[[m]]50.74^[[s]]|-48°57'49.6"|
 | [[underlined]]1|48.4| 19|41.4[[/underlined]]| [[underlined]] 47.24|
 |9|50.7[[/underlined]]| [[underlined]]1|8.11| 34|27.4[[/underlined]]|
 | 9^[[h]]8^[[m]]44.8^[[s]]|-49°32'32.2"| 9^[[h]] 8^[[m]] 46.7^[[s]] -49°
 32' 34.5"| 9^[[h]]8^[[m]]42.6^[[s]]|-49°32'17.0"|

Mean Position of "adj. br 2" 9^[[h]] 8^[[m]] 44.7^[[s]] -49° 32' 27.9" (1875)

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Positions charted see Chart. No. 6b-

[[left margin]]

*From a set of second measurements this first measure of (b) was ~~proved~~ shown to be incorrect. Should be 2.55
[[left margin]]

December 17, 1894

Meas to determine position of new variable star in Aquarius
R.A. $22^{\text{h}} 10^{\text{m}} 10^{\text{s}}$ Dec. -21.6° (1855)
Spectrum Md on pl. B. 11794 No 540 ~~4~~
[[right margin]]
0.31521
1.07700
1.10852
[[right margin]]

Mean Dec. $-21^{\circ} 34.0' = \text{Log. } .03152$

Plate B11821

[[13 columned table]]

2nd Meas. | 2nd Meas. | | | | | | | | | | | | |

|x|y| |x|y|x|y| |1855|1855|1855|1855| | | | |

|-----|-----|-----|-----|

|2.10|8.30|a|1.95|6.75|1.95|6.75|=DM-21°

6193|22^h|10^m|10^s|2|~~8~~|~~7~~|7.7^s|-21°

43.3'|8.6|

|2.65|3.05|b|*|~~3~~|~~5~~|2.55|1.45|3.55|1.45|=21

6197|22|10|36.2|-21 27.3|7.7|

|6.60|4.20|c|6.50|~~3~~|~~6~~|2.60|6.50|2.60|=21°

6200|22|11|2|~~6~~|~~5~~|5.9|-21 31.3|9.5|

|3.05|6.30|var.|2.95|5.70^a|~~5.72~~|2.95|5.75| |22|10.7| |-21.6 (1855)| |

[[8 columned table]]

Diff. X.|-1.00|~~0.60~~|~~0.40~~|3.55|Diff.

Y.|1.03|-4.27|-3.12|

|Log. Diff.

X|0.00000|9. ~~77815~~ |60206|0.55023|X

179|184.37|764.33|558.48|

| |1.10852|1.10852|1.10852| |3' 4.37"|12' 44.3"|9' 18.48"|

|

|1.10852|10. ~~88667~~ |71958|1.

65875|

|No. of Log.|12.84^a|5.14^a|45.58^a| | | | |

[[18 columned table]]

|a|22^h|10^m|10^s|-21°|43.3'|b|22^h|10^m|10^s|-36.2^a|

21°|27.3'|c|22^h|11^m|2^s|25.9^a|21°|31.3|

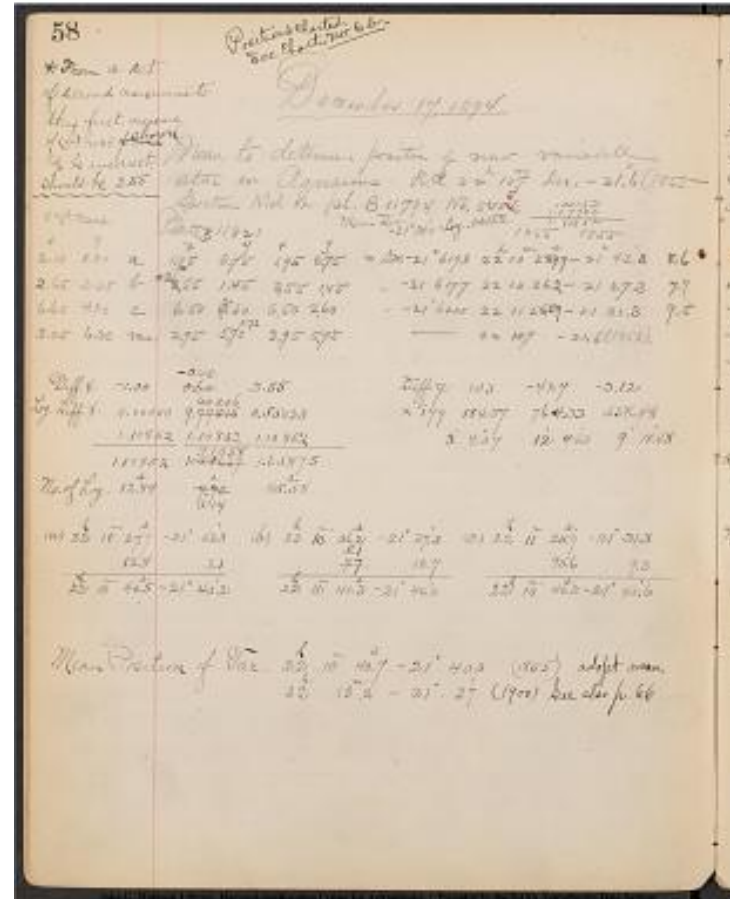
| |12.8| |3.1| |12.7|

|~~7.7~~|~~5.1~~| |12.7|

|45.6| |9.3|

| |22^h|10^m|10^s|40.5^a|-21°|40.2'| |22^h|10^m|10^s|41.3^a|

21°|40.0'| |22^h|10^m|10^s|40.3^a|-21°|40.6'|



[[3 columned table]]
 |Mean Position of Var.|22^h 10^m 40.7^s -21° 40.3 (1855)|adopt
 mean.|
 | 22^h 13.2^m -21° 27' (1900)|See also p. 66|

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Positions charted. See Chart - No. 6 b

December 17, 1894.

Meas. to determine position of Espin's new variable star. Seems to be identical with
BD +57°165 R.A. 0^h 46^m 20.7^s Dec. +57° 46.5' 9.5

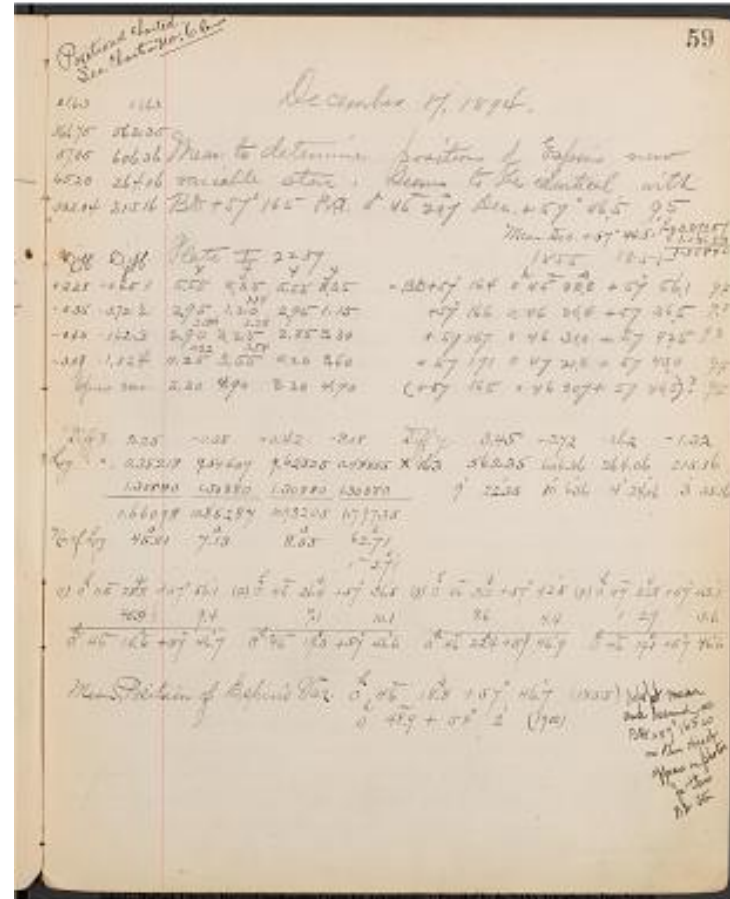
Mean Dec. +57° 44.5' = Log. 0.27257
1.03623
1.30880

X 1.63 | X 1.63 |
366.75 | 562.35 |
57.05 | 606.36 |
65.20 | 264.06 |
502.04 | 215.16 |

Plate I 2289
Diff. X | Diff. Y | x | y | x | y | 1855 | 1855 |
+2.25 | +3.45 | 1.55 | 8.35 | 5.55 | 8.35 | = BD +57° 164 | 0^h 45^m 28.8^s | +57° 56.1' | 9.5 |
-0.35 | -3.72 | 2.95 | 1.20 | 2.95 | 1.15 | +57° 166 | 0.46 | 26.4 | +57 36.5 | 9.5 |
-0.40 | -1.62 | 3.20 | 3.25 | 2.85 | 3.30 | +57 167 | 0.46 | 31.0 | +57 42.5 | 9.3 |
-3.08 | -1.32 | 4.02 | 3.55 | 0.20 | 3.60 | +57 171 | 0.47 | 21.8 | +57 43.0 | 9.5 |
| Espin's var. | 3.30 | 4.90 | 3.30 | 4.90 | (+57 165 | 0.46 | 20.7 | +57 46.5) | 9.5 |

Diff. X | 2.25 | -0.35 | -0.42 | -3.08 | Diff Y | 3.45 | -3.72 | -1.62 | -1.32 |
Log. Diff.
X | 0.35218 | 9.54407 | 9.62325 | 0.48855 | X | 163 | 562.35 | 606.36 | 264.06 | 215.16 |
| 1.30880 | 1.30880 | 1.30880 | 1.30880 | 9'
22.35" | 10' 63.6" | 4' 24.06" | 3' 35.16" |
| 1.66098 | 10.85287 | 10.93205 | 1.79735 | | | | |
No. of Log. | 45.8^s | 1 | 7.13^s | 8.55^s | 62.71^s | | | | |
| 1^m | 2.71^s | | | | |

(1) 0^h 45^m 28.8^s | +57° 56.1' | (2) 0^h 46^m 26.4^s | +57° 36.5' | (3) 0^h 46^m 31.0^s | +57° 42.5' | (4) 0^h 47^m 21.8^s | +57° 43.0' |
45.8	9.4	7.1	62.7
10.1	8.6	4.4	12.7
1.2	3.6	1.3	14.6
0^h 46^m 14.6^s	+57° 46.7'		



0^h	46^m	19.3^s	+57°	46.6'
0^h	46^m	22.4^s	+57°	46.9'
0^h	46^m	19.1^s	+57°	46.6'

[[2 columned table]]

|Mean Position of Espin's Var.|0^h|46^m|18.8^s|+57°|46.7'|
(1855)
| 0 48.9 +58° 2' (1900|

[[right margin]]

Adopt. mean and assumed as BD +57° 165 as no other object appears
on photos. for this BD star
[[/right margin]]

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No. 3 S Tucanae

December 17, 1894.

[[left margin]]

Positions charted. See Chart No. 6b

Meas. to determine position of near variable star in . Sp. Md on pl.
B11532 No. 4911
R.A. 0^h Dec. -

[[left margin]]

[[3 columned table]]

	x1.79	x1.79
1	1113.38	1065.05
2	801.92	1897.40
3	1253.00	501.20

[[2 columned table]]

Mean Dec. = -62° 23.7' = Log. [0.33414]
[[u]]1.07700[[u]]
1.41114

Plate B57~~7~~

[[11 columned table]]

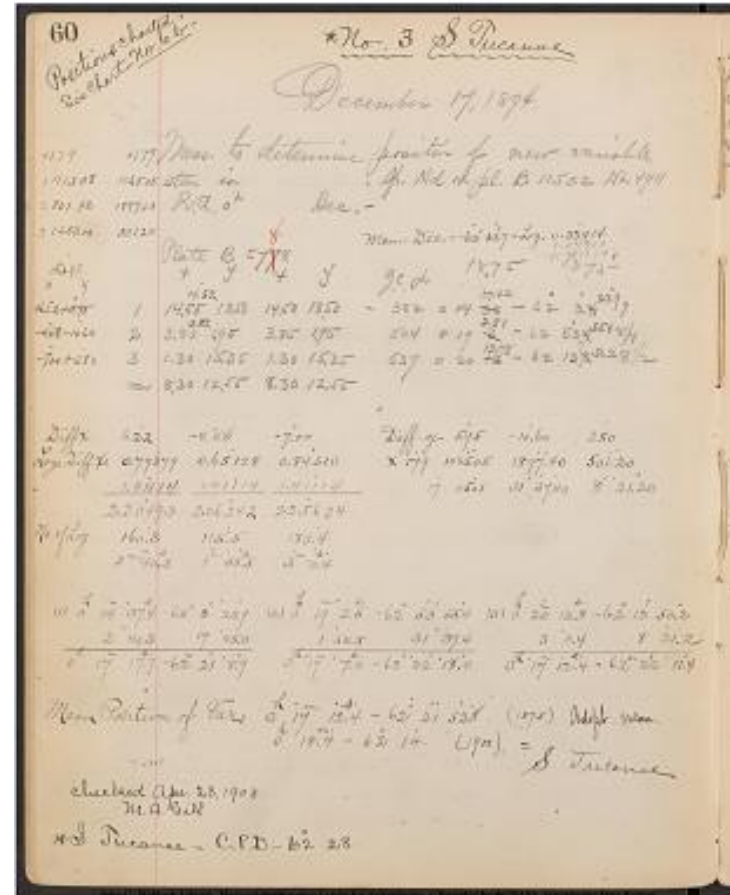
Diff x	Diff y	x y x y Z.C. 0 ^h	1875	1875
+6.22	+5.95	1 14.55	1 14.52	18.50 14.50 18.50 =38.2 0 14
38	37.42	-62°		
3	4	23.9	9	
-4.48	-10.60	2 3.80	2 3.82	1.95 3.85 1.95 50.4 0 19
3	2.51	-62		
53	9	55.4	8 1/4	
-7.00	+2.80	3 1.30	15.35 1.30 15.35	537 0 20
13	12.78	-62		
13	8	50.2	8 1/2	
1	8.30	12.55	8.30 12.55	

[[8 columned table]]

Diff X	6.22	-4.48	-7.00	Diff. y	5.95	-10.60	2.80
Log. Diff. X	0.79379	0.65128	0.84510	X 179	1065.05	1897.40	501.20
1	1.41114	1.41114	1.41114	17° 45.05"	31° 37.40"	8° 21.20"	
2	2.0493	2.0624	2.25624				
No. of Log.	160.3	115.5	180.4				
2	40.3	55.5	3	0.4			

[[21 columned table]]

(1)	0 ^h	14 ^m	37.4 ^s	-62°	3'	32.9"	(2)	0 ^h	19 ^m	2.5 ^s	-62°	53'	55.4"	(3)	0 ^h	20 ^m	12.8 ^s	-62°	13'	50.2"
2	40.3	17	45.0	1	55.5															
3	17	45.0	1	55.5																
4	31	37.4	3	0.4	18	21.2														
5	0 ^h	17 ^m	17.7 ^s	-62°	21'	81.9"		0 ^h	17 ^m	7.0 ^s	-62°									



62°22'18.0" | 0^h17^m12.4^s|-62°22'11.4"

[[3 columned table]]

|Mean Position of Var.|0^h17^m12.4^s|-62° 21' 52.8"|(1875)

Adopt. mean|

| 0^h18.4^m|-62° 14'|(1900) = S Tucanae|

Checked Apr. 28, 1903

M.A. Gill.

*S Tucanae = C.P.D. -62° 28

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[[left margin]]
 [[4 columned table]]
 | 2nd Meas. | 2nd Meas. | Diff. |
 a | 1.20 | 1.25 | -0.25 |
 b | 7.35 | 4.95 | -0.23 |
 c | 8.45 | 22.25 | 0.00 |
 d | 9.55 | 11.40 | -0.15 |
 [[underlined]] | 7.80 | 9.10 | [[underlined]] | -0.15 |
 [[/left margin]]

Positions charted. See Chart - No. 6b -

December 17, 1894.

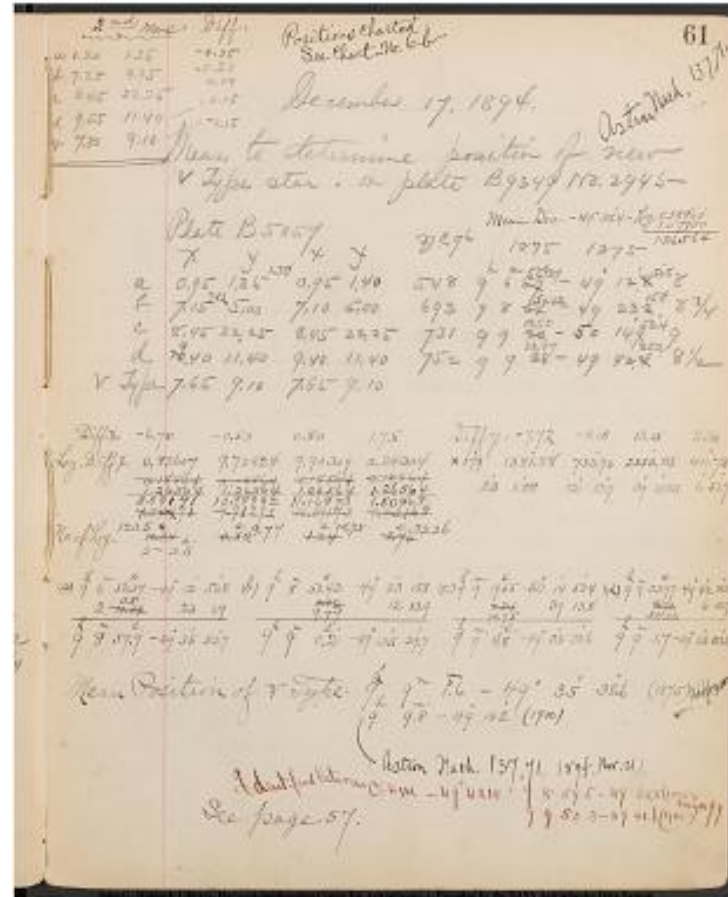
Means to determine position of new V Type star . on plate B9349 No. 2945

Plate B5057

[[9 columned table]]
 | x | y | x | y | Z.C. 9^h | 1875 | 1875 | |
 |-----|-----|-----|-----|-----|
 a | 0.95 | 1.35^h | 1.38 | 0.95 | 1.40 | 548 | 9^h |
 6^h | 1.38 | 1.38 | 1.38 | 1.38 | 1.38 | 1.38 | 1.38 |
 12. | 1.38 | 1.38 | 1.38 | 1.38 | 1.38 | 1.38 | 1.38 |
 b | 7.15^h | 7.12 | 5.00 | 7.10 | 5.00 | 693 | 9 8 |
 51 | 50.42 | -49 |
 23. | 3 | 15.8" | 8^h |
 c | 8.45 | 22.25 | 8.45 | 22.25 | 731 | 9 9 |
 20 | 19.55 | -50 |
 14. | 9 | 52.4" | 9 |
 d | 10 | 9.40 | 11.40 | 9.40 | 11.40 | 752 | 9 9 |
 34 | 33.97 | -49 |
 42. | 4 | 25.2" | 8^h |
 V Type | 7.65 | 9.10 | 7.65 | 9.10 | | | |

[[10 columned table]]
 Diff. x | -6.70 | -0.53 | 0.80 | 1.75 | Diff. y | -7.72 | -4.10 | 13.15 | 2.30 |
 Log. Diff.
 x. | 0.82607 | 9.72428 | 9.90309 | 0.24304 | X | 179 | 1381.88" | 733.90" | 2353.85" | 4
 11.70" |
 |
 | 1.01471 | 2.09171 | 9.9129 |
 2 | 10.98992 | 10.09173 | 11.
 16873 | 0.43168 | 1.50868 | | | | |
 No. of
 Log. | 10.34 | 123.5^h | 0.8
 2 | 9.77^h | 1.24 | 14.75^h |
 2.70 | 32.26^h | | | | |
 2^h | 3.5^h | | | | |

[[28 columned table]]



(a) $9^{\circ}11'6''$ 56.37° $-49^{\circ}12'50.8''$ (b) $9^{\circ}11'8''$ 50.42° $-49^{\circ}23'15.8''$ (c) $9^{\circ}11'9''$ 19.55° $-50^{\circ}14'52.4''$ (d) $9^{\circ}11'9''$ 33.97° $-49^{\circ}42'25.2''$
 $| \underline{2} | \cancel{10.34} | \cancel{3.5} |$
 $23 | \underline{1.9} | \underline{0.82} | \cancel{9.77} | \underline{12} | \underline{13.9} |$
 $| \cancel{1.24} | \cancel{14.75} |$
 $39 | \underline{13.8} | \underline{2.70} | \cancel{32.26} | \underline{6} | \underline{51.7} |$
 $| \cancel{9^{\circ}11'8''} | \cancel{59.9^{\circ}} | \cancel{-49^{\circ}35'52.7''} | \cancel{9^{\circ}11'9''} | \cancel{0.2^{\circ}} |$
 $\cancel{-49^{\circ}35'29.7''} | \cancel{9^{\circ}11'9''} | \cancel{4.8^{\circ}} | \cancel{-49^{\circ}35'38.6''} |$
 $\cancel{9^{\circ}11'9''} | \cancel{1.7^{\circ}} | \cancel{-49^{\circ}35'33.5''} |$

[[3 columned table]]
 Mean Position of V Type. $9^{\circ}11' 9^{\circ} 1.6^{\circ}$ $-49^{\circ} 35' 38.6''$ (1875)
 Adopt mean
 $^{\circ}11'9'' 9.8^{\circ} 9.8^{\circ}$ $-49^{\circ} 42'$ (1900)

[[3 columned table]]
 Identified later as C.D.M. $-49 42'18.9 8 59.5 -49 35.5$ (1875) Magn 9.9
 $| 9 9 50.3 -49 41.6$ (1900)

See page 57.

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Positions charted See Chart. No. 6b

December 17, 1894

Meas. to determine position of new V Type star on pl B8313 No.
~~2142~~2041
 *RA 13 24.~~4~~4~~4~~4~~4~~2 -61
 3~~8~~4

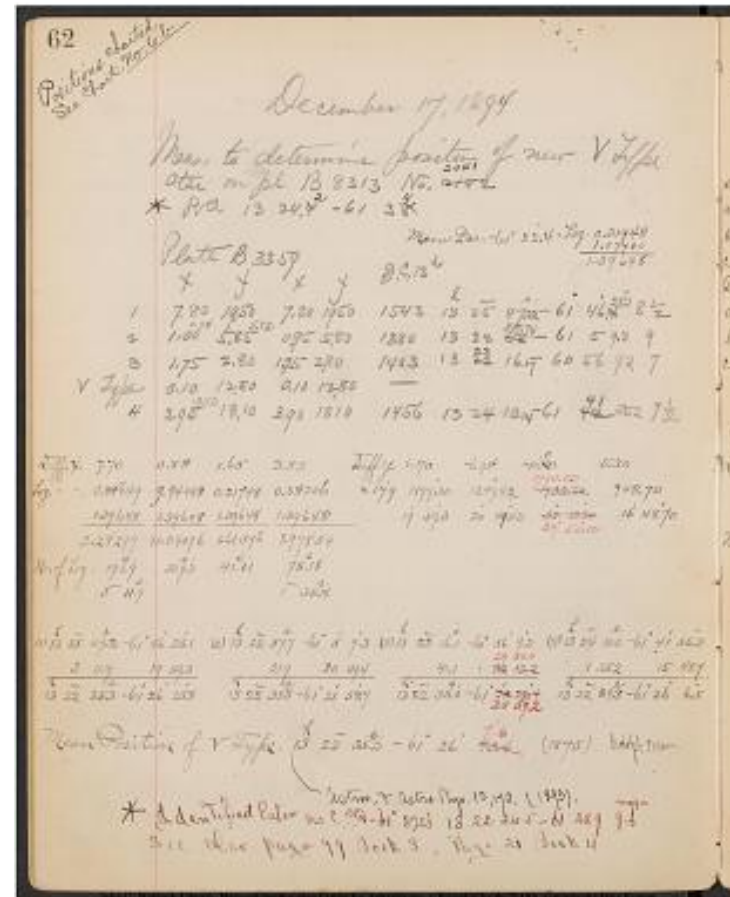
[[2 columned table]]
 Mean Dec. -61° 22.4=Log.0.31948
 | 1.07700
 | 1.39648

Plate B3359

[[9 columned table]]
 | x|y|x|y|Z.C. 13^h | | |
 |-----|-----|
 | 17.80|19.50|7.80|19.50|1543|13^h|25^m|47.22^s|-61° 46'
~~21.00~~25.1^m8^s
 | 21.00^m|0.98^s|5.85^m|5.82^s|0.95|5.80|1380|13 22
~~58~~57.74|-61 5 9.3|9|
 | 31.75|2.80|1.75|2.80|1403|13 ~~22~~23
 16.07|-60 56 9.2|7|
 | V Type|0.10|12.80|0.10|12.80|-----| | |
 | 4|3.95^m|3.92^s|18.10|3.90|1810|1456|13 24 10.04|-61
~~42~~41 55.2|7^m2

[[10 columned table]]
 | Diff. X|7.70|0.88|1.65|3.82|Diff. Y.|6.70|-6.98|-
 10.~~8~~00|5.30|
 | Log. Diff. X.|0.88649|9.94448|0.21748|0.58206|X
 179|1199.30"|1249.42"~~1933.20~~1790.00|
 948.70|
 | 1.39648|1.39648|1.39648|1.39648|19°
 59.3"|20' 49.42"~~32'~~ 13.20"~~29'~~ 50.00"|15'
 48.70"|
2.28297	11.34096	1.61396	1.97854						
No. of Log.	191.9^s	21.93^s	41.11^s	95.18^s					
13^m	11.9^s	1^m	35.18^s						

[[28 columned table]]
 | (1)|13^h|25^m|47.2^s|-
 61° 46' 25.1"| (2)|13^h|22^m|57.7^s|-
 61° 5' 9.3"| (3)|13^h|23^m|16.1^s|-
 60° 56' 9.2"| (4)|13^h|24^m|10.0^s|-61° 41' 55.2"|
 | 3|11.9| 19|59.3|21.9
 20|49.4|41.1
~~32~~29|~~13.2~~
~~h~~50.0|1|35.2| 15|48.7|
 | 13^m|22^m|35.3^s|-61° 26' 25.8"|
 13^m|22^m|35.8^s|-61° 25' 58.7"| 13^m|22^m|35.0^s|-
 61° ~~28~~25^m|~~25~~22.4|
 ough|59.2"| 13^m|22^m|34.8^s|-61° 26' 6.5"|



Mean Position of V Type. $13^{\text{h}} 22^{\text{m}} 35.2^{\text{s}}$ $-61^{\circ} 26'$
 ~~43.4~~ ~~$7.6''$~~ (1875) Adopt. Mean.

Astron. & Astro Phys. 12, 170. (1893).

*Identified later as C.P.D $-61^{\circ} 3753$ $13 22 34.5$ $-61 25.9^{\text{mag}}$ 9.6

See also page 99 Book 3, Page 21 Book 4

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Positions charted See Chart No. 5b-

January 26,
189~~4~~~~5~~

Meas. to determine position of new variable star in Octans (No. 3).
Class Md on Pl. B11729 (No. 5306).
(Est. pos for 19001 R.A. $20^{\text{h}} 57.0^{\text{m}}$ Dec. $-82^{\circ} 30'$.)

3 columned table]

| x|y|
| X1.79|X1.79|
a|1038.20|2586.55|
b|590.70|309.67|
c|683.78|384.85|

2 columned table]

Mean Dec. $-82^{\circ} 22.3' = \text{Log. } .87669$
| 1.07700 |
| 1.95369 |

B5599

12 columned table]

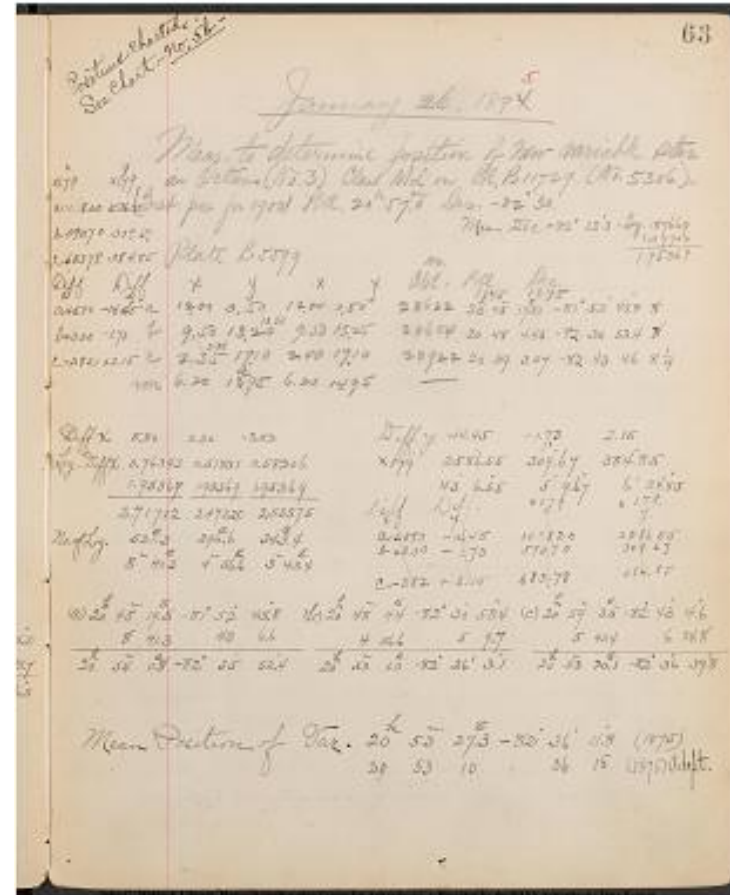
| Diff x|Diff y| |x|y|x|y|No. A.G.C.|R.A. 1875|Dec. 1875| |
|-----|-----|-----|-----|-----|
a|+5.80|-14.45|1|12.00|0.50|12.00|0.50|28622|20^h 45^m|
19.51^s|-81° 52' 45.8"|8|
b|+3.30|-1.73|b|9.50|13.20^s|13.22^s|9.50|13.25|28684|20 48 4.45|-82 30
53.4|8|
c|-3.82|+2.15|c|2.35^s|2.38^s|17.10|2.40|17.10|28922|20 59 3.47|-82 43
4.6|8¹/₄|
| |
var|6.20|1~~5~~~~4.95~~|6.20|14.95|-----| |

8 columned table]

Diff X|5.80|3.30|-3.82|Diff Y|-1.73|2.15|
Log. Diff X|.076343|0.51851|0.58206|X179|2586.55|309.67|384.85"|
| 1.95369 |1.95369|1.95369|43' 6.55" |5'
9.67"|6' 24.85"|
| 2.71712|2.47220|2.53575| | | | |
No. of Log.|521.3^s|296.6^s|343.4^s| | | | |
| 8^m|41.3^s|4^m|56.6^s|5^m|43.4^s| | | |

~~5~~ columned table]

| Diff x|Diff y|x 1.79 x|1.79 y|
|-----|-----|-----|
a|+5.80|-14.45|1038.20|2586.55|
b|+3.30|-1.73|590.70|309.67|
c|-3.82|+2.15|683.78|384.85|
~~5~~



[[21 columned table]]
 |(a)|20^[[h]]|45^[[m]]|19.5^[[s]]|-
 81° 52' 45.8" |(b)|20^[[h]]|48^[[m]]|4.4^[[s]]|-
 82° 30' 53.4" |(c)|20^[[h]]|59^[[m]]|3.5^[[s]]|-82° 43' 4.6"|
 |8|4|1.3| |43|6.6|4|56.6||
 |5|9.7|5|43.4| |6|24.8|6||
 |20^[[h]]|54^[[m]]|0.8^[[s]]|-82° 35' 52.4" |20^[[h]]|53^[[m]]|1.0^[[s]]|-
 82° 36' 3.1" |20^[[h]]|53^[[m]]|20.1^[[s]]|-82° 36' 39.8"|

[[3 columned table]]
 |Mean Position of Var.|20^[[h]]|53^[[m]]|27.3^[[s]]|-82° 36' 11.8"|(1875)|
 |20 53 10 36 15|(1875) Adopt.|

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|15^[[h]]|20^[[m]]|22.8^[[s]]|-50°|9'|2.7"| |15^[[h]]|20^[[m]]|21.5^[[s]]|-
50°|9'|13.9"|
(These measures belong to another star)

Mean Position of Nova Normae 15^[[h]] 20^[[m]] 22.3^[[s]] -50° 8' 58.4"
(1875.)

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February 9, 1895

[[left margin]]

Positions charted. See chart No. 7b

[[left margin]]

Meas. to determine position of new variable star in Indus Z.C. 1539?, 20 47 7 -54 47.9 (1875). Sp. Md on plate B

~~11812~~ 11684 No. 5196.

[[left margin]]

[[3 columned table]]

| x179|x179|

-----|

a|689.15|4063.30|

b|519.10|2658.15|

c|143.20|3222.00|

d|116.35|1593.10|

[[left margin]]

[[2 columned table]]

Mean Dec. -55° 0.6' = Log. 0.24159

| 1.07700 |

| 1.31859 |

Plate B11812

[[11 columned table]]

Diff. x|Diff. y.| |x|y|x|y| | | | |

-----|

+3.85|+22.70|a|5.40|37.80|5.40|37.80|Z.C. 20^[[h]] 1497|20^[[h]]

45^[[m]] 43.14^[[s]]|-55° 55' 56.2"|9.5|

+2.90|-14.85|b|4.45|0.25|4.45|0.25|20 1509|20 46 8.51|-54 3 38.4|7.5|

+0.80|+18.00|c|2.35|33.10|2.35|33.10|20 1529|20 46 48.05|-55 41

39.3|8|

+0.65|-8.90|d|2.20|6.20|2.20|6.20|20 1532|20 46 54.87^[[55.11]]|-54 21

25.2^[[22.1]]|8|

| | |var.|1.55|15.10|1.55|15.10| | | | |

[[10 columned table]]

Diff X.|3.85|2.90|0.80|0.65|Diff. Y.|22.70|-14.85|18.00|-8.90|

Log. 0.58546|0.46240|9.90309|9.81291|X179|4063.30"|2658.15"|3222.0

0"|1593.10"|

| 1.31859|1.31859|1.31859|1.31859|1.31859 |17'

43.30"|44' 18.15"|53' 42.0"|26' 33.10"|

| 1.90405|1.78099|11.22168|11.13150| | | | |

No. of Log. 80.18^[[s]]|60.39^[[s]]|16.66^[[s]]|13.54^[[s]]| | | | |

| 1^[[m]] 20.18^[[s]]|1^[[m]] 0.39^[[s]]| | | | |

[[28 columned table]]

(a)|20^[[h]]|45^[[m]]|43.1^[[s]]|-

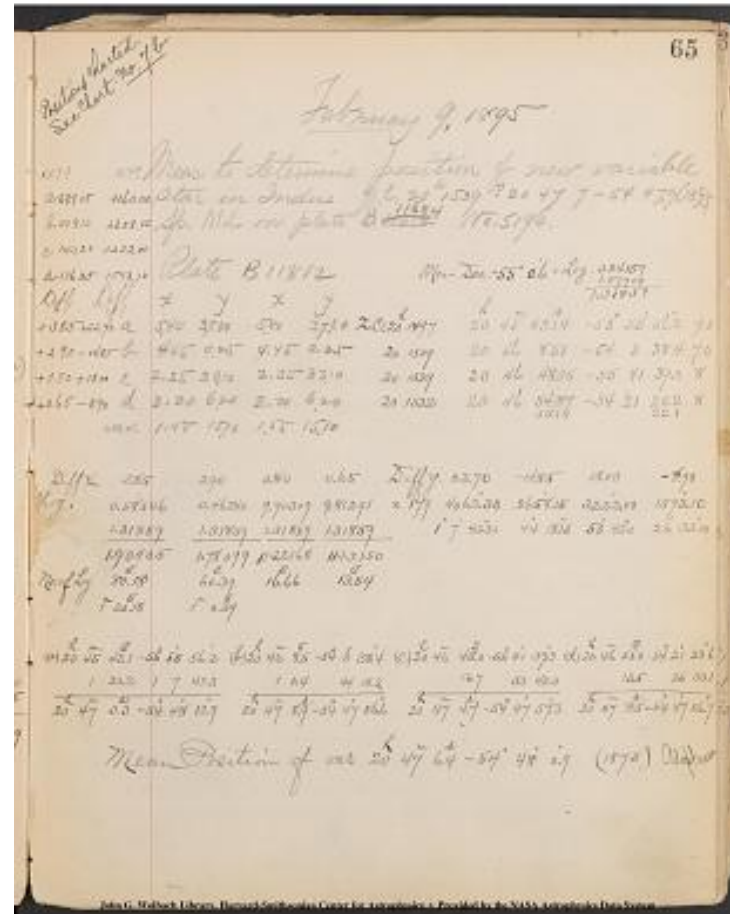
55° 55' 56.2"|(b)|20^[[h]]|46^[[m]]|8.5^[[s]]|-

54° 3'|38.4"|(c)|20^[[h]]|46^[[m]]|48.0^[[s]]|-

55° 41'|39.3"|(d)|20^[[h]]|46^[[m]]|55.0^[[s]]|-54° 21'|23.6"|

| 1.31859|1.31859|1.31859|1.31859|1.31859 |1.31859|1.31859|1.31859|

44|18.2|1.31859 |1.31859|16.7|53|42.0|1.31859 |



$\left[\begin{array}{l} 13.5 \\ 26 \end{array} \right] 33.1$
 $\left[\begin{array}{l} 20^{\text{h}} 47^{\text{m}} 3.3^{\text{s}} \\ 54^{\circ} 47' 56.6'' \end{array} \right] -54^{\circ} 48' 12.9''$
 $\left[\begin{array}{l} 20^{\text{h}} 47^{\text{m}} 8.9^{\text{s}} \\ 54^{\circ} 47' 57.3'' \end{array} \right]$
 $\left[\begin{array}{l} 20^{\text{h}} 47^{\text{m}} 4.7^{\text{s}} \\ 54^{\circ} 47' 56.7'' \end{array} \right]$

Mean Position of var. $20^{\text{h}} 47^{\text{m}} 6.4^{\text{s}} -54^{\circ} 48' 0.9''$ (1875)
 Adopt. mean

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66

Positions Charted

See chart no. 76

February 9, 1895

x y

x179 x179

a6802 585.33 | Memo. to determine position of our new variable

l179.00 363.37 | Pter in Rd 22107.99 hlee-21.6(1855).

c89.50 119.930 | ap.Md on plate B 11794 No. 5405.

a63545 361.58 | Mean Dee=-21° 30'=log. 0.03132

Plate B6327

1.07700

Diff

1.10832

x y

x y

x y

B.D

1855

+3.8 -3.27 a | 5.15 4.35 5.20 4.35 -21° 6'19" 22 10 36.2 -21° 27' 3 77

+1.00 +2.03 G | 5.80 9.65. 5.80 9.65 -21° 6'19" 22 10 27.7-21 433

8.6

+0.50-6.70 c | 530 0.90 5.30[[~~5.30~~]]0.95 -21° 6'19" 22 10 31.9-

21 17.9 9.3

-3.55-2.02 d | 1.25 5.60 1.25 5.60 -21° 6'20" 22 11 259-21 31.3 95

var. | 4.80 7.65 4.80 7.60

Diff. t 0.38 | 1.00 0.50 3.55 Diff.y. -3.27 2.03 -6.70 -2.02

log. t 9.547978 | 0.00000 0.55023 x179 585.33 363.37 119.30 361.58.

1.10832 | 1.10832 1.10832 9 45.33 6'3.37 19'59".3 6' 1.58

10.68810 | 1.10832 10.80729 1.65855

no.Log. 4.88 12.83 6.42 45.56

L s

L s

L s

L s

a)22 10 36.2 -21° 27.3 (L)27.7 -21°(c)22 10 31.9 -21° 17.9 (d)22 11 25.9 -21° 31.3

4.9 9.8

12.8 6.1

6.4

20.0

45.6 6.0

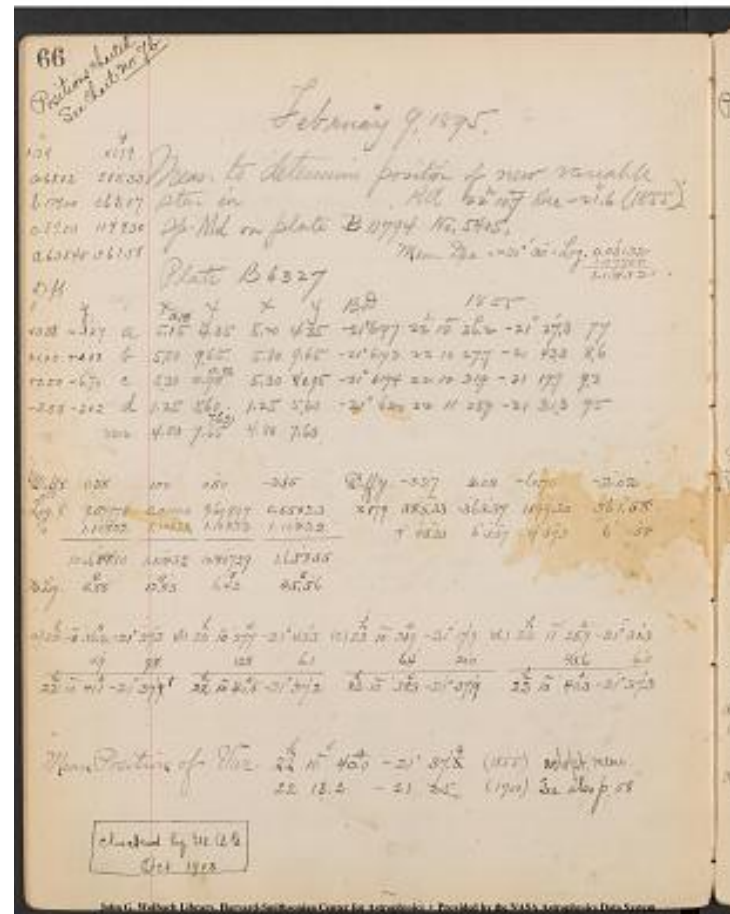
2210 41.1 -21° 37. [[~~5.30~~]]1 2210 40.5 -21° 37.2 22 10 38.8 -

21° 37.9 22 10 40.3 -21° 37.3

Mean Position of Var. 22 10 40.0 -21° 37. [[~~5.30~~]] (1855) adopt.mean. 22 13.2 -2.1 [[~~5.30~~]] (1900) See also p.58

Checked by 14. a. y.

Oct.1903

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Positions charted See Chart- No. 7b

February 9th, 1895.

Meas. to determine position of new gaseous nebula R.A. 7^h 16^m 13.6^s Dec. $+9^\circ 9'$ (1855).
Sp. Br. line on Plate I 10.734

Mean Dec. = $+9^\circ 8.3' = \text{Log. } 0.00554$
1.03623
1.04177

Plate I ~~12159~~ 12023

9 columned table
| x|y|x|y| | | | |
| 1|2.80|8.75|2.80|8.75| BD. $+9^\circ 16'35''$ $7^h 16^m 13.6^s$ 39.9^s $+9^\circ 22.8'$ 8.0
| 2|0.70|1.35|0.70|1.30| BD. $+9^\circ 16'32''$ $7 16 13.6$ $+9 1.7$ 9.4
| 3|6.60|1.15|6.60|1.15| BD. $+9^\circ 16'39''$ $7 17 21.1$ $+9 0.4$ 8.8
| gas. neb. | 4.55|4.25|4.55|4.25| | | | |
| comp | 4.40|4.25|4.40|4.25| | | | |

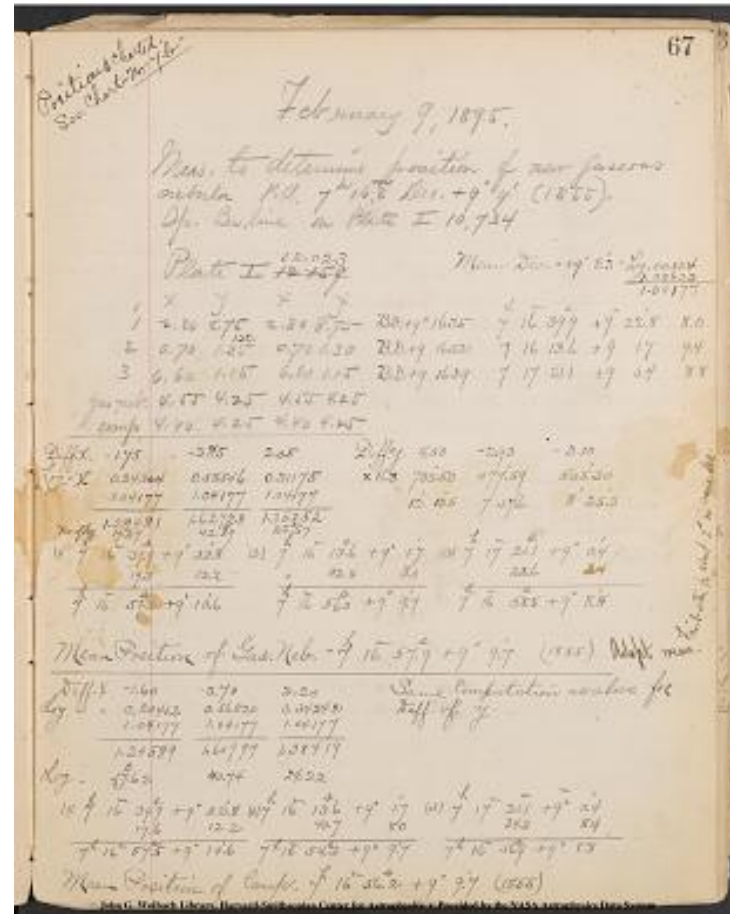
8 columned table
Diff. X. | -1.75 | -3.85 | 2.05 | Diff. Y. | 4.50 | -2.93 | -3.10 |
Log. Diff. X. | 0.24304 | 0.58546 | 0.31175 | X | 163 | 733.50 | 477.59 | 505.30 |
| 1.04177 | 1.04177 | 1.04177 | | 12' 13.5" | 7'
57.6" | 8' 25.3" |
| 1.28481 | 1.62723 | 1.35352 |
| 19.27 | 42.39 | 22.57 |

18 columned table
(1)	7^h	16^m	13.6^s	$+9^\circ 22.8'$	(2)	7^h	16^m	13.6^s	$+9^\circ 22.8'$
1.7	(3)	7^h	17^m	21.1^s	$+9^\circ 0.4'$				
19.3	12.2	42.4							
8.0	22.6	8.4							
7^h	16^m	59.2^s	$+9^\circ 10.6'$						
7^h	16^m	56.0^s	$+9^\circ 9.7'$	7^h	16^m	58.5^s	$+9^\circ 8.8'$		

Mean Position of Gas. Neb. 7^h 16^m 57.9^s $+9^\circ 9.7'$ (1855) Adopt mean.
Faint star p about 2^m in same dec.

Same Computation as above for Diff. of Y.

4 columned table
Diff. X. | -1.60 | -3.70 | 2.20 |
Log. Diff. X. | 0.20412 | 0.56820 | 0.34242 |
| 1.04177 | 1.04177 | 1.04177 |
| 1.24589 | 1.60997 | 1.38419 |
Log. | 17.62 | 40.74 | 24.22 |



[[18 columned table]]
 |(1)|7^h|16^m|39.9^s|+9°|22.8'| (2)|7^h|16^m|13.6^s|+9°|
 1.7|(3)|7^h|17^m|21.1^s|+9°|0.4'|
	17.6		12.2		40.7				
8.0		24.2		8.4					
7^h	16^m	57.5^s	+9°	10.6'					
7^h	16^m	54.3^s	+9°	9.7'	7^h	16^m	56.9^s	+9°	8.8'

Mean Position of Comp. 7^h 16^m 56.2^s +9° 9.7' (1855)

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Positions charted See Chart No.8b

February 12, 1895

Meas. to determine position of Nova Normal see also p. 64.

Mean Dec. = -49° $59.5''$

$$\begin{aligned} \log & 0.19186 \\ & 1.07700 \\ & 1.26886 \end{aligned}$$

Plate ~~33485~~ B10769
R.A. 1875 Dec. Magn.

[[13 column table]]

	x	y	x	y	A.G.C.	h	m	s.	°	'	"	
1	14.38	14.35	0.80	14.40	0.80	20906	15	19	6.78	-49	40	
2	10.85	7.42	7.40	10.85	7.45	20926	15	20	9.52	-50	0	50.4
3	9.80	13.18	13.20	9.80	13.15	20940	15	20	26.94	-50	17	
4	2.08	2.05	0.80	1.70	1.72	20999	15	22				
5	0.60	11.58	11.60	0.60	11.55	21006	15	23	19.82	-50	13	
	10.20	10.15	10.20									

[[6 column table]]

	Diff. x.	Log.			
1	4.18	0.62118	9.81291	9.60206	0.98227
2	0.65	1.26886	1.26886	1.26886	
3	-0.40	1.89004	11.08177	10.87092	2.17842
4	-8.12				2.215113
5	-9.60				

[[6 column table]]

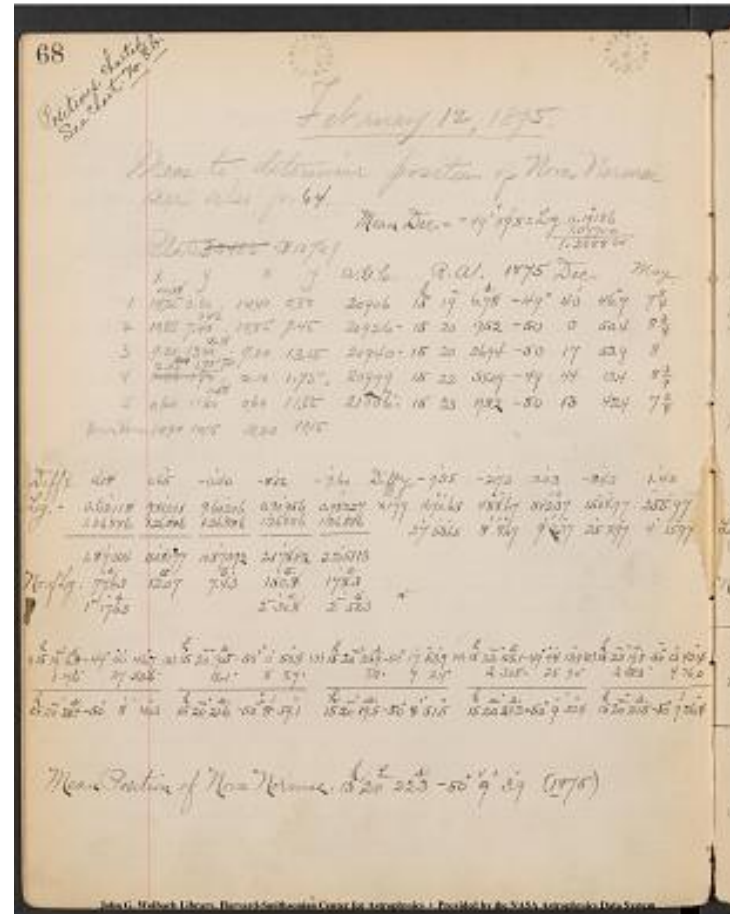
	Diff. y.	x179	27	8	9	25
1	-9.35	1673.65	488.67	542.37	1508.97	255.97
2	-2.73	53.65	8.67	2.37	8.97	
3	3.03					
4	-8.43					
5	1.43					

[[6 column table]]

	No. of Log	77.63	12.07	7.43	150.8	178.3
1	17.63	30.08	2	58.3		
2						
3						
4						
5						

[[7 column table]]

	h	m	s	°	'	"
1	15	19	6.8	-49	40	46.7
2	1	17.6	27	53.6		



| | 15 | 20 | 24.4 | -50 | 8 | 40.3 |

[[7 column table]]

	h	m	s	°	'	"
2)	15	20	9.5	-50	0	50.4
			12.1	8	8.7	
	15	20	21.6	-50	8	59.1

[[7 column table]]

	h	m	s	°	'	"
3)	15	20	26.9	-50	17	53.9
			7.4	9	2.4	
	15	20	19.5	-50	8	51.5

[[7 column table]]

	h	m	s	°	'	"
4)	15	22	55.1	-49	44	13.4
		2	30.8	25	9.0	
	15	20	24.3	-50	9	22.4

[[7 column table]]

	h	m	s	°	'	"
5)	15	23	19.8	-50	13	42.4
		2	58.3	4	16.0	
	15	20	21.5	-50	9	26.4

Mean Position of Nova Normal 15^h 20^m 22.3^s -50[°] 9['] 3.9["] (1875)

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[[right margin]]
 [[2 columned table]]
 Mean Dec. = $50^{\circ} 11.9' = \text{Log. } 0.19373$
 | [[underlined]] 0.45128 [[underlined]] |
 | 0.64501 |
 [[/right margin]]

[[left margin]]
 [[equation]] \log [[equation]]
 [[/left margin]]

Nova Normae. (B1, p 39 W.A. Rogers Micrometer)

[[left margin]]
 8.2
 0.7 4.6
 7.5
 3.6
 [[/left margin]]

[[13 columned table]]
 | x | y | x | y | A.G.C. 20906 } Mean | | | | | | | | |
 |-----|-----|-----|-----|-----|-----|
 a | +24.25^[[+24.22]] | -38.25^[[-38.22]] | +24.20 | -38.20
 |~~[[strikethrough]] Z.C. 15^[[h]] 1279 } Mean [[/strikethrough]] | 15^[[h]] 19~~
 |~~[[strikethrough]] 18^[[m]] [[/strikethrough]] | 6.78 [[/strikethrough]]~~
 |~~49.72^[[s]] [[/strikethrough]] | -49 [[/strikethrough]] -49^[[/strikethrough]] |~~
 |~~40 [[/strikethrough]] 42' [[/strikethrough]] | 46.7 [[/strikethrough]]~~
 |~~33.3'' [[/strikethrough]] | 7.8 [[/strikethrough]] 8.6 [[/strikethrough]] |~~

| b | +7.80 | -11.05^[[11.08]] | +7.80 | -11.10 | A.G.C. 20926 | 15 | 20 |
 9.52 | -50 | 0 | 50.4 | 8%

| c | +2.00^[[2.02]] | +12.75^[[12.72]] | +2.05 | +12.70 | 20940 | 15 | 20 |
 26.94 | -50 | 17 | 53.9 | 8 |

| d | -31.80^[[-31.78]] +28.50^[[28.48]]^[[-]] *31.75 | +28.45 | 20995 | 15 |
 22 | 51.62 | -50 | 30 | 45.8 | 8 |

| e | -28.30^[[-28.28]] -37.30^[[37.28]] | -28.25 | -37.25 | 20999 | 15 | 22 |
 55.09 | -49 | 44 | 13.4 | 8%

| f | -36.00 | +22.20 | -36.00 | +22.20 | 21005 | 15 | 23 | 12.10 | -50 | 26 |
 28.0 | 7%

| g | -36.65 | +4.05^[[4.08]] | -36.65 | +4.10 | 21006 | 15 | 23 | 19.82 | -50 |
 13 | 42.4 | 7%

| h | -39.80 | +39.40 | -39.80 | +39.40 | 21009 | 15 | 23 | 23.98 | -50 | 38 |
 51.0 | 9 |

| i | Outside region covered by mm square. | | | Z.C. 15^[[h]] 1158 | (15
 | 17 | 5.53 | -50 | 21 | 13.2 | 9) | Nova Normae | +4.15 | +0.05 | +4.15 | +0.05 |



| | | | | | |

[[equation]] [[equation]]

[[9 columned table]]

Diff. X. | +20.07 | +3.65 | -2.13 | -35.93 | -32.43 | -40.15 | -40.80 | -43.95

Log. Diff. X.

1.30255|0.56229|0.32838|1.55546|1.51095|1.60369|1.61066|1.64296|

[[underlined]]0.64501|0.64501|0.64501|0.64501|0.64501|0.64501|0.64501|0.64501|

1.94756|1.20730|0.97339|2.20047|2.15596|2.24870|2.25567|2.28797|

No. of

Log. |88.63^[[s]]|16.12^[[s]]|9.41^[[s]]|158.7^[[s]]|143.2^[[s]]|177.3^[[s]]|18

0.2^[[s]]|194.1^[[s]]|

| 1^[[m]]|28.63 ^[[s]]| | 2^[[m]]|38.7^[[s]]|2^[[m.]]|23.2^[[s.]]|2^[[m.]]|

57.3^[[s]]|3^[[m]]|0.2|3^[[m.]]|14.1^[[s.]]|

[[9 columned table]]

Diff. Y. | 38.27 | 11.13 | 12.67 | 28.43 | 37.33 | 22.15 | 4.03 | 39.35 |

X 42.4" | 1622.648" | 471.912 | 537.208 | 1205.432 | 1582.792 | 939.160

170.872 | 1668.440 |

| 27' 2.648" | 7' 51.912" | 8' 57.208" | 20' 5.432" | 26' 22.792" | 15'

39.160" | 2' 50.872 | 27' 48.440" |

[[28 columned table]]

(a)|15^[[h]]|18^[[m.]]|49.72^[[s]]|-49°|42'33.3"(b)|15^[[h]]|20^[[m.]]|

|9.52^[[s.]]|-50°|0'|50.4"(c)|15^[[h]]|20^[[m.]]|26.94^[[s.]]|-

50°|17'53.9"(d)|15^[[h]]|22^[[m]]|51.62|-50°|30'45.8"|

|[[underlined]]1|28.63|27|2.6[[/underlined]]|[[underlined]]|

16.12|7|51.9[[/underlined]]|[[underlined]]9.41|8|

57.2[[/underlined]]|[[underlined]]2|38.7|20|5.4[[/underlined]]|

|15^[[h]]|20^[[m]]|18.35^[[s.]]|-50°|9'|35.9"|15^[[h]]|20^[[m.]]|

25.64 ^[[s.]]|-50°|8'|42.3"|15^[[h]]|20^[[m.]]|17.53^[[s.]]|-50°|

8'56.7"|15^[[h]]|20^[[m]]|12.9^[[s.]]|-50°|10'|40.4"|

(e)|15^[[h]]|22^[[m.]]|55.09^[[s.]]|-49°|4.4'|13.4"(f)|15^[[h]]|23^[[m.]]|

12.10^[[s.]]|-50°|26'28.0"(g)|15^[[h]]|23^[[m.]]|19.82^[[s.]]|-

50°|13'42.4"(h)|15^[[h]]|23^[[m.]]|23.98^[[s.]]|-50°|38'|51.0"|

|[[underlined]]2|23.2|26|22.8[[/underlined]]|[[underlined]]2|57.3|

15|39.2[[/underlined]]|[[underlined]]3|0.2|2|50.9[[/underlined]]|

[[underlined]]3|14.1|27|48.4[[/underlined]]|

|15^[[h]]|20^[[m.]]|31.9|-50°|10'|36.2"|15^[[h]]|20^[[m.]]|

14.8^[[s.]]|-50°|10'|48.8|15^[[h]]|20^[[m.]]|19.6^[[s.]]|-50°|10'|

51.5"|15^[[h]]|20^[[m.]]|9.9^[[s.]]|-50°|11'|2.6"|

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Positions charted: See Chart No 8b

Mean Dec = -50° 11.9°

\log

0.19373

0.45128

0.64501

\log

Nova Normal

Plate X5802 (See Book 1.p 40. W.A. Roger's Micrometer.) R.A. 1875

Dec. Magn

13 column table

	x	y	x	y	A.G.C.	h	m	s	°			
a	17.78	+17.80	-31.90	+17.75	-31.90	20906	15	19	6.78	-49		
40	46.7	7.8										
b	+3.20	3.72	-3.70	+3.20	-3.75	20926	20	9.52	-50	0	50.4	
8	3/4											
c	1.08	-1.10	+20.30	-1.05	+20.30	20940	20	26.94	-50	17		
53.9	8											
d	33.72	-33.75	38.30	-33.70	+38.30	20995	22	51.62	-50			
30	45.8	8										
e	34.58	-34.55	-27.60	-34.60	-27.60	20999	22	55.09	-49			
44	13.4	8	3/4									
f	-38.40	32.28	+32.25	-38.40	+32.30	21005	23	12.10	-50			
26	28.0	7	1/2									
g	-40.20	+14.25	-40.20	+14.25	21006	23	19.82	-50	13			
42.4	7	3/4										
h	-41.10	+49.75	-41.10	+49.75	21009	23	23.98	-50	38			
51.0	9											
Nova Normal												
	0.22	+0.20	7.52	+7.55	+0.25	+7.50						

9 column table

Diff.X	17.56	2.98	1.30	33.94	34.80	38.62	40.42
Log. "	1.24452	0.47422	0.11394	1.53071	1.54158	1.58681	1.60660
	1.61616						
	0.64501	0.64501	0.64501	0.64501	0.64501	0.64501	0.64501
	0.64501	0.64501					
	1.88953	1.11923	0.75895	2.17572	2.18659	2.23182	2.25161
	2.26117						
No. of Log	77.54 ^[s]	13.16 ^[s]	5.74 ^[s]	149.9 ^[s]	153.7 ^[s]		
	170.5 ^[s]	178.5 ^[s]	182.5 ^[s]				
	17.54 ^[m]	2 ^[m]	29.9 ^[m]	2 ^[m]	33.7 ^[m]		
	2 ^[m]	50.5 ^[m]	2 ^[m]	58.5 ^[m]	3 ^[m]	2.5 ^[m]	
Diff.y	39.42	11.24	12.80	30.78	35.12	24.76	6.73
x42.4	1671.408 ^[m]	476.576 ^[m]	542.720 ^[m]	1305.072	1489.088		
	1049.824	285.352	1790.552				
	27 ^[m]	51.408 ^[m]	7 ^[m]	56.576 ^[m]	9 ^[m]	2.7210 ^[m]	21 ^[m]
	45.072 ^[m]	24 ^[m]	49.088 ^[m]	17 ^[m]	29.824 ^[m]	4 ^[m]	45.352 ^[m]
	29 ^[m]	50.552 ^[m]					

7 column table

	h	m	s	°		
(a)	15	19	6.78	-49	40	46.7
	1	17.54		27	51.4	
	15	20	24.3	-50	8	38.1

[[7 column table]]

	h	m	s	°		
(b)	15	20	9.52	-50	0	50.4
		13.16		7	56.6	
	15	20	22.7	-50	8	47.0

[[7 column table]]

	h	m	s	°		
(c)	15	20	26.94	-50	17	53.9
		5.74		9	2.7	
	15	20	21.2	-50	8	51.2

[[7 column table]]

	h	m	s	°		
(d)	15	22	51.62	-50	30	45.8
	2	29.9		21	45.1	
	15	20	21.7	-50	9	0.7

[[7 column table]]

	h	m	s	°		
(e)	15	22	55.09	-49	44	13.4
	2	33.7		24	49.1	
	15	20	21.4	-50	9	2.5

[[7 column table]]

	h	m	s	°		
(f)	15	23	12.10	-50	26	28.0
	2	50.5		17	29.8	
	15	20	21.6	-50	8	58.2

[[7 column table]]

	h	m	s	°		
(g)	15	23	19.82	-50	13	42.4
	2	58.5		4	45.4	
	15	20	21.3	-50	8	57.0

[[7 column table]]

	h	m	s	°		
(h)	15	23	23.98	-50	38	51.0
	3	2.5		29	50.6	
	15	20	21.5	-50	9	0.4

Position of Nova Normal 15^h 20^m 22.0^s -50[°] 8[']

54.4^h (1875)

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[[left margin]]
Positions charted see chart [[underlined]]-no.7b-[[/underlined]]
[[/left margin]]

[[underlined]]March 8, 1895[[/underlined]]

Meas. to determine position of IV Type Star on Plate B 11672, 11786,
11726, & 11673 Nos 5160, 53, 48, 5420 and 5117. (approx. pos. 1875)
RA $16^{\circ}11^m$ 37.8 s [m] -67° 30'

[[2 columned table]]
Mean Dec. = -67° 32.2' = Log.[0.41777]
| [[underlined]]1.07700[[/underlined]]
| 1.49477|

Plate B3781

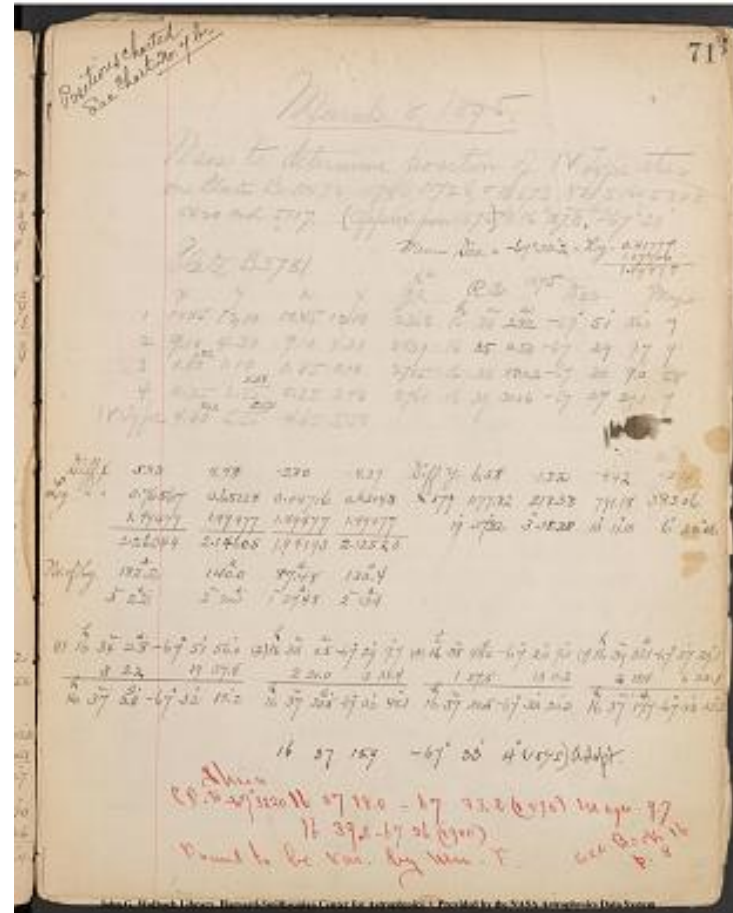
[[9 columned table]]

| x|y|x|y|Z.C.^[[16h]]|R.A.^[[1875]]|Dec.|Magn.|
1|10.45|12.10|10.45|12.10|2368|16 $^{\circ}$ [h] 34 $^{\circ}$ [m]] 2.82 $^{\circ}$ [s.] -67° 51'
56.0" [7]
2|9.10|4.30|9.10|4.30|2439|16 35 0.50|-67 29 9.6|9|
3|1.80 $^{\circ}$ [1.82]]|1.10|1.85|1.10|2705|16 38 48.02|-67 20 9.0|8.8|
4|0.35|3.35 $^{\circ}$ [3.38]]|0.35|3.40|2761|16 39 31.06|-67 27 29.1|7|
IV Type|4.60 $^{\circ}$ [4.62]]|5.55 $^{\circ}$ [5.52]]|4.65|5.50| | | | |
[[10 columned table]]
Diff. X|5.83|4.48|-2.80|-4.27|Diff. Y.|6.58|-1.22|-4.42|-2.14|
Log. Diff. X|0.76567|0.65128|0.44716|0.63043|X 179|1177.82
218.38|791.18|383.06|
| 1.49477|1.49477|1.49477|1.49477| 19' 37.82"|3' 38.38"|13' 11.18"|6'
23.06"|
| [[underlined]]2.26044|2.14605|1.94193|2.12520[[/underlined]]| | | |
No. of Log.|182.2 $^{\circ}$ [s.]|140.0 $^{\circ}$ [s.]|87.48 $^{\circ}$ [s.]|133.4 $^{\circ}$ [s.]| | | | |
| 3 $^{\circ}$ [m] 2.2 $^{\circ}$ [s.]|2 $^{\circ}$ [m] 20.0 $^{\circ}$ [s.]|1 $^{\circ}$ [m] 27.48 $^{\circ}$ [s.]|2 $^{\circ}$ [m]
13.4 $^{\circ}$ [s.]| | | | |

[[28 columned table]]
|(1)|16 $^{\circ}$ [h]]|34 $^{\circ}$ [m]]|2.8 $^{\circ}$ [s.]|-
67° 51' 56.0" |(2)|16 $^{\circ}$ [h]]|35 $^{\circ}$ [m]]|0.5 $^{\circ}$ [s.]|-
67° 29' 9.7" |(3)|16 $^{\circ}$ [h]]|38 $^{\circ}$ [m]]|48.0 $^{\circ}$ [s.]|-
67° 20' 9.0" |(4)|16 $^{\circ}$ [h]]|39 $^{\circ}$ [m]]|31.1 $^{\circ}$ [s.]|-67° 27' 29.1"
| | 3|2.2| 19|37.8| | 2|20.0| 3|38.4| | 1|27.5| 13|11.2| |
2|13.4| 6|23.1|
| 16 $^{\circ}$ [h]]|37 $^{\circ}$ [m]]|5.0 $^{\circ}$ [s.]|-67° 32' 18.2"|
16 $^{\circ}$ [h]]|37 $^{\circ}$ [m]]|20.5 $^{\circ}$ [s.]|-67° 32' 48.1"| 16 $^{\circ}$ [h]]|37 $^{\circ}$ [m]]|20.5 $^{\circ}$ [s.]|-
67° 33' 20.2"| 16 $^{\circ}$ [h]]|37 $^{\circ}$ [m]]|17.7 $^{\circ}$ [s.]|-67° 33' 52.2"|

16 37 15.9 -67° 33' 4" (1875) Adopt.

This is C.P.D. -67° 3220 16 37 18.0 -67 33.2 (1875) Magn. 9.7
16 39.8 -67 36 (1900)
Found to be var. by Mrs. F.
[[right margin]]



See Book 16 p. 8
[[/right margin]]

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Positions charted
See chart No. 9b.

March 8, 189~~4~~

Meas. to determine position of new V Type star on Plate B 10123 No. 3854. $19^{\circ} 24.3' + 9^{\circ} 46'$ (approx) 1855.

Mean Dec. = $+9^{\circ} 50.4 = \text{Log. } 0.00643$
1.07700
1.08343

B9234.

9 columned table
x|y|x|y|DM|R.A. 1855|Dec.|Magn.|

a| 6.95° | 6.92° |2.20|6.90|2.20| $+9^{\circ} 41'32''$ | $19^{\circ} 24'$ | 48.8° | $+9^{\circ} 45.4'$ |9.5|
b| 4.70° | 5.05° | 4.70° | 5.10° | $+9^{\circ} 41'29''$ | $19^{\circ} 24' 20.9''$ | $+9^{\circ} 53.1'$ |9.0|
c| 1.20° | 1.18° | 4.60° | 4.58° | 1.15° | 4.55° | $+9^{\circ} 41'23''$ | $19^{\circ} 23' 36.1''$ | $+9^{\circ} 52.7'$ |9.0|
V Type| 4.80° | 2.75° | 4.80° | 2.80° | | | |

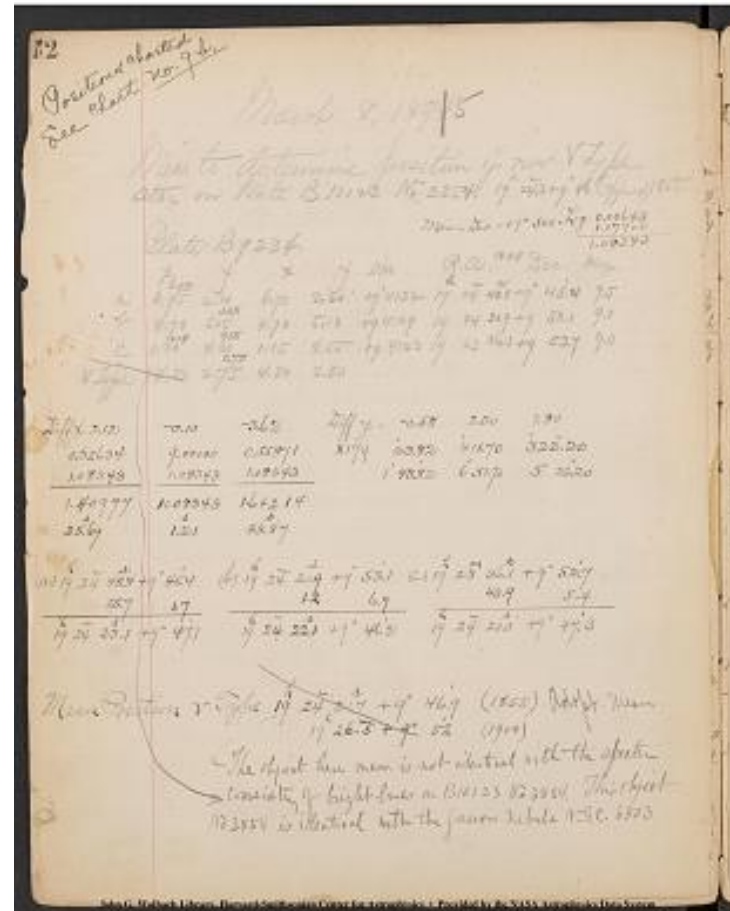
8 columned table
Diff. X|2.12|-0.10|-3.62|Diff. Y.|-0.58|2.30|1.80|
0.32634|9.00000|0.55871|X179|103.82"|411.70"|322.20"|
1.08343|1.08343|1.08343|1' 43.82"|6'
51.70|5' 22.20"|
1.40977|10.08343|1.64214| | | |
25.69 $^{\circ}$ |1.21 $^{\circ}$ |43.87 $^{\circ}$ | | | |

18 columned table
(a)| 19° | 24° | 48.8° | $+9^{\circ} 45.4'$ |
(b)| 19° | 24° | 20.9° | $+9^{\circ} 53.1'$ |
(c)| 19° | 23° | 36.1° | $+9^{\circ} 52.7'$ |
25.7|1.7|1.2|
6.9|43.9|5.4|
 19° | 24° | 23.1° | $+9^{\circ} 47.1'$ |
 19° | 24° | 22.1° | $+9^{\circ} 46.2'$ |
 19° | 24° | 20.0° | $+9^{\circ} 47.3'$ |

3 columned table
Mean Position V Type| 19° | 24° | 21.7° | $+9^{\circ} 46.9'$
(1855)|Adopt Mean.
| 19° | 26.5° | $+9^{\circ} 52'$ (1900)|

The object here meas. is not identical with the spectrum consisting of bright lines on B10123 No 3854. This object No 3854 is identical with the Gaseous Nebula N.G.C. 6803

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March 8, 1895

[[left margin]]		
[[3 columned table]]		
b	791.18	1922.46
c	1449.90	125.30
d	236.28	422.44
e	110.98	869.94
f	819.82	529.84
g	701.68	164.68
h	354.42	42.96
k	295.35	726.74
l	313.25	601.44
m	170.05	694.52
n	205.85	690.94
[[/left margin]]		

[[two column table]]		
a		
-4.42+10.74	b	[[/del]]
-8.10-0.70	c	[[/del]]
-1.32-2.36	d	[[/del]]
+0.62-4.86	e	[[/del]]
+4.58-2.96	f	[[/del]]
-3.92+0.92	g	[[/del]]
+1.98+0.24	h	[[/del]]
+1.65-4.06	k	[[/del]]
+1.75-3.36	l	[[/del]]
+0.95-3.88	m	[[/del]]
+1.15-3.86	n	[[/del]]
var.		
[[/left margin]]		

March 8, 1895

companion stars

Meas. to determine position of new variable

star in Pictor (No. ~~2~~).

~~[[/del]]~~ Z.C. 5283 57 38 -48 396.^[A.G.C. 5428 4 43.5 -49 25]]

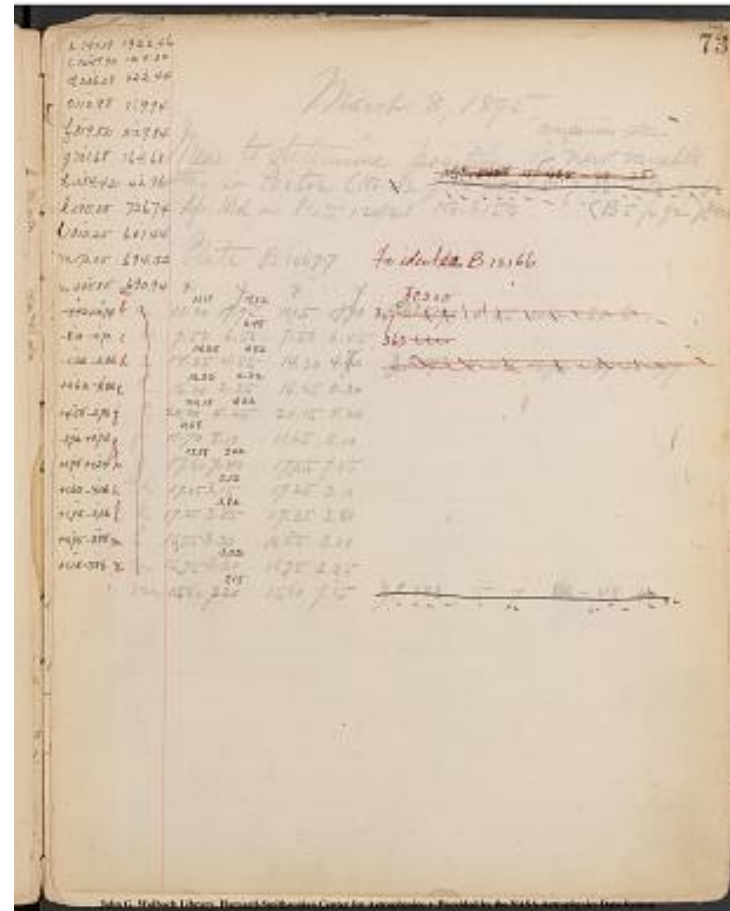
Sp. Md on Plate 12421 No. 6150 (B5 p 92)

~~[[/del]]~~ Meas. ~~[[/del]]~~

Plate B10677 for ident see B 12166

[[7 columned table]]

a	x	y	x	y		
--- --- --- --- ---						
-4.42						
+10.74	[[/del]]	[[/del]]	[[/del]]	[[/del]]	[[/del]]	[[/del]]
11.15	17.90	[[/del]]	A.G.C 5190	4 45	30.62	-50
6	[[/del]]	327	ZC320			
-8.10	-0.70	[[/del]]	[[/del]]	[[/del]]	[[/del]]	[[/del]]
6.50	6.48	7.50	6.45	[[/del]]	[[/del]]	363
-1.32						
2.36	[[/del]]	[[/del]]	[[/del]]	[[/del]]	[[/del]]	[[/del]]
0	4.80	[[/del]]	ZC593	4 45	18.96	-49 23
+0.62	-4.86	[[/del]]	[[/del]]	[[/del]]	[[/del]]	[[/del]]
16.20	16.22	2.35	2.32	16.25	2.30	



|+4.58 -
 2.96|~~e~~|20.20^{[[20.18]]}4.25^{[[4.22]]}|20.1
 5| 4.20| |
 |-3.92
 +0.92|~~f~~|~~g~~|11.70^{[[11.68]]}|8.10|1.65|8.10|
 |
 |+1.98
 +0.24|~~g~~|~~h~~|17.60^{[[17.58]]}|7.40^{[[7.42]]}|17
 .55| 7.45| |
 |+1.65 -
 4.06|~~h~~|~~k~~|17.25|3.15^{[[3.12]]}|17.25|3.10|
 |
 |+1.75 -
 3.36|~~k~~|~~l~~|17.35|3.85^{[[3.82]]}|17.35|3.80| |
 |+0.95 -3.88|~~l~~|~~m~~|16.55|3.30| 16.55|3.30|
 |
 |+1.15 -
 3.86|~~m~~|~~n~~|16.75|3.30^{[[3.32]]}|16.75|3.35|
 |
 |var.|15.60|7.20^{[[7.18]]}|15.60|7.15|~~ZC283 5 7 -~~
 4840|~~]~~|

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Positions charted. See Chart No. 9b. - Var. No.
194~~[[/underlined]]~~ -

March 8, 189~~[[/strickethrough]]~~ 4 ~~[[/strickethrough]]~~ 5

R Gruis.

Meas. to determine position of new variable star in Gruis and of
comparison stars. Sp Md on Plate B12050 No.
~~[[/strickethrough]]~~ 6532~~[[/strickethrough]]~~ 5632 21^h 42^m -47° 23'
(approx 1900)

[[2 columned table]]

Mean Dec. = 47° 20.5' = Log. 0.16894
| 1.07700 |
| 1.24594 |

[[10 columned table]]

Comp. | x | y | x | y | A.G.C. | R.A. 1875 | Dec. | Magn. |

a	1	13.00	5.70	13.00	5.75	29831	21 41 42.31	-47 11 22.1	7.0	
b	2	[[/strickethrough]] 4	[[/strickethrough]] 3.25	[[/strickethrough]] 0.90	[[/strickethrough]] 3.25	[[/strickethrough]] 0.90	[[/strickethrough]] 297	[[/strickethrough]] 21 38 48.08	-46 57 51.5	7.5
c	3	7.20	19.30	7.20	19.30	29785	21 40 7.52	-47 52 13.4	5.8	
d	4	[[/strickethrough]] 10.25	[[/strickethrough]] 11.20	[[/strickethrough]] 10.25	[[/strickethrough]] 11.20	[[/strickethrough]] 1212	[[/strickethrough]] 4.25	[[/strickethrough]] 2.20	[[/strickethrough]] 2.22	Z.C.
e	5	10.75	7.75	10.75	7.75					
f	6	11.70	8.30	11.65	8.30					
g	7	10.70	13.95	10.65	13.90					
h	8	8.25	11.60	8.25	11.55					
i	9	9.00	11.20	8.95	11.15					
var.		8.55	11.70	8.60	11.65					
March 11 1895.	m	9.70	9.65	11.00						

[[left margin]]

checked by M.A.G.

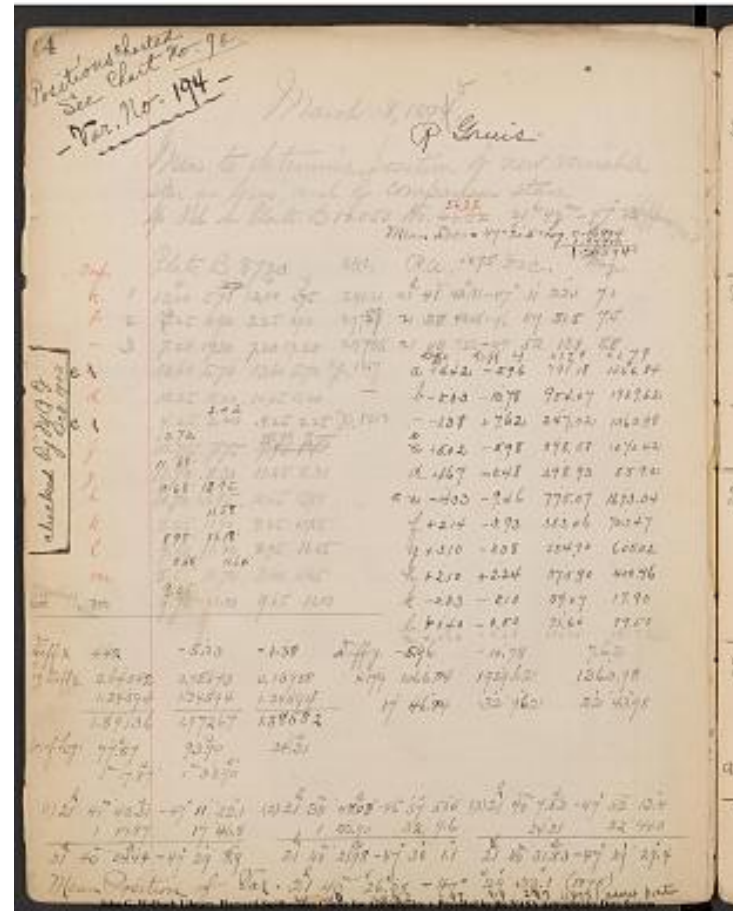
Oct. 1903

[[/left margin]]

[[5 columned table]]

| Diff X | Diff Y | X1.79 x | X1.79 y |

a	+4.42	-5.96	791.18	1066.84
b	-5.33	-10.78	954.07	1929.62
c	-1.38	+7.62	247.02	1363.98
d	+1.67	-0.48	298.93	85.92
e	-4.33	-9.46	775.07	1693.34
f	+2.14	-3.93	383.06	703.47
g	+3.10	-3.38	554.90	605.02
h	+2.10	+2.24	375.90	400.96
k	-0.33	-0.10	59.07	17.90



|l|+0.40|-0.50|71.60|89.50|
|m|+1.10|-0.68|196.90|121.72|

[[8 columned table]]
|Diff. X.|4.42|-5.33|-1.38|Diff. Y.|-5.96|-10.78|7.62|
|Log. Diff. X.|0.64542|0.72673|0.13988|X179|1066.84|1929.62|1363.98|
|1.24594|1.24594|1.24594|1.24594||17' 46.84"|32'
9.62"|22' 43.98"
1.89136	1.97267	1.38582			
No. of Log.	77.87^[[s.]]	93.90^[[s.]]	24.31^[[s.]]		
17.87^[[s.]]	133.90^[[s.]]				

[[21 columned table]]
|(1)|21^[[h]]|41^[[m]]|42.31^[[s.]]|-
47° 11' 22.1"|21^[[h]]|38^[[m]]|48.08^[[s.]]|-
46° 57' 51.5"|3|21^[[h]]|40^[[m]]|7.52^[[s.]]|-47° 52' 13.4"|
|1|17.87|17|46.8|1||
|1|33.90|32|9.6|1||24.31|
22|44.0|1||
|21^[[h]]|40^[[m]]|24.44^[[s.]]|-47° 29' 8.9"|
21^[[h]]|40^[[m]]|21.98^[[s.]]|-47° 30' 1.1"|
21^[[h]]|40^[[m]]|31.83^[[s.]]|-47° 29' 29.4"|

[[3 columned table]]
|Mean Position of Var.|21^[[h]] 40^[[m.]] 26.08^[[s.]] -47° 29'
33.1"| (1875)|
|21 4~~2~~0|
28.~~4~~2 -47 29
2~~3~~7 (1875) Adopt position|

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See Book 4. page 75

Mean Dec $-47^{\circ} 34'$ |
Log. = 0.17087
1.07700
1.24787

Plate B 12142

Diff X.	a.	b.	c.
-16.02 -6.45 -5.65 |
1.20466 | 0.80956 | 0.75205 |
1.24787 | 1.24787 | 1.24787 |
2.45253 | 2.05743 | 1.99992 |
283.48^a | 114.14^a | 99.98^a |
4^a | 43.48^a | 1^a | 54.14^a | 39.98^a |

Diff. Y. | +11.27 | +11.03 | +3.07 |
x179 | 2017.33 | 1974.37 | 549.53 |
| 33' 37.3" | 3' 254.4" | 9' 9.5" |

a = $20^{\circ} [h] 0^{\circ} [m] 4.54^{\circ} [s]$ -
 $47^{\circ} 25' 33.4''$ b = $20^{\circ} [h] 2^{\circ} [m] 55.03^{\circ} [s]$ -
 $47^{\circ} 26' 19.0''$ c = $20^{\circ} [h] 3^{\circ} [m] 7.41^{\circ} [s]$ - $47^{\circ} 50' 9.0''$
9 | 9 | 9 | 4 | 43.48 | 33 | 37.3 | 1 | 54.14 | 32 | 54.4 | 1 | 39.98 |
| $20^{\circ} [h] 4^{\circ} [m] 48.02^{\circ} [s]$ - $47^{\circ} 59' 10.7''$ |
 $20^{\circ} [h] 4^{\circ} [m] 49.17^{\circ} [s]$ - $47^{\circ} 59' 13.4''$ | $20^{\circ} [h] 4^{\circ} [m] 47.39^{\circ} [s]$ -
 $47^{\circ} 59' [??]$

Mean Pos. of Comp d = $20^{\circ} [h] 4^{\circ} [m] 48.20^{\circ} [s]$ - $47^{\circ} 59' 14.2''$ (1875)

Diff. x. | -16.07 | -6.50 | -5.70 |
1.20602 | 0.81291 | 0.75587 |
1.24787 | 1.24787 | 1.24787 |
2.45389 | 2.06078 | 2.00374 |
284.37^a | 115.02^a | 100.86^a |
4^a | 44.37^a | 1^a | 55.02^a | 40.86^a |

Diff y. | +11.47 | +11.23 | +3.27 |
X179 | 2053.13 | 2010.17 | 585.33 |
| 34' 13.13" | 33' 30.17" | 9' 45.33" |

a = $20^{\circ} [h] 0^{\circ} [m] 4.54^{\circ} [s]$ -

See Book 4. page 75

Mean Dec $-47^{\circ} 34'$
Log. = 0.17087
1.07700
1.24787

Plate B 12142

Diff. x. | -16.02 | -6.45 | -5.65 |
1.20466 | 0.80956 | 0.75205 |
1.24787 | 1.24787 | 1.24787 |
2.45253 | 2.05743 | 1.99992 |
283.48^a | 114.14^a | 99.98^a |
4^a | 43.48^a | 1^a | 54.14^a | 39.98^a |

Diff. y. | +11.27 | +11.03 | +3.07 |
x179 | 2017.33 | 1974.37 | 549.53 |
| 33' 37.3" | 3' 254.4" | 9' 9.5" |

a = $20^{\circ} [h] 0^{\circ} [m] 4.54^{\circ} [s]$ -
 $47^{\circ} 25' 33.4''$ b = $20^{\circ} [h] 2^{\circ} [m] 55.03^{\circ} [s]$ -
 $47^{\circ} 26' 19.0''$ c = $20^{\circ} [h] 3^{\circ} [m] 7.41^{\circ} [s]$ - $47^{\circ} 50' 9.0''$
9 | 9 | 9 | 4 | 43.48 | 33 | 37.3 | 1 | 54.14 | 32 | 54.4 | 1 | 39.98 |
| $20^{\circ} [h] 4^{\circ} [m] 48.02^{\circ} [s]$ - $47^{\circ} 59' 10.7''$ |
 $20^{\circ} [h] 4^{\circ} [m] 49.17^{\circ} [s]$ - $47^{\circ} 59' 13.4''$ | $20^{\circ} [h] 4^{\circ} [m] 47.39^{\circ} [s]$ -
 $47^{\circ} 59' [??]$

Mean Pos. of Comp d = $20^{\circ} [h] 4^{\circ} [m] 48.20^{\circ} [s]$ - $47^{\circ} 59' 14.2''$ (1875)

Diff. x. | -16.07 | -6.50 | -5.70 |
1.20602 | 0.81291 | 0.75587 |
1.24787 | 1.24787 | 1.24787 |
2.45389 | 2.06078 | 2.00374 |
284.37^a | 115.02^a | 100.86^a |
4^a | 44.37^a | 1^a | 55.02^a | 40.86^a |

Diff. y. | +11.47 | +11.23 | +3.27 |
x179 | 2053.13 | 2010.17 | 585.33 |
| 34' 13.13" | 33' 30.17" | 9' 45.33" |

a = $20^{\circ} [h] 0^{\circ} [m] 4.54^{\circ} [s]$ -

$47^{\circ}25'33.4''$ | $b = 20^{\text{h}}2^{\text{m}}55.03^{\text{s}}$ |
 $47^{\circ}26'19.0''$ | $c = 20^{\text{h}}3^{\text{m}}7.41^{\text{s}}$ | $-47^{\circ}50'9.0''$ |
44.37 | 13.1 | 55.02 | 30.2 | 40.86 |
9'45.3 |
 $20^{\text{h}}4^{\text{m}}48.91^{\text{s}}$ | $-47^{\circ}59'46.5''$ | $20^{\text{h}}4^{\text{m}}50.05^{\text{s}}$ | $-47^{\circ}59'49.2''$ |
 $20^{\text{h}}4^{\text{m}}48.27^{\text{s}}$ | $-47^{\circ}59'54.3''$ |

Mean Pos. of Comp d' $20^{\text{h}}4^{\text{m}}49.1^{\text{s}}$ | $-47^{\circ}59'50.0''$ (1875)

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75a

[[left margin]]
 [[underlined]] 2nd Computation [[/underlined]]
 [[/left margin]]

April 5, 1895.

[[right margin]]
 Mean Dec. = $-47^{\circ} 40.8'$ =
 Log 0.17184
 [[underlined]] 1.07750 [[/underlined]]
 1.24884
 [[/right margin]]

Plate B 12142

[[6 columned table]]
 Diff. X. | -19.52 | -9.95 | -9.15 | -3.50 | (3.45) |
 Log. Diff X | 1.29048 | 0.99782 | 0.96142 | 0.54407 | 0.53782 |
 | [[underlined]] 1.24884 | 1.24884 | 1.24884 | 1.24884 | |
 1.24884 [[/underlined]]
 | 2.53932 | 2.24666 | 2.21026 | 1.79291 | 1.78666 |
 No. of Log. | 346.2^{[[s]]} | 176.5^{[[s]]} | 162.3^{[[s]]} | 62.07^{[[s]]} | |
 61.19^{[[s]]} |
 | 5^{[[m]]} 46.2^{[[s]]} | 2^{[[m]]} 56.5^{[[s]]} | 2^{[[m]]} 42.3 | 1^{[[m]]} 2.07^{[[s]]} | |
 1^{[[m]]} 1.19^{[[s]]} |

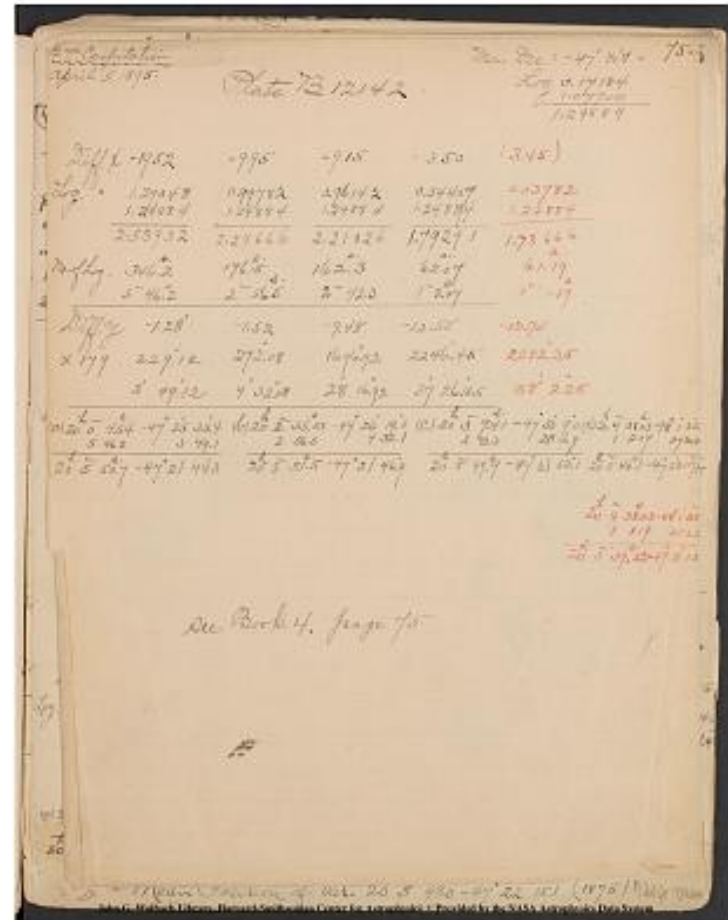
[[6 columned table]]
 Diff y | -1.28 | -1.52 | -9.48 | -12.55 | -12.75 |
 x 179 | 229.12" | 272.08" | 1696.92" | 2246.45" | 2282.25" |
 | 3' 49.12" | 4' 32.08" | 28' 16.92" | 37' 26.45" | 38' 2.25" |

[[28 columned table]]
 (a) 20^{[[h]]} 0^{[[m]]} 4.54^{[[s]]} -
 47° 25' 33.4" (b) 20^{[[h]]} 2^{[[m]]} 55.03^{[[s]]} -
 47° 26' 19.0" (c) 20^{[[h]]} 3^{[[m]]} 7.41^{[[s]]} -
 47° 50' 9.0" (d) 20^{[[h]]} 4^{[[m]]} 38.03^{[[s]]} - 48° 1' 3.5"
 | [[underlined]] 546.2 | 349.1 [[/underlined]] | [[underlined]] 256.5 |
 432.1 [[/underlined]] | [[underlined]] 242.3 | 2816.9 [[/underlined]] |
 [[underlined]] 12.07 | 3726.4 [[/underlined]] |
 | 20^{[[h]]} 5^{[[m]]} 50.7^{[[s]]} - 47° 21' 44.3" | 20^{[[h]]} 5^{[[m]]} 51.5^{[[s]]} -
 47° 21' 46.9" | 20^{[[h]]} 5^{[[m]]} 49.7^{[[s]]} - 47° 21' 52.1" |
 20^{[[h]]} 5^{[[m]]} 40.1^{[[s]]} - 47° 23' 37.1"

[[6 columned table]]
 20^{[[h]]} 4^{[[m]]} 38.03^{[[s]]} - 48° 1' 3.5"
 [[underlined]] 11.19 | 382.2 [[/underlined]] |
 20^{[[h]]} 5^{[[m]]} 39.22^{[[s]]} - 47° 3' 1.3"

see Book 4. page 75

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[[left margin]]
 Positions charged. See Chart No. 9b[[/underlined]]
 [[left margin]]
 [[right margin]]
 Variable No. 167.
 [[/right margin]]

This var. I have identified as C.D.M. -47
 1330~~3~~5
 (1875) 20^h 5^m 48.0^s -47° 20.0' magn. 8.2
 (1900) 20 7.6 -47 16
 Checked this identification
 June 9 1906
 L.D.W.

March 11, 1895.

R Telescopii.

Meas. to determine position of new variable star in Telescopium and of
 comparison stars.
 Sp. Md on Plate B12270 No. 5910 20^h 5.7^m -47 23 (1875) B5/77

[[left margin]]
 The comp. stars p, q, r, & s were added to the sequence on Pl. B25534,
 Nov. 28. 1906 - See Bk. 16, p. 90
 [[/left margin]]

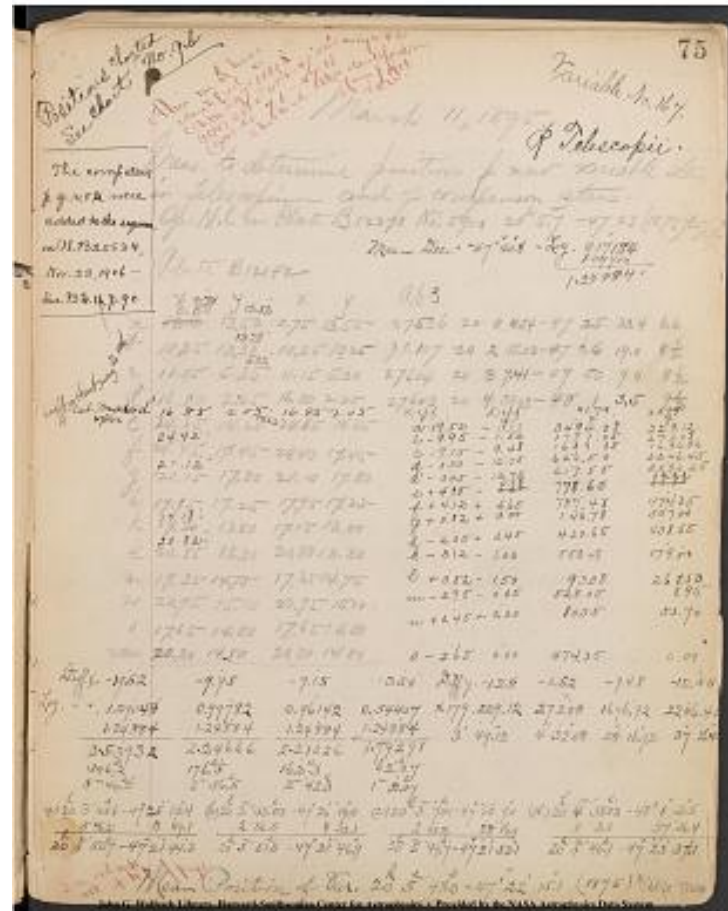
[[2 columned table]]
 Mean Dec. = -47° 40.8' = Log.[0.17184]
 | 1.07700
 | 1.24884

Plate B12142

[[10 columned table]]
 | | x|y|x|y|A.G.C. | | | |
 |---|---|---|---|---|---|

a|~~13.5~~0.80^h[[0.78]]13.50^h[[13.52]]0.75|
 13.55|27536|20 0 4.54|-47 25 33.4|6.6|
 | b|10.35|13.30^h[[13.28]]10.35|13.25|Z.C. 107|20 2 55.03|-47 26
 19.0|8½|
 | c|11.15|5.35^h[[5.32]]11.15|5.30|27604|20 3 7.41|-47 50 9.0|8½|
 | d|16.80|2.25|16.80|2.25|27643|20 4 38.03|-48 1 3.5|9½|
 very ft. on chart. May be red. Est. maybe
~~d~~27643|d?|16.85|2.05|16.85|2.05| | |

e|24.65|14.60^h[[14.62]]24.65|14.65| | | | |
 f|24.45^h[[24.42]]17.45|24.40|17.45| | | | |
 g|21.15^h[[21.12]]17.80|21.10|17.80| | | | |
 h|17.95|17.25|17.95|17.25| | | | |
 k|17.20^h[[17.18]]13.80|17.15|13.80| | | | |
 l|20.85^h[[20.82]]13.30|20.80|13.30| | | | |
 m|17.35|14.75|17.35|14.75| | | | |
 n|20.75|15.10|20.75|15.10| | | | |



| o|17.65|14.80|17.65|14.80| | | |
| [[var]|20.30|14.80|20.30|14.80|[[var]] | | | |

[[5 columned table]]
Diff X	Diff Y	X1.79 x	X1.79 y.
a|-19.52|-1.28|3494.08|229.12|
b|-9.95|-1.52|1781.05|272.08|
c|-9.15|-9.48|1637.85|1696.92|
d|-3.50|-12.55|626.50|2246.45|
d'|-3.45|-12.75|617.55|2282.25|
e|+4.35|-
[[~~0.20~~]]|[[~~0.18~~]]|[[~~778.65~~]]|[[~~35.80~~]]|
[[~~32.22~~]]
f|+4.12|+2.65|737.48|474.35|
g|+0.82|+3.00|146.78|537.00|
h|-2.35|+2.45|420.65|438.55|
k|-3.12|-1.00|558.48|179.00|
l|+0.52|-1.50|93.08|268.50|
m|-2.95|-0.05|528.05|8.95|
n|+0.45|+0.30|80.55|53.70|
o|-2.65|0.00|474.35|0.00|

[[10 columned table]]
| Diff. X.|-19.52|-9.95|-9.15|-3.50|Diff. Y.|-1.28|-1.52|-9.48|-12.55|
| Log. Diff.
X.|1.29048|0.99782|0.96142|0.54407|X|179|229.12|272.08|1696.92|224
6.45|
| |[[1.24884]]|1.24884|1.24884|1.24884|[[1.24884]]|3'
49.12"|4' 32.08"|28' 16.92"|37' 26.4"|
	2.53932	2.24666	2.21026	1.79291
	346.2^[[s]]	176.5^[[s]]	162.3^[[s]]	62.07^[[s]]
	5^[[m]] 46.21^[[s]]	2^[[m]] 56.5^[[s]]	2^[[m]] 42.3^[[s]]	1^[[m]] 2.07^[[s]]

[[28 columned table]]
|(a)|20^[[h]]|0^[[m]]|4.54^[[s]]|-
47° 25'|33.4"| (b)|20^[[h]]|2^[[m]]|55.03^[[s]]|-
47° 26'|19.0"| (c)|20^[[h]]|3^[[m]]|7.41^[[s]]|-
47° 50'|9.0"| (d)|20^[[h]]|20^[[m]]|38.03^[[s]]|-48° 1'|3.5"|
| |[[546.2]]| |3|49.1|[[546.2]]| |[[546.2]]|2|56.5|
4|32.1|[[546.2]]| |[[546.2]]|2|42.3| |28|16.9|[[546.2]]|
| |[[546.2]]|1|2.1| |37|26.4|[[546.2]]|
| |20^[[h]]|5^[[m]]|50.7^[[s]]|-47° 21'|44.3"| |20^[[h]]|5^[[m]]|51.5^[[s]]|-
47° 21'|46.9"| |20^[[h]]|5^[[m]]|49.7^[[s]]|-47° 21'|52.1"|
|20^[[h]]|5^[[m]]|40.1^[[s]]|-47° 23'|37.1"|

^[[See red info note at top of page]] Mean Position of Var. 20^[[h]]
5^[[m]] 48.0^[[s]] -47° 22' 15.1" (1875) Adopt Mean

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[[left margin]]
Positions charted
See Chart No. 9b
[[left margin]]

Var. No. 113. RU Scorpii

March 11, 1895.

Meas. to determine position of new variable in Scorpius & comparison stars. Sp. Md on pl. B12222 No. 5778 R.A. $17^{\text{h}} 35.2^{\text{m}}$ $-43^{\circ} 41'$ (1900) B 5. p 66.

[[left margin]]
Nov. 10, 1906
Plate B5394

[[5 columned table]]

x	y	x ²	y ²	xy
var	5.05	+7.00	+5.05	+7.05
a	+5.80	+5.5	5.5	0
h	+	3.75	+7.25	+3.75
[[??]]	+5.35	+6.90	+5.35	+6.90
p	+5.05	+6.45	6.48	+5.05
r	[[??]]	5.05	+7.05	5.05
	5.05	7.04		

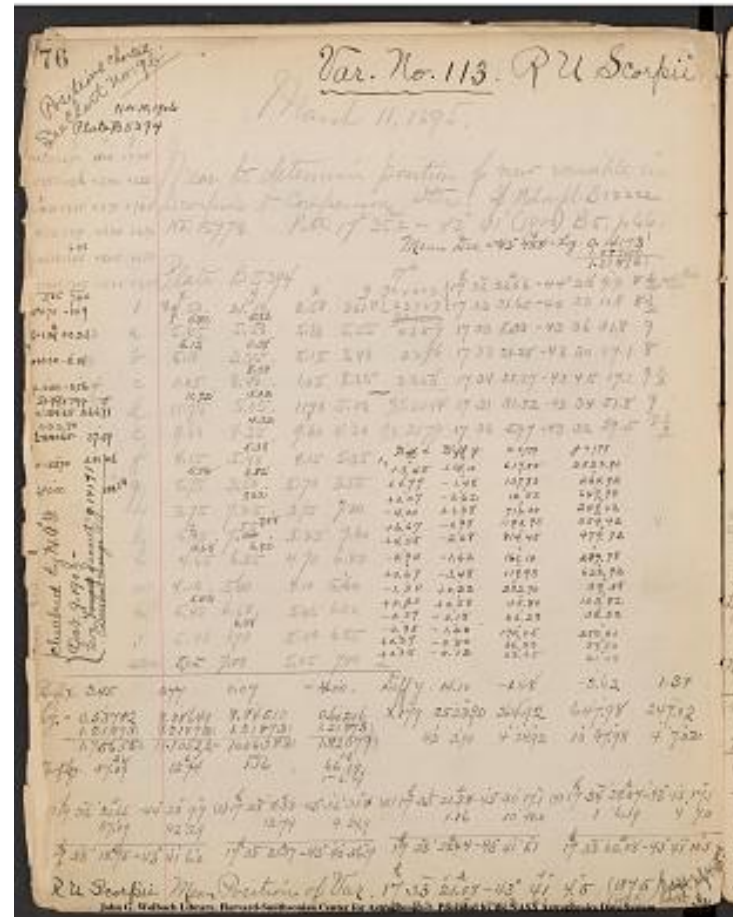
[[left margin]]

[[2 columned table]]

Mean Dec. = $-43^{\circ} 48.8'$ = Log. 0.1417	3
1.07700	1
1.2187	3

[[9 columned table]]

1	2	3	4	5	6	7	8	9
1	9	8.50	21.10	8.50	21.10	23927	Z.C. 2203	{17 32 21.65
		17	32	21.65	17	32	21.65	17
		9.9	8.5	8.5	8.5	8.5	8.5	8.5
		5.85	5.82	5.50	5.52	5.80	5.55	2257
		17	33	8.33	43	36	31.8	9
		3	5.10	5.12	3.35	3.38	5.15	3.40
		4	1.05	8.40	8.38	1.05	8.35	2356
		11	7.5	11.72	5.05	5.02	11.70	5.00
		2144	17	31	31.52	43	34	51.8
		9.60	4.35	4.32	9.60	4.30	Z.C. 2179	17
		32	5.97	43	32	59.5	8	1/2
		4.15	5.40	5.38	4.15	5.35		
		5.75	5.72	3.50	3.52	5.70	3.55	
		3.75	7.25	7.22	3.75	7.20		
		5	5	5	5	5	5	5
		55	7.58	5.25	7.60			
		4.65	4.68	6.85	6.82	4.70	6.80	
		4.10	5.60	4.10	5.60			
		5.40	5.42	6.50	6.55	6.50		
		5.40	6.90	6.88	5.40	6.85		



[[var.][5.05|7.00|5.05|7.00]] | | |

[[left margin]]
[[3 columned table]]
a|+0.75|-14.9|
h|-1.3|~~5~~|0|+0.21|
sigma|+0.30|-0.14|
p|0.00|-0.56|
| |Diff x 179|y|
a|=134.25|266.71|
h|=|~~241.65~~|232.70|37.59|
sigma|=53.70|25.06|
h|=0.00|100.24|

{checked by M.A.G.
Oct. 9, 1903 -
Log. |~~Tangent~~|~~Secant~~ = 0.14171
[[Does not change R.A.]]
[[/left margin]]

[[4 columned table]]
Diff X|Diff. Y|X x179|Y x179|
|---|---|---|
1=3.45|+14.10|617.55|2523.90|
+0.77|-1.48|137.83|264.92|
+0.07|-3.62|12.53|647.98|
-4.00|+1.38|716.00|247.02|
+6.67|-1.98|1193.93|354.42|
+4.55|-2.68|814.45|479.72|
-0.90|-1.62|161.10|289.98|
+0.67|-3.48|119.93|622.92|
-1.30|+0.22|232.70|39.38|
+0.20|+0.58|35.80|103.82|
-0.37|-0.18|66.23|32.22|
-0.95|-1.40|170.05|250.60|
+0.37|-0.50|66.23|89.50|
+0.35|-0.12|62.65|21.48|

[[10 columned table]]
Diff. X.|3.45|0.77|0.07|-4.00|Diff. Y.|14.10|-1.48|-3.62|1.38|
Log.
X|0.53782|9.88649|8.84510|0.60206|X179|2523.90"|264.92"|647.98"|24
7.02"|
| |1.2187|~~3~~|~~1~~
1.2187	~~3~~	1	1.2187	~~3~~	~~ethrough~~	1	1.2187	~~3~~	~~ethrough~~	1	1.2187
42' 3.90"	4' 24.92"	10' 47.98"	4' 7.02"								
	1.7565	~~5~~	~~3~~								
1.1052	~~2~~	~~0~~	10.0638	~~3~~	~~ikethrough~~	1	1.8207	~~9~~	~~7~~	4	
No. of Log.	57.09^[s]	12.74^[s]	1.16^[s]	66.19^[s]							
			1^[m]	6.19^[s]							

[[28 columned table]]
|(1)|17^[h]|32^[m]|21.66^[s]|-
44°23'|9.9"|(2)|17^[h]|33^[m]|8.33^[s]|-
43°36'|31.8"|(3)|17^[h]|33^[m]|21.28^[s]|-

43°30'17.1"(4)|17^[[h]]|34^[[m]]|28.27^[[s]]|-43°45'17.1"
 | | | 57.09 | 42'3.9" | | | 12.74 | 4'24.9" | | | 1.16 | 10'48.0"
	16.19	4'7.0	
17^[[h]]	33^[[m]]	18.75^[[s]]	-43°41'6.0
17^[[h]]	33^[[m]]	21.07^[[s]]	-43°40'56.7"
17^[[h]]	33^[[m]]	22.44^[[s]]	-43°41'5.1"
 43°41'10.1"

[[3 columned table]]
 RU Scorpii Mean Position of Var.|17^[[h]] 33^[[m]] 21.08^[[s]] -43° 41'
 4.5" (1875)|Adopt. July 14 1903|
 | 17 33 20.5 -43 41 4 (1875)|Adopt Rej.|

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March 12, 1895

Meas. to determine position of V Type star No. 5105 on B11636, No. 3053 on B9416, ~~and No 5105 on B~~ also to determine pos. of suspected var. (not confirmed), No. 5107 on B11636.

[2 columned table]

Mean Dec. = $51^{\circ} 38.2' = \text{Log. } 0.20712$
 1.07700
 1.28412

Plate B3552

[9 columned table]

| x|y|x|y|Z.C. 16^|[h]|R.A.|Dec. |
 |-----|
 1|9.60^|[9.62]|21.10|9.65|21.10|898|16^|[h]|12^|[m]|40.80^|[s.]|-52^{\circ} 7'
 27.1"|9 1/2|
 2|0.80|1.35^|[1.32]|0.80|1.30|1076|16 15 25.67|-51 8 10.2|9|
 3|5.90|~~3.59~~|3^|[2]|.65|5.90|2.65|976|16 12
 3.49|-51 26 43.0 7.2|
 4|11.50^|[11.48]|7.40|11.45|7.40|860|16 12 3.49|-51 26 43.0|7.2|
 5|4.85^|[4.82]|15.55|4.80|15.55|1000|16 14 12.45|-51 50 43.6|9|
 6|14.35^|[14.32]|19.85^|[19.88]|14.30|~~12~~|~~12~~|
 h|19.90|798|16 11 8.34|-52 4 2.9|9|
 V Type|2.50|3.35|2.50|3.35| | | | |
 For III Type cat. {Sus. var. |6.50^|[6.48]|13.30|6.45|13.30| | | |
 [[underlined]]Comp. sus.
 var. |6.60^|[6.58]|13.45|6.55|13.45| | | |

[14 columned table]

Diff x. |7.12|-1.70|3.40|8.98|2.32|11.82|Diff y. |17.75|-2.03|-
 0.70|4.05|12.20|16.53|
 Log. Diff x|0.85248|0.23045|0.53148|0.95328|0.36549|1.07262|x
 179|3177.25|363.37|125.30|724.95|2183.80|2958.87|

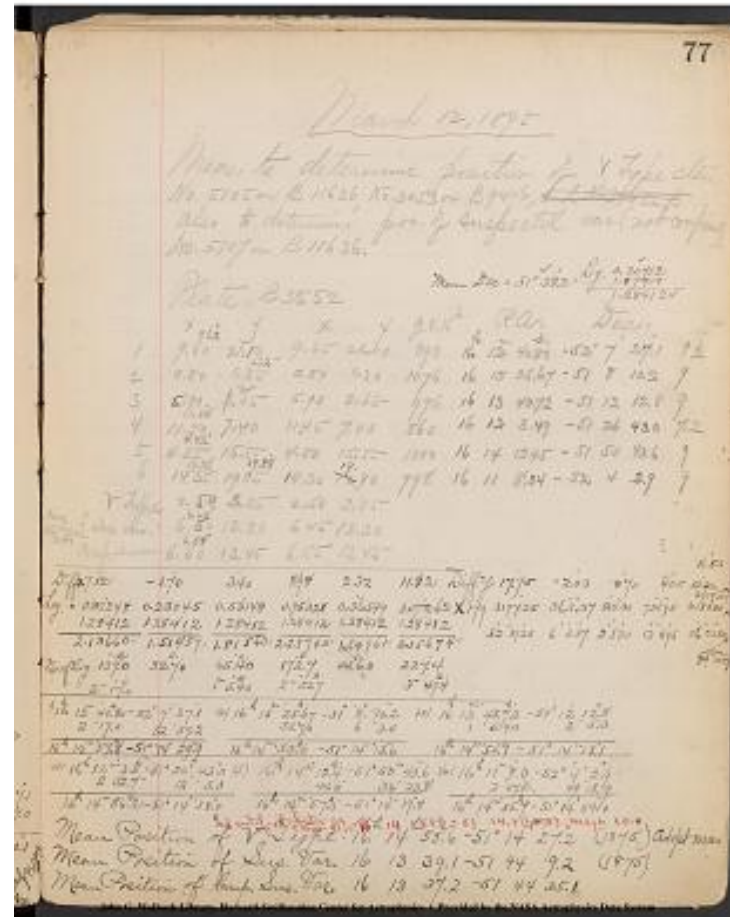
|[[underlined]]1.28412|1.28412|1.28412|1.28412|1.28412|[[unde
 rined]]|5'2 57.25"|6' 3.37"|2' 5.39"|12' 4.95"|36' 23.80"|49' 18.87"|
 |2.13660|1.51457|1.81560|2.23740|1.64961|2.35674| | | | |

No. of

Log. |137.0^|[s]|32.70^|[s]|65.40^|[s]|172.7^|[s]|44.63^|[s]|227.4| | |
 |21^|[m]|17.0^|[s]|1^|[m]|5.40^|[s]|2^|[m]|52.7^|[s]|3^|[m]|
 47.4^|[s]| | | | |

[21 columned table]

1|16^|[h]|12^|[m]|40.80^|[s.]|-
 52^{\circ} 7'|27.1"(2)|16^|[h]|15^|[m]|25.67^|[s.]|-
 51^{\circ} 8'|10.2"(3)|16^|[h]|13^|[m]|48.72^|[s.]|-51^{\circ} 12'|12.8"|
 |[[underlined]]2|17.0|52|27.0|[[underlined]]|[[underlined]]|32.70|
 6|3.4|[[underlined]]|[[underlined]]1|5.40|2|5.3|[[underlined]]|
 |[[underlined]]16^|[h]|14^|[m]|57.8^|[s.]|-51^{\circ} 14'|29.9"|
 16^|[h]|14^|[m]|53.0^|[s.]|-51^{\circ} 14'|13.6"|16^|[h]|14^|[m]|54.1^|[s.]|-
 51^{\circ} 14'|18.1"|[[underlined]]|
 (4)|16^|[h]|12^|[m]|3.5^|[s.]|-51^{\circ} 26'|43.0"(5)|16^|[h]|14^|[m]|12.4^|[s.]|-
 51^{\circ} 50'|43.6"(6)|16^|[h]|11^|[m]|8.3^|[s.]|-52^{\circ} 4'|2.9"



| 2|52.7| |12|5.0| 3| |44.6|
 |36'|23.8| 3|47.4| |49'|18.9| 3|
 |16^h|14^m|56.2^s|-51°14'38.0"| |16^h|14^m|57.0^s|-
 51°14'19.8"| |16^h|14^m|55.7^s|-51°14'44.0"|

Identified later as CDM -51 10119 16 14 53.0 -51 14.1 (1875) Magn.
 10.0

[[3 columned table]]

Mean Position of V Type	16 14 55.6 -51 14' 27.2" (1875.)	Adopt meas.
Mean Position of Sus. Var.	16 13 39.1 -51 44 9.2 (1875)	
Mean Position of Comp. Sus. Var.	16 13 37.2 -51 44 35.1	

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March 12, 1895.

[[left margin]]
 [[2 columned table]]
 X1.79 x|X1.79 y|
 125.30|98.45|
 17.90|179.00|
 993.45|325.78|
 [[/left margin]]

Meas. to determine position of suspected variable No. 5578 on B12038
 18^h 41^m 17^s +7° 6' (1855). Variability not confirmed.

[[2 columned table]]
 Mean Dec. = 7° 8.2' = Log. 0.00337
 | [[1.07700]]
 | 1.08037|

[[left margin]]
 2 columned table]]
 Diff. x|Diff. y|
 -0.70|+0.55|
 -0.10|-1.00|
 +5.55|+1.82|
 [[/left margin]]

Plate B9913

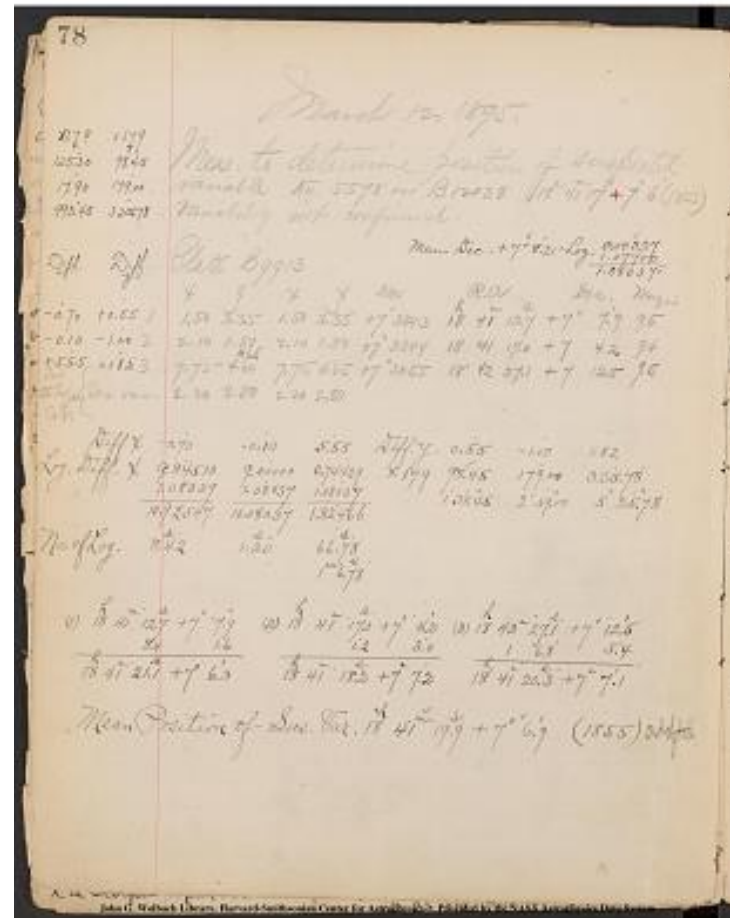
[[9 columned table]]
 | x|y|x|y|DM|R.A.|Dec.|Magn.|

1|1.50|3.35|1.50|3.35|+7° 38.43|18^h 41^m 12.7^s|+7 7.9|9.5
 2|2.10|1.80|2.10|1.80|+7° 38.44|18 41 17.0|+7 4.2|9.4
 3|7.75|-4.60|[4.62]|7.75|4.65|+7° 38.55|18 42 27.1|+7 12.5|9.5
 For III Type Cat. {Sus. Var. |2.20|2.80|2.20|2.80| | | |

Diff. X -0.70 -0.10 5.55 Diff. y. 0.55 -1.00 1.82
 Log. Diff. X $9.8450 + 1.08037 = 10.92547$
 $9.00000 + 1.08037 = 10.08037$
 $0.74429 + 1.08037 = 1.82466$
 X179 98.45 179.00 325.78
 1 38.45 2 59.00 5 25.78

No. of Log. s 8.42 s 1.20 s 66.78
 m. 1 s 6.78

[[5 column table]]
 h|m.|s|¹|
 18|41|12.7|+7|7.9|
 | |8.4| |1.6|
 h|m.|s|¹|
 18|41|21.1|+7|6.3|



[[5 column table]]
h	m.	s.		¹
18	41	17.0	+7	4.2
		1.2		1.6
h	m.	s.		¹
18	41	21.1	+7	6.3

[[5 column table]]
h	m.	s.		¹
18	42	27.1	+7	12.5
		6.8		5.4
h	m.	s.		¹
18	41	20.3	+7	7.1

Mean Position of Sus. Var.
 | h | m. | s. | |¹ |
 | 18 | 41 | 19.9 | +7 | 6.9 |
 adopted

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77a.

Sus. Var. Plate B3552. see Book 4. p. 77

[7 columned table]

Diff. X. | 3.14 | -5.68 | -0.58 | 5.00 | -1.66 | 7.84 |

Log. X | 0.49693 | 0.75435 | 0.976343 | 0.69897 | 0.22011 | 0.89432 |

| 1.28412 |

1.28412 | 1.28412 | 1.28412 | 1.28412 | 1.28412 | 1.28412 | 1.28412 |

| 1.78105 | 2.03847 | 11.04755 | 1.98309 | 1.50423 | 2.17844 |

No. | 60.40^h[s] | 109.3^h[s] | 11.16^h[s] | 96.18^h[s] | 31.93^h[s] |

150.8^h[s] |

| 1^h[m] | 0.40^h[s] | 1^h[m] | 49.3^h[s] | 1^h[m] | 36.18^h[s] | 2^h[m] |

30.8^h[s] |

[7 columned table]

Diff. Y. | 7.80 | -11.98 | -10.65 | -5.90 | 2.25 | 6.55 |

X179 | 1396.20" | 2144.42" | 1906.35" | 1056.10" | 402.75" | 1172.45" |

| 23' 16.20" | 35' 44.42" | 31' 46.35" | 17' 36.10" | 6' 42.75" | 19' 32.45" |

[21 columned table]

(1) | 16^h[h] | 12^h[m] | 40.8^h[s] | -52° 7' 27.1" | (2) | 16^h[h] | 15^h[m] |

25.7^h[s] | -51° 8' 10.2" | (3) | 16^h[h] | 13^h[m] | 48.7^h[s] | -51° 12' 12.8" |

| 1 | 0.4 | 23 | 16.2 | 1 |

49.3 | 35 | 44.4 | 11.2 | 31 |

46.4 | 1 |

| 16^h[h] | 13^h[m] | 41.2^h[s] | -51° 44' 10.9" |

16^h[h] | 13^h[m] | 36.4^h[s] | -51° 43' 54.6" |

16^h[h] | 13^h[m] | 37.5^h[s] | -51° 43' 59.2" | 1 |

(4) | 16^h[h] | 12^h[m] | 3.5^h[s] | -51° | 26' | 43.0" | (5) | 16^h[h] |

14^h[m] | 12.4^h[s] | -51° | 50' | 43.6" | (6) | 16^h[h] | 11^h[m] | 8.3^h[s] |

-52° | 4' | 2.9" |

| 1 | 36.2 | 17 | 36.1 | 1 |

31.9 | 6 | 42.8 | 2 | 30.8 | 19 |

32.4 | 1 |

| 16^h[h] | 13^h[m] | 39.7^h[s] | -51° | 44' | 19.1" | | 16^h[h] | 13^h[m] |

40.5^h[s] | -51° | 44' | 0.8" | | 16^h[h] | 13^h[m] | 39.1^h[s] | -51° | 44' |

30.5" |

Mean Position of Sus. Var. 16^h[h] 13^h[m] 39.1^h[s] -51°

44' 9.2"

Comp. Sus. Var.

[7 columned table]

Diff. X | 3.04 | -5.78 | 0.68 | 4.90 | -1.76 | 7.74 |

Log. X | 0.48287 | 0.76193 | 0.93251 | 0.69020 | 0.24551 | 0.88874. |

| 1.28412 |

1.28412 | 1.28412 | 1.28412 | 1.28412 |

| 1.76699 | 2.04605 | 11.11663 | 1.97432 | 1.52963 | 2.17286 |

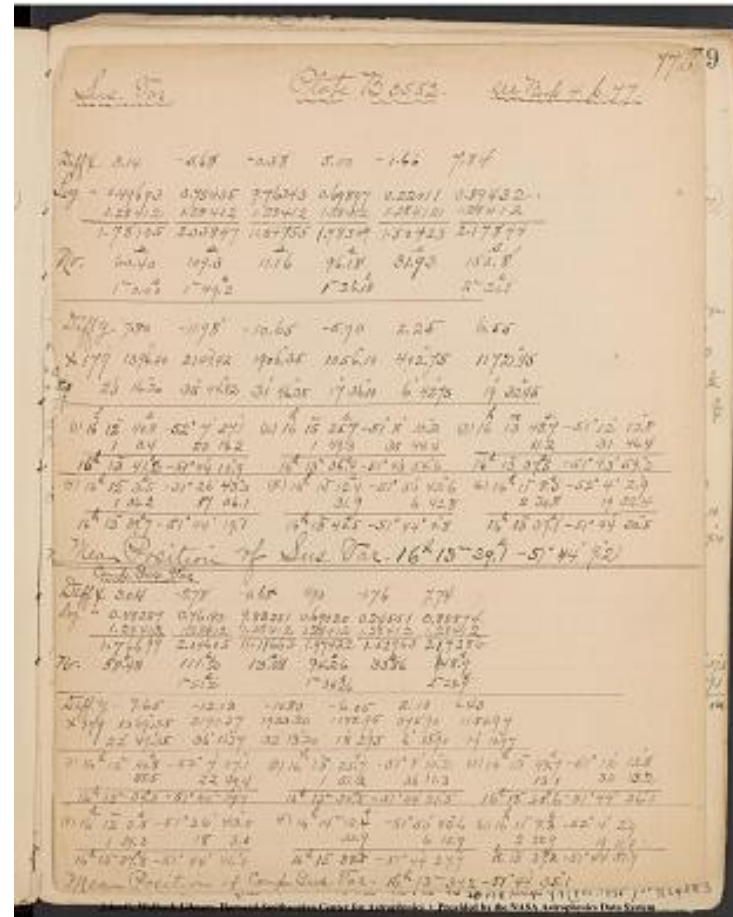
No. | 58.48 | 11.2 | 13.08 | 94.26 | 33.86 | 148.9 |

| 1^h[m] | 51.2^h[s] | 1^h[m] | 34.26^h[s] | 2^h[m] | 28.9^h[s] |

[7 columned table]

Diff. Y. | 7.65 | -12.13 | -10.80 | 6.05 | 2.10 | 6.43 |

X179 | 1369.35" | 2171.27" | 1933.20" | 1082.95" | 375.90" | 1150.97" |



[[22' 49.35" | 36' 11.27" | 32' 13.20" | 18' 2.95" | 6' 15.90" | 19' 10.97"]]

[[21 columned table]]

(1) 16^h 12^m 40.8^s -
52° 7' 27.1" (2) 16^h 15^m 25.7^s -
51° 8' 10.2" (3) 16^h 13^m 48.7^s -51° 12' 12.8"
| 58.5 | 22 49.4 | 1 51.2
| 36 11.3 | 13.1 | 32 13.2
| 16^h 13^m 39.3^s -51° 44' 37.7"
| 16^h 13^m 34.5^s -51° 44' 21.5" | 16^h 13^m 35.6^s -51° 44' 26.0"
| (4) 16^h 12^m 3.5^s -
51° 26' 43.0" (5) 16^h 14^m 12.4^s -
51° 50' 43.6" (6) 16^h 11^m 8.3^s -52° 4' 2.9"
| 1 34.3 | 18 3.0 | 33.9
| 6 15.9 | 2 28.9 | 19 11.0
| 16^h 13^m 37.8^s -51° 44' 46.0"
| 16^h 13^m 38.5^s -51° 44' 27.7" | 16^h 13^m 37.2^s -51° 44' 51.9"

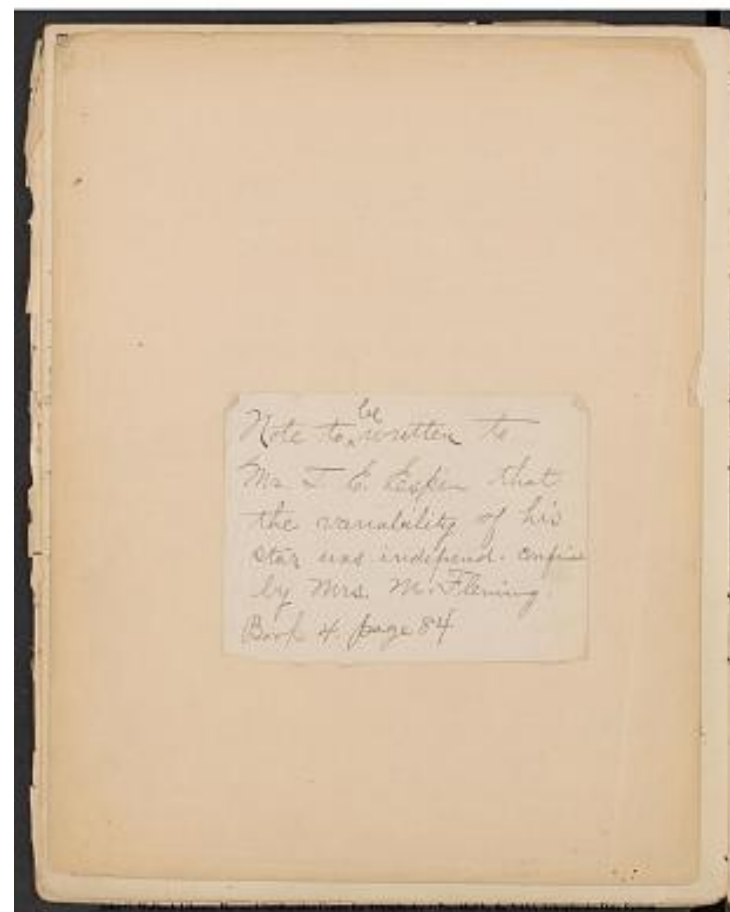
Mean Pos. of Comp. Sus. Var. 16^h 13^m 37.2^s -51° 44' 35.1"

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Note to be written to Mr. J.E.Eskin that the variability of his star was independ. Confirmed by Mrs. M. Fleming. Book 4. Page 84

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March 12, 1895.

[[left margin]]
[[2 columned table]]
x1.79|x1.79|
x|y|
|---|
2214.23|1295.96|
2085.35|1265.53|
2434.40|1041.78|
635.45|4099.10|
[[/left margin]]

Meas. to determine position of suspected variable No. 5448 on pl. B
11989 22^h 5^m 5^s -8^h 2^m 5^s (1900).
Variability not confirmed*

[[2 columned table]]
Mean Dec. = 85° 13.3' = Log. [1.07890]
| [[underlined]] 1.07700 [[/underlined]] |
| 2.15590 |

[[left margin]]
[[2 columned table]]
Diff. | Diff. |
x | y |
|---|
-12.37 | -7.24 |
+11.65 | -7.07 |
+13.60 | -5.82 |
+3.55 | +22.90 |
[[/left margin]]

[[9 columned table]]
| x | y | x | y | A. G. C. | R. A. | Dec. | Magn. |
|---|
1 | 2.40 | 2.38 | 7.60 | 7.58 | 2.35 | 7.55 | 29568 | 21^h 28^m |
40.76 | 85° 36' 27.4" | 7.0 |
2 | 26.40 | 7.75 | 26.40 | 7.75 | 30848 | 22
31 28.35 | 85 36 15.1 | 10 |
3 | 28.35 | 9.00 | 28.35 | 9.00 | 30925 | 22 36 4.53 | 85 31 48.9 | 10 1/2 |
4 | 18.30 | 37.75 | 18.30 | 37.70 | 30400 | 22 8 26.71 | 84 8 37.5 | 7 1/4 |
For III Type Cat. {sus. var | 14.75 | 14.80 | 14.82 | 14.75 | 14.85 | | | | |

[[10 columned table]]
Diff. X | -12.37 | 11.65 | 13.60 | 3.55 | Diff. Y | -7.24 | -7.07 | -5.82 | 22.90 |
Log. Diff.
X | 1.09237 | 1.06633 | 1.13354 | 0.55023 | X | 179 | 1295.96 | 1265.53 | 1041.78 |
4099.10 |
| [[underlined]] 2.15590 | 2.15590 | 2.15590 | 2.15590 | [[/underlined]] | 21'
35.96 | 21' 5.53 | 17' 21.78 | 1' 8' 19.10 |
| 3.24827 | 3.22223 | 3.28944 | 2.70613 | | | | |
No. of Log. | 1771.21 | 1668.12 | 1947.32 | 508.3 | | | | |
| 29^h 31.21 | 27^h 48.12 | 32^h 27.32 | 8^h 28.3 | | | | |
28.3 | | | | |

[[28 columned table]]



|(1)|21^[[h]]|28^[[m]]|40.76^[[s]]|-
 85°36'27.4"| (2)|22^[[h]]|31^[[m]]|28.35^[[s]]|-
 85°36'15.1"| (3)|22^[[h]]|36^[[m]]|4.53^[[s]]|-
 85°31'48.9"| (4)|22^[[h]]|8^[[m]]|26.71^[[s]]|-84°8'37.5"|
		29	31.21		21	36.0		27	48.12		21	5.5			32	27.32
17	21.8			8	28.3	1	8	19.1								
	21^[[h]]	58^[[m]]	11.97^[[s]]	-85°14'51.4"												
22^[[h]]	3^[[m]]	40.23^[[s]]	-85°15'9.6"		22^[[h]]	3^[[m]]	37.21^[[s]]	-								
 85°14'27.1"| |21^[[h]]|59^[[m]]|58.41^[[s]]|-85°16'56.6"|

Mean Position of sus. var. 22^[[h]] 1^[[m]] 21.95^[[s]] -85° 15' 21.2"
 (1875)

*Found again on B21843 in Sept. 1899. More chart plates examined
 which show evidence of variation
 Identified as Gilliss 15580 21^[[h]] 56.5^[[m]] -85° 24.4' ^[[Magn.]] 9
 (1850) Sept. 5 1899
 (There was no Gilliss catalogue at time star was first found on B11989)

Later identified as CPD -85° 535 22^[[h]] 1^[[m]] 13^[[s]] -85
~~10~~ 17.0 Magn. 9.1 (puo. 1875) See
 B24383

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March 12, 1895

[[left margin]]
 [[2 columned table]]
x1.79	x1.79
 1530.45|170.08|
 1485.70|658.72|
 1784.63|1321.02|
 8.95|241.65|
 [[/left margin]]

Meas. to determine position of suspected variable No. 5351 on pl.
 B11750 $2^{\text{h}} 25^{\text{m}} -85^{\circ} 5'$ (1900).
 Variability not confirmed.

[[2 columned table]]
 Mean Dec. $-85^{\circ} 30.8' = \text{Log. } 1.0696$
 | 1.07700 |
 | 2.18396 |

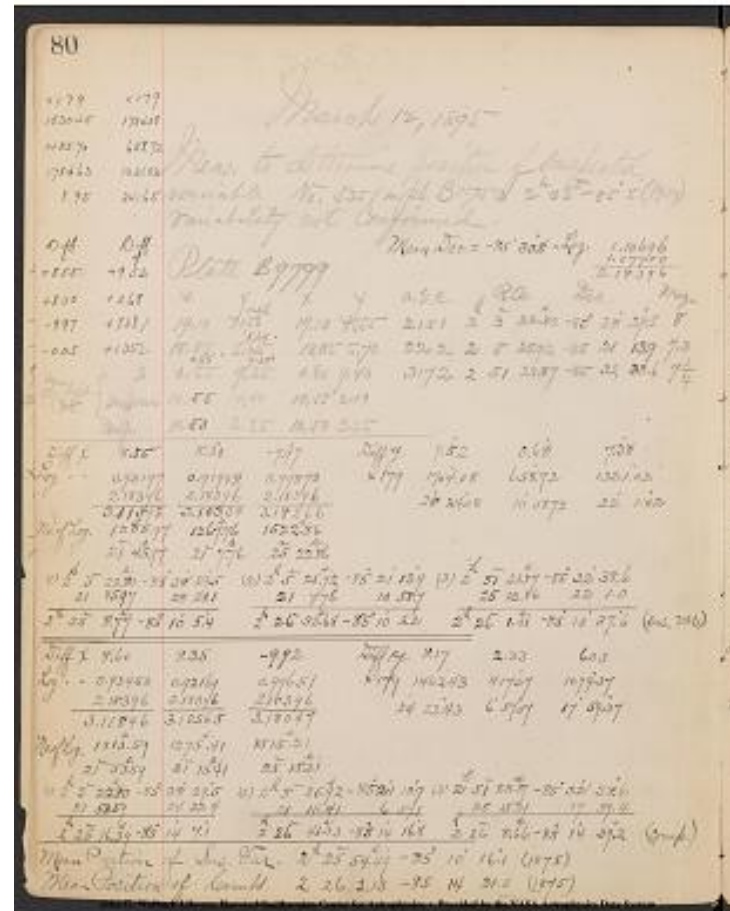
[[left margin]]
 [[2 columned table]]
 Diff. | Diff. |
x	y
 +8.55|+9.52|
 +8.30|+3.68|
 -9.97|+7.38|
 -0.05|+1.35|
 [[/left margin]]

Plate B9799

[[9 columned table]]
x	y	x	y	A.G.C.	R.A.	Dec.	Magn.
 1|19.10|11.50|11.52|19.10|11.55|2151|2^h 3^m 22.80^s|-85°
 38' 29.5"|8|
 2|18.85|5.65|5.68|18.85|5.70|2202|2 5 25.92|-85 21 13.9|7.3|
 3|0.55|[0.58]|9.35|[9.38]|0.60|9.40|3172|2 51 23.87|-85 32 38.6|7.4|
 For III Type Cat. {susp. var. |0.55|2.00|10.55|2.00| | | | |
 comp. |10.50|3.35|10.50|3.35| | | | |

[[8 columned table]]
 Diff X. |8.55|8.30|-9.97|Diff Y. |9.52|3.68|7.38|
 Log. Diff. X. |0.93197|0.91908|0.99870|X179|1704.08|658.72|1321.02|
 | 2.18396 |2.18396|2.18396|2.18396 |28' 24.08"|10'
 58.72"|22' 1.02"|
 No. of Log. |1305.97^s |1267.76^s |1522.86^s | | | | |
 | 21^h 45.97^s |21^h 7.76^s |25^h 22.86^s | | | | |

[[21 columned table]]
 (1) 2^h 25^m 3^s | 22.80^s |-85° 38' 29.5" | (2) 2^h 5^m 5^s | 25.92^s |-
 85° 21' 13.9" | (3) 2^h 51^m 23.87^s |-85° 32' 38.6"|
 | 21 45.97 | 28 24.1 |
 | 21 7.76 | 10 58.7 | 25 22.86 |
 | 22 1.0 |



| $2^h 25^m 8.77^s -85^\circ 10' 5.4''$
 $2^h 26^m 33.68^s -85^\circ 10' 5.2''$
 $2^h 26^m 1.01^s -85^\circ 10' 37.6''$
 (sus. var.)
 (right margin)

[[8 columned table]]
 Diff. X|8.60|8.35|-9.92|Diff. Y|8.17|2.33|6.03|
 Log. Diff. X.|0.93450|0.92169|0.99651|X179|1462.43"|417.07"|1079.37"|
 | 2.18396|2.18396|2.18396 | 24' 22.43"6'
 57.07"|17' 59.37"|
 | 3.11846|3.10565|3.18047| | | | |
 No. of Log.|1313.59^s|1275.41^s|1515.21^s| | | | |
 | 21^m 53.59^s|21^m 15.41^s|25^m 15.21^s| | | | |

[[21 columned table]]
 (1) $2^h 3^m 22.80^s -85^\circ 38' 29.5''$ (2) $2^h 5^m 25.92^s -85^\circ 21' 13.9''$ (3) $2^h 51^m 23.87^s -85^\circ 32' 38.6''$
21	53.59	24	22.4		
21	15.41	6	57.1	25	15.21
17	59.4				
2^h 25^m 16.39^s -85^\circ 14' 7.1''					
 $2^h 26^m 41.33^s -85^\circ 14' 16.8''$
 $2^h 26^m 8.66^s -85^\circ 14' 39.2''$
 (right margin)
 (comp.)
 (right margin)

Mean Position of Sus. Var. $2^h 25^m 54.9^s -85^\circ 10' 16.1''$
 (1875)
 Mean Position of Comp. 2 26 2.13 -85 14 21.0 (1875)

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Signs for X and Y columns entered in Record Book. Feb 9, 1903

by Mrs. Fleming

Positions Chart. Feb. 26, 1903

M.C.S. See Chart No. 23

No. 47. W Cancr

MA June 15, 1895

Meas. to determine position of new variable star in Cancr. R.A 9 1.5
Dec. +25° 15' 50" (1875)

Sp. Md on B 12245 (No. 3828). Meas.
br. B5, p. 153.

Mean Dec. = +25° 54.2' = Log. 0.04597

1.03623

1.08220

x163

Plate 12525

[11 columned table]

x|y| x|y|x|y|BD| | | |

+2.87|+12.82|1=a|14.95|27.40|14.95|27.70|+26° 1902|9^|[h]| 0^|[m]|

51.6^|[s]|+26° 24.6|8.5|

+3.17|~~8.83~~|

11.70|2=e|~~4~~|15.25|2.85^|[2.88]|15.25|2.9

0|+25 2053|9 0 43.6|+25 18.3|9.4|

-7.28|~~11.70~~|

11.70|~~3~~|+3.97|3=b|4.80|18.55|4.80|18.55|+25

~~2506~~|2056|9 2 52.8|+25 59.6|8.5|

-

6.88|~~3~~|+3.97|~~5~~|+6.32|c|5.20|20.90|5.20|20.90

+26 1908|9 2 48.1|+26 6.7|9.1|

+6.02|~~8.83~~|+6.32|~~5~~|

8.83|d|18.10|5.75|18.10|5.75|+25 2051|9 0 9.6|+25 27.0|9.3|

-

2.13|+2.02|f|~~15.25~~|9.95|16.60|9.95|16.60|

~~2506~~|+25 2053|9 0 43.6|+25 18.3|9.4|~~11.70~~|

+0.72|+3.34|g|12.80|17.90^|[17.92]|12.80|17.95| | | |

-0.30|+1.07|h|11.75^|[11.78]|15.65|11.80|15.65| | | |

-1.66|-2.58|i|10.40^|[10.42]|12.00|10.45|12.00| | | |

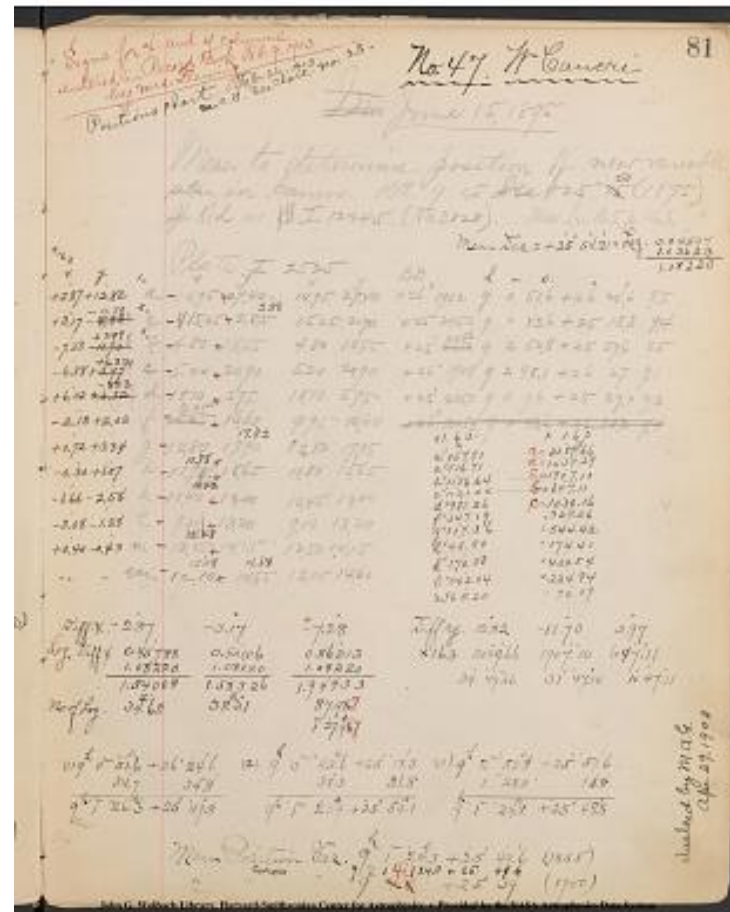
-3.08|-1.38|j|9.00|-13.20|9.00|13.20| | | |

+0.40|-0.43|m|-12.45^|[12.48]|14.15|12.50|14.15| | | |

12.10^|[12.08]|14.55^|[14.58]|12.05|14.60| | | |

[4 columned table]

X1.63 x|X1.63x|X1.63y|X1.63y|



a|467.81|a=|2089.66|
e|516.71|d=|1439.29|
b|1186.64|e=|1907.10|
c|1121.44|b=|647.11|
d|981.26|c=|1030.16|
f|347.19| |329.26|
g|117.36| |544.42|
h|48.90| |174.41|
k|270.58| |420.54|
l|502.04| |224.94|
m|65.20| |70.09|

[[8 columned table]]
Diff. X.|-2.87|-3.17|⁻7.28|Diff. Y.|12.82|-11.70|3.97|
Log. Diff X|0.45788|0.50105|0.85213|X163|2089.66"|1907.10"|647.11"|
| |1.08220|1.08220|1.08220| |34' 49.66"|31' 47.10"|10' 47.11"|
| |1.54008|1.58326|1.94433| | | | |
No. of
Log.|34.68[^][[s]]|38.31[^][[s]]|87.9[^][[~~s~~]]|6[^][[~~s~~]]|7[^][[s]]|
| | | |
| | | |1[^][[m]] | 27.9[^][[~~s~~]]|6[^][[~~s~~]]|7[^][[s]]| | | |

[[18 columned table]]
(1)|9[^][[h]]|0[^][[m]]|51.6[^][[s]]|+26°|24.6'| (2)|9[^][[h]]|0[^][[m]]|43.6[^][[s]]|+25°|1
8.3'| (3)|9[^][[h]]|2[^][[m]]|52.8[^][[s]]|+25°|59.6'|
	34.7		34.8		38.3						
	31.8		1	28.0		10.8					
	9[^][[h]]	1[^][[m]]	26.3[^][[s]]	+25°	49.8'						
	9[^][[h]]	1[^][[m]]	21.9[^][[s]]	+25°	50.1'		9[^][[h]]	1[^][[m]]	24.8[^][[s]]	+25°	48.8'

[[3 columned table]]
Mean Position Var.|9[^][[h]] |1[^][[m]] |24.3[^][[s]] |+25° 49.6'| (1855)|
curves|9 |1 |24.0 |+25 |49.6| |
Mean Position Var.|9 |~~[[s]]~~|4.0~~[[s]]~~|4.1[^][[m]] |+25°
39'| (1900)|

[[right margin]]
checked by M.A.G.
Apr. 29, 1903
[[/right margin]]

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Var. No. 97

Positions charted Aug. 26. 1903

M.C.S. See Chart no. 32

June 26, 1895.

Meas. of pos. of new var. star ~~in~~ S Ursae Minoris.

R.A. $15^{\circ} 34.5^{\circ}$ Dec. $+79^{\circ} 7'$ (approx. 1855). Sp Mc 5d on I 12193

No. 3688; also 3683 and 3686. Meas. in B 5.p. 160.

Mean Dec. = $+78^{\circ} 55.1' = \text{Log. } 0.71616$

1.03623

1.75239

188.02|4079.89|

775.88|2001.64|

228.20|1136.11|

427.06|658.52|

168.46|

257.54|208.64|

55.42|70.09|

412.39|696.01|

265.69|163.00|

161.94|140.18|

1092.10|707.42|

598.21|1584.36|

use only three stars

11.65

Plate I 12767

11.65

11.65

BD $+79^{\circ} 46.9'$ 15 35 34 $+79^{\circ} 9.8'$ 9.5

210.55 $+10.52$ 6.45 $+6.48$ 10.50 6.50 $+78^{\circ} 52.3'$ 15 41 34 $+78^{\circ} 54.9'$ 9.5

30.15 1.10 0.15 1.10 $+78^{\circ} 51.6'$ 15 31 49 $+78^{\circ} 40.6'$ 9.1

3.30 $+3.28$ 35.85 3.25 35.85 $+80^{\circ} 47.8'$ 15 34 29 $+80^{\circ} 16.0'$ 7.8

8.55 $+8.58$ 23.10 8.60 23.10 $+79^{\circ} 47.0'$ 15 40 41 $+79^{\circ} 40.2'$ 8.0

5.25 $+5.22$ 3.85 $+5.20$ 3.85 $+78^{\circ} 51.9'$ 15 36 33 $+78^{\circ} 47.8'$ 9.0



~~d~~~~6~~1.20|6.75^{[[6.78]]}|1.20|6.80|—|—|—|
~~e~~3.85^{[[3.82]]}|10.40|3.80|10.40|(+79° 467)? probably|15 35 18|+79
6.0|9.4|
f|5.40|12.10|5.40|12.10| | | | |
g|3.45^{[[3.48]]}|11.25|3.50|11.25| | | | |
h|6.35|6.55|6.35|6.55| | | | |
k|5.45|11.85^{[[11.82]]}|5.45|11.80| | | | |
var.|3.80^{[[3.82]]}|10.80^{[[10.82]]}|3.85|10.85|(+79° 467)? doubtful| | |

[[left margin]]
[[3 columned table]]
Diff. x	Diff. y	
-0.54|+25.03|(a)|
+4.76|+12.28|b|
+1.40|-6.97|c|
-2.62|-4.04|d|
0.00|-0.42|e|
+1.58|+1.28|f|
-0.34|+0.43|g|
+2.53|-4.27|h|
+1.63|+1.00|k|
+0.38|+0.86|(1)|
+6.70|-4.34|(2)|
-3.67|-9.72|(3)|
[[/left margin]]

[[8 columned table]]
Diff X.|0.38|6.70|-3.67|Diff. Y.|0.86|-4.34|-9.72|
Log. Diff. X.|9.57978|0.82607|0.56467|X163|140.18"|707.42"|1584.36"|
|1.75239|1.75239|1.75239|1.75239| |2' 20.18"|11'
47.42"|26' 24.36"|
|11.33217|2.57846|2.31706| | | | |
No. of Log.|21.49^{[[s]]}|378.8^{[[s]]}|207.5^{[[s]]}| | | | |
| |6^{[[m]]} 18.8^{[[s]]}|3^{[[m]]} 27.5^{[[s]]}| | | | |

[[18 columned table]]
(1)|15^{[[h]]}|35^{[[m]]}|34^{[[s]]}|+79°|9.8'|(2)|15^{[[h]]}|41^{[[m]]}|34^{[[s]]}|+78°|5
4.9'|(3)|15^{[[h]]}|31^{[[m]]}|49^{[[s]]}|+78°|40.6'|
|21|2.3|6|19|
11.8|3|28|26.4|
|15^{[[h]]}|35^{[[m]]}|13^{[[s]]}|+79°|7.5'|
15^{[[h]]}|35^{[[m]]}|15^{[[s]]}|+79°|6.7'|15^{[[h]]}|35^{[[m]]}|17^{[[s]]}|+79°|7.0'|

[[3 columned table]]
Mean Position of Var.|15^{[[h]]} 35^{[[m]]} 15^{[[s]]} +79° 7.1'|(1855)|
[Resid. 0,0,0.] Adopt. Curve in R.A.|15 35 13.4 +79° 7.4|Adopt Mean in
Dec.|
|15 33.3 +78 58'|(1900)|

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Variable No. 163
RS Aquilae

October 24, 1894

Meas. to determine pos. of new var. star in Aquila
R.A. $19^{\circ} 51.3'$ Dec. $-8^{\circ} 16'$ (1855) Sp Md on B13416 No. 7106.

[[2 columned table]]

Mean Dec. = -8.19
Log. 0.004
| 1.07700 |
| 1.081 |

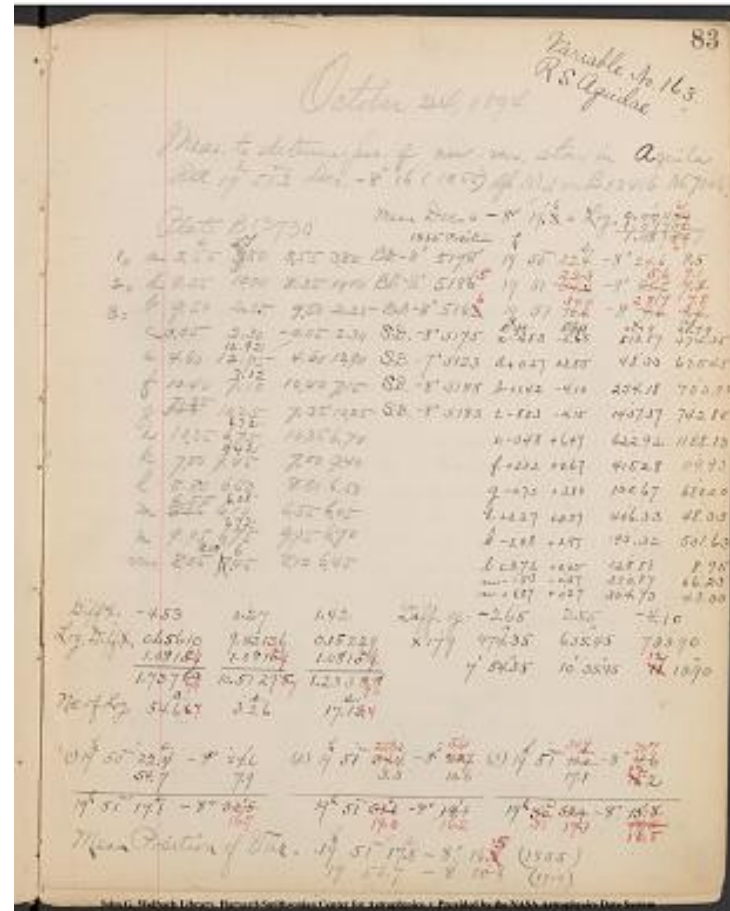
[[8 columned table]]

x y	1855 Position	
1=a 3.55 3.80 3.55 3.80 BD -8° 51'78 19 50 22.4 -8 24.6 8.5		
2=d 8.35 10.00 8.35 10.00 BD -8°		
518		
34.4		
28.7		
7.8		
3=b 9.50 2.35 9.50 2.35 BD -8°		
518		
10.0		
4.6		
9.4		
c -0.05 2.30 -0.05 2.30 S.D. -8° 51'75		
e 4.60 12.95 4.60 12.90 S.D. -7° 51'23		
f 10.40 7.10 7.12 10.40 7.15 S.D. -8° 51'88		
g 10.3 7.35 10.25 7.35 10.25 S.D. -8°		
h 10.35 6.75 6.72 10.35 6.70		
k 7.00 9.45 9.42 7.00 9.40		
l 8.80 6.50 8.80 6.50		
m 8.05 6.55 6.10 6.08 6.55 6.05		
n 9.95 6.75 6.72 9.95 6.70		
var. 8.05 8.08 7 6.45 8.10 6.45		

[[right margin]]

[[5 columned table]]

X Diff. Y Diff. X x1.79 Y x1.79
a -4.53 -2.65 810.87 474.35
d +0.27 +3.55 48.33 635.45
b +1.42 -4.10 254.18 733.90
c -8.03 -4.15 1437.37 742.85
e -3.48 +6.47 622.92 1158.13
f +2.32 +0.67 415.28 119.93
g -0.73 +3.80 130.67 680.20
h +2.27 +0.27 406.33 48.33
k -1.08 +2.97 193.32 531.63
l +0.72 +0.05 128.88 8.95



|m|-1.53|-0.37|273.87|66.23|
|n|+1.87|+0.27|334.73|48.33|
[[/right margin]]

[[8 columned table]]
|Diff. X.| -4.53|0.27|1.42|Diff. Y. | -2.65|3.55|-4.10|
|Log. Diff. X. |0.65610|9.43136|0.15229|X179|474.35"|635.45"|733.90"|
| |[[/underlined]]1.081[[/strikingthrough]]59[[/strikingthrough]]61
|1.081[[/strikingthrough]]59[[/strikingthrough]]61|1.081[[/strikingthrough]]59[[/strikingthrough]]61|[[/underlined]] |7' 54.35"|10'
35.45"|[[/strikingthrough]]11[[/strikingthrough]]12 13.90"|
| |1.737[[/strikingthrough]]69[[/strikingthrough]]71
|10.5129[[/strikingthrough]]5[[/strikingthrough]]7|1.233[[/strikingthrough]]88[[/strikingthrough]]90| | | |
|No. of Log|54.6[[/strikingthrough]]6[[/strikingthrough]]7^[[s]]
|3.26^[[s]]|17.1[[/strikingthrough]]3[[/strikingthrough]]4^[[s]]| | | |

[[18 columned table]]
|(1)|19^[[h]]|50^[[m]]|22.4^[[s]]|-
8°|24.6'|(2)|19^[[h]]|51^[[m]]|[[/strikingthrough]]34.4[[/strikingthrough]]22.3^[[s]]|-
8°|[[/strikingthrough]]28.7[[/strikingthrough]]5.6'|(3)|19^[[h]]|51^[[m]]|[[/strikingthrough]]10.0[[/strikingthrough]]34.4^[[s]]|-
8°|[[/strikingthrough]]4.6[[/strikingthrough]]28.7'|
| |[[/underlined]] |54.7| |7.9[[/underlined]]| |[[/underlined]] |3.3|
|10.6[[/underlined]]| |[[/underlined]]| |17.1|
|[[/strikingthrough]]11[[/strikingthrough]]12.2[[/underlined]]|
| |19^[[h]]|51^[[m]]|17.1^[[s]]|-
8°|[[/strikingthrough]]32.5[[/strikingthrough]]16.7'|
|19^[[h]]|51^[[m]]|[[/strikingthrough]]31.1[[/strikingthrough]]19.0^[[s]]|-
8°|[[/strikingthrough]]18.1[[/strikingthrough]]16.2|
|19^[[h]]|[[/strikingthrough]]50[[/strikingthrough]]51^[[m]]|[[/strikingthrough]]52.9[[/strikingthrough]]17.3^[[s]]|-8°|[[/strikingthrough]]15.8
17.5[[/strikingthrough]]16.5|

[[3 columned table]]
|Mean Position of Var.|19^[[h]] 51^[[m]] 17.8^[[s]] -8°
16. [[/strikingthrough]]8[[/strikingthrough]]5'|(1855)|
| |19 53.7 -8 [[/strikingthrough]]10.9[[/strikingthrough]]|(1900)|

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1873 *Prunella*
 58.

1	-0.0077	19.48	231	-2	46	17
2	-0.0162	19.52	87	-1	68	25
3	-0.023	19.55	158	-2	238	22

[illegible]

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

+0.98|+1.85|175.42|331.15|
-1.05|-0.15|187.95|26.85|
-0.72|0.00|128.88|0.00|

[[/right margin]]

[[10 columned table]]

Diff X.|-1.80|-8.42|0.25|0.70|Diff. Y|-2.15|-0.12|5.62|-2.75|
Log. Diff.
X|0.25527|0.92531|9.39794|9.84510|X|179|384.85"|21.48"|1005.98"|492.
25"|
| 1.07734|1.07734|1.07734|1.07734| |6' 24.85"| |16' 45.98"|8' 12.25"|
| 1.33261|2.02265|10.47528|10.92244| | | | | |
No. of Log.|21.51^[[s]]|100.6^[[s.]]|2.99^[[s.]]|8.36^[[s.]]| | | | | |
| | 1^[[m]] 40.6^[[s]]| | | | | | |

[[24 columned table]]

(a)^[[(2)]]|19^[[h]]|49^[[m]]|44.7^[[s]]|-
2°|22.5'| (b) |19^[[h]]|48^[[m]]|23.0^[[s]]|-
2°|16.6'| (3) |19^[[h]]|50^[[m]]|8.7^[[s]]|-
1°|60.8'| (f) ^[[(4)]]|19^[[h]]|50^[[m]]|13.4^[[s]]|-2°|23.8'|
	21.5		6.4		1	40.6
0.4		3.0		16.8		
	8.4		8.2			
	19^[[h]]	50^[[m]]	6.2^[[s]]	-2°	16.1'	
2°|16.2'| |19^[[h]]|50^[[m]]|5.7^[[s]]|-2°|17.6'| |19^[[h]]|50^[[m]]|5.0^[[s]]|-
2°|15.6'|

[[3 columned table]]

Mean Position of Var.|19^[[h]] 50^[[m]] 5.1^[[s]] -2° 16.4'| (1855)|
| 19 52.4 -2 9| (1900)|

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Positions Charted
June 22, 1898. M.C.S.
 See Chart No. 10c.

October 25, 1895

Meas. to determine pos. of new V Type star. Br lines on B 13439 No. 7143 R.A. Dec.

Mean Dec. $-61^{\circ} 33.8' = \text{Log. } 0.32227$
 1.07700
 1.39927

Plate B3420 1875 Position

9 columned table
x	y	x	y
2	6.05	12.30	12.28
1480	13^	[h]	24^
7	3.30^	[3.32]	12.70
61	45	35.6	9
5	3.55^	[3.52]	1.25
(5?)	~~V~~	T	4.10
13^	[h]	1523	13
V type	5.00	11.00	5.00
9 columned table			
Diff. X	1.05	-1.68	(-1.48)
Log. Diff. X	0.02119	0.22531	
0.17026	9.95424	X179	229.12
1.39927	1.39927	1.39927	1.39927
49.12"	5' 4.30	29' 5.25	
1.42046	1.62458	1.56953	11.35351
No. of Log.	26.33^	[s]	42.13^

21 columned table
 (2)|13^|[h]|24^|[m]|40.92^|[s]|-
 61^|[h]|44'|26.0"|7)|13^|[h]|25^|[m]|47.94^|[s]|-
 61^|[h]|45'|35.6"|5)|13^|[h]|25^|[m]|26.23^|[s]|-61^|[h]|11'|16.2"|
		26.33		3	49.1			42.13		5	4.3		
~~37.11~~	22.57	29	5.2										
13^	[h]	25^	[m]	7.25^	[s]	-61^	[h]	40'	36.9"				
13^	[h]	25^	[m]	5.81^	[s]	-61^	[h]	40'	31.3"		13^	[h]	25^
 61^|[h]|40'|21.4"|

3 columned table
 Mean Position of V Type Star.|13^|[h]| 25^|[m]| 5.57^|[s]| -61^|[h]| 40'
 29.9"| (1875)
 |13 26.8 -61 48|(1900)|
 Adopt. Curve|13 25 6.2 61^|[h]| 40' 30"| (1875)|
 |13 26.8 -61 48|(1900)|
 Identified later as C.P.D. -61^|[h]| 3791|13^|[h]| 25 6.5 -61 40.3|(1875)



9.6^[[Magn.]]|
| 13 26.8 -61 48|(1900)|

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Positions charted.

See chart No. 10b.

October 26, 1895.

Meas. ~~of~~ to determine position of object No. 6510 on pl B 13027. Hydrogen lines bright and supposed to be a variable. Is probably a Nova in Carina since it does not appear on any of taken before.

[[left margin]]

[[3 columned table]]

x y		
x1.79 x1.79		
2 613.97 259.55		
3 345.47 429.60		
4 309.67 179.00		
5 96.66 1127.70		
6 196.90 23.27		
(1) 12.53 98.45		
(2) 59.07 59.07		
x Diff. Diff y		
2 +3.43 -1.45		
3 +1.93 +2.40		
4 +1.73 +1.00		
5 -0.54 -6.30		
6 -1.10 +0.13		
(1) +0.07 +0.55		
(2) 0.33 0.33		

[[/left margin]]

[[2 columned table]]

Mean Dec. = 61° 12' 55.9" = Log. .031740	
<u>1.00770</u>	
1.39440	

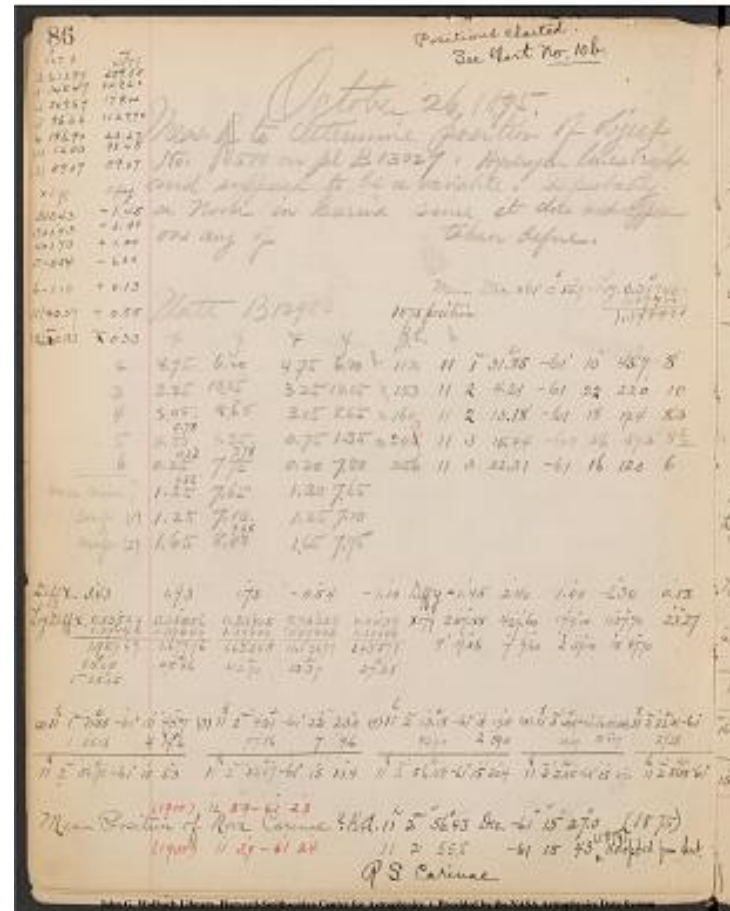
Plate B12988

[[9 columned table]]

[x y z C.^	[[1875 position]]							
2 4.75 6.20 4.75 6.20 b 112 11^ [h] 1^ [m] 31.85^ [s] -61° 10' 45.7"	8							
3 3.25 10.05 3.25 10.05 f 153 11 2 4.21 -61 22 23.0"	10							
4 3.05 8.65 3.05 8.65 3 160 11 2 13.18 -61 18 19.4	8.3							
5 0.80^ [0.78] 1.35 0.75 1.35 c 24 5	3	11						
3 15.44 -60 56 59.3	8 1/2							
6 0.25^ [0.22] 7.75^ [7.78] 0.20 7.80 256 11 3 22.31 -61 16 12.0	6							
Nova Carinae?	1.35^ [1.32] 7.65 1.30 7.65							
(Comp. (1) 1.25 7.10 1.25 7.10								
(Comp. (2) 1.65 8.00^ [7.98] 1.65 7.95								

[[12 columned table]]

Diff. X. 3.43 1.93 1.73 -0.54 -1.10 Diff. Y. -1.45 2.40 1.00 -6.30 0.13											
---	--	--	--	--	--	--	--	--	--	--	--



|Log. Diff.
X.|0.53529|0.28556|0.23805|9.73239|0.04139|X179|259.55"|429.60"|17
9.00"|1127.70"|23.27"|
| 1.39440|1.39440|1.39440|1.39440|1.39440|4' 19.55"|7' 9.60"|2'
59.00"|18' 47.70"|
1.92969	1.67996	1.63245	11.12679	1.43579					
85.05^[[s]]	47.86^[[s]]	42.90^[[s]]	13.39^[[s]]	27.28^[[s]]					
1^[[m]] 25.05^[[s]]									

[[33 columned table]]
(2)|11^[[h]]|1^[[m]]|31.85^[[s]]|-
61°|10'|45.7"| (3)|11^[[h]]|2^[[m]]|4.21^[[s]]|-
61°|22'|23.0"| (4)|11^[[h]]|2^[[m]]|13.18^[[s]]|-
61°|18'|19.4"| (5)|11^[[h]]|3^[[m]]|15.44^[[s]]|-
60°|56'|59.3"| (6)|11^[[h]]|3^[[m]]|22.31^[[s]]|-61°|
| |1|25.05| 4|19.6|| |47.86|
7|9.6|| |42.90|| 2|59.0||
|13.39|| 18|47.7|| |27.28||
| 11^[[h]]|2^[[m]]|56.90^[[s]]|-61°|15'|5.3"| 11^[[h]]|2^[[m]]|52.07^[[s]]|-
61°|1.5'|13.4"| 11^[[h]]|2^[[m]]|56.08^[[s]]|-61°|15'|20.4"|
11^[[h]]|3^[[m]]|2.05^[[s]]|-61°|15'|47.0"| 11^[[h]]|2^[[m]]|55.03^[[s]]|61°|

[[3 columned table]]
|(1900) 11 3.9 -61 23| | |
|Mean Position of Nova Carinae?|R.A. 11^[[h]] 2^[[m]] 56.43^[[s]] Dec. -
61° 15' 27.0"| (1875)|
|(1900) 11 3.9 -61 24|11 2 55.5 -61 15 43|^[[h]]|^[[m]]|^[[s]]| (1875)| Adopted from
chart.|

RS Carinae

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Comp. (1)

12 columned table

Diff. x|3.50|2.00|1.80|-0.47|-1.03|Diff y.|~~1.78~~|-0.90|~~2.07~~|-1.95
|~~0.67~~|-1.55|~~6.64~~|-5.75|~~0.20~~|-0.68|
Log. Diff. x|0.54407|0.30103|0.25527|9.67210|0.01284|x
179|~~318.62~~|370.53|119.93|1186.77|35.80|~~ugh~~]

1.39440	1.39440	1.39440	1.39440	1.39440	1.39440]			
~~5~~ 18.62"	6' 10.53"	1' 59.93"	19' 46.77	~~1.93847~~	1.69543	1.64967	11.06650	1.40724
161.10	528.05	277.45	1029.25	121.72"				
No. of Log.	86.79^	[s]	49.59^	[s]	44.63^	[s]	11.65^	[s]
41.10"	8' 48.05"	4' 37.45"	17' 9.25"	2' 1.72"				
1^	[m]	26.79^	[s]					

35 columned table

(2)|11^|[h]|1^|[m]|31.85^|[s.]|-
61° 10' 45.7"| (3)|11^|[h]|2^|[m]|42.1^|[s.]|-
61° 22' 23.0"| (4)|11^|[h]|2^|[m]|13.18^|[s.]|-
61° 18' 19.4"| (5)|11^|[h]|3^|[m]|15.44^|[s.]|-
60° 56' 59.3"| (6)|11^|[h]|3^|[m]|22.31^|[s.]|-61° 16' 12.0"|
	126.79		241.1		49.59			
8	48.0	44.63		44.63		4	37.4	25.54
11.65		17	9.2	25.54		25.54		
2	1.7	25.54						
11^	[h]	2^	[m]	58.64^	[s.]	-61° 13' 26.8"		
11^|[h]|2^|[m]|53.80^|[s.]|-61° 13' 35.0"| 11^|[h]|2^|[m]|57.81^|[s.]|-
61° 13' 42.0"| 11^|[h]|3^|[m]|3.79^|[s.]|-61° 14' 8.5"|
11^|[h]|2^|[m]|56.77^|[s.]|-61° 14' 10.3"|

3 columned table

Mean Position of Comp. (1.) 11^|[h]| 2^|[m.]| 58.16^|[s.]| -61° 13'
48.5"| (1875)|
| |11 4.0 -61 22'|1900]|

Comp. (2)

12 columned table

Diff. X.|3.10|1.60|1.40|-0.87|-1.43|Diff. Y.|-1.78|2.07|0.67|-6.63|-0.20|
Log. Diff.
X.|0.49136|0.20412|0.14613|9.93952|0.15534|X|179|318.62"|370.53"|11
9.93"|1186.77|35.80"|
1.39440	1.39440	1.39440	1.39440	1.39440	1.39440]								
5' 18.62"	6' 10.53"	1' 59.93"	19' 46.77"										
1.88576	1.59852	1.54053	11.33392	1.54974									
No. of Log.	76.87^	[s.]	39.68^	[s.]	34.72^	[s.]	21.57^	[s.]	35.46^	[s.]			
1^	[m]	16.87^	[s.]										

35 columned table

87

Plate B 12988

Comp.

Diff. x|3.50|2.00|1.80|-0.47|-1.03|Diff y.|~~1.78~~|-0.90|~~2.07~~|-1.95
|~~0.67~~|-1.55|~~6.64~~|-5.75|~~0.20~~|-0.68|
Log. Diff. x|0.54407|0.30103|0.25527|9.67210|0.01284|x
179|~~318.62~~|370.53|119.93|1186.77|35.80|~~ugh~~]

1.39440	1.39440	1.39440	1.39440	1.39440	1.39440]			
~~5~~ 18.62"	6' 10.53"	1' 59.93"	19' 46.77	~~1.93847~~	1.69543	1.64967	11.06650	1.40724
161.10	528.05	277.45	1029.25	121.72"				
No. of Log.	86.79^	[s]	49.59^	[s]	44.63^	[s]	11.65^	[s]
41.10"	8' 48.05"	4' 37.45"	17' 9.25"	2' 1.72"				
1^	[m]	26.79^	[s]					

35 columned table

(2)|11^|[h]|1^|[m]|31.85^|[s.]|-
61° 10' 45.7"| (3)|11^|[h]|2^|[m]|42.1^|[s.]|-
61° 22' 23.0"| (4)|11^|[h]|2^|[m]|13.18^|[s.]|-
61° 18' 19.4"| (5)|11^|[h]|3^|[m]|15.44^|[s.]|-
60° 56' 59.3"| (6)|11^|[h]|3^|[m]|22.31^|[s.]|-61° 16' 12.0"|
	126.79		241.1		49.59			
8	48.0	44.63		44.63		4	37.4	25.54
11.65		17	9.2	25.54		25.54		
2	1.7	25.54						
11^	[h]	2^	[m]	58.64^	[s.]	-61° 13' 26.8"		
11^|[h]|2^|[m]|53.80^|[s.]|-61° 13' 35.0"| 11^|[h]|2^|[m]|57.81^|[s.]|-
61° 13' 42.0"| 11^|[h]|3^|[m]|3.79^|[s.]|-61° 14' 8.5"|
11^|[h]|2^|[m]|56.77^|[s.]|-61° 14' 10.3"|

3 columned table

Mean Position of Comp. (1.) 11^|[h]| 2^|[m.]| 58.16^|[s.]| -61° 13'
48.5"| (1875)|
| |11 4.0 -61 22'|1900]|

Comp. (2)

12 columned table

Diff. X.|3.10|1.60|1.40|-0.87|-1.43|Diff. Y.|-1.78|2.07|0.67|-6.63|-0.20|
Log. Diff.
X.|0.49136|0.20412|0.14613|9.93952|0.15534|X|179|318.62"|370.53"|11
9.93"|1186.77|35.80"|
1.39440	1.39440	1.39440	1.39440	1.39440	1.39440]								
5' 18.62"	6' 10.53"	1' 59.93"	19' 46.77"										
1.88576	1.59852	1.54053	11.33392	1.54974									
No. of Log.	76.87^	[s.]	39.68^	[s.]	34.72^	[s.]	21.57^	[s.]	35.46^	[s.]			
1^	[m]	16.87^	[s.]										

35 columned table

(2) 11^h 11^m 31.85^s -
 61° 10' 45.7" (3) 11^h 12^m 4.21^s -
 61° 22' 23.0" (4) 11^h 12^m 13.18^s -
 61° 18' 19.4" (5) 11^h 13^m 15.44^s -
 60° 56' 59.3" (6) 11^h 13^m 22.31^s - 61° 16' 12.0"
 | 11^h 16.87' 18.6^s | 39.68'
 | 10.5' | 34.72' | 159.9'
 | 21.57' | 1946.8^s | 35.46'
 | 35.8^s |
 | 11^h 12^m 48.72^s - 61° 16' 4.3"
 11^h 12^m 43.89^s - 61° 16' 12.5" | 11^h 12^m 47.90^s -
 61° 16' 19.5" | 11^h 12^m 53.87^s - 61° 16' 46.1"
 11^h 12^m 46.85^s - 61° 16' 47.8"

[[left margin]]
 16' 12.0"
 23.3'
 15' 48.7"
 [[/left margin]]

[[3 columned table]]
 Mean Position of Comp. (2) 11^h 12^m 48.25^s - 61° 16'
 26.0" (1875)
 | 11 3.8 - 61 24 (1900)

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[[right margin]]
(1900)
[[/right margin]]

October 29, 1895

[[left margin]]
positions charted. June 22, '98, M.C.S.
See chart. No.
10~~9~~c.
[[/left margin]]

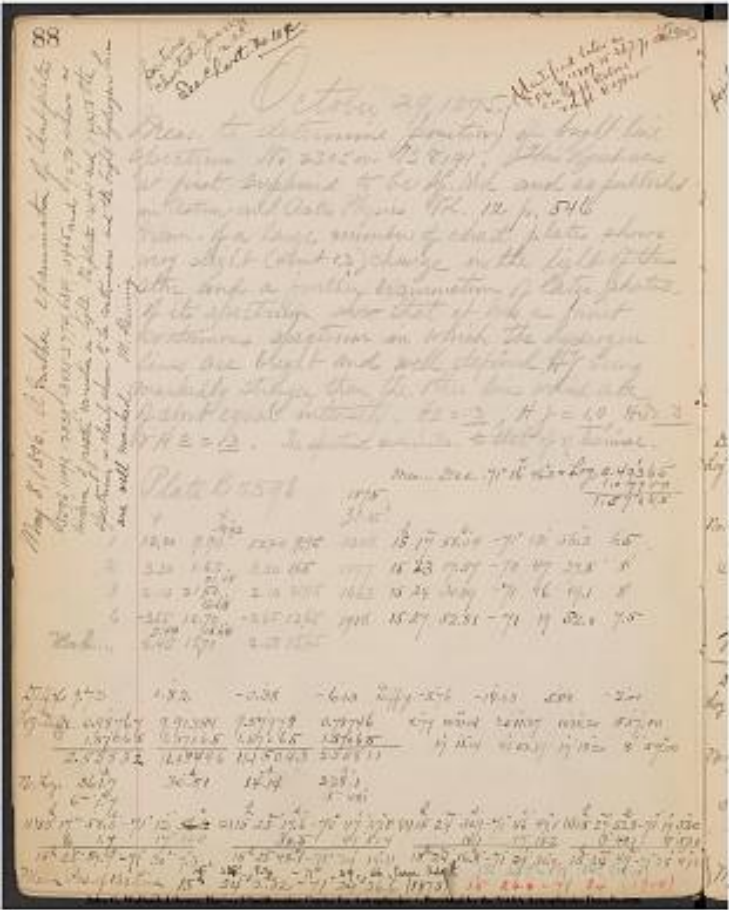
[[right margin]]
Identified later as CP.D. -71° 1889 15 26.7 -71
~~3~~~~4~~~~5~~
See Sp. pl. B36153 & ch. pl. B27625
[[/right margin]]

Meas. to determine position of bright line spectrum No. 2305 on B 8191.
This object was at first supposed to be Sp. Md and so published in
Astron- and Astro Physics Vol. 12 p. 546 Exam. of a large number of
chart plates shows very slight (about 0.3) change in the light of this star
and a further examination of later photos, of its spectrum show that it
has a faint continuous spectrum in which the hydrogen lines are bright
and well defined, H gamma being markedly stronger than the other lines
which all of about equal intensity. H beta = .3, H delta =
.3 & H epsilon =
.3. The spectrum is similar to that of eta
Carinae.

[[left margin]]
May 8, 1896. A further examination of Chart plates 5596, 11090, 12839,
13485, 3774, 6341, 10965 and 9270 shows no evidence of greater
variation in light. The plates 14141 and 14353 the spectrum is clearly
shown to the continuous, and the bright hydrogen lines are well marked.
M. Fleming.
[[/left margin]]

[[2 columned table]]
Mean Dec. 71° 16' 46.3" = Log. 049365
| 1.07700
| 1.57065

Plate B5598 1875
[[9 columned table]]
| x|y | |Z.C. 15^[[h]]| | |
|-----|-----|-----|
| 1|12.20|9.90^|9.92||12.20|9.95|1228|15^[[h]]| 17^[[m.]] 58.04^[[s.]]-71°
12' 56.3"|6.5|
2	3.30	1.65	3.30	1.65	1597	15 23 17.57	-70 47 27.8	8			
3	2.10	21.50^	21.48		2.10	21.45	1663	15 24 30.89	-71 46 49.1	8	
6	-3.65	12.70^	12.68		-3.65	12.65	1918	15 27 52.81	-71 19 52.0	7.5	
Br. lines	2.45^	2.48		15.70^	15.68		2.50	15.65			



[[10 columned table]]
 Diff. X. | 9.72 | 0.82 | -0.38 | -6.13 | Diff. Y. | -5.76 | -14.03 | 5.80 | -3.00 |
 Log. Diff.
 X. | 0.98767 | 9.91381 | 9.57978 | 0.78746 | X | 179 | 1031.04" | 2511.37" | 1038.20" |
 537.00"
 | | 1.57065 | 1.57065 | 1.57065 | 1.57065 | 1.57065 | | | | | 17'
 11.04" | 41' 51.37" | 17' 18.20" | 8' 57.00"
 | 2.55832 | 11.48446 | 11.15043 | 2.35811 | | | | | | |
 No. Log. | 361.7^{[[s]]} | 30.51^{[[s]]} | 14.14^{[[s]]} | 228.1^{[[s]]} | | | | | |
 | 6^{[[m]]} | 1.7^{[[s]]} | | 3^{[[m]]} | 48.1^{[[s]]} | | | | | |

[[28 columned table]]
 | (1) | 15^{[[h]]} | 17^{[[m]]} | 58.0^{[[s]]} | -
 71° | 12' 56.3" | (2) | 15^{[[h]]} | 23^{[[m]]} | 17.6^{[[s]]} | -
 70° | 47' 27.8" | (3) | 15^{[[h]]} | 24^{[[m]]} | 30.9^{[[s]]} | -
 71° | 46' 49.1" | (6) | 15^{[[h]]} | 27^{[[m]]} | 52.8^{[[s]]} | -71° | 19' 52.0"
 | | 6 | 1.7 | | 17 | 11.0^{[[s]]} | | 30.5 |
 41 | 51.4^{[[s]]} | | 14.1 | | 17 | 18.2^{[[s]]} |
 | 3 | 48.1 | | 8 | 57.0^{[[s]]} |
 | 15^{[[h]]} | 23^{[[m]]} | 59.7^{[[s]]} | -71° | 30' 7.3" | 15^{[[h]]} | 23^{[[m]]} | 48.1^{[[s]]} | -
 71° | 29' 19.2" | 15^{[[h]]} | 24^{[[m]]} | 16.8^{[[s]]} | -71° | 29' 30.9"
 15^{[[h]]} | 24^{[[m]]} | 4.7^{[[s]]} | -71° | 28' 49.0"

[[4 columned table]]
 | 15^{[[h]]} | 24^{[[m]]} | 8.2^{[[s]]} | -71° 29' 26" | Curve Adopt | 15 26.7 -71 34
 (1900)
 Mean Pos. of Br. line | 15^{[[h]]} | 24^{[[m]]} | 2.32^{[[s]]} | -71° 29' 26.6" | (1875) | 15
 26.6 -71 34 (1900)

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[[6 columned table]]

Computed|17^[[h]]|43.6^[[m]]|-51°|39.2|(1875)|

| |[[underlined]]|2.0| |-

1|[[strikethrough]]|(1900)|[[strikethrough]]|[[underlined]]|

|[[underlined]]|17^[[h]]|45.6|-51°|40°|(1900)|[[underlined]]|

Curve|17|43.7|-51°|39.3|(1875)|

| |[[underlined]]|2.0| |-1|[[underlined]]|

Cur|17|45.7|-51°|40°|(1900)|

[[3 columned table]]

E.C.P|17|45.8|

M.F.| 45.7|

[[4 columned table]]

| 1900 RA| |1900 pos. from pre. charts|

|---|---|---|---|

a|4|[[strikethrough]]|5|[[strikethrough]]|4.4|17^[[h]]|44.4|

b|44.8|17|44.7|

e|48.1|17|47.9|

f|47.2|17|4|[[strikethrough]]|7|[[strikethrough]]|6.9|



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positions charted.
June 22, 1898 M.C.S.
See Chart No. 10d
[[left margin]]

October 30, 1895

Meas. to determine position of IV Type star ^{[[Var.]]} No. 6465 on B12901. Identified as C.P.D. -64° 1475 10 41 38.3 -64 57.3 (1875) March 21 1906 - (C.P.D. catalogue not made at time star was found to be Type IV). Also found to be variable. See plate B 36119. Chart plate B25357 used for identification & Book 17 page 84.

[[2 columned table]]
Mean Dec. = 64° 35' 3.8" = Log. 0.36734
| 1.07700
| 1.44434

Plate B5071

[[9 columned table]]
| x|y|x|y|Z.C. 10^h (1875) | | |
1|15.70^h|15.72^h|8.55|15.75|8.55|2611|10^h|35^m|51.84^s|-64°
26' 55.0"|6.5|
2|4.30|0.55|4.30|0.55|3000|10 41 4.73|-64 2 46.8|8.5|
3|0.90^h|0.88^h|24.85^m|24.82^m|0.85|24.80|3116|10 42 55.20|-65 15
29.5|8|
|IV Type|3.40|18.75^m|18.78^m|3.40|18.80| | | |
|Comp to IV Type|3.45^m|3.42^m|18.35^m|18.32^m|3.40|18.30| | | |

[[8 columned table]]
Diff. X. 12.32|0.90|-2.52|Diff. Y. -10.23|-18.23|6.04|
Log. Diff. X. |1.09061|9.95424|0.40140|X179|183.17"|3263.17"|1081.16"|
| 1.44434 |1.44434|1.44434|1.44434 |30' 31.17"|54'
23.17"|18' 1.16"|
| 2.53495|11.39858|1.84574| | | |
No. of Log. |342.7^s|25.04^s|70.10^s| | | |
| 5^m|42.7^s|1^m|10.10^s| | | |

[[21 columned table]]
(1)|10^h|35^m|51.8^s|-
64° 26' 55.0"| (2)|10^h|41^m|4.7^s|-
64° 2' 46.8"| (3)|10^h|42^m|55.2^s|-65° 15' 29.5"|
| 5 |42.7 |30|31.2| 25.0 |
54|23.2| 1 |10.1 |18|1.2| 54 |
| 10^h|41^m|34.5^s|-64° 57' 26.2"|
| 10^h|41^m|29.7^s|-64° 57' 10.0"| |10^h|41^m|45.1^s|-
64° 57' 28.3"|

[[3 columned table]]
10^h|42.6^m|-65° 5' (1900)|10^h|41^m|40.8^s|-64° 57'
20|Adopt curve.
|Mean Position of IV Type. |10^h|41^m|36.4^s|-64° 57'
21.5"| (1875)|



[[10 42.5 - 65 5](1900)]]

[[8 columned table]]

Diff X.	12.30	0.88	-2.54	Diff. Y	-9.77	-17.77	6.50
Log. Diff. X.	1.08991	9.94448	0.40483	X179	1748.83"	3180.83	1163.50
	<u>1.44434</u>	<u>1.44434</u>	<u>1.44434</u>		<u>29' 8.83"</u>	<u>53'</u>	<u>0.83"</u>
	19'	23.50"					
	2.53425	11.38882	1.84917				
No. of Log.	342.2 ^{[[s.]]}	24.48 ^{[[s.]]}	70.66 ^{[[s.]]}				
	5 ^{[[m]]}	42.2 ^{[[s.]]}	1 ^{[[m]]}	10.66 ^{[[s.]]}			

[[21 columned table]]

(1)	10 ^{[[h]]}	35 ^{[[m]]}	51.8 4 ^{[[s.]]}	-64°	26'	55.0"	(2)	10 ^{[[h]]}	41 ^{[[m]]}	4.7 3 ^{[[s.]]}	-64°	2'	46.8"	(3)	10 ^{[[h]]}	42 ^{[[m]]}	55.2 ^{[[s.]]}	-65°	15'	29.5"
	<u>5</u>	<u>42.2</u>	<u>29</u>	<u>8.8</u>	<u>24.5</u>	<u>53</u>	<u>0.8</u>	<u>1</u>	<u>10.7</u>	<u>19</u>	<u>23.5</u>									
	10 ^{[[h]]}	41 ^{[[m]]}	34.0 ^{[[s.]]}	-64°	56'	3.8"														
	10 ^{[[h]]}	41 ^{[[m]]}	29.2 ^{[[s.]]}	-64°	55'	47.6"		10 ^{[[h]]}	41 ^{[[m]]}	44.5 ^{[[s.]]}	-64°	56'	6.0"							

[[3 columned table]]

Mean Position of Comp. to IV Type	10 ^{[[h]]}	41 ^{[[m]]}	35.9 ^{[[s.]]}	-64° 55'
	59.1"	(1875)		
	10 42.5 - 65 4	(1900)		

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[[left margin]]
RW Scorp
[[/left margin]]

[[underlined]]Var. No. 108[[/underlined]]

[[underlined]]November 1, 1895. [[/underlined]]

Meas. to determine pos of new variable star in Scorp. Sp. MD on pl B
13766, No. 7342
Approx pos for 1875 (R.A. $17^{\text{h}} 6^{\text{m}} 6^{\text{s}}$ Dec. $-33^{\circ} 16.0'$
Comp stars marked on pl B 3728

[[2 columned table]]

[[Mean Dec. = $-33^{\circ} 17.2' = \text{Log} 1.007781$
| [[underlined]]1.07700[[/underlined]]|
|(1875 Position)|1.15481|

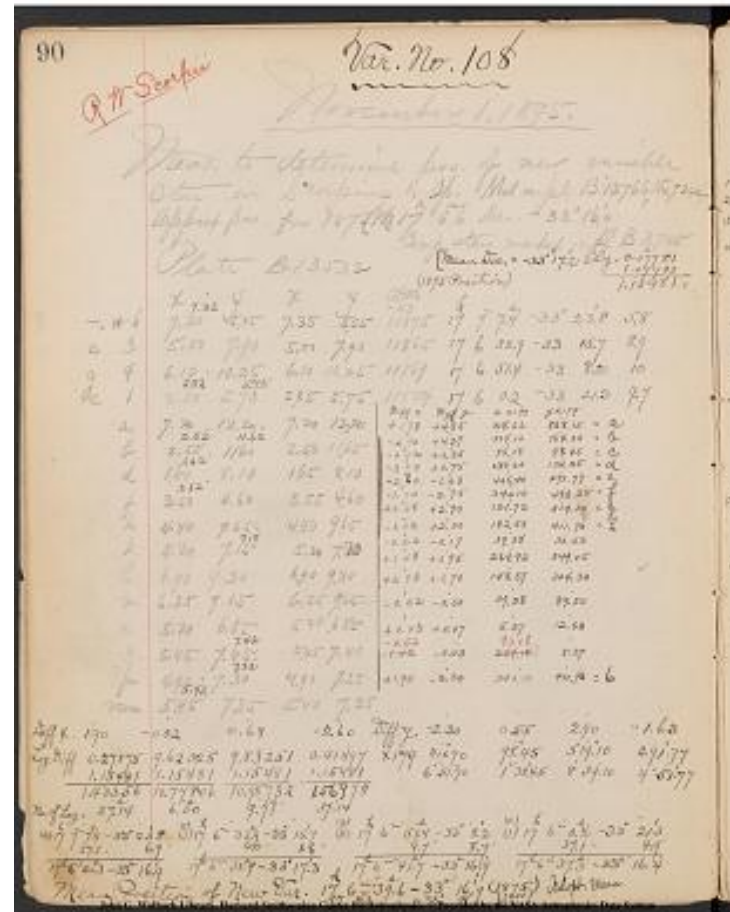
Plate B13532

[[9 columned table]]

x	y	x	y	CDM				
6	7.30	7.32	5.05	7.35	5.05	33		
11875	17 ^h 7 ^m 7.4 ^s	11865	17 6 32.9	33	15.7	8.9		
c	3	5.00	7.90	5.00	7.90	11865	17 6 32.9	33 15.7
g	4	6.10	10.25	6.10	10.25	1186	17 6 51.4	33 8.2
e	1	2.80	12.20	5.70	12.20	11854	17 6 0.2	33 21.3
b	2	5.50	11.60	11.62	2.50	11.65		
d	1	6.00	11.62	8.10	1.65	8.10		
f	3	5.00	13.52	4.60	3.55	4.60		
h	4	4.00	9.65	4.40	9.65			
k	5	2.00	7.15	7.18	5.20	7.18	25	20
l	6	9.00	9.30	6.90	9.30			
m	6	2.50	9.05	6.25	9.05			
n	5	2.00	6.85	5.20	6.85			
o	5	4.50	7.45	7.42	5.45	7.40		
p	4	9.90	7.30	7.32	4.91	7.35		
var.	5	4.50	7.35	5.40	7.35			

[[5 columned table]]

Diff. X	Diff. Y	X × 179	Y × 179	
+1.78	+4.85	318.62	868.15	=a
-2.90	+4.27	519.10	764.33	=b
-0.42	+0.55	75.18	98.45	=c
-3.80	+0.75	680.20	134.25	=d
-2.60	-1.63	465.40	291.77	=e
-1.90	-2.75	340.10	492.25	=f
+0.68	+2.90	121.72	519.10	=g
-1.02	+2.30	182.58	411.70	=h
-0.22	-0.17	39.38	30.43	
+1.48	+1.95	264.92	349.05	
+0.83	+1.70	148.57	304.30	
-0.22	-0.50	39.38	89.50	



|+0.03|+0.07|5.37|12.53| |
 |-[[~~1.42~~]]0.52|-
 0.03|[[~~254.18~~]]93.08|5.37| |
 |+1.90|-2.30|340.10|411.70|=6|

[[10 columned table]]
 |Diff. X|1.90|-0.42|0.68|-2.60|Diff. Y.|-2.30|0.55|2.90|-1.63|
 |Log.
 |Diff.|0.27875|9.62325|9.83251|0.41497|X179|411.70"|98.45"|519.10"|29
 1.77"|
 | |[[1.15481]]|1.15481|1.15481|1.15481|[[1.15481]] |6'
 51.70"|1' 38.45"|8' 39.10"|4' 51.77"|
 | |1.43356|10.77806|10.98732|1.56978| | | | | |
 |No. of Log.|27.14^[[s]]|6.00^[[s]]|9.71^[[s]]|37.14^[[s]]| | | | | |

[[24 columned table]]
 |(6)|17^[[h]]|7^[[m]]|7.4^[[s]]|-
 33° 23.8'| (3)^[[c]]|17^[[h]]|6^[[m]]|32.9^[[s]]|-
 33° 15.7'| (4)^[[g]]|17^[[h]]|6^[[m]]|51.4^[[s]]|-
 33° 8.2'| (1)^[[e]]|17^[[h]]|6^[[m]]|0.2^[[s]]|-33° 21.3'|
 | |[[27.1]] |6.9|[[16.0]] |[[6.0]]
 |1.6|[[9.7]] |[[8.7]]
 |[[37.1]] |4.9|[[16.9]]
 | |17^[[h]]|6^[[m]]|40.3^[[s]]|-33° 16.9'| |17^[[h]]|6^[[m]]|38.9^[[s]]|-
 33° 17.3'| |17^[[h]]|6^[[m]]|41.7^[[s]]|-33° 16.9'|
 |17^[[h]]|6^[[m]]|37.3^[[s]]|-33° 16.4'|

[[3 columned table]]
 |Mean Position of New Var.|17^[[h]] 6^[[m]] 39.6^[[s]] -33° 16.9'| (1875)
 Adopt. Mean|
 | |17 8.3^[[m]] -33° 19'| (1900)|

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November 2, 1895

See p. 92

Meas. to determine position of No. 2409 on pl B 8162. Sp Md? (Susp. var.) Shows no evidence of variation

Plate B 4217

Mean Dec. = $-85^{\circ} 11' 39.3'' = \text{Log. } 10.7739$

1.07700
2.15439

X 1.79 | X 1.79

| x | y |

1	989.87	273.87
2	0.00	1951.10
3	232.70	2201.70
4	236.28	2022.70

Diff. x | Diff. y.

+5.53	+1.53
0.00	+10.90
-1.30	+12.30
-1.32	-11.30

| x | y | x | y | A.G.C. 1875. Position | | |

1	8.15	14.25	14.28	8.15	14.30	4304	3	46	39.82	-85	7
2	2.65	2.62	23.65	2.60	23.65	4610	4	2	19.46	-85	33
3	1.35	1.32	25.05	1.30	25.05	4672	4	5	56.21	-85	37
4	1.30	1.45	1.30	1.45	4546	3	59	7.55	-84	27	29.5
susp. var. Md? 2.65 2.62 12.75 2.60 12.75											

Log. Diff.

X	0.74273	0.00000	0.11394	0.12057	X	179	273.87	1951.10	2201.70	2
2.15439 2.15439 2.15439 2.15439										
33.87 32 31.10 36 41.70 33 42.70										
2.89712 2.15439 2.26833 2.27496										
No. of										
Log. 789.1 142.7 185.5 188. 3										
13 9.1 2 22.7 3 5.5 3										
8 3 4										



[[28 columned table]]°
 |(1)|3^[[h]]|46^[[m]]|39.8^[[s]]|-85°|7'|31.2"| (2)|4^[[h]]|2^[[m]]|19.5^[[s]]|-
 85°|33'|60.0"| (3)|4^[[h]]|5^[[m]]|56.2^[[s]]|-
 85°|37'|36.4"| (4)|3^[[h]]|59^[[m]]|7.6^[[s]]|-84°|27'|29.5"|
	[[underlined]]13	9.1		4	33.9	[[underlined]]			[[underlined]]2	22.7
32	31.1	[[underlined]]			[[underlined]]3	5.5		36	41.7	[[underlined]]
	[[underlined]]3	8.1	[[strikethrough]]3	[[strikethrough]]4						
33	42.7	[[underlined]]								
	3^[[h]]	59^[[m]]	48.9^[[s]]	-85°	2'	57.3"		3^[[h]]	59^[[m]]	56.8^[[s]]
85°	1'	28.9"		4^[[h]]	2^[[m]]	50.7^[[s]]	-85°	0'	54.7"	
3^[[h]]	55^[[m]]	59.1	[[strikethrough]]3	[[strikethrough]]2^[[s]]	-85°	1'	12.2"			

Mean Position of (Sus. Var).

See p. 92.

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November 4, 1895

[[left margin]]

[[2 columned table]]

x 1.79|1.79|

x|y|

---|---

948.70|393.80|

[[~~75.18~~]]75.18|[[~~254.18~~]]254.18|1915.30|

501.20|2139.05|

32.22|2040.60|

[[/left margin]]

Meas. to determine pos. of No 2[[~~409~~]]1[[~~409~~]]409 on
pl B 8162. Sp. Md? susp. var. Not confirmed. See p. 91

[[2 columned table]]

Mean Dec. = $-85^{\circ} 11' 39.3'' = \text{Log. } 1.07739$

| [[1.07700]]|

| 2.15439|

Plate ^[[B]] 4217

[[15 columned table]]

Diff. x| Diff. y.|x|y|x|y|A.G.C. 1875 positions.| | | | | | |

---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
+ 530|+2.20|1|9.00|15.25|9.00|15.25|4304|3^[[h]]|46^[[m]]|39.82^[[s]]|-
85^[[h]]|7|31.2|8 1/4|

---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
[[~~0~~]]1.42|+10.70|2|2.28|2.25|23.75|2.30|23.
75| 461|[[~~9~~]]0|4|2|19.46|-85|33|60.0|8 3/4|
-2.80|+11.95|3| 0.90|25.00|0.90|25.00|4672|4|5|56.21|-85|37|36.4|6.5|
+0.18|-11.40|4|3.85^[[s]]|1.65|3.90|1.65|4546|3|59|7.55|-84|27|29.5|7
1/2|

|Susp. var. |Md?|3.70|[[~~20~~]]13.05| 3.70|
13.05| | | | | | |

[[10 columned table]]

Diff. x.|5.30|-1.42|-2.80|0.18|Diff. y.|2.20|10.70|11.95|-11.40

Log. Diff

x|0.72428|0.15229|0.44716|9.25527|x|179|393.80"|1915.30"|2139.05"|2
040.60"

| [[2.15439]]2.15439|2.15439|2.15439|2.15439| [[6]]
33.80"|3' 55.30"|35' 39.05"|34' 0.60"|

| 2.87867|2.30668|2.60155|11.40966|

No. of Log.|756.3^[[s]]|202.6^[[s]]|399.5^[[s]]|25.68^[[s]]| | | | |

| 12^[[m]]| 36.3^[[s]]|3^[[m]]| 22.6^[[s]]|6^[[m]]| 39.5^[[s]]| | | | |

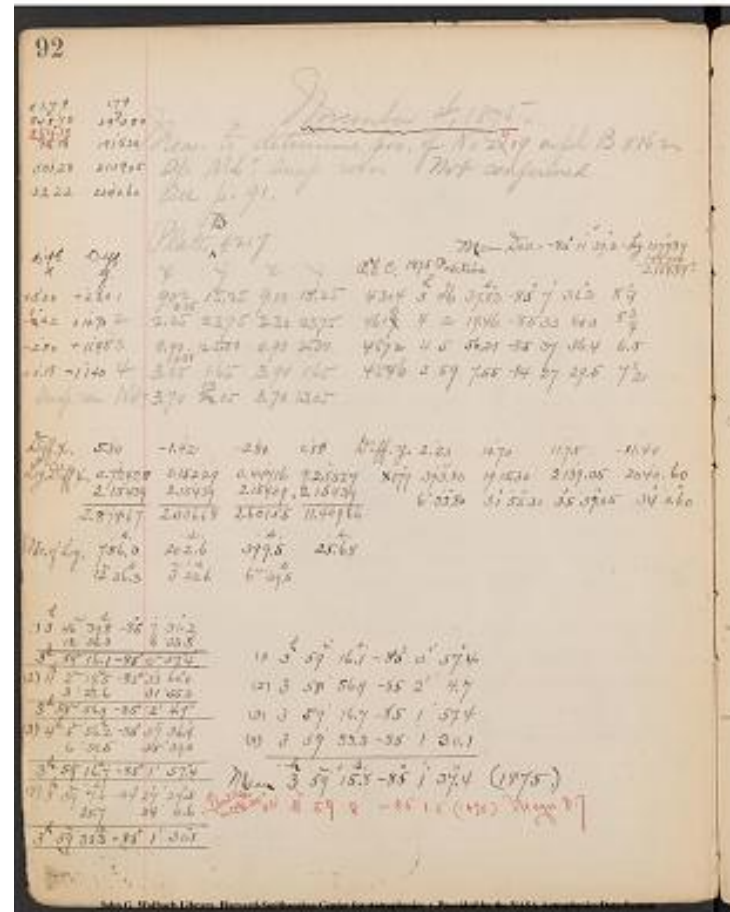
[[7 columned table]]

(1)|3^[[h]]|46^[[m]]|39.8^[[s]]|-85^[[h]]|7|31.2"|

| [[12|36.3| 6|33.8]]|

[[3^[[h]]|59^[[m]]|16.1^[[s]]|-85^[[h]]|0|57.4]]|

(2)|4^[[h]]|2^[[m]]|19.5^[[s]]|-85^[[h]]|33|60.0"|



| 3|22.6| 31'|55.3
|3^h|58^m|56.9^s|-85°|2'|4.7"
 (3)|4^h|5^m|56.2^s|-85°|37|36.4"|
 | 6|39.5| 35'|39.0
|3^h|59^m|16.7^s|-85°|1'|57.4"
 (4)|3^h|59^m|7.6^s|-84°|27'|29.5"|
 | 25.7| 34|0.6
|3^h|59^m|33.3^s|-85°|1'|30.1"

[7 columned table]

(1)|3^h|59^m|16.1^s|-85°|0'|57.4"|
 (2)|3|58|56.9|-85|2|4.7|
 (3)|3|59|16.7|-85|1|57.4|
 (4)|3|59|33.3|-85|1|30.1
 Mean|3^h|59^m|15.8^s|-85°|1'|37.4" (1875.)|

Ident. later as CPD -85° 42^h 3 59 8 -85 1.5 (1875) Magn 8.7

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November 17, 1895.

Meas. to determine position of new ~~type~~ star No. 6818 on B13135.

Plate B4027

[[9 columned table]]

| x|y|x|y|SD|R.A.^[1855]|Dec.|Magn.|

| 1|1.80^[1.78]|5.70^[5.68]|1.75|5.65|-19° 49'09|18^[h]|5^[m]|
 19.5^[s.]]-19° 1.5'|9.1|
 2|2.10^[2.12]|3.10^[3.12]|2.15|3.15|-19° 49'10|18 5 23.7|-19 8.9|9.3|
 3|2.55|5.10|2.55|5.10|-19 49'11|18 5 29.2|-19° 2.5|9.9|
~~V Type~~ 1.20|4.50^[4.52]|1.20|4.55|

[[2 columned table]]

Mean Dec. = 19° 4.3' = Log. |0.02450|

| 1.07700|
 | 1.10150|

[[8 columned table]]

Diff. X. |0.58|0.92|1.35|Diff. Y. |1.16|-1.40|0.58|
 Log. Diff |9.76343|9.96379|0.13033|X |179|207.64"|250.60|103.82|
 | 1.10150|1.10150|1.10150| |3' 27.64"|4'
 10.60"|1' 43.82"|
 | 10.86493|11.06529|1.23183| | | |
 | 7.33^[s.]]|11.62^[s.]]|17.05^[s.]]| | | |

[[6 columned table]]

(1)|18^[h]|5^[m]|19.5^[s.]]-19°|1.5'|
 | 7.3| |3.5|
 | 18^[h]|5^[m]|12.2^[s.]]-19°|5.0'|
 (2)|18^[h]|5^[m]|23.7^[s.]]-19°|8.9'|
 | 11.6| |4.2|
 | 18^[h]|5^[m]|12.1^[s.]]-19°|4.7'|
 (3)|18^[h]|5^[m]|29.2^[s.]]-19°|2.5'|
 | 17.0| |1.7|
 | 18^[h]|5^[m]|12.2^[s.]]-19°|4.2'|

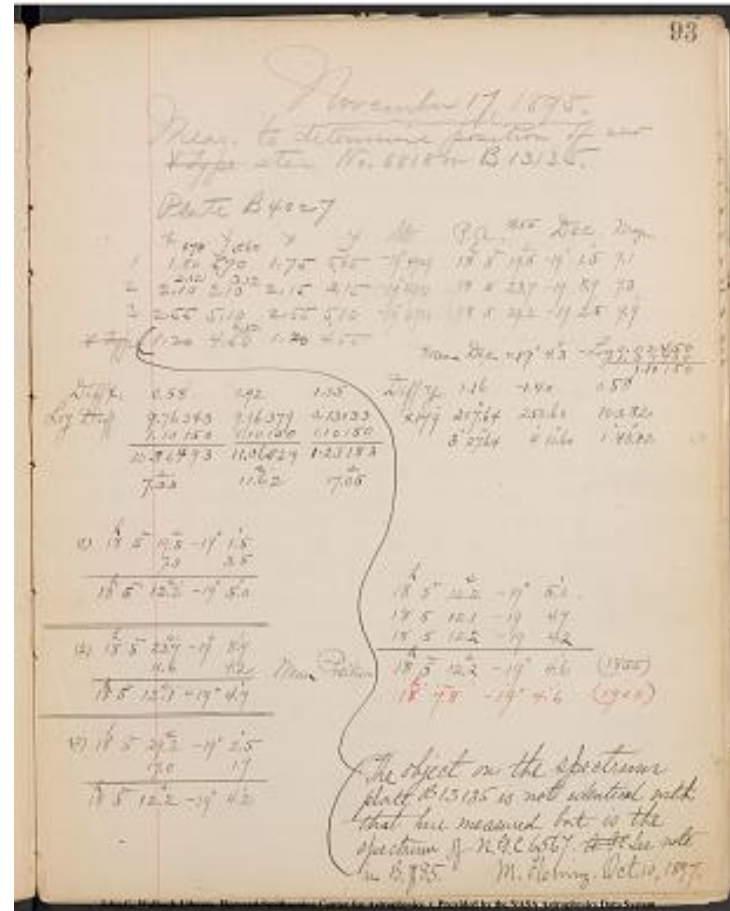
[[7 columned table]]

18^[h]	5^[m]	12.2^[s.]]-19°	5.0'		
18	5	12.1	-19°	4.7	
18	5	12.2	-19°	4.2	
Mean Position	18^[h]	5^[m]	12.2^[s.]]-19°	4.6'	(1855)
18^[h]	7.8^[m.]	-19°	4.6'	(1900)	

The object on the spectrum plate B13135 is not identical with that here measured but is the spectrum of N.G.C. 6567.

~~AGC~~ See note in B.

~~7~~ M. Fleming. Oct. 10, 1897.



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December 3, 1895

Measures of Stars on S.D. Charts by means of glass squares ruled in mms

Region. $0^h 0^m$ to $0^h 4^m$ Dec. $-10^\circ - 11^\circ$

[[3 columned table]]

x	y	
$0^h 0^m$	4^m	$-11^0 0.00$
$0^h 4^m$	0.00	19.55
$0^h 10^m$	0.00	19.40
$0^h 0^m$	19.40	0.05

[[equation]]

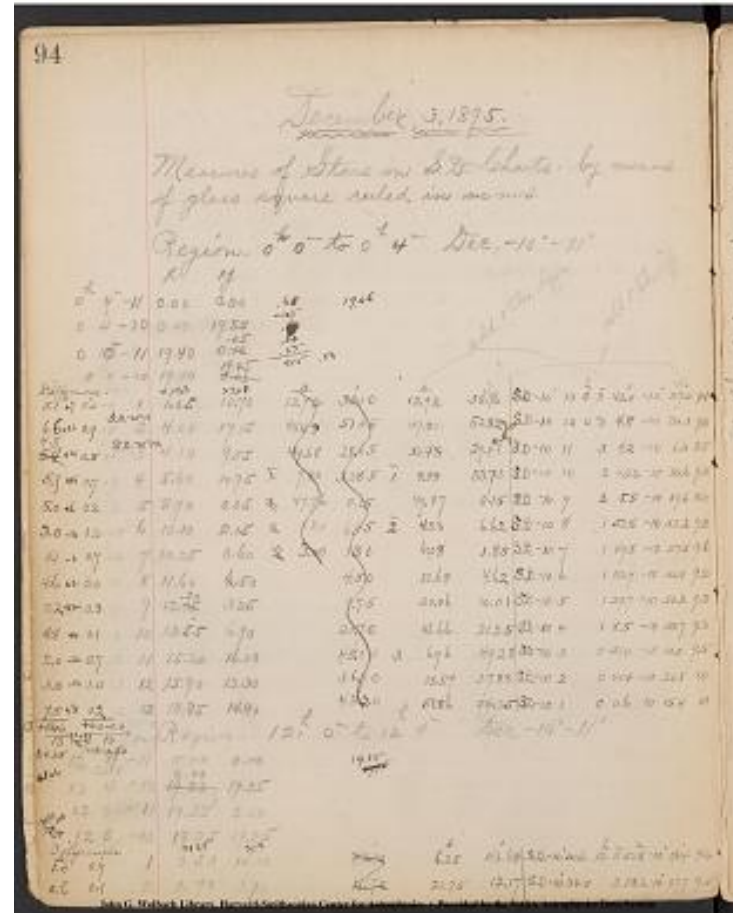
19.46

add & take diff.

add & take diff.

[[16 columned table]]

Differences.	Resid.	X12.3	X3.08												
5.1^h	0.0^m	4.1	1.05	10.70											
12.92^h	32.96^m	S.D. -10°	13.0^h	3^m	42.0^h	10^m	27.0^h	9.4							
6.6	$+22.0.9$	$+5^h$	S.D. -10°	11^m	$2.4.00$	17.15									
48.48	51.45				49.20	29.41	SD -10°								
11.0	$3.4.8$	$-10.30.1$	9.8												
5.4	4.8	$+4.0.5$	$+1^h$	S.D. -10°											
3.4	$10.9.55$				49.68	28.65									
50.43	52.82	SD -10°	12	$3.4.2$	$-10.6.3$	8.5									
5.9	$+15$														
0.7	$+3.4$	5.60	10.95		1^h	7.80	32.85								
8.88	33.7	SD -10°	10	$2.45.2$	$-10.25.6$	9.5									
5.0	$+6.0.2$	-2.5	8.90	0.05		$1.47.76$	0.15								
49.47	0.15	S.D. -10°	9	$2.5.5$	$-10.59.6$	8.0									
3.0	-14														
1.2	$+8.6$	$10.10.2$	15		$2.1.20$	6.45									
$23.6.6$	S.D. -10°	8	$1.52.8$	$-10.52.2$	9.8										
4.1	$-3.0.7$	$+3.7$	10.25	0.60		$2.3.00$	1.80								
6.08	1.85	S.D. -10°	7	$1.49.8$	$-10.57.5$	9.6									
4.6	$+2.0.0$	-4.8	11.60			1.50									
4.50					22.68	4.62	S.D. -10°	6	$1.32.7$						
$10.55.4$	9.2														
0.2	$-42.0.3$	-7.9	12		15		$20.3.25$								
9.75					30.06	10.01	S.D. -10°	5	$1.29.7$						
$10.50.3$	9.3														
4.8	$+4.0.1$	-3.10	13.55	6.90		20.70									
46.66	21.25	S.D. -10°	4	$1.8.5$	$-10.38.7$	9.3									
2.0	$-24.0.7$	$+3.11$	15.20	16.00											
48.00					$3.6.96$	49.28	S.D. -10°	3	$0.51.0$						
$10.10.0$	9.5														
3.0	$-14.1.0$	-3.12	15.90	12.30											
36.90					15.57	37.88									
S.D. -10°	2	$0.41.4$	$-10.21.1$	10											



7.5 +31 0.2|-2|13|18.85|14.40| |
~~43.20~~ |51.86|44.35|S.D -10 1| |0 0.6|-
 10 15.4|10|

[[equation]] [[equation]]

Region 12^h 0^m to 12^h 4^m Dec. -10° -11°

19.25 ~~175~~

[[3 columned table]]
 12^h 4 -11|0.00|0.00|
 12 4 -10~~19.25~~0.00|19.25|
 12 0 -11|19.25|0.00|
 12 0 -10|19.25|19.25|

[[equation]]

[[4 columned table]]
Differences	X12.5	3.12
 1.0^s 0.9'|1|0.50|14.00|
 0.6 0.1|2|1.70|3.90|

[[7 columned table]]
~~42.00~~6.25^s 43.68'S.D. -10°
 3416|12^h 3^m 52.8^s|-10° 15.4'|9.6|
~~11.70~~21.25 12.17|S.D -10° 3415| |3
 38.2|-10° 47.7|9.5|

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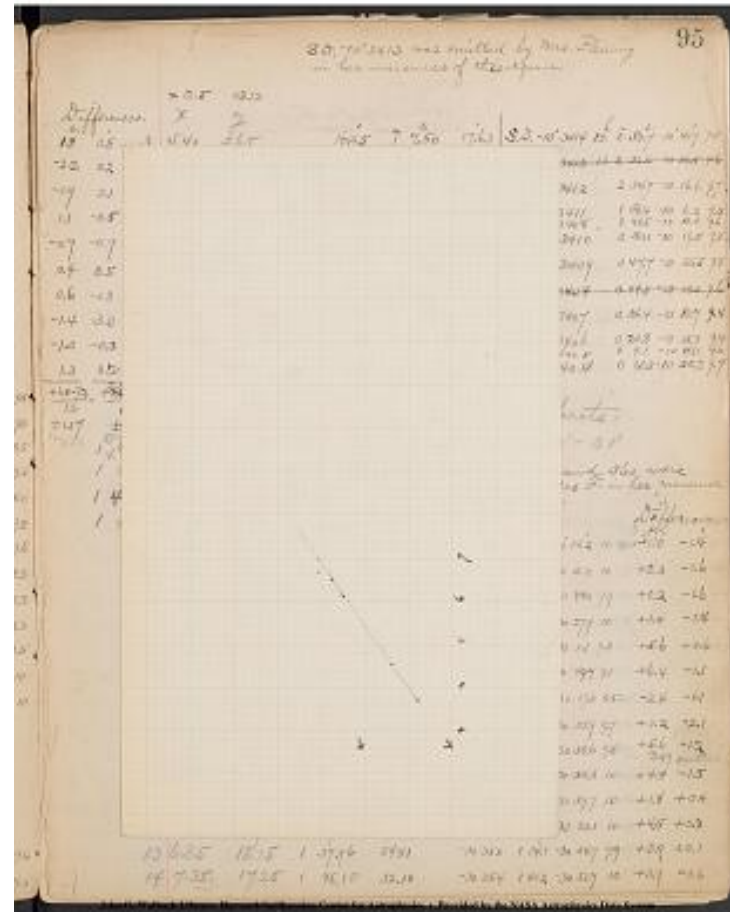
SD. -10° 3413 was omitted by Mrs. Fleming in her measures of this square

[[image]]

40

30

3 4 5 6 7



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Measures of Stars on C.D.M Charts.
 Region $1^h 0^m$ to $1^h 4^m$ Dec. -30° -31° .

[[3 columned table]]
 $1^h 0^m -30.00|0.00|$
 $1^h 0^m -31|$
 $1\ 4 -30|16.80|-0.20|$
 $1\ 4 -3|$

[[equation]] [[equation]]

C.D.M. -30° 349 and 360 were omitted by Mrs. F. in her measures of this square.

[[strikethrough]]xx143 yx 596[[/strikethrough]]

[[17 columned table]]

Resid.	Differences.	Differences.	Differences.
1 0.20 4.25 0 ^m 2.86 ^s 12.84' C.D.M -30°			
340 1 ^h 0 ^m 3.9 ^s 14.2' 10-52 -1.0 ^s -1.4' +2			
2 0.65 1.45 9.30 4.38 -30 341 0 7.0 -30 5.0 10 -9 +2.3 -0.6 +2			
3 1.40 15.35 20.02 46.36 -30 342 0 19.8 -30 48.0 9.9 -30 +0.2 -1.6 -4			
4 1.75 9.10 25.02 27.48 -30 343 0 23.6 -30 27.0 10 -18 +1.4 -0.4 +8			
5 2.45 0.55 35.03 1.66 -30 344 0 29.4 -30 1.1 9.3 +24 +5.6 +0.6 +1			
6 3.85 16.10 55.06 48.62 -30 345 0 48.7 -30 49.7 9.1 +32 +6.4 -1.1 -1			
7 4.25 5.25 1 ^h 0.78 15.86 -30 348 1 ^h 3.2 -30 17.0 8.5 -56 -2.4 -1.1 +8			
8 4.20 10.20 1 0.06 30.80 -30 347 0 59.9 -30 32.9 9.7 -30 +0.2 -2.1 +9			
9 4.25 12.40 1 0.78 37.45 -30 346 0 55.2 -30 38.6 9.8 +24 +5.6 -1.2 0			
10 5.65 11.20 1 20.80 33.82 -30 350 1 16.0 -30 35.3 10 +16 +4.8 ^s			
11 5.60 19.90 1 20.80 1 0.10 -30 351 1 18.3 -30 59.7 10 -14 +1.8 +0.4 +			
12 6.80 6.75 1 37.24 20.38 -30 352 1 32.7 -30 20.1 10 +13 +4.5 +0.3 +			
13 6.85 18.15 1 37.96 54.81 -30 353 1 34.1 -30 54.7 9.9 +7 +3.9 +0.1 +			
14 7.35 17.25 1 45.10 52.10 -30 354 1 41.2 -30 52.7 10 +7 +3.9 -0.6 +			

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December, 3, 1895.

[[10 column table]]

| X | Y | | | | | Differences |

| x14.3 | 3.02 | m. s. | | C.D.M. | h m. s. | | | s. ' |

15 | 9.20 | 18.10 | 2 11.56 | 54.66 | -30° 355 | 1 2 10.9 | -30° 54.7' | 10 | -25 +0.7 0.0 +12 |

16 | 10.50 | 12.00 | 30.15 | 36.24 | -30 356 | 2 26.4 | -30 36.9 | 10 | +6 +3.8 -0.7 +5 |

17 | 10.65 | 11.10 | 32.30 | 33.52 | -30 357 | 2 33.3 | -30 40.9 | 9.3 | -42 -1.0 -7.4 -62 |

18 | 12.05 | 16.05 | 52.32 | 48.47 | -30 359 | 2 48.3 | -30 51.4 | 10 | +8 +4.0 -2.9 -7 |

19 | 11.95 | 5.00 | 50.88 | 15.10 | -30 358 | 2 43.7 | -30 14.7 | 10 | +40 +7.2 +0.4 +16 |

20 | 13.05 | 14.50 | 3 6.62 | 43.79 | -30 362 | 3 3.6 | -30 44.7 | 10 | -2 +3.0 in means -0.9 +3 ^[[[arrow]] 360 omitted.]] |

21 | 13.15 | 9.65 | 8.04 | 29.14 | | -30 361 | 3 2.3 | -30 30.9 | 9.9 | +25 +5.7 -1.8 -6 |

22 | 14.00 | 13.80 | 20.20 | 41.68 | -30 363 | 3 17.3 | -30 43.4 | 10 | -3 +2.9 -1.7 -5 |

23 | 15.20 | 1.20 | 37.36 | 3.62 | -30 364 | 3 32.5 | -30 4.7 | 10 | +17 +4.9 -1.1 +1 |

24 | 15.40 | 14.35 | 40.22 | 43.34 | -30 366 | 3 34.4 | -30 44.7 | 10 | +26 +5.8 -1.4 -2 |

25 | 15.35 | 16.55 | 39.50 | 49.98 | -30 365 | 32.8 | -30 51.2 | 10 | +35 +6.7 -1.2 0 |

26 | | | | | | [[formula]] | [[formula]] | [[formula]] |

Measures of Stars on C.D.M. Charts.
 Region $^{\wedge}[[R.A.]]$ $13^{\wedge}[[h]]$ $4^{\wedge}[[m]]$ Dec. -30° -31°
 A.D. +/- 2.20 Mean 3.24 Mean -1.16
 [[formula]]

[[4 column table]]

13 $^{\wedge}[[h]]$ 0 $^{\wedge}[[m]]$ -30° | 0.00 | 0.00 | [[formula]] |

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December, 3, 1895.

No.	h	m	s	h	m	s	Differences				
15	9.20	18.10	2	11.56	54.66	-30° 355	1 2 10.9 -30° 54.7' 10 -25 +0.7 0.0 +12				
16	10.50	12.00	30.15	36.24	-30 356	2 26.4 -30 36.9	10 +6 +3.8 -0.7 +5				
17	10.65	11.10	32.30	33.52	-30 357	2 33.3 -30 40.9	9.3 -42 -1.0 -7.4 -62				
18	12.05	16.05	52.32	48.47	-30 359	2 48.3 -30 51.4	10 +8 +4.0 -2.9 -7				
19	11.95	5.00	50.88	15.10	-30 358	2 43.7 -30 14.7	10 +40 +7.2 +0.4 +16				
20	13.05	14.50	3 6.62	43.79	-30 362	3 3.6 -30 44.7	10 -2 +3.0 in means -0.9 +3 ^[[[arrow]] 360 omitted.]]				
21	13.15	9.65	8.04	29.14		-30 361	3 2.3 -30 30.9	9.9 +25 +5.7 -1.8 -6			
22	14.00	13.80	20.20	41.68	-30 363	3 17.3 -30 43.4	10 -3 +2.9 -1.7 -5				
23	15.20	1.20	37.36	3.62	-30 364	3 32.5 -30 4.7	10 +17 +4.9 -1.1 +1				
24	15.40	14.35	40.22	43.34	-30 366	3 34.4 -30 44.7	10 +26 +5.8 -1.4 -2				
25	15.35	16.55	39.50	49.98	-30 365	32.8 -30 51.2	10 +35 +6.7 -1.2 0				
26											

Measures of Stars on C.D.M. Charts.
 Region $13^{\wedge} h$ $4^{\wedge} m$ Dec. -30° -31°
 A.D. +/- 2.20 Mean 3.24 Mean -1.16
 [[formula]]

No.	h	m	s	h	m	s	Differences
13.0-31	3.00	0.00	0.00	13.05	0.00	0.00	
13.0-31	0.00	14.45	0.00	14.45	0.00	0.00	
13.4-31	17.15	0.15	0.15	17.15	0.15	0.15	
13.4-31	17.00	0.00	0.00	17.00	0.00	0.00	
1	0.35	0.35	0.35	0.35	0.35	0.35	
2	1.00	2.00	2.00	2.00	2.00	2.00	
3	1.15	2.15	2.15	2.15	2.15	2.15	
4	1.45	2.45	2.45	2.45	2.45	2.45	
5	1.75	2.75	2.75	2.75	2.75	2.75	
6	2.40	2.40	2.40	2.40	2.40	2.40	
7	2.35	2.35	2.35	2.35	2.35	2.35	
8	3.50	3.50	3.50	3.50	3.50	3.50	
9	4.05	4.05	4.05	4.05	4.05	4.05	
10	5.05	5.05	5.05	5.05	5.05	5.05	
11	5.15	5.15	5.15	5.15	5.15	5.15	
12	5.15	5.15	5.15	5.15	5.15	5.15	

13 0 -31 | 0.00 | 19.45 | ~~[[formula]]~~ |

13 4 -30 | 17.15 | -0.15 | |

13 4 -31 | 17.00 | 19.50 | xx 14.1 y x 307 ~~[[strikethrough]]~~ y x 386
~~[[\strikethrough]]~~ |

[[continued table from top]]

| x 14.1 | x 3.07 | m s. | | C.D.M. | h m. s. | | Differences |

1 | 0.35 | 8.80 | 0 4.94 | 27.02 | -30° 10339 | 13 0 3.5 | -30° 27.3' | 10 |
+10 +1.4 [^][[s.]] -0.3' +1 |

2 | 1.00 | 3.90 | 14.10 | 11.97 | -30 10340 | 0 11.1 | -30 12.3 | 10 | +26
+3.0 -0.3 +1 |

3 | 1.15 | 7.85 | 16.22 | 24.10 | -30 10341 | 0 16.0 | -30 24.4 | 10 | -2
+0.2 -0.3 +1 |

4 | 1.85 | 10.30 | 26.08 | 31.62 | -30 10342 | 0 23.5 | -30 31.7 | 9.8 | +22
+2.6 -0.1 +3 |

5 | 1.75 | 16.25 | 24.68 | 49.89 | -30 10343 | 0 24.3 | -30 52.0 | 8.6 | 0
+0.4 -2.1 -17 |

6 | 2.40 | 2.25 | 33.84 | 6.91 | -30 10344 | 0 34.6 | -30 6.9 | 10 | -12 -0.8
0.0 +4 |

7 | 2.95 | 12.45 | 41.60 | 38.22 | -30 10345 | 0 42.5 | -30 38.8 | 10 | -13 -
0.9 -0.6 -2 |

8 | 3.80 | 14.60 | 53.58 | 44.82 | -30 10347 | 0 53.3 | -30 45.2 | 10 | -1
+0.3 -0.4 0 |

9 | 4.05 | 16.40 | 57.10 | 50.35 | -30 10346 | 0 51.8 | -30 52.3 | 9.3 | +49
+5.3 -1.9 -15 |

10 | 4.35 ~~[[strikethrough]]~~ 5 ~~[[\strikethrough]]~~ | 7.75 | 1 1.34 | 23.79 | -30
10348 | 1 1.2 | -30 23.7 | 9.8 | -3 +0.1 +0.1 +5 |

11 | 4.65 ~~[[strikethrough]]~~ 5 ~~[[\strikethrough]]~~ | 4.00 | 1 5.56 | 12.28 | -30
10349 | 1 2.9 | -30 12.3 | 10 | +23 +2.7 0.0 +4 |

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+0.1|-0.5 | -1 |
 |36 | 11.75 | 13.20 | 45.68 | 40.52 | -30 10373 | | 44.1 | -30 42.1 9.7 |
 +12 | +1.6|-1.6 | -12 |
 |37 | 13.05 | 6.90 | 3|4.00 | 21.18 | -30 10375| |3|3.6 | -30 22.3 10 | 0 |
 +0.4|-1.1 | -7 |
 |38 | 13.85 |~~7~~0.80 | 15.28
~~23.95~~2.46 | -30 10377| |3|15.5 | -30
 1.3 9.8 | -6 | -0.2|+1.2 | +16 |
 |39 | 13.55 | 17.55| |11.06 | 53.88 | -30 10376| |3|10.8 | -30 55.4 9.5 | -
 1 | +0.3|-1.5 | -11 |
 |40 | 14.10 | 16.20| |18.81 | 49.73 | -30 10379| |3|23.3 | -30 50.4 9.8 | -
 44 | -4.5|-0.7 | -3 |

[[right margin]]
 10378 omitted in measuring]]
 [[/right margin]]

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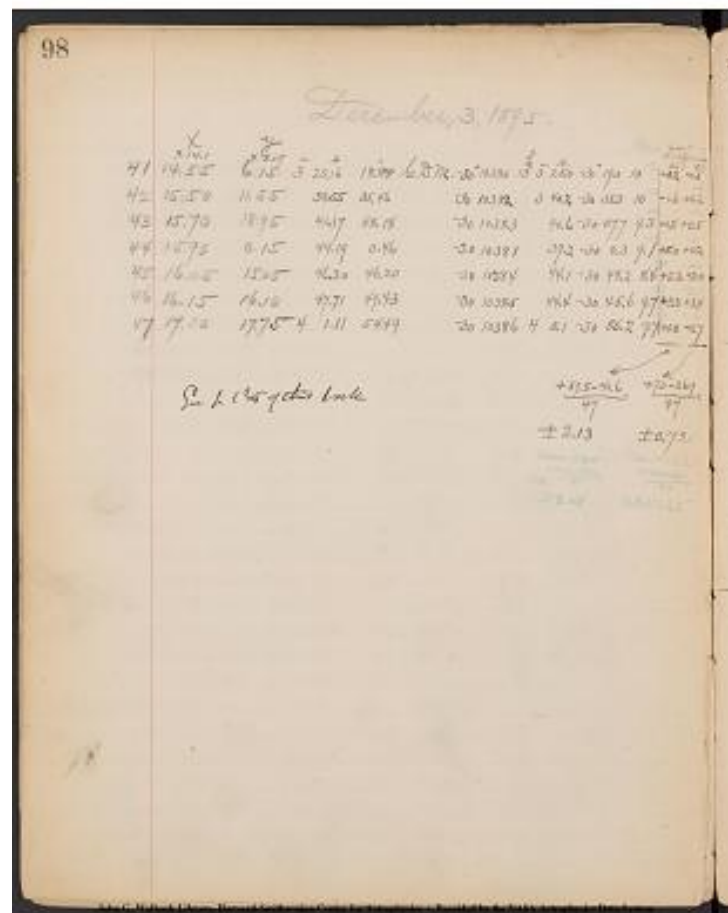
[[15 columned table]]

X x 14.1 Y x 3.07				Resid. Differences.			
41	14.55 6.15 3^ [m]	25.16^ [s]	18.88^	C.D.M. -30°			
10380	13^ [h] 3^ [m]	25.0^ [s]	-30°	19.0	10 -2 +0.2^ [s]	-0.1^	+3
42	15.50 11.55	38.55 35.46 -30	10382	3 40.2 -30	35.3	10 -20 -1.6	+0.2 +6
43	15.70 18.95	41.37 58.18 -30	10383		40.6 -30	57.7	
9.3	+4 +0.8 +0.5 +9						
44	15.90 0.15	44.19 0.46 -30	10381		30.2 -30	0.3	
9.1	+46 +5.0 +0.2 +6						
45	16.05 15.05	46.30 36.20 -30	10384		44.1 -30	48.2	
8.4	+18 +2.2 -2.0 -16						
46	16.15 16.10	47.71 49.43 -30	10385		44.4 -30	45.6	
9.7	+29 +3.3 +3.8 +42						
47	17.10 17.75 41.1	54.49 -30	10386	4 0.1 -30	55.2		
9.7	+6 <u>17.75</u> +1.0 -0.7 <u>17.75</u> -3						

See p 135 of this book

$$[[\text{equation}]] \quad [[\text{equation}]]$$
 $\pm 2.13 \pm 0.72$
$$12.10 \pm 0.72$$

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Catalogue Stars of Nova Normae

copied from page. 19. of Miss Winlock's work
1 turn = 215.4"
Micrometer measures.

[[5 columned table]]

X Y. A.G.C. No. R.A. 1900 Dec.				
28.8821 28.2057 20906 15 ^h 21 ^m 53.87 ^s -49° 46' 8.7"				
25.6293 22.8506 20926 15 21 56.99 -50 6 10.9				
24.4813 18.1730 20940 15 22 14.74 -50 23 13.7				
17.8139 15.0671 20995 15 24 40.00 -50 36 1.9				
18.5435 28.0037 20999 15 24 42.63 -49 49 29.4				
16.9870 16.3181 21005 15 25 0.51 -50 31 43.1				
16.8832 19.8881 21006 15 25 7.96 -50 18 57.6				
16.2303 12.9179 21009 15 25 12.61 -50 44 5.5				
24.9092 20.6744				

[[2 columned table]]

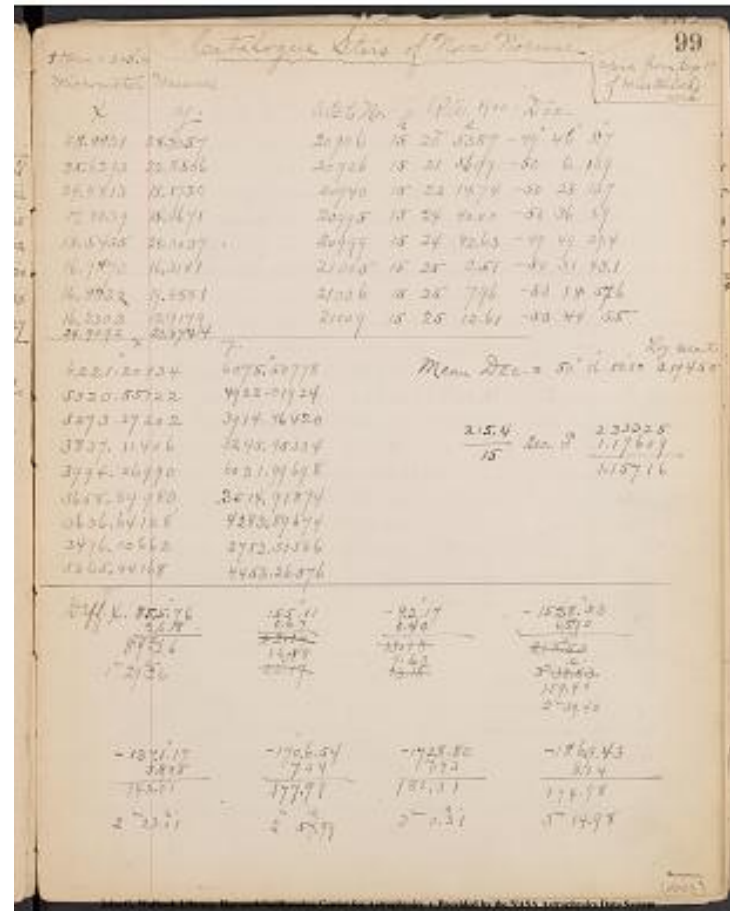
X Y.	
6221.20434 6075.50778	
5520.55122 4922.01924	
5273.27202 3914.46420	
3837.11406 3245.45334	
3994.26990 6031.99698	
3658.89980 3514.91874	
3636.64128 4283.89674	
3496.00662 2782.51566	
5365.44168 4453.26576	

Mean Dec. = 50° 16' 58.8" = $^{\wedge}(\text{Log. secant.})$ 0.19450-
sec. delta

Diff. X. $\frac{1}{2} \frac{1}{2} \frac{1}{2} \frac{1}{2}$
 $\frac{1}{2} \frac{1}{2} \frac{1}{2} \frac{1}{2}$

(over)

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Project PHaEDRA - Williamina P. Fleming - Variable Stars #4
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Positions Charted.

See Chart No. 86

[5 columned table]

Diff. Y|1622.2"|468.4"|-538.8"|-1207.8"
 |27' 2.2"|7' 48.7"|8' 58.8"|20' 7.8"
 |1578.7"|938.4"|169.4"|1670.8"
 |26' 18.7"|15' 38.4"|2' 49.4"|27' 50.8"

[6 columned table]

15^h[[h]]|20^m[[m]]|53.87^s[[s]]|-49°|46'8.7"
 |1|29.26| |27|2.2|
 |15^h[[h]]|22^m[[m]]|23.13^s[[s]]|-50°|13'10.9"|
 |15^h[[h]]|21^m[[m]]|56.99^s[[s]]|-50°|6'10.9"
 |16.18| |7|48.7|
 |15^h[[h]]|22^m[[m]]|13.17^s[[s]]|-50°|13'59.6"|
 |15^h[[h]]|22^m[[m]]|14.74^s[[s]]|-50°|23'13.7"
 |9.62| |8|58.8|
 |15^h[[h]]|22^m[[m]]|5.12^s[[s]]|-50°|14'14.9"|
 |15^h[[h]]|24^m[[m]]|40.00^s[[s]]|-50°|36'1.9"
 |2|39.40| |20|7.8|
 |15^h[[h]]|22^m[[m]]|0.60^s[[s]]|-50°|15'54.1"|
 |15^h[[h]]|24^m[[m]]|42.63^s[[s]]|-49°|49'29.4"
 |2|23.01| |26|18.7|
 |15^h[[h]]|22^m[[m]]|19.62^s[[s]]|-50°|15'48.1"|
 |15^h[[h]]|25^m[[m]]|0.51^s[[s]]|-50°|31'43.1"
 |2|57.99| |15|38.4|
 |15^h[[h]]|22^m[[m]]|2.52^s[[s]]|-50°|16'4.7"|
 |15^h[[h]]|25^m[[m]]|7.96^s[[s]]|-50°|18'57.6"
 |3|0.31| |2|49.4|
 |15^h[[h]]|22^m[[m]]|7.65^s[[s]]|-50°|16'8.2"|
 |15^h[[h]]|25^m[[m]]|12.61^s[[s]]|-50°|44'5.5"
 |3|14.98| |27|50.8|
 |15^h[[h]]|21^m[[m]]|57.63^s[[s]]|-50°|16'14.7"

X42

[9 columned table]

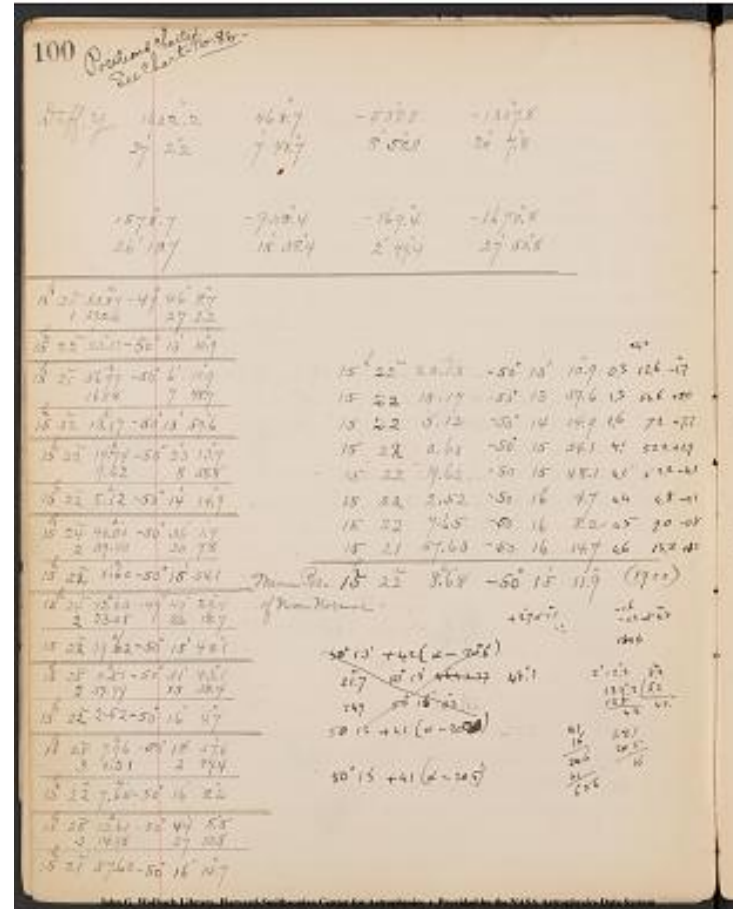
15^h[[h]]|22^m[[m]]|23.13^s[[s]]|-50°|13'10.9"|0.3|12.6|-1.7"
15	22	13.17	-50	13	59.6	1.3	54.6	+50
15	22	5.12	-50	14	14.9	1.6	7.2	+7.7
15	22	0.60	-50	15	54.1	4.1	52.2	+1.9
15	22	19.62	-50	15	48.1	4.1	52.2	-4.1
15	22	2.52	-50	15	4.7	4.4	4.8	-0.1
15	22	7.65	-50	16	8.2	4.5	90	-0.8
15	21	57.63	-50	16	14.7	4.6	13.2	+1.5

Mean Pos. of Nova Normae 15^h[[h]] 22^m[[m]] 8.68^s[[s]] -50° 15 11.9"
 (1900)

~~[[equation]]~~

[[equation]]

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[[Table of 10 columns with line separating 4th and 5th column. First column is crossed out]]

[[Above third column]]20.5

[[row 1]]0.9|0.4|16.4|-5.5|6|.2.4.0|[25.5^3]||+248||+2.56|[252]

[[row 2]]1.9|1.4|57.4|+2.2|26|1.0.40|23.47|+.62|+.50|+66

[[row 3]]2.2|1.7|9.7|+5.2|63|1.7.2|22.32|-.73|-.65|-69

[[row 4]]4.7|6.2|52.2|+1.9|56|22.6|23.00|-.05|+.03|-.01

[[row 5]]4.7|6.2|52.2|

4.1|9|[[above]].196|[[above]].3.6|[[above]]23.22|[[above]]~~[[strikethrough]]~~

20.98|~~[[strikethrough]]~~[[above]]+.17|[[above]]~~[[strikethrough]]~~-

2.07|~~[[strikethrough]]~~+.25|+.21|

[[row 6]]5.0|4.5|4.5|+0.2|52|2.0.8|22.60|-.65|-.37|-.41

[[row 7]]5.1|4.6|8.6|-0.4|39|15.6|23.25|+.20|+.28|+.24

101

0.9	1.4	16.4	-5.5	6	2.4	0	[25.5^3]	(+248)	(+2.56)	[252]
1.9	1.4	57.4	+2.2	26	1.0	40	23.47	+.62	+.50	+66
2.2	1.7	9.7	+5.2	63	1.7	2	22.32	-.73	-.65	-69
4.7	6.2	52.2	+1.9	56	22.6	23.00	-.05	+.03	-.01	
4.7	6.2	52.2								
4.1	9	196	3.6	23.22						
5.0	4.5	4.5	+0.2	52	2.0	8	22.60	-.65	-.37	-.41
5.1	4.6	8.6	-0.4	39	15.6	23.25	+.20	+.28	+.24	

$15^h 22^m 28^s - 8^h 59^m 10^s$

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Measures of new star, ~~or~~ var? ~~copied from Mrs. F's Old. Book 7~~

Nova Centauri p110

December 13, 1895 Plate B14072.

Micrometer Measures.

[7 columned table]

[V.H.] [Design] R.A. 1875 [Dec.] [Mag.]

1.52.692	56.487	Z.C. 13 ^h	1874.13 ^h	31 ^m	5.28 ^s	31° 36'
1.1	8.2					
2.41.894	52.895	13 1908	13 31 41.86	-30 45 23.5	9	
3.32.472	49.564	13 1947	13 32 20.59	-30 14 55.3	8½	
4.62.893	50.816	13 1963	13 32 35.12	-31 51 11.0	9.5	
5.33.683	41.665	13 2059	13 34 17.24	-30 16 54.2	8.8	
6.45.636	38.172	13 2134	13 35 22.24	-30 53 42.6	9	
var?	46.821	48.491				

[2 columned table]

Mean Dec. = -30° 56' 21.3" = Log. 0.06663

1.10164
1.16827

[5 columned table]

Diff. V. 5.871 | -4.927 | -14.349 | 16.072 |

Log. of V. 0.76871 | 0.69258 | 1.15682 | 1.20607 |

1.16827	1.16827	1.16827	1.16827
---------	---------	---------	---------

1.93698 | 1.86085 | 2.32509 | 2.37434

No. of Log. 86.49^s | 72.59^s | 211.40^s | 236.78^s

1^m | 26.49^s | 1^m | 12.59^s | 3^m | 31.40^s | 3^m | 56.78^s

[2 columned table]

-13.138	-1.185
---------	--------

1.11853	0.07372
---------	---------

1.16827	1.16827
---------	---------

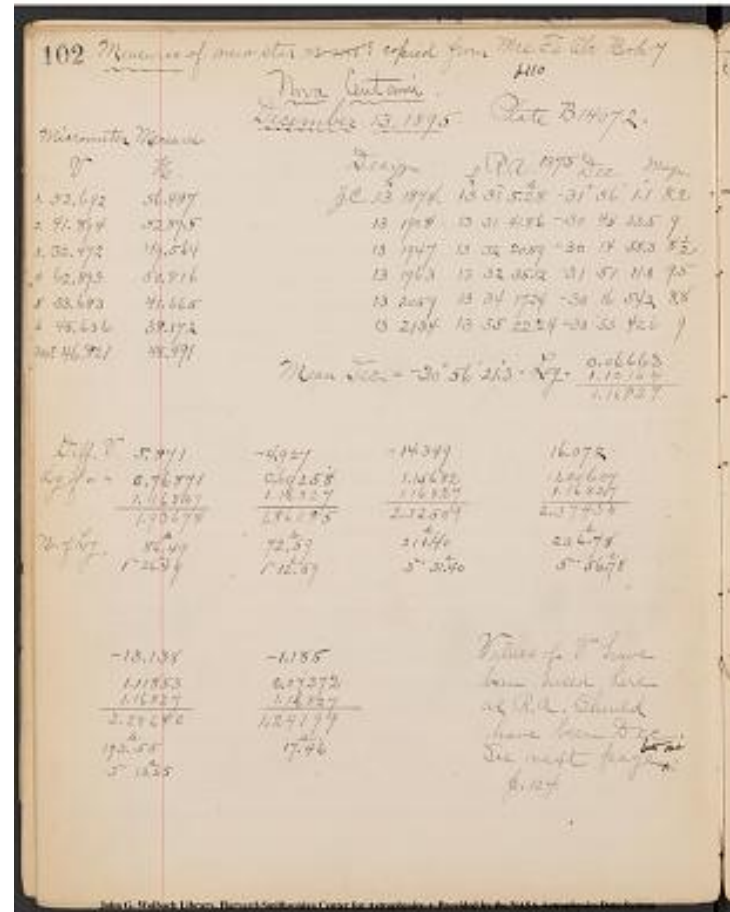
2.28680	1.24199
---------	---------

193.55 ^s	17.46 ^s
---------------------	--------------------

3 ^m	13.55 ^s
----------------	--------------------

Values of V have been used here as R.A. Should have been Dec. See next page [^][but one] p. 104.

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Bache 8 inch 1=.335 m.m. = Log. 9.52504 m.m.
 (335*25.4)x24 1 inch=25.4 m.m. = Log. 1.40483 m.m.

1 inch=24 turns>= Log 8.12021 inch.
 1.38021

9.50042	15" 2.27773
0.49958	1.17609
1.77815	1.10164
2.27773	

Diff. H.	7.996	4.404	1.073	2.325
Log. "	0.90287	0.34385	0.03060	0.36642
	2.27773	2.27773	2.27773	2.27773
	3.18060	2.92158	2.30833	2.64415

No. of Log

Values of H have been
 used here as Dec.

Diff. H.	-6.826	-10.319	Should have been R.A.
Log.	0.83417	1.01364	
	2.27773	2.27773	see next page.
	3.11190	3.29137	p. 104

h m. s.	h m. s.
(1) 13 31 5.28 -36° 36' 1.1"	(2) 13 31 41.86 -30° 45' 23.5"
157.80 18 32.9	1 4.88 15 33.9

h m. s.	h m. s.
13 33 30.8 -31° 17' 28.2"	13 32 46.74 -31° 0' 57.4"

h m. s.	h m. s.
(3) 13 32 20.59 -30° 14' 55.3"	(4) 13 32 35.12 -31° 51' 11.0"
15.81 45 19.9	34.25 50 46.5

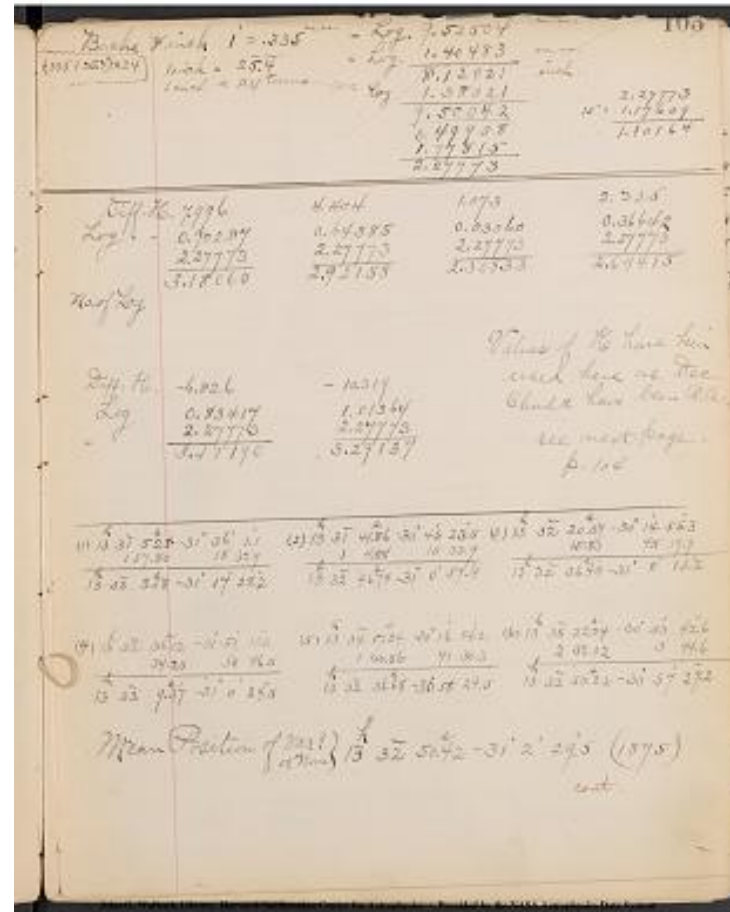
h m. s.	h m. s.
13 32 36.40 -31° 0' 15.2"	13 33 9.37 -31° 0' 24.5"

h m. s.	h m. s.
(5) 13 34 17.24 -30° 16' 54.2"	(6) 13 35 22.24 -30° 53' 42.6"
1 45.56 41 30.3	2 32.02 3 44.6

h m. s.	h m. s.
13 32 36.68 -30° 58' 24.5"	13 32 50.22 -30° 57' 27.2"

Mean Position of var? h m. s
 or nova} 13 32 50.42 -31° 2' 29.5" (1875)
 cont.

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Diff. H. | 7.996 | 4.404 | 1.073 | 2.325
 Log. Diff. H. | 0.90287 | 0.64385 | 0.03060 | 0.36642
1.16827	1.16827	1.16827	1.16827
2.07114	1.81212	1.19887	1.53469

No. of Log. | 117.80[^][[s]] | 64.88[^][[s]] | 15.81[^][[s]] | 34.25[^][[s]]

| 1[^][[m]] 57.80[^][[s]] | 1[^][[m]] 4.88[^][[s]] | |

Diff. H. | -6.826 | -10.319
 Log. Diff. H. | 0.83417 | 1.01364
1.16827	1.16827
2.00244	2.18191
15.81[^][[s]]	34.25[^][[s]]
1[^][[m]] 57.80[^][[s]]	1[^][[m]] 4.88[^][[s]]

Diff. V. | 5.871 | 10.871 | -4.927 | -14.349 | 16.072

Log. Diff. H. | 0.76871 | 1.03627 | 0.69258 | 1.15682 | 1.20607

| 2.27773 | 2.27773 | 2.27773 | 2.27773 | 2.27773

| _____ | _____ | _____ | _____ | _____

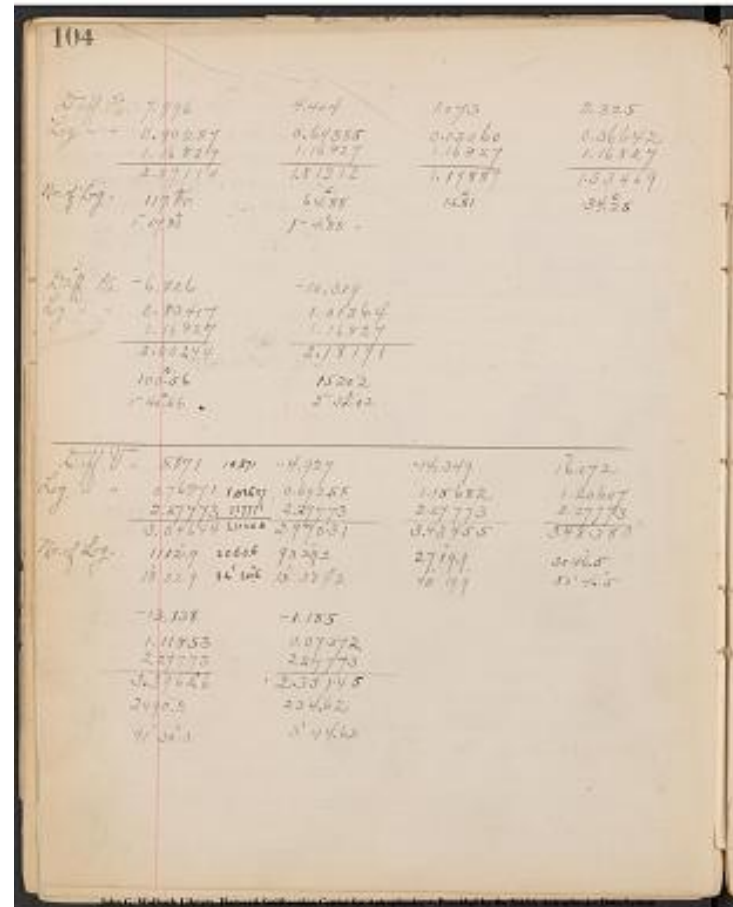
| 3.04644 | 3.31600 | 2.97031 | 3.43455 | 3.48380

No. of Log. | 1112.9[^][[']] | 2060.6 | 933.92[^][[']] | 27.199[^][[']]
 | 3046.5[^][[']]

| 18[^][[']] 32.9 | 34[^][[']] 20.6[^][[']] | 15[^][[']] 33.92[^][[']] | 45[^][[']]
 19.9[^][[']] | 50[^][[']] 46.5[^][[']]

-13.138 | -1.185
 1.11853 | 0.07372
 2.27773 | 2.27773

| _____ | _____
 3.39626 | 2.35145
 2490.3[^][[']] | 224.62[^][[']]
 41[^][[']] 30.3[^][[']] | 3[^][[']] 44.62[^][[']]



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CDM -31° 10536, 9.5

(1875) 13^h 32^m 49.6 -31° 0.3'

[[7 columned table]]

Nova 1875^{13^h32^m51.7^s -30°59'57"}
~~1.3~~ ~~23~~
~~13~~~~32~~~~50.4~~~~-30~~~~59~~
~~31~~~~0~~~~20~~

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0.30

January 1, 1896. Plate B13965

alpha|V| |H|

|47281|1|49228|4
47280	0	49223	1
47279	1	49222	2
47280		49224	

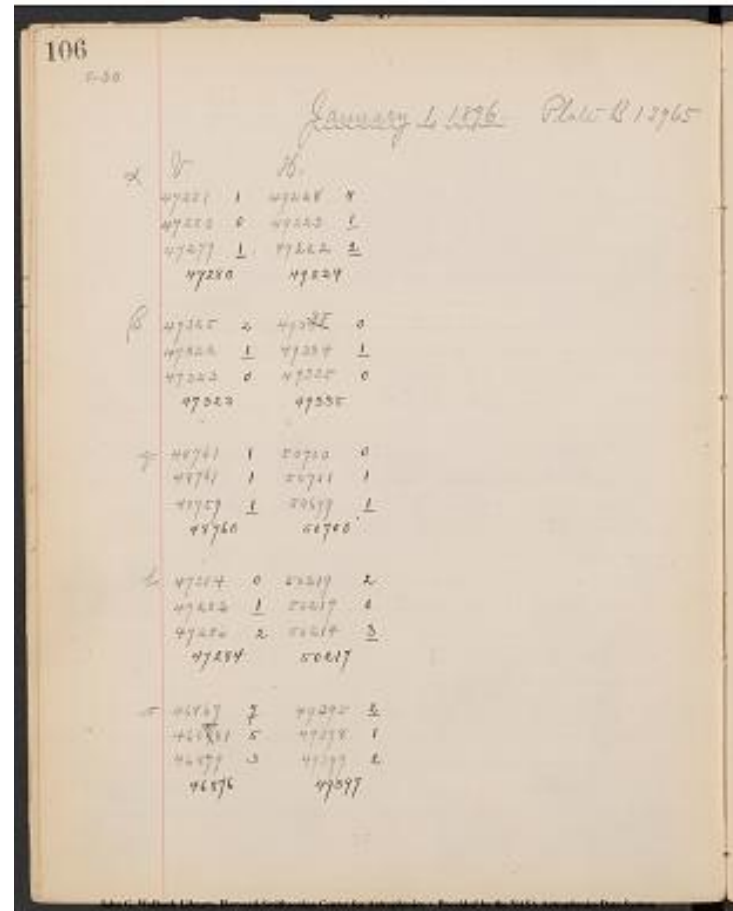
beta|47325|2|493|42|35|0
|47322|1|49334|1|
|47323|0|49335|0
|47323| |49335|

nu|48761|1|50700|0
|48761|1|50701|1
|48759|1|50699|1|
|48760| |50700|

zeta|47284|0|50219|2
|47283|1|50217|0
|47286|2|50214|3|
|47284| |50217|

sigma|46869|7|49395|2|

|468|7|49395|8|
1|5|49398|1
|46879|3|49399|2
|46876| |49397|

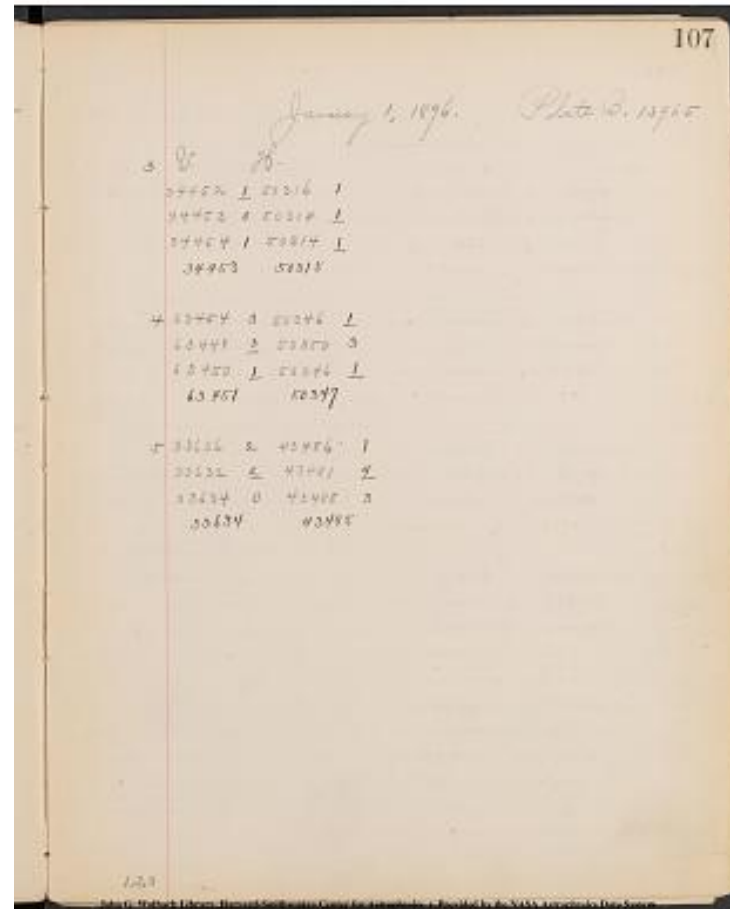


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January 1, 1896. Plate B. 13965

3|V.| |H.|
 |34452|1|50316|1
34453	0	50314	1
34454	1	50314	1
34453		50315	
4	63454	3	50346
63454	3	50346	1
63448	3	50350	3
63450	1	50346	1
63451		50347	
5	33636	2	43486
33632	2	43481	4
33634	0	43488	3
33634		43485	



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[[written in left hand corner]] 21.15

[[written in top-middle]]

[[underline]] January [[underline]] [[underline]] [[strikethrough]] 2
[[strikethrough]] [[underline]] 1 [[underline]] 1896. [[underline]]

[[written in right hand corner]] Plate B13965

alpha

| V | H

472[[strikethrough]] 33 [[strikethrough]] 94 | 1 | 49310 | [[underline]] 1
[[underline]]

47293 | 0 | 49310 | [[underline]] 1 [[underline]]

47292 | [[underline]] 1 [[underline]] | 49314 | 3

47293 | 479311

beta

| 47376 | 2 | 49420 | 1

47376 | 2 | 49419 | 0

47371 | [[underline]] 3 [[underline]] | 49418 | [[underline]] 1 [[underline]]

47374 | 49419

q

| 48746 | [[underline]] 1 [[underline]] | 50738 | [[underline]] 1
[[underline]]

48747 | 0 | 50737 | [[underline]] 2 [[underline]]

48749 | 2 | 50742 | 3

48747 | 50739

c

| 472[[strikethrough]] 70 [[strikethrough]] 61 | 1 | 50259 | 1

47257 | [[underline]] 3 [[underline]] | 50261 | 3

47262 | 2 | 50253 | [[underline]] 5 [[underline]]

47260 | 50258

v

46865 | [[underline]] 3 [[underline]] | 49426 | [[underline]] 5 [[underline]]

46868 | 0 | 49432 | 1

46870 | 2 | 49434 | 3

46870 | 2 | 49434 | 3

46868 | 49431

108

21.15

January 2, 1896. Plate B13965

alpha

V | H

472[[strikethrough]] 33 [[strikethrough]] 94 | 1 | 49310 | [[underline]] 1
[[underline]]

47293 | 0 | 49310 | [[underline]] 1 [[underline]]

47292 | [[underline]] 1 [[underline]] | 49314 | 3

47293 | 479311

beta

| 47376 | 2 | 49420 | 1

47376 | 2 | 49419 | 0

47371 | [[underline]] 3 [[underline]] | 49418 | [[underline]] 1 [[underline]]

47374 | 49419

q

| 48746 | [[underline]] 1 [[underline]] | 50738 | [[underline]] 1
[[underline]]

48747 | 0 | 50737 | [[underline]] 2 [[underline]]

48749 | 2 | 50742 | 3

48747 | 50739

c

| 472[[strikethrough]] 70 [[strikethrough]] 61 | 1 | 50259 | 1

47257 | [[underline]] 3 [[underline]] | 50261 | 3

47262 | 2 | 50253 | [[underline]] 5 [[underline]]

47260 | 50258

v

46865 | [[underline]] 3 [[underline]] | 49426 | [[underline]] 5 [[underline]]

46868 | 0 | 49432 | 1

46870 | 2 | 49434 | 3

46870 | 2 | 49434 | 3

46868 | 49431

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January 1, 1896 Plate B 13965

[[5 columned table]]

3|V.| |H.| |
|---|---|---|---|330|~~0~~|1|1|51506|2||33009|1|51509|1|

|33010|0|51508|0|

|33010| |51508| |

4|63433|3|50372|1|

|63439|3|50374|1|

|63437|1|50374|1|

|63436| |50373| |

5|33613|0|43532|1|

|33613|0|43534|1|

|33613|0|43532|1|

|33613| |43533| |

p. 4|~~6889~~|2|~~6889~~|0|48761|2|

|46892|3|48766|3|

46887|2|48761|2|

|46889| |48763| |

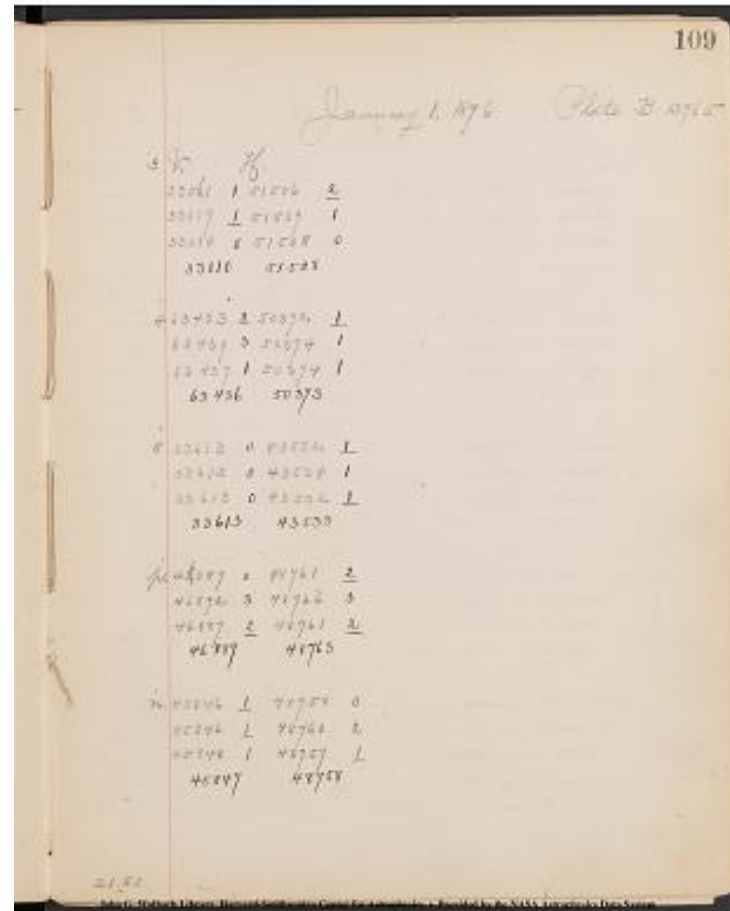
n. 45846|1|48758|0||45846|1|48760|2||45848|1|48757|1|

|45847| |48758| |

[[left margin]]

21.50

[[/left margin]]

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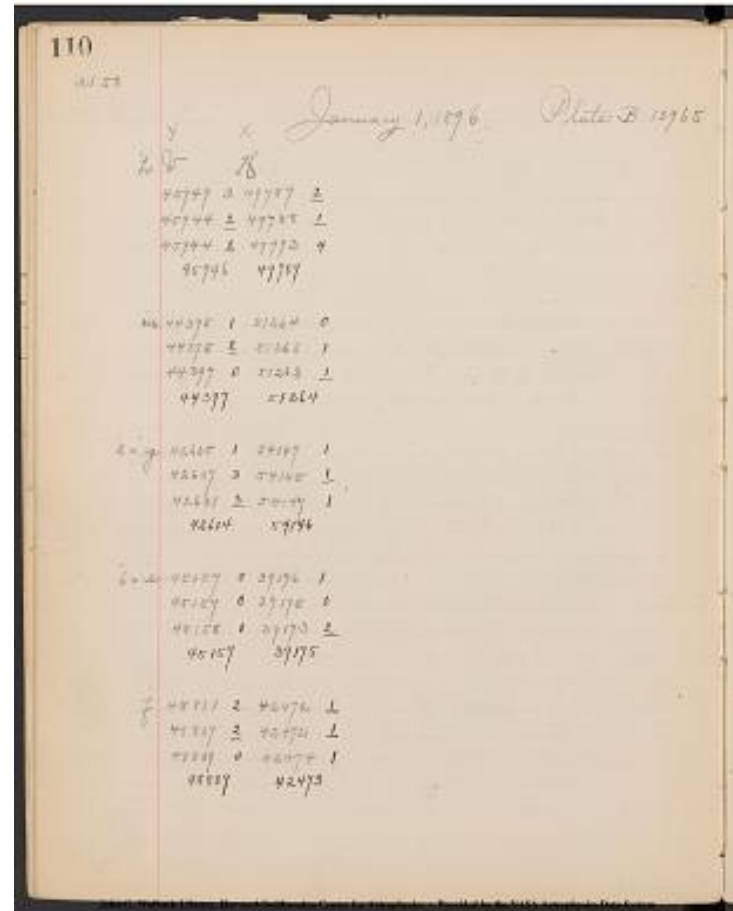
[[left margin]]
21.50
[[/left margin]]

January 1, 1896 Plate B 13965

[[5 columned table]]

h V	H			
45949	3	49387	[[underlined]]2[[/underlined]]	
45944	[[underlined]]2[[/underlined]]			
49788	[[underlined]]1[[/underlined]]			
45944	[[underlined]]2[[/underlined]]	49793	4	
45946	49789			
m	44398	1	51264	0
	44395	[[underlined]]2[[/underlined]]	51265	1
	44397	0	51263	[[underlined]]1[[/underlined]]
	44397	51264		
2=g	42605	1	54147	1
	42607	3	54145	[[underlined]]1[[/underlined]]
	42601	[[underlined]]3[[/underlined]]	54147	1
	42604	54146		
6=e	45157	0	39176	1
	45157	0	39175	0
	45158	1	39173	[[underlined]]2[[/underlined]]
	45157	39175		
f	48811	2	42472	[[underlined]]1[[/underlined]]
	48807	[[underlined]]2[[/underlined]]	42472	[[underlined]]1
	48809	0	42474	1
	48809	42473		

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January 1, 1896

Plate B13965

[[5 columned table]]

k V	H	
50009	547505	<u>2</u>

50001	<u>1</u>	<u>1</u>	5	47
50701				
50002	<u>2</u>		47508	1
50004		47507		

[[left margin]]

E.C.P

sus. neb. var?

[[/left margin]]

[[4 columned table]]

52195	1	50158	<u>4</u>
52193	<u>1</u>	<u>1</u>	50159
52193	<u>1</u>	<u>1</u>	50169
52194		50162	

[[5 columned table]]

a.	5	61783	<u>2</u>
62102	0		
61786	1	62103	1
61787	2	62102	0
61785		62102	

[[5 columned table]]

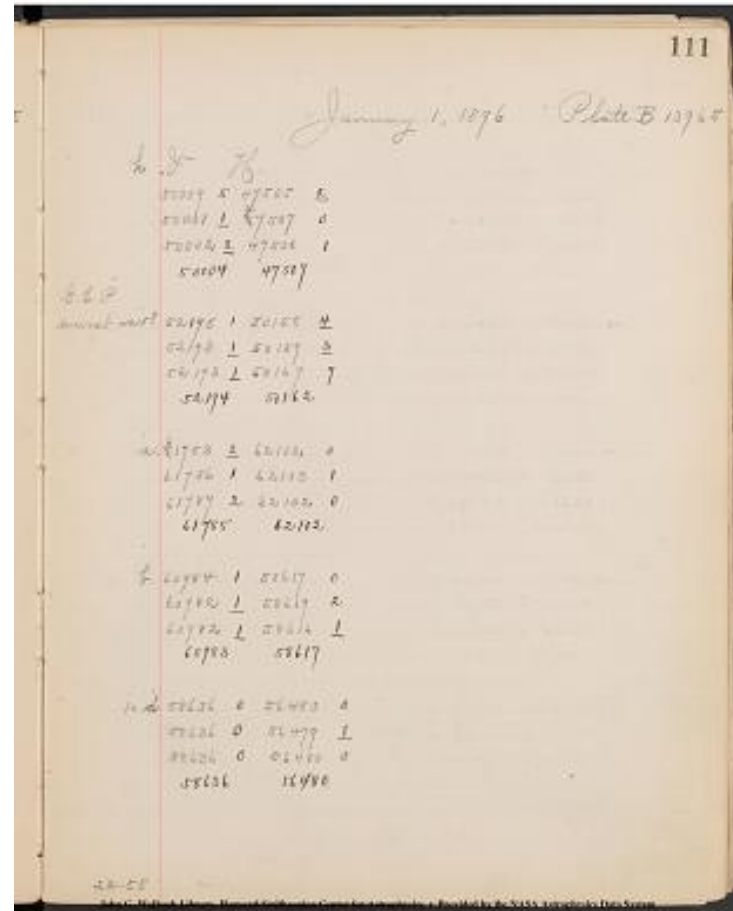
b.	60984	1	58617	0
	60982	<u>1</u>	58619	2
	60982	<u>1</u>	<u>1</u>	58616
	60983		58617	

[[5 columned table]]

1=d	58636	0	56480	0
	58636	0	56479	<u>1</u>
	58636	0	56480	0
	58636		56480	

[[left margin]]22.55[[/left margin]]

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22.55

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c|V.|H.

|5|~~5~~|~~6765~~|1|58985|2
|56764|0|58981|2|58981|
|56764|0|58984|1
| 56764| | 58983|

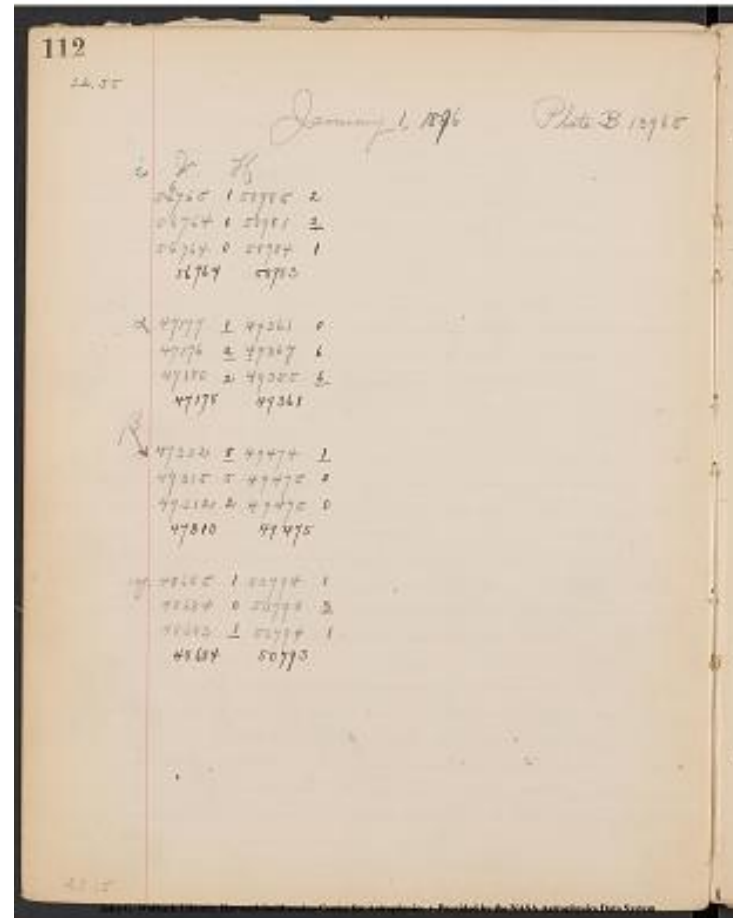
alpha|47177|1|49361|0
|47176|2|49367|6
|47180|2|49355|6|49361|
| 47178| | 49361|

beta

|47302|8|49474|1|49475|
|
|47315|5|49475|0
|47312|2|49475|0
| 47310| | 49475|

V|48685|1|50794|1
|48684|0|50790|3|50794|
|48683|1|50794|1
| 48684| | 50793|

23.15



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| |V.| |N.|
 alpha|p. 106|47280|30|49224|75|
 |p. 108|47293|43|49311|12 [right bracket connecting current row with
 next row]
 |p.
 112|47178|72|49361|62
 |47250| 49299|
 |p. 115|47123| 49398|

beta|p.
 106|47323|13|49335|75|
 |p. 108|47374|38|49419|09 [right bracket connecting current row with
 next row]
 |p.
 112|47310|26|49475|65
 |47336| 49410|
 |p. 115|47254| 49504|

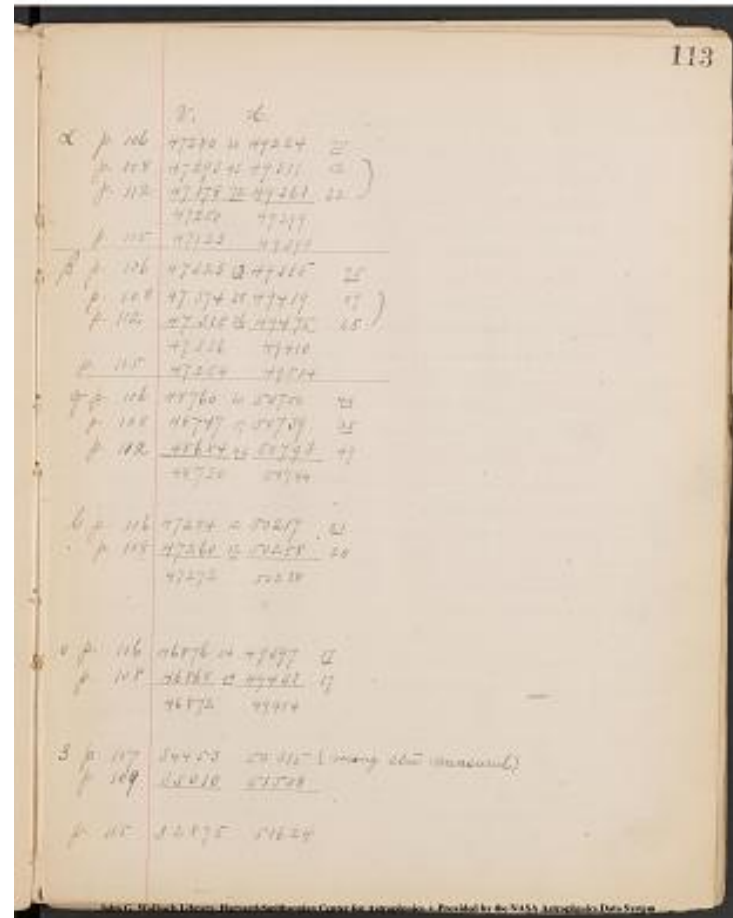
V|p. 106|48760|30|50700|44|
 |p. 108|48747|17|50739|05|
 |p.
 112|48684|46|50793|49
 |48730| 50744|

I|p. 106|47284|12|50217|21|
 |p.
 108|47260|12|50258|20
 |47272| 50238|

o|p. 106|46876|04|49397|17|
 |p.
 108|46868|04|49431|17
 |46872| 49414|

3|p 107|34453| 50315 (among star measured)
 |p. 109|33010|
 |51508|

|p. 115|32895| 51624



Project PHaEDRA - Williamina P. Fleming - Variable Stars #4
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[[6 columned table]]

	V	H	
4	p. 107 63451 07 50347 <u>13</u>		
	p. 109 <u>63436</u> 08 50373 <u>13</u>		
	63444 50360		
	p. 116 63315 50428		
5	p. 107 33634 10 43485 <u>24</u>		
	p. 109 <u>33613</u> 11 43533 <u>24</u>		
	33624 43509		
	p. 116 33485 43643		
1	p. 111 58636 56480		
	p. 115 58584 56504		
2	p. 110 42604 54146		
	p. 115 42553 54181		
6	p. 110 45157 39175		
	p. 116 45104 39207		

	V	H
4	p. 107	11451 07 50347 13
	p. 109	63436 08 50373 13
		63444 50360
	p. 116	63315 50428
5	p. 107	33634 10 43485 24
	p. 109	33613 11 43533 24
		33624 43509
	p. 116	33485 43643
1	p. 111	58636 56480
	p. 115	58584 56504
2	p. 110	42604 54146
	p. 115	42553 54181
6	p. 110	45157 39175
	p. 116	45104 39207

Project PHaEDRA - Williamina P. Fleming - Variable Stars #4
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115

0.40

January 21, 1896. Plate B 13965

[[5 columned table]]

alpha|V| |H| |

-----|

|47120|3|49398|0

|47125|2|49399|1

|47124|1|49396|2|

|47123|49398|

beta|47247|7|49501|3|

|47257|3|49508|4|

|47259|5|49504|0|

|47254|49504|

1|58587|3|56506|2

58582|2|56502|2|

|58584|0|56505|1|

|58584|56504|

2|4|~~3~~|553|0|54181|0|

|42552|1|54183|2|

|42553|0|54180|1|

|42553|54181|

3|3|~~7~~|2899|4|51623|1|

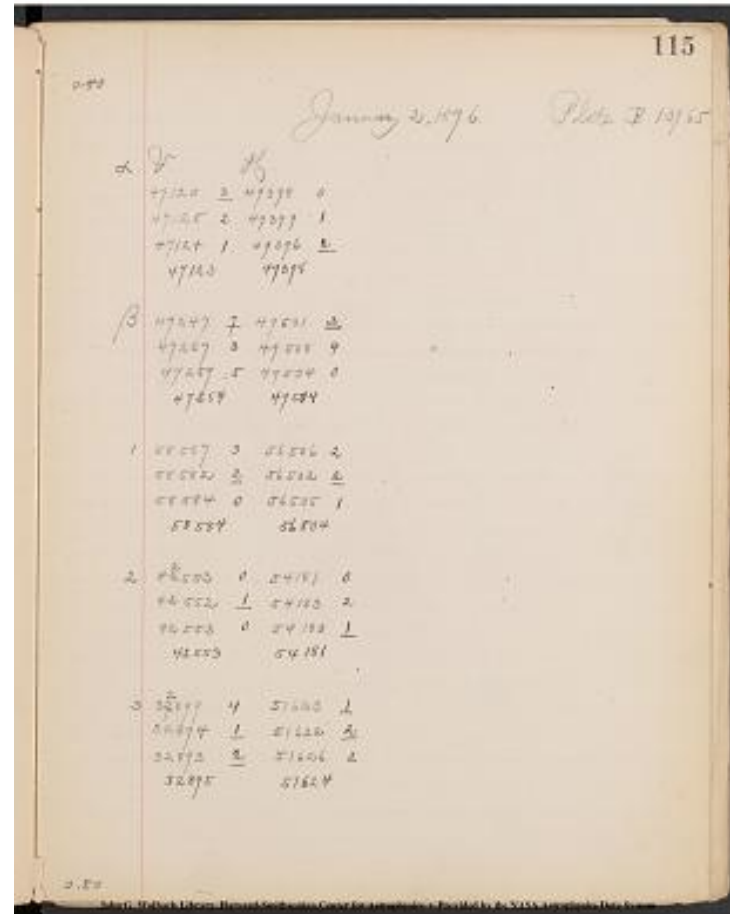
|

32894|1|51622|2|

|32893|2|51626|2|

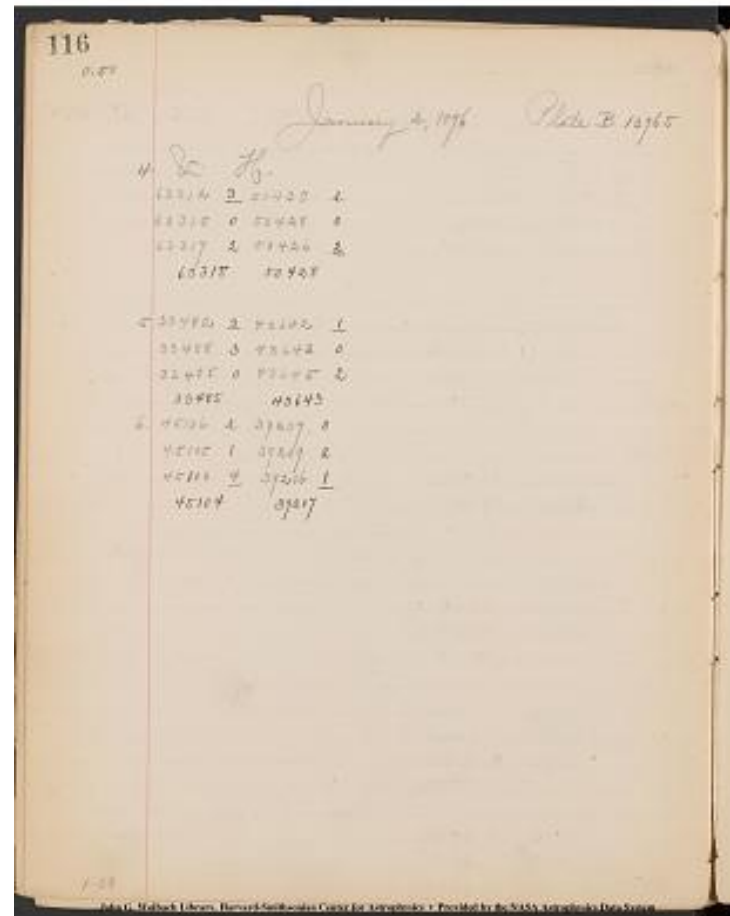
|32895|51624|

0.50



Project PHaEDRA - Williamina P. Fleming - Variable Stars #4
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116
 [[left margin]]0.50[[/left margin]]
 January 2, 1896 Plate B 13965
 [[left margin]]H[[/left margin]]
 [[two columned table]]
nu	H
 63312 3|50430 2|
 63315 0|50428 0|
 63317 2|50426 2|
 63315|50428|
 [[left margin]]5[[/left margin]]
 33482 3|43642 1|
 33488 3|43643 0|
 33485 0|43645 2|
 33485|43643|
 [[left margin]]6[[/left margin]]
 45106 2|39204 0|
 45105 1|39209 2|
 45100 4|39206 1|
 45104|39204|



Project PHaEDRA - Williamina P. Fleming - Variable Stars #4
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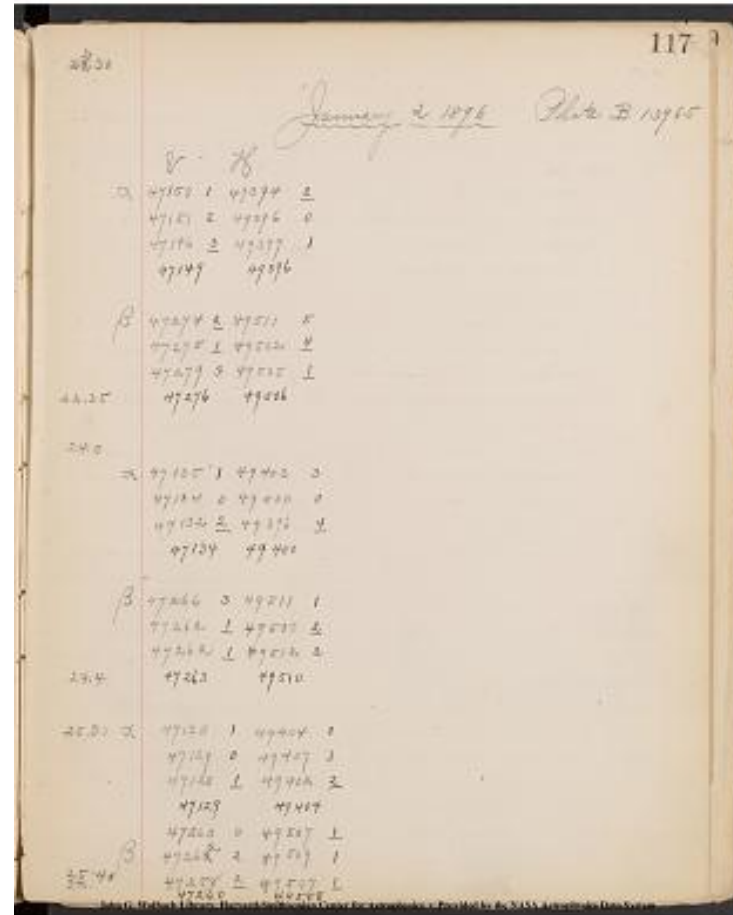
[[left margin]]
~~2~~[[/del]]1~~[[/del]]2.30~~
 [[/left margin]]

[[underlined]]January 2 1896[[/underlined]] Plate B13965

[[5 columned table]]

	V	H			
alpha	47150	1	49394	2	
	47151	2	49396	0	
	47146	3	49397	1	
	47149		49396		
beta	47274	2	49511	5	
	47275	1	49502	4	
	47279	3	49505	1	
22.35	44276		49506		
24.0					
alpha	47135	1	49403	3	
	47134	0	49400	0	
	47132	2	49396	4	
	47134		49400		
beta	47266	3	49511	1	
	47262	1	49508	2	
	44262	1	49512	2	
24.4	47263		49510		
25.30	alpha	47130	1	49404	0
		47129	0	49407	3
	47128	1	49402	2	
	47129		49404		
	47260	0	49507	1	
beta	4726	0	49509	1	
	22	25.40	47258	2	
	49507	1	49508		
	47260		49508		

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118

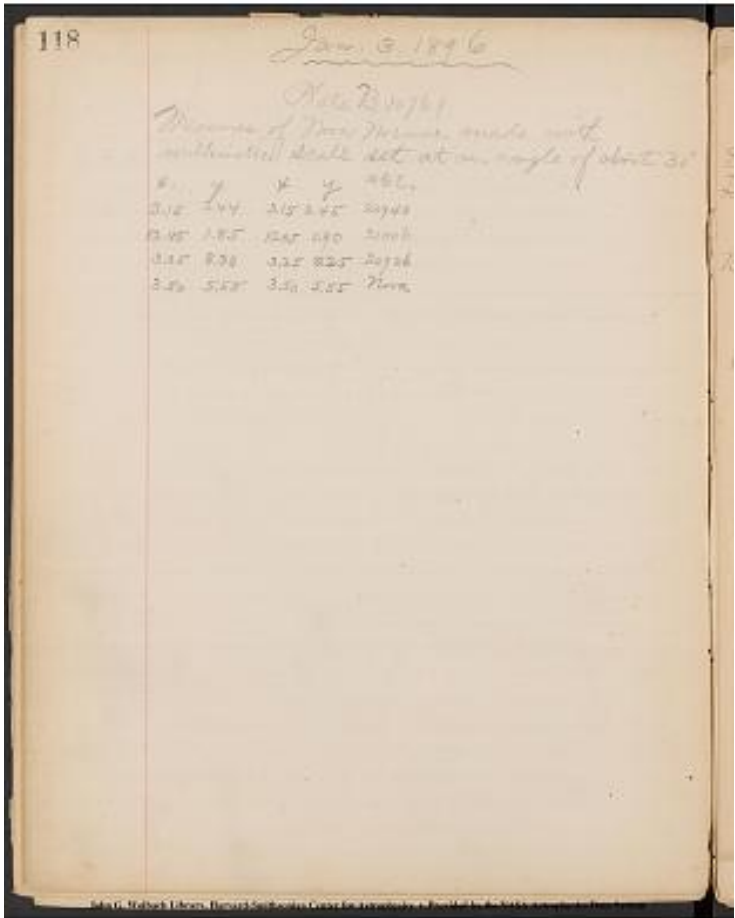
Jan, 3, 1896

Plate B 10769

Measures of Nova Normae made with millimetre seals set at an angle of about 30°

[[5 column table]]

x	y	x	y	A.G.C.
3.15	2.44	3.15	2.45	20940
12.45	1.85	12.45	1.90	21006
3.35	8.30	3.35	8.25	20926
3.50	5.55	3.50	5.55	Nova
The End				



Project PHaEDRA - Williamina P. Fleming - Variable Stars #4
Transcribed and Reviewed by Digital Volunteers
Extracted Dec-02-2022 11:17:38

119

121a.

B5313. Recomputation using declination of each star instead of mean declination.

[[left margin]]

[[4 columned table]]

Diff. X| -4.67| -10.07| 1.90|

---|---|---|

Log. X| 0.66932| 1.00303| 0.27875|

| 1.58046| 1.59726| 1.58936|

| 2.24978| 2.60029| 1.86811|

No. of Log. | 177.74^h | 398.37^h | 73.81^h |

| 2^m | 57.74^m | 6^m | 38.37^m | 1^m | 13.81^m |

[[/left margin]]

[[right margin]]

[[4 columned table]]

(a) | Dec. = -71° 43.1' = Log. | 0.50346 |

| | | 1.07700 |

| | | 1.58046 |

(b) | Dec. = -72° 26.1' = Log. | 0.52026 |

| | | 1.07700 |

| | | 1.59726 |

(f) | Dec. = -72° 6.1' = Log. | 0.51236 |

| | | 1.07700 |

| | | 1.58936 |

[[/right margin]]

[[15 columned table]]

(a) | 19^h | 39^m | 56.55^s | - 71° 43'

5.5" | (b) | 19^h | 43^m | 0.51^s | - 72° 26'

5.2" | (f) | 19^h | 35^m | 24.86^s | - 72° 6' 7.2"

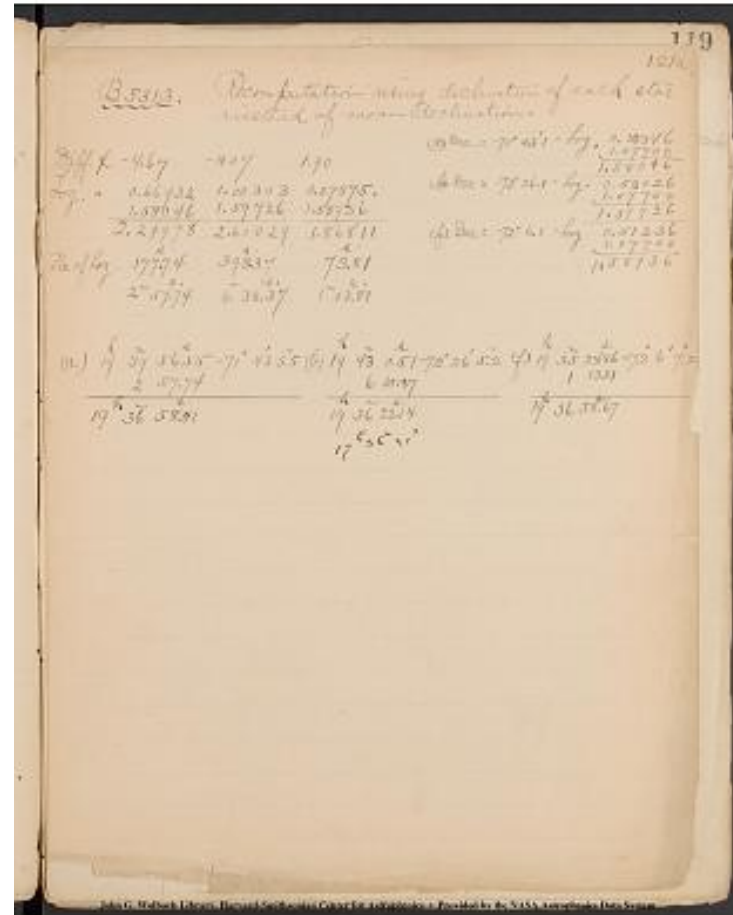
| | 2 | 57.74 |

| | 6 | 38.37 | | 1 | 13.81 |

| 19^h | 36^m | 58.81^s | | 19^h | 36^m | 22.14^s |

19^h | 36^m | 38.67^s |

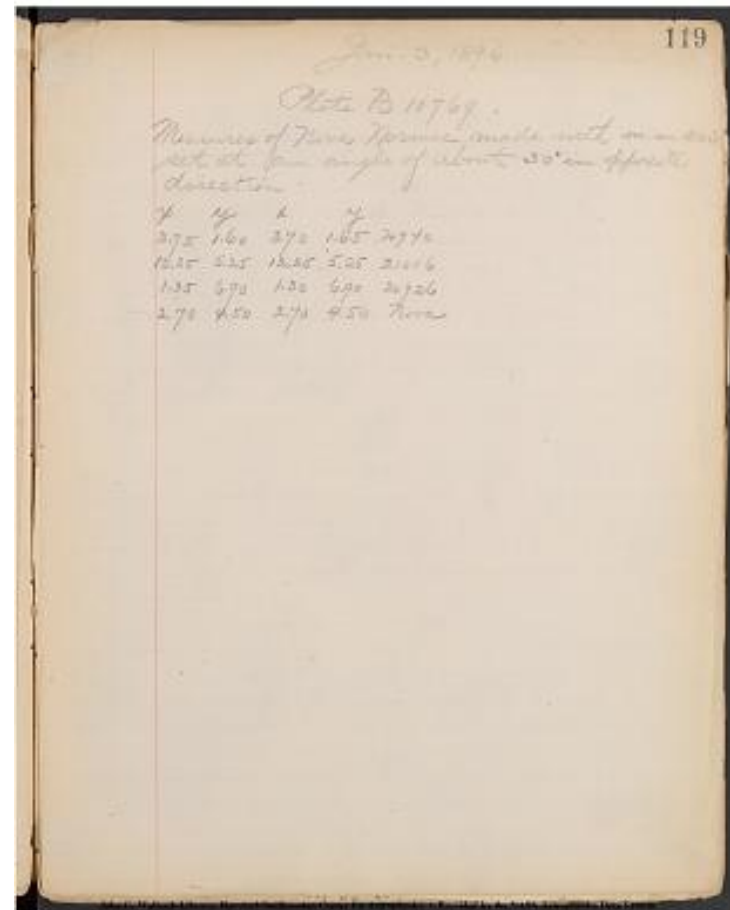
| | | 19^h | 36^m | 41^s | | | |



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Project PHaEDRA - Williamina P. Fleming - Variable Stars #4
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Jan. 3, 1896 119
 Plate B 10759
 Measures of nova normae made with m.m. scale
 set at an angle of about 30° in opposite
 direction
 [[5 columns]]
 x | y | x | y | ---
 3.75 | 1.60 | 3.70 | 1.65 | 20940 |
 12.25 | 5.25 | 12.25 | 5.25 | 21006 |
 1.35 | 6.90 | 1.30 | 6.90 | 20926 |
 2.70 | 4.50 | 2.70 | 4.50 | nova |



Project PHaEDRA - Williamina P. Fleming - Variable Stars #4
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January 23 1896

RX Sagittarii

positions charted

Feb 11, 1896

See Chart No. 11b

checked by W.A.G.

Oct. 1903

Oct. 1903

Measures to determine position of new variable in Sagittarius and comparison stars

These comp stars have also been used for SD-19° 5347

The first variable Sp. Md. on Pl. B 14380 No 8039 is in RA 19° 4
Dec -19° 4 (Approx 1855)

Plate B 4028

10 columned table

X|Y|X|Y|Design. S.D.|R.A. 1855|Dec.|Magn.|

SD -19° 5344|a|11.85|[11.88]]|16.45^[16.42]]|11.90|16.40|-19°
5344|19^[h.]|4^[m.]|14.0^[s.]]|-19° 28.1'|8.3|
-19 5346|b|8.80|8.80|8.80|8.80|-19 5346|4|55.6|-19 5.8|9.0|
-19 5353|c|2.40|11.30^[11.28]]|2.40|11.25|-19 5353|6|15.7|-19 13.1|8.7|
-19 5349|d|6.25^[6.22]]|10.45^[10.42]]|6.20|10.40|-19 5349|5|28.3|-19
10.4|9.5|
-18 5251|e|9.10|3.20|9.10|3.20|-18 5251|4|53.6|-18 48.8|9.2|
f	5.75	5.20	5.75	5.20				
g	6.35^[6.38]]	6.20	6.40	6.20				
h	5.80	7.95	5.80	7.95				
k	2.85	9.60^[9.62]]	2.85	9.65				
l	5.00	9.60	5.00	9.60				
m	3.45	8.55^[8.52]]	3.45	8.50				
n	4.20	8.60	4.20	8.55				
This star found to be Val. S.E.B. = v^[3]]|3.85|8.25|3.85|8.25| | | |

|p|355|8.20|3.55|8.20| | | | |
v^[1]]|3.35^[3.38]]|8.00|3.40|8.00| | | | |
S.D. -19° 5347|v^[2]]|6.40^[6.38]]|9.00^[8.98]]|6.35|8.95| | | |

Mean Dec =

-19° 9.2 =

Log. 0.02472

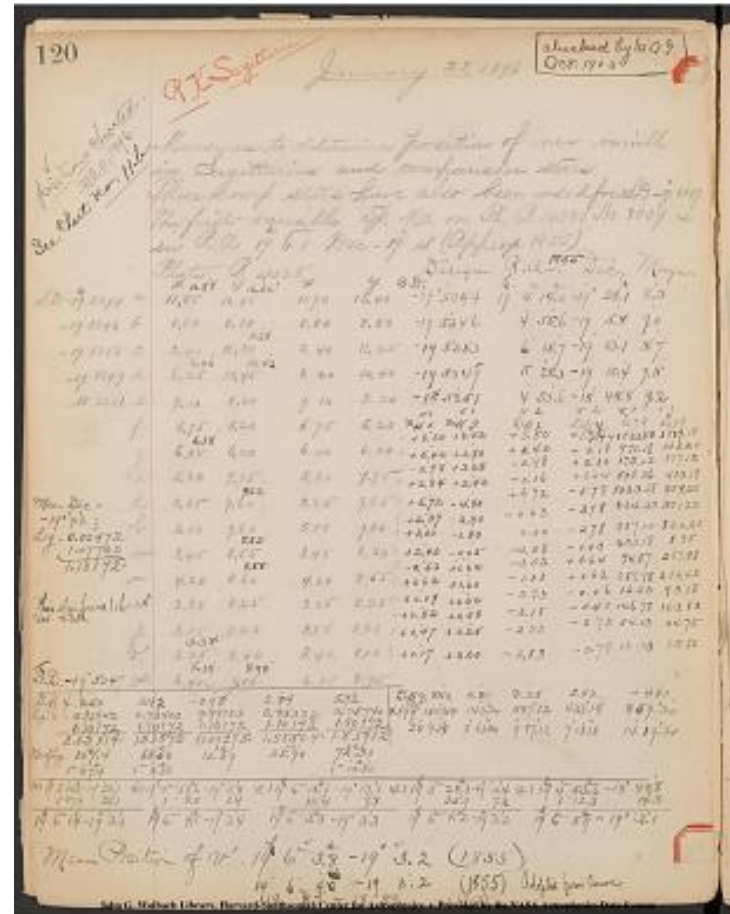
1.07700

1.10172

Diff X|Diff. Y|X1.79|X1.79|

Diff X|Diff. Y|X1.79|X1.79|

v^[1]]v^[1]]v^[2]]v^[2]]v^[1]]v^[1]]x^[1]]x^[1]]y^[1]]y^[1]]
Diff X|Diff. Y|X1.79|X1.79|



a|+8.50|+8.42|+5.50|+7.44|1521.50|1507.18|
 b|+5.42|+0.80|+2.42|-0.18|970.18|143.20|
 c|-0.98|+3.28|-3.98|+2.30|175.42|587.12|
 d|+28.4|+2.42|-0.16|+1.44|508.36|433.18|
 e|+5.72|-4.80|+2.72|-5.78|1023.88|859.20|
 f|+2.37|-2.80|-0.63|-3.78|424.23|501.20|
 g|+3.00|-1.80|0.00|-2.78|537.00|322.20|
 h|+2.42|-0.05|-0.58|-1.03|433.18|8.95|
 k|-0.53|+1.62|-3.53|+0.64|94.87|289.98|
 l|+1.62|+1.60|-1.38|+0.62|289.98|286.40|
 m|+0.07|+0.52|-2.93|-0.46|12.53|93.08|
 n|+0.82|+0.58|-2.18|-0.40|146.78|103.82|
 o|+0.47|+0.25|-2.53|-0.73|84.13|44.75|
 p|+0.17|+0.20|-2.83|-0.78|30.43|35.80|
 [[/right margin]]

[[left margin]]
 [[6 columned table]]
 Diff. X |8.50|5.42|-0.98|2.84|5.72|
 Log. X |0.92942|0.73400|9.99123|0.45332|0.75740|
 | [[underlined]]1.0172|1.0172|1.0172|1.0172|1.0172|[[/underlined]]
 | 2.03144|1.83572|1.09295|1.55504|1.85912|
 No. of Log. |107.4^[[s]]|68.50^[[s]]|12.39^[[s]]|35.90^[[s]]|72.30^[[s]]|
 | 1^[[m]] 47.4^[[s]]|1^[[m]] 8.50^[[s]]| | 1^[[m]] 12.30^[[s]]|
 [[/left margin]]
 [[right margin]]
 [[6 columned table]]
 Diff Y. |8.42|0.80|3.28|2.42|-4.80|
 X |179|1507.18"|143.20"|587.12"|433.18"|859.20"|
 | 25' 7.18"|2' 23.20"|9' 47.12"|7' 13.18"|14' 19.20"|
 [[/right margin]]

[[30 columned table]]
 (a)|19^[[h]]|14^[[m]]|14.0^[[s]]|-19°|28.1'|19^[[h]]|4^[[m]]|55.6^[[s]]|-
 19° 5.8'|19^[[h]]|6^[[m]]|15.7^[[s]]|-
 19° 13.1'|19^[[h]]|5^[[m]]|28.3^[[s]]|-
 19° 10.4'|19^[[h]]|4^[[m]]|53.6^[[s]]|-18° 48.8'|
 | [[underlined]]1|47.4| 25.1|[[/underlined]]| [[underlined]]1|8.5|
 2.4|[[/underlined]]| [[underlined]] 12.14| 9.8|[[/underlined]]|
 [[underlined]] 35.9| 7.2|[[/underlined]]| [[underlined]]1|12.3|
 14.3|[[underlined]]|
 | 19^[[h]]|6^[[m]]|1.4^[[s]]|-19°|3.0'| 19^[[h]]|6^[[m]]|4.1^[[s]]|-19°|3.4'|
 19^[[h]]|6^[[m]]|3.3^[[s]]|-19°|3.3'| 19^[[h]]|6^[[m]]|4.2^[[s]]|-19°|3.2'|
 19^[[h]]|6^[[m]]|5.9^[[s]]|-19°|3.1'|

Mean Position of v^[[1]]. 19^[[h]] 6^[[m]] 3.8^[[s]] -19° 3.2 (1855)
 19 6 4. [[strikethrough]]0^[[4]]|[[/strikethrough]]6 -19 3.2 (1855) Adopted
 from Curve
 19 8.7 -18 5.9 (1900)

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Sagittarius

V2	V2	V3 "o"	V3 "o"		
x 1.79	x 1.79	Diff x	Diff y	xx179	yx179
x	y	+8.03	+8.17	1437.37	1462.43
984.50	1331.76	+4.95	+0.55	886.05	98.45
433.18	32.22	-1.45	+3.03	259.55	542.37
712.42	411.70	+2.37	+2.17	424.23	388.43
28.64	257.76	+5.25	-5.05	939.75	903.95
486.88	1034.62	+1.90	-3.05	340.10	545.95
112.77	676.62	+2.53	-2.05	452.87	366.95
0.00	497.62	+1.95	-0.30	349.05	53.70
103.82	184.37	-1.00	+1.37	179.00	245.23
631.87	114.56	+1.15	+1.35	205.85	241.65
247.02	110.98	-0.40	+0.27	71.60	48.33
524.47	82.34	+0.35	+0.33	62.65	59.07
390.22	71.66	+	"	"	"
452.87	130.67	-0.30	-0.05	53.70	8.95
506.57	139.62				

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Sagittarius *Page 120*

V2	V2	V3 "o"	V3 "o"		
x 1.79	x 1.79	Diff x	Diff y	xx179	yx179
x	y	+8.03	+8.17	1437.37	1462.43
984.50	1331.76	+4.95	+0.55	886.05	98.45
433.18	32.22	-1.45	+3.03	259.55	542.37
712.42	411.70	+2.37	+2.17	424.23	388.43
28.64	257.76	+5.25	-5.05	939.75	903.95
486.88	1034.62	+1.90	-3.05	340.10	545.95
112.77	676.62	+2.53	-2.05	452.87	366.95
0.00	497.62	+1.95	-0.30	349.05	53.70
103.82	184.37	-1.00	+1.37	179.00	245.23
631.87	114.56	+1.15	+1.35	205.85	241.65
247.02	110.98	-0.40	+0.27	71.60	48.33
524.47	82.34	+0.35	+0.33	62.65	59.07
390.22	71.66	+	"	"	"
452.87	130.67	-0.30	-0.05	53.70	8.95
506.57	139.62				

Project PHaEDRA - Williamina P. Fleming - Variable Stars #4
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January 23, 1896

T Pavonis Variable No 155.
 Error found in identification of a, on March 7, 1896. Should be Z.C. 1695
 or A.G.C. 27094.
 Positions charted.
 Feb. 11, 1896.
 See Chart No. 11b.

Measures to determine position of new variable star in Pavo and
 comparison stars. Sp. Md on B13777 No 7401 RA $19^{\circ} 36.6'$ -
 $72^{\circ} 5'$ (Approx 1875)

B5313

[[11 columned table]]

A.G.C. 27094|x|y|x|y| |R.A. 1875|R.A. 1875|R.A. 1875|Dec.|Magn.|

ZC $19^{\circ} 169$ ~~7~~5 =
 $a|5.95^{\circ}|5.98||19.95|6.00|19.95|Z.C. 19^{\circ}|$
 169 ~~7~~5 $^{\circ}|5^{\circ}|=A.G.C. 27094 19 39 56.55 -$
 $71^{\circ} 43' 5.5"$
 $7.5||19^{\circ}|39^{\circ}|$ ~~58.18~~ ~~56.69~~ -71°
~~39~~ ~~43~~
~~8.4~~ ~~7.3~~ ~~9~~

1805 b|0.60^|[0.58]|5.85|0.55|5.85|1805| |43|0.51|-72 26 5.2|8|

c|26.00|17.65|26.00|17.65|

d|1.75|1.00|1.75|1.00|

e|11.90|10.30^|[10.28]|11.90|10.25|

A.G.C. 26990 f|12.55|11.70^|[11.72]|12.55|11.75|A.G.C.

26991|19|35|24.86|-72 6 7.2|8 $\frac{3}{4}$ |

g|7.55^|[7.52]|7.40^|[7.42]|7.50|7.45|

h|13.60^|[13.58]|8.80^|[8.82]|13.55|8.85|

k|13.40|9.75|13.40|9.74|

l|8.90^|[8.88]|11.95|8.85|11.95|

m|10.60|10.25|10.60|10.25|

n|11.30|12.05|11.30|12.05|

o|10.45|9.55|10.45|9.55|

p|10.40|11.55|10.40|11.55|

q|10.30|11.50|10.30|11.50|

r|9.55^|[9.58]|9.90|9.60|9.90|

[[var]|10.65|12.50|10.65|12.50|]] | | | | |

[[left margin]]

[[2 columned table]]

-4.67|+7.45|

-10.07|-6.65|

+15.35|+5.15|

-8.90|-11.50|

+1.25|~~1~~2.22|

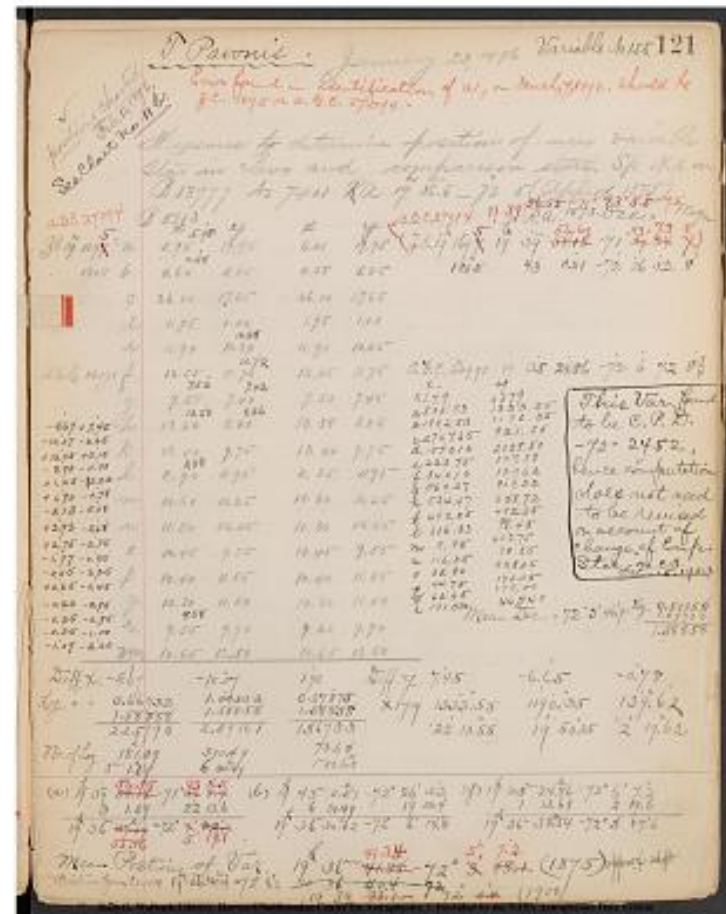
+1.90|-0.78|

-3.13|-5.08|

+2.93|-3.68|

+2.75|-2.75|

-1.77|-0.55|



-0.05|-2.25|
+0.65|-0.45|
-0.20|-2.95|
-0.25|-0.95|
-0.35|-1.00|
-1.07|-2.60|
[[/left margin]]

[[3 columned table]]
|x|y|
X 1.79|X 1.79|
---|---|---|
a|835.93|1333.55|
b|1802.53|1190.35|
c|2747.65|921.85|
d|1593.10|2058.50|
e|223.75|397.38|
f|340.10|139.62|
g|560.27|909.32|
h|524.47|658.72|
k|492.25|492.25|
l|316.83|98.45|
m|8.95|402.75|
n|116.35|80.55|
o|35.80|528.05|
p|44.75|170.05|
q|62.65|179.00|
r|191.53|465.40|

[[right margin]]
This Var. found to be C.P.D. -72° 2452, hence computation does not
need to be revised on account of change of Comp. Star - M.C.S.
Oct. 15, 1903
[[/right margin]]

[[2 columned table]]
Mean Dec. = 72° 3' 46.9" = Log.|0.51158|
| |[[u]]1.07700[[/u]]|
| |1.58858|

[[8 columned table]]
Diff. X.|-4.67|-10.07|1.90|Diff. Y.|7.45|-6.65|-0.78|
Log. Diff. X.|0.66932|1.00303|0.27875|X179|1333.55"|1190.35"|139.62"|
|[[u]]1.58858|1.58858|1.58858[[/u]]| 22' 13.55"|19'
50.35"|2' 19.62"|
No. of Log.|181.09^[[s]]|390.49^[[s]]|73.68^[[s]]| | | | |
| 3^[[m]] 1.09^[[s]]|6^[[m]] 30.49^[[s]]|1^[[m]] 13.68^[[s]]| | | | |

[[21 columned table]]
(a)|19^[[h]]|39^[[m]]|~~58.18~~|~~56.55~~^[[s]]|-
71°|~~39~~|~~43~~|~~8.4~~|
gh)|5.5|(b)|19^[[h]]|43^[[m]]|0.51^[[s]]|-
72°26'5.2"|(f)|19^[[h]]|35^[[m]]|24.86^[[s]]|-72°6'7.2"|
| |[[u]]3|1.09| 22|13.6[[/u]]| |[[u]]6|30.49|
19|50.4[[u]]| |[[u]]1|13.68| 2|19.6[[u]]|
| 19^[[h]]|36^[[m]]|~~57.09~~|~~55.46~~^[[s]]|-
72°|~~1~~|~~5~~|~~22.0~~|
gh)|19.1"| 19^[[h]]|36^[[m]]|30.02^[[s]]|-72°6'14.8"|
|19^[[h]]|36^[[m]]|38.54^[[s]]|-72°3'47.6"|

[[3 columned table]]
 |Mean Position of Var.|19^h 36^m 41.34^s -72° 5' 72"|(1875)
 approx. adopt.|
 |Position from curve|19^h 36^m 40.4^s -72° 4.2'
 |~~19 36 40.4 -72~~|
 |19 39 ~~33.1~~ -72°
 |~~0.4~~|(1900)|

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January 6, 1896

[[left margin]]

Positions charted.

See Chart No. 12b

[[left margin]]

Nova Centauri {measures copied from Book 4 pages 108 - 111}

Plate B13965 measures made with micrometer.

[[7 columned table]]

| H=R.A. | V=Dec. | Design. | R.A. 1875. | Dec. | Magn. |

-----|-----|-----|-----|-----|-----|

1 56.480 | 58.636 | Z.C. 13^h | 1874 | 13^h | 31^m | 5.28^s | -31° 36'

1.1" | 8.2 |

2 54.146 | 42.604 | 13 1908 | 13 31 41.86 | -30 45 23.5 | 9 |

3 51.508 | 33.010 | 13 1947 | 13 32 20.59 | -30 14 55.3 | 8½ |

4 50.373 | 63.436 | 13 1963 | 13 32 35.12 | -31 51 11.0 | 9.5 |

5 43.533 | 33.613 | 13 2059 | 13 34 17.24 | -30 16 54.2 | 8.8 |

6 39.175 | 45.154 | 13 2134 | 13 35 22.24 | -30 53 42.6 | 9 |

Nova alpha | 49.336 | 47.236 | | | |

Neb. beta | 49.447 | 47.342 | | | |

Mean Dec. = -30° 56' 21.3" = Log. 0.06663

1.10164

1.16827

[[5 columned table]]

Diff. H. | 7.144 | 4.810 | 2.172 | 1.037 |

Log. Diff. H. | 0.85394 | 0.68215 | 0.33686 | 0.01578 |

[[u]] 1.16827 | 1.16827 | 1.16827 | 1.16827 |

2.02221 | 1.85042 | 1.50513 | 1.18405 |

No. Log. | 105.25^s | 70.86^s | 32.00^s | 15.28^s |

1^m | 45.25^s | 1^m | 10.86^s |

Diff. H. | -5.803 | -10.161 |

Log. Diff. H. | 0.76365 | 1.00694 |

[[u]] 1.16827 | 1.16827 |

1.93192 | 2.17521 |

85.49^s | 149.70^s |

1^m | 25.49^s | 2^m | 29.70^s |

122
Position charted
See Chart No. 12b
Nova Centauri {measures copied from Book 4 pages 108 - 111}

Plate B13965 measures made with micrometer.

	H=R.A.	V=Dec.	Design.	R.A. 1875.	Dec.	Magn.
1	56.480	58.636	Z.C. 13 ^h	1874	13 ^h 31 ^m	5.28 ^s
2	54.146	42.604	13 1908	13 31 41.86	-30 45 23.5	9
3	51.508	33.010	13 1947	13 32 20.59	-30 14 55.3	8½
4	50.373	63.436	13 1963	13 32 35.12	-31 51 11.0	9.5
5	43.533	33.613	13 2059	13 34 17.24	-30 16 54.2	8.8
6	39.175	45.154	13 2134	13 35 22.24	-30 53 42.6	9
Nova alpha	49.336	47.236				
Neb. beta	49.447	47.342				

Mean Dec. = -30° 56' 21.3" = Log. 0.06663
1.10164
1.16827

	Diff. H.	Log. Diff. H.		
7.144	0.85394	2.172	1.037	
4.810	0.68215	0.33686	0.01578	
2.172	0.33686	1.16827	1.16827	
1.037	0.01578	1.16827	1.16827	
		2.02221	1.85042	
		1.50513	1.18405	
		105.25 ^s	70.86 ^s	
		32.00 ^s	15.28 ^s	
		1 ^m	45.25 ^s	
		1 ^m	10.86 ^s	
		-5.803	-10.161	
		0.76365	1.00694	
		1.16827	1.16827	
		1.93192	2.17521	
		85.49 ^s	149.70 ^s	
		1 ^m	25.49 ^s	
		2 ^m	29.70 ^s	

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123

Diff. V. 11.400 -4.632 -14.226 16.200
 Log Diff. V. 1.05690 0.66577 1.15308 1.20952
 2.27773 2.27773 2.27773 2.27773

3.33463 2.94350 3.43081 3.48725
 No. of Log. 2160.9" 878.01" 2696.6" 3070.8"
 36' 0.9" 14'38.0" 44' 56.6" 51' 10.8"

Diff. -13.623 -2.079
 Log. Diff 1.13427 0.31785
 2.27773 2.27773

3.41200 2.59558
 2582.3 394.08
 43' 2.3" 6' 34.08"

h m. s.
 (1) 13 31 52.8 -31° 36' 1.1"
 145.25 36 0.9

h m. s. h m. s.
 13 32 50.53 -31° 0' 0.2" 13 32 50.53 -31° 0' 0.2"
 ===== 13 32 52.72 -31 0 1.5

h m. s. 13 32 52.59 -30 59 51.9
 (2) 13 31 41.86 -30 45 23.5 13 32 50.40 -31 0 0.2
 110.86 14 38.0 13 32 51.75 -30 59 56.5
 ===== 13 32 52.54 -31 0 16.7

h m. s. h m. s.
 13 32 52.72 -31° 0' 1.5" 13 32 51.76 -31° 0'
 =====Mean} 13 32 51.76 -31° 0'
 1.17" (1875)

h m. s. Position} 13 32 52.1 -31° 0' 0"
 (3) 13 32 20.59 -30° 14' 55.3" of Nova}
 32.00 44 56.6 Cent.}

h m. s.
 13 32 52.59 -30° 59' 51.9 Rejected [[?]]
 ===== [[?]] of plate

h m. s.
 (4) 13 32 35.12 -31° 51' 11.0"
 15.28 51 10.8

h m. s.
 13 32 50.40 -31° 0' 0.2"
 =====

h m. s.
 (5) 13 34 17.24 -30° 16' 54.2"
 125.49 43 2.3

h m. s.
 13 32 51.75 -30° 59' 56.5"
 =====

h m. s.
 (6) 13 35 22.24 -30° 53' 42.6"
 229.70 6 34.1



h m. s.
13 32 52.54 -31* 0' 16.7"
=====

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[[5 columned table]]

Diff. H. | 7.033 | 4.699 | 2.061 | 0.926 |

Log. Diff. H. | 0.84714 | 0.67201 | 0.31408 | 9.96661 |

| 1.16827 | 1.16827 | 1.16827 | 1.16827 | 1.16827 |

| 2.01541 | 1.84028 | 1.48235 | 11.13488 |

No. Log. | 103.61^{[[s]]} | 69.23^{[[s]]} | 30.36^{[[s]]} | 13.64^{[[s]]} || 1^{[[m]]} | 43.61^{[[s]]} | 1^{[[m]]} | 9.23^{[[s]]} | |

[[3 columned table]]

| -5.914 | -10.272 |

Log. Diff. H. | -77188 | 1.01166 |

| 1.16827 | 1.16827 | 1.16827 |

| 1.94015 | 2.17993 |

| 87.13^{[[s]]} | 151.33^{[[s]]} || 1^{[[m]]} | 27.13^{[[s]]} | 2^{[[m]]} | 31.33^{[[s]]} |

[[5 columned table]]

Diff. V. | 11.294 | -4.738 | -14.332 | 16.094 |

Log. Diff. V. | 1.05285 | 0.67560 | 1.15631 | 1.20666 |

| 2.27773 | 2.27773 | 2.27773 | 2.27773 | 2.27773 |

| 3.33058 | 2.95333 | 3.43404 | 3.48439 |

No. of Log. | 2140.8" | 898.1" | 2716.7" | 3050.6" |

| 35' 40.8" | 14' 58.1" | 45' 16.7" | 50' 50.6" |

[[2 columned table]]

| -13.729 | -2.185 |

Log. Diff. V. | 1.13764 | 0.33945 |

| 2.27773 | 2.27773 | 2.27773 |

| 3.41537 | 2.61718 |

| 2602.4" | 414.17" |

| 43' 22.4" | 6' 54.2" |

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124

Diff. H. | 7.033 | 4.699 | 2.061 | 0.926 |

Log. Diff. H. | 0.84714 | 0.67201 | 0.31408 | 9.96661 |

| 1.16827 | 1.16827 | 1.16827 | 1.16827 | 1.16827 |

| 2.01541 | 1.84028 | 1.48235 | 11.13488 |

No. Log. | 103.61^{[[s]]} | 69.23^{[[s]]} | 30.36^{[[s]]} | 13.64^{[[s]]} |

| 1^{[[m]]} | 43.61^{[[s]]} | 1^{[[m]]} | 9.23^{[[s]]} | |

[[3 columned table]]

| -5.914 | -10.272 |

Log. Diff. H. | -77188 | 1.01166 |

| 1.16827 | 1.16827 | 1.16827 |

| 1.94015 | 2.17993 |

| 87.13^{[[s]]} | 151.33^{[[s]]} |

| 1^{[[m]]} | 27.13^{[[s]]} | 2^{[[m]]} | 31.33^{[[s]]} |

[[5 columned table]]

Diff. V. | 11.294 | -4.738 | -14.332 | 16.094 |

Log. Diff. V. | 1.05285 | 0.67560 | 1.15631 | 1.20666 |

| 2.27773 | 2.27773 | 2.27773 | 2.27773 | 2.27773 |

| 3.33058 | 2.95333 | 3.43404 | 3.48439 |

No. of Log. | 2140.8" | 898.1" | 2716.7" | 3050.6" |

| 35' 40.8" | 14' 58.1" | 45' 16.7" | 50' 50.6" |

[[2 columned table]]

| -13.729 | -2.185 |

Log. Diff. V. | 1.13764 | 0.33945 |

| 2.27773 | 2.27773 | 2.27773 |

| 3.41537 | 2.61718 |

| 2602.4" | 414.17" |

| 43' 22.4" | 6' 54.2" |

h m. s.
(1) 13 31 5.28 -31° 36' 1.1"
1 43.61 35 40.8

h m.
13 32 48.89 -31° 0' 20.3"

h m. s.
(2) 13 31 41.86 -30° 45' 23.5"
1 9.23 14 58.1

h m. s.
13 32 51.09 -30° 0' 21.6"

h m. s.
(3) 13 32 20.59 -30° 14' 55.3"
30.36 45 16.7

h m. s.
13 32 50.95 -30° 0' 12.0"

h m. s.
(4) 13 32 35.12 -31° 51' 11.0"
13.64 50 50.6

h m. s.
13 32 48.76 -31° 0' 20.4"

h m. s.
(5) 13 34 17.24 -30° 16' 54.2"
1 27.13 43 22.4

h m. s.
13 32 50.11 -31° 0' 16.6"

h m. s.
(6) 13 35 22.24 -30° 53' 42.6"
2 31.33 6 54.2

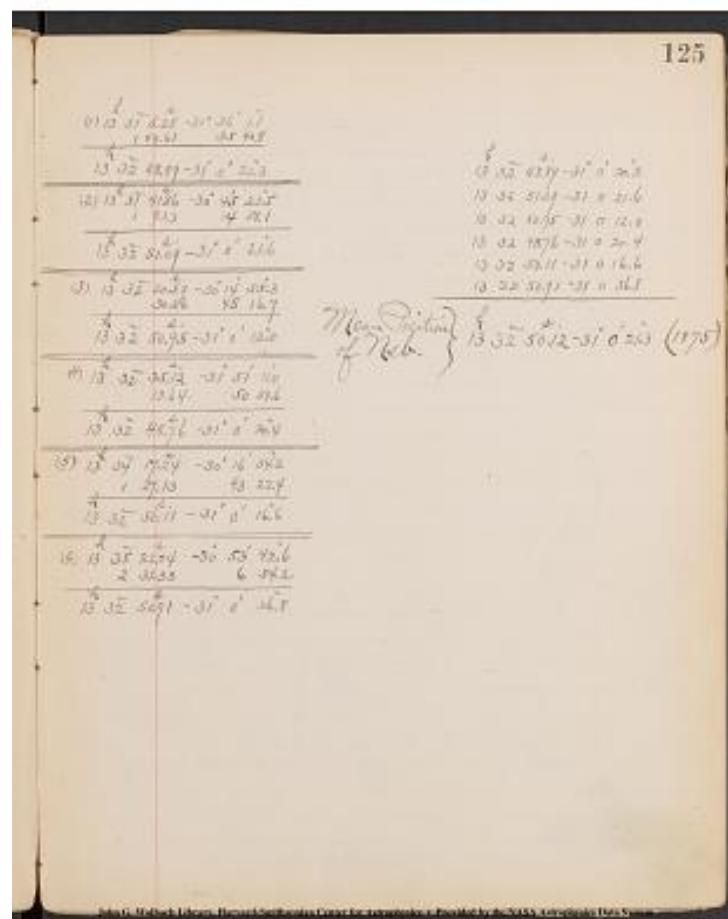
h m. s.
13 32 50.91 -31° 0' 36.8"

Right Half of Page

h m. s.
13 32 48.89 -31° 0' 20.3"
13 32 51.09 -31 0 21.6
13 32 50.95 -31 0 12.0
13 32 48.76 -31 0 20.4
13 32 50.11 -31 0 16.6
13 32 50.91 -31 0 36.8

Mean Position} h m. s.
of Neb. 13 32 50.12 -31° 0' 21.3 (1875)

125(top right corner)



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2.3.30

January 7 1896. Plate B 13965

[[4 columned table]]

| V | H | |

[[left margin]]alpha[[left margin]] 47110| 02[[/underline]]
49452|1|

47116| 04| 49451| 0|

[[u]]47110[[/u]]| 02[[/u]]|

[[u]]49450[[/u]]| 1[[/u]]|

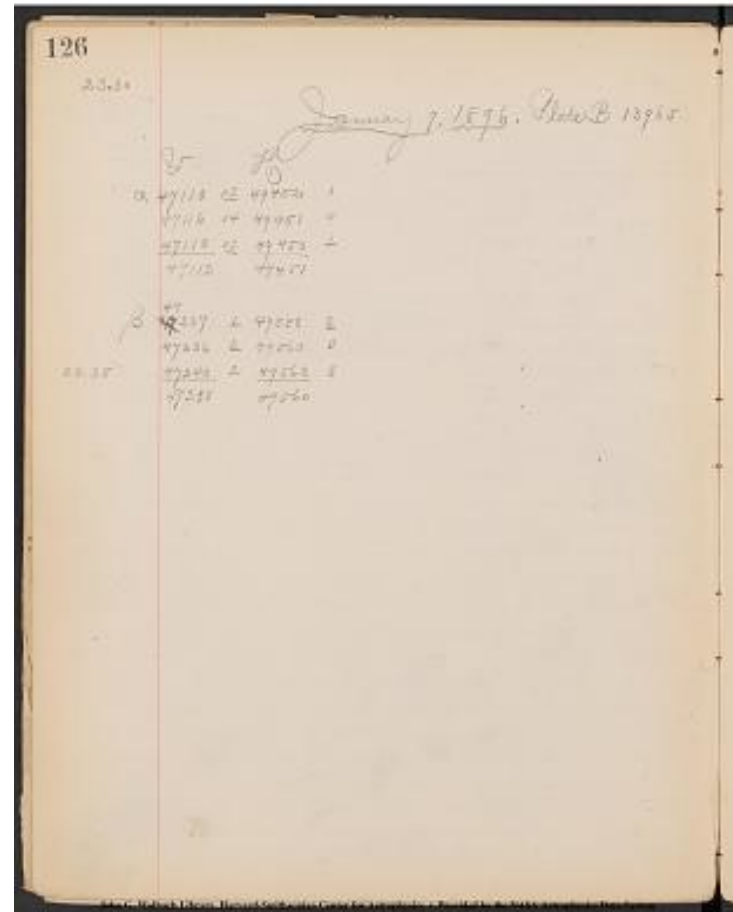
47112| | 49451| |

[[left margin]]beta[[left margin]]| ~~47~~[[/del]]|
47237| 1[[/u]]| 49558| 2[[/u]]|

47236| 2[[/u]]| 49560| 0|

[[left margin]]23.35[[left margin]]| 47240[[/u]]| 2|
49563[[/u]]| 3|

47238| | 49560| |



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[[left margin]]1.0[[/left margin]]

[[underline]]January 9 1896. [[/underline]] Plate B 13965

[[4 columned table]]

| V | H | |

[[left margin]]alpha[[/left margin]] | 47085|0 |49572

[[underline]]3[[/underline]]

| 47081| [[underline]]4[[/underline]]| 49577| 2|

| 47088| 3| 49576| 1|

| 47085| | 49575| |

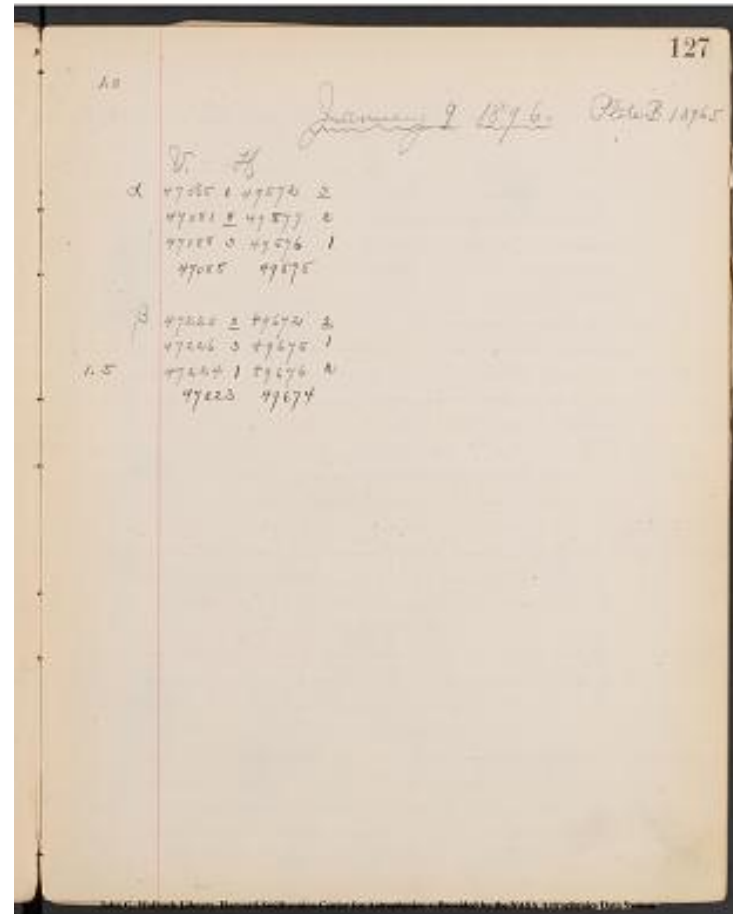
[[left margin]]beta[[/left margin]] | 47220| [[underline]]3[[/underline]]

49672| [[underline]]2[[/underline]]

| 47226| 3| 49675| 1|

[[left margin]]1.5[[/left margin]] | 47224| 1| 49676| 2|

| 47223| | 49674| |



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Measures of Nova Perseus

3^h 30^m

January 10, 1896

B1977

[6 columned table]

x|y|x|y| |
 1 00.00 00.00 0.00 0.00 | |
 | | | -1.1.0 -13.45 |
 2 00.00 27.30 0.00 27.30 | |
 | | | -1.1.0 +13.85 |
 3 0.60 15.15 0.60 15.15 | |
 | | | -0.50 +1.70 |
 Nova 1.10 13.45 1.10 13.45 | |

B1954

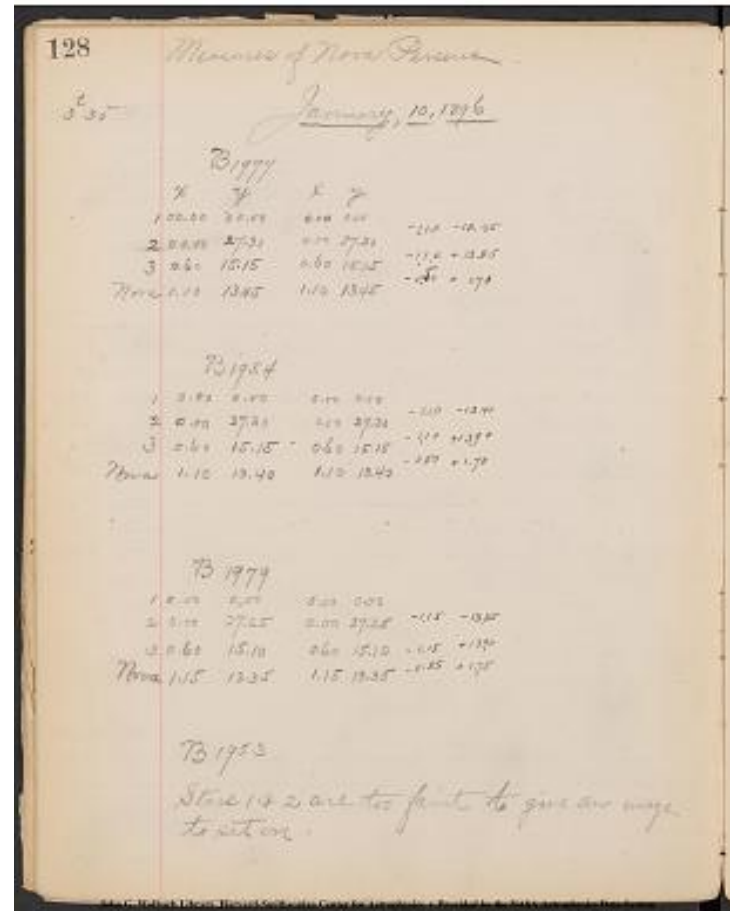
1 0.00 0.00 0.00 0.00 | | |
 | | | -1.1.0 -13.40 |
 2 0.00 27.30 0.00 27.30 -1.10 +13.90 |
 3 0.60 15.15 0.60 15.15 -0.50 +1.70 |
 Nova 1.10 13.40 1.10 13.40 | |

B1979

1 0.00 0.00 0.00 0.00 | | |
 | | | -1.15 -13.35 |
 2 0.00 27.25 0.00 27.25 | | |
 | | | -1.15 +13.90 |
 3 0.60 15.10 0.60 15.10 | | |
 | | | -0.55 +1.75 |
 Nova 1.15 13.35 1.15 13.35 | |

B1953

Stars 1 and 2 are too faint to give an image to set on



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B2068 too badly fogged. Cannot see lines through.

[[4 columned table]]

Design | Rd L'm' 1875 | Dec. 1855 | Magn

1= BD +55° 473 | 1 51 46.8 | + 55° 17.8 | 9.5
 2= BD +56° 406 | 1 51 49.4 | + 56 43.0 | 9.2
 3= BD +56° 404 | 1 51 21.0 | + 56 4.8 | 9.5

1

[[2 columned table]]

x | y

---|---

0.00 | 0.00

0.00 | 0.00

0.00 | 0.00

0.00 | 0.00

0.00 | 0.00

0.00 | 0.00

0.00 | 0.00

[[/strikethrough]] 0.00 [[/strikethrough]] |

±.00 | ±.00

2

[[2 columned table]]

x | y

---|---

0.00 | 27.30 .02

0.00 | 27.30 .02

0.00 | 27.30 .02

0.00 | 27.30 .02

0.00 | 27.25 .03

0.00 | 27.25 .03

0.00 | 27.28

±.00 | ±.023

3

[[2 columned table]]

x | y

---|---

0.60 .00 | 15.15 .02

0.60 .00 | 15.15 .02

0.60 .00 | 15.15 .02

0.60 .00 | 15.15 .02

0.60 .00 | 15.10 .03

0.60 .00 | 15.10 .03

0.60 | 15.13

±.00 | ±.023

Nova

[[2 columned table]]

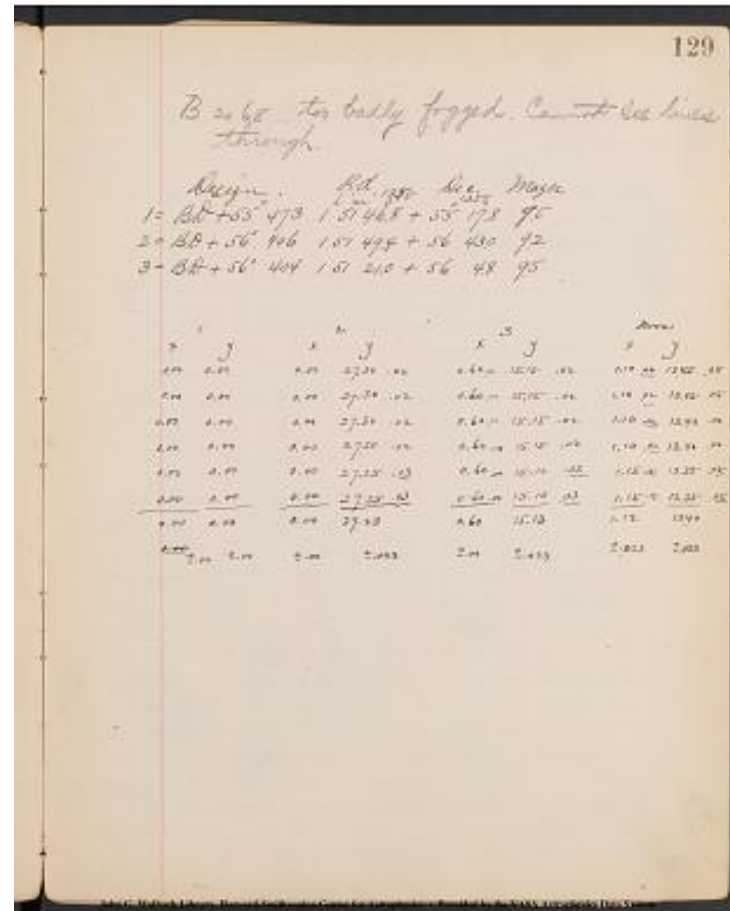
x | y

---|---

1.10 .02 | 13.45 .05

1.10 .02 | 13.45 .05

1.10 .02 | 13.40 .00



1.10 .02 | 13.40 .00
1.15 .03 | 13.35 .05
1.15 .03 | 13.35 .05
1.12 | 13.40
 $\pm.023$ | $\pm.033$

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These meas. are to be used in determining
~~var~~ positions of comparison stars for
 Nova Centauri.

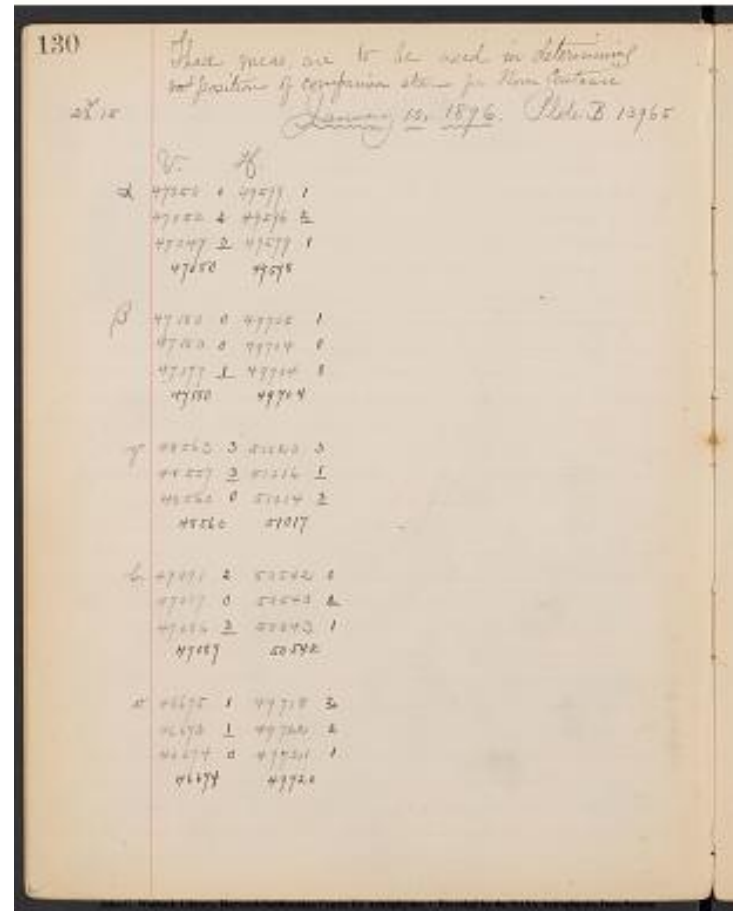
2. 15

January 10, 1896. Plate B 13965

[[5 columned table]]

V.	H.
alpha	47050 0 49599 1
	47052 2 49596 2
	47047 3 49599 1
	47050 49598
beta	47180 0 49705 1
	47180 0 49704 0
	47179 1 49704 0
	47180 49704
q	48563 3 51020 3
	48557 3 51016 1
	48650 0 51014 3
	48560 51017
	47091 2 50542 0
	47089 0 50540 2
	47086 3 50543 1
	47089 50542
o	46675 1 49718 2
	46673 1 49722 2
	46674 0 49721 1
	46674 49720

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2~~[[striketrough]]~~ 1 ~~[[/striketrough]]~~[^]~~[[2]]~~.45 January 10, 1896 Plate B
13965

[[left margin]] h [[/left margin]]

V. | H.

45803 [[/underline]] 1 [[/underline]] | 50045 1

45806 2 | 50043 [[/underline]] 1 [[/underline]]

45802 [[/underline]] 2 [[/underline]] | 50045 1

45804 | 50044

[[left margin]] alpha [[/left margin]]

47052 4 | 49593 [[/underline]] 1 [[/underline]]

47045 [[/underline]] 3 [[/underline]] | 49594 0

47047 [[/underline]] 1 [[/underline]] | 49596 2

47048 | 49594

[[left margin]] beta [[/left margin]]

47174 [[/underline]] 5 [[/underline]] | 49705 2

47181 2 | 49700 [[/underline]] 3 [[/underline]]

47182 3 | 49705 2

47179 | 49703

[[left margin]] m [[/left margin]]

44266 [[/underline]] 1 [[/underline]] | 51529 0

44270 3 | 51532 3

44266 [[/underline]] 1 [[/underline]] | 51526 [[/underline]] 3 [[/underline]]

44267 | 51529

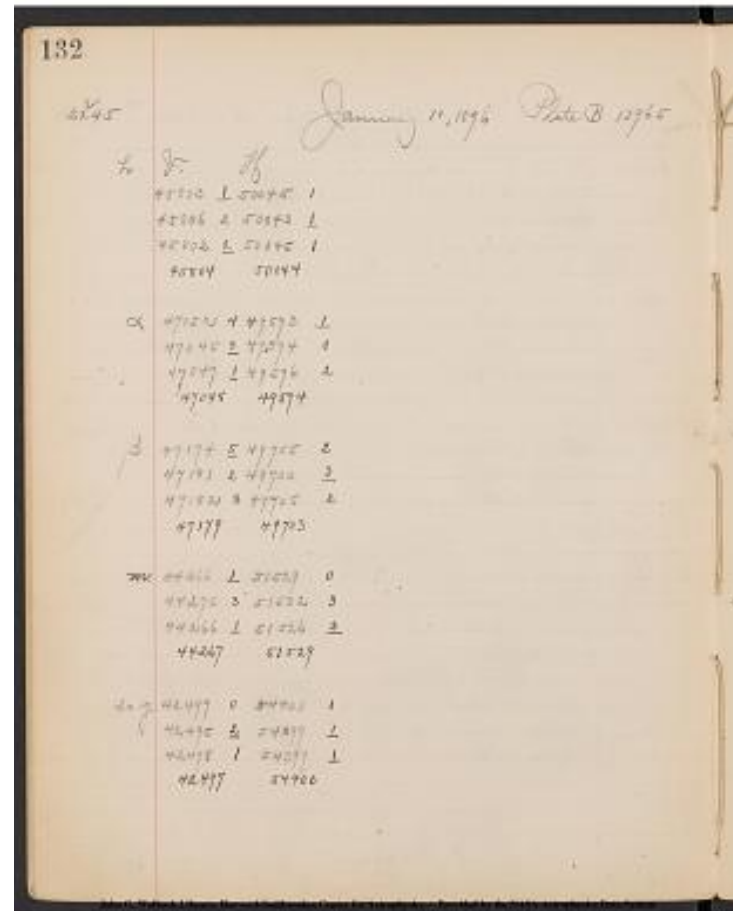
[[left margin]] 2= g [[/left margin]]

42497 0 | 54401 1

42495 [[/underline]] 2 [[/underline]] | 54399 [[/underline]] 1 [[/underline]]

42498 1 | 54399 [[/underline]] 1 [[/underline]]

42497 | 54400



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6=e | V. | H.

44993		<u>1</u>		39413		0
44995		1		39412		<u>1</u>
44995		1		39415		2
44994				39413		

f.	48658		0		42699		<u>2</u>
	48657		<u>1</u>		42703		2
	48659		1		42701		0
	48658				42701		

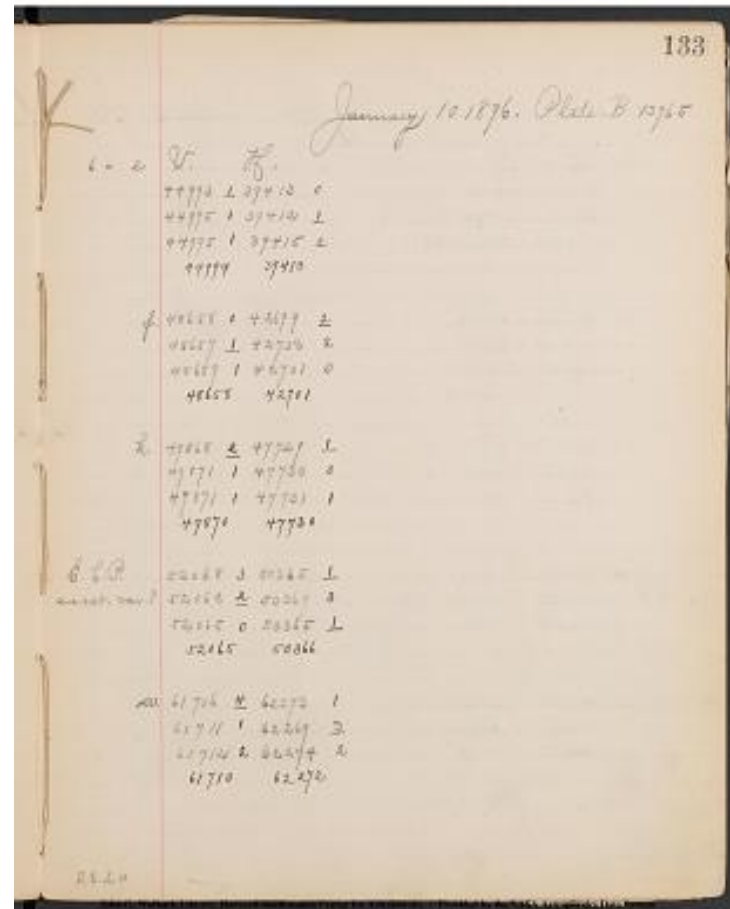
k.	49868		<u>2</u>		47729		<u>1</u>

	49871		1		47730		0
	49871		1		47731		1
	49870				47730		

E.C.P. sus. neb. var.?	52068		3		50365		<u>1</u>
	52063		<u>2</u>		50369		3
	52065		0		50365		<u>1</u>
	52065				50366		

a.	61706		<u>4</u>		62273		1
	61711		1		62269		<u>3</u>
	61712		2		62274		2
	61710				62272		

23.20



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23.20

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[[2 column table]]
V | H

[[left margin]] b [[/left margin]]
60843 1 | 58793 1
60846 2 | 58793 1
60844 0 | 58791 1 | 58791 1
60844 | 58792

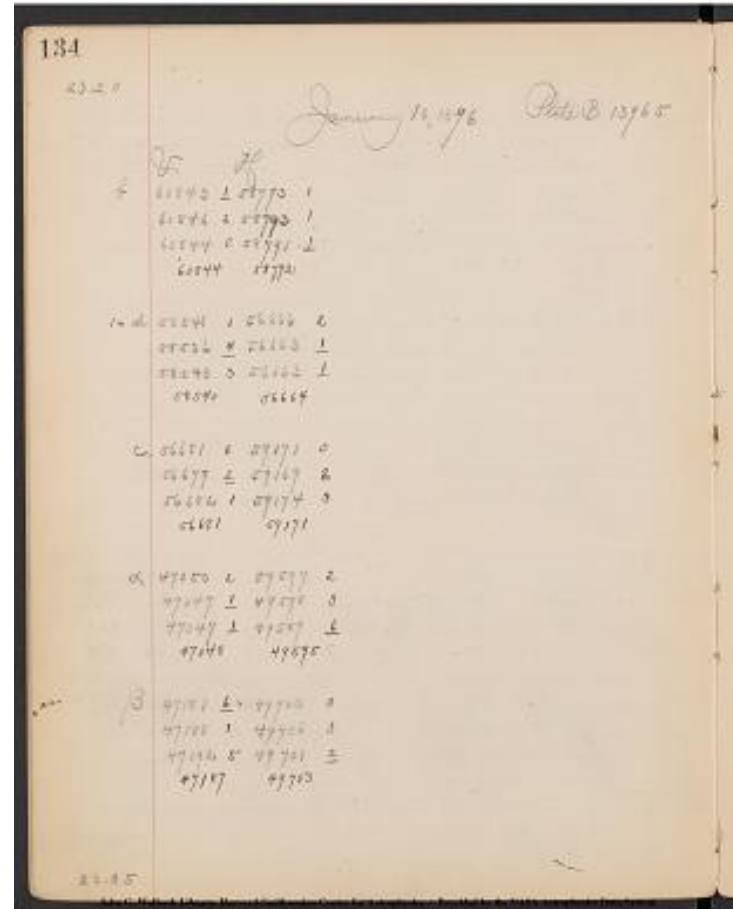
[[left margin]] 1=d [[/left margin]]
58541 1 | 56666 2
58536 4 | 56663 1 | 56663 1
58543 3 | 56663 1 | 56663 1
58540 | 56664

[[left margin]] c [[/left margin]]
56681 0 | 59171 0
56679 2 | 59169 2 | 59169 2
56682 1 | 59174 3
56681 | 59171

[[left margin]] alpha [[/left margin]]
47050 2 | 49597 2
47047 1 | 49598 3
47047 1 | 49589 6 | 49589 6
47048 | 49595

[[left margin]] beta [[/left margin]]
47181 6 | 49703 0
47188 1 | 49706 3
47192 5 | 49701 2 | 49701 2
47187 | 49703

23.35



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135

Jan 14. 1896.

Results of measures contained on pp 26 and 94 to determine meas in charting in Atlas of D.M. Lu Aure XXVI e

[[7 column table]]

RA	Dec	Stars [^] [[Neo]]	Delta alpha	[^] [[Corr.]] Delta alpha	Delta delta	[^] [[Corr.]] Delta delta
0 ^h 9 ^m	0° 9'	1.03	0.57	0.57	0.57	0.57
6	23	2.18	1.50	1.50	1.50	1.50
12	13	1.50	1.52	1.52	1.52	1.52
18	20	1.04	1.36	1.36	1.36	1.36
0	-10°	13	4.35	1.44	.50	.37
12	-10°	12	1.17	.38		
1	-30°	25	3.57	2.20	1.30	.92
13	67	2.13	2.08	.72	.65	

[[9 columned table]]

Ns	65	5.75	1 [^] [[s]].44	21 [^] [["]].6	20.5	0 [^] [["]].51	30 [^] [["]].6	26.1 [^] [["]].24.5
S	25	1.30	19 [^] [["]].5	0 [^] [["]].38 [^] [[6]]	22.8	21.2	19.2	
C	72	2.14	37 [^] [["]].1	0.78	46.8	42.0	41.0	

[[3 columned table]]

681.21	449.44	1764.00
324	324 [^] [[81]]	324 [^] [[81]]
357.4	125.44	1440.00
600.21	368.44	1683.00
24 [^] [["]].5	19 [^] [["]].2	41 [^] [["]].0

Average var of 9" nebula

135

Jan 14. 1896

Results of measures contained on pp 26 and 94 to determine meas in charting in Atlas of D.M. Lu Aure XXVI e

RA	Dec	Stars [^] [[Neo]]	Delta alpha	[^] [[Corr.]] Delta alpha	Delta delta	[^] [[Corr.]] Delta delta
0 ^h 9 ^m	0° 9'	1.03	0.57	0.57	0.57	0.57
6	23	2.18	1.50	1.50	1.50	1.50
12	13	1.50	1.52	1.52	1.52	1.52
18	20	1.04	1.36	1.36	1.36	1.36
0	-10°	13	4.35	1.44	.50	.37
12	-10°	12	1.17	.38		
1	-30°	25	3.57	2.20	1.30	.92
13	67	2.13	2.08	.72	.65	

Ns	65	5.75	1 [^] [[s]].44	21 [^] [["]].6	20.5	0 [^] [["]].51	30 [^] [["]].6	26.1 [^] [["]].24.5
S	25	1.30	19 [^] [["]].5	0 [^] [["]].38 [^] [[6]]	22.8	21.2	19.2	
C	72	2.14	37 [^] [["]].1	0.78	46.8	42.0	41.0	

681.21	449.44	1764.00
324	324 [^] [[81]]	324 [^] [[81]]
357.4	125.44	1440.00
600.21	368.44	1683.00
24 [^] [["]].5	19 [^] [["]].2	41 [^] [["]].0

Cleaning up of 9" nebula

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[[left margin]]
 [[underlined]]Positions charted[[/underlined]]
 See Chart [[underlined]]No. 12b[[/underlined]]
 [[/left margin]]

R.A. Nova Centauri

Values derived from meas. on pp 130 to 134. See E.C.P. obs B. p 34

[[5 columned table]]

neb.	1	2	3	
Log.	+0.107	+7.068	+4.804	+2.281
	9.02938	0.84930	0.68160	0.35813
	[[underlined]]1.16827	[[underlined]]1.16827	[[underlined]]1.16827	[[underlined]]1.16827[[/underlined]]
	10.19765	2.01757	1.84987	1.52640
No. of Log	1.576 ^h [[s]]	104.13 ^h [[s]]	70.77 ^h [[s]]	33.60 ^h [[s]]
	1 ^h [[m]]	44.13 ^h [[s]]	1 ^h [[m]]	10.77 ^h [[s]]

[[3 columned table]]

4	5	6		
	+0.975	-5.697	-10.183	
	9.98900	0.75565	1.00788	
	[[underlined]]1.16827	[[underlined]]1.16827	[[underlined]]1.16827[[/underlined]]	
	11.15727	1.92392	2.17615	
	14.36 ^h [[s]]	83.93 ^h [[s]]	150.02	
	1 ^h [[m]]	23.93 ^h [[s]]	2 ^h [[m]]	30.02 ^h [[s]]

[[14 columned table]]

(1) 13^h[[h]] 31^h[[m]] 5.28^h[[s]] -
 31° 36' 1.1" (5) 13^h[[h]] 34^h[[m]] 17.24^h[[s]] -30° 16' 54.2"
 | [[underlined]] 1|44.14 | 36|18.2[[/underlined]]
 | [[underlined]] 1|23.93 | 43|10.4[[/underlined]]
 | [[underlined]] 13^h[[h]] 32^h[[m]] 49.41^h[[s]] -30° 59' 42.9"[[/underlined]]
 | [[underlined]] 13^h[[h]] 32^h[[m]] 53.31^h[[s]] -31° 0' 4.6"[[/underlined]]
 (2) 13^h[[h]] 31^h[[m]] 41.86^h[[s]] -
 30° 45' 23.5" (6) 13^h[[h]] 35^h[[m]] 22.24^h[[s]] -30° 53' 42.6"
 | [[underlined]] 1|10.77 | 14|22.8[[/underlined]]
 | [[underlined]] 2|30.02 | 6|29.5[[/underlined]]
 | 13^h[[h]] 32^h[[m]] 52.63^h[[s]] -30° 59' 46.3"
 | 13^h[[h]] 32^h[[m]] 52.22^h[[s]] -31° 0' 12.1"
 (3) 13^h[[h]] 32^h[[m]] 20.59^h[[s]] -30° 14' 55.3"
 | [[underlined]] 33.60 | 44|55.1[[/underlined]]
 | [[underlined]] 13^h[[h]] 32^h[[m]] 54.19^h[[s]] -30° 59' 50.4"[[/underlined]]
 (4) 13^h[[h]] 32^h[[m]] 35.12^h[[s]] -31° 51' 11.0"
 | [[underlined]] 14.36 | 51|11.5[[/underlined]]
 | [[underlined]] 13^h[[h]] 32^h[[m]] 49.48^h[[s]] -30° 59' 59.6"[[/underlined]]

136

Continued Table
See Chart No. 12b

R.A.

Nova Centauri

Values derived from meas. on pp 130 to 134. See E.C.P. obs B. p 34

	1	2	3	
Log.	+0.107	+7.068	+4.804	+2.281
	9.02938	0.84930	0.68160	0.35813
	1.16827	1.16827	1.16827	1.16827
	10.19765	2.01757	1.84987	1.52640
No. of Log.	1.576	104.13	70.77	33.60
	1 ^h 44.13	1 ^h 44.13	1 ^h 10.77	

	4	5	6
	+0.975	-5.697	-10.183
	9.98900	0.75565	1.00788
	1.16827	1.16827	1.16827
	11.15727	1.92392	2.17615
	14.36	83.93	150.02
	1 ^h 23.93	1 ^h 23.93	2 ^h 30.02

13 31 52.8	-31° 36' 13"
1 46.13	34 15.2
13 32 49.91	-32° 59' 42.9"

13 31 51.96	-32° 48' 23.5"
1 46.77	14 22.8
13 32 52.63	-32° 59' 46.3"

13 32 20.59	-24° 14' 58.9"
33.66	44 55.1
13 32 59.29	-32° 59' 24.4"

13 32 46.13	-31° 47' 11.6"
19.34	51 10.5
13 32 47.18	-30° 59' 59.5"

13 32 17.59	-32° 16' 24.6"
1 23.93	43 14.8
13 32 53.31	-32° 5' 6.2"

13 32 48.53	-32° 43' 45.6"
2 00.26	6 29.5
13 32 55.25	-31° 0' 12.1"

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Nova Carinae

Measures of positions of comparison stars and adjacent faint stars

[[left margin]]

2=b

5=c

4=E

3=f

[[/left margin]]

[[5 columned table]]

| x | y | x~~[[/del]]~~ | y |

a|+2.45|+7.40|+2.40|+7.35|

b|-2.80|+1.75|-2.85|+1.75|

c|+15.5|+6.20|+1.55|+6.15|

d|-5.70|+2.10|-5.75|+~~2.15~~1~~[[/del]]~~2.15|

e|-1.35|-0.80|-1.35|-0.80|

f|-1.80|-2.20|-1.80|-2.20|

b|+1.40|-0.30|+1.35|-0.25|

g|+4.55|+0.10|+4.65|+0.10|

h|+1.70|-2.80|+1.65|-2.80|

h|+4.35|-2.55|+4.30|-2.50|

k|+0.10|-0.30|+0.10|-0.25|

l|+0.45|+0.50|+0.45|+0.55|

m|-0.90|-0.90|-0.90|-0.90|

n|+1.25|-0.75|+1.20|-0.75|

o|+0.60|+0.55|+0.55|+0.55|

p|-0.05|-0.70|-0.05|-0.75|

q|+0.30|-0.65|+0.25|-0.7~~[[/del]]~~5~~[[/del]]~~0|

r|+0.20|-0.05|+0.20|-0.05|

s|-0.05|-0.60|-0.05|-0.60|

t|+0.25|-0.20|+0.25|-0.20|

Nova|00.00|00.00|00.00|00.00|

[[9 columned table]]

1|+1.85|+1.45|13.68|13.68|13.68|00|00|s31t|

2|+1.60|+1.35|13.58|13.58|13.58|00|00|s22t|

v|+1.55|1.30|13.78|13.68|13.73|+.05|-0.05|s41t|

v|+1.00|+1.30|13.48|13.48|13.48|13.48|00|00|s13t|

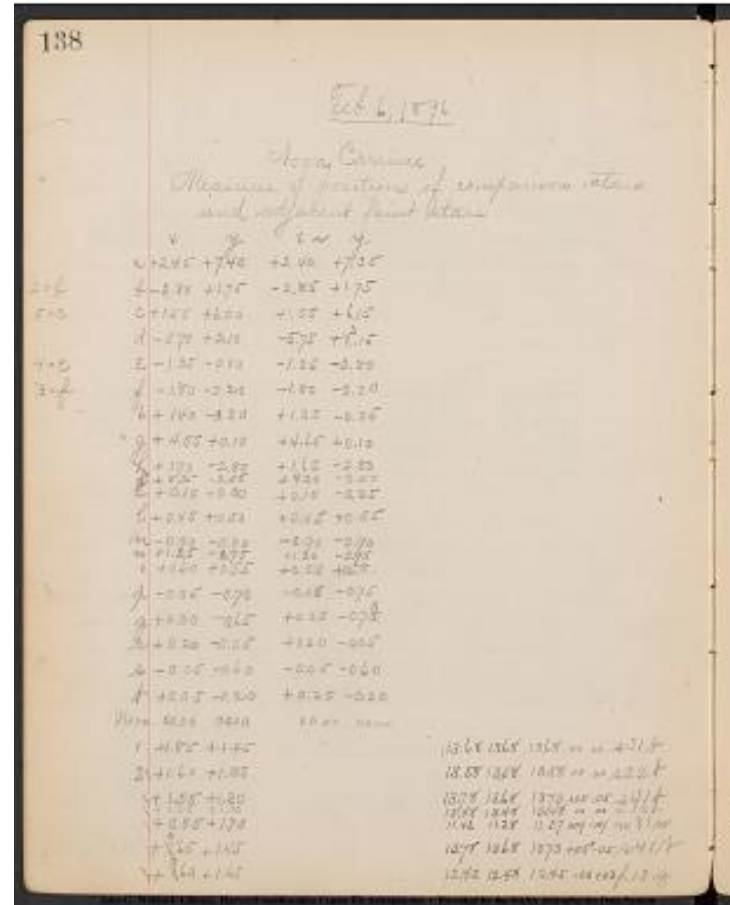
v|+0.85|+1.70|11.46|11.28|11.37|+.09|-0.09|m31n|

v|+~~[[/del]]~~0.65|+1.45|13.78|13.68|13.73|+.05|-

.05|s41t|

v|+~~[[/del]]~~0.60|+1.65|12.42|12.48|12.45|-

.03|+.03|p13q|



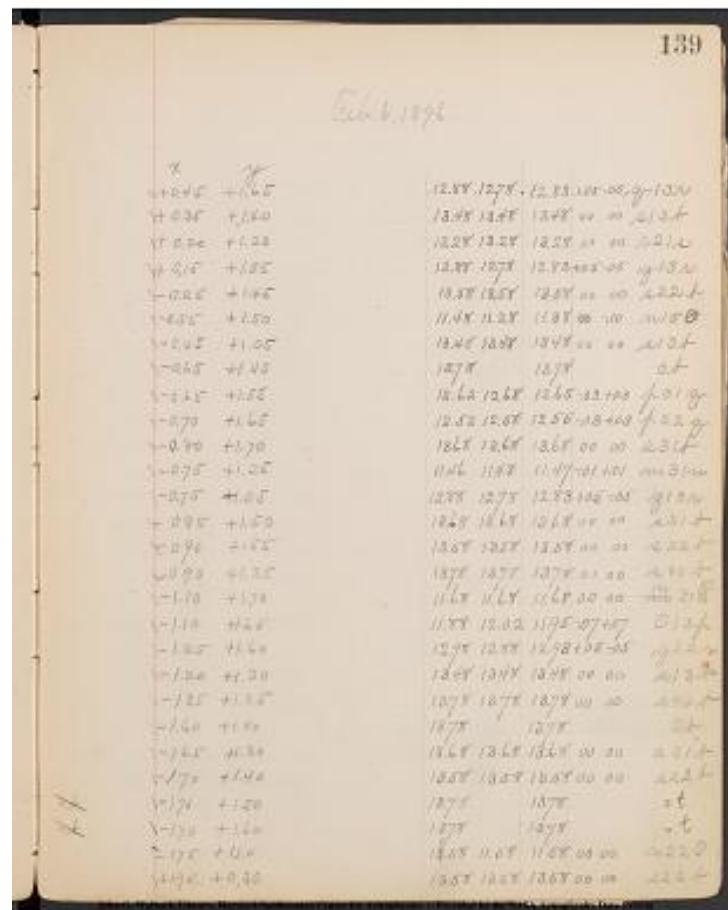
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```

|---|x|y|---|---|---|---|---|

```

$\backslash +0.45 +1.65 \mid 12.88 \mid 12.78 \mid 12.83 +05 -05 \mid q13r \mid$
 $\backslash +0.35 +1.40 \mid 13.48 \mid 13.48 \mid 13.48 \mid 00 \mid 00 \mid s13f \mid$
 $\backslash +0.20 +1.20 \mid 13.28 \mid 13.28 \mid 13.28 \mid 00 \mid 00 \mid r21f \mid$
 $\backslash +0.15 +1.55 \mid 12.88 \mid 12.78 \mid 12.83 +05 -05 \mid q13r \mid$
 $\backslash -0.25 +1.45 \mid 13.58 \mid 13.58 \mid 13.58 \mid 00 \mid 00 \mid s22f \mid$
 $\backslash -0.55 +1.50 \mid 11.48 \mid 11.28 \mid 11.38 +10 -10 \mid m15o \mid$
 $\backslash -0.45 +1.05 \mid 13.48 \mid 13.48 \mid 13.48 \mid 00 \mid 00 \mid s13f \mid$
 $\backslash -0.65 +1.40 \mid 13.78 \mid \text{---} \mid 13.78 \mid \text{---} \mid \text{---} \mid 0f \mid$
 $\backslash -0.65 +1.55 \mid 12.62 \mid 12.68 \mid 12.65 -03 +03 \mid f31q \mid$
 $\backslash -0.70 +1.65 \mid 12.52 \mid 12.58 \mid 12.55 -03 +03 \mid f22q \mid$
 $\backslash -0.80 +1.70 \mid 13.68 \mid 13.68 \mid 13.68 \mid 00 \mid 00 \mid s31f \mid$
 $\backslash -0.75 +1.25 \mid 11.46 \mid 11.48 \mid 11.47 -01 +01 \mid m31m \mid$
 $\backslash -0.75 +1.05 \mid 12.88 \mid 12.78 \mid 12.83 +05 -05 \mid q13r \mid$
 $\backslash -0.85 +1.50 \mid 13.68 \mid 13.68 \mid 13.68 \mid 00 \mid 00 \mid s31f \mid$
 $\backslash -0.90 +1.55 \mid 13.58 \mid 13.58 \mid 13.58 \mid 00 \mid 00 \mid s22f \mid$
 $\backslash -0.90 +1.35 \mid 13.78 \mid 13.78 \mid 13.78 \mid 00 \mid 00 \mid s40f \mid$
 $\backslash -1.10 +1.70 \mid 11.68 \mid 11.68 \mid 11.68 \mid 00 \mid 00 \mid m31O \text{ } \text{[[\text{skethrough}]]} \text{ } o$
 $\text{[[\text{skethrough}]]}$
 $\backslash -1.10 +1.65 \mid 11.88 \mid 12.02 \mid 11.95 -07 +07 \mid O13f \mid$
 $\backslash -1.25 +1.60 \mid 12.98 \mid 12.88 \mid 12.93 +05 -05 \mid g22r \mid$
 $\backslash -1.20 +1.30 \mid 13.48 \mid 13.48 \mid 13.48 \mid 00 \mid 00 \mid s13f \mid$
 $\backslash -1.35 +1.25 \mid 13.78 \mid 13.78 \mid 13.78 \mid 00 \mid 00 \mid s40f \mid$
 $\backslash -1.60 +1.40 \mid 13.78 \mid \text{---} \mid 13.78 \mid \text{---} \mid \text{---} \mid 0f \mid$
 $\backslash -1.65 +1.30 \mid 13.68 \mid 13.68 \mid 13.68 \mid 00 \mid 00 \mid s13f \mid$
 $\backslash -1.70 +1.40 \mid 13.58 \mid 13.58 \mid 13.58 \mid 00 \mid 00 \mid s22f \mid$
 $\text{[[leftmargin]]} \text{ } \text{[[skethrough]]} = \text{[[\text{skethrough}]]} \text{ } \text{[[leftmargin]]}$
 $\backslash -1.70 +1.50 \mid 13.78 \mid \text{---} \mid 13.78 \mid \text{---} \mid \text{---} \mid t \mid$
 $\text{[[leftmargin]]} \text{ } \text{[[skethrough]]} = \text{[[\text{skethrough}]]} \text{ } \text{[[leftmargin]]}$
 $\backslash -1.70 +1.60 \mid 13.78 \mid \text{---} \mid 13.78 \mid \text{---} \mid \text{---} \mid t \mid$
 $\text{---} \mid -1.75 +1.10 \mid 1 \text{ } \text{[[skethrough]]} \text{ } 3 \text{ } \text{[[\text{skethrough}]]}$
 $.58 \mid 11.58 \mid 11.58 \mid 00 \mid 00 \mid m22O \mid$
 $\backslash +1.95 +0.30 \mid 13.58 \mid 13.58 \mid 13.58 \mid 00 \mid 00 \mid s22f \mid$



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```

[[7 columned table]]
| |x|y| | | | |
|---|---|---|---|---|---|
[[]]t[[/del]]+1.70 |+0.65 | 13.78 | | 13.78 |=t |
|\+1.60 |+0.55 | 13.48 | 13.48 | 13.48 |00 00 s13t |
|\+1.65 |+0.20 | 13.38 | 13.28 | 13.33 |+05 -05 r31s |
|\+1.60 |+0.10 | 13.48 | 13.48 | 13.48 |00 00 s13t |
|\+1.50 |+0.20 | 13.18 | 13.08 | 13.13 |+05 -05 r13s |
|\+1.40 |+0.45 | 13.08 | 12.98 | 13.03 |+05 -05
[[]]g[[/del]]q31r |
|\+1.20 |+0.60 | 13.48 | 13.48 | 13.48 |00 00 s13t |
|\+1.20 |+0.50 | 13.58 | 13.58 | 13.58 |00 00 s22t |
|\+0.90 |+0.10 | 12.98 | 12.88 | 12.93 |+05 -05
[[]]g[[/del]]q22r |
|\+0.80 |+0.20 | 12.98 | 12.88 | 12.93 |+05 -05 q22r |
|\+0.80 |+0.60 | 13.48 | 13.48 | 13.48 |.00 .00 s13t |
=0|\+0.65 |+0.60 | | | 11.78 | |
|\+0.60 |+0.30 | 13.48 | 13.48 | 13.48 |.00 .00 s13t |
?|\+0.55 |+0.70 | 12.98 | 12.88 | 12.93 |+05 -05 q22r |
=|\+0.50 |+0.55 | | | 10.90 | |
[[]]t[[/del]]\+0.30 |+0.50 | 13.78 | | 13.78 |=t |
[[]]t[[/del]]\+0.30 |+0.60 | 13.78 | | 13.78 |=t |
|\+0.20 |+0.3[[]]]]5| 13.18 | 13.08 | 13.13
+05 -05 r13s |
|\-0.10 |+0.90 | 13.98 | | 13.98 |s2 |
|\-0.15 |+0.70 | 12.88 | 12.78 | 12.83 |+05 -05 q13r |
|\-0.25 |+0.75 | 13.98 | | 13.98 |b2 |
interpolate{|\+1.80 |+0.75 | 13.08 | 12.98 | 13.03 |+05 -05 q31r |
interpolate{|\+1.25 |+0.75 | 13.48 | 13.48 | 13.48 |00 00 s13t |
[[]]t[[/del]] interpolate{|\+0.65 |+0.75|13.78| |
13.78 |=t

```

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

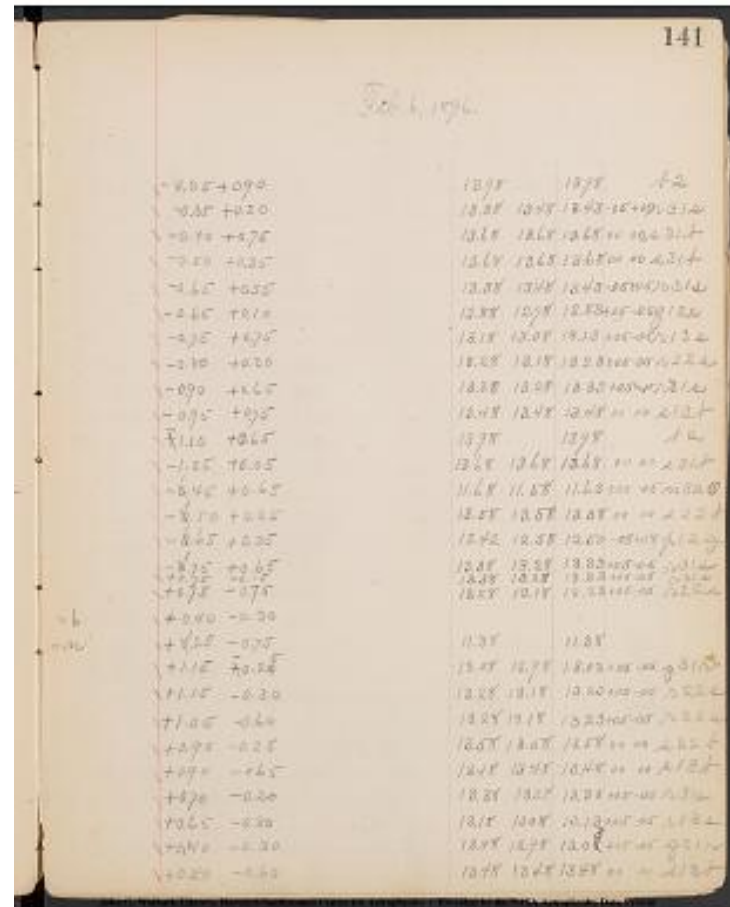
[illegible]

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```

[[7 columned table]]
|-0.25|+0.90|13.98| |13.98| |t2| | |
|-0.35|+0.20|13.38| |13.48|13.43|-05 |+05 r31s|
|-0.40|+0.75|13.68|13.68|13.68|00 00s 31b|
|-0.50|+0.35|13.68|13.68|13.68|00 00s 31b|
|-0.65|+0.55|13.38|13.48|13.43|-05+ .05r 31s|
|-0.65|+0.10|12.88|12.78|12.83|+.05 -.05q 13s|
|-0.75|+0.75|13.18|13.08|13.13|+-.5 -.05r 13s|
|-0.80|+0.20|13.28|13.18|13.23|+05 -.05r 22s|
|-0.90|+0.65|13.38|13.28|13.33|+.05 -.05r 31s|
|-.95|+0.75|13.48|13.48|13.48|00 00s 13b|
|[[\strikethrough]]|+|[\strikethrough]]-|1.10|+0.65|13.98|13.98| |b2|
|-1.25|+0.05|13.68|13.68|13.68|00 00s 31b|
|-[[\strikethrough]]0|[\strikethrough]]1.45|+0.05|11.68|11.58|11.63|+05 -.05m 32c|
| |-[[\strikethrough]]0|[\strikethrough]]1.50|+0.25|13.58|13.58|13.58|00 00s 22b|
| | |-[[\strikethrough]]0|[\strikethrough]]1.65|+0.25|12.42|12.58|12.50|-.08 +.08j 12q|
| | |-[[\strikethrough]]0|[\strikethrough]]1.75|+0.65|13.38|13.28|13.33|+.05 -.05.r 31s|
| | |+.75|-.15|13.38|13.28|13.33|+.05 -.05r 31s|
| | |+.75|-.75|13.28|13.18|13.23|+.05 -.05r 22s|
| | |+.40|-.30|
| | |+|[\strikethrough]]0|[\strikethrough]]1.25|-.75|11.38|11.38|
| | |+.15|[[\strikethrough]]+|[\strikethrough]]-|
|0.2|[[\strikethrough]]0|[\strikethrough]]5|13.08|12.98|13.03|+.05 -.05q 31r|
| |+.15|-.30|13.28|13.18|13.23|+.05 -.05r 22s|
| |+.15|-.60|13.28|13.18|13.23|+.05 -.05r 22s|
| |+.95|-.25|13.58|13.58|00 00s 22f|
| |+.90|-.65|13.48|13.48|13.48|00 00s 13f|
| |+.70|-.20|13.38|13.28|13.33|+.05 -.05r 31s|
| |+.65|-.80|13.18|13.08|13.13|+.05 -.05r 13s|
| |+.40|-.30|13.08|12.98|13.0|[\strikethrough]]8|[\strikethrough]]3|+.05 -.05q 31s|
| |+.40|-.60|13.48|13.48|13.48|00 00s 13f|

```



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[[8 column table]]

\ | +0.35 | -0.60 | 13.48 | 13.48 | 13.48 | 00 00 | s13t |
 =q \ | +0.30 | -0.70 | | | 12.78 | | |
 =s \ | +0.30 | -0.25 | | | 13.78 | | |
 =r \ | +0.25 | -0.15 | | | 13.08 | | |
 =m \ | +0.15 | -0.30 | | | 11.16 | | |
 =s \ | -0.05 | -0.65 | | | 13.38 | | |
 =f \ | -0.10 | -0.70 | | | 12.32 | | |
 \ | -0.35 | -0.25 | 13.48 | 13.48 | 13.48 | 00 00 | s13t |
 \ | -0.40 | -0.65 | 13.48 | 13.48 | 13.48 | 00 00 | s13t |
 \ | -0.45 | -0.05 | 13.28 | 13.18 | | | r22s |
 \ | -0.50 | -0.20 | 13.58 | 13.58 | | | s22t |
 \ | -0.60 | -0.15 | 13.58 | 13.58 | | | s22t |
 =m \ | -0.85 | -0.80 | | | | | |
 \ | -0.90 | -0.30 | 11.98 | 12.12 | | | 022t |
 \ | -0.95 | -0.55 | 13.48 | 13.48 | | | s13t |
 \ | -1.15 | -0.60 | 13.98 | | | | s2 |
 \ | -1.20 | -0.25 ~~1~~ ~~1~~ | 13.98 | | | | s2 |
 \ | -1.30 | -0.45 | 14.08 | | | | s3 |
 =Epsilon \ | -1.40 | -0.75 | | | 9.44 | | |
 \ | -1.65 | -0.25 | 13.48 | 13.48 | 13.48 | | s13t |
 \ | -1.75 | -0.30 | 13.38 | 13.28 | | | r31s |
 \ | -1.75 | -0.50 | 12.08 | 12.22 | | | 031t |

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+0.35	-0.60	13.48	13.48	13.48	00 00	s13t
+0.30	-0.70			12.78		
+0.30	-0.25			13.78		
+0.25	-0.15			13.08		
+0.15	-0.30			11.16		
-0.05	-0.65			13.38		
-0.10	-0.70			12.32		
-0.35	-0.25	13.48	13.48	13.48	00 00	s13t
-0.40	-0.65	13.48	13.48	13.48	00 00	s13t
-0.45	-0.05	13.28	13.18			r22s
-0.50	-0.20	13.58	13.58			s22t
-0.60	-0.15	13.58	13.58			s22t
-0.85	-0.80					
-0.90	-0.30	11.98	12.12			022t
-0.95	-0.55	13.48	13.48			s13t
-1.15	-0.60	13.98				s2
-1.20	-0.25	1	1	13.98		s2
-1.30	-0.45	14.08				s3
-1.40	-0.75			9.44		
-1.65	-0.25	13.48	13.48	13.48		s13t
-1.75	-0.30	13.38	13.28			r31s
-1.75	-0.50	12.08	12.22			031t

\ | -1.75 | -0.70 | | | | q31r |
\ | +1.85 | -1.55 | | | | p21q |
\ | +1.65 | -1.70 | | | | s31t |
\ | +1.60 | -1.35 | | | | q31r |
\ | +1.55 | -1.55 | | | | m32n |
\ | +1.35 | -1.20 | | | | 023f |

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Feb 6, 1896

[[3 columned table]]
 $\sqrt{+1.25-1.20}$ l 13 m
 $\sqrt{+1.05-1.20}$ p 13 q
 $\sqrt{+1.05-1.25}$ b 1
 $\sqrt{+1.30-1.60}$ b 2
 $\sqrt{+0.95-1.60}$ O 32 pc
 $\sqrt{+0.65-1.60}$ O 23 pl
 $\sqrt{+0.55-1.20}$ b 1
 $\sqrt{+0.50-1.35}$ s 13 b
 $\sqrt{+0.40-1.60}$ s ~~1~~ ~~31~~ b
 $\sqrt{+0.15-1.30}$ s 31 b
 $\sqrt{-0.10-1.15}$ b 1
 $\sqrt{-0.50-1.65}$ s 13 b
 $\sqrt{-0.50-1.60}$ s 22 b
 $\sqrt{-0.50-1.25}$ O 31 p
 $\sqrt{-0.75-~~0~~1.65}$ O 31 p
 $\sqrt{-0.70-1.25}$ q 22 r
 $\sqrt{-0.80-1.10}$ q 31 r
 $\sqrt{-1.15-1.10}$ p 21 q
 $\sqrt{-1.15-1.25}$ s 13 b
 $\sqrt{-1.05-1.50}$ b 2
 $\sqrt{-1.05-1.75}$ b 2
 $\sqrt{-1.~~40~~-1.25}$ s 31 b
 $\sqrt{-1.40-1.45}$ p 31 q
 $\sqrt{-1.50-1.60}$ s 13 b
 $\sqrt{-1.60-1.65}$ O 31 p
 $\sqrt{-1.70-1.30}$ s 13 b

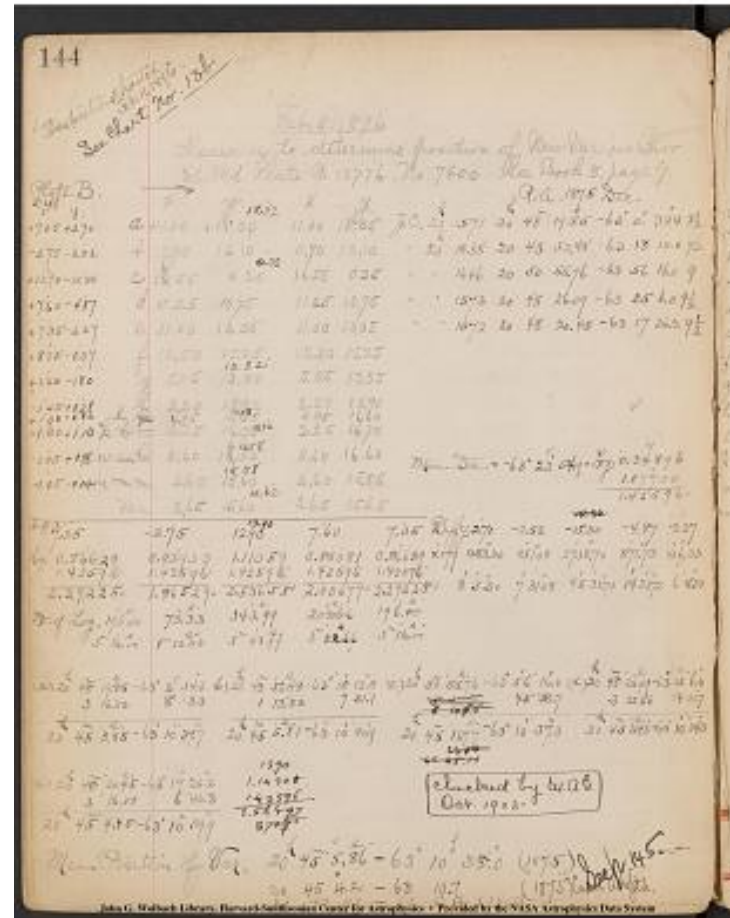
[[left margin]]
 14~~1~~
 [[/left margin]]

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[[12 columned table]]
Diff. X.[7.35]-2.75|12.90^[[13.90]]|7.60|7.35|Diff. Y|2.70|-2.52|-
15.30|[[strikethrough]]|[[14.30]]|[[strikethrough]]|-4.87|-2.27
|Log.|0.86629|0.43933|1.11059|0.86629|x179|483.30|451.08|2738.70|
871.73|406.33|

[[1.42596]|1.42596|1.42596|1.42596|1.42596|[[1.42596]]]
8' 3.30|7' 31.08|45' 58.70|14' 31.73|6' 46.33|
2.29225|1.86529|2.36655|2.30677|2.29225| | | | | | | | | |



|No. of Log.|196.00[^][[s]]|73.33[^][[s]]|343.99[^][[s]]|202.66[^][[s]]|196.00[^][[s]]|
 | |3[^][[m]]|16.00[^][[s]]|1[^][[m]]|13.33[^][[s]]|5[^][[m]]|43.99[^][[s]]|3[^][[m]]|
 22.66[^][[s]]|3[^][[m]]|16.00[^][[s]]| | | | | |

[[28 columned table]]
 (a)|20[^][[h]]|48[^][[m]]|19.85[^][[s.]]|-
 63°|2'|34.4"| (b)|20[^][[h]]|43[^][[m]]|52.48[^][[s.]]|-
 63°|18'|12.0"| (c)|20[^][[h]]|50[^][[m]]|55.76[^][[s.]]|-
 63°|56'|16.0"| (d)|20[^][[h]]|48[^][[m]]|26.09[^][[s.]]|-63°|25|6.0
 | |[[underlined]]|3|16.00| |8|3.3|[[underlined]]| |[[underlined]]|1|13.33|
 |7|31.1|[[underlined]]| |[[underlined]]|[[strikethrough]]5|6|43.99
10.65	[[strikethrough]]		45	38.7	[[underlined]]		[[underlined]]	3	22.66
14	31.7	[[underlined]]							
	20[^][[h]]	45[^][[m]]	3.85[^][[s.]]	-63°	10'	37.7"			
20[^][[h]]	45[^][[m]]	5.81[^][[s.]]	-63°	10'	40.9"				
20[^][[h]]	45[^][[m]]	11.77[^][[s.]]	-63°	10'	37.3"				
20[^][[h]]	45[^][[m]]	3.43[^][[s.]]	-63°	10'	34.3"				

[[strikethrough]]33.04
 44 45.11|[[strikethrough]]

[[7 columned table]]
 (c)|20[^][[h]]|48[^][[m]]|20.45[^][[s.]]|-63°|17'|26.2"|
 | |[[underlined]]|3|16.00| |6|46.3|[[underlined]]|
 | |20[^][[h]]|45[^][[m]]|4.45[^][[s.]]|-63°|10'|39.9"|

Checked by W.A.G.
 Oct. 1903-

[[equation]]

[[8 columned table]]
 Mean Position of Var.|20[^][[h]]|45[^][[m.]]|5.86[^][[s.]]|-63°|10'|38.0"| (1875)|
 | |20|45|4.2|-63|10.7| | (1875) Curve Adopted.
 | |20|47|11.1|-63|5.2| | (1900)|

[[right margin]]
 See p. 145.
 [[/right margin]]

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145

Feb. 8, 1896

New Var. in Virgo

Measures to determine position of comparison stars

BD +5° 2708.8p Mc5d, B14015 No 2784 See Book 8, p. 39
l10491 12 55.3 +5 58 (1855)

[[left margin]]

P. 144

[[3 columned table]]

| Diff X × 1.79 | Diff Y × 1.79 |

| --- | --- |

a|1315.65|483.30|

b|492.25|451.08|

c|2309.10|2738.70|

d|1360.40|871.73|

e|1315.65|406.33|

f|1584.15|66.23|

g|250.60|322.20|

h|259.55|50.12|

i|232.70|171.84|

k|250.60|196.90|

n|187.95|171.84|

m|187.95|7.16|

[[/left margin]]

[[10 columned table]]

| x|y|x|y| | Diff. X × 163 | Diff. Y × 163 = | |

| --- | --- | --- | --- |

a|0.60|0.62|6.75|0.65|6.75|B.D. +5° 2702|-

~~8.40~~ ~~8.38~~|-

18.15|~~1369~~1366|2958|

b|25.95|25.92|0.75|25.90|0.75|B.D. +4° 2790|+16.92|-

24.15|2758.3936|

c|17.00|25.00|24.98|17.00|24.95|B.D. +5° 2710|+8.00|+0.08|1304|13|

d|13.45|18.80|13.45|18.80|B.D. +5° 2709|+4.45|-6.10|725|994|

e|22.10|22.08|19.25|22.05|19.25|B.D. +5° 2712|+13.08|-

5.65|2132|921|

f|8.50|22.70|8.50|22.70| -0.50|-2.20|82|359|

g|8.25|8.28|21.70|8.30|21.70| -0.72|-3.20|117.522|

h|8.00|2|~~3~~4.80|8.00|24.80| -1.00|-

0.10|163|16|

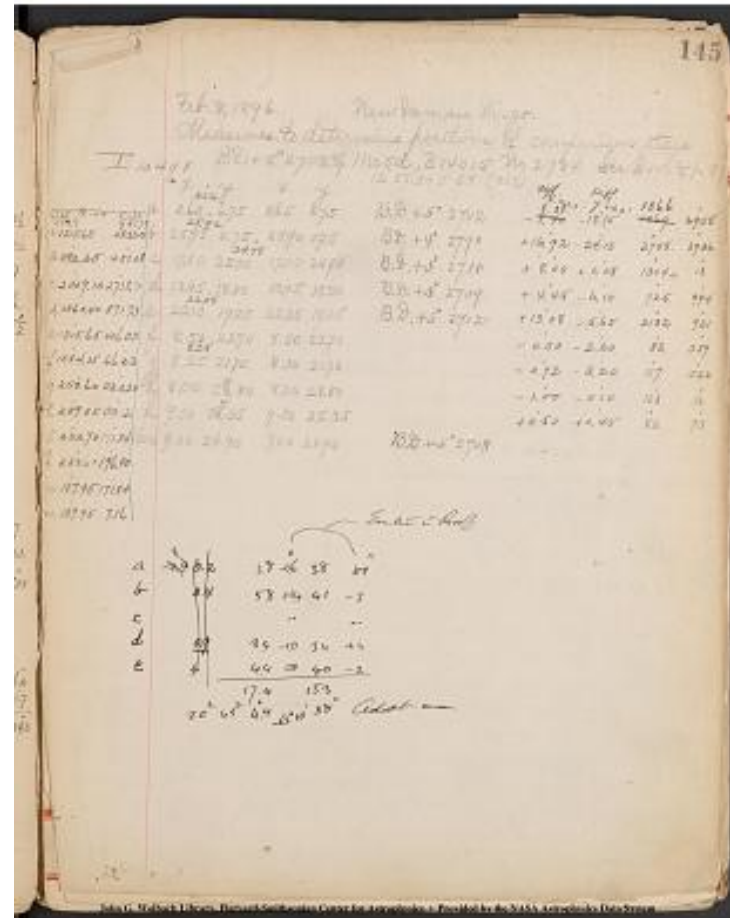
k|9.50|2|~~4~~5.35|9.50|25.35|

+0.50|+0.45|82|73|

var.|9.00|24.90|9.00|24.90|B.D. +5° 2708| | | |

Enter in Proof.

[[6 columned table]]



~~a~~ ~~0.9^[s]~~ 0.2~~3.8~~ - 0.6^[s] 3.8|00"
~~b~~ ~~0.4~~ ~~5.8~~ + 14|41|-3|
~~c~~ | ~~17.4~~ | ~~153~~ |
~~d~~ ~~0.9~~ ~~3.4~~ -
1.0|34|+4|
~~e~~ ~~4.4~~ |00|40|-2|
| | 17.4 | 153 |

20^[h] 45^[m] 4.4^[s] -63° 10' 38" Adopt mean.

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Feb. 8, 1896.

New Var. Star in Aquarius.
 Measures to determine position of comparison stars
 BD -16° 6379 23^h[[h]] 44.8^m[[m]] -16 40 9.1

[[left margin]]B10308. [[/left margin]]
 Sp. Md? B14623 No. 8500 See Book 8. p.51.

[[10 columned table]]

| | | | | | | | | |x179|x1.79|

| x|y|x|y| |x|y|x|y|

|-----|-----|-----|-----|

|a|5.75^h[[5.78]]|7.70^m[[7.72]]|5.80|7.75|S.D. -17° 6836|+206|-

10.53|368.74|1884.87|

|b|6.35^h[[6.38]]|0.85^m[[0.88]]|6.40|0.90|S.D. -17 6837|+2.66|-

17.37|476.14|3109.23|

|e|11.00|17.90^h[[17.92]]|11.00|17.95|S.D. -16 6383|+7.28|-

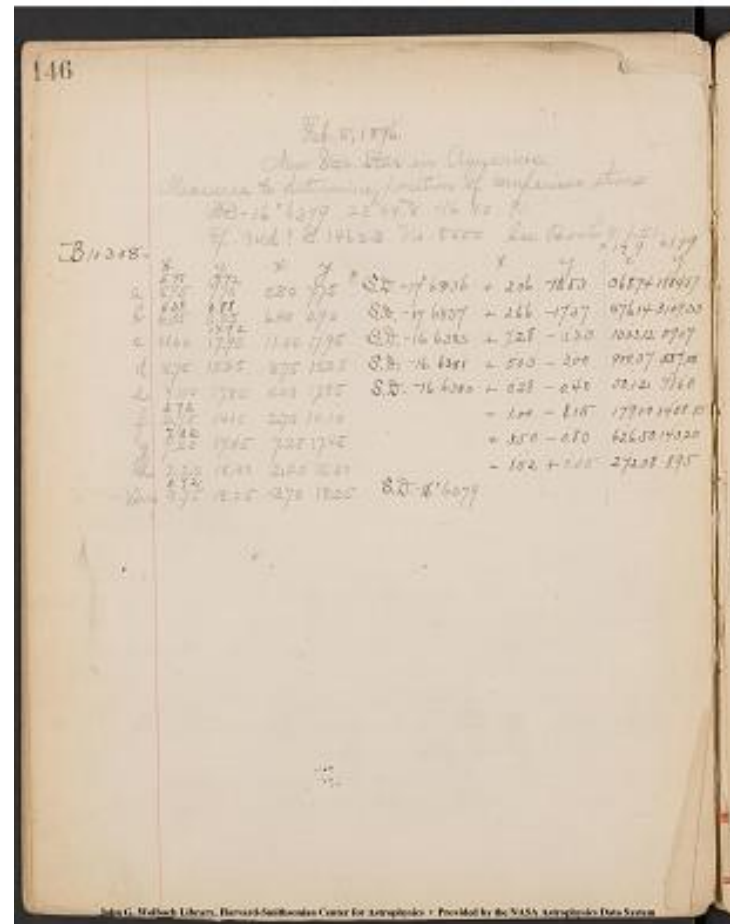
0.33|1303.12|5907|

|d|8.75|15.25|8.75|15.25|S.D. -16 6381|+5.03|-3.00|900.37|537.00|

|e|4.00|17.85|4.00|17.85|S.D. -16 6380|+0.28|-0.40|50.12|71.60|

|f|2.75^h[[2.72]]|10.10|2.70|10.10| |-1.00|-8.15|179.00|1458.85||g|7.20^h[[7.22]]|17.45|7.25|17.45| |+3.50|-0.80|626.50|143.20|

|h|2.20|18.30|2.20|18.30| |-1.52|+0.05|272.08|8.95|

|Var.|3.75^h[[3.72]]|18.25|3.70|18.25|S.D. -16° 6379| | | |

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Positions Charted.

Feb. 11, 1896.

See Chart No. 13 b

Position of Nova Persei

[6 columned table]

X|Y.| |R.A. 1855|Dec.|Magn.|

|---|---|---|---|---|

0.00|0.00|B.D. +55° 473|1^h|51^m|46.8^s|+55° 17.8'|9.5|

0.00|27.28|B.D. +56 406|1 51 49.4|+56 43.0|9.2|

0.60|15.13|B.D. +56 404|1 51 21.0|+56 4.8|9.5|

1.12|13.40|Nova.| | |

Mean Dec. = 56° 1.9' = Log. 0.25281

~~1.03623~~1.28904~~1.03623~~~~1.03623~~

[8 columned table]

Diff. X|-1.12|-1.12|-0.52|Diff. Y.|-13.40|13.88|1.73|

|---|---|---|---|

Log. X|0.04922|0.04922|9.71600|x163|2184.20"|2262".44"|281".99"|

|1.28904|1.28904|1.28904|1.28904|1.28904|36' 24.20"|37'

42.44"|4' 41.99"|

|1.33826|1.33826|11.00504| | | |

No. of Log. |21.79^h|21.79^m|10.12^s| | | |~~1.03623~~

[right margin]

Mean Dec. = +56° 1.9' =

Log. |0.25281|

|1.07700||1.32981|

[right margin]

~~1.03623~~

[17 columned table]

1^h|51^m|46.8^s|+55° 17.8'|1^h|51^m|49.4^s|+56° 43.0'|1^h|51^m|21.0^s|+56° 4.8'||21.8|36.4|21.8|37.7|10.1|4.7|~~1.03623~~

[8 columned table]

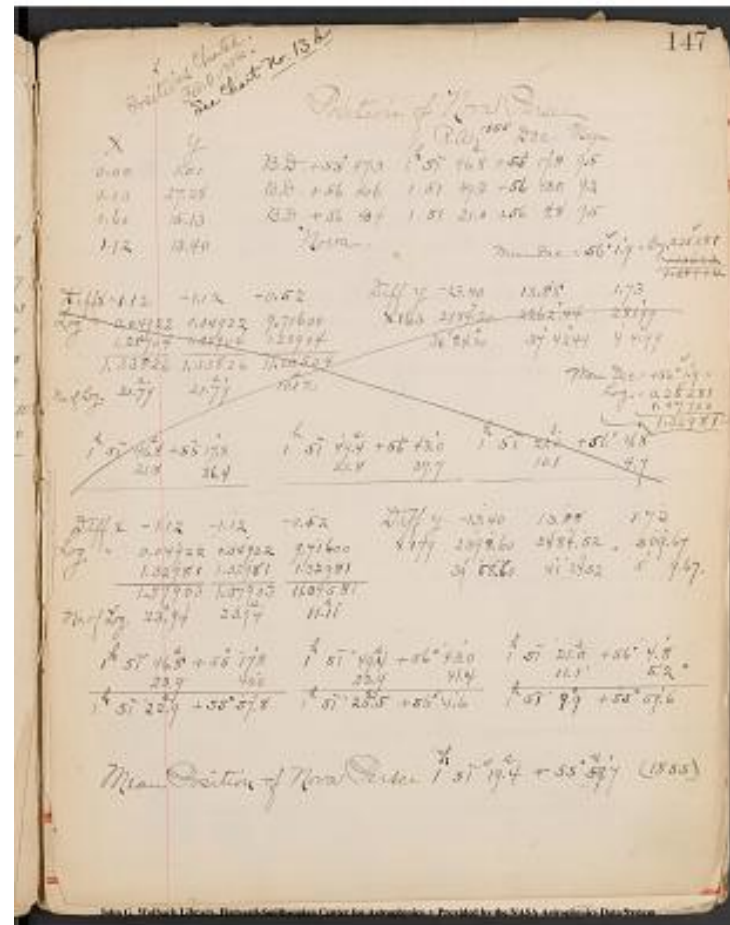
Diff. X|-1.12|-1.12|-0.52|Diff. Y.|-13.40|13.88|1.73|

|---|---|---|---|

Log. X|0.04922|0.04922|9.71600|x179|2398.60"|2484.52"|309.67"|

|1.32981|1.32981|1.32981|39' 58.60"|4' 24.52"|5' 9.67"|

|1.37903|1.37903|11.04581| | | |

No. of Log. |23.94^h|23.94^m|11.11^s| | | |

[[17 columned table]]

1 ^h 51 ^m 46.8 ^s +55° 17.8'
1 ^h 51 ^m 49.4 ^s +56° 43.0'
1 ^h 51 ^m 21.0 ^s +56° 4.8'
<u>23.9</u> <u>40.0</u> <u>23.9</u>
<u>41.4</u> <u>11.1</u> <u>5.2</u>
1 ^h 51 ^m 22.9 ^s +55° 57.8' 1 ^h 51 ^m 5.5 ^s +56° 1.6'
1 ^h 51 ^m 9.9 ^s +55° 59.6'

Mean Position of Nova Persei 1^h 51^m 19.4^s + 55°
5~~9~~.7' (1855)

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~~Data copied from Mrs. F's Book 8. page 35.~~

~~Plate A 117.~~

Measures of Nova Persei

[7 columned table]

| Gesell No. | R.A. 1875 | Dec. | Magn. | | Diff in Dec. 1855 & 1875 |

|-----|
2 | 1734 | 1 49 49.64 | +56° 18 14.2 | 9.0 | BD +56° 396. | 6.1 - *error in ^[[cat.]] Dec? |

|~~2~~ | 1734 | 1 49 49.64 | +56° 18 14.2 | 9.0 | BD +56° 390 | 5.9 + |

| 3 | 1758 | 1 51 13.59 | +55 46 15.8 | 9.0 | +55 465 | 6.0 - |

| 4 | 1827 | 1 56 4.22 | +55 56 51.6 | 9.3 | +55 486 | 5.9 - |

| 5 | 1828 | 1 56 9.46 | +56 29 9.9 | 8.7 | +56 416 | 5.8 - |

| 6 | 1831 | 1 56 1 | ~~1831~~ | 7.95 | +56 24 35.6 | 9.0 | +56 417 | 5.9 - |

| 7 | 1834 | 1 56 21.09 | +56 9 46.2 | 9.3 | +56 418 | 5.9 - |

[2 columned table]

| Mean Dec. = +56° 10' 47.3" = Log. | 0.25451 |

| 1.07700 |

| 1.33151 |

[7 columned table]

| (1) | 1^[[h]] | 48^[[m]] | 18.39^[[s]] | +56° 10' 37.7" |

| | | | | 58.94 | 2 | 59.0 | |

| | | | | 1^[[h]] | 53^[[m]] | 27.33^[[s]] | +56° 7' 38.7" | |

| (2) | 1^[[h]] | 49^[[m]] | 49.64^[[s]] | +56° 18' 14.2" |

| | | | | 3 | 36.26 | 10 | 12.2 | |

| | | | | 1^[[h]] | 53^[[m]] | 25.90^[[s]] | +56° 8' 2.0" | |

| (3) | 1^[[h]] | 51^[[m]] | 13.59^[[s]] | +55° 46' 15.8" |

| | | | | 2 | 13.01 | 21 | 32.4 | |

| | | | | 1^[[h]] | 53^[[m]] | 26.60^[[s]] | +56° 7' 48.2" | |

| (4) | 1^[[h]] | 56^[[m]] | 4.22^[[s]] | +55° 56' 51.6" |

| | | | | 2 | 39.83 | 10 | 30.1 | |

| | | | | 1^[[h]] | 53^[[m]] | 24.39^[[s]] | +56° 7' 21.7" | |

| (5) | 1^[[h]] | 56^[[m]] | 9.46^[[s]] | +56° 29' 9.9" |

| | | | | 2 | 40.08 | 21 | 28.8 | |

| | | | | 1^[[h]] | 53^[[m]] | 29.38^[[s]] | +56° 7' 41.1" | |

| (6) | 1^[[h]] | 56^[[m]] | 17.95^[[s]] | +56° 24' 35.6" |

| | | | | 2 | 50.56 | 17 | 0.3 | |

| | | | | 1^[[h]] | 53^[[m]] | 27.39^[[s]] | +56° 7' 35.3" | |

| (7) | 1^[[h]] | 56^[[m]] | 21.09^[[s]] | +56° 9' 46.2" |

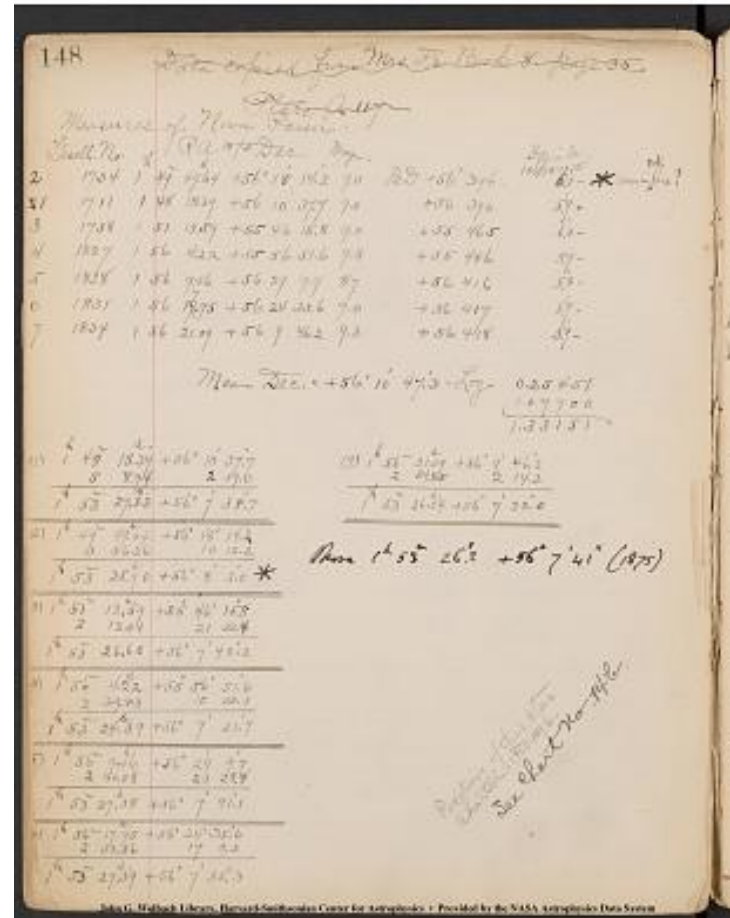
| | | | | 2 | 54.85 | 2 | 14.2 | |

| | | | | 1^[[h]] | 53^[[m]] | 26.24^[[s]] | +56° 7' 32.0" | |

Nova 1^[[h]] 53^[[m]] 26.^2^[[s]] + 56° 7' 41" (1875)

Positions of this star charted Feb. 1896

See Chart No. 14b



149a

	Diff	Diff	x 1.79	x 1.79
			x	y
1	-14.40	+1.00	2577.60	179.00
2	-10.08	+3.42	1804.32	612.18
3	-6.20	-7.22	1109.80	1292.38
4	+7.45	-3.52	1333.55	630.08
b=6	+7.95	+5.70	1423.05	1020.30
a=5	+7.48	+7.20	1338.92	1288.80
7	+8.15	+0.75	1458.85	134.25
8	-0.80	+13.80	143.20	2470.20
9	-0.75	-14.85	134.25	2658.15
c	-0.48	+1.60	85.92	286.40
d	-3.00	+4.60	537.00	823.40
e	-2.12	+0.85	379.48	152.15
f	-1.20	+0.20	214.80	35.80
g	-0.92	+0.40	164.68	71.60
h	-1.95	+0.35	349.05	62.65
k	-1.62	+0.20	289.98	35.80
l	Too Taut			
m	Too Taut			
10	-1.42	-13.42	254.18	2402.18

erroneously in orientation in previous measuring star[??] have been No. 9.

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149a

Diff	Diff	x 1.79	x 1.79
		x	y
1 -14.40	+1.00	2577.60	179.00
2 -10.08	+3.42	1804.32	612.18
3 -6.20	-7.22	1109.80	1292.38
4 +7.45	-3.52	1333.55	630.08
b=6 +7.95	+5.70	1423.05	1020.30
a=5 +7.48	+7.20	1338.92	1288.80
7 +8.15	+0.75	1458.85	134.25
8 -0.80	+13.80	143.20	2470.20
9 -0.75	-14.85	134.25	2658.15
c -0.48	+1.60	85.92	286.40
d -3.00	+4.60	537.00	823.40
e -2.12	+0.85	379.48	152.15
f -1.20	+0.20	214.80	35.80
g -0.92	+0.40	164.68	71.60
h -1.95	+0.35	349.05	62.65
k -1.62	+0.20	289.98	35.80
l Too Taut			
m Too Taut			
10 -1.42	-13.42	254.18	2402.18

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Feb. 21, 1896.

B. 1979. Measures to determine position of Nova Persei and comparison stars.

B 1979.

[[9 columned table]]

	x	y	x	y	x	y	x	y
1	-13.60	+2.20	-13.60	+2.20	57	26.4	107	-19
2	-9.30	+4.65	+4.62	-9.25	+4.60	52	27.0	-1.1
3	-5.40	+6.05	+6.02	-5.40	+6.00	48	25.9	-0.7
4	+8.25	-2.30	+2.32	+8.25	-2.35	32	25.8	-1.4
b=6	5	5	5	5	5	5	5	5
a=5	+8.30	+8.28	+8.40	+8.25	+8.40	32	28.4	+1.0
7	+8.95	+1.95	+8.95	+1.95	30	26.2	0.0	+2
8	0.00	+15.00	0.00	+15.00	42	31.7		
Star used in orientation	9	+0.05	-13.65	+0.05	-13.65	42	27.5	
c	+0.35	+0.32	+2.80	+0.30	+2.80	42	26.5	
d	-2.20	+5.80	-2.20	+5.80	45	27.4		
e	-1.35	+1.32	+2.05	-1.30	+2.05	44	26.3	
f	0.40	+1.40	0.40	+1.40	43	26.2		
g	-0.10	+0.12	+1.60	-0.15	+1.60	42	26.2	
h	-1.15	+1.55	-1.15	+1.55	43	26.2		
k	-0.85	+0.82	+1.40	-0.80	+1.40	42	26.2	
l	too faint							
m	too faint							
Nova	+0.80	+1.20	+0.80	+1.20	41	26.2		
Star used in orientation	10	-0.60	+0.62	-12.25	+0.65	-12.20	43	27.2

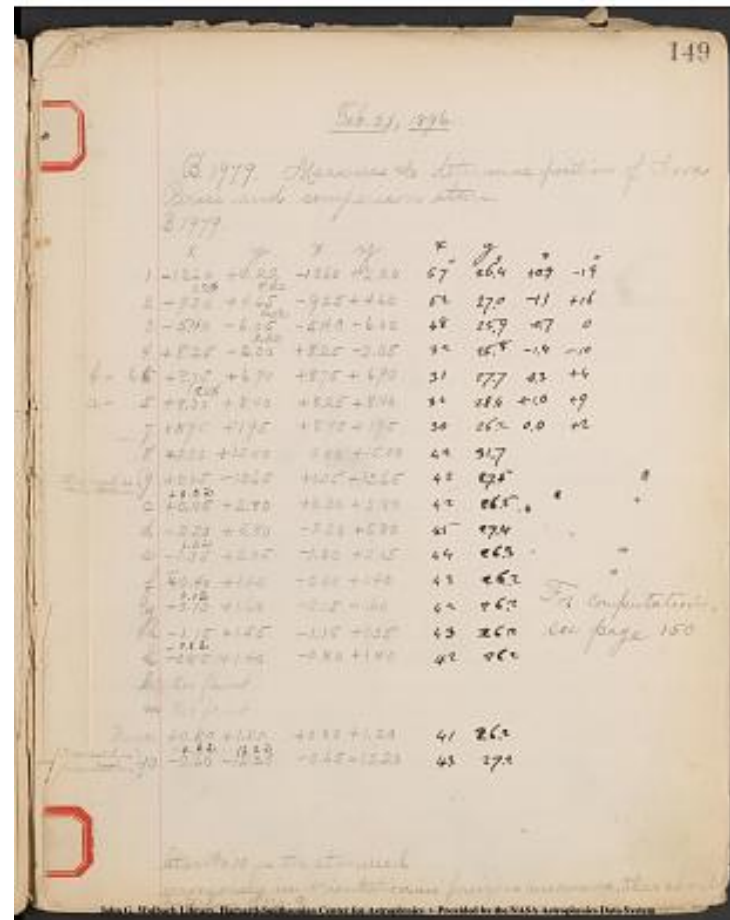
[[right margin]]

For computation, see page 150

[[/right margin]]

Star No. 10 is the star used erroneously in orientation in previous measures. Star should have been No. 9.

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150

[[left margin]]
Diff. 4.
Log. Diff. 4.

No. of Log.

[[4 columned table]]

-14.40|-10.08|-6.20|+7.45
1.15836|1.00346|0.79239|0.87216
1.33151|1.33151|1.33151|1.33151
2.48987|2.33497|2.12390|2.20367
s.|s.|s.
308.94|216.26|133.01|~~203.66~~|~~159.83~~
s.|s.|s. 2
5m8.94|3m36.26|2m13.01|~~3m23.66~~|~~2m3~~
9.83

[[three columned table]]

+7.48|+7.95|+8.15
0.87390|0.90037|0.91116
1.33151|1.33151|1.33151
2.20541|2.23188|2.24267
s.|s.|s.
160.08|170.56|174.85
s.|s.|s.
2m40.08|2m50.56|2m54.85

[[left margin]]
Diff. y.
x 179

[[four-columned table]]

+1.00|+3.42|-7.22|-3.52
179."00|612."18|1292".38|630".08
2'59."00|10'12."18|21'32."38|10'30".08

[[three columned table]]

+7.20|+5.70|+0.75
1288".80|1020".30|134".25
21'28".80|17'0".30|2'14".25

150

1.15836	1.00346	0.79239	0.87216
1.33151	1.33151	1.33151	1.33151
2.48987	2.33497	2.12390	2.20367
s. s. s.			
308.94	216.26	133.01	203.66
s. s. s. 2			
5m8.94	3m36.26	2m13.01	3m23.66
9.83			

+7.48	+7.95	+8.15
0.87390	0.90037	0.91116
1.33151	1.33151	1.33151
2.20541	2.23188	2.24267
s. s. s.		
160.08	170.56	174.85
s. s. s.		
2m40.08	2m50.56	2m54.85

+1.00	+3.42	-7.22	-3.52
179."00	612."18	1292".38	630".08
2'59."00	10'12."18	21'32."38	10'30".08

+7.20	+5.70	+0.75
1288".80	1020".30	134".25
21'28".80	17'0".30	2'14".25

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Var. No. ~~204~~ 205

Feb. 24, 1896

Printings of this star charted .Feb 1896.

See Chart. No. 146

Measurements of position of new Var. in Grucis.

St. mid. B13264, mo. 7987.

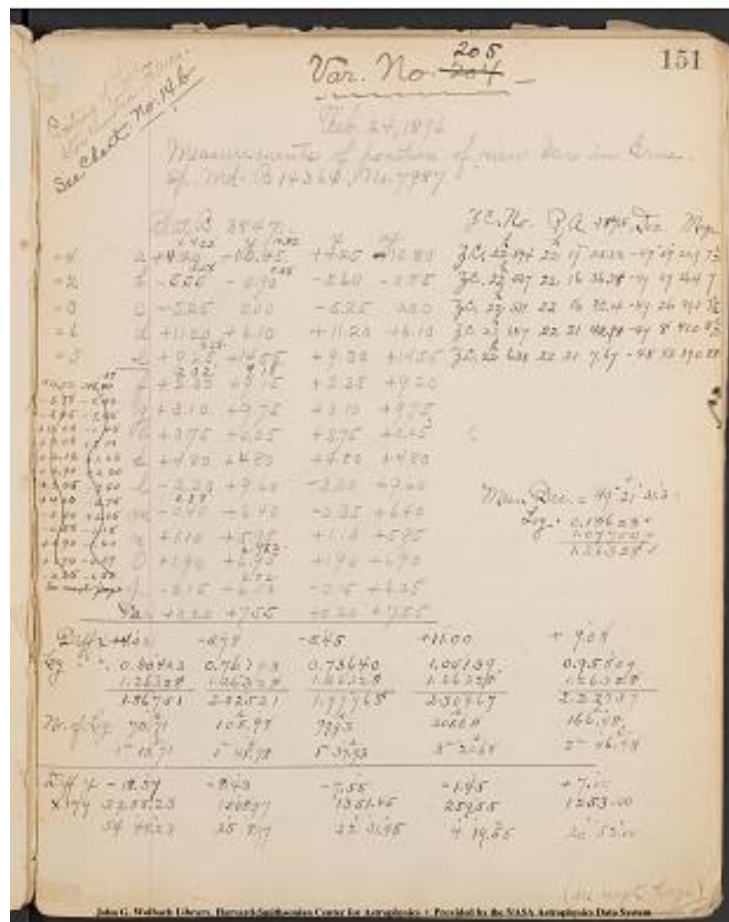
Late 3847.. 3.c. nr. [?] a .1875. Dec. [?]
 =4 a+420 -1^y0.85 +4.25 - 10.80 3.C.22594 22 19 35.52 -49 59 20.9
 7 1/2
 =2 [?] -5.55 -0.90 -5.60 -0.85 3.C. 22 507 22 16 36.38 -49 29 26.4 7
 =3 c-5.25 0.00 -5.25 0.00 3.C. 22 511 22 16 42.04 -4.9 26 49.1 7
 1/2
 =6 d +11.20 +6.10 +11.2 +6.10 3.c. 22 647 22 21 42.98 -49 8 41.0 8
 1/2
 =5 e +9.25 +14.55. +9.30 +14.55 3.c 22 633 22 21 7.67 -48 43 19.0 8.8
 +4.02 -18.40 f +2.30 +9.15 +2.35 +9.20
 -5.78 -8.43g +3.10. +9.75 +3.10 +9.75
 -5.45 -7.55h +3.75 +0.05 +3.75 +0.05
 +11.00 -1.45[?] +4.8 +4.80 +4.80 +4.80
 +9.08 +7.00i -3.20 +9.60 -3.20 +9.60 mean Dec. = 49 21 31.3 =
 +2.12 +1.63m -0.40 +6.40 -0.35 +6.40 Log. 0.18628 [check
 +2.90 +2.20 mark] n +1.10
 +5.95 +1.10 +5.95 1.07700 [check mark]
 +3.55 -7.50 O +1.90 +6.95 +1.90 +6.90
 +4.60 -2.75[?] -0.15 +6.00 -0.15 +6.05 1.26328 [check mark]
 -3.40 +2.05[?] +0.20 +7.55 +0.20 +7.55
 -0.58 -1.15
 +0.90 -1.60
 +1.70 -0.57
 -0.35 -1.53
 [strikethrough on the numbers on the leftmost side]
 see next page

Diff. [?]	+4.02	-5.78	-5.45	+11.00	+9.05
Log.	0.60423	0.76193	0.73640	1.04139	0.95809
	1.26328	1.26328	1.26328	1.26328	1.26328
	1.86751	2.02521	1.99968	2.30467	2.22137

no. of log 73.71 105.98 99.93 201.68 166.48

Diff. y.	-18.37	-8.43	-7.55	-1.45	+7.00
x179	3288.23	1508.97	1351.5	259.55	1253.00
	54 48.23	25 8.97	22 31.45	4 19.55	20 53.0

(see next page)



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[[7 columned table]]

(a)	22 ^h [[h]] 19 ^m [[m]] 35.52 ^s [[s]] -49° 59' 20.9"
	[[underlined]] 1 13.71 54 48.2[[underlined]]
	22 ^h [[h]] 18 ^m [[m]] 21.81 ^s [[s]] -49° 4' 32.7"
(b)	22 ^h [[h]] 16 ^m [[m]] 36.38 ^s [[s]] -49° 29' 26.4"
	[[underlined]] 1 45.98 25 9.0[[underlined]]
	22 ^h [[h]] 18 ^m [[m]] 22.36 ^s [[s]] -49° 4' 17.4"
(c)	22 ^h [[h]] 16 ^m [[m]] 42.04 ^s [[s]] -49° 26' 49.1"
	[[underlined]] 1 39.93 22 31.4[[underlined]]
	22 ^h [[h]] 18 ^m [[m]] 21.97 ^s [[s]] -49° 4' 17.7"
(d)	22 ^h [[h]] 21 ^m [[m]] 42.98 ^s [[s]] -49° 8' 41.0"
	[[underlined]] 3 21.68 4 19.6[[underlined]]
	22 ^h [[h]] 18 ^m [[m]] 21.30 ^s [[s]] -49° 4' 21.4"
(e)	22 ^h [[h]] 21 ^m [[m]] 7.67 ^s [[s]] -48° 43' 19.0"
	[[underlined]] 2 46.48 20 53.0[[underlined]]
	22 ^h [[h]] 18 ^m [[m]] 21.19 ^s [[s]] -49° 4' 12.0"

[[5 columned table]]

Diff x|Diff y|x1.79|x1.79|

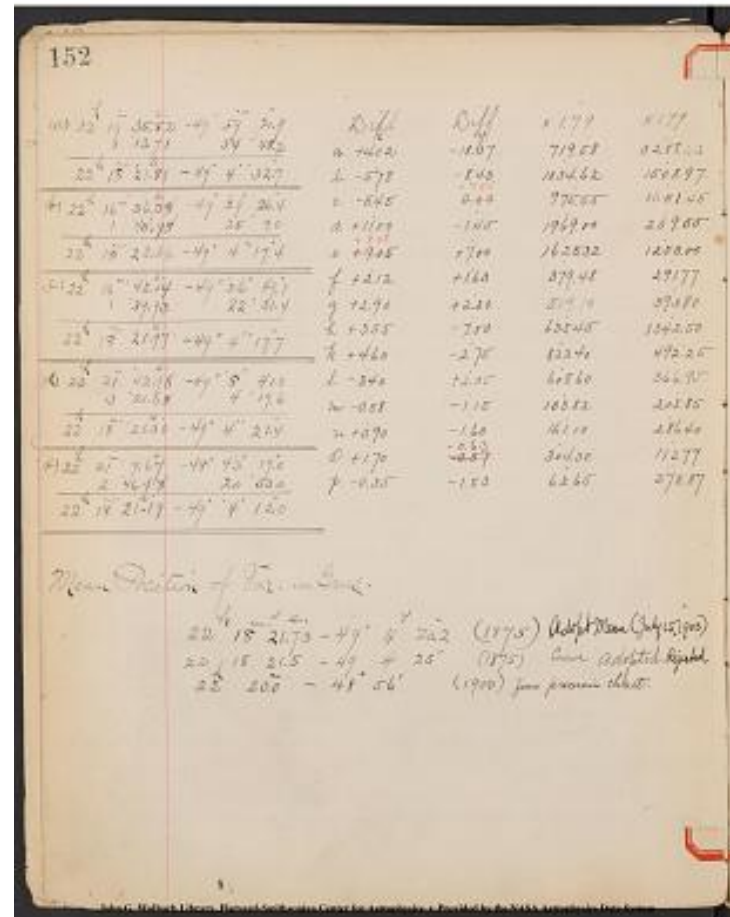
a	+4.02	-18.37	719.58	3288.23
b	-5.78	-8.43	1034.62	1508.97
c	-5.45	[[strikethrough]]0.00[[/strikethrough]]	-7.55	975.55 1351.45
d	+11.00	-1.45	1969.00	259.55
e	[[strikethrough]]+9.05[[/strikethrough]]	[[strikethrough]]+9.08	+7.00	1625.32 1253.00
f	+2.12	+1.63	379.48	291.77
g	+2.90	+2.20	519.10	393.80
h	+3.55	-7.50	635.45	1342.50
k	+4.60	-2.75	823.40	492.25
l	-3.40	+2.05	608.60	366.95
m	-0.58	-1.15	103.82	205.85
n	+0.90	-1.60	161.10	286.40
o	+1.70	[[strikethrough]]-0.57[[/strikethrough]]	[[strikethrough]]-0.63	304.30 112.77
p	-0.35	-1.53	62.65	273.87

Mean Position of Var. in Grus.

[[7 columned table]]

22 ^h [[h]] 18 ^m [[m]] 21.73 ^s [[s]] -49° 4' 20.2"	(1875) Adopt Mean (July 15 1903)
22 ^h 18 21.5 -49 4 25"	(1875) Curve Adopted. Rejected,
22 ^h [[h]] 20.0 ^m [[m]] -48° 56'	(1900) from precession chart.

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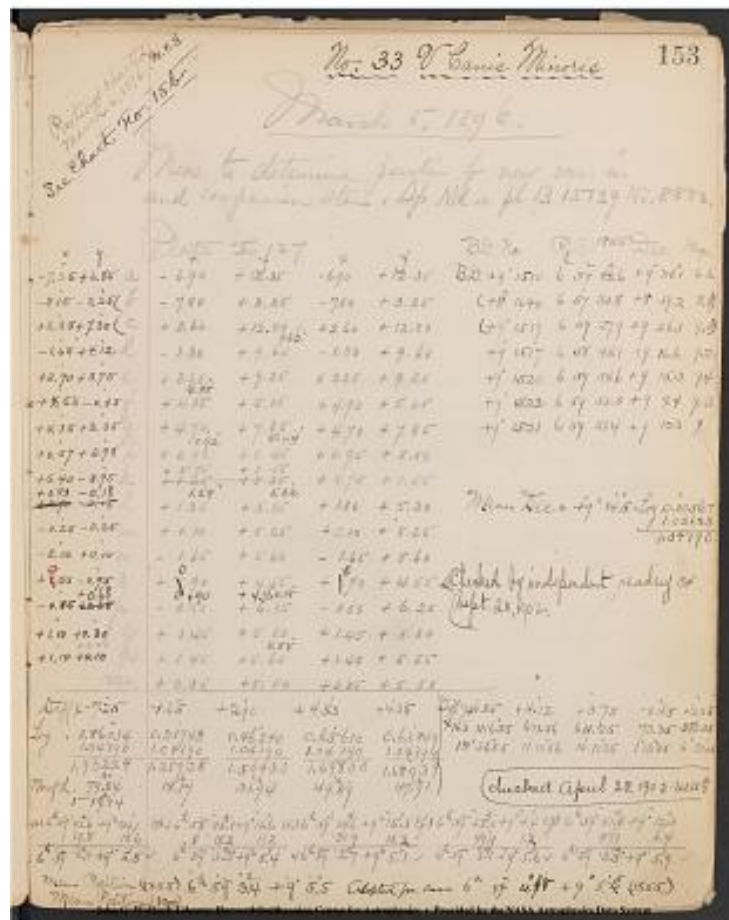
Diff x	Diff
x 1.63	y* 1.63
a 1181.75	1116.55
b 1328.45	366.75
c 366.75	1189.90
d 268.95	671.56
e 472.70	611.25
f 738.39	73.35
g 709.05	383.05
h 92.91	485.74
k 880.20	643.85
l 151.59	29.34
m 40.75	40.75
w 326.00	16.30
o 89.65	154.85
p 138.55	110.84
q 179.30	48.90
r 179.30	13.04
the end	

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Diff x	Diff
a 1181.75	1116.55
b 1328.45	366.75
c 366.75	1189.90
d 268.95	671.56
e 472.70	611.25
f 738.39	73.35
g 709.05	383.05
h 92.91	485.74
k 880.20	643.85
l 151.59	29.34
m 40.75	40.75
w 326.00	16.30
o 89.65	154.85
p 138.55	110.84
q 179.30	48.90
r 179.30	13.04

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Diff. X	-7.25	-1.65	+2.90	+4.53	+4.35
Log. Diff X	0.86034	0.21748	0.46240	0.65610	0.63849



1.04190|1.04190|1.04190|1.04190|1.04190
 1.90224|1.25938|1.50430|1.69800|1.68039
 No. of L. 79.84^s|18.17^s|31.94^s|49.89^s|47.91^s
 1^m|19.84^s| | | |

[6 columned table]
 Diff. Y|+6.85|+4.12|+3.75|-0.45|+2.35|
 X|63|1116.55|671.56|611.25|73.35|383.05|
 18' 36.55"|11' 11.56"|10' 11.25"|1' 13.35"|6' 23.05"

[right margin]
 Checked April 28, 1903 - M.A.G.
 [/right margin]

[30 columned table]
 (a)6^h57^m42.6^s+9°24.1'(d)6^h58^m45.1^s+9°
 16.6'(e)6^h59^m34.6^s+9°15.3'(f)6^h59^m55.0^s+9°
 4.4'
 (g)6^h59^m51.4^s+9°12.3'
 11.2|19.8|18.6|0|18.2|
 11.2|31.9|10.2|
 49.9|1.2|47.9|
 6.4|
 6^h59^m2.4^s+9°5.5'|6^h59^m3.3^s+9°5.4'|
 6^h59^m2.7^s+9°5.1'|6^h59^m5.1^s+9°5.6'|
 6^h59^m3.5^s+9°5.9'

Mean Position (1855) 6^h 59^m 3.4^s +9° 5.5' Adopted from
 Curve 6^h 54^m 4.~~9~~8^s +9°
 5.~~4~~5' (1855)
 Mean Position (1900)

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Var. No. 90. S Apodis

March 5, 1896.

Positions charted.

March. 6, 1896..MCS.

See Chart No. 15b

Measurements to determine position of new var. in and comparison

stars. Sp IV on Pl. B 14146 No 8677.

Measurements to determine position of new var. in and comparison stars. Sp IV on Pl. B 14146 No 8677.

Design | R.A. | 1875. | Dec. |

| h | m | s. | " |

A.G.C. 20331 | 14 | 52 | 46.62 | -71° | 41 | 39.4 | 7.6 |

A.G.C. 20379 | 14 | 54 | 45.98 | -71° | 24 | 51.4 | 6.7 |

A.G.C. 20648 | 15 | 6 | 51.20 | -71° | 19 | 42.0 | 6.8 |

a=11

b=61

c=28

d=81

e=19

f=14

g=74

h=2

k=10

l=37

m=9

n=[observed off page]

o=9

Mean Dec. = 71° 28' 44.3 = Log 0.49804

^

Mean Dec. = 71° 28' 44.3 = Log 0.49804

1.07700

1.57504

Plate - B 6341

Design | R.A. | 1875. | Dec. |

| x | y | x | y | Design | R.A. | 1875. | Dec. |

| -6.55 | +3.33 | [2.42] | a | -2.90 | +3.30 | -2.90 | +3.30 | A.G.C.

20331 | 14 | 52 | 46.62 | -71° | 41 | 39.4 | 7.6 |

| -3.45 | +4.63 | b | +0.20 | +9.05 | +0.20 | +9.05 | A.G.C. 20379 | 14 | 54 | 45.98 |

71 | 24 | 51.4 | 6.7 |

| +15.85 | +3.98 | c | +19.50 | +10.35 | +19.50 | +10.35 | A.G.C.

20648 | 15 | 6 | 51.20 | -71° | 19 | 42.0 |

| -10.40 | -0.17 | d | -6.75 | +9.70 | -6.75 | +9.70 |

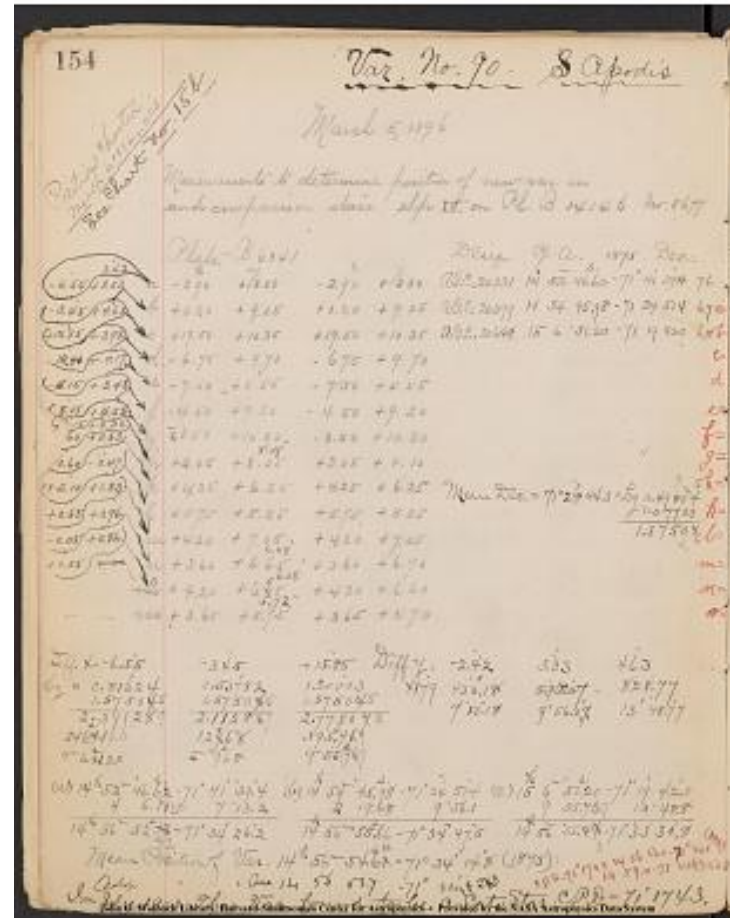
| -4.15 | +3.48 | e | -7.50 | +5.55 | -7.50 | +5.55 |

| -4.50 | +9.20 | f | -4.50 | +9.20 |

| 8.15 | +4.58 | g | -0.50 | +10.30 |

| 0.50 | +10.30 |

| +2.36 | h | +2.05 | +8.05 | +8.08 | +2.05 | +8.10 |



155

Variable No. 177.
T Microscopii

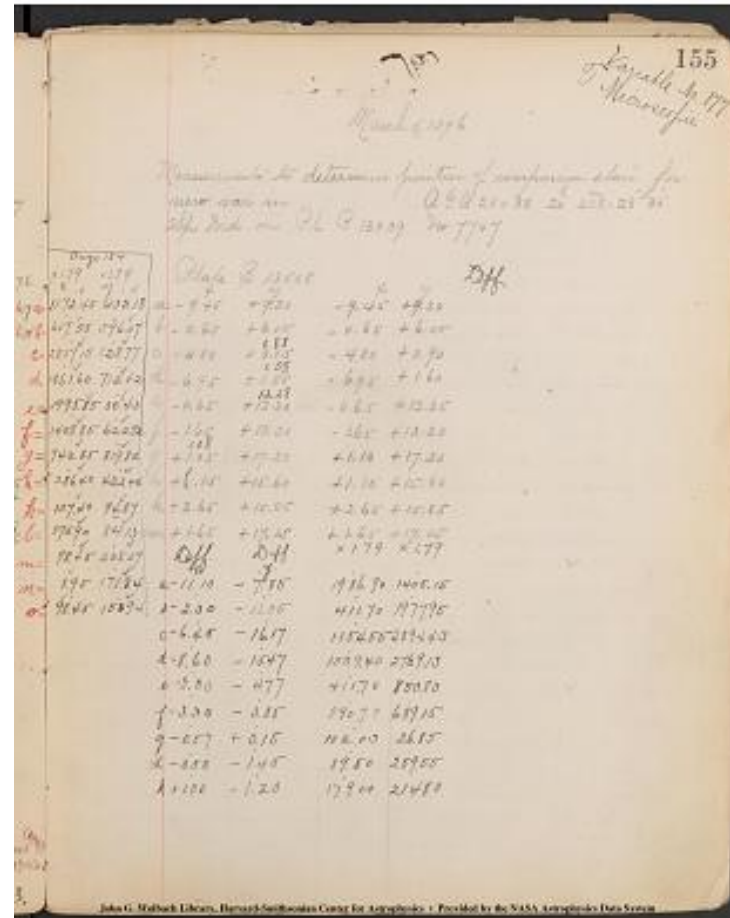
March 5, 1896.

Measurements to determine position of comparison stars for nova var in
. A.G.C. 280 38 20^h 21.8^m 28° 35'
Sp. Md. on Pl. B 13839 No 7707

Plate B 13508 ~~Diff~~
[5 columned table]
x	y	x	y
a	-9.45	+9.20	-9.45
b	-0.65	+6.00	-0.65
c	-4.80	+0.85^h[[0.88]]	-4.80
d	-6.95	+1.55^h[[1.58]]	-6.95
e	-0.65	+12.30^h[[12.28]]	-0.65
f	-1.65	+13.20	-1.65
g	+1.05^h1.08	+17.20	+1.10
h	+~~1.15~~1.15	+15.60	+1.15
k	+2.65	+15.85	+2.65
var.	+1.65	+17.05	+1.65
Diff.	Diff.	x1.79	x1.79
x	y		
a|-11.10|-7.85|1986.90|1405.15|
b|-2.30|-11.05|411.70|1977.95|
c|-6.45|-16.17|1154.55|-2894.43|
d|-8.60|-15.47|1539.40|2769.13|
e|-2.30|-4.77|411.70|853.83|
f|-3.30|-3.85|590.70|689.15|
g|-0.57|+0.15|102.03|26.85|
h|-0.50|-1.45|89.50|259.55|
k|+1.00|-1.20|179.00|214.80|

[[left margin]]
Page 154
[3 columned table]
7.6|x1.79|x1.79|
| x|y| |
6.7 a=|1172.45|433.18|
6.8 b=|617.55|596.07|
c=|2837.15|828.77|
d|1861.60|712.42|
e=|1995.85|30.43|
f=|1458.85|622.92|
g=|742.85|819.82|
h=|286.40|422.44|
k=|107.40|94.87|
l=|375.90|84.13|
m=|98.45|238.07|
n=|8.95|171.84|
o=|98.45|153.94|

[[/left margin]]



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Positions Charted. March 6, 1896 M.C.S.
See Chart No. 166

March 5, 1896

Measurements to determine position of comparison stars for new var in.
CDM - $39^{\circ} 16' 2''$ $0^{\text{h}} 2.3^{\text{m}} - 39^{\circ} 56'$ (1875)
Sp. Md. on Pl. B 14371. No 7926

[[left margin]]

Mean Dec. of stars not in parentheses.

$-40^{\circ} 0'.9 =$

Log 0.11584

1.07700

1.19284

Mean Dec.

omitting (g).

$-40^{\circ} 1'.3 =$

Log 0.11585

1.07700

1.19285

[[left margin]]

Plate B 11913

[[12 column table]]

| x|y|x|y|C.|DM.|No.|R.A|1.875|Dec.|Magn|

-----|-----|-----|-----|-----|-----|

(a)-7.15|+10.65|-7.15|+10.65|-39°|4|0^|[[h]]|0^|[[m]]|31.0^|[[s]]|-
39°|34.3'|6.7|

(b)+1.00|-6.60|+1.00|-6.60|-40°|15|0|2|37.8|-40|26.0|7.6|

(c)+8.00^|[[7.98]]|+12.80|+7.95|+12.80|-39°|27|0|4|24.7|-39|28.3|8.5|

(d)-4.30|+14.45^|[[14.48]]|-4.30|+14.50|-39°|10|0|1|16.2|-39|23.0|9.0|

(e)-2.75^|[[2.78]]|-4.05^|[[4.08]]|-2.80|-4.10|-40°|11|0|1|39.3|-40|18.7|9.2|

(f)+11.15|+3.65|+11.15|+3.65|-39|31|0|5|15.6|-39|55.5|9.0|

(g)+0.20|+2.55^|[[2.58]]|+0.20|+2.60|-39|31|0|5|

(h)-6.70^|[[6.68]]|+3.65|-6.65|+3.65|-39|17|0|2|22.5|-39|59.1|8.8|

(k)-5.20|+2.95|-5.20|+2.95|-39|8|0|1|0.2|-39|57.5|9.9|

(l)+1.30|+2.80|+1.30|+2.80|

(m)-0.40|+3.30|-0.40|+3.30|

| var.|-0.35^|[[0.35]]|+3.80^|[[+3.80]]|-0.35|+3.80| | | | | | |

Determine position of var.

[[right margin]]

Diff. y. -10.40 +10.68 -7.88 (-1.22) -0.85

x179 1861.60" 1911.72" 1410.52" (218.38") 152.15"

31' 1.60" 31' 51.72" 23' 30.52" (3' 38.38") 2' 32.15"

[[/right margin]]

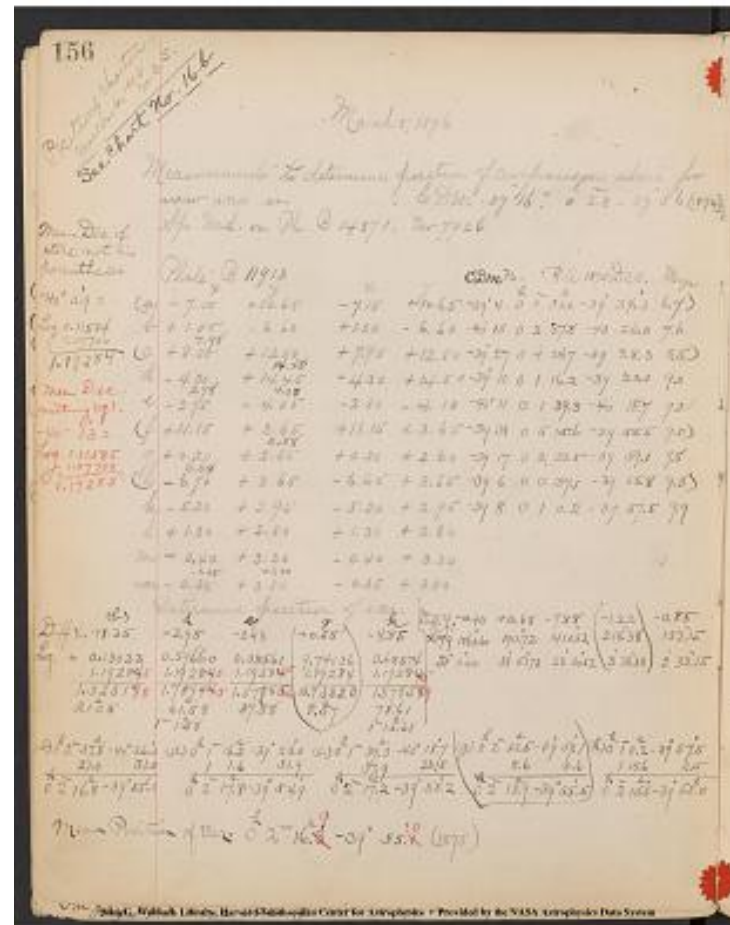
[[6 column table]]

| (b)|d|e|g|k|

-----|-----|-----|-----|-----|-----|

Diff x. |+1.35|-3.95|-2.43|(+0.55)|-4.85|

Log "[0.13033|0.59660|0.38561|(9.74036)|0.68574|



1

1

11

----	----	----	----	----	----
------	------	------	------	------	------

11

!

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(156a)

Measurements to determine position of (g) comparison star for C.D.M. -
39° 16. B 11913 Mean Dec. = -40° 1.3'

[[right margin]]
[[2 columned table]]
Log = 0.11588
[[1.07700]]
1.19288
[[/right margin]]

[[5 columned table]]
Diff. X|+0.80|-4.50|-2.98|-5.40|
9.90309	0.65321	0.47422	0.73239	
[[1.19288]]	1.19288	1.19288	1.19288	[[/underlined]]
11.09597	1.84609	1.66710	1.92527	
No. of Log	12.47^[[s]]	70.16^[[s]]	46.46^[[s]]	84.19^[[s]]
[[1.19288]]	1^[[m]]	10.16^[[s]]	1^[[m]]	24.19^[[s]]
Diff. y.	-9.18	+11.90	-6.66	+0.37
X179	1643.22"	2130.10"	1192.14"	66.23"
27' 23.22"	35' 30.10"	19' 52.14"	1' 6.23"	

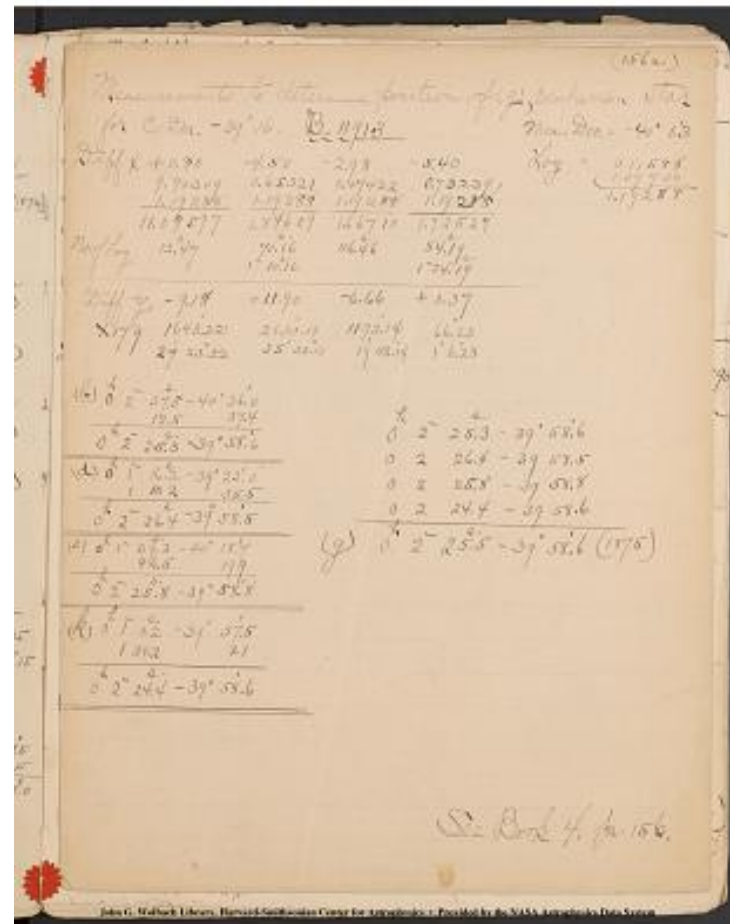
[[left margin]]
[[6 columned table]]
(b) 0^[[h]]|2^[[m]]|37.8^[[s]]|-40°|26.0'|
| [[12.5]] | 27.4|[[/underlined]]|
[[0^[[h]]|2^[[m]]|25.3^[[s]]|-39°|58.6']]
(d) 0|1^[[m]]|16.2^[[s]]|-39°|23.0'|
| [[11.0.2]] | 35.5|[[/underlined]]|
[[0^[[h]]|2^[[m]]|26.4^[[s]]|-39°|58.5']]
(e) 0^[[h]]|1^[[m]]|39.3^[[s]]|-40°|18.7'|
| [[46.5]] | 19.9|[[/underlined]]|
[[0^[[h]]|2^[[m]]|25.8^[[s]]|-39°|58.8']]
(k) 0^[[h]]|1^[[m]]|0.2^[[s]]|-39°|57.5'|
| [[124.2]] | 1.1|[[/underlined]]|
[[0^[[h]]|2^[[m]]|24.4^[[s]]|-39°|58.6']]

[[/left margin]]

[[6 columned table]]
0^[[h]]	2^[[m]]	25.3^[[s]]	-39°	58.6'
0	26.4	-39	58.5	
0	25.8	-39	58.8	
[[0	24.4	-39	58.6']]	
(g) 0^[[h]]|2^[[m]]|25.5^[[s]]|-39°|58.6' (1875)|

See Book 4, p. 156.

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CPD-39°⁴ 0^m 26.3^s -39 58.7
This position agrees, almost, with that given in C.P.D. in the C.D.M. the
R.A. is evidently wrong (C.D.M. -39° 17' 0^m 22.5^s -39 59.1
(1875)

See Plate B 11913

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Project PHaEDRA - Williamina P. Fleming - Variable Stars #4
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157

No. 204 - March 5, 1896

Measurements to determine position ~~for~~ ~~of~~ ~~comparison stars for new var in~~ ~~Grus Sp. Md. on Pl. B 13855. No 8684~~
 IDm - 38^h 15044.22^m 18.4 - 38 12

[[left margin]]

[[2 column table]]

xx179	yx179
-6.80	685
+1.35	-10.40
+8.33	+9.00
-3.95	+10.68
-2.43	-7.88
+11.50	-0.15
+0.55	-1.22
-6.33	-0.15
-4.85	-0.85
+1.65	-1.00
-0.05	-0.50

1217.20	1226.15
241.65	1861.60
1491.07	1611.00
707.05	1911.72
434.97	1410.52
2058.50	26.85
98.45	218.38
1133.07	26.85
868.15	152.15
295.35	179.00
8.95	89.50

[[left margin]]

Plate-B 10318 | Diff | Diff |

[[9 column table]]

|| x | y | x | y | x | y | x1.79 | y1.79

a | 13.22 | -13.25 | +9.60 | -13.20 | -9.60 | -13.77 | -11.90 | 2464.83 | 2130.10

b | 2.88 | +2.85 | +7.50 | +2.90 | +7.50 | +2.33 | +5.20 | 417.07 | 930.80

c | -1.55 | -3.75 | -1.55 | -3.75 | -2.10 | -6.05 | 375.90 | 1082.95

d | -6.65 | +4.60 | -6.65 | +4.60 | -7.20 | +2.30 | 1288.80 | 411.70

e | +2.35 | +6.10 | +2.35 | +6.05 | +1.80 | +3.78 | 322.20 | 676.62

f | -4.50 | +6.75 | -4.50 | +6.75 | -5.05 | +4.45 | 903.95 | 796.55

g | -8.20 | +7.10 | -8.20 | +7.10 | -8.75 | +4.80 | 1566.25 | 859.20

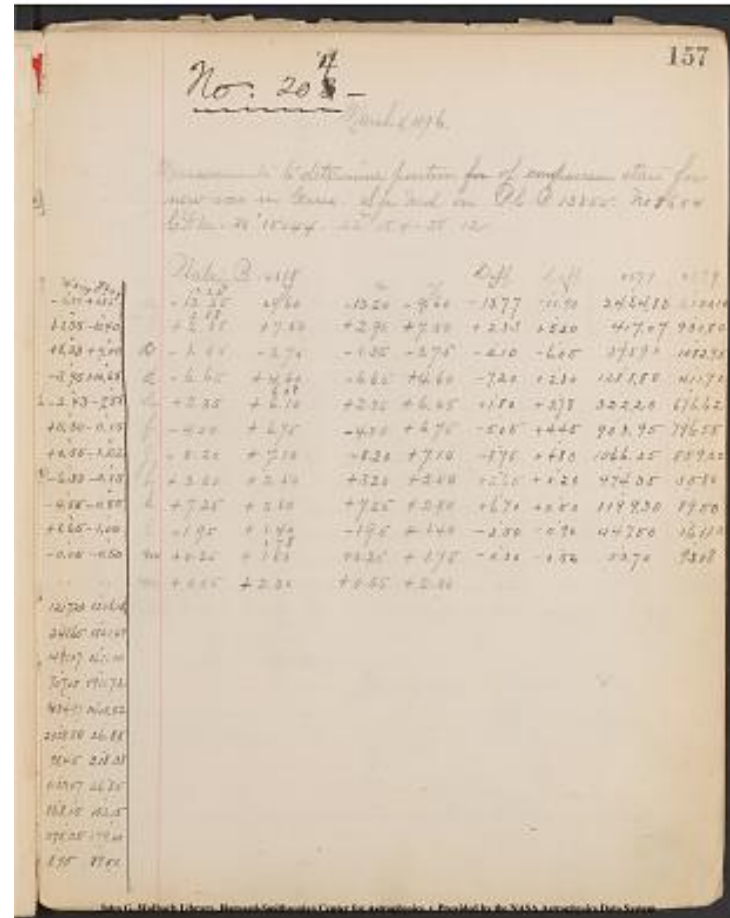
h | +3.20 | +2.50 | +320 | +2.50 | +2.65 | +0.20 | 474.35 | 35.80

k | +7.25 | +2.80 | +7.25 | +2.80 | +6.70 | +0.50 | 1199.30 | 89.50

l | -1.95 | +1.40 | -1.95 | +1.40 | -2.50 | -0.90 | 447.50 | 161.10

m | +0.25 | 1.78 | +1.80 | +0.25 | +1.75 | -0.30 | -0.52 | 53.70 | 93.08

n | +0.55 | +2.30 | +0.55 | +2.30 | || || || || ||



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March 5, 1896.

Measurements - to determine position of comparison stars
for new var. in L. DM -33° 2251. (A.J.C. 6135)
5^h 15.6^m -33° 48'. Sp.Md? on Pl. B 14690. No 8603

Mean Dec. -33° 52'.7 = Log.0.08080
1.07700
1.15780

Plate B.14771

[[9 column table]]

x ^[[x179]] | y | x | y | x | y | x 1.79 | y x 1.79 | com. |

+12.05 | -3.18 | a + 11.15 | -1.70 | +11.15 | -1.70 | 2156.95 | 569.22 | -
33° 2217 |

+4.85 | -5.28 | b + 3.95 | -3.80 | +3.95 | -3.80 | 868.15 | 945.12 | -33°
2238 |

+5.05 | +6.62 | c + 4.15 | +8.10 | +4.15 | +8.10 | 903.95 | 1184.98 | -34°
2177 |

-0.75 | -578 | d - 1.65 | -4.30 | -1.65 | -4.30 | 134.25 | 1034.62 | -33° 2256
|

-7.10 | -1.86 | e - 8.00 | -0.35 ^[[0.38]] | -8.00 | -0.40 | 1270.90 | 332.94 | -
33° 2269 |

-12.50 | +0.84 | f - 13.40 | +2.30 ^[[2.32]] | -13.40 | +2.35 | 2237.50 |
150.36 | -33° 2285 |

-8.60 | +0.10 | g - 9.50 | +1.55 ^[[1.58]] | -9.50 | +1.60 | 1539.40 | 17.90 |
-33° 2276 5 16 44.4_33 50.3 |

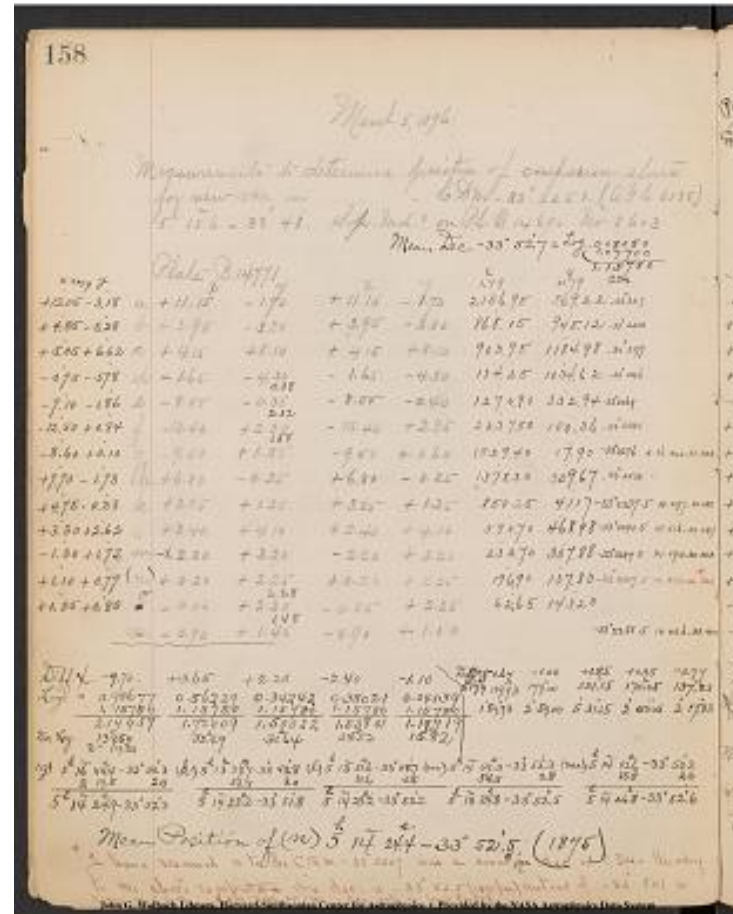
+7.70 | -1.73 | h + 6.80 | -0.25 | +6.80 | -0.25 | +6.80 | -0.25 | 1378.30 |
309.67 | -33° 2230 |

+4.75 | -0.23 | k + 3.85 | +1.25 | +3.85 | +1.25 | 850.25 | 41.17 | -33°
2237 5 13 29.7_33 48.8 |

+3.30 | +2.62 | l + 2.40 | +4.10 | +2.40 | +4.10 | 590.70 | 468.98 | -33°
2240 5 13 51.6_33 58.7 |

-1.30 | +1.72 | m-x 2.20 | +3.20 | -2.20 | +3.20 | 232.70 | 307.88 | -33°
2257 5 14 59.3_33 55.3 |

+1.10 | +0.77 | (n) + 0.20 | +2.25 | +0.20 | +2.25 | 196.90 | 137.83 | -33°
2247 5 14 25.0_33 *54.1 |



+0.35 | +0.80 | o - 0.55 ~~[[strikethrough]]~~ o ~~[[strikethrough]]~~ | +2.30
^{[[2.28]]} | -0.55 | +2.25 | 62.65 | 143.20 | |

| | var. - 0.90 [[underline]] | +1.45 ^{[[1.48]]} | -0.90 | +1.50
 | | -33° 2251 5 14 42.6_33 50.3 |

[[6 column table]]

Diff. X. | -9.70 | +3.65 | +2.20 | -2.40 | -1.10 |

Log. " | [[formula]] | [[formula]] | [[formula]] | [[formula]] | [[formula]] |

No. Log. | 139.50^{[[s]]} 2^{[[m]]} 19.50^{[[s]]} | 52.49^{[[s]]} | 31.64^{[[s]]} |
 34.52^{[[s]]} | 15.82^{[[s]]} |

[[6 column table]]

Diff Y. | 0.67 | -1.00 | +1.85 | +0.95 | -0.77 |

X 1.79 | 119.93" | 179".00 | 331".15 | 170".05 | 137".83 |

| 1' 59".93 | 2' 59.00 | 5' 31".15 | 2' 50".05 | 2' 17".83 |

(g) [[formula]] (k) [[formula]] (l) [[formula]] (m) [[formula]] (var) [[formula]]

Mean Position of (n) 5^h 14^m. 24.4^s. -33° 52'.5 (1875)

* I have assumed n to be C.D.M. -33° 2247 with an error ^{[[of 1.6]]} in
 dec. in C.D.M - According to the above computation its dec. is -33° 52.5
 (1875 pos.) instead of -33° 54.1 as given in C D M LAW. Sept. 25 1901
 - See note on plate B10678

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159
 Position Charted.
 See Chart. No. 17b
 Mean Dec. = $-61^{\circ} 5' 33''.0 = \text{Log. } 0.31571$
 1.07700
 1.39271

Var. No. 63
 June 1, 1896

Centaurus
 Meas. to determine position of new var. in
~~learnina~~ sp. Md on pl B 15188 No. 8961.
 $11^{\text{h}} 15^{\text{m}} -61^{\circ} 10' (1875).$
 1C

Plate B9294

[[five-columned table]]

x	y	x	y	11 ^h
-4.45	+10.90	-4.45	+10.90	.961
-0.85	+0.82	+5.10	+5.08	-0.80
-0.15	+4.25	-0.15	+4.25	.1072
+1.80	+1.78	+19.45	+1.75	+19.45
+5.05	+2.50	+2.48	+5.05	+2.45
-7.45	+7.48	+11.10	+11.08	-7.50
+2.20	+8.75	+8.78	+2.20	+8.80
+0.55	+0.52	+8.95	+8.98	+0.50
+1.40	+1.38	+3.20	+1.35	+3.20
+2.55	+2.52	+5.35	+2.50	+5.35
+1.20	+8.45	+8.48	+1.20	+8.50
-0.30	+7.05	-0.30	+7.05	
-1.65	+1.62	+6.25	-1.60	+6.25
-1.25	+5.80	-1.25	+5.80	
-0.55	+6.45	-0.55	+6.45	

[[left-hand margin]] [[two-columned table]]

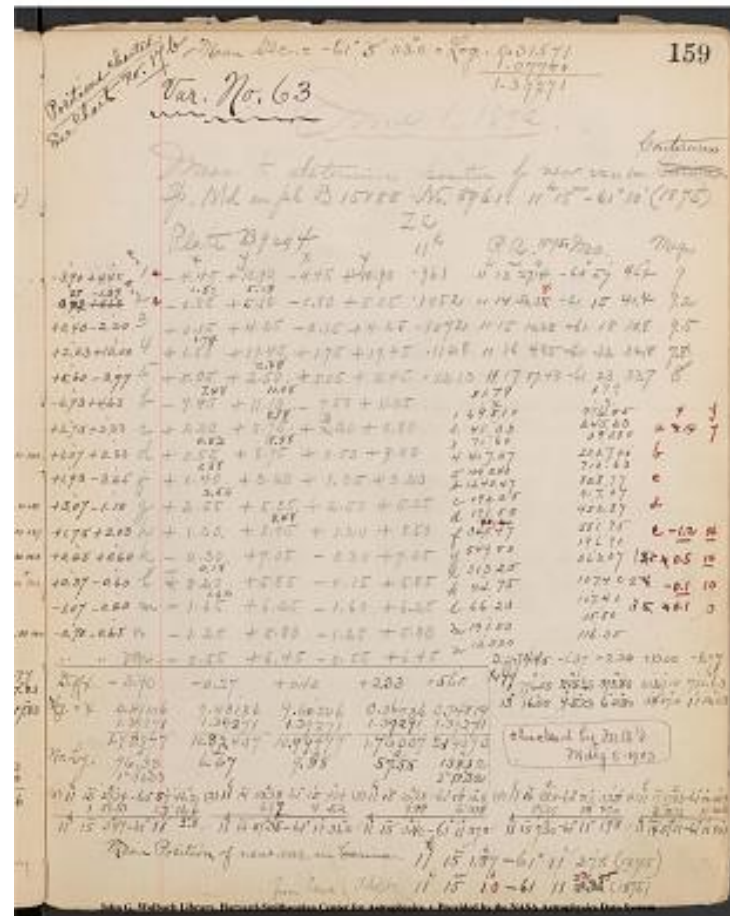
-3.90	+4.45	? ⁿ 1a
-0.	23	27
14.63	1.37	e ² e
+0.40	-2.20	3
+2.33	+13.00	4
+5.60	-3.97	5
-6.93	+4.63	b
+2.75	+2.33	c
33 50.3	+1.07	+2.53 d
+1.93	-3.25	f
33 48.8	+3.07	-1.10 g
33 58.7	+1.75	+2.03 h
33 55.3	+0.25	+0.60 k
33 *54.1	+0.37	-0.60 l
-1.07	-0.20	m
-33 50.3	-0.70	-0.65 n

... var |

R.A. 1875. Dec. Magn

[[seven-columned table]]

h	m	s		"		"
11	13	27.14	-60°	57	46.2	9
11	14	52.3	5	8	-61	15
11	15	10.28	-61	18	10.8	9.5
11	16	4.85	-60	32	32.8	7.8
11	17	17.43	-61	23	33.7	8



[[two-columned table]]
x1.79 | 1.79 |
x | y. |
1 698.10 | 796.55 |
2 48.33 | 245.23 |
3 71.60 | 39.380 |
4 41707 | 2327.00 |
5 100 2.40 | 710.63 |
b 1240.47 | 828.77 |
c 492.25 | 417.07 |
d 191.53 | 452.87 |
f 345.47^~~80.21~~ | 581.75 |
g 549.53 | 196.90 |
h 313.25 | 363.37 |
k 44.75 | 107.40 |
l 66.23 | 107.40 |
m 191.53 | 35.80 |
n 125.30 | 116.35 |

[[three-columned table]]
a | ~~[[/del]]x0.3 | y^y |
b | | |
c | | |
d | | |
e | -1.2 | 14 |
1~~3~~ | | |
~~[[/del]]+~~[[/del]]0.5 | 14 |
2 ~~[[/del]]4~~[[/del]] -0.1 | 10 |
3~~[[/del]]5~~[[/del]] |
~~[[/del]]+~~[[/del]]0.1 | 0 |~~~~~~~~~~~~~~~~~~

[[bottom of page]][[six-columned table]]
Diff.y.+ | 4.45 | -1.37 | -2.20 | +13.00 | -3.97 |
X179 | 796".55 | 24"5.23 | 393".80 | 2327".00 | 710".63 |
13' | 16".55 | 45".23 | 6'33".80 | 3'847".00 | 1'150".63 |
Checked by M.A.G.
May 5 - 1903

[[leftward margin]]
.77
7".83
17".83

3
3
6

[[six-columned table]]
Diff X. | -3.90 | -0.27 | +0.40 | +2.33 | +5.60 |
Log. "X | 0.59106 | 9.43136 | 9.60206 | 0.36736 | 0.74819 |
1.39271	1.39271	1.39271	1.39271	1.39271
1.98377	10.82407	10.99477	1.76007	2.14090
s.	s.	s.	s.	s.
No.Log. | 96.33 | 6.67 | 9.88 | 57.55 | 138.32 |
1m36^s.33 2m.18^s.32

[[thirty-columned table]]

| h | m. | s. | | " | h | m. | s. | | " | h | m. | s. | | " | h | m | s. | | " | h |
 m | s. | | " |
 | (1) 11 | 13 | 27.14 | -60° | 57 | 46.2 | (2) 11 | 14 | 52.38 | 61 | 15 | 41.4 |
 (3) 11 | 15 | 10.28 | -61° | 18 | 10.8 | (4) 11 | 16 | 4.85 | -60° | 32 | 32.8 |
 (5) 11 | 17 | 17.43 | -61° | 23 | 33.7 |
 | 1 | 36.33 | | 13 | 16.6 | | 6.67 | | 4 | 5.2 | | 9.88 | | 6 | 33.8 | | 57.55 | |
 38 | 47.0 | | 2 | 18.32 | | 11 | 50.6 |
 | h | m | s. | | " | h | m. | s. | | " | h | m | s. | | " | h | m | s. | | " | h | m.
 s. | | " |
 | 11 | 15 | 3.47 | -61° | 11 | 2.8 | 11 | 14 | 59.05 | -61° | 11 | 36.2 | 11 | 15 |
 0.40 | -61° | 11 | 37.0 | 11 | 15 | 7.30 | -61° | 11 | 19.8 | 11 | 14 | 59.11 | -
 61° | 11 | 43.1 |
 Mean Position of new var. in ~~Carina~~. h m
 s. "
 11 15 1.87 -61° 11 27.8 (1875)
 From Curve. Adopt. h m s
 11 15 10 -61 11 ~~24~~22
~~30~~25 (1875)

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[[left margin]]
 [[underlined]]Positions charted. [[/underlined]]
 See chart [[underlined]]No. 17b [[/underlined]]
 [[/left margin]]

[[underlined]]No. 9 S Horologii [[/underlined]]

June 1, 1896.

Meas. to determine position of new var. in Horologium Sp. Md on Plate
 B 15153 No. 8911. $2^{\circ}[[h]] 21.4^{\circ}[[m]] -60^{\circ} 6'$

Plate B14993

[[9 columned table]]

| X | y | x | y | ZC 2p | R.A. 1876 | Dec. | Magn. |

-----|-----|-----|-----|-----|-----|-----|-----|
 | 1 | -8.10[^][[8.08]] | +4.65[^][[4.70]] | -8.05 | +4.75 | .498 | 2[^][[h]] 18[^][[m]] |
 | 34.75[^][[s]] | -60° 19' 42.9" | 7.7 |
 | 2 | -1.60 | +17.30 | -1.60 | +17.30 | .567 | 2 21 19.48 | -59 42 53.9 | 9.5 |
 | 5 | +1.75[^][[1.78]] | +0.30[^][[0.32]] | +1.80 | +0.35 | .599 | 2 22 28.33 | -60 33 39.6 | 9 |
 | 6 | +2.35 | +18.70[^][[18.72]] | +2.35 | +18.75 | .611 | 2 22 54.77 | -59 39 1.2 | 9 = |
 | a | +13.75 | +2.80 | +13.75 | +2.80 | A 2666 | 2 27 18.53 | -60 27 6.2 | 8.5 |
 | b | +25.00[^][[24.98]] | +7.30 | +24.95 | +7.30 | Z 856 | 2 31 50.40 | -60 13 49.3 | 9 |
 | c | +6.35[^][[6.32]] | +16.25 | +6.30 | +16.25 | - | | | |
 | e | +1.80 | +5.80[^][[5.78]] | +1.80 | +5.75 | | | | |
 | f | +9.90 | +6.55 | +9.90 | +6.55 | | | | |
 | g | +8.75[^][[8.78]] | +10.60 | +8.80 | +10.60 | | | | |
 | i | -2.75[^][[2.70]] | +10.50 | -2.65 | +10.50 | | | | |
 | k | +0.30 | +8.40 | +0.30 | +8.40 | | | | |
 | l | -3.00[^][[3.02]] | +8.75[^][[8.78]] | -3.05 | +8.80 | | | | |
 | m | +1.45[^]1.38 | +9.05 | +1.30 | +9.05 | | | | |
 | ~~[[strikethrough]]var. [[/strikethrough]]n~~ |
 | ~~[[strikethrough]]+ [[/strikethrough]]-0.10~~ | +9.20[^][[9.15]] | -0.10 | +9.10 | | | | |
 | var. | -0.50 | +8.90 | -0.50 | +8.90 | | | | |

[[left margin]]

Mean Dec =

60° 3' 49.4" =

Log. 0.30187

1.07700

1.37887

[[/left margin]]

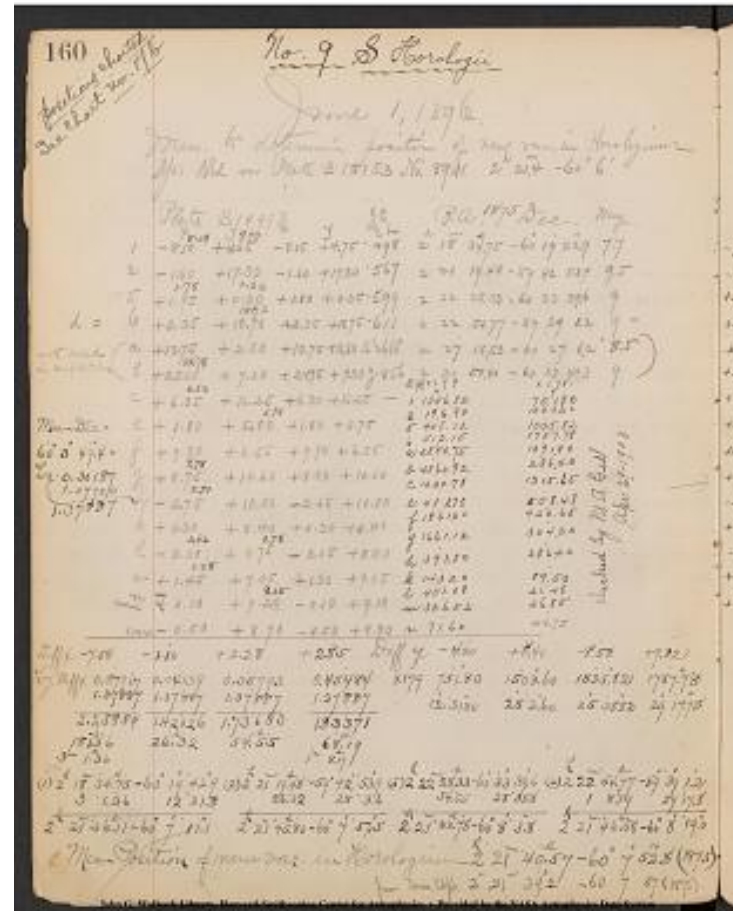
[[right margin]]

[[3 columned table]]

| Diff X 1.79 | X 1.79 |

| x | y |

-----|-----|



1	1356.82	75.180
2	196.90	1503.60
5	408.12	1535.82
6	510.15	1757.78
a	2550.75	1091.90
b	4560.92	286.40
c	1220.78	1315.65
e	41 1.70	558.48
f	1861.60	420.65
g	1661.12	304.30
h	393.80	286.40
k	143 20	89.50
l	451.08	21.48
m	336.52	26.85
n	71.60	44.75

checked by M.A. Gill
Apr. 29-1903
[[/right margin]]

[[10 columned table]]
Diff. X. | -7.58 | -1.10 | +2.28 | +2.85 | Diff. y. | -4.20 | +8.40 | -8.58 | +9.82 |
Log. Diff. X | 0.87967 | 0.04139 | 0.35793 | 0.45484 | X179 | 751.80" |
1503.60" | 1535.82" | 1757.78" |
| | [[underlined]] 1.37887 | 1.37887 | 1.37887 | 1.37887 [[/underlined]] | |
12' 31.80 | 2' 53.60 | 25' 35.82 | 29' 17.78 |
2.25854	1.42026	1.73680	1.83371				
181.36^[[s]]	26.32^[[s]]	54.55^[[s]]	68.19^[[s]]				
3^[[m]] 1.36^[[s]]		1^[[m]] 8.19^[[s]]					

[[28 columned table]]
|(1)|2^[[h]]|18^[[m]]|34.75^[[s]]|-
60°|19'|42.9"|(2)|2^[[h]]|21^[[m]]|19.48^[[s]]|-59°|42'|53.9"|(5)|2^[[h]]|
22^[[m]]|28.33|-60°|33'|39.6"|(6)|2^[[h]]|22^[[m]]|54.77^[[s]]|-59°|
39'|1.2"|
| | [[underlined]] 3 | 1.36 | | 12 | 31.8 | | | | 26.32 | | 25 | 3.6 | | |
54.55 | | 25 | 35.8 | | 1 | 8.19 | | 29 | 17.8 [[/underlined]] |
| 2^[[h]]|21^[[m]]|36.11^[[s]]|-60°|7'|11.1" | 2^[[h]]|21^[[m]]|45.80^[[s]]|-
60°|7'|57.5" | 2^[[h]]|21^[[m]]|33.78^[[s]]|-60°|8'|3.8"|
| 2^[[h]]|21^[[m]]|46.58^[[s]]|-60°|8'|19.0"|

Mean Position of new var. in Horologium
-2^[[h]] 21^[[m]] 40.57^[[s]] -60° 7' 52.8" (1875)
from Curve. Adopt. 2^[[h]] 21^[[m]] 39.2^[[s]] -60° 7' 57" (1875)

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[[underlined]] June 10, 1896. [[/underlined]]

Meas. to determine positions of comparison stars for new var. in A.G.C.
31427 23^h 3.7^m Dec. -30° 41' 7"
Sp. Mc5d on B 14155 No. 8255.

Plate B 14523

[[8 columned table]]

	x	y	x	y			
a	+11.95	+14.30	+11.95	+14.30	-30° 19482		31508 8¾
b	+1.30	+1.32	+7.20	+7.18	+1.35	+7.15	-30° 19462 31466 8½
c	-13.75	+2.65	-13.75	+2.65	-30° 19438		31407 8¾
d	-0.50	+8.90	-0.50	+8.90	-30° 19459		
e	+2.80	+4.15	+2.80	+4.15	-30° 19464		
f	-8.15	+7.80	-8.15	+7.80	-30°		
194	3	3	3	3	47		
g	-4.10	+1.80	-4.10	+1.80	-30° 19446		
k	-6.00	+6.20	-6.00	+6.20	-30° 19450		
l	-9.15	+2.75	-9.15	+2.75			
m	-8.40	+4.20	-8.40	+4.20			
var.	-7.75	+4.60	-7.75	+4.60	-30°		
194	5	5	5	5	48		31427 7¾

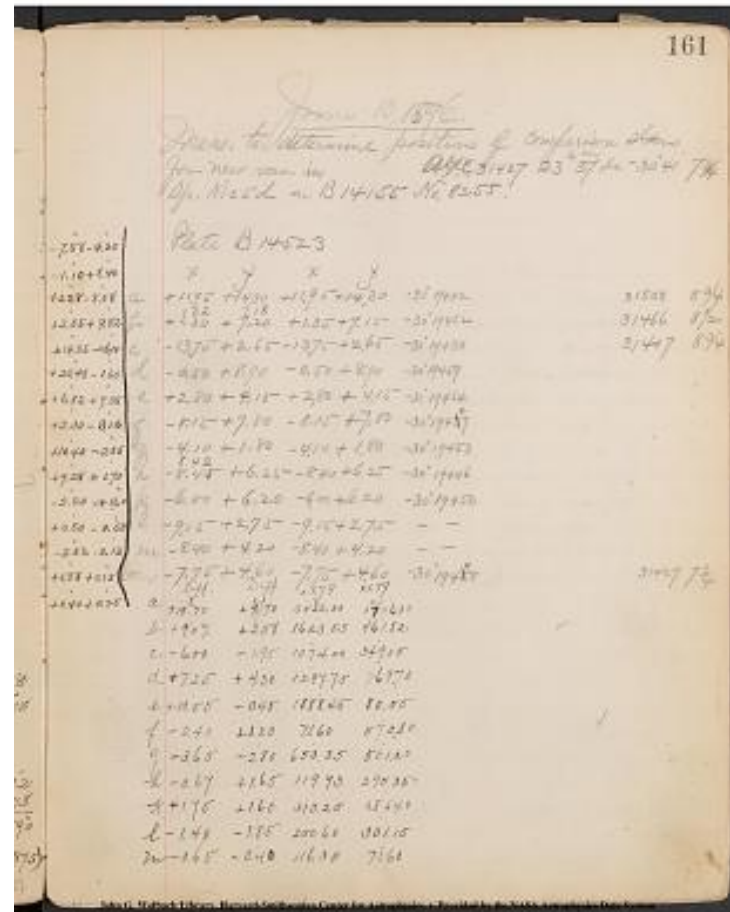
[[5 columned table]]

	Diff.	Diff.	x1.79	x1.79
X	y.	X	y.	
a	+19.70	+9.70	3526.30	1736.30
b	+9.07	+2.58	1623.53	461.82
c	-6.00	-1.95	1074.00	349.05
d	+7.25	+4.30	1297.75	769.70
e	+10.55	-0.45	1888.45	80.55
f	-0.40	+3.20	71.60	572.80
g	-3.65	-2.80	653.35	501.20
h	-0.67	+1.65	119.93	295.35
k	+1.75	+1.60	313.25	286.40
l	-1.40	-1.85	250.60	331.15
m	-0.65	-0.40	116.35	71.60

[[left margin]]

[[2 columned table]]

-7.58	-4.20
-1.10	+8.40
+2.28	-8.58
+2.85	+9.82
+14.25	-6.10
+25.48	-1.60
+6.82	+7.35
+2.30	-8.12
+10.40	-2.35
+9.28	+1.70
-2.20	+1.60
+0.80	-0.50
-2.52	-0.12
+1.88	+0.15
+0.40	+0.25



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[[left margin]]

A was added to sequence later and thus changes the comp stars by one letter

M.C.S. March. 7, 1903.

[[left margin]]

[[underlined]]June 10, 1896. [[/underlined]]

Meas. to determine positions of comparison stars for new variable star
in A.G.C. 13420 9^h 46.5^m -22° 33' 73

Sp. IV Type on B13145 No. 7031.

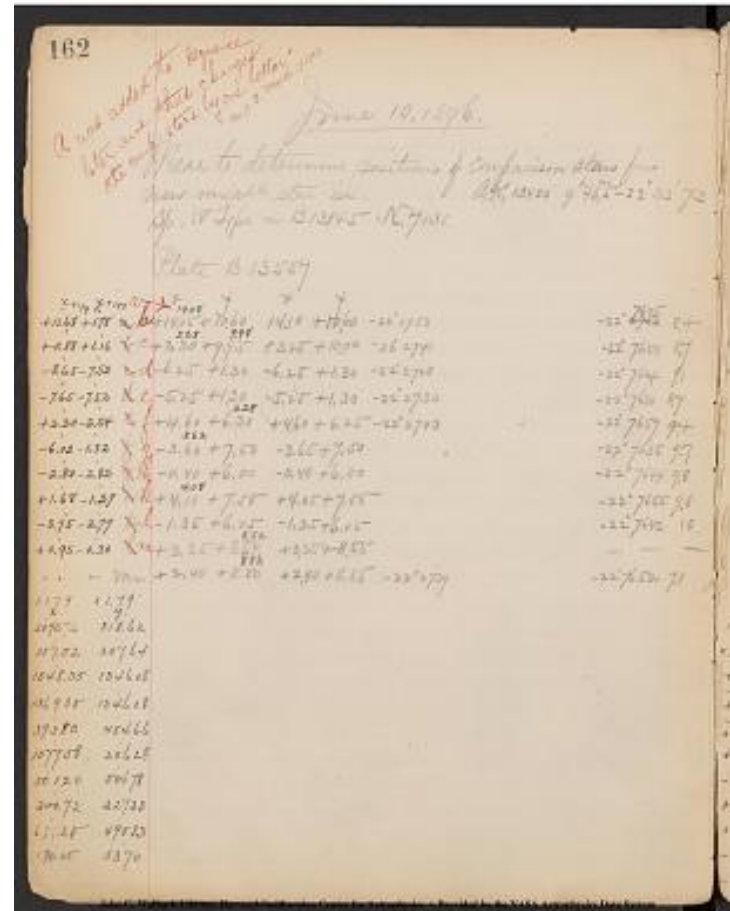
Plate B 13557

[[9 columned table]]

x	y	x	y	x	y	x	y	x	y
X x179	Y x179	a	14.08						
+11.68	+1.78	a	b	+14.05	+10.60				
14.10	+10.60	-22° 2753	-22°						
2753	7695	8.4							
+0.88	+1.16	b	c	+3.30	3.28				
+9.95	9.98	+3.25	+10.00	-22° 2741	-22° 7654	8.7			
-8.65	-7.52	c	d	-6.25	+1.30	-6.25			
+1.30	-33° 2728	-22° 7624	9.1						
-7.65	-7.52	d	e	-5.25	+1.30	-5.25			
+1.30	-22° 2730	-22° 7630	8.9						
+2.20	-2.54	e	f	+4.60	+6.30	6.28			
+4.60	+6.25	-22° 2743	-22° 7657	9.4					
-6.02	-1.32	f	g	-3.60	3.62	+7.50			
-3.65	+7.50	-22° 7635	9.7						
-2.80	-2.82	g	h	-0.40	+6.00	-0.40			
+6.00		-22° 7644	9.8						
+1.68	-1.27	h	k	+4.10	4.08	+7.55			
+4.05	+7.55	-22° 7655	9.8						
-3.75	-2.77	k	l	-1.35	+6.05	-1.35			
+6.05		-22° 7642	10						
+0.95	-0.30	l	m	+3.35	+8.50	8.52			
+3.35	+8.55								
var.	+2.40	+8.80	8.82	+2.40	+8.85	-22° 2739	-22° 7652	7.1	

[[2 columned table]]

x1.79	x1.79
x	y
2090.72	318.62
157.52	207.64
1548.35	1346.08
1369.35	1346.08
393.80	454.66
1077.58	236.28
501.20	504.78
300.72	227.33
671.25	495.83
170.05	53.70



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

Project PHaEDRA - Williamina P. Fleming - Variable Stars #4
Transcribed and Reviewed by Digital Volunteers
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June 10, 1896

Meas. to determine position of comparison stars for new variable star in
BD +5° 1797 7^h 41^m 43.5^s +5° 41' 9.0

Sp IV Type on B15244 No. 8999

Plate I14647

[[11 columned table]]

| | x | y | x | y | Design. | R.A. 1855 | Dec. | Magn |

| a | +8.55^h | [8.52] | +4.40 | +8.50 | +4.40 | +5° 1802 | 7^h 41^m | 41^s | [m] |47.3^s | [s] | +5° 39.7' | 8.5 |

| note on pos. | b | +2.75 | +2.25 | +2.75 | +2.25 | +5° 1794 | 7 40 42.2 | +5

33.7 | 9.0 |

| c | +6.50 | +4.40 | +6.50 | +4.40 | +5° 1798 | 7 41 21.7 | +5 40.1 | 9.3 |

| note on pos. | d | +3.45 | +7.55 | +3.45 | +7.55 | +5° 1795 | 7 40 46.9 | +5

51.7 | 9.3 |

| e | +5.80 | +[~~7.20~~] | 8.18 |+5.80 | +[~~7.20~~] | 8.15 | | | || f | +9.20 | +3.55^h | [3.52] | +9.20 | +3.50 | | | |

| g | +4.40 | +2.75 | +4.40 | +2.75 | | | |

| h | +6.20 | +6.20 | +6.20 | +6.20 | | | |

| i | +[~~4.35~~] | +[~~4.32~~] | +4.50 | +4.30 | +4.50 | | | |

| m | +3.50 | +4.50 | +3.50 | +4.50 | | | |

| var. | +4.60 | +6.35 | +4.60 | +6.35 | +5° 1797 | 7 41 3.3 | +5 46.9 | 9.0 |

(b)

Diff X. +5.77 +3.75

Diff y. +2.15 +2.15

[[5 columned table]]

| x163x | y. | 1.63x | x 1.63 y. |

+3.92 | -1.95 | 638.96 | 317.85 | a |

-1.85 | -4.10 | 301.55 | 668.30 | b |

+1.90 | -1.95 | 309.70 | 317.85 | c |

-1.15 | +1.20 | 187.45 | 195.60 | d |

+1.20 | +[~~1.83~~] | 195.60 | || e | +[~~1.83~~] | 195.60 | |

298.29 | [1.83] |

| +4.60 | +2.83 | 749.80 | 461.29 | |

-0.20 | -3.60 | 32.60 | 586.80 | |

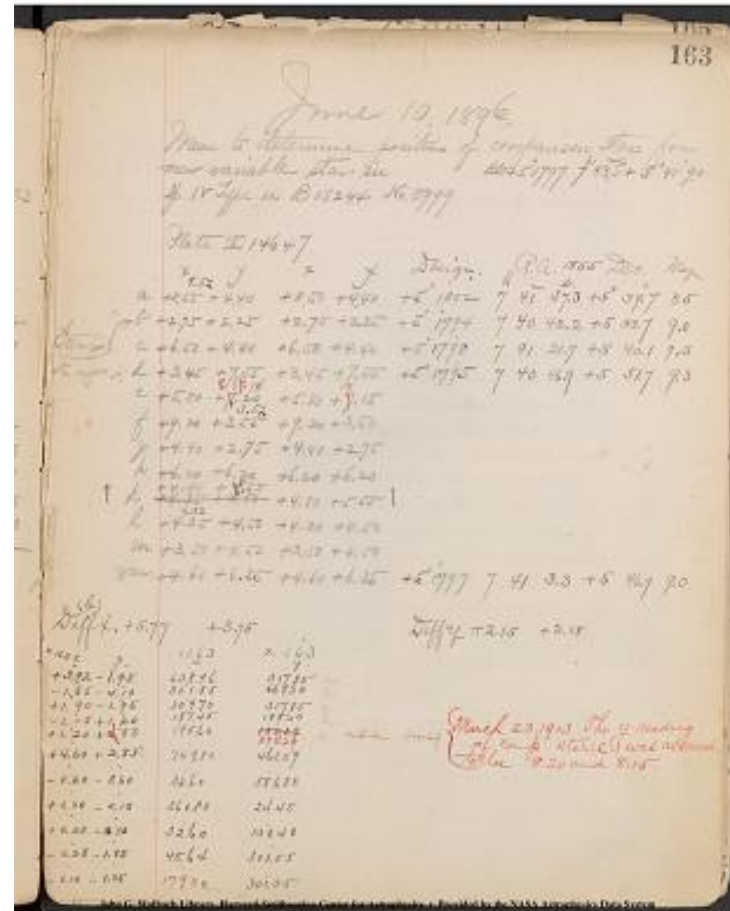
+1.60 | -0.15 | 260.80 | 24.45 | |

+0.20 | -0.80 | 32.60 | 130.40 | |

-0.28 | -1.85 | 45.64 | 301.55 | |

-1.10 | -1.85 | 179.30 | 301.55 | |

82.60

{March. 23, 1903. The y reading of comp: star (e) was assumed to be
8.20 and 8.15.John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics.
Provided by the NASA Astrophysics Data Systems

Project PHaEDRA - Williamina P. Fleming - Variable Stars #4
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Var. No 131. U Coronae Austr.

June 10, 1896.

Meas. to determine positions of comparison stars for new variable star

in CDM -37° 12782 18^h 32.6^m -37° 57' 9.7

Sp Md on B 14374 No. 7943

[2 columned table]

Mean Dec. = -37° 47.4 = Log. 0.10223

[[1.07700]]

| 1.17023 |

[[left margin]]

[2 columned table]

Diff. | Diff |

X | Y |

x17.9 | x1.79 |

---|---

1589.52 | 647.98 |

716.00 | 1188.56 |

1231.52 | 1972.58 |

1256.58 | 508.36 |

1208.25 | 640.82 |

984.50 | 823.40 |

35.80 | 656.93 |

841.30 | 264.92 |

658.72 | 57.28 |

71.60 | 164.68 |

3.58 | 336.52 |

528.05 | 32.22 |

107.40 | 307.88 |

205.85 | 179.00 |

[[/left margin]]

Plate B 14498

[9 columned table]

| x | y | x | y | CDM | R.A. 1875 | Dec. | Magn. |

---|---|---|---|---|---|---|---

a | -7.05^h | [7.08] | +9.50 | -7.10 | +9.50 | -37° 12754 | 18^h 30^m |

20.5^s | [5.4] | 8.5 |

b | -2.20 | +12.50^h | [12.52] | -2.20 | +12.55 | -37° 12770 | 18 31 34.3 | -37

36.6 | 8.5 |

c | -5.10^h | [5.08] | +16.90 | -5.05 | +16.90 | -37° 12765 | 18 30 54.3 | -37

24.2 | 7.5 |

d | ~~1.60~~ | ~~1.60~~ | ~~1.60~~ | ~~1.60~~ | ~~1.60~~ | ~~1.60~~ | ~~1.60~~ |

~~1.60~~ | ~~1.60~~ | ~~1.60~~ | ~~1.60~~ | ~~1.60~~ | ~~1.60~~ | ~~1.60~~ |

e | -4.95 | +2.30 | -4.95 | +2.30 | -38° 12970 | 18 30 51.8 | -38 7.7 | 8.2 |

f | -3.70 | +1.30^h | [1.28] | -3.70 | +1.25 | -38° 12973 | 18 31 10.5 | -38 11.1

9.3 |

g | +1.60 | +9.55 | +1.60 | +9.55 | -37° 12780 | 18 32 31.8 | -37 45.6 | 8.7 |

h | -2.90 | +4.40 | -2.90 | +4.40 | -38° 12976 | 18 31 22.7 | -38 1.1 | 9.5 |

k | -1.90^h | [1.88] | +6.20 | -1.90 | +6.20 | -37° 12771 | 18 31 38.8 | -37 55.1 | 10 |

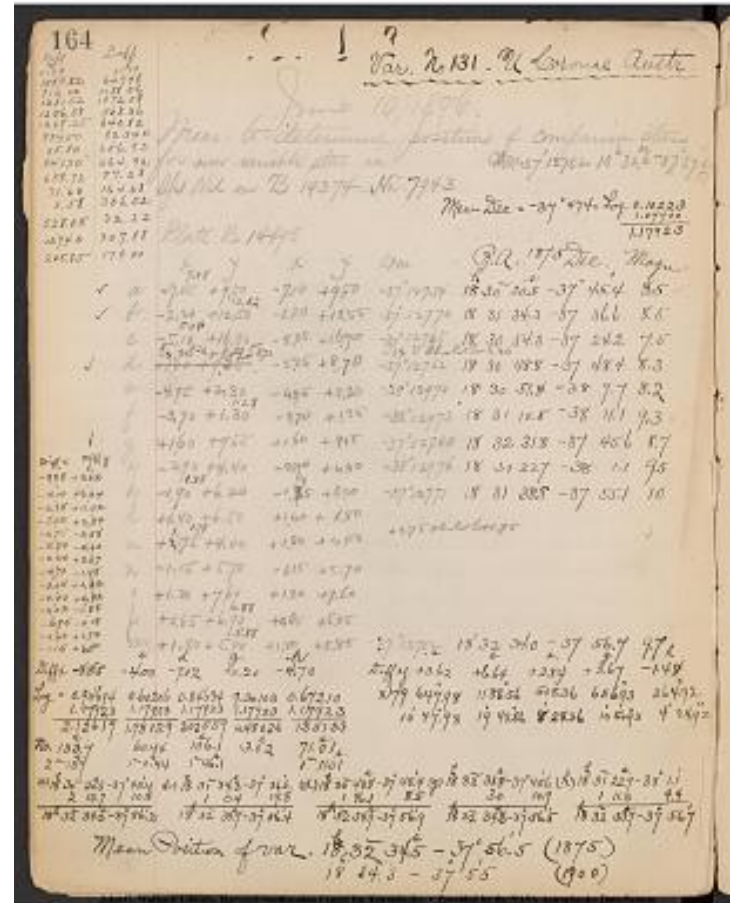
l | +1.40 | +6.80 | +1.40 | +6.80 | | | | |

m | ~~1.75~~ | ~~1.75~~ | ~~1.75~~ | ~~1.75~~ | ~~1.75~~ | ~~1.75~~ | ~~1.75~~ |

~~1.75~~ | ~~1.75~~ | ~~1.75~~ | ~~1.75~~ | ~~1.75~~ | ~~1.75~~ | ~~1.75~~ |

n | +1.75 | +1.78 | +4.00 | +1.80 | +4.00 |

+2.75 should be +1.75 | | |



n	-1.15	+5.70	-1.15	+5.70				
o	+1.20	+7.60	+1.20	+7.60				
p	+0.65	+6.90	<u>6.88</u>	+0.65	+6.85			
var.	+1.80	+5.90	<u>5.88</u>	+1.80	+5.85	-37°	12782	18 32 34.0 -37
	56.7	9.7						

[[left margin]]

[[2 columned table]]

Diff x	Diff y
--- ---	
-8.88	+3.62
-4.00	+6.64
-6.88	+11.02
-7.02	+2.84
-6.75	-3.58
-5.50	-4.60
-0.20	+3.67
-4.70	-1.48
-3.68	+0.32
-0.40	+0.92
-0.02	-1.88
-2.95	-0.18
-0.60	+1.72
-1.15	+6.00

[/left margin]]

[[6 columned table]]

	b	d	g	h	
--- ---	--- ---	--- ---	--- ---	--- ---	
Diff. X.	-8.85	-4.00	-7.02	-0.20	-4.70
Log. Diff. X.	0.94694	0.60206	0.84634	9.30103	0.67210
	<u>1.17923</u>	1.17923	1.17923	1.17923	
1.17923	<u>1.17923</u>				
	2.12617	1.78129	2.02557	10.48026	1.85133
No.	133.7 [^] <u>[s.]</u>	60.44	106.1 [^] <u>[s.]</u>	3.02 [^] <u>[s.]</u>	71.01 [^] <u>[s.]</u>
	2 [^] <u>[m.]</u>	13.7 [^] <u>[s.]</u>	1 [^] <u>[m.]</u>	0.44 [^] <u>[s.]</u>	1 [^] <u>[m.]</u>
	46.1 [^] <u>[s.]</u>				1 [^] <u>[m.]</u>
11.01 [^] <u>[s.]</u>					

[[6 columned table]]

	a	b	d	g	h
--- ---	--- ---	--- ---	--- ---	--- ---	
Diff. Y.	+3.62	+6.64	+2.84	+3.67	-1.48
X179	647.98"	1188.56"	508.36"	656.93"	264.92"
	10' 47.98"	19' 48.56"	8' 28.36	10' 56.93	4' 24.92"

[[30 columned table]]

(a)	18 [^] <u>[h]</u>	30 [^] <u>[m.]</u>	20.5 [^] <u>[s.]</u>	-37°	45.4'	(b)	18 [^] <u>[h]</u>	31 [^] <u>[m.]</u>	
34.3 [^] <u>[s.]</u>	-37°	36.6'	(d)	18 [^] <u>[h]</u>	30 [^] <u>[m.]</u>	48.8 [^] <u>[s.]</u>	-37°	48.4'	
(g)	18 [^] <u>[h]</u>	32 [^] <u>[m.]</u>	31.8 [^] <u>[s.]</u>	-37°	45.6'	(h)	18 [^] <u>[h]</u>	31 [^] <u>[m.]</u>	
22.7 [^] <u>[s.]</u>	-38°	1.1'							
	<u>2</u>	13.7		10.8	<u>1</u>	<u>1</u>	0.4		
	19.8	<u>1</u>	46.1	8.5	<u>1</u>				
	<u>3.0</u>	10.9	<u>1</u>	11.0					
4.4	<u>1</u>								
	18 [^] <u>[h]</u>	32 [^] <u>[m.]</u>	34.2 [^] <u>[s.]</u>	-37°	56.2'	18 [^] <u>[h]</u>	32 [^] <u>[m.]</u>		
34.7 [^] <u>[s.]</u>	-37°	56.4'	18 [^] <u>[h]</u>	32 [^] <u>[m.]</u>	34.9 [^] <u>[s.]</u>	-37°	56.9'		
18 [^] <u>[h]</u>	32 [^] <u>[m.]</u>	34.8 [^] <u>[s.]</u>	-37°	56.5'	18 [^] <u>[h]</u>	32 [^] <u>[m.]</u>	33.7 [^] <u>[s.]</u>		
-37°	56.7'								

[[3 columned table]]
|Mean Position of var.|18^[[h]] 32^[[m.]] 34.5^[[s]] -37° 56.5'| (1875)|
| 18^[[h]] 34.3^[[m.]] -37° 55'| (1900)

Project PHaEDRA - Williamina P. Fleming - Variable Stars #4
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Var. No. 128. RV Sagittarii

June 11, 1896.

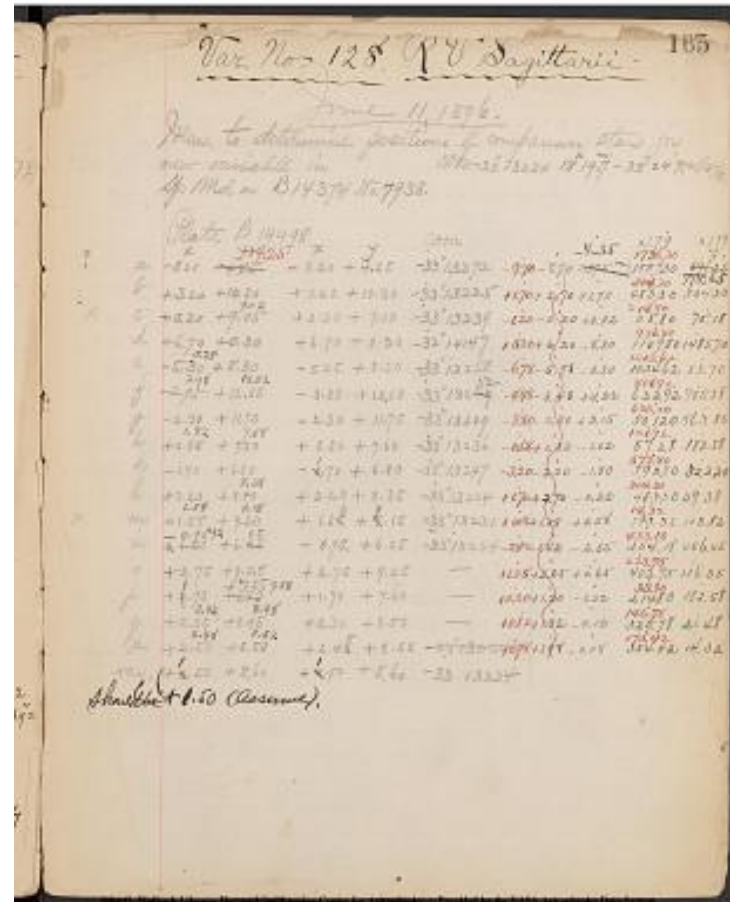
Meas. to determine positions of comparison stars for new variable in
CDM -33° 13234 18^h 19.7^m -33° 24' 9.2 (1875)
Sp Md on B14374 No. 7938.

Plate B 14498

[[10 columned table]]

| x | y | x | y | CDM | | x1.79 | x1.79 y |

---|---|---|---|---|---|---|---|
? a | -8.20 | ~~[[+4.85]]~~ +4.25 | -8.20 | +4.25
-33° 13272 | -9.70 ~~[[+8.70]]~~ -8.70
~~[[+3.75]]~~ -4.35 |
1557.30^h ~~[[1736.30]]~~ |
~~[[671.25]]~~ 778.65 |
b | +3.20 | +10.30 | +3.20 | +10.30 | -33° 13225 | +1.70 |
~~[[+2.70]]~~ +1.70 | 483.30^h ~~[[304.30]]~~ | 304.30 |
x c | +0.30 | +9.05^h ~~[[9.02]]~~ | +0.30 | +9.00 | -33° 13239 | -1.20 |
~~[[+0.20]]~~ +0.42 | 35.80^h ~~[[214.80]]~~ | 75.18 |
d | +6.70 | +0.30 | +6.70 | +0.30 | -32° 14147 | +5.20 |
~~[[+6.20]]~~ -8.30 | 1109.80^h ~~[[930.80]]~~ |
1485.70 |
e | -5.30^h ~~[[5.28]]~~ | +8.30 | -5.25 | +8.30 | -33° 13258 | -6.78 |
~~[[+5.78]]~~ -0.30 | 1034.62^h ~~[[1213.62]]~~ | 53.70 |
f | -2.95^h ~~[[2.98]]~~ | +12.85^h ~~[[12.82]]~~ | -3.00 | +12.80 | -33°
132^h ~~[[49]]~~ 52 | -4.48 | ~~[[+3.48]]~~ -
3.48^h ~~[[+4.22]]~~ 622.92^h ~~[[801.92]]~~ | 755.38 |
g | -2.30 | +11.75 | -2.30 | +11.75 | -33° 13249 | -3.80 | ~~[[+2.80]]~~ -
2.80^h ~~[[+3.15]]~~ 501.20^h ~~[[680.20]]~~ | 563.85 |
h | +0.85^h ~~[[0.82]]~~ | +7.55^h ~~[[7.58]]~~ | +0.80 | +7.60 | -33° 13236 | -0.68 |
~~[[+0.32]]~~ -1.02 | 57.28^h ~~[[121.72]]~~ | 182.58 |
k | -1.70 | +6.80 | -~~[[+1.70]]~~ 1.70 | +6.80 | -33°
13247 | -3.20 | ~~[[+2.20]]~~ -1.80 |
393.80^h ~~[[572.80]]~~ | 322.20 |
l | +3.20 | +8.40^h ~~[[8.38]]~~ | +3.20 | +8.35 | -33° 13224 | +1.70 |
~~[[+2.70]]~~ -0.22 | 483.30^h ~~[[304.30]]~~ | 39.38 |
x m | +1.55^h ~~[[1.58]]~~ | +9.20^h ~~[[9.18]]~~ |
+1.6^h ~~[[5]]~~ 0 |
+~~[[8]]~~ 9.15 | -33° 13231 | +0.08 |
~~[[+1.08]]~~ +0.58 | 193.32^h ~~[[14.32]]~~ | 103.82 |
n | ~~[[+1.50]]~~ -0.90^h ~~[[0.92]]~~ |
+6^h ~~[[25]]~~ 05 | -0.95 | +6.05 | -33° 13244 | -
2.42 | ~~[[+1.42]]~~ -2.55 | 254.18^h ~~[[433.18]]~~ |
456.45 |
o | +2.75 | +9.25 | +2.75 | +9.25 | - | +1.25 |
~~[[+2.25]]~~ +0.65 | 402.75^h ~~[[223.75]]~~ | 116.35 |
p | +~~[[2]]~~ 1.70 |
~~[[+6.80]]~~ +7.55^h ~~[[7.58]]~~ | +1.70 | +7.60 | - |
+0.20 | ~~[[+1.20]]~~ -1.02 | 214.80^h ~~[[35.80]]~~ |
182.58 |
q | +2.35^h ~~[[2.48]]~~ | +8.50^h ~~[[8.52]]~~ |
+2.4^h ~~[[0]]~~ 5 | +8.55 | ~~[[33]]~~ 33°



13234~~[[/strikethrough]]~~ | +0.98 | ~~[[strikethrough]]~~+1.98~~[[/strikethrough]]~~ -
 0.08 | 354.42^{[[175.42]]} | 14.32 |
 | var. | +~~[[strikethrough]]~~0~~[[/strikethrough]]~~1.50 | +8.60 | +~~[[strikethrough]]~~
~~[[/strikethrough]]~~1.50 | +8.60 | -33 13234 | | | |

should be +1.50 (assume).

Project PHaEDRA - Williamina P. Fleming - Variable Stars #4
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Var. No. 114 - Scorpii

June 11, 1896

Meas. to determine positions of comparison stars for new variable star
in CDM -35° 11829 17^h 34.0^m -35° 11' (1875)
Sp IV Type on B 13795 No. 7494.

[2 columned table]

Mean Dec. = -35° 11' = .8' = Log |0.08768
| 1.07700 |
| 1.16468 |

[left margin]

2

Assumed the measure of x to be 2.90 (M.C.S Sept. 1898)

[left margin]

Plate B 13501

[9 columned table]

| x | y | x | y | CDM | R.A. | 1875 | Dec. | Magn. |

-----|-----|-----|-----|

a) +3.90 | +6.05^h | [6.02] | +2.90 | +6.00 | -35° 11849 | 17^h 34^m |

57.6^s | [9.0] | -35° 7.8' | 9.0 |

b) +1.50 | +3.90 | +1.50 | +3.90 | -35° 11839 | 17 | 34 | 36.7 | -35 | 14.1 |

9.5 |

c) +0.10 | +3.45^h | [3.42] | +0.10 | +3.40 | -35° 11834 | 17 | 34 | 15.4 | -35 |

15.6 | 9.3 |

d) +2.10 | +4.65^h | [4.62] | +2.10 | +4.60 | -35° 11843 | 17 | 34 | 43.4 | -35 |

12.5 | 9.7 |

e) +0.90 | +5.65 | +0.90 | +5.65 | -35° 11837 | 17 | 34 | 27.1 | -35 | 8.8 | 10 |

f) -3.25 | +4.55 | -3.25 | +4.55 | | | | |

g) -2.00^h | [2.02] | +4.20 | -2.05 | +4.20 | | | | |

h) -1.50 | +4.70 | -1.50 | +4.70 | | | | |

k) -~~0.85~~ | ~~0.95~~ |

+~~4.85~~ | ~~5.20~~ | -0.95 | +5.20 | | | | |

l) ~~0.90~~ | ~~1.20~~ | ~~1.18~~ | ~~5.20~~ | ~~6.25~~ |

1. ~~20~~ | ~~15~~ | +6.25 | | | | |

m) -1.35 | +4.20 | -1.35 | +4.20 | | | | |

n) -1.25 | +4.00 | -1.30 | +4.00 | | | | |

o) -1.10^h | [1.12] | +4.50^h | [4.52] | -1.15 | +4.55 | | | | |

var. | -0.85 | +4.85 | -0.85 | +4.85 | -35° 11829 | 17 34 1.0 | -35 10.8 | 9.9 |

[left margin]

[2 columned table]

Diff x. | Diff. y |

-----|-----|

| ~~3.75~~ | +4.75 | +1.17 |

+2.35 | -0.95 |

+0.95 | -1.43 |

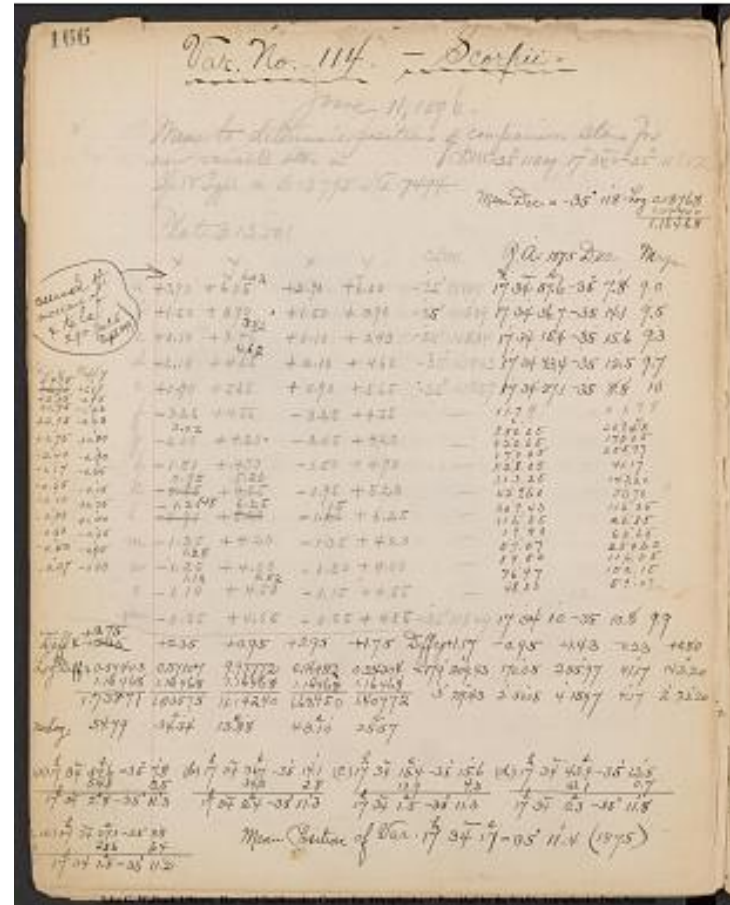
+2.95 | -0.23 |

+1.75 | +0.80 |

-2.40 | -0.30 |

-1.17 | -0.65 |

-0.65 | -0.15 |



-0.10	+0.35
-0.33	+1.40
-0.50	-0.65
-0.43	-0.85
-0.27	-0.33

[[2 columned table]]	
x1.79	x1.79
x.	y.
---	---
850.25	209.43
420.65	170.05
170.05	255.97
528.05	41.17
313.25	143.20
429.60	53.70
209.43	116.35
116.35	26.85
17.90	62.65
59.07	250.60
89.50	116.35
76.97	152.15
48.33	59.07

[[6 columned table]]					
Diff. X	+ 2.35	+3.75	+2.35	+0.95	
+2.95	+1.75				
Log. Diff. X	0.57403	0.37107	9.97772	0.46982	0.24304
	<u>1.16468</u>	1.16468	1.16468	1.16468	
	<u>1.16468</u>				
	1.73871	1.53575	11.14240	1.63450	1.40772
No. Log.	54.79 ^{[[s.]]}	34.34 ^{[[s.]]}	13.88 ^{[[s.]]}	43.10 ^{[[s.]]}	25.57 ^{[[s.]]}

[[6 columned table]]					
Diff. Y	+1.17	-0.95	-1.43	-0.23	+0.80
X179	209.43"	170.05"	255.97"	41.17"	143.20"
	3' 29.43"	2' 50.05"	4' 15.97"	41.17"	2' 23.20"

[[24 columned table]]											
(a)	17 ^{[[h]]}	34 ^{[[m]]}	57.6 ^{[[s.]]}	-35°	7.8'	(b)	17 ^{[[h]]}	34 ^{[[m]]}			
	36.7 ^{[[s.]]}	-35°	14.1'	(c)	17 ^{[[h]]}	34 ^{[[m]]}	15.4 ^{[[s.]]}	-35°	15.6'		
(d)	17 ^{[[h]]}	34 ^{[[m]]}	43.4 ^{[[s.]]}	-35°	12.5'						
	<u>54.8</u>		<u>3.5</u>		<u>34.3</u>						
	<u>2.8</u>		<u>13.9</u>		<u>4.3</u>						
	<u>43.1</u>		<u>0.7</u>								
	17 ^{[[h]]}	34 ^{[[m]]}	2.8 ^{[[s.]]}	-35°	11.3'	17 ^{[[h]]}	34 ^{[[m]]}	2.4 ^{[[s.]]}	-		
	35°	11.3'	17 ^{[[h]]}	34 ^{[[m]]}	1.5 ^{[[s.]]}	-35°	11.3'	17 ^{[[h]]}	34 ^{[[m]]}		
	0.3 ^{[[s.]]}	-35°	11.8'								

[[6 columned table]]					
(e)	17 ^{[[h]]}	34 ^{[[m]]}	27.1 ^{[[s.]]}	-35°	8.8'
		25.6	2.4		
	17 ^{[[h]]}	34 ^{[[m]]}	1.5 ^{[[s.]]}	-35°	11.2'

Mean Position of Var. 17^{[[h]]} 34^{[[m]]} 1.7^{[[s.]]} -35° 11.4' (1875)

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~~July~~ ~~June 11, 1896.~~

Meas. to determine positions of comparison stars for new variable star
in R.A. $6^{\text{h}} 59^{\text{m}} 1^{\text{s}}$ Dec. $+9^{\circ} 6'$ (1875?)
Sp. Md on B15139 No. 8882.

[[2 columned table]]

Mean Dec. for stars (omitting d & E) = $+9^{\circ} 13.2' =$ |

Log. 0.00564

| 1.03623 |
| 1.04187 |

Plate 1127

[[9 columned table]]

| x | y | x | y | BD | R.A. 1855 | Dec. | Magn. |

| -4.80 | +11.20 | -4.80 | +11.20 | +9° 15' 10" | $6^{\text{h}} 59^{\text{m}} 1^{\text{s}}$ | 57^a | [m.] |

42.6^a | [s.] | +9° 24' 1" | 6.6 |

| b | -5.65^a | [5.68] | +2.10 | -5.70 | +2.10 | +8° 16' 40" | 6 57 33.8 | +8 59.2 |

| c | +4.70 | +11.18 | [18] | [80] | +4.70 | +11.80 | +9° 15' 19" | 6 59 27.9 | +9 26.1 | 9.0 |

| d | +0.80 | +8.60^a | [8.58] | +0.80 | +8.35 | +9° 15' 17" | 6 58 45.1 | +9 16.6 |

| e | +5.30 | +8.25 | +5.30 | +8.25 | +9° 15' 20" | 6 59 34.6 | +9 15.3 | 9.4 |

| f | +7.10^a | [7.12] | +7.15 | +4.00 | +9° 15' 22" | 6 59 55.0 | +9 4.4 | 9.3 |

| g | +6.85 | +6.90 | +6.85 | +6.90 | +9° 15' 21" | 6 59 51.4 | +9 12.3 | 9.5 |

| var | +2.50 | +4.40^a | [4.42] | [4.44] | +2.50 | +4.45 |

| h | +3.15 | +7.40^a | [7.42] | +3.15 | +7.45 |

| k | +8.00 | +0.55 | +8.00 | +0.55 |

| l | +3.45^a | [3.42] | +4.30 | +3.40 | +4.30 |

| m | +2.25 | +4.20^a | [4.18] | +2.25 | +4.15 |

| n | +0.45 | +4.55 | +0.45 | +4.55 |

| o | +3.15^a | 3.12 | +3.50 | +3.10 | +3.50 |

| p | +1.75 | +5.0 | [5] | +1.75 | +5.05 |

| q | +[8] | 3.65^a | [3.62] | +4.75^a | [4.78] | +3.60 |

| r | +3.60 | +4.55 | +3.60 | +4.55 |

| var | +2.50 | +4.55^a | [4.44] | +2.50 | +4.45 |

[[5 columned table]]

| Diff. X | Diff. y. | x 1.63 | x 1.63 |

| a | -7.30 | +6.76 | 1189.90 | 1101.88 |

| b | -8.18 | -2.34 | 1333.34 | 38.142 |

| c | +2.20 | +7.36 | 358.60 | 119.9.68 |

| d | -1.70 | +4.14 | 277.10 | 67.4.82 |

| e | +2.80 | +3.81 | 456.40 | 621.03 |

| f | +4.62 | -0.44 | 753.06 | 71.72 |

| g | +4.35 | +2.46 | 709.05 | 400.98 |

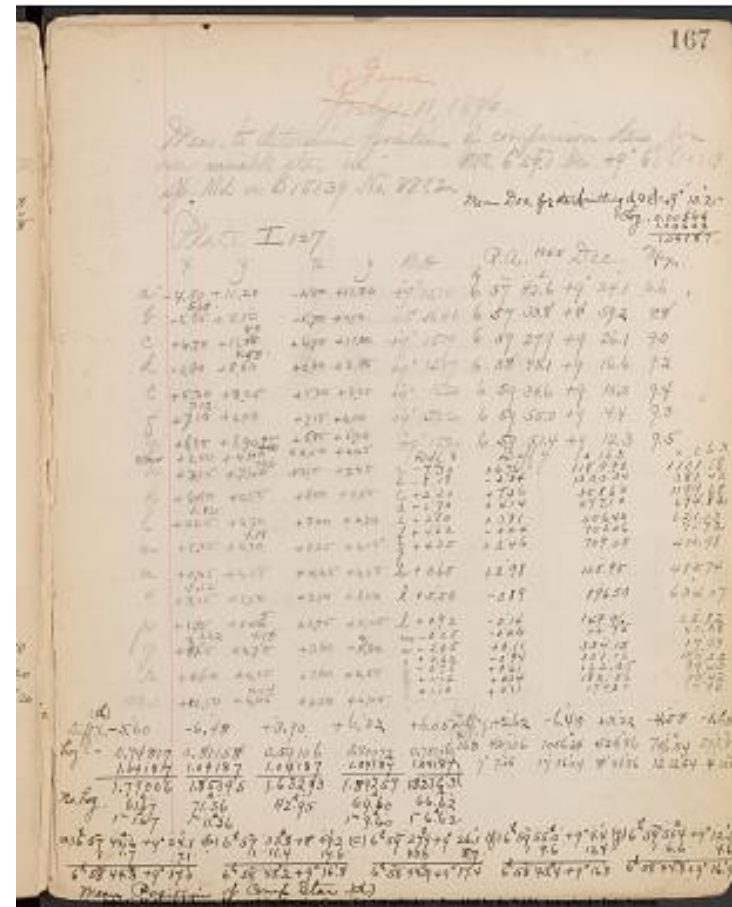
| h | +0.65 | +2.98 | 105.95 | 485.74 |

| k | +5.50 | -3.89 | 896.50 | 634.07 |

| l | +0.92 | -0.14 | 149.96 | 22.82 |

| m | -0.25 | -0.26 | 40.75 | 42.38 |

| n | -2.05 | +0.11 | 334.15 | 17.93 |



o	+0.62	-0.94	101.06	153.22
p	-0.75	+0.61	122.25	99.43
q	+1.12	+0.34	182.56	55.42
r	+1.10	+0.11	179.30	17.93

(d)

[[6 columned table]]

Diff. y.	+2.62	-6.48	+3.22	-4.58	-1.68
X163	427.06"	1056.24"	524.86"	746.54"	273.84"
	7' 7.06"	17' 36.24"	8' 44.86"	12' 26.54"	4' 33.84"

[[6 columned table]]

Diff. X.	-5.60	-6.48	+3.90	+6.32	+6.05
Log. Diff. X.	0.74819	0.81158	0.59106	0.80072	0.78176
	<u>1.04187</u>	<u>1.04187</u>	<u>1.04187</u>	<u>1.04187</u>	
	<u>1.04187</u>				
	1.79006	1.85345	1.63293	1.84259	1.82363
No. Log.	61.67 [^] [s.]	71.36 [^] [s.]	42.95 [^] [s.]	69.60 [^] [s.]	66.62 [^] [s.]
	1 [^] [m]	1.67 [^] [s.]	1 [^] [m]	11.36 [^] [s.]	1 [^] [m]
	6.62 [^] [s.]				

[[30 columned table]]

(a)	6 [^] [h]	57 [^] [m]	42.6 [^] [s.]	+9°	24.1'	(b)	6 [^] [h]	57 [^] [m]	
	33.8 [^] [s.]	+8°	59.2'	(c)	6 [^] [h]	59 [^] [m]	27.9 [^] [s.]	+9°	26.1'
(f)	6 [^] [h]	59 [^] [m]	55.0 [^] [s.]	+9°	4.4'	(g)	6 [^] [h]	59 [^] [m]	51.4 [^] [s.]
	+9°	12.3'							
	<u>1</u>	<u>1.7</u>	<u>7.1</u>			<u>1</u>	<u>11.4</u>		
	<u>17.6</u>	<u>43.0</u>	<u>8.7</u>						
	<u>1</u>	<u>9.6</u>	<u>12.4</u>			<u>1</u>	<u>6.6</u>		
	<u>4.6</u>								
	6 [^] [h]	58 [^] [m]	44.3 [^] [s.]	+9°	17.0'	6 [^] [h]	58 [^] [m]	45.2 [^] [s.]	
	+9°	16.8'	6 [^] [h]	58 [^] [m]	44.9 [^] [s.]	+9°	17.4'	6 [^] [h]	58 [^] [m]
	45.4 [^] [s.]	+9°	16.8'	6 [^] [h]	58 [^] [m]	44.8 [^] [s.]	+9°	16.9'	

Mean Position of Comp Star. (d)

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Redn cl June 12, 1896

Meas. to determine position of VType star on B13757 No.7277.
 18h15.0^m -13°45'(1855).

Mean Dec. = -13°48'.6 =

Log 0.01275

1.07700

1.08975

Plate B9879

[[five-columned table]]

x. | y. | x | y | BD |

0.98 | 9.02 | | |

1 1.00 | 9.00 | 0.95 | 9.05 | -13°4955 |

2 3.50 | 10.70^10.68 | 3.50 | 10.65 | -13°4958 |

3 4.05 | 3.55 | 4.05 | 3.55 | -14°5024 |

VType. 3.35 | 8.15 | 3.35 | 8.15 | - - |

[[six-columned table]]

(1855) | R.A. | | | Dec. | Magn |

h | m. | s. | | |

18 | 14 | 33.7 | -13° | 44.8 | 9.3 |

18 | 15 | 4.8 | -13 | 39.9 | 8.2 |

18 | 15 | 11.0 | -14 | 1.1 | 9.3 |

Diff.X

Log. ""

[[three-columned table]]

-2.37 | 0.15 | 0.70 |

0.37475 | 9.17609 | 9.84510 |

1.08975 | 1.08975 | 1.08975 |

1.46450 | 10.26584 | 10.934845 |

s. | s. | s. |

29.14 | 1.84 | 8.61 |

Diff.y.

x179

[[three-columned table]]

. | . | . |

0.87 | 2.53 | -4.60 |

155".73 | 452".87 | 823".40 |

2' 35".73 | 7' 32.8"7 | 13' 43".40 |

[[fifteen-columned table]]

h | m. | s. | | | h | m. | s. | | | h | m. | s. | | |

(1) 18 | 14 | 33.7 | -13° | 44.8 | (2) 18 | 15 | 4.8 | -13° | 39.9 | (3) 18 | 15 |

11.0 | -14° | 1.1 |

| | 29.11 | | 2.6 | | 1.8 | | 7.5 | | 8.6 | | 13.7 |

h | m. | s. | | | h | m. | s. | | | h | m. | s. | | |

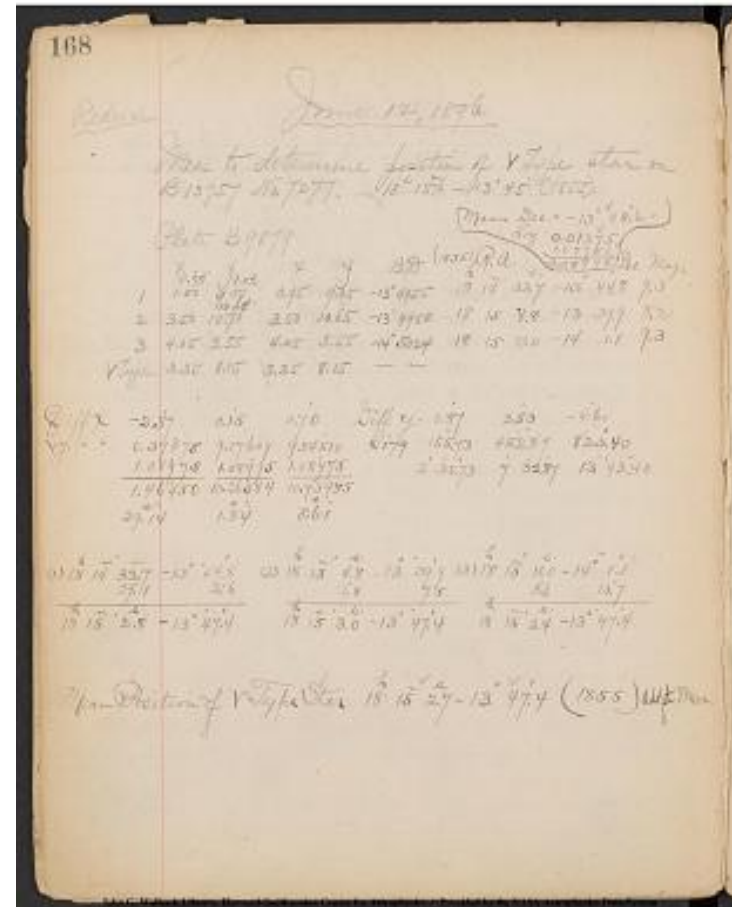
18 | 15 | 2.8 | -13° | 47.4 | 18 | 15 | 3.0 | -13 | 47.4 | 18 | 15 | 2.4 | -13° |

47.4 |

h m. s

Mean Position of V Type Star 18 15 2.7 - 13°

47'.4 (1855)AdoptMean.



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June 13, 1896.
Reduce

Meas. to determine position of V Type star on B14620 No. 8491 * R.A.
 18^h 19.6^m Dec. -16° 55' (1855).

[[2 columned table]]
 Mean Dec. = -16 59.1' = Log. 0.01937
 | 1.07700
 | 1.09637

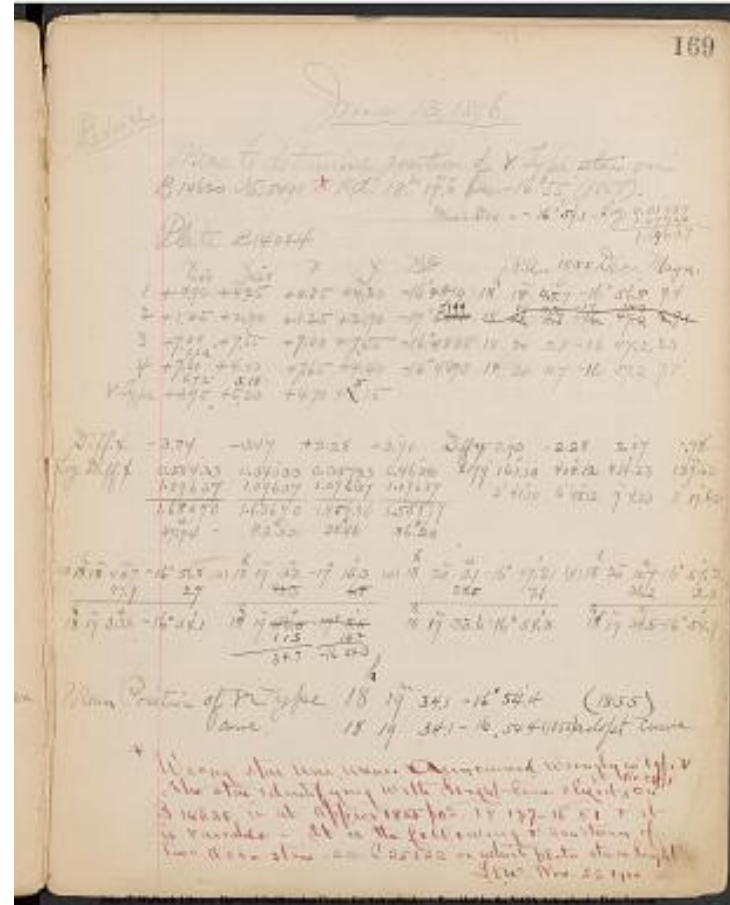
Plate B14044

[[9 columned table]]
 | x|y|x|y|BD|R.A. 1855|Dec.|Magn.|
 |-----|
 |1|+0.90|+0.88|+4.25|+4.28|+0.85|+4.30|-16 4879|18^h 18^m
 |45.7^s|-16 56.8'|9.4|
 |2|+1.25|+2.90|+1.25|+2.90|-17
 |~~53000~~||~~18~~
 |~~20~~||~~19~~
 |~~2.1~~||~~3.2~~||~~16~~||~~17~~
~~47.2~~		~~15.3~~		~~8.9~~					
3	+7.00	+7.55	+7.00	7.55	-16 4888	18 20 2.1	-16 47.2	8.3	
4	+7.60	+7.62	+4.40	+7.65	+4.40	-16 4890	18 20 10.7	-16 57.2	9.8
V									
Type	+4.75	+4.72	+5.20	+4.70	+~~4~~				
5.15									

[[5 columned table]]
 Diff. X.|-3.84|-3.47|+2.28|+2.90|
 Log. Diff. X.|0.58433|0.54033|0.35793|0.46240|
1.09637	1.09637	1.09637	1.09637
1.68070	1.63670	1.45430	1.55877
47.94^s	43.32^s	28.46^s	36.20^s

[[5 columned table]]
 Diff. Y.|-0.90|-2.28|2.37|-78|
 X|179|161.10|408.12|424.23|139.62"|
 | 2'|41.10"|6' 48.12"|7' 4.23"|2' 19.62"|

[[24 columned table]]
 (1)|18^h|18^m|45.7^s|-16°|56.8'|2)|18^h|19^m|3.2^s|-
 17°|15.3'|3)|18^h|20^m|2.1^s|-
 16°|47.2'|4)|18^h|20^m|10.7^s|-16°|57.2'|
47.9	2.7			
~~43.3~~				
~~6.8~~				
28.5	7.1	36.2	2.3	
18^h	19^m	33.6^s	-16°	54.1'
18^h	19^m	46.5^s	-16°	54.1'
18^h	19^m	46.5^s	-16°	54.1'



[[3 columned table]]

*Wrong star was meas. Announced wrongly as Type V. The star identifying with bright-line object *[No. 8491]] on B14620 is at approx 1855 pos. 18 19.7 -16 51 & it is variable - It is the following & southern of two close stars. see A25522 on which plate star is bright.
L.D.W. Nov. 23 1910

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June 13, 1896.

[[left margin]]

[[underlined]]Reduce[[/underlined]]

[[left margin]]

Meas. to determine position of V Type star on B14582 No. 8441.

[[2 columned table]]

Mean Dec. = $44^{\circ} 37' 21.22'' = \text{Log. } 0.14768$

[[underlined]]1.07700[[/underlined]]

1.22468

Plate B14040

[[9 columned table]]

| x | y | x | y | Z.C. 17^h | R.A. 1875 | Dec. | |

|-----|-----|-----|-----|

| 1+4.75^h | 4.78^m | +7.25 | +4.80 | +7.25 | 3766 | 17^h | 55^m |44.22^h | 39' 45.8" | 8^h |

| 2+4.10 | +23.75 | +4.10 | +23.75 | 3768 | 17 55 45.32 | -43 50 25.6 | 9 |

| 3+4.35 | +2.30 | 2.28 | .4.35 | +2.25 | 3781 | 17 55 55.38 | -44 54 45.0 |

8.8 |

| 4+4.70^h | 4.72^m | +1.65^h | 1.68^m | +4.75 | +1.70 | 3785 | 17 56 1.26 | -44 56

23.9 | 9.2 |

| 5+5.10 | +5.35 | +5.10 | +5.35 | 3791 | 17 56 5.78 | -44 45 25.8 | 8^h || V Type | +4.20^h | 4.18^m | +10.35^h | 10.32^m | +4.15 | +10.30 | | | |

[[7 columned table]]

| Diff. X. | 0.60 | -0.40 | -0.08 | 0.17 | 0.54 | 0.92 |

| Log. Diff. X. | 9.77815 | 9.477121 |

| ~~9~~ | 8.90309 | 9.23045 | 9.73239 | 9.96379 |

| 1.22468 | 1.22468 | 1.22468 | 1.22468 | 1.22468 |

1.22468 |

| 11.00283 | 0.70180 | 10.12777 | 10.45513 | 10.95707 | 11.18847 |

| 10.07^h | 5.03 | 1.34^h | 2.85^h | 9.06^h | 15.43^h |

[[6 columned table]]

| Diff. & | -30.7 | 13.43 | -8.04 | -8.64 | -4.97 |

| X179 | 549.53" | 2403.97" | 1439.16" | 1546.56" | 889.63" |

| 9' 9.53" | 40' 3.97" | 23' 59.16" | 25' 46.56" | 14' 49.63" |

[[twenty-nine-columned table]]

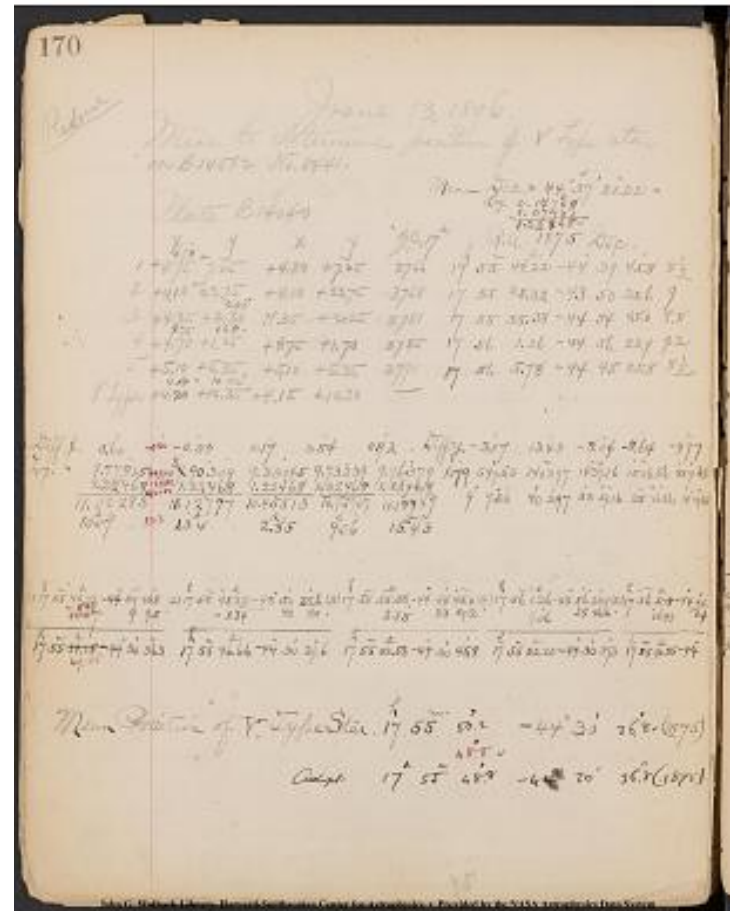
(1) 17^h | 55^m | 44.22^h |44^h 39' 45.8" (2) 17^h | 55^m | 45.32^h |43^h 50' 25.6" (3) 17^h | 55^m | 55.38 |44^h | 54' 45.0" (4) 17^h | 56^m | 1.26^h |44^h | 56' 23.9" (5) 17^h | 56^m | 5.78^h | -44° 45'| 10.07^h | 5.05 |

| 9 | 9.5 | 2.85 | 23 | 59.2 | 14 | 4.0 |

| 25 | 46.6 | 15.43 | 14 |

| 17^h | 55^m | 34.15 | 49.25^h |44^h 30' 36.3" | 17^h | 55^m | 46.66^h | -44° 30' 29.6"17^h | 55^m | 52.53^h | -44° 30' 45.8"17^h | 55^m | 52.20^h | -44° 30' 37.3" | 17 | 55^h | 50.35^h |

44° |



[[3 columned table]]
|Mean Position of V. Type Star.|17^h 55^m 50.2^s -44° 30'
36.80"|(1875)|
|Adopt|17^h 55^m 48.8^s |48.8^s | -44° 30' 36.8"|(1875)|

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June 15, 1896.

Meas. to determine position of susp. var. on Plate B14145 No. 8216
sp. Mc5d.

Mean Dec. = $45^\circ 44' 18.7''$ = Log. 0.15619

1.07700

1.23319

Plate B3949

14 column table

| x|y|x|y|Z.C.|23^h|A.G.C.| |R.A.|1875|Dec.| |
|Magn.|

| 3|~~3~~|~~1853~~|~~31914~~|23^h|28^m|50.75^s|~~45~~¹³|14.5¹⁹|
| 2|+11.25|+23.50|+11.25|+23.50|730|31879|23|27|31.6|-46|20|20.0|8
3/4|
1	~~3~~	~~853~~	~~23~~	~~25~~	53.51	=45	48	41.0	6.8			
4	+1.80	+8.20	+1.80	+8.20	-31934	23	29	49.20	-45	34	59.2	6.9
mc5d	+11.30	+11.55	+11.52	+11.30	+11.50	-						

10 column table

| Diff x|-5.95|-0.05|+4.25|-9.50|Diff y|-10.52|+11.98|+1.58|-3.32|

| 1.23319|1.23319|1.23319|1.23319| |31' 2308"| 35' 44.42"|4'42.82"|9'

Log. Diff.

| 0.77452|8.69897|0.62839|0.97772|x|179|1883.08|2144.42|282.82|59

4.28"

| 2.00771|9.93216|1.86158|2.21091| | | | |

No. of Log.|101.80^h|0.86^m|72.71^s|162.52^s| | | | |

| 1^h|41.80^m|1^s|12.71^s|2^s|42.52| | | | |

4 column table

| (3) 23^h|28^m|50.75^s|-45° 13' 14.5"| (2) 23^h|27^m|
31.6^s|-46° 20' 20.0"| (1) 23^h|25^m|53.51^s|-45° 48' 41.0"| (4)
23^h|29^m|29.20|-45° 34' 59.2"|
| 1 41.80 31 23.1|0.86 35 44.4|1 12.71 4 42.8|2 42.52 9 54.3|
| 23^h|27^m|8.95^s|-45° 44' 37.6"| 23^h|27^m|2.30^s|-45°
44' 35.6"| 23^h|27^m|6.22^s|-45° 43' 58.2"| 23^h|27^m|
6.68^s|-45° 44' 53.5"|

Mean Position of Susp. var. (Mc5d) 23^h|27^m|-45° (1875)

4 column table

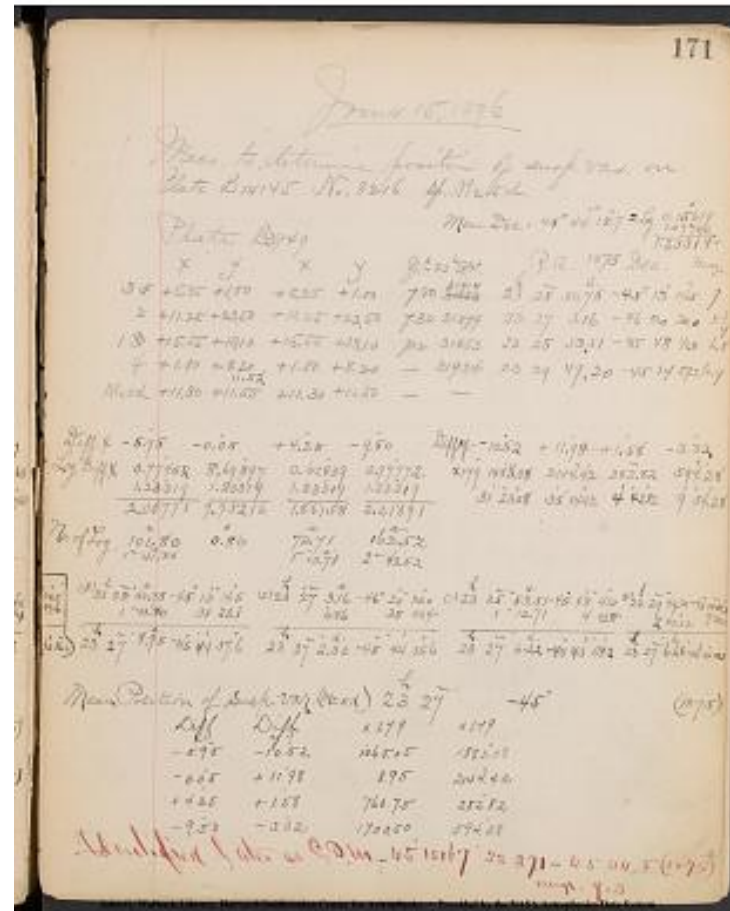
| Diff x|Diff y|x 1.79|x 1.79|

| -5.95|-10.52|1065.05|1883.08|

| -0.05|+11.98|8.95|2144.42|

| +4.25|+1.58|760.75|282.82|

| -9.50|-3.32|1700.50|594.28|



Identified plates as C.D.M. -45° 15067 23 27.1 -45 44.5 (1875)
magn. 9.3

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Reduce
[[/left margin]]

June 15, 1896.

Meas. to determine position of star having peculiar spectrum on B
15274 No 9028 *R.A. $7^h 38.4^m$ $-70^\circ 4'$ (1875).

[[2 columned table]]

Mean Dec. = $-69^\circ 59' 43.2''$ =
Log. = 0.46584
| 1.07700 |
| 1.54284 |

Plate B 12337

[[9 columned table]]

x	y	x	y	Z.C.	7^h	35^m	16.04^s	-70°
1	+10.25	+8.40	+10.25	+8.40	2514	7^h	35^m	16.04^s
2	+9.50	+5.60	+9.50	+5.60	2548	7	35	40.26
3	+8.25	+11.20	+8.25	+11.20	2612	7	36	24.27
4	+4.60	+4.58	+2.00	+4.55	+2.00	2777	7	38
5	+4.75	+1.20	+4.75	+1.20				
6	+1.80	+1.82	+9.45	+9.48	+1.85	+9.50	2905	7
7	+4.90	+7.60	+4.90	+7.60				

[[7 columned table]]

Diff. X. | 5.35 | 4.60 | 3.35 | -0.32 | -0.15 | -3.08 |
Log. Diff. X. | 0.72835 | 0.66276 | 0.52504 | 9.50515 | 9.17609 | 0.48855

| 1.54284 | 1.54284 | 1.54284 | 1.54284 | 1.54284 |

1.54284 | 2.27119 | 2.20560 | 2.06788 | 11.04799 | 10.71893 | 2.03139 |

s. | s. | s. | s. | s. | s. |

No. | 186.7 | 160. | 5 | 6 |

116.9 | 11.17 | 5.24 | 107.5 |

| 3 | 6.7 | 2 | 40. | 5 | 6 |

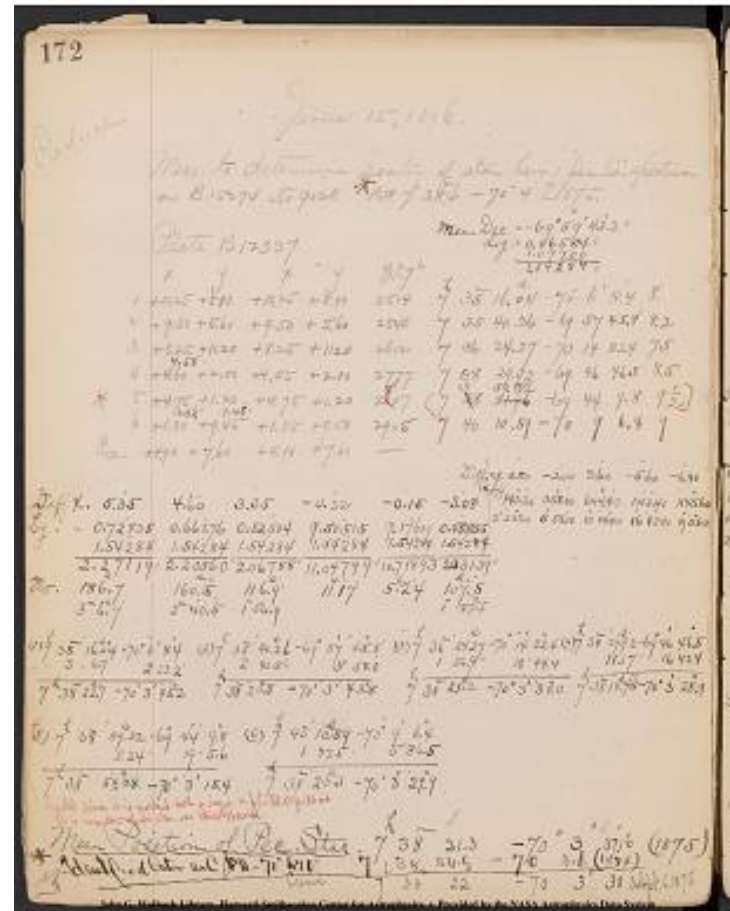
1 | 56.9 | 1 | 47.5 |

[[6 columned table]]

Diff. Y. | 0.80 | -2.00 | 3.60 | -5.60 | -6.40 |
X | 179 | 143.20 | 358.00 | 644.40 | 1002.40 | 1145.60 |
| 2 | 23.20 | 5 | 58.00 | 10 | 44.40 | 16 | 42.40 | 19 | 5.60 |

[[28 columned table]]

| (1) | 7^h | 35^m | 16.04^s | -70° | 6 | 8.4 | (2) | 7^h | 35^m |
40.26 | -69° | 57 | 45.8 | (3) | 7^h | 36^m | 24.27 | -70° | 14 |
22.4 | (4) | 7^h | 38^m | 29.92 | -69° | 46 | 46.5 |
| 3 | 6.7 | 2 | 23.2 | | 5 | 58.0 | | 10 |



44.4 11.17 | 16 | 42.4 22.7
 | 7^h 38^m 22.7^s | -70° 3' 45.2" | 7^h 38^m 20.8^s | -70° 3' 43.8" | 7^h 38^m 21.2^s | -70° 3' 38.0" | 7^h 38^m 18.~~75~~8^s | -70° 3' 28.9"

[[15 columned table]]
 | 5 | 7^h 38^m 59.32^s | -69° 44' 9.8" | (6) | 7^h 40^m 10.59^s | -70° 9' 6.4" |
 | 5.24 | 19 | 5.6 47.5 | 5 | 36.5 15.4 | 7^h 38^m 54.~~08~~1^s | -70° 3' 23.1^s | -70° 3' 29.9"

Rejected since it is marked with a dagger in Z.C. Vol 811 p 182 and it is uncertain which star was there observed.

[[3 columned table]]
 | Mean Position of Pec. Star. | 7^h 38^m 21.3 -70° 3' 37.16" (1875) |
 | *identified later on C.P.D. -70° 670' 38 24.0^s -70 3.6 (1875) |
 | [[image]] Curve | 7^h 38^m 22^s | -70 3° 30' | Adopt. (1875) |

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[[left margin]]
Reduce.
[[/left margin]]

[[underlined]]June 16, 1896. [[/underlined]]

Meas. to determine position of ~~star~~ new
gaseous nebula in I 13095 and I 13117 Nos. 4020 & 4032, R.A. $20^{\circ}13.4^m$ Dec. $+16^{\circ}16'$ (1855)

[[2 columned table]]

Mean Dec. $= +16^{\circ}24.8' =$ |
Log. 0.01807
| 1.03623 [[/underlined]]
| 1.05430 |

Plate I 7504

[[9 columned table]]

x	y	x	y	B.D.	R.A.	1855	Dec.
1+16.55	+16.35	+16.55	+16.35	+16.35	+16.4218	$20^{\circ}11'$	11^m
49.2	$+16^{\circ}15.6$	9.1					
2+11.10	+2.75	[2.78]	+11.10	+2.80	+16.4224	20 12 50.2	+16
51.9	9.3						
3+5.65	[5.68]	+19.55	[19.58]	5.70	+19.60	+16.4227	20 13 52.8
+16.62	8.8						
4+2.30	+12.50	+2.30	+12.50	+16.4232	20 14 31.3	+16.25.4	9.5
Nos. 4020, 4032	$^{\wedge}$ [gas. neb.]	+7.60	[$^{\wedge}$ 7.62]	+15.75	+7.65	+15.75	
star	?	?	?	?	?	?	?
Error	$+16^{\circ}42.26$	+4.10	[$^{\wedge}$ 4.12]	+11.85	[11.88]	+4.15	+11.90
Error	$+16^{\circ}42.30$	+6.30	+12.20	[12.22]	+6.30	+12.25	?
[[underlined]]Comp. to							
neb.	$+7.90$	[7.92]	+16.10	+7.95	+16.10	—	[[/underlined]]

[[left margin]]

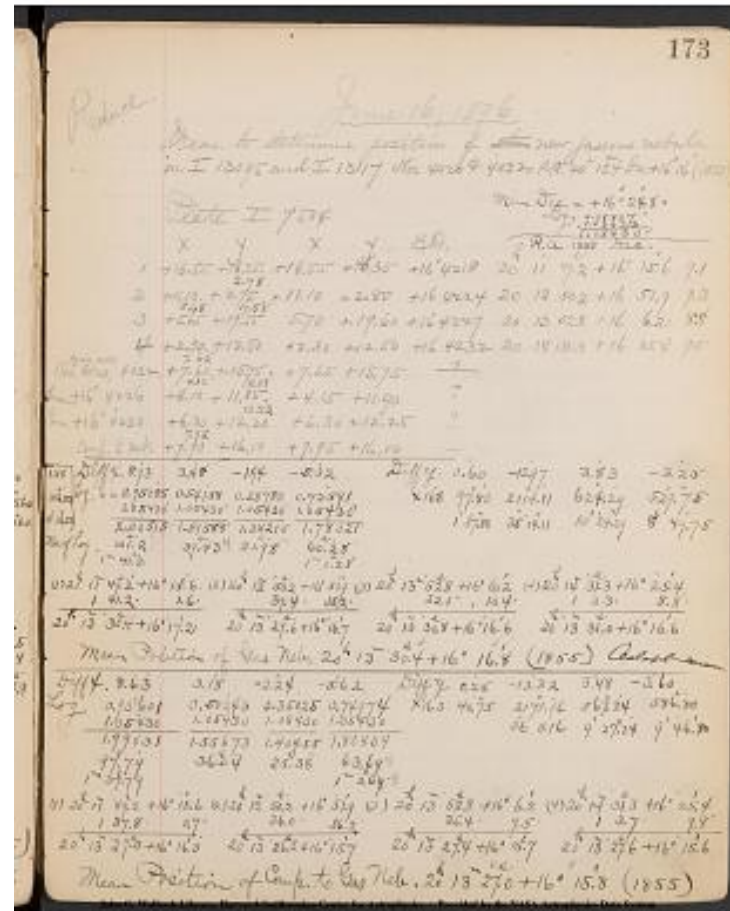
1.88
336.52"
5' 36.52"
[[/left margin]]

[[5 columned table]]

Diff X.	8.93	3.48	-1.94	-5.32
Log. Diff. X.	0.95085	0.54158	0.28780	0.72591
	1.05430	1.05430	1.05430	1.05430
	2.00515	1.59588	1.34210	1.78021
No. of Log.	101.2	[s]	39.4	star 3
	21.98	[s]	60.28	[s]
	1	$^{\wedge}$ [m]	41.2	[s]
			1	$^{\wedge}$ [m]
				0.28
				[s]

[[5 columned table]]

Diff. Y.	0.60	-12.97	3.83	-3.25
X	163	97.80	2114.11	624.29
	529.75			
	1	37.80	3.5	14.11
			10	24.29
				8
				49.75



[[24 columned table]]
 | (1)|20^[[h]]| 11^[[m]]| 49.2^[[s]]| +16° | 15.6'| (2)|20^[[h]]| 12^[[m]]|
 50.2^[[s]]| +16° | 51.9'| (3)|20^[[h]]| 13^[[m]]| 52.8^[[s]]| +16° | 6.2'|
 (4)|20^[[h]]| 14^[[m]]| 31.3^[[s]]| +16° | 25.4'|
 | |[[underlined]]| 1 | 41.2 | | 1.6[[/underlined]]| |[[underlined]]| 39.4 | |
 35.2[[/underlined]]| |[[underlined]]| 22.0 | | 10.4[[/underlined]]|
 |[[underlined]]| 1 | 0.3 | | 8.8[[/underlined]]|
 | |20^[[h]]| 13^[[m]]| 30.4^[[s]]| +16° | 17.2'| |20^[[h]]| 13^[[m]]|
 29.6^[[s]]| +16° | 16.7'| |20^[[h]]| 13^[[m]]| 30.8^[[s]]| +16° | 16.6'|
 |20^[[h]]| 13^[[m]]| 31.0^[[s]]| +16° | 16.6'|

[[underlined]]Mean Position of Gas Neb. 20^[[h]] 13^[[m]] 30.4^[[s]] +16°
 16.8' (1855) Adopt Mean. [[/underlined]]

Diff.y.
 x163
 [[four-columned table]]
0.2'5	-13.32	3.48	-3.60
40.7"5	217"1.16	567".24	586".80
	3'6 11.16	9' 27".24	9' 46".80
Diff.X.			
Log.			
[[four-columned table]]			
8.63	3.1'8	-2.24	-5.62
0.93'601	0.502'43	0.350'25	0.74974
1.05430	1.05430	1.05430	1.05430
1.99031	1.55673	1.40455	1.80404
s	s.	s	
97.79	36.04	25.3'8	63.6[[strikethrough]]9[[/strikethrough]]8
s.			s
1m37.79			1m3.6[[strikethrough]]9[[/strikethrough]].8

[[twenty-columned table]]
 | h | m | s | | ' | h | m | s. | | ' | h | m | s | | ' | h | m | s | | ' |
 | (1)20 | 11 | 49.2 | +16° | 15.6 | (2)20 | 12 | 50.2 | +16° | 51.9 | (3)20 | 13 |
 52.8 | +16° | 6.2 | (4)20 | 14 | 31.3 | +16° | 25.4 |
	1	37.8		0.7		36.0		36.2		25.4		9.5		1	3.7		9.8		
h	m.	s		'	h	m	s.		'	h	m	s		'	h	m	s.		'
20	13	27.0	+16°	16.3	20	13	26.2	+16°	15.7	20	13	27.4							
 +16° | 15.7 | 20 | 13 | 27.6 | +16° | 15.6 |
 Mean Position of Comp.to Gas Neb. 20h 13m 27.s.0 + 16°15'.8 (1855)

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Reduce July 2, 1896.

Positions charted. March 24, 1897.

See Chart No. 18b.

Meas. to determine position of IV Type star No. 7701 on B 13836

R.A. * 17h 9.8m Dec. +45° 50' (appnt. 1875)

Mean Dec. = -45°45'45.6 = Log.0.15637

1.07770

1.23337

Plate B 3867

[[five-columned table]]

x | y | x | y | z.c.17h |

1+1.00 | +3.75^3.78 | +1.00 | +3.80 | 585 |

2+2.95 | +2.30 | +2.95 | +2.30 | 625 |

3+3.35^3.32 | +3.55 | +3.3- | +3.55 | 643 |

4+4.50^4.48 | +15.35^15.32 | +4.45 | +15.30 | 670 |

5+6.10^6.12 | +12.80 | +6.15 | +12.80 | 705 |

IVType?+4.10 | +6.20^6.22 | +4.10 | +6.25 | - |

R.A. 1875Dec May

[[seven-columned table]]

h | m. | s. | | | | |

17 | 8 | 53.28 | -45° | 57 | 1.3 | 9 |

9 | 27.33 | -46 | 1 | 22.8 | 9 | 1/2 |

9 | 33.74 | -45 | 57 | 46.2 | 9 |

9 | 52.40 | -45 | 22 | 26.5 | 9 |

10 | 18.71 | -45 | 30 | 11.4 | 7 | 1/2 |

Not to be announced until a good spectrum confirming if as Type IV has been received from Peru See B 17353 Announced as Type IV

Diff. y.

X179

[[five-columned table]]

-2.44 | -3.92 | -2.67 | +9.10 | +6.58 |

436".76 | 701".68 | 477".93 | 162"8.90 | 117"7.82 |

7' 16.7"6 | 1'1 41".68 | 7' 57".93 | 2'7 8."90 | 1'937".82 |

Diff. X.

Log. ""

[[five-columned table]]

-3.10 | -1.15 | -0.78 | +0.38 | +2.02 |

0.49136 | 0.06070 | 9.89209 | 9.57978 | 0.30535 |

1.23337 | 1.23337 | 1.23337 | 1.23337 | 1.23337 |

1.72473 | 1.29407 | 11.12546 | 10.81315 | 1.53872 |

s. | s. | s. | s. | s. |

53.06 | 19.68 | 13.35 | 6.50 | 34.57 |

[[twenty-nine-columned table]]

h | m. | s. | | | | | h | m. | s. | | | | | h | m. | s. | | | | | h | m. | s. | | | | | h |

m | s. | | | |

(1)17 | 8 | 53.28 | -45° | 57 | 1.3 | (2)17 | 9 | 27.33 | -46° | 1 | 22.8 | (3)17

9 | 33.74 | -45° | 57 | 46.2 | (4)17 | 9 | 52.40 | -45° | 22 | 26.5 | (5)17 | 10

18.71 | -45° | 30 |

|| 53.06 | || 7 | 16.8 | || 19.68 | || 11 | 41.7 | || 13.35 | || 7 | 57.9 | || 6.50 |

27 | 8.9 | || 34.57 | || 11.4 | 1937.8 |

h | m | s. | | | | | h | m | s. | | | | | h | m | s. | | | | | h | m | s. | | | | | h |

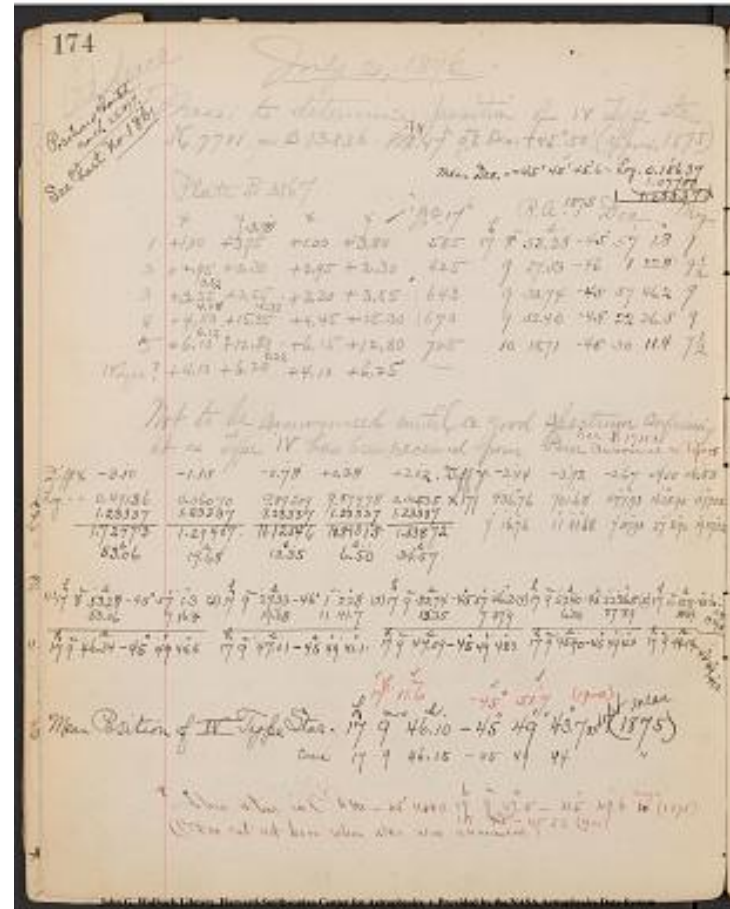
m. | s. | | | |

17 | 9 | 46.34 | -45° | 49 | 44.5 | 17 | 9 | 47.01 | -45° | 49 | 41.1 | 17 | 9 |

47.09 | -45° | 49 | 48.3 | 17 | 9 | 45.90 | -45° | 49 | 35.4 | 17 | 9 | 44.14 | -

45° 49' 49".2 |

Mean Position of IV Type Star.



curve
 [[six-columned table]]

h.	m				
17	11.6		-45°	51'.7	(1900)
h	m.		s.		'
17	9		46.10		-45°
17	9		46.15		-45

 adopt mean.
 (1875)

h m 5
 *This star is C.D.M. -45° 11383 17 9 47.5
 magn.
 -45° 49'.6 10 (1875)
 17 ~~9.8~~ 11.6 - 45 52 (1900)
 (C.D.M. cat not here when star was announced)

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Var.No.78 175
 Positions charted.
 March.24,1897.
 See Chart No. 18b
 August 3, 1896.
 Meas. to determine position of Peculiar spectra (may be IV Type)No
 9122 on B 15613. R.A. 13h29m.5 Dec. -55°48' (1875).

Mean Dec = 55°45'39".4 = Log.0.24977
 1.07700
 1.32677

Plate B 3750

[[five-columned table]]

x | y | x | y | z.c.13h |
 a 9.90 | 4.20 | 9.90 | 4.20 | 1653 |
 c 5.90 | 1.50^1.52 | 5.90 | 1.55 | 1744 |
 d 3.35 | 12.70 | 3.35 | 12.70 | 1779 |
 e 2.90^2.92 | 11.10^11.08 | 2.95 | 11.05 | 1795 |
 8 2.45^2.48 | 2.80 | 2.50 | 2.80 | 1808 |
 Pec.IVType? 1[[strikethrough]]2[[/strikethrough]]4.00^3.98 | 7.95 | 3.95
 7.95 | - |

R.A. 1875 Dec. Magn.

[[seven-columned table]]

h | m. | s. | | | | |
 13 | 27 | 29.42 | -55° | 38 | 33.7 | 9 |
 28 | 55.06 | -55 | 30 | 54.6 | 8 |
 29 | 42.63 | -56 | 4 | 22.5 | 8 1/2 |
 29 | 53.18 | -55 | 59 | 26.5 | 8 |
 30 | 6.27 | -55 | 34 | 59.8 | 8 |

Diff.y.

X17.9

[[five-columned table]]

-3.75 | -6.43 | 4.75 | 3.13 | -5.15 |
 671".25 | 1150".97 | 850".25 | 560".27 | 921".85 |
 1'1 11".25 | 19' 10.9"7 | 14' 10.25 | 9' 20.2"7 | 1'5 21".85 |

DiffX.

Log.""

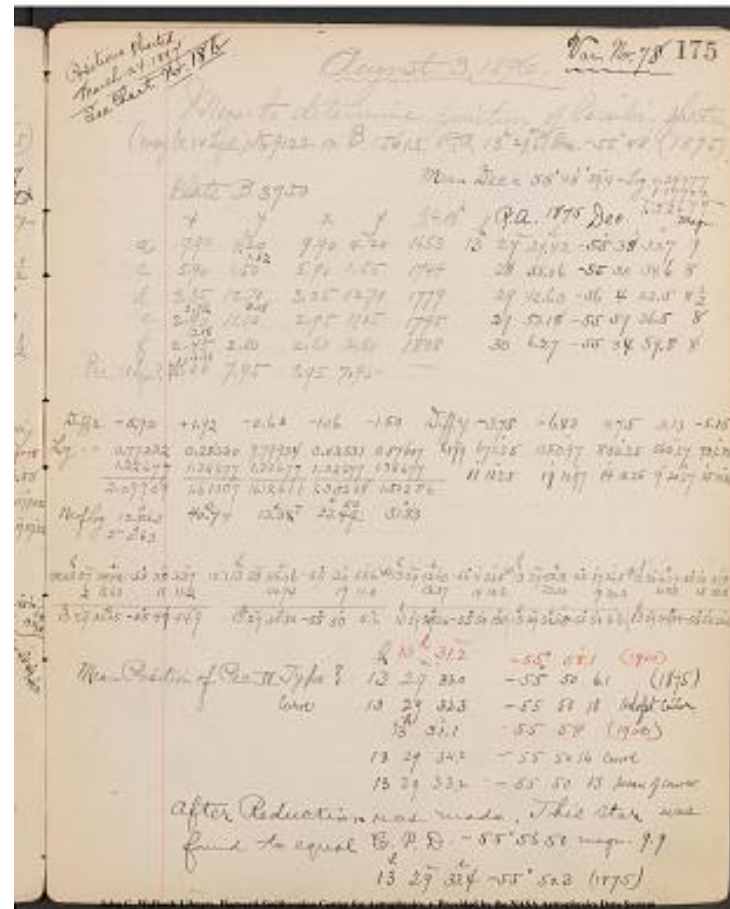
No.of Log.

[[five-columned table]]

+5.92 | +1.92 | -0.63 | -1.06 | -1.50 |
 0.77232 | 0.28330 | 9.79934 | 0.02531 | 0.17609 |
 1.32677 | 1.32677 | 1.32677 | 1.32677 | 1.32677 |
 2.09909 | 1.61007 | 11.12611 | 1.35208 | 1.50286 |
 s. | s. | s. | s. 50 | s. |
 125.63 | 40.74 | 13.3[[strikethrough]]6[[/strikethrough]]7 |
 22.2[[strikethrough]]49[[/strikethrough]]50. | 31.83 |
 2m5s..63 | | | |

[[thirty-columned table]]

h | m. | s. | | | | | h | m. | s. | | | | | h | m. | s. | | | | | h |
 m. | s. | | | | |
 (a)13 | 27 | 29.42 | -55° | 38 | 33.7 | (c)13 | 28 | 55.06 | -55° | 30 | 54.6 |
 (d)13 | 29 | 42.63 | -56° | 4 | 22.5 | (e)13 | 29 | 53.18 | -55° | 59 | 26.5 |
 (f)13 | 30 | 6.27 | -55° | 34 | 59.8 |



2	5.63	11	11.12	40.74	19	11.0	13.37	14	10.2				
22.50	9	20.3	31.83	15	21.8								
h	m.	s.	"	h	m	s.	"	h	m.	s.	"	h	
m	s.	"	"										
13	29	35.05	-55°	49	44.9	13	29	35.80	-55°	50	5.6	13	29
29.26	-55°	50	12.3	13	29	30.68	-55°	50	6.2	13	29	34.44	
-55°	50	21.6											

Mean Position of Pec.IV Type ?

curve
 [[six-columned table]]

h	13h	31.2m.	-55°	5'8.1	(1900)
13	29 m.	33.0	-55°	50	6.1 (1875)
13	29	32.3	-55	50	10 Adopt c"urve
13h	31.1	-55	58	(1900)	
13	29	34.2	-55	50	16 curve
13	29	33.2	-55	50	13 mean of curves.

 After Reduction was made, This state was found to equal C.P.D. -
 55°5650 magn. 9.9
 h m. s.
 13 29 33,4 -55° 50.3 (1875)

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 Positions charted.
 September 3, 1897.
 See Chart No. 19b
 August 3, 1896.
 Meas. to determine position of IV Type star No. 3266 on B 9520. R.d.
 11h 54m.1 Dek. -54°25' (1875)
 No. 9114 on B 15612
 Plate B 11153

Mean Dec. = -54°25'16".8 = Log.=0.23521.

1.07700
 1.31221

[[five-columned table]]

x | y | x | y | z.c.11h |

b[[/strickethrough]]a[[/strickethrough]] 13.20 | 0.80^0.82 | 13.20 | 0.85 |
 3574 |

a[[/strickethrough]]b[[/strickethrough]] 13.35 | 4.60 | 13.35 | 4.60 | 3571 |

c 8.65 | 10.30^10.32 | 8.65 | 10.35 | 3676 |

d 6.10 | 10.10 | 6.10 | 10.10 | 3735 |

e 5.15 | 10.40^10.38 | 5.15 | 10.35 | 3754 |

8 [[/strickethrough]]d[[/strickethrough]] 0.30 | 9.25^9.22 | 0.30 | 9.20 | 3872

IV Type 7.90 | 7.60 | 7.90 | 7.60 | - |

[[seven-columned table]]

R.A. [[/strickethrough]]1900[[/strickethrough]]1875 Dec. Magn.

h | m | s. | | | | |

11 | 52 | 14.07 | -54° | 5 | 23.1 | 9 |

11 | 52 | 9.97 | -54 | 16 | 35.1 | 9 |

11 | 53 | 46.74 | -54 | 33 | 33.5 | 9 |

11 | 54 | 40.60 | -54 | 32 | 39.8 | 8.8 |

11 | 55 | 0.83 | -54 | 33 | 33.0 | 9 |

11 | 56 | 39.02 | -54 | 29 | 56.4 | 7.8 | Diff.4. | +5.30 | +5.45 | +0.75 | -1.80 | -
 2.75 | -7.60 |

Log."0.72+28|0.73640|9.87506|0.25527|0.53933|0.88081|

[[/strickethrough]]Diff. [[/strickethrough]] [[/underlined]]1.31221[[/underlined]]

[[/underlined]]1.31221[[/underlined]] [[/underlined]]1.31221[[/underlined]]

[[/underlined]]1.31221[[/underlined]] [[/underlined]]1.31221[[/underlined]]

[[/underlined]]1.31221[[/underlined]]

2.03649|2.04861|11.18727|1.56748|1.75154|2.19302|

108.77^[[rho]]|111.84^[[rho]]|15.39^[[rho]]|36.94^[[rho]]|56.43^[[rho]]|155

.96^[[rho]]|

148.77^[[rho]]|151.84^[[rho]]|235.96^[[rho]]|

Diff.y.|-6.78|-3.00|+2.72|+2.50|+2.78|+1.62|

|x179|1213.62^[[rho]]|537.00^[[rho]]|486.88^[[rho]]|447.50^[[rho]]|497.62^[[rho]]|289.9

8^[[rho]]|

Mean Position of IV Type

[[/underlined]]11h 54m 2.98 - 54° 25' 21.6(1875)

adopt 11 54 3.1 -54 25 24 [[/??]](1075)

For next of reduction of IV type star

on plate B11153, See

page 176a

[[nine-columned table]]

Cx|Ohx|---|---|[[/??]]y|---|---|---|---|

+306.7|304.4|-2.3|-0.5|-387.9|394.3|-6.4|3.6|6.4|-4|

-363.4|365.5|-2.1|-0.3|[[/strickethrough]]-335.7[[/strickethrough]]^[[/strickethrough]]-360.1|

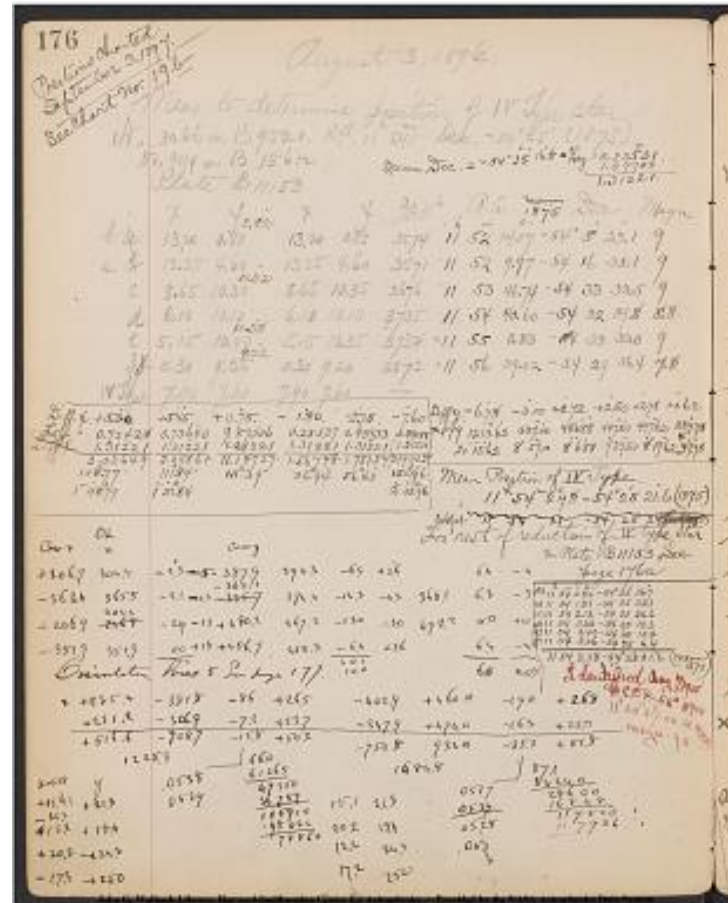
374.4|-14.3|-4.3|368.1|6.3|-3|

+206.9|[[/strickethrough]]2468[[/strickethrough]]^[[/strickethrough]]2044|]-29|-

1.1|+480.2|467.2|-13.0|-30|472.2|5.0|+10|

-351.9|351.9|0.0|[[/73]]|+1.8|+456.7|450.3|-

6.4|[[/401^[[/10.0]]]]+3.6|6.4|[[/6.0]]|-4|[[/+-0.5]]|



[[seven-columned table]]
 ---|h|m.|s.|°|'|"|
 (G)|11|54|2.84|-54|25|36.7|
 (a)|11|54|1.81|-54|25|32.1|
 (c)|11|54|2.13|-54|25|26.6|
 (d)|11|54|3.66|-54|25|12.3|
 (e)|11|54|4.40|-54|25|15.4|
 (f)|11|54|3.06|-54|25|6.4|
 |11|54|2.98|-54°|25'|21.6"| (mean 1875)
 Identified Aug. 7. 1908
 as [[?]] C.P.D. 54° 490H
 11^[[h]]54^[[m]]2.7[[s]]-5H 25.H(1875)
 magn.9.8
 Orientation[[?]]here[[?]]5 See page 177.

[[eight-columned table]]
 |285.4|-381.8|-8.6|+26.5|-402.9|+460.0|-19.0|+26.8|
 |[[underlined]]+231.2|-326.9|-7.2|+23.7|-347.9|+474.0|-
 16.3|+25.0|[[/underlined]]|
 |516.6|-708.7|-15.8^[[0538^[[0539]]]]|+50.2|-750.8|934.0|-
 35.3^[[01517^[[underlined]]0539[[/underlined]]^[[0528^[[053]]]]]]|+51.8|
 1225.3 1684.8
 [[two-columned table]]
 x^528|y|
 +15.01|+21.3|
 -12.2^[[[-20.2]]|+18.4|
 +20.2|-+24.3|
 -17.3|-+25.0|

66.0
 |[[underlined]]61265[[/underlined]]
 47350
 |[[underlined]]36759[[/underlined]]
 105910
 |[[underlined]]198024[[/underlined]]
 78860

[[two-columned table]]
 |15.1|21.3|
 20.2|18.4|
 |12.2|24.3|
 |17.2|25.0|

87.1
 |[[underlined]]84240[[/underlined]]
 28600
 |[[underlined]]16848[[/underlined]]
 117520
 |[[underlined]]117936[[/underlined]]

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 [[]] Provided by the NASA Astrophysics Data System

Completion of reduction on page 176.

[[eighteen columned table]]

h	m.	s.	h	m.	s.	h	m.	s.	h	m.	s.	h	m.	s.	h	m.	s.
(b)	11	52	14.07	-54°	5	23.1	(a)	11	52	9.97	-54°	16	35.1				
(c)	11	53	46.74	-54°	33	33.5											
	1	48.77	20	13.6		1	51.84	8	57.0		15.39	8	6.9				
	h	m.	s.	h	m.	s.	h	m.	s.	h	m.	s.	h	m.	s.	h	m.
	11	54	2.84	-54°	25	36.7	11	54	1.81	-54°	25	32.1	11	54	2.13	-54°	25

[[eighteen-columned table]]

h	m.	s.	h	m.	s.	h	m.	s.	h	m.	s.	h	m.	s.	h	m.	s.
(d)	11	54	40.60	-54°	32	39.8	(e)	11	55	0.83	-54°	33	33.0				
(f)	11	56	39.02	-54°	29	56.4											
	36.94	7	27.5	56.43	8	17.6	2	35.96	4	50.0							
	h	m.	s.	h	m.	s.	h	m.	s.	h	m.	s.	h	m.	s.	h	m.
	11	54	3.66	-54°	25	12.3	11	54	4.40	-54°	25	15.4	11	54	3.06	-54°	25

h m.v.s. 'v "

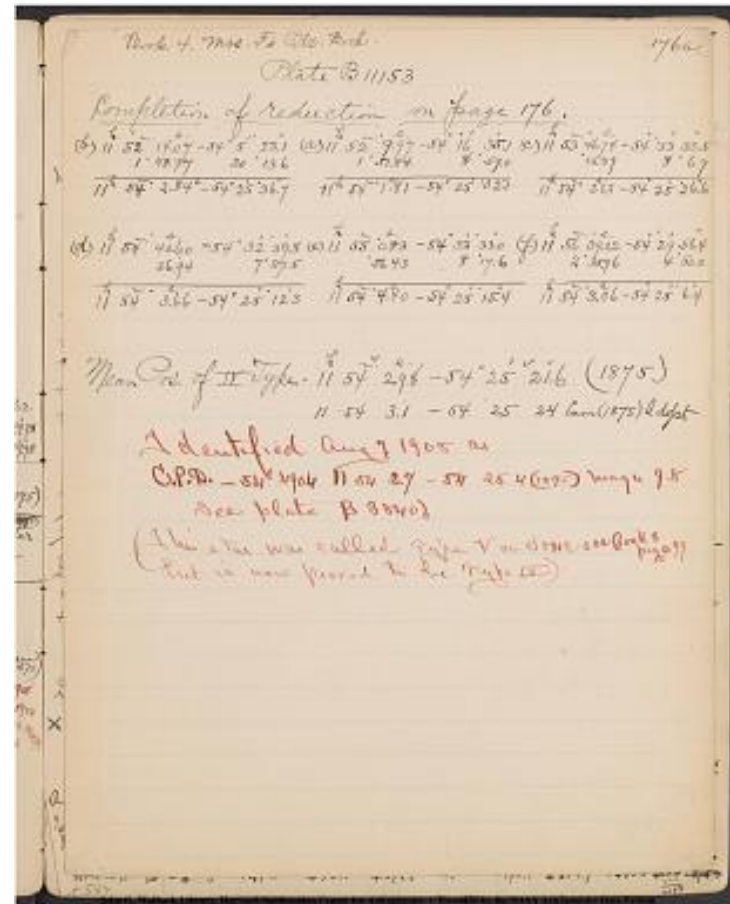
Mean Pos. of IV Type. 11 54 2.98 -54° 25 21.6 (1875)

11 54 3.1 -54 25 24 curve(1875)Adopt

Identified Aug 7. 1908 as

C.P.D. -54°4904 54 2.7 -54 25.4 (1875) Magn 9.8 see plate B 3840).

(This star was called Type V on B8312 see Book 3 page 99 but is now proved to be Type IV)



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August 4, 1896

Meas. to determine positions of catalogue stars near Messier 5 in order to find correction for error in orientation in enlarging X6813.

For meas of var. star 58 see p. 186.

Plate X 6813

[[11 columned table]]

| x|y|BD. No.|R.A. 1855|Dec.|Magn.|

2945|32.00|[[31.98]]|-7.70|[[7.72]]|31.95|-7.75|+2° 2945|15^[[h]]|
12^[[m]]|44.3^[[s]]|+2° 50.0'|9.5|
+2° 2944|-15.75|+38.65|[[38.62]]|-15.75|+38.60|+2° 2944|15 11 57.2|+2
18.7|5.0|
+2° 2942|0.00|+40.00|0.00|+40.0|+2° 2942|15|11 7.3|+2 17.7|9.5|
+3° 3008|-0.15|-31.85|-0.15|-31.85|+3° 3008|15|11 14.7|+3 8.4|9.5|
+3° 3006|+37.70|[[37.72]]|-38.80|37.75|-38.80|+3° 3006|15|9 332.5|+3
13.4|9.3|
+3°
3007|+12.50|[[+12.40]]|50|~~49~~|.25|[[50|~~49~~]]|35
50.38|12.50|[[12.40]]|50.30|[[50.40]]|+3° 3007|15|10 43.5|+3 22.5|9.5|
+3° 3010|-37.75|-
34.60|[[34.62]]|~~34.65~~|37.75|-34.65|+3°
3010|15|13 5.4|+3 9.3|9.5|
+2° 2943 Cl.|0.00|+13.45|[[13.42]]|+2 2943|15|11 14.8|+2 36.9|neb.|
III a |~~5.85~~|~~2.40~~|~~5.80~~|+2.40|-
5.82|+2.60|[[13.62]]|-11.02|[[13.4? - y]]|-24.68|[[xx424]]|-462.2^[[yx62.4]]|
II b |~~7.20~~|~~22.75~~|~~7.15~~|+22.70|-
7.18|22.72|+9.30|-304.4|+394.3|
III c
|~~8.65~~|+22.25|+8.60|+22.25|+8.62|22.
25|+8.83|+365.5|+374.4|
IV d |~~8.30~~|+2.80|+8.30|+2.80|+8.30|2.80|-
10.62|+351.9|[[45.03]]|

Diff. X -31.98|-15.75|0.00|-0.15|+37.72|+12.40|-37.75|

X42.4|1355.952|667.800|0.00|6.360|1599.328|525.760|1600.600|

90.397^[[s]]|44.520^[[s]]|0.00|0.424^[[s]]|106.622^[[s]]|35.051^[[s]]|106.7
07^[[s]]|

| 1^[[m]]|30.397^[[s]]| | | 1^[[m]]|46.622| 1^[[m]]|46.707^[[s]]|

[[8 columned table]]

Diff. X -31.98|-15.75|0.00|-0.15|+37.72|+12.40|-37.75|
X42.4|1355.952|667.800|0.00|6.360|1599.328|525.760|1600.600|
[[division symbol]]15
90.397^[[s]]|44.520^[[s]]|0.00|0.424^[[s]]|106.622^[[s]]|35.051^[[s]]|106.7
07^[[s]]|
| 1^[[m]]|30.397^[[s]]| | | 1^[[m]]|46.622| 1^[[m]]|46.707^[[s]]|



| 11^[[m]]
 13.9^[[s]]|12.7^[[s]]|7.3^[[s]]|14.3^[[s]]|19.1^[[s]]|18.5^[[s]]|18.7^[[s]]|
 |Diff Y|-21.14|+25.20|+26.58|-45.27|-52.22|-63.80|-48.04|
 |x
 42.4|896.336"|1068.480"|1126.992"|1919.448"|2214.128"|2705.120"|203
 6.896"|
 | 14' 56.336"|17' 48.480"|18' 46.992"|31' 59.448"|36' 54.128"|45'
 5.120"|33' 56.896"|
 | 35.1'|36.5'|36.5'|36.4'|36.5'|37.4'|35.4'|

[[right margin]]

88

36.3

[[/right margin]]

[[left margin]]

A later examination shows that for "a" the value of x should be 4.82 not

5.82

[[/left margin]]

[[11 columned table]]

x y			Eh x Oh y		
+28.54"	-402.9	[[/strikethrough]]	-246.8	-	
467.2	+38.6"	+64.3"	[[/strikethrough]]	-304.4"	+396.3"
-19.0"	-8.6"				
II -381.8	-347.9	[[/strikethrough]]	+365.5^	[+351.9]]	+374.4^
[[450.3]]	-				
29.9	+102.4	[[/strikethrough]]	+365.5	+374.4	-16.3
+26.5					
III	+231.2	+460.0	[[/strikethrough]]	-304.4	+394.3
-					
73.2	+65.7	[[/strikethrough]]	-246.8	-467.2	-15.6
-7.2					
V -326.9	+474.0	[[/strikethrough]]	+365.5	+374.4	-38.6
-					
100.4	[[/strikethrough]]	+351.9	-		
450.3	+12.50	[[/strikethrough]]	176.3	[[/strikethrough]]	+23.7

[[underlined]]424[[/underlined]]

-17.6

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[[left margin]]

Positions charted.

[[underlined]]M.C.S. [[/underlined]]

See chart [[underlined]]no. 20b [[/underlined]]

[[/left margin]]

[[underlined]]No. 69 U Crucis [[/underlined]]

[[underlined]]October 20, 1896. [[/underlined]]

Meas. of position of new var. star in Crux Sp. Md on Plate B 15612
 No. 9116. RA $12^{\text{h}} 25.4^{\text{m}}$ Dec. $-56^{\circ} 53'$ (1875)

[[2 columned table]]

Mean Dec. = $-56^{\circ} 51' 35.2'' = |$

Log .026226

| [[underlined]]1.07700 [[/underlined]]

| [[underlined]]1.33926 [[/underlined]]

Plate B 13173

[[15 columned table]]

x	y	x y	Z.C.	(1875)											
+2.60	-2.70	a	+0.55	+6.60	+0.55	+6.60	12 ^h	25.4 ^m	12 ^h	25.4 ^m	12 ^h	25.4 ^m	12 ^h	25.4 ^m	
1619	12 ^h	25.4 ^m	26 ^s	22.98 ^s	22.98 ^s	22.98 ^s	22.98 ^s	22.98 ^s	22.98 ^s	22.98 ^s	22.98 ^s	22.98 ^s	22.98 ^s	22.98 ^s	
+4.05	-7.90	b	+2.00	+1.40	+2.00	+1.40	1642	12	26	53.10	-57	17	4.3	8 ¹ / ₂	
+8.27	-7.30	c	+6.25	+6.22	+2.00	+6.20	+2.00	1745	12	28	28.24	-57	15	29.0	8
+6.35	-2.52	d	+4.30	+6.75	+6.78	+4.30	+6.80	1696	12	27	46.03	-57	14	1	8 ¹ / ₂
+4.37	+1.00	e	+2.35	+2.32	+10.30	+2.30	+10.30	1652	12	27	4.16	-56	50	30.0	8
-4.65	-0.45	f	-6.70	+8.85	-6.70	+8.85									
-1.45	-1.10	g	-3.50	+8.20	-3.50	+8.20									
-4.55	+0.70	h	-6.60	+10.00	-6.60	+10.00									
-0.33	-1.15	k	2	2	40 ^s	2	2	40 ^s	2	2	40 ^s	2	2	40 ^s	
2.35	+8.15														
+0.25	-1.55	l	-1.80	+7.75	-1.80	+7.75									
[[/strickethrough]]	+0.03	[[/strickethrough]]	+0.55												
[[/strickethrough]]	-0.22	[[/strickethrough]]	+0.20	m	[[/strickethrough]]	-2.05	[[/strickethrough]]	-2.02	[[/strickethrough]]	1	[[/strickethrough]]	47	[[/strickethrough]]	50	
[[/strickethrough]]	+9.25	[[/strickethrough]]	9.28	[[/strickethrough]]	+9	[[/strickethrough]]	48	[[/strickethrough]]	50	[[/strickethrough]]	-2.00	[[/strickethrough]]	50	[[/strickethrough]]	
1	[[/strickethrough]]	47	[[/strickethrough]]	50	[[/strickethrough]]	+9.30	[[/strickethrough]]	48	[[/strickethrough]]	50					
-1.65	-0.10	n	-3.70	+9.20	-3.70	+9.20									
-0.20	-0.02	o	-2.25	+9.25	-2.25	+9.30									
-0.70	0.00	p	-2.75	+9.30	-2.75	+9.30									
•••	var.	-2.05	+9.30	-2.05	+9.30										
+0.30	+4.90	q	-1.75	+14.20	-1.75	+14.20	1563	12	25	34.59	-56	38	50.3	8 ¹ / ₂	
-3.15	+9.95	r	-5.20	+19.25	-5.20	+19.25	1495	12	24	21.79	-56	23	22.8	7 ¹ / ₂	
-3.45	+9.45	s	-5.50	+18.75	-5.50	+18.75	1484	12	24	14.55	-56	24	45.7	2 ¹ / ₂	

178 *Oct 20 1896* *No. 69 U Crucis*

Meas. of position of new var. star in Crux Sp. Md on Plate B 15612

No. 9116. RA 12^h 25.4^m Dec. -56° 53' (1875)

Plate B 13173

Mean Dec. = -56° 51' 35.2" = |

Log .026226

1.07700

1.33926

x	y	x y	Z.C.	(1875)											
+2.60	-2.70	a	+0.55	+6.60	+0.55	+6.60	12 ^h	25.4 ^m	12 ^h	25.4 ^m	12 ^h	25.4 ^m	12 ^h	25.4 ^m	
1619	12 ^h	25.4 ^m	26 ^s	22.98 ^s	22.98 ^s	22.98 ^s	22.98 ^s	22.98 ^s	22.98 ^s	22.98 ^s	22.98 ^s	22.98 ^s	22.98 ^s	22.98 ^s	
+4.05	-7.90	b	+2.00	+1.40	+2.00	+1.40	1642	12	26	53.10	-57	17	4.3	8 ¹ / ₂	
+8.27	-7.30	c	+6.25	+6.22	+2.00	+6.20	+2.00	1745	12	28	28.24	-57	15	29.0	8
+6.35	-2.52	d	+4.30	+6.75	+6.78	+4.30	+6.80	1696	12	27	46.03	-57	14	1	8 ¹ / ₂
+4.37	+1.00	e	+2.35	+2.32	+10.30	+2.30	+10.30	1652	12	27	4.16	-56	50	30.0	8
-4.65	-0.45	f	-6.70	+8.85	-6.70	+8.85									
-1.45	-1.10	g	-3.50	+8.20	-3.50	+8.20									
-4.55	+0.70	h	-6.60	+10.00	-6.60	+10.00									
-0.33	-1.15	k	2	2	40 ^s	2	2	40 ^s	2	2	40 ^s	2	2	40 ^s	
2.35	+8.15														
+0.25	-1.55	l	-1.80	+7.75	-1.80	+7.75									
[[/strickethrough]]	+0.03	[[/strickethrough]]	+0.55												
[[/strickethrough]]	-0.22	[[/strickethrough]]	+0.20	m	[[/strickethrough]]	-2.05	[[/strickethrough]]	-2.02	[[/strickethrough]]	1	[[/strickethrough]]	47	[[/strickethrough]]	50	
[[/strickethrough]]	+9.25	[[/strickethrough]]	9.28	[[/strickethrough]]	+9	[[/strickethrough]]	48	[[/strickethrough]]	50	[[/strickethrough]]	-2.00	[[/strickethrough]]	50	[[/strickethrough]]	
1	[[/strickethrough]]	47	[[/strickethrough]]	50	[[/strickethrough]]	+9.30	[[/strickethrough]]	48	[[/strickethrough]]	50					
-1.65	-0.10	n	-3.70	+9.20	-3.70	+9.20									
-0.20	-0.02	o	-2.25	+9.25	-2.25	+9.30									
-0.70	0.00	p	-2.75	+9.30	-2.75	+9.30									
•••	var.	-2.05	+9.30	-2.05	+9.30										
+0.30	+4.90	q	-1.75	+14.20	-1.75	+14.20	1563	12	25	34.59	-56	38	50.3	8 ¹ / ₂	
-3.15	+9.95	r	-5.20	+19.25	-5.20	+19.25	1495	12	24	21.79	-56	23	22.8	7 ¹ / ₂	
-3.45	+9.45	s	-5.50	+18.75	-5.50	+18.75	1484	12	24	14.55	-56	24	45.7	2 ¹ / ₂	

2.25	+2.60	+4.65	+7.50	+1.65	1874	+0.20	-3.15	-3.45
0.41497	0.41496	0.41496	0.41497	0.41496	0.41496	0.41497	0.41493	0.41492
1.33926	1.33926	1.33926	1.33926	1.33926	1.33926	1.33926	1.33926	1.33926
1.75243	1.75243	1.75243	1.75243	1.75243	1.75243	1.75243	1.75243	1.75243
56.74	56.74	56.74	56.74	56.74	56.74	56.74	56.74	56.74
1.2848	1.2848	1.2848	1.2848	1.2848	1.2848	1.2848	1.2848	1.2848

[[right margin]]
 [[3 columned table]]
 |X 1.79|X 1.79|
 |x|y|
 |---|---|---|
 a|465.40|483.30|
 b|724.95|1414.10|
 c|1480.33|1306.70|
 d|1136.65|451.08|
 e|782.23|179.00|
 f|832.35|80.55|
 g|259.55|196.90|
 h|814.45|125.30|
 k|59.07|205.85|
 l|44.75|277.45|
 m|~~5.37~~~~98.45~~~~3.58~~~~ethrough~~35.80|
 n|295.35|17.90|
 o|35.80|3.58|
 p|125.30|0.00|
 4|53.70|877.10|
 3|563.85|1781.05|
 2|617.55|1691.~~4~~55|
 [[/right margin]]

[[9 columned table]]
 |Diff
 X|+2.60|+4.05|+8.~~30~~~~27~~+6.35|+4.~~40~~~~37~~+0.30|-3.15|-3.45|
 |Log. Diff
 X|0.41497|0.60746|0.91~~908~~~~751~~|0.80277
 |0.64~~34.5~~~~04.8~~|9.47712|0.49831|0.53782|
 |
 |1.33926|1.33926|1.33926|1.33926|1.33926|1.33926|1.33926|1.33926|
 |1.75423|1.94672|2.25677|2.14203|1.97974|10.81638|1.83757|1.87708|
 |No. of
 Log.|56.78^{[[s]]}|88.4~~5~~~~6~~^{[[s]]}|180.62^{[[s]]}
 |138.69|95.44|6.55^{[[s]]}|68.80^{[[s]]}|75.35^{[[s]]}
 | |1^{[[m]]}|28.4~~5~~~~6~~^{[[s]]}|3^{[[m]]}
 |0.62|2^{[[m]]}|18.69^{[[s]]}|1^{[[m]]}|35.44^{[[s]]}|1^{[[m]]}|8.80^{[[s]]}|1^{[[m]]}
 |15.35^{[[s]]}|

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[[nine-columned table]]

Diff. y. | -2.70 | -7.90 | -7.30 | -2.52 | +1.00 | +4.90 | +9.95 | +9.45 |
 x179 | 483".30 | 14 14".10 | 1306".70 | 451".08 | 179".00 | 877".10 |
 1781".05 | 1691".55 |
 | 8' 3.3"0 | 23' 34.10 | 2'1 46.7"0 | 7' 31".08 | 2' 59".00 | 14' 37.1"0 | 2'9
 41".05 | 28' 11".55 |

[[leftward side of page]]

[[six-columned table]]

h | m. | s. | | | |
 (a) 12 | 26 | 22.98 | -57° | 1 | 35.6 |
 | 56.78 | | 8 | 3.3 |
 h | m. | s. | | | |
 12 | 25 | 26.20 | -56° | 53 | 32.3 | v |
 h | m. | s. | | | |
 (b) 12 | 26 | 53.10 | -57° | 17 | 4.3 |
 | 1 | 28.45 | | 23 | 34.1 |
 h | m. | s. | | | |
 12 | 25 | 24.6 | ~~55~~ | 53 | 30.2 | v |
 h | m. | s. | | | |
 (c) 12 | 28 | 28.24 | -57° | 15 | 29.0 |
 | 3 | 0.62 | | 21 | 46.7 |
 h | m. | s. | | | |
 12 | 25 | 27.62 | -56° | 53 | 42.3 | v |
 h | m. | s. | | | |
 (d) 12 | 27 | 46.03 | -57° | 1 | 4.1 |
 | 2 | 18.69 | | 7 | 31.1 |
 h | m. | s. | | | |
 12 | 25 | 27.34 | -56° | 53 | 33.0 | v |
 h | m. | s. | | | |
 (e) 12 | 27 | 4.16 | -56° | 50 | 30.0 |
 | 1 | 35.44 | | 2 | 59.0 |
 h | m. | s. | | | |
 12 | 25 | 28.72 | -56° | 53 | 29.0 | v |

[[right side of page]]

[[six-columned table]]

h | m. | s. | | | |
 (4) 12 | 25 | 34.59 | -56° | 38 | 50.3 |
 | 6.55 | | 14 | 37.1 |
 h | m. | s. | | | |
 12 | 25 | 28.04 | -56° | 53 | 27.4 v |
 h | m. | s. | | | |
 (3) 12 | 24 | 21.79 | -56° | 23 | 22.8 |
 | 1m. | 8.80 | | 29 | 41.0 |
 h | m. | s. | | | |
 12 | 25 | 30.59 | -56° | 53 | 3.8 v |
 h | m. | s. | | | |
 (2) 12 | 24 | 14.55 | -56° | 24 | 45.7 |
 | 1 | 15.35 | | 28 | 11.6 |
 h | m. | s. | | | |
 12 | 25 | 29.90 | -56° | 52 | 57.3 |

h m.v s. 'v "

Mean Position of Var. 12 25 27.88 -56° 53 24.4 (1875)

h m
 12 26.9 -57° 1'4 (1900)

179

Diff. y.	-2.70	-7.90	-7.30	-2.52	+1.00	+4.90	+9.95	+9.45
x179	483.30	14 14.10	1306.70	451.08	179.00	877.10	1781.05	1691.55
	8' 3.3"	23' 34.10	2'1 46.7"	7' 31".08	2' 59".00	14' 37.1"	2'9 41".05	28' 11".55

h m. s.	h m. s.
(a) 12 26 22.98 -57° 1 35.6	(a) 12 25 26.20 -56° 53 32.3 v
56.78 8 3.3	1 28.45 23 34.1
h m. s.	h m. s.
12 25 24.6 55 53 30.2 v	12 25 27.62 -56° 53 42.3 v
h m. s.	h m. s.
(c) 12 28 28.24 -57° 15 29.0	(c) 12 27 46.03 -57° 1 4.1
3 0.62 21 46.7	2 18.69 7 31.1
h m. s.	h m. s.
12 25 27.34 -56° 53 33.0 v	12 25 30.59 -56° 53 3.8 v
h m. s.	h m. s.
(e) 12 27 4.16 -56° 50 30.0	(e) 12 24 21.79 -56° 23 22.8
1 35.44 2 59.0	1m. 8.80 29 41.0
h m. s.	h m. s.
12 25 28.72 -56° 53 29.0 v	12 25 29.90 -56° 52 57.3

Mean Position of Var. 12 25 27.88 -56° 53 24.4 (1875)
 12 26.9 -57° 1'4 (1900)

h m.v s. 'v "
 Mean Position of Var. 12 25 27.88 -56° 53 24.4 (1875)
 h m
 12 26.9 -57° 1'4 (1900)

~~Curve~~
Adopt. Curve
~~12h25m25s.4~~ ~~-56° 53'~~
30" (1875)
12h 25m 27".5 -56° 53' ~~25~~ 22" (1875)
h. m. ' "
12 26.9 - 57° 1 (1900)v

~~leftward margin~~
875

/
1/2
28
1/2
.8

x1/2
y1/2
2.1/2

2

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1|-6.30 | +7.60 | 1127.70 | 1360.40 |
 2|-3.98 | +5.30 | 712.42 | 948.70 |
 e=3|-3.55 | +3.92 | 635.45 | 701.68 |
 a=4|-0.72 | -5.48 | 128.88 | 980.92 |
 5|+0.15 | +~~10~~9.70 | 26.85 |
~~1915.30~~1736.30 |
 d=6|+2.10 | -0.40 | 375.90 | 71.60 |
 b=7|+2.40 | -4.58 | 429.60 | 819.82 |
 c|-4.55 | -~~10~~.52 | 814.45 | 1883.08 |
 f|-3.82 | -5.08 | 683.78 | 909.32 |
 g|-3.35 | +1.65 | 599.65 | 295.35 |
 h|+0.18 | -2.02 | 32.22 | 361.58 |
 k|-1.15 | -0.80 | 205.85 | 143.20 |
 l|-1.55 | -0.35 | 277.45 | 62.65 |
 m|-0.82 | -0.42 | 146.78 | 75.18 |
 n|-0.82 | -0.02 | 146.78 | 3.58 |
 o|-0.32 | -0.08 | 57.28 | 14.32 |

[[8 columned table]]
 Diff. X| -6.30 | -3.98 | -3.55 | -0.72 | +0.15 | +2.10 | +2.40 |
 Log. Diff. X|| 0.79934 | 0.59988 | 0.55023 | 9.85733 | 9.17609 | 0.32222
 0.38021 |
 |1.40892 | 1.40892 | 1.40892 | 1.40892 | 1.40892 |
 1.40892 | 1.40892||
 | 2.20826 | 2.00880 | 1.95915 | 11.26625 | 10.58501 | 1.73114 |
 1.78913 |
 |No. of Log.|161.53^{[[s]]} | 102.05^{[[s]]} | 91.02^{[[s]]} | 18.46^{[[s]]} | 3.85^{[[s]]} |
 53.84^{[[s]]} | 61.54^{[[s]]} |
 | 2^{[[m]]} | 41.53 | 1^{[[m]]} | 42.05^{[[s]]} | 1^{[[m]]} | 31.02^{[[s]]} | | | 1^{[[m]]} |
 1.54^{[[s]]} |

checked by M.A.G.
 Oct. 8, 1903

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

Project PHaEDRA - Williamina P. Fleming - Variable Stars #4
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[[8 columned table]]

Diff. y|+7.60|+5.30|+3.92|-5.48|+9.70|-0.40|-4.58|

|-----|

x|179|1360.40|~~927.50~~|~~927.50~~|

948.40|701.68|980.92|1736.30|71.60|819.82|

| 22° 40.40'|~~15° 27.50'~~|~~48 70|11'~~

41.68"|16' 20.92|28' 56.30"|1' 11.60"|13' 39.82"|

[[7 columned table]]

(1)|17^h|36^m|5.19^s|-61°|58'|37.1"|

|2|41.53||22|40.4|||17^h|38^m|46.72^s|-62°|21'|17.5"|

(2)|17|37|2.98|-62|5|40.3|

|1|42.05|||15|~~27.5|~~|~~48.7|~~||17^h|38^m|45.03^s|-62°|21'|29.0"|

(3)|17|37|15.15|-62|10|1.4|

|1|31.02||11|41.7|||17^h|38^m|46.17^s|-62°|21'|43.1"|

(4)|17|38|26.96|-62|37|57.1|

|18.46||16'|20.9|||17^h|38^m|45.42^s|-62°|21'|36.2"|

(5)|17|38|50.24|-61|52|42.9|

|13.85||28|56.3|||17^h|38^m|46.39^s|-62°|21'|39.2"|

[[7 columned table]]

(6)|17^h|39^m|38.42^s|-62°|22'|47.2"|

|53.84||11|11|||17^h|38^m|44.58^s|-62°|21'|35.6"|

(7)|17^h|39|48.24|-62|35|30.0|

|11.54||13|39.8|||17^h|38^m|46.70^s|-62°|21'|50.2"|

[[5 columned table]]

(1)|17^h|38^m|46.72^s|-62° 21'

17.5"|18|15||

(2)|17 38 45.03|-62 21

|~~17.8|~~|~~8|~~|25|||~~4|~~|

(3)|17 38 46.17|-62 21 43.1|43|10|

(4)|17 38 45.2|-62 21 36.2|36|3|

(5)|17 38 46.39|-62 21 39.2|39|6|

(6)|17|38|44.58|-62 21 35.6|36|3|

(7)|17 38 (46.70)|(46.54)|50.2|(49.7)|50|17||| 17^h|38^m|45.86|(45.84)|3|~~2|~~|~~5.8|~~|(35.8)|(187

5)|+39-40/7|

[[3 columned table]]

|Mean Position of Var.^|[Adopt Mean (Oct. 19, 1903.)]|17^h|38^m|

45.86^s|-62° 21' 3|~~2|~~|~~5.8|~~|(1875)||Curve|17 38 45.9 -62 21 37|~~(1900)~~||~~Adopt~~|17 38 45 -62 21 34|1875|

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Diff. y	+7.60	+5.30	+3.92	-5.48	+9.70	-0.40	-4.58
x	179	1360.40	927.50	927.50	980.92	1736.30	71.60
	22 40.40	15 27.50	48 70	11	28 56.30	1 11.60	13 39.82
(1)	17 36 5.19	-61 58 37.1			17 38 45.03	-62 21 17.5	
(2)	17 37 2.98	-62 5 40.3			17 38 46.72	-62 21 43.1	
(3)	17 37 15.15	-62 10 1.4			17 38 45.03	-62 21 35.6	
(4)	17 38 26.96	-62 37 57.1			17 38 46.70	-62 21 50.2	
(5)	17 38 50.24	-61 52 42.9			17 38 45.86	-62 21 35.8	
(6)	17 39 38.42	-62 22 47.2					
(7)	17 39 48.24	-62 35 30.0					
Mean	17 38 45.9	-62 21 37					
Curve	17 38 45.9	-62 21 37					
Adopt	17 38 45	-62 21 34					

Oct. 19, 1903. Mean position of Var. 17 38 45.86 -62 21 35.8 (1875)

Curve 17 38 45.9 -62 21 37

Adopt 17 38 45 -62 21 34 1875

Oct. 19, 1903. Mean position of Var. 17 38 45.86 -62 21 35.8 (1875)

Curve 17 38 45.9 -62 21 37

Adopt 17 38 45 -62 21 34 1875

[[8 columned table]]
 |-Oct. 12, 1903 - Using A.G.C. 24126. | 17^h | 39^m | 48.08^s | -
 62° | 35' | ~~30~~ | 29.5" | in place of 17^h |
 2698 |
 | | 1 | 1.54 | | 13 | 39.8 | | 1 |
 | | 17^h | 38^m | 46.54^s | -62° 21' 49.7" | |
 makes the mean of the Var. 17^h | 38^m | 45.84^s | -62° 21' 35.8

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[[left margin]]

After computation was completed, No. 1 seemed to be out in Dec. so glass ruled in Mm. was put on Plate again and x & y readings of No 1. made. Hence 4.85 & 4.80 changed to 3.85 & 3.80 - March 23, 1897.

Positions charted.

March 24, 1897.

See Chart No. 18b

[[left margin]]

[[right margin]]

[[2 columned table]]

Mean Dec. = $-43^{\circ} 26' 31.0'' = |$

Log. = 0.13902

1.07700

1.21602

[[right margin]]

March 20, 1897.

Meas. to determine position of new IV Type star on B17006 No. 9228.
 $16^{\text{h}} 19.3^{\text{m}}$ 19.3^{m} $-43^{\circ} 20'$ (1875).

Plate B5244

| x 0.92 | 3 y3 | x | y |

0.90^0.92 | ~~4~~ | ~~3.85~~^4.82 | 0.95 |

~~4~~ | ~~3.80~~ |

1.10 | 6.20^6.22 | 1.10 | 6.25 |

1.80^1.82 | 14.40 | 1.85 | 14.40 |

2.40^2.38 | 6.75^6.78 | 2.35 | 6.80 |

4.25^4.22 | 1.50 | 4.20 | 1.50 |

7.65 | 7.40^7.42 | 7.65 | 7.45 |

8.35 | ~~14~~ | ~~12.90~~^12.92 | 8.35 | 12.95 |

5.25^5.22 | 8.80^8.82 | 5.20 | 8.85 |

[[leftward margin]]

In computation A.B.C. positions have been used in preference to Z.C. positions, when they could be.

1 ~~a~~

2 ~~b~~

3

4

5

6

7

Type IV

Z.C. 16f A.B.C.

[[two-columned table]]

1281 | - |

1286 | 22254 |

1298 | - |

1305 | ~~22263~~ |

1330 | 22263 |

1390 | - |

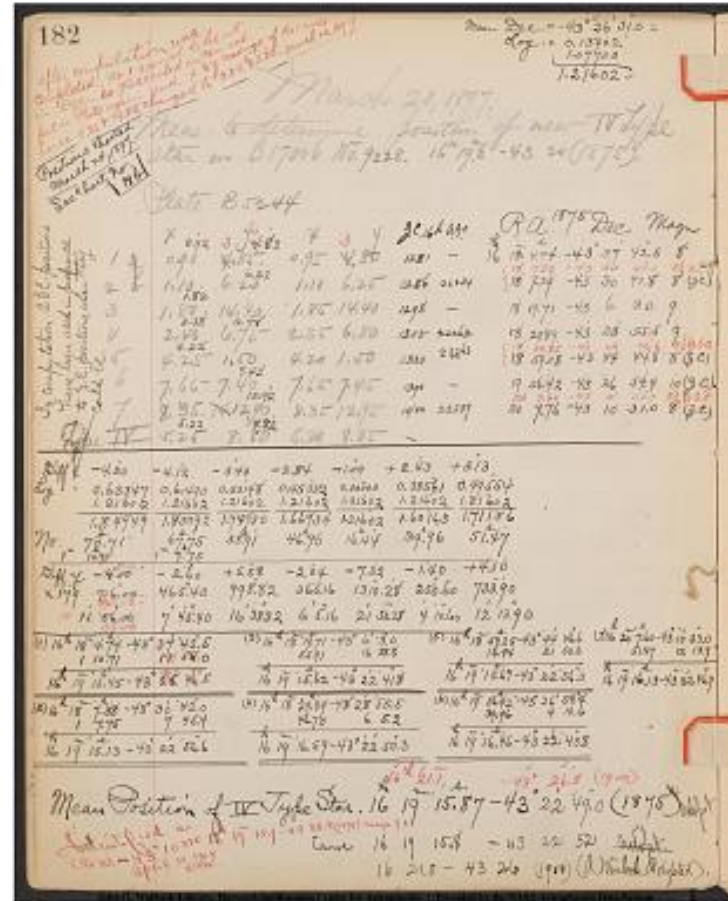
1400 | 22289 |

- |

R.A. 1875 Dec. Magn

[[seven-columned table]]

| h | m. | s. | ' | ' | ' |




```

| 16 | 18 | 4.74 | -43° | 37 | 42.5 | 8 |
| {18 | 7.38 | -43 | 3.0 | 42.0 | 8 1/4 a = |
| {18 | 7.29 | -43 | 30 | 40.8 | 8. (z.c.) |
| 18 | 19.71 | -43 | 6 | 3.0 | 9 | ..
| 18 | 29.89 | -43 | 28 | 55.5 | 9 |
| {18 | 59.25 | -43 | 44 | 46.6 | 8 1/4 (A.B.C. |
| {18 | 59.08 | -43 | 44 | 44.8 | 8 (z.c.) |
| 19 | 56.42 | -43 | 26 | 54.4 | 10 (z.c.) |
| 20 | 7.60 | -43 | 10 | 33.0 | 8 1/2 (A.B.C. |
| 20 | 7.76 | -43 | 10 | 31.0 | 8. (z.c.) |

```

Diff. X

Log. " "

[[seven-columned table]]

```

| -4.30 | -4.12 | -3.40 | -2.84 | -1.00 | +2.43 | +3.13 |
| 0.63347 | 0.61490 | 0.53148 | 0.45332 | 0.00000 | 0.38561 | 0.49554 |
| 1.21602 | 1.21602 | 1.21602 | 1.21602 | 1.21602 | 1.21602 | 1.21602 |
| 1.84949 | 1.83092 | 1.74750 | 1.66934 | 1.21602 | 1.601163 | 1.71156 |
| s. | s. | s. | s. | s. | s. | s. |

```

No.

```

| 70.71 | 67.75 | 55.91 | 46.70 | 16.44 | 39.96 | 51.47 |
| s | s. | | | | |

```

1m 10.71 | 1m 7.75 |

[[eight-columned table]]

```

| Diff.y. | -[[strikethrough]]4[[/strikethrough]].00^5.00 | -2.60 | +5.58 | -
| 2.04 | -7.32 | -1.40 | +4.10 |

```

```

| X179 | [[strikethrough]]716".00[[/strikethrough]]895.00 | 465".40 |

```

```

| 998".82 | 365".16 | 131".0.28 | 250".60 | 733".90 |

```

```

| 14 | [[strikethrough]]1'1[[/strikethrough]] |

```

```

| [[strikethrough]]56".00[[/strikethrough]]55.00 | 7' 45".40 | 16'38".82 |

```

```

| 6'5".16 | 2'1 50".28 | 4' 10".60 | 12' 13".90 |

```

[[twenty-four-columned table]]

```

| h | m | s. | | ' | " | h | m. | s. | | ' | " | h | m. | s. | | ' | " | h | m. | s. | | ' | " |

```

```

| (1) 16 | 18 | 4.74 | -43° | 37 | 42.5 | (3) 16 | 18 | 19.71 | -43° | 6 | 3.0 | (5)

```

```

| 16 | 18 | 59.25 | -43° | 44 | 46.6 | (7) 16 | 20 | 7.60 | -43° | 10 | 33.0 |

```

```

| | 1 | 10.71 | | 1[[strikethrough]]1[[/strikethrough]]4 |

```

```

| 5[[strikethrough]]6[[/strikethrough]]5.0 | | 55.91 | | 16 | 38.8 | | 16.44 | |

```

```

| 21 | 50.3 | | 51.47 | | 12 | 13.9 |

```

```

| h | m | s. | | ' | " | h | m. | s. | | ' | " | h | m | s. | | ' | " |

```

```

| 16 | 19 | 15.45 | -43° | [[strikethrough]]25[[/strikethrough]]22 |

```

```

| 4[[strikethrough]]6[[/strikethrough]]7.5 | 16 | 19 | 15.62 | -43° | 22 | 41.8 |

```

```

| 16 | 19 | 15.69 | -43° | 22 | 56.3 | 16 | 19 | 16.13 | -43° | 22 | 46.9 |

```

[[eighteen-columned table]]

```

| h | m. | s. | | ' | " | h | m. | s. | | ' | " | h | m. | s. | | ' | " |

```

```

| (2) 16 | 18 | 7.38 | -43° | 30 | 42.0 | (4) 16 | 18 | 29.89 | -43° | 28 | 55.5 |

```

```

| (6) 16 | 19 | 56.42 | -43° | 26 | 54.4 |

```

```

| | 1 | 7.75 | | 7 | 45.4 | | 46.70 | 6 | 5.2 | | 39.96 | | 4 | 10.6 |

```

```

| h | m. | s. | | ' | " | h | m. | | | " | h | m. | s. | | ' | " |

```

```

| 16 | 19 | 15.13 | -43° | 22 | 56.6 | 16 | 19 | 16.59 | -43° | 22 | 50.3 | 16 |

```

```

| 19 | 16.46 | -43° | 22 | 43.8 |

```

16vh 2v1.1m -43°v 26.8v (1900)

h m. s. ' v "

Mean Position of IV Type Star. 16 19 15.87 -43° 22 49.0 (1875)Adopt

Identified as CDM - 43° 10810 16h 19m 15.9 -43 22.8 (1875) Magn 9.2

April 10 1908

Law.

Curve 16 19 15.8 -43 22 52 [[strikethrough]]Adopt. [[/strikethrough]]"

16 21.0 - 43 2.6 (1900)(A.Winlock.Adopted).

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[4 columned table]

Diff. x | Diff. y | x1.79 | x1.79 |

---|---|---|

-3.78	+14.70	676.62	2631.30
-1.68	-5.43	300.72	971.97
-1.56	+4.30	279.24	769.70
-0.66	-12.16	118.14	2176.64
+0.17	-12.50	30.43	2237.50
+3.37	+10.17	603.23	1820.43
+4.27	-8.76	764.33	1568.04

Diff. x	Diff. y	x1.79	x1.79
-3.78	+14.70	676.62	2631.30
-1.68	-5.43	300.72	971.97
-1.56	+4.30	279.24	769.70
-0.66	-12.16	118.14	2176.64
+0.17	-12.50	30.43	2237.50
+3.37	+10.17	603.23	1820.43
+4.27	-8.76	764.33	1568.04

Project PHaEDRA - Williamina P. Fleming - Variable Stars #4
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Positions charted:
March 24, 1897.
See Chart No. 18b.

Mean Dec. = $-47^{\circ} 10' 10''.26 =$
Log. = 0.16761
1.07700
1.24461

March 22, 1897.

Meas. to determine position of new variable in . Marked by Oe L. Stewart in Peru as peculiar. Classified as Md and found to be variable by M. Flemming.

Plate B5706

[[four-columned table]]

x	y	x	y
1 -1.80	+21.30	-1.80	+21.25
2 +0.30	+1.15	+0.30	+1.15
3 +0.45^0.42	+10.85^10.88	+0.40	+10.90
4 +1.35^1.32	-5.55^5.58	+1.30	[[strikethrough]]+[[/strikethrough]]-5.60
5 +2.15	-5.90^5.92	+2.15	-5.95
6 +5.35	+16.75	+5.35	+16.75
7 +6.25	-2.20^2.18	+6.25	-2.15
Md. var.	+1.95^1.98	+6.60^6.58	+2.00
Z.C.0h			+6.55

626

637

638

A.B.C. 422

AB.C.430

A.B.C.442

z.c.676

R.A. 1875 Dec. Magn.

[[seven-columned table]]

h	m.	s.				
0	23	14.75	-46°		22	7.3 8 1/2
0	23	55.22	-47		22	25.8 9
0	23	55.84	-46		53	9.6 9
0	24	14.46	-47		42	24.1 9 1/2
{0	24	27.69	-47		43	33.8 9 A.B.C.
{0	24	27.95	-47		43	31.6 8 1/2 Z.C.650
{0	25	20.38	-46		35	32.2 7 3/8 A.B.C.
{0	25	20.22	-46		35	30.7 7 1/2 Z.C.669.
0	25	41.13	-47		31	59.0 9 1/2

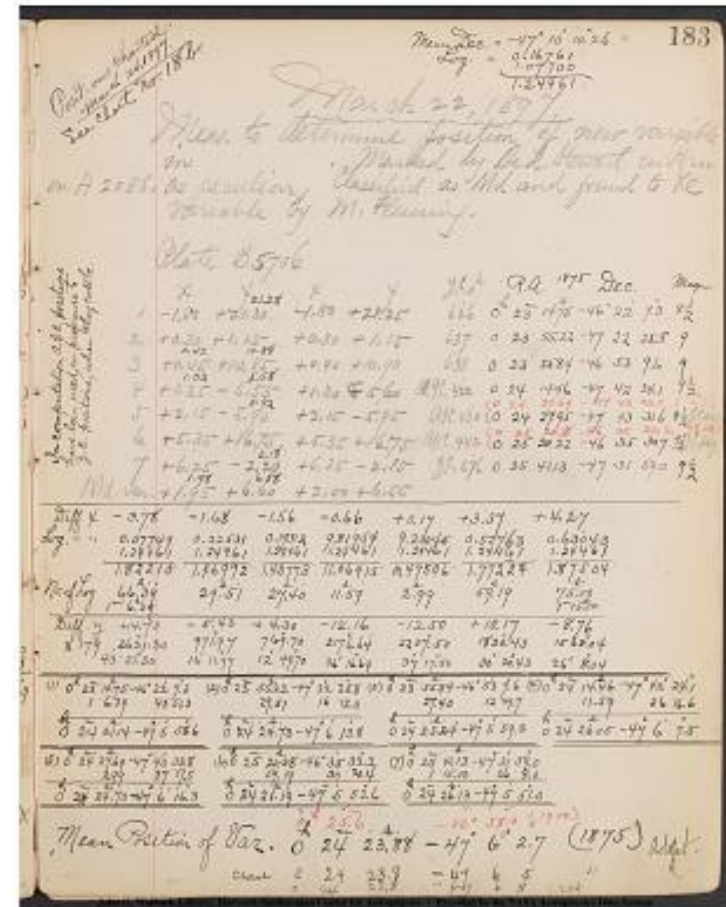
Diff.X

Log. ""

No. of Log

[[seven-columned table]]

-3.78	-1.68	-1.56	-0.66	+0.17	+3.37	+4.27
0.57749	0.22531	0.19312	9.81854	9.23045	0.52763	0.63043
1.24461	1.24461	1.24461	1.24461	1.24461	1.24461	1.24461
1.82210	1.46992	1.43773	11.06415	10.47506	1.77224	1.87504



| s. | s. | s. | s. | s. | s. | s" |
 66.39 | 29.51 | 27.40 | 11.59 | 2.99 | 59.19 | 75.00 |
 s. | | | | | s. |
 1m6.39 | | | | | 1m15.00 |
 Diff.y.
 X 179
 | +14.70 | -5.43 | +4.30 | -12.16 | -12.50 | +10.17 | -8.76 |
 263"1.30 | 971".97 | 769".70 | 2176".64 | 2237".50 | 1820".43 | 1568".04
 |
 43' 51".30 | 16' 11.9"7 | 12' 49."70 | 36'16.64" | 37' 17."50 | 30' 20".43 |
 26' 8".04 |

[[twenty-four-columned table]]
 | h | m. | s. | | ' | " | h | m. | s. | | ' | " | h | m. | s. | | ' | " | h | m. | s. | | ' | " |
 (1) 0 | 23 | 14.75 | -46° | 22 | 7.3 | (2) 0 | 23 | 55.22 | -47° | 22 | 25.8 | (3)
 0 | 23 | 55.84 | -46° | 53 | 9.6 | (4) 0 | 24 | 14.46 | -47° | 42 | 24.1 |
 | 1 | 6.39 | 43 | 51.3 | | 29.51 | | 16 | 12.0 | | 27.40 | | 12 | 49.7 | |
 11.59 | | 36 | 16.6 |
 | h | m | s. | | ' | " | h | m. | s. | | ' | " | h | m | s. | | ' | " | h | m | s. | | ' | " |
 0 | 24 | 21.14 | -47° | 5 | 58.6 | 0 | 24 | 24.73 | -47° | 6 | 13.8 | 0 | 24 |
 23.24 | -47° | 5 | 59.3 | 0 | 24 | 26.05 | -47° | 6 | 7.5 |

[[eighteen-columned table]]
 | h | m. | s. | | ' | " | h | m. | s. | | ' | " | h | m. | s. | | ' | " |
 (5) 0 | 24 | 27.69 | -47° | 43 | 33.8 | (6) 0 | 25 | 20.38 | -46° | 35 | 32.2 |
 (7) 0 | 25 | 41.13 | -47° | 31 | 59.0 |
 | 2.99 | | 37 | 17.5 | | 59.19 | | 30 | 20.4 | | 1 | 15.00 | | 26 | 8.0 |
 | h | m. | s. | | ' | " | h | m. | s. | | ' | " | h | m. | s. | | ' | " |
 0 | 24 | 24.70 | -47° | 6 | 16.3 | 0 | 24 | 21.19 | -47° | 5 | 52.6 | 0 | 24 |
 26.13 | -47° | 5 | 51.0 |

0v h 2v5m..6
 h m s. -46°v 58v.0 (1900)
 Mean Position of Var. 0 24 23.88 -47° 6' 2."7 (1875)
 curve 0 24 23.8 -47 6 5 "
 0 24 22.8 -47 6 8 1.204

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Positions charted.
March 25, 1897.
See chart No. 21b
RL Sagittarii
Variable No. 168.

Mean Dec. = $-44^{\circ} 33' 9.2''$ =
Log. = 0.14716?
1.07700
1.22416

March 22, 1897.
Meas. to determine pos. of new var. in on A 2023, Marked by De L. S. in Peru as bc. line, star. B plates show ft. object resembling Cl. H with no peculiarity. On A2023 has a short banded spectrum[^] which does not show the violet end. It somewhat resembles IV type on this plate but has m resemblance to Type IV on B plates. Sp. Pec. and found to be variable by M. Fleming.
B B3731 ch. superposed on B 13787 sp. shows that sp. extends shown about HB to H gamma or a little [^][[beyond]]

[[left margin]]
In computation A.B.C. positions have been used in preference to Z.C. positions when they could be.

Plate B 3731
[[four-columned table]]

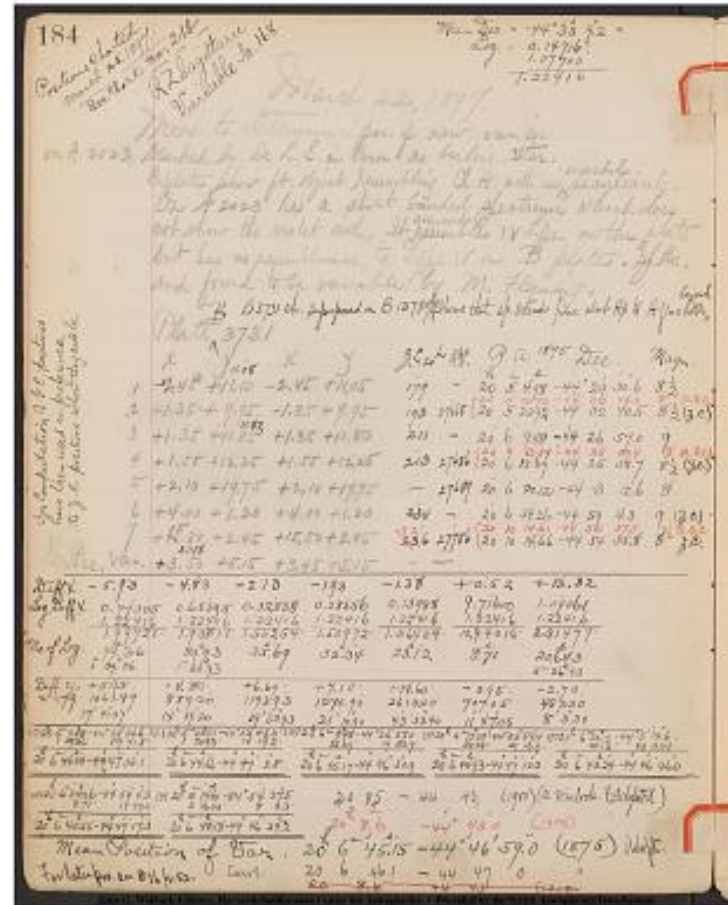
x	y	x	y
1 -2.45	+11.10	+11.08	-2.45
2 -1.35	+9.95	-1.35	+9.95
3 +1.35	+11.85	+11.82	+1.35
4 +1.55	+12.25	+1.55	+12.25
5 +2.10	+19.75	+2.10	+19.75
6 +4.00	+1.20	+4.00	+1.20
7 +[[striketrough]]11	[[striketrough]]15.80	+2.45	+15.80
sp. Pec. var.	+3.50	+3.48	+5.15

z.c.20h a.g.e. R.A. 1875 Dec. Magn.

[[nine-columned table]]

h	m	s	h	m	s	h	m	s
179	-	20	5	4.98	-44	29	30.6	8 1/2
193	{20	5	23.73	-44	32	43.3	8	(A.G.C.)
211	-	20	6	9.48	-44	26	57.0	9
213	{20	6	12.59	-44	25	59.4	8	(A.G.C.)
213	{20	6	12.69	-44	25	58.7	8 1/2	(z.c.)
234	-	20	6	54.26	-44	59	4.3	9
234	{20	10	14.61	-44	54	37.5	7 1/2	A.G.C.
234	[[striketrough]]23	[[striketrough]]326	27786	{20	10	14.66	-44	
54	35.8	8	Z.C.					
1	-	1	1	1	1	1	1	1

Diff.X.
Log.Diff.X.



No.of Log.

Diff.y.

X 179

[[seven-columned table]]

-5.93	-4.83	-2.13	-1.93	-1.38	+0.52	+12.32
0.77305	0.68395	0.32838	0.28556	0.13988	9.71600	1.09061
1.22416	1.22416	1.22416	1.22416	1.22416	1.22416	1.22416
1.99721	1.90811	1.55254	1.50972	1.36404	10.94016	2.31477
s.	s.	s.	s.	s.	s.	s.
99.36	80.93	35.69	32.34	23.12	8.71	206.43
1m 39.s36	1m 20.s.93				2m. 26.s.43	
+5.93	+4.80	+6.67	+7.10	+14.60	-3.95	-2.70
1061.47	859.20	1193.93	1270.90	2613.40	707.05	483.30
17' 41".47	14' 19".20	19'53".93	21' 10".90	4'3 33".40	11' 47".05	
8' 3".30						

[[thirty-columned table]]

h	m	s.		'	"	h	m	s.		'	"	h	m	s.		'	"	h	n	s.		'	"	h	m	s.		'	"																																																																										
(1)	20	6		5	4.98	-44°	29	30.6		(2)	20	6		5	23.73	-44°	32	43.3		(3)	20	6		9.48	-44°	26	57.0		(4)	20	6		12.59	-44°	25	59.4		(5)	20	6		20.12	-44°	3	12.6		1	39.36		17	41.5		1	20.93		14	19.2		35.69		19	53.9		32.34		21	16.9		23.12		43	33.4		h	m	s.		'	"	h	m	s.		'	"	h	m	s.		'	"	h	m	s.		'	"	h	m	s.		'	"
20	6		44.34	-44°	47	12.1	20	6		44.66	-44°	47	2.5	20	6		45.17	-44°	46	50.9	20	6		44.93	-44°	47	10.3	20	6		43.24	-44°	46	46.0																																																																					

[[twelve-columned table]]

h	m	s.		'	"	h	m	s.		'	"																												
(G)	20	6		54.26	-44°	59	4.3	(7)	20	10		14.61	-44°	54	37.5		8.71		11	47.0		3	26.43		8	3.3		h	m	s.		'	"	h	m	s.		'	"
20	6		45.55	-44°	47	17.3	20	6		48.18	-44°	46	34.2																										

Mean Position of Var .

For later pos. see B1612.52. Curve

20 85 - 44 43 (1900)(A Winlock ~~[[strikethrough]]~~ ~~[[/strikethrough]]~~)

Adopted)

20h 8.6m. -44° 43'.0" (1900)

20h 6m.v 45.15s. -44° 46' 59".0" (1875) Adopt.

20 6 46.1 - 44 47 0 "

~~[[strikethrough]]~~20 8.6 -44 43 (1900.~~[[/strikethrough]]~~)

Project PHaEDRA - Williamina P. Fleming - Variable Stars #4

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[[4 columned table]]
 Diff|Diff|x179|x179|
 x|y|x|y|

Diff	Diff	x179	x179
-5.93	+5.93	1061.47	1061.47
-4.83	+4.80	864.57	859.20
-2.13	+6.67	381.27	1193.93
-1.93	+7.10	345.47	1270.90
-1.38	+14.60	247.02	2613.40
+0.52	-3.95	93.08	707.05
+12.32	-2.70	2205.28	483.30

184a

Diff	Diff	x179	x179
-5.93	+5.93	1061.47	1061.47
-4.83	+4.80	864.57	859.20
-2.13	+6.67	381.27	1193.93
-1.93	+7.10	345.47	1270.90
-1.38	+14.60	247.02	2613.40
+0.52	-3.95	93.08	707.05
+12.32	-2.70	2205.28	483.30

Project PHaEDRA - Williamina P. Fleming - Variable Stars #4
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[[left margin]]
Positions charted.
[[underlined]]March 25, 1897. [[/underlined]]
See Chart [[underlined]]No. 21 b[[/underlined]]
[[/left margin]]

[[2 columned table]]
Mean Dec. = $-69^{\circ} 53' 33.6'' =$
Log. 0.46373
| [[underlined]]1.07700[[/underlined]]
| 1.54073|

[[underlined]]March 23, 1897. [[/underlined]]

Meas. to determine pos. of new gas. neb. Sp. br. line on B 17101 No. 9414. R.A. $5^{\text{h}} 35.0^{\text{m}}$ Dec. $-69^{\circ} 48'$ (1900).

Plate B 10267
[[13 columned table]]
| x| y|x|y|A.G.C.|R.A. 1875|R.A. 1875|R.A. 1875|Dec.|Dec.|Magn.|
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1|-11.00 | +28.40^[[28.38]]| -11.00 | +28.35 | 6441| $5^{\text{h}} 35^{\text{m}}$ | $27^{\circ} 16'$ |
| 39.50^[[s.]]| -68^{\circ} | 43' 16.3" | 6.4 |
| 2|-9.50^[[9.48]]| -0.40 | -9.45 | -0.40 | 6446| 27 | 51.68 | -70 | 9 | 49.7 |
| 7 1/4 |
3	-4.25	-15.25^[[15.28]]	-4.25	-15.30	6517	30	42.24	-70	54	
59.8	8									
4	-3.80	+1.75^[[1.78]]	-3.80	+1.80	6527	31	12.39	-70	3	53.4
8										
5	-2.40	-15.25	-2.40	-15.25	6544	31	49.76	-70	55	1.5
-1.50	-17.00^[[16.98]]	-1.50	-16.95							
6	+9.40	-6.55^[[6.52]]	+9.40	-6.50	6723	39	0.81	-70	29	7.5
8 1/2										
7	+9.75^[[9.78]]	+2.70	9.80	+2.70	6279	39	9.57	-70	1	41.1
Br line gas. neb.	+3.05	+5.60	+3.05	+5.60	—					

[[6 columned table]]
Diff. X.|-14.05 | -12.53 | -6.85 | +6.35 | +6.73 |
Log. Diff. X.1.14768 | 1.09795 | 0.83569 | 0.80277 | 0.82802 |
| [[underlined]]1.54073 | 1.54073 | 1.54073 | 1.54073 |
| 1.54073[[/underlined]]
| 2.68841 | 2.63868 | 2.37642 | 2.34350 | 2.36875 |
No. of Log. 487.99^[[s.]]| 435.19 | 237.91 | 220.55 | 233.75 |
| 8^[[m]]| 7.99^[[s.]]| 7^[[m]]| 15.19^[[s.]]| 3^[[m]]| 57.91^[[s.]]| 3^[[m]]| 40.55
| 3^[[m]]| 53.75^[[s.]]|

[[6 columned table]]
Diff. Y. |+22.78|-6.00|-3.82|-12.12|-2.90|
X179|4077.62|1074.00|683.78|2169.48|519.10|
| 1^{\circ} 7' 57.62"|17' 54.00"|11' 23.78"|36' 9.48"|8' 39.10|

[[35 columned table]]



|(1)|5^h[[h]]|27^m[[m]]|39.50^s[[s.]]|-68°|43'|16.3"| (2)|5^h[[h]]|27^m[[m]]
 51.68^s[[s.]]|-70°|9'|49.7"| (4)|5^h[[h]]|31^m[[m]]|12.39^s[[s.]]|-70°|3'|53.4"|
 (6)|5^h[[h]]|39^m[[m]]|0.81^s[[s.]]|-70°|29'|7.5"| (7)|5^h[[h]]|39^m[[m]]|9.57^s[[s.]]|-
 70°|1'|41.1"|
	[[underlined]]	8	7.99	1	7	57.6	[[underlined]]		[[underlined]]	7	15.19
17	54.0	[[underlined]]		[[underlined]]	3	57.91		11	23.8	[[underlined]]	
	[[underlined]]	3	40.55		36	9.5	[[underlined]]		[[underlined]]	3	53.75
8	39.1	[[underlined]]									
	5^h[[h]]	35^m[[m]]	47.49^s[[s.]]	-69°	51'	13.9"					
5^h[[h]]	35^m[[m]]	6.87^s[[s.]]	-69°	51'	55.7"		5^h[[h]]	35^m[[m]]	10.30^s[[s.]]	-	
69°	52'	29.6"		5^h[[h]]	35^m[[m]]	20.26^s[[s.]]	-69°	52'	58.0"		
5^h[[h]]	35^m[[m]]	15.82^s[[s.]]	-69°	53'	2.0"						

[[3 columned table]]
 | 5^h[[h]] 35.1^m[[m]] -69° 51.3'|(1900)|
 |Mean Position of New Gas Neb.|5^h[[h]] 35^m[[m]] 20.15^s[[s]] -69° 52'
 19.8"| (1875)|
curve	5 35 20.0 -69 52 51	Adopt.
5^h[[h]] 35.1^m[[m]] -69° 52'	(1900)	
5 35.2 -69 52	(1900) (A. Winlock Adopted).	

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 Provided by the NASA Astrophysics Data Systems

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May 18, 1897.

Meas. to determine position of var. star No. 58 in the cluster Messier 5 (Serpentis). Glass Plate ruled in nums. used. and set so that results will coincide with those on p 177.

Plate X 6813

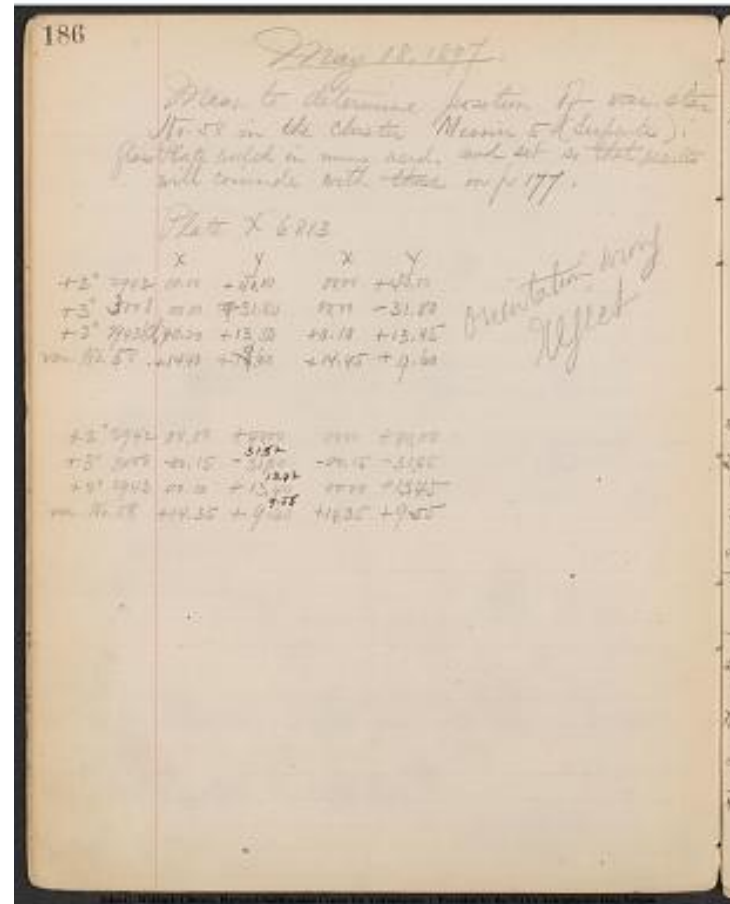
[[4-columned table]]

x	y	x	y
2942	00.00	+40.00	00.00
3008	00.00	+31.80	00.00
2943	00.00	+13.50	+0.10
var. No. 58	+14.40	+9.60	+14.45

orientation wrong reject

+2° 2942	00.00	+40.00	00.00	+40.00
+3° 3008	-00.15	-31.80	-00.15	-31.85
+2° 2943	00.00	+13.40	00.00	+13.45
var. No. 58	+14.35	+9.60	+14.35	+9.55

[[4 columned table]]



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[[left margin]] Positions Charted. Aug.2,1897. See Chart No. 22b. [[/left margin]]

July 26, 1897.

Meas. of A 2207 to determine positions of stars showing peculiar spectra found on Plates A 2210 and A 2211. Layer Magellanic Cloud.

Plate of 2207. Ryion 1. Gillus No. 1880 pos.

[[5-columned table]]

	x	y	x	y
1	+21.55	+18.65	+21.55	+18.65
2	-10.35 [^] [[10.38]]	+21.25	-10.40	+21.25
3	-6.75	-7.10	-6.75	-7.10
4	-10.75 [^] [[10.78]]	-10.75 [^] [[10.72]]	-10.80	-10.70
5	-4.55 [^] [[4.58]]	-14.10	-4.60	-14.10
Type v	+3.40	+6.00 [^] [[6.02]]	+3.40	+6.05
neb.	+2.75	+2.30 [^] [[2.28]]	+2.75	+2.25

[[/4 columned table]]

Region 1. G res No. 1850 pos. 2811 ~~2811~~

[[9-columned table]]

[[?]]	No.	h	m	s	°	'	"	maA.	Log.
2811	4	53	17.41	-66	54	53.6	6.0	= 0.40661	
2869	4	58	40.72	-66	56	58.6	9.5	= 0.40723	
2860	4	57	57.37	-66	28	57.7	9.5	= 0.39901	
2867	4	58	37.18	-66	25	23.3	9.5	= 0.39797	
2858	4	57	35.52	-66	22	7.8	10.0	= 0.39701	

[[/9 columned table]]

Type v

Diff.y.	+12.63	+15.23	-13.12	-16.74	-20.12
X60"	757".80	913".80	787".20	1004".40	1207".20
12' 37".80	15' 13".80	13' 7".20	16' 44".40	20' 7".20	

Type V

Diff.X.

Log."

No.

[[five-columned table]]

+18.15	-13.78	-10.15	-14.18	-7.98
1.25888	1.13925	1.00647	1.15168	0.90200
0.40661	0.40723	0.39901	0.39797	0.39701
0.60206	0.60206	0.60206	0.60206	0.60206
2.26755	2.14854	2.00754	2.15171	1.90107
s.	s.	s.	s.	s.
185.16	140.78	101.75	141.81	79.63
s.	s.	s.	s.	s.
3m5.16	2m20.78	1m41.75	2m21.81	1m19.63



[illegible]

[[six-columned table]]

Diff.y	+16.37	+18.97	-9.38	-13.00	-16.38
x 60"	982".20	1138.2"0	562".80	780".00	982".80
	16' 22".20	18'58".20	9' 22".80	13' 0".00	16' 22".80

No.of Log.

[[five-columned table]]

+18.80	-13.13	-9.50	-13.53	-7.33	
1.27416	1.11826	0.97772	1.13130	0.86510	
0.40661	0.40723	0.39901	0.39797	0.39701	
0.60206	0.60206	0.60206	0.60206	0.60206	
2.28283	2.12755	1.97879	2.13133	1.86417	
s s. s.					
191.79	134.14	95.23	135.31	73.14	
m. s.	m. s.	m. s.	m. m.		
3 11.79	2 14.14	1 35.23	2 15.31	1 13.14	

[[thirty-columned table]]

h m. s. | ' | " | h m. s. | ' | ' | " | h m. s. | ' | ' | " | h m. s. | ' | ' | " | h m. s. | ' | ' | " |
m. s. | ' | ' | " |
(1) 4 | 53 | 17.41 | -66° | 54 | 53.6 | (2) 4 | 58 | 40.72 | -66° | 56 | 58.6 |
(3) 4 | 57 | 57.37 | -66° | 28 | 57.7 | (4) 4 | 58 | 37.18 | -66° | 25 | 23.3 |
(5) 4 | 57 | 35.52 | -66° | 22 | 7.8 |
| 3 | 11.79 | | 16 | 22.2 | | 2 | 14.14 | | 18 | 58.2 | | 1 | 35.23 | | 9 | 22.8 | |
2 | 15.31 | | 13 | 0.0 | | 1 | 13.14 | | 16 | 22.8 |
h m. s. | ' | ' | " | h m. s. | ' | ' | " | h m. s. | ' | ' | " | h m. s. | ' | ' | " | h m. s. | ' | ' | " | h m. s. | ' | ' | " |
m. s. | ' | ' | " |
4 | 56 | 29.20 | -66° | 38 | 31.4 | 4 | 56 | 26.58 | -66° | 38 | 0.4 | 4 | 56 |
22.12 | -66° | 38 | 20.5 | 4 | 56 | 21.87 | -66° | 38 | 23.3 | 4 | 56 | 22.38 | -
66° | 38 | 30.6 |
h s. y

Mean Position of Neb. 4 56m v24.43 -66° 38' 21".2 (1850) Adopt. Mean.
4 56 24.7 -66 38 30.- (1850)

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[[left margin]]

Positions Charted Aug. 2, 1897.

See Chart No. 23b.

[[left margin]]

July 26, 1897.

Meas. to determine positions of objects having peculiar spectra on A2210 and A2211.

Larger Magellanic Cloud.

Plate A 2207. Region 2.

[[5-columned table]]

	x	y	x	y
1	+9.40 [^] [[9.38]]	+22.30 [^] [[22.28 +9.35 +22.25		
2	+5.20 +12.20	+5.20 +12.20		
3	-12.75 [^] [[12.72]]	+10.20 [^] [[10.18]] -12.70 +10.15		
4	-21.85 [^] [[21.82]]	+3.25 -21.80 +3.25		
5	+4.75 -11.50 [^] [[11.4]]	8 +4.75 -11.45		
6	+13.25 -16.80 [^] [[16.78]]	+13.25 -16.75		
No. 186.	+3.80 +4.40 [^] [[4.42]]	+3.80 +4.45		

1850 position

Gilliss No. Magn. Log.

[[9-columned table]]

Gilliss No.	h				Magn.	Log.
[[/strikethrough]]2.C. [[/strikethrough]]	3024	5	13	14.04	-67	54
49.4 9.8	=0.42480					
[[/strikethrough]]2.C. [[/strikethrough]]	3032	5	13	56.62	-67	44
43.3 10.0	=0.42167					
[[/strikethrough]]2.C. [[/strikethrough]]	3065	5	17	2.57	-67	42 2.1
9.5	=0.42084					
[[/strikethrough]]2.C. [[/strikethrough]]	3084	5	18	34.18	-67	34
44.8 10.0	=0.41860					
3031	5 13 52.48	-67 21 14.7	5.0	=0.41449	[[note]]	Doradn
[[/note]]						
3010	5 12 23.76	-67 16 4.5	9.5	=0.4129	[[/strikethrough]]	4
[[/strikethrough]]	5					

[[7-columned table]]

Diff y.	+17.86	+7.78	+5.76	-1.17	-15.90	21.20
x60	1071".60	466".80	435".60	70".20	954".00	1272.00
	17' 51".6	7'46".80	5' 45".60	1m 10".20	15' 54".0	21' 12".0

[[7 columned table]]

Diff x	+5.58	+1.40	-16.52	+0.95	+9.45	
Log Diff x	0.74663	0.14613	1.21801	1.40858	9.97772	0.97543
	0.42480	0.42167	0.42084	0.41860	0.41449	
0.4129	[[/strikethrough]]4	[[/strikethrough]]5				
	0.60206	0.60206	0.60206	0.60206	0.60206	0.60206
	1.77349	1.16986	2.24091	2.41924	10.99427	
1.9904	[[/strikethrough]]3	[[/strikethrough]]4				



| No. of Log | 59.36^{[[s]]} | 14.79^{[[s]]} | 174.14^{[[s]]} | 268.6~~[[s]]~~
8 ~~[[s]]~~ 9^{[[s]]} | 9.87^{[[s]]} | 97.82^{[[s]]} |
| | | 2^{[[m]]} 54.14^{[[s]]} | 4m28.6~~[[s]]~~ 8~~[[s]]~~ 9 | |
1m.37.82 |

[[twelve-columned table]]
h | m. | s. | | ' | " | h | m. | s. | | ' | " |
(1) 5 | 13 | 14.04 | -67° | 54 | 49.4 | (6) 5 | 12 | 23.76 | -67° | 16 | 4.5 |
| | 59.36 | | 17 | 51.6 | | 1 | 37.82 | | 21 | 12.0 |
h | m. | s. | | ' | " | h | m. | s. | | ' | " |
5 | 14 | 13.40 | -67° | 36 | 57.8 | 5 | 14 | 1.58 | -67° | 37 | 16.5 |

[[six-columned table]]
h | m | s. | | ' | " |
(2) 5 | 13 | 56.62 | -67° | 44 | 43.3 |
| | 14.79 | | 7 | 46.8 |
h | m. | | | ' | " |
5 | 14 | 11.41 | -67° | 36 | 56.5 |
h | m | s. | | ' | " |
(3) 5 | 17 | 2.57 | -67° | 42 | 2.1 |
| 2 | 54.14 | | 5 | 45.6 |
h | m. | s. | | ' | " |
5 | 14 | 8.43 | -67° | 36 | 16.5 |
h | m | s. | | ' | " |
(4) 5 | 18 | 34.18 | -67° | 34 | 44.8 |
| 4 | 28.6~~[[s]]~~ 8~~[[s]]~~ 9 | | 1 | 10.2 |
h | m. | s. | | ' | " |
5 | 14 | 5.~~[[s]]~~ 50~~[[s]]~~ 49 | -67° | 35 | 55.0 |
h | m. | s. | | ' | " |
(5) 5 | 13 | 52.48 | -67° | 21 | 14.7 |
| | 9.87 | | 15 | 54.0 |
h | m. | s. | | ' | " |
5 | 14 | 2.35 | -67° | 37 | 8.7 |

Mean Position of } 5^{[[h]]} 14^{[[m]]} 7.11^{[[s]]} -67° 36' 45.2' (1850)
No. 186. } 5 14 5.9 6.7 37 0(185°)curve adopt.

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A 2207. Region 3.

No. 5974. Diffus. Neb.

Diff. X

Log. "

[[seven-columned table]]

+20.10	+31.33	+43.13	+2.07	+7.27	+15.75	+31.30
1.30320	1.49596	1.63478	0.31597	0.86153	1.19728	1.49554
0.42483	0.42356	0.42106	0.41838	0.41606	0.41156	0.41240
0.60206	0.60206	0.60206	0.60206	0.60206	0.60206	0.60206
2.33009	2.52158	2.65790	1.33641	1.87965	2.21090	2.51000

No. Log.

[[seven-columned table]]

s	s	s	s	s	s	s
213.84	332.34	454.88	21.70	75.80	162.52	323.59
3m33s.84	5m32.3s.	7m34.88s.	1m15.80s.	2m42.52s.		
5m23.59s						

Diff. y

X60

[[seven-columned table]]

+14.08	+9.35	+0.52	-5.90	-13.98	-29.60	-27.60
844".80	561".00	31.2"0	354".00	838".80	177"6.00	165"6.00
14' 4".80	9' 21".00	5' 54".00	13' 58".8	29'36".00	27'36".0	

[[eighteen columned table]]

h	m	s	''	'''	h	m	s	''	'''	h	m	s	''	'''	h	m	s	''	'''	
(1)	5	32	26.48	-67°	54	56.4	(2)	5	30	24.62	-67°	50	49.6							
(3)	5	28	16.58	-67°	42	43.1														
3	33.84	14	4.8	5	32.34	9	21.0	7	34.88	31.2										
h	m	s	''	'''	h	m	s	''	'''	h	m	s	''	'''	h	m	s	''	'''	
5	36	0.32	-67°	40	51.6	5	35	56.96	-67°	41	28.6	5	35	51.46	-67°	42	11.9			

[[eighteen-columned table]]

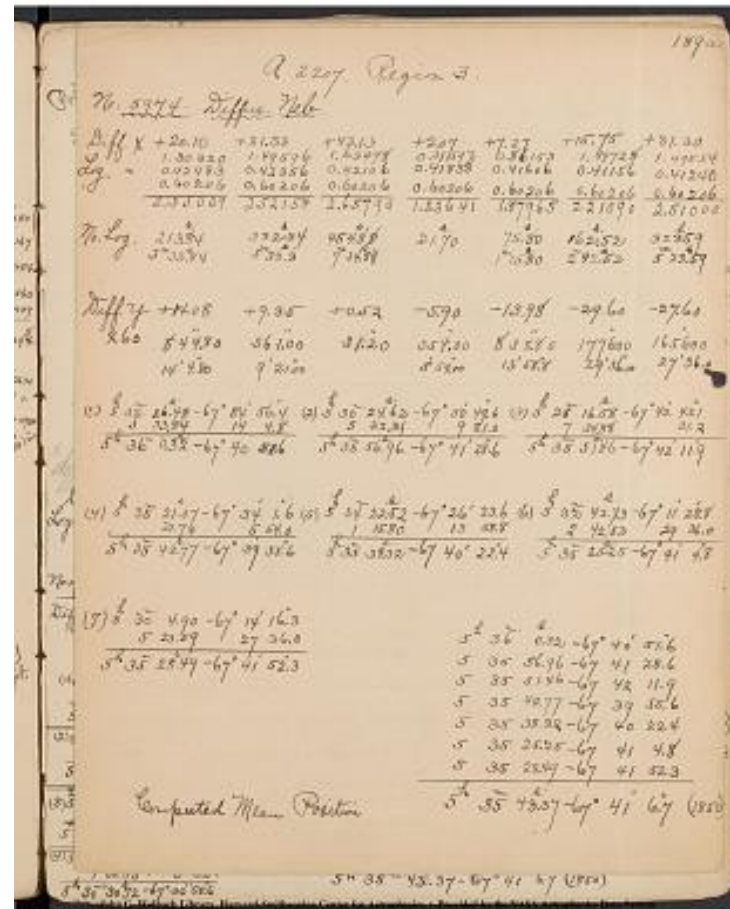
h	m	s	''	'''	h	m	s	''	'''	h	m	s	''	'''	h	m	s	''	'''
(4)	5	35	21.07	-67°	34	1.6	(5)	5	34	22.52	-67°	26	23.6	(6)					
5	32	42.73	-67°	11	28.8														
21.70	5	54.0	1	15.80	13	58.8	2	42.52	29	36.0									
h	m	s	''	'''	h	m	s	''	'''	h	m	s	''	'''	h	m	s	''	'''
5	35	42.77	-67°	39	55.6	5	35	38.32	-67°	40	22.4	5	35	25.25	-67°	41	4.8		

[[six-columned table]]

h	m	s	''	'''	h	m	s	''	'''
(7)	5	30	4.90	-67°	14	16.3			
5	23.59	27	36.0						
h	m	s	''	'''	h	m	s	''	'''
5	35	28.49	-67°	41	52.3				

[[six-columned table]]

h	m	s	''	'''	h	m	s	''	'''
5	36	0.32	-67°	40	51.6				
5	35	56.96	-67°	41	28.6				



5	35	51.46	-67	42	11.9
5	35	42.77	-67	39	55.6
5	35	38.32	-67	40	22.4
5	35	25.25	-67	41	4.8
5	35	28.49	-67	41	52.3
h	m	s.		'	"
5	35	43.37	-67°	41	6.7 (1850)

Computed Mean Position

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Positions charted
Aug. 2, 1897. M.C.S.
See chart No. 24b.

July 26, 1897.

Meas. to determine position of objects having peculiar spectra on
A2210 and A2211. Large Magellanic Cloud.
Plate A 2207 Region 3.

[[four-columned table]]

x | y | x | y |
1 -2.75 | +23.95^23.98 | -2.75 | +24.00 |
2 +8.45^8.48 | +19.25 | +8.50 | +19.25 |
3 +20.30^20.28 | +10.40^10.42 | +20.25 | +10.45 |
4 [[striketthrough]]+[[striketthrough]]-20.80^20.78 | +4.00 | -20.75 |
+4.00 |
5 -15.60^15.58 | -4.05^4.08 | -15.55 | -4.10 |
6 -7.10 | -19.70 | -7.10 | -19.70 |
7 +8.45 | -17.70 | +8.45 | -17.70 |
183 +6.95^6.92 | +0.90 | +6.90 | +0.90 |

[[underlined]]1850 posotion[[/underlined]]

Gillias No. h m s . o ' ' Magn. Log.

[[eight-columned table]]

3271	5	32	26.48	-67	54	56.4	9.8=0.42483
3246	5	30	24.62	-67	50	49.6	9.0=0.42356
3207	5	28	16.58	-67	42	43.1	

10=0.4210[[striketthrough]]6[[/striketthrough]]5 |
3308 5 35 21.07 -67 34 1.6 10.0=0.41838 |
3295 5 34 22.52 -67 26 23.6 10.0=0.41606 |
3279 5 32 42.73 -67 11 28.8 10.0=0.41156 |
3238 5 30 4.90 -67 14 16.3 10.0=0.41240 |

No. 5974 -22.8[[striketthrough]]5[[/striketthrough]]8 +9.90
xdiffuse reb. -21.70 -2400 +8.50 +11.30 -2170 24.10 +8.50 - +11.30

Diff. X.
Log. "

No. of Log.

[[seven-columned table]]

-9.67 | +1.56 | +13.36 | -27.70 | -22.50 | -14.02 | +1.53 |
0.98543 | 0.19312 | 1.12581 | 1.44248 | 1.35218 | 1.14675 | 0.1849 |
0.42483 | 0.42356 | 0.4210[[striketthrough]]6[[/striketthrough]]5 | 0.41838 |
0.41606 | 0.41156 | 0.41240 |
0.60206 | 0.60206 | 0.60206 | 0.60206 | 0.60206 | 0.60206 | 0.60206 |
2.01232 | 1.21874 | 2.1489[[striketthrough]]3[[/striketthrough]]2 | 2.46292 |
2.37030 | 2.16037 | 1.19915 |

s. | s. | s. | s. | s. | s. | s. |

No. of Log. | 102.88 | 16.55 | 140.91 | 290.35 | 234.58 | 144.67 | 15.82 |
| 1m42.88 | | 2m 20.91s. | 4m50.35s. | 3m54.58s. | 2m.24.67s. | |

Diff Y.
X60



[[seven-columned table]]

+23.08	+18.35	+9.52	+3.10	-4.98	-20.60	-18.60
138"4.80	1101".00	571".20	186".00	298".80	1236".00	1116".00
23' 4."80	18' 21.0	9' 31.20	3'6."00	4' 58.80	20'36".0	18' 36".00

Mean Position of No. 183.

5h 30m 31.s.3v9 -67° 3v2' 6."7 (1850)

5 30 30.0 -67 32 30(1850)Adopt

[[twelve-columned table]]

h	m	s	'	"	h	m	s	'	"				
(1)	5	32	26.48	-67°	54	56.4	(5)	5	34	22.52	-67°	26	23.6
	1	42.88		23	4.8		3	54.58		4	58.8		
h	m	s	'	"	h	m	s	'	"				
5	30	43.60	-67°	31	51.6	5	30	27.94	-67°	31	22.4		
h	m	s	'	"	h	m	s	'	"				
(2)	5	30	24.62	-67°	50	49.6	(6)	5	32	42.73	-67°	11	28.8
	16.55		18	21.0		2	24.67		20	36.0			
h	m	s	'	"	h	m	s	'	"				
5	30	41.17	-67°	32	28.6	5	30	18.06	-67°	32	4.8		

h	m	s	'	"	h	m	s	'	"				
(3)	5	28	16.58	-67°	42	43.1	(7)	5	30	4.90	-67°	14	16.3
	2	20.91		9	31.2		15.82		18	36.0			
h	m	s	'	"	h	m	s	'	"				
5	30	37.49	-67°	33	11.9	5	30	20.72	-67°	32	52.3		

[[six-columned table]]

h	m	s	'	"		
(4)	5	35	21.07	-67°	34	1.6
	4	50.35		3	6.0	
h	m	s	'	"		
5	30	30.72	-67°	30	55.6	

Mean Position of Diffus. Neb. No. 5974.

5h35m.43.37s. -67° 41' 6".7 (1850)

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[[left margin]]
Positions charted
Aug. 2, 1897. M.C.S.
See Chart no. 24b[[/underlined]]
[[/left margin]]

July 26, 1897.

Meas. to determine positions of objects having peculiar spectra on A
2210 and A2211. Large Magellanic Cloud

Plate A 2207 Region 4.

[[10 columned table]]

x	y	x	y		1875 pos.	Magn.	Log.		
1	-15.00^h	14.95^m	+24.50	-14.90	+24.50	Z.C. 991	5^h	27^m	27^s
39.57^s	-68° 43' 14.2"	7	= 0.44018						
2	-19.25	-8.50	-19.25	-8.50	Z.C. 1018	5 28 10.76	-68 10 15.4		
9½ = 0.42966									
3	+12.20^h	12.22^m	-8.30	+12.25	-8.30	Z.C. 811	5 221 32.99	-68	
11 25.2	9½ = 0.43001								
4	+19.00	-17.35	13.75	+19.00	-				
13.75	Z.C. 764	5 21 20.66	-68 6 6.9	9 = 0.42834					
5	-4.30	-12.80^h	12.82^m	-4.30	-12.85	Z.C. 907	5 25 29.27	-68 6	
24.2	9 = 0.42843								
6	-19.25	2.45^h	2.48^m	-19.25	-2.50	-19.25			
2.45^h	2.48^m	No. 208	-4.45^h	4.48^m	-				
15.40^h	15.42^m	-4.50	+15.45	Z.C. 898	5 25 7.67	-68 0 12.6			
9½ = 0.42648									

[[7 columned table]]

Diff. X. | -10.47 | -14.77 | +16.70 | +23.48 | +0.18 | +2.00 |
Log. Diff. X. | 1.01995 | 1.16938 | 1.22272 | 1.37070 | 9.25527 | 0.30103

| 0.44018 | 0.42966 | 0.43001 | 0.42834 | 0.42843 |
0.4264~~8~~ | 8~~9~~ |
| 0.60206 | 0.60206 | 0.60206 | 0.60206 | 0.60206 |
0.60206~~6~~ |
| 2.06219 | 2.20110 | 2.25479 | 2.40110 | 10.28576 | 1.3295~~7~~ | 78 |
| 115.40^s | 158.89^s | 179.80^s | 251.83^s | 1.93^s |
21.36^s |
| 1^h 55.40^m | 11.83^m | 11.83^m | 11.83^m | 11.83^m |
59.80^s | 4^h 11.83^m | 11.83^m | 11.83^m | 11.83^m |
Diff. Y. | +9.08 | -23.92 | -23.72 | -29.17 | -28.24 | -34.67 |
X60 | 544.80" | 1435.20" | 1423.20" | 1750.20" | 1694.40" | 2080.20" |
| 9' 4.80" | 23' 55.20" | 23' 43.20" | 29' 10.20" | 28' 14.40" | 34' 40.20" |

[[14 columned table]]

| (1) | 5^h | 27^m | 27^s | 39.57^s | -68° | 43' | 14.2" | (5) | 5^h | 27^m | 27^s | 39.57^s | -68° | 43' | 14.2" |
29.27^s | -68° | 6' | 24.2" |
| 1 | 55.40 | | 9 | 4.8 | 11.83 |
1.93 | | 28 | 14.4 | 11.83 |



5	25^h[[m]]	44.17^s[[s.]] -68°	34' 9.4"	5	25^h[[m]]	31.20	-68°	34' 38.6"	
(2)	5^h[[h]]	28^m[[m]]	10.76^s[[s.]] -68°	10' 15.4"	(6)	5^h[[h]]	25^m[[m]]	7.67^s[[s.]] -68°	0' 12.6"
	2	38.89		23	55.2				
21.36		34	40.2						
5^h[[h]]	25^m[[m]]	31.87^s[[s.]] -68°	34' 10.6"	5^h[[h]]	25^m[[m]]	29.03^s[[s.]] -68°	34' 52.8"		

[[7 columned table]]
(3)	5^h[[h]]	22^m[[m]]	32.99^s[[s.]] -68°	11' 25.2"				
	2	59.80		23	43.2			
5^h[[h]]	25^m[[m]]	32.79^s[[s.]] -68°	35' 8.4"					
(4)	5^h[[h]]	21^m[[m]]	20.66^s[[s.]] -68°	6' 6.9"				
	4	11.83		29	10.2			
5^h[[h]]	25^m[[m]]	32.49^s[[s.]] -68°	35' 17.1"					

Mean Position of No. 208.
 5^h[[h]] 25^m[[m]] 33.59^s[[s.]] -68° 34' 42.8" (1875)
 5 25 41.0 -68 34 40. - Curve (1875. Adopt

[[right margin]]
 | 185 | | | | | |
 [[6 columned table]]
Diff. X.	+11.88	-21.37	+6.70	+0.70	-14.00		
Log. Diff. X.	1.07482	1.32980	0.82607	9.84510	1.14613		
	0.4701		7		8	0.46415	0.46060
0.45995	0.4536		2		3		
	0.60206	0.60206	0.60206	0.60206			
0.60206							
	2.1470		6		5	2.39601	1.88873
10.90711	2.2018		1		2		
No. of Log.	140.30	248.89	77.40^s[[s.]]	8.07^s[[s.]]	159.15^s[[s.]]		
	2^m[[m]]	20.30	4^m[[m]]	8.89	1^m[[m]]	17.40	
2		6					
	31.5		39.15^s[[s.]]				
Diff. Y.	+48.33	+30.38	+20.46	+18.70	+0.18		
X60	2899.80"	1822.80"	1227.60"	1122.00"	10.80"		
48' 19.80"	30' 22.88"	20' 27.60"	18' 42.0"	10.80"			
 [[/right margin]]

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 Provided by the NASA Astrophysics Data Systems

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Positions charted.

[[underline]]Aug. 2, 1897. M.C.S. [[/underline]]

See Chart. No. 25b.

July 26, 1897.

Meas. to determine positions of objects having peculiar spectra on A 2210 and A 2211. Large Magellanic Cloud

Plate A 2207 Region 5.

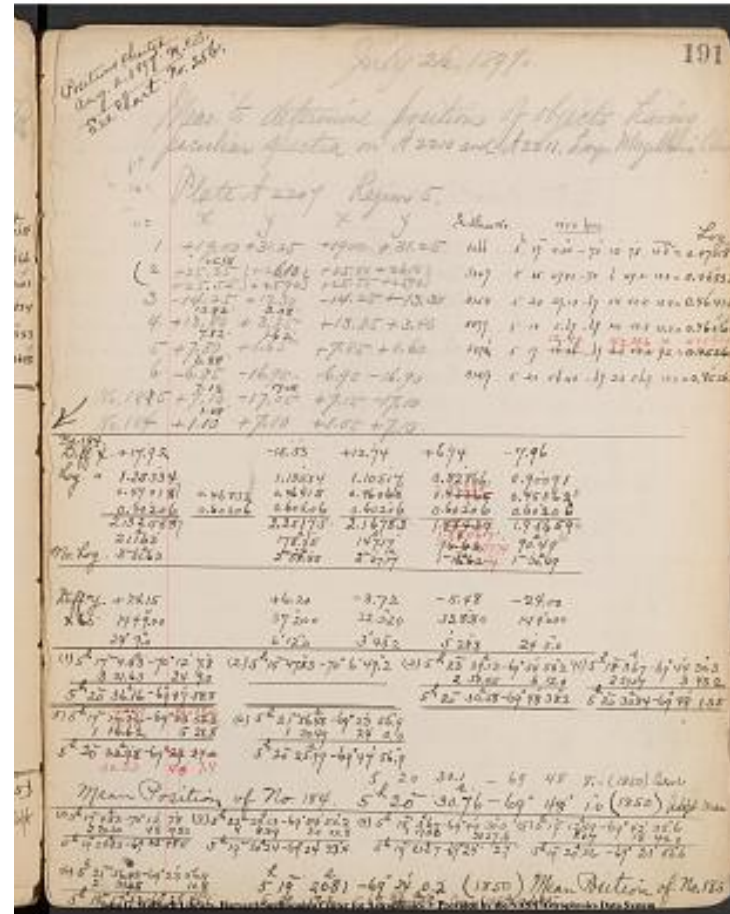
[[13 column table]]

| --- | x | y | x | y | Gillies No. | [[underline]]1850 pos. [[/underline]] = h |
[[underline]]1850 pos. [[/underline]] = m | [[underline]]1850
pos. [[/underline]] = s | [[underline]]1850 pos. [[/underline]] = ° |
[[underline]]1850 pos. [[/underline]] = ' | [[underline]]1850
pos. [[/underline]] = " | mag. Log |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | +19.00 | +31.25 | +1900 | +31.25 | 3066 | 5 | 17 | 4.53 | -70 | 12 | 7.8
| 10.0=047018 |
| 2 | +25.55 ^[[+25.35 25.38 •]] | +25.90 ^[[+26.10]] | +25.55 ^[[+25.40]] |
+25.90^[[+26.10]] | 3047 | 5 | 15 | 47.83 | -70 | 6 | 49.2 | 10.0=0.46832 |
| 3 | -14.25 | +13.30 | -14.25 | +13.30 | 3154 | 5 | 23 | 29.13 | -69 | 54 |
50.2 | 10.0=0.46415 |
| 4 | +13.80 ^[[13.82 •]] | +3.35 ^[[3.38]] | +13.85 | +3.40 | 3077 | 5 | 18 |
3.67 | -69 | 44 | 30.3 | 10.0=0.46060 | 1 |
| 5 | +7.80 ^[[7.82 •]] | +1.65 ^[[1.62 •]] | +7.85 | +1.60 | 2 •
309[[strikethrough]]2[[/strikethrough]]1 | 5 | 19 |
[[strikethrough]]16.36[[/strikethrough]] 12.49 | -69 |
[[strikethrough]]23[[/strikethrough]] 42 |
[[strikethrough]]58.2[[/strikethrough]] 38.6 |
[[strikethrough]]9.8[[/strikethrough]] 10 =
[[strikethrough]]0.45368[[/strikethrough]] 0.45995 |
| 6 | -6.85 ^[[6.88 •]] | -16.90 • | -6.90 | -16.90 | 1 • 3129 | 5 | 21 | 56.48 | -
69 | 23 | 56.9 | 10.0=0.45362 | 3 |
| No.18[[strikethrough]]1[[/strikethrough]]5 | +7.10 ^[[7.12 •]] | -17.05
^[[17.08 •]] | +7.15 | -17.10 | --- | --- | --- | --- | --- | --- |
| No.184 | +1.10 ^[[1.08 •]] | +7.10 | +1.05 | +7.10 | --- | --- | --- | --- | --- |
- | --- | --- |

[[underline]]No.184 [[/underline]]

[[7 column table]]

| Diff. X. | +17.92^[[•]] | --- | -15.33^[[•]] | +12.74^[[•]] | +6.74^[[•]] | -
7.96^[[•]] |
| --- | 1.25334^[[•]] | --- | 1.18554^[[•]] | 1.10517^[[•]] | 0.82866.^[[•]] |
0.90091^[[•]] |
| --- | 0.4701[[strikethrough]]8[[/strikethrough]]7 | 0.46832 | 0.46415^[[•]] |
0.4606[[strikethrough]]0[[/strikethrough]]1 |
[[strikethrough]]0.45365[[/strikethrough]] 0.45995 |
0.4536[[strikethrough]]2[[/strikethrough]]3 |
| --- | [[underline]]0.60206^[[•]] | 0.60206 | 0.60206^[[•]] | 0.60206 |
0.60206^[[•]] | 0.60206^[[•]] |
| --- | 2.325587 | --- | 2.25175 • | 2.16783 • |
[[strikethrough]]1.88437[[/strikethrough]] 1.89067 • |
1.956[[strikethrough]]59[[/strikethrough]]60 |
| --- | 21.1.63^[[s •]] | --- | 178.55^[[s •]] | 147.17^[[s •]] |
[[strikethrough]]76.62[[/strikethrough]] 77.74^[[s]] | 90.49^[[s •]] |
| No. Log. | 3^[[m]] 31.63^[[s.]] | --- | 2^[[m]] 58.55^[[s.]] | 2^[[m]]



$$27.17^{[\bullet \text{ s.}] | 1^{[m]}} \frac{1}{1^{[m]}} \frac{6.62}{7.74^{[s \cdot \bullet] | 1^{[m]}}} \frac{30.49^{[\bullet \text{ s.}] | 1^{[m]}}{1^{[m]}}$$

[77 column table]

Diff. y.	+24.15	---	+6.20	-3.72	-5.48	-24.00
x60 ×	1449.00 ^[""]	---	372.00 ^[""]	223.20 ^[""]	328.80 ^[""]	
1440.00 ^[""]						
---	24 ^[""]	9.0 ^[""]	---	6 ^[""]	12.0 ^[""]	3 ^[""]
28.8 ^[""]	24 ^[""]	0.0 ^[""]				5 ^[""]

```

[[7 column table]]
---| h | m | s. | | " |
(1) | 5 | 17 | 4.53 | -70 | 12 | 7.8 |
[[underline]]---| ---| 3 | 31.63 | ---| 24 | 9.0[[/underline]] |
---| 5 | 20 | 36.16 | -69 | 47 | 58.8 |
(2) | 5 | 15 | 47.83 | -70 | 6 | 49.2 |
[[underline]]---| ---| ---| ---| ---| ---| ---[[/underline]] |
---| ---| ---| ---| ---| ---| ---|
(3) | 5 | 23 | 29.13 | -69 | 54 | 50.2 |
[[underline]]---| ---| 2 | 58.55 | ---| 6 | 12.0[[/underline]] |
---| 5 | 20 | 30.58 | -69 | 48 | 38.2 |
(4) | 5 | 18 | 3.67 | -69 | 44 | 30.3 |
[[underline]]---| ---| 2 | 27.17 | ---| 3 | 43.2[[/underline]] |
---| 5 | 20 | 30.84 | -69 | 48 | 13.5 |
(5) | 5 | 19 | [[strikethrough]]16.36[[/strikethrough]] 12.49 | -69 |
[[strikethrough]]23[[/strikethrough]] 42 |
[[strikethrough]]58.2[[/strikethrough]] 38.6 |
[[underline]]---| ---| 1 | [[strikethrough]]16.62[[/strikethrough]] 17.74 | ---
5 | 28.8[[/underline]] |
---| 5 | 20 | [[strikethrough]]32.98[[/strikethrough]] 30.23 | -69 |
[[strikethrough]]29[[/strikethrough]] 48 |
[[strikethrough]]27.0[[/strikethrough]] 7.4 |
(6) | 5 | 21 | 56.48 | -69 | 23 | 56.9 |
[[underline]]---| ---| 1 | 30.49 | ---| 24 | 0.0[[/underline]] |
---| 5 | 20 | 25.99 | -69 | 47 | 56.9 |

```

Mean Position of No. 184.
 5 20 30.1 -69 48 8.- (1850)Curves
 $5^{\text{h}}10^{\text{m}}30.1^{\text{s}}$ $20^{\circ}48'8''$ $30.76^{\text{A}}[s.]$ $-69^{\circ}48'11''$ $1.0^{\text{A}}[m]$ (1850) Adopt Mean

```

[[7 column table]]
-- | h | m | s. | " | " |
(1) | 5 | 17 | 4.53 | -70 | 12 | 7.8 |
[[underline]]-- | -- | 2 | 20.30 | -- | 48 | 19.80[[/underline]] |
-- | 5 | 19 | 24.83 | -69 | 223 | 48.0 |
(3) | 5 | 23 | 29.13 | -69 | 54 | 50.2 |
[[underline]]-- | -- | 4 | 8.89 | -- | 30 | 22.8[[/underline]] |
-- | 5 | 19 | 20.24 | -69 | 24 | 27.4 |
(4) | 5 | 18 | 3.67 | -69 | 44 | 30.3 |
[[underline]]-- | -- | 1 | 17.40 | -- | 20 | 27.6[[/underline]] |
-- | 5 | 19 | 21.07 | -69 | 24 | 2.7 |
(5) | 5 | 19 | 12.49 | -69 | 42 | 38.6 |
[[underline]]-- | -- | 8 | 8.07 | -- | 18 | 42.0[[/underline]] |
-- | 5 | 19 | 20.56 | -69 | 23 | 56.6 |
(6) | 5 | 21 | 56.48 | -69 | 23 | 56.9 |
[[underline]]-- | -- | 2 | 29.15 | -- | 10.8[[/underline]] |
-- | 5 | 19 | 17.33 | -69 | 23 | 46.1 |

```


5^h 19^m 20.81^s -69° 24' 0.2 (1850) Mean Position of No.
185
5 19 17.2 -69 ~~24~~ 23 ~~35~~ -
~~56~~ - Curve (1850) adopt.

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[[left margin]]
Positions charted
Aug. 2, 1897.
[[/left margin]]

July 26, 1897.

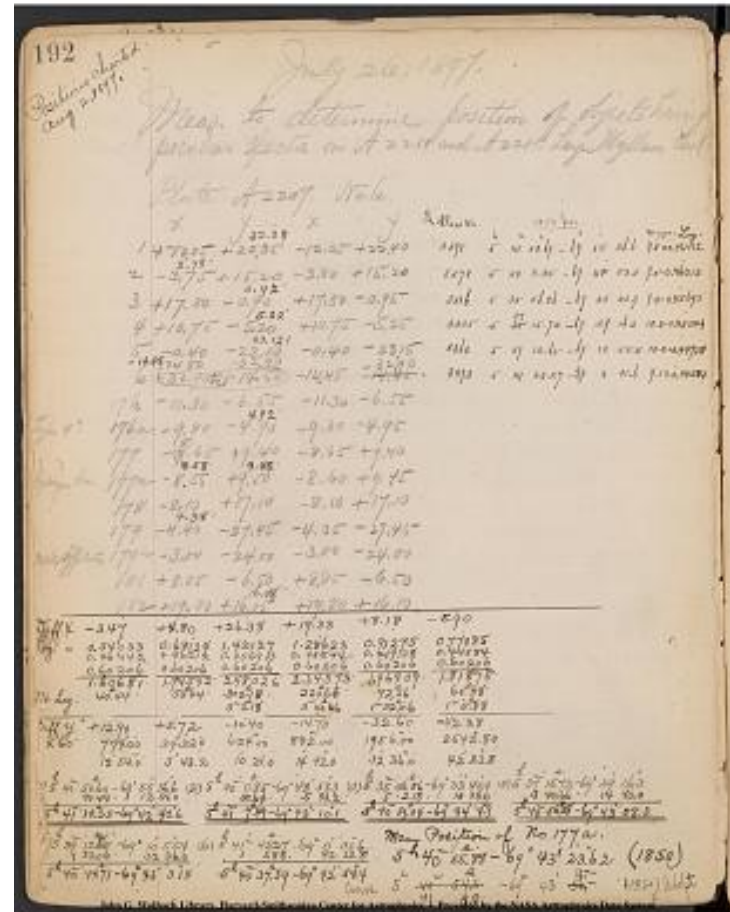
Meas. to determine position of objects having peculiar spectra on A2210 and A2211. Large Magellanic Cloud

Plate A2207. No. 6.
[[13 column table]]

| --- | x | y | x | y | Gillies No. | [[underline]]1850 pos. [[/underline]] - h |
| [[underline]]1850 pos. [[/underline]] - m | [[underline]]1850
pos. [[/underline]] - s | [[underline]]1850 pos. [[/underline]] - ° |
| [[underline]]1850 pos. [[/underline]] - ' | [[underline]]1850
pos. [[/underline]] - " | [[underline]]1850 pos. [[/underline]] - Magn. Log. |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | [[/strickethrough]]+12.05 | +22.35 ^[[22.38]] | -12.05 |
+22.40 | • 3398 | 5 | 41 | 50.69 | -69 | 55 | 36.6 | 9.8 = 0.46442 |
| 2 | -3.75 ^[[3.78]] | +15.20 | -3.80 | +15.20 | • 3378 | 5 | 40 | 11.85 | -69 |
48 | 53.3 | 9.0 = 0.46212 |
| 3 | +17.80 | -0.90 ^[[0.92]] | +17.80 | -0.95 | • 3316 | 5 | 35 | 56.86 | -69 |
33 | 40.9 | 9.0 = 0.45693 |
| 4 | +10.75 | -5.20 ^[[5.22]] | +10.75 | -5.25 | • 3335 | 5 |
[[/strickethrough]]35 [[/strickethrough]] 37 | 15.72 | -69 | 29 | 16.3 | 10.0 =
.045544 |
| 5 | -0.40 | -23.10 ^[[23.12]] | -0.40 | -23.15 | 3360 | 5 | 39 | 12.65 | -69 |
10 | 55.4 | 10.0 = 0.44928 |
| 6 | [[underline]]-32.90 tr. ^[[14.48 • 14.50]] | -14.50 [[/underline]] | -
14.45 | [[/strickethrough]]-14.45 [[/strickethrough]] -32.90 | 3393 | 5 | 41 |
43.27 | -69 | 0 | 31.6 | 9.5 = 0.44584 |
| 176. | -11.30 | -6.55 | -11.30 | -6.55 | --- | --- | --- | --- | --- |
| Type V? 176a | -9.80 | -4.90 ^[[4.92]] | -9.80 | -4.95 | --- | --- | --- | --- |
| () 177 | -[[/strickethrough]]9 [[/strickethrough]] 8.65 | +9.40 | -8.65 | +9.40 | -
Hydrogen br. 177a	-8.55 ^[[8.58]]	+9.50 ^[[9.48]]	-8.60	+9.45	---				
178	-8.10	+17.10	-8.10	+17.10	---	---	---	---	---
179	-4.40 ^[[4.38]]	-27.45	-4.35	-27.45	---	---	---	---	---
neb. diff. centre 179a	-3.00	-24.00	-3.00	-24.00	---	---	---	---	
181	+8.85	-6.50	+8.85	-6.50	---	---	---	---	---
| 182 | +19.80 | +16.05 ^[[16.08]] | +19.80 | +16.10 | --- | --- | --- | --- | --- |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |

[[7 column table]]

Diff. x.	-3.47	+4.80	+26.38	+19.33	+8.18	-5.90
Log "	0.54033	0.68124	1.42127	1.28623	0.91275	0.77085
---	0.46442	0.46212	0.45693	0.45544	0.44928	0.44584
---	[[underline]]0.60206	0.60206	0.60206	0.60206	0.60206	
0.60206 [[/underline]] |



| --- | 1.60681 • | 1.74542 • | 2.48026 • | 2.34373 • | 1.96409 • | 1.81875 •
 | No. Log. | 40.44^{[[s]]} • | 55.64^{[[s]]} • | 302.18^{[[s]]} • | 220.66^{[[s]]} • |
 92.06^{[[s]]} • | 65.88^{[[s]]} • |
 | --- | [[m]] | --- | 5^{[[m]]} 2.18^{[[s]]} | 3^{[[m]]} 40.66^{[[s]]} | 1^{[[m]]}
 32.06^{[[s]]} | 1^{[[m]]} 5.88^{[[s]]} [[/underline]] |
 | Diff. y. | +12.90 | +5.72 | -10.40 | -14.70 | -32.60 | -42.38 |
 | x60 • | 774.00^{[[°]]} • | 343.20^{[[°]]} • | 624.00^{[[°]]} • | 882.00^{[[°]]} • |
 1956.00^{[[°]]} • | 2542.80^{[[°]]} • |
 | --- | 12^{[[°]]} 54.0^{[[°]]} • | 5^{[[°]]} 43.26^{[[°]]} | 10^{[[°]]} 24.0^{[[°]]} | 14^{[[°]]}
 42.0^{[[°]]} • | 32^{[[°]]} 36.0^{[[°]]} • | 42^{[[°]]} 22.8^{[[°]]} • |

[[7 column table]]

---	h	m.	s.	°	'	"
 (1) | 5 | 41 | 50.69 | -69 | 55 | 36.6 |
[[/underline]] | --- | --- | --- | 40.44 | --- | 12 | 54.0 [[/underline]] |
 --- | 5 | 41 | 10.25 | -69 | 42 | 42.6 |
 (2) | 5 | 40 | 11.85 | -69 | 48 | 53.3 |
[[/underline]] | --- | --- | --- | 55.64 | --- | 5 | 43.2 [[/underline]] |
 --- | 5 | 41 | 7.49 | -69 | 43 | 10.1 |
 (3) | 5 | 35 | 56.86 | -69 | 33 | 40.9 |
[[/underline]] | --- | --- | 5 | 2.18 | --- | 10 | 24.0 [[/underline]] |
 --- | 5 | 40 | 59.04 | -69 | 44 | 4.9 |
 (4) | 5 | 37 | 15.72 | -69 | 29 | 16.3 |
[[/underline]] | --- | --- | 3 | 40.66 | --- | 14 | 42.0 [[/underline]] |
 --- | 5 | 40 | 56.38 | -69 | 43 | 58.3 |
 (5) | 5 | 39 | 12.65 | -69 | 10 | 55.4 |
[[/underline]] | --- | --- | 1 | 32.06 | --- | 32 | 36.0 [[/underline]] |
 --- | 5 | 40 | 44.71 | -69 | 43 | 31.4 |
 (6) | 5 | 41 | 43.27 | -69 | 0 | 31.6 |
[[/underline]] | --- | --- | 1 | 5.88 | --- | 42 | 22.8 [[/underline]] |
 --- | 5 | 40 | 37.39 | -69 | 42 | 54.4 |

Mean Position of No 117a.
 5^{[[h]]} 40^{[[m.]]} 55.88^{[[s.]]} -69° 43^{[[°]]} 23.62^{[[°]]} (1850)

Curve 5^{[[h]]} ~~40^{[[m]]}~~ 41^{[[m]]}
~~54.3^{[[s]]} -69° 43^{[[°]]}~~
~~56.4^{[[s]]} 4.0^{[[s]]}~~ (1850) Adopt

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192a

Book 4. Plate A 2207. No. 6.

No. 176.

[4 columned table]

Diff x|+ 2.72|Diff. y. + ~~2.93~~+16.03|
Log. Diff x|0.43457|X60|~~175.80~~175.80|~~961.80~~
|0.460|~~40~~40|~~12~~12|~~2~~2'
55.80|~~16~~16|1.80|
|0.60206|
|1.49|~~703~~703|~~675~~675|
No. of Log.|31.~~4~~39|

~~Mean Position of No. 176~~

[8 columned table]

5^h|~~40~~40|~~41~~41^m|~~54.3~~54.3|
|~~40~~40^s|~~69~~69°|~~43~~43'|~~56~~56"|~~4.0~~4.0"|
|31.4|
|~~2~~2|~~16~~16|~~55.8~~55.8|
|1.8|
Mean
Position|5^h|~~40~~40|~~41~~41^m|
|~~22.9~~22.9|~~35.4~~35.4^s|~~69~~69°|~~46~~46'
40|~~27~~27|~~52~~52°|~~8~~8'|~~2.2~~2.2'|~~(1850)~~

No. 176a.

[4 columned table]

Diff. X|+1.22|Diff. Y.|+14.40|
Log.|0.8636|X60|864.00|

1.062~~46~~46|~~18~~18|
14' 24.0"

|1.148|~~54~~54|
No. of Log.|14.0|~~9~~9|~~8~~8^s|

~~Mean Position of No. 176a~~

[7 columned table]

5^h|~~40~~40|~~41~~41^m|~~54.3~~54.3|
|~~40~~40^s|~~69~~69°|~~43~~43'|~~56~~56"|~~4.0~~4.0"|
|14.1|14|24|
5^h|~~40~~40|~~41~~41^m|~~40.2~~40.2|
~~18.0~~18.0^s	~~69~~69°	~~58~~58'	
~~69~~69°	~~58~~58'	~~28~~28'	~~20~~20'
~~40~~40"	Mean Position		

No. 177

[4 columned table]

Diff. X|+0.07|Diff. Y.|+0.08|
Log. Diff X.|8.84510|X60|4.80|

1.062~~46~~46|~~18~~18|

| 9.907~~56~~28| |
|No. of Log.0.81^s| |

~~Mean Position of No. 177~~
[7 columned table]
5^h~~40~~41^m~~54.3~~
~~4.0~~^s-69°43'~~56~~4.0"
|
|0.8| |5|
5^h~~40~~41^m~~53.5~~
~~4.8~~^s~~69~~
69°~~44~~42'~~1~~59"
|Mean Position|

No. 178
[4 columned table]
Diff. X|-0.48|Diff. Y.|-7.62|
Log.9.68124|X60|457.20"|
|
|1.062~~46~~18|
7' 37.20"|
|10.743~~70~~42| |
|No. of Log.5.54^s| |

[7 columned table]
5^h~~40~~41^m~~54.3~~
~~4.0~~^s-69°43'~~56~~4.0"
|
|5.5| 7|37"59.8
5^h~~40~~59.8^s-
69°~~36~~50'~~19~~41"
|Mean Position|

No. 179
[4 columned table]
Diff. X~~4.18~~4.20|Diff. Y.|+36.93|
Log.0.62~~118~~325|X60|2215.80"|
|
|1.062~~46~~18|
36' 55.8"|
|
|~~1.683~~64~~36~~
h|1.68543| |
|No. Log.48.2~~7~~3^s 48.47^s| |

[7 columned table]
5^h~~40~~41^m~~54.3~~
~~4.0~~^s-69°43'~~56~~4.0"
|
|48.~~3~~~~2~~
2~~5~~3656|
5^h~~41~~40^m~~42.6~~
~~15.~~~~7~~~~8~~
~~15.5~~^s~~70~~
69°~~20~~6'~~52~~8"
|Mean Position|

No. 179a

[4 columned table]

Diff. X|-5.58|Diff. Y.|+33.48|

Log.|0.74663|X60|2008.80"

1.062~~46~~~~18~~
33' 28.8"

| 1.80~~909~~~~881~~ | | |
No. Log|64.~~43~~~~39~~" =|1[^][[m]]
4.~~43~~~~39~~" | | |

[7 columned table]

5[^][[h]]~~40~~~~41~~[^][[m]]~~54.3~~~~4.0~~[^][[s]]|-69°|43'~~56~~~~4.0~~"

14.4 |33|29"41 |
5[^][[h]]~~41~~~~39~~[^][[m]]~~48.7~~~~59.6~~[^][[s]]~~70~~~~69~~[^] |
69°~~17~~~~9~~~~25~~"|Mean Position|

No. 181

[4 columned table]

Diff. X|-17.43|Diff. Y.|+15.98|

Log.|1.24130|X60|958.80"

1.062~~46~~~~18~~
15' 58.8"

| 2.303~~46~~~~48~~ | | |
No. Log|201.~~26~~~~13~~[^][[s]] =|3[^][[m]]
21.~~26~~~~13~~[^][[s]] | | |

[7 columned table]

5[^][[h]]~~40~~~~41~~[^][[m]]~~54.3~~~~4.0~~[^][[s]]|-69°|43'~~56~~~~4.0~~"

321.~~3~~~~1~~
15|29"44 |
5[^][[h]]~~44~~~~37~~[^][[m]]~~15.6~~~~42~~[^][[s]]~~7~~~~9~~[^][[s]]~~69~~~~69~~[^] |
69°~~59~~~~27~~~~55~~"|Mean Position|

No. 182

[4 columned table]

Diff. X|-28.38|Diff. Y.|~~6.57~~~~6.60~~|

Log. Diff X|1.45301|X60|~~394.20~~~~396.00~~"

1.062~~46~~~~18~~
6' ~~34.2~~~~36.0~~"

| 2.515~~47~~~~19~~ | | |
No.
Log|327.~~19~~~~4~~~~8~~[^][[s]] =|5[^][[m]] 27.~~70~~~~48~~[^][[s]] | | |

[[7 columned table]]
~~5^h[[h]]~~~~40~~~~41^m[[m]]~~~~54.3~~~~4.0^s[[s]]~~~~-69°43'~~~~56"~~~~4.0"~~
|
|~~5~~~~27.~~~~7~~~~5~~
~~6~~~~3~~~~4~~~~6"~~~~4~~
~~5^h[[h]]~~~~46~~~~35^m[[m]]~~~~22.0~~~~36.~~~~3~~~~5^s[[s]]~~~~-69°~~~~-~~
~~69°~~~~37'~~~~49'~~~~38"~~~~40"~~Mean Position|

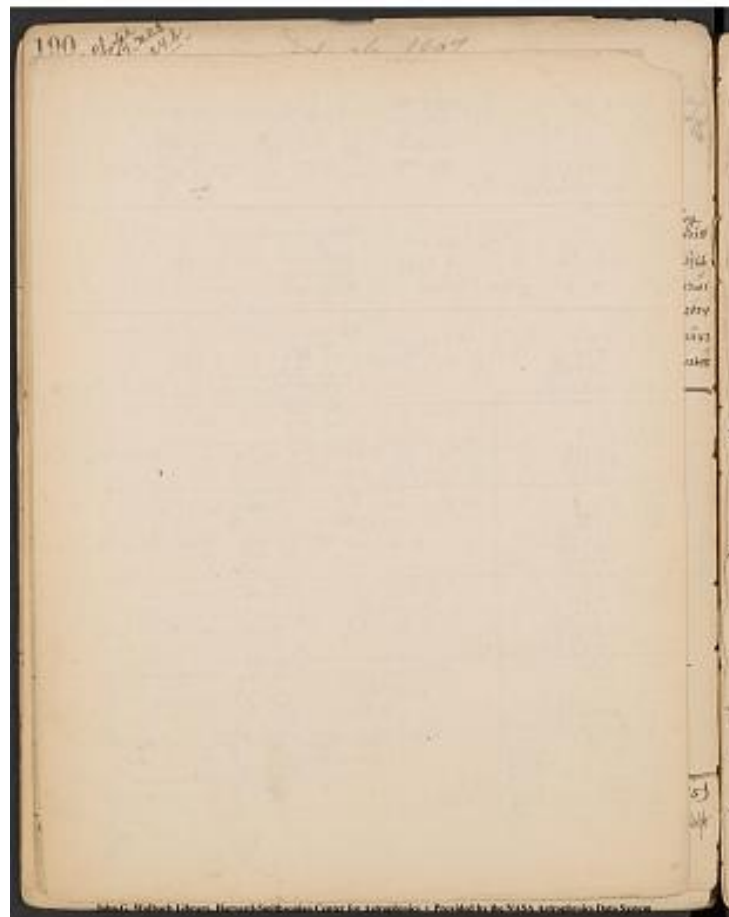
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190 charted 7.M.C.S 24b July 26 1807

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[[left margin]]

Positions charted. Aug. 2, 1897.

See Chart No. 26b

[[/left margin]]

July 26, 1897.

Meas. to determine position of objects having peculiar spectra on A
2210 and A 2211. Large Magellanic Cloud

Plate A2207 Region 7

[[9 columned table]]

| x | y | x | y | 1875 pos. | 1875pos. Magn. | Log.

|---|---|---|---|---|---|

| 1 | +19.55 | +14.75 | +19.55 | +14.75 | Z.C. 1068 | 5^h | 29^m | 14.10^s | 1875

| 71° 18' 44.8" | 9 = 0.49428 |

| 2 | +16.45 | +16.42 | +7.45 | +16.40 | +7.45 | Z.C. 1090 | 5 29 51.33 | -71 11

| 30.6 | 9 = 0.49160 |

| 3 | -18.10 | +18.12 | +9.30 | +18.15 | +9.30 | Z.C. 1362 | 5 36 58.55 | -71 12

| 37.5 | 8 = 0.49201 |

| 4 | +4.00 | -3.60 | +3.62 | +4.00 | -3.65 | Z.C. 1177 | 5 32 22.97 | -71 0 20.0 | 8 3/4

| 0.48747 |

| 5 | +6.70 | -8.95 | +6.70 | +8.95 | Z.C. 1156 | 5 31

| 49. | ~~69~~ | 74 | -70 55 2.3 | 9 = 0.48553 |

| 6 | +15.60 | -4.25 | +15.60 | -4.25 | Z.C. 1093 | 5 30 1.69 | -70 59 | 55.6 | 8 3/4

| 0.48732 |

| 7 | +12.25 | +12.22 | -9.00 | +12.20 | -9.00 | Z.C. 1116 | 5 30 42.09 | -70

| ~~54~~ | 55 | 0.3 | 8 = 0.48553 || ~~?~~ | ~~?~~ |

| 205 | +4.45 | +4.42 | +2.75 | +4.40 | +2.75 | | | | |

[[8 columned table]]

| Diff. X. | +15.13 | +12.00 | -22.54 | -0.42 | +2.28 | +11.18 | +7.80 |

| Log. Diff. X. | 1.17984 | 1.07918 | 1.35295 | 9.62325 | 0.35793 | 1.04844 |

| 0.89209 |

| | 0.49428 | 0.49160 | 0.49201 | 0.48747 | 0.48553 | 0.48732 | 0.48553 |

| | 0.60206 | 0.60206 | 0.60206 | 0.60206 | 0.60206 | 0.60206 || 0.60206 | 0.60206 | 0.60206 |

| | 2.27618 | 2.17284 | 2.44702 | 10.71278 | 1.44552 | 2.13782 |

| 1.97968 |

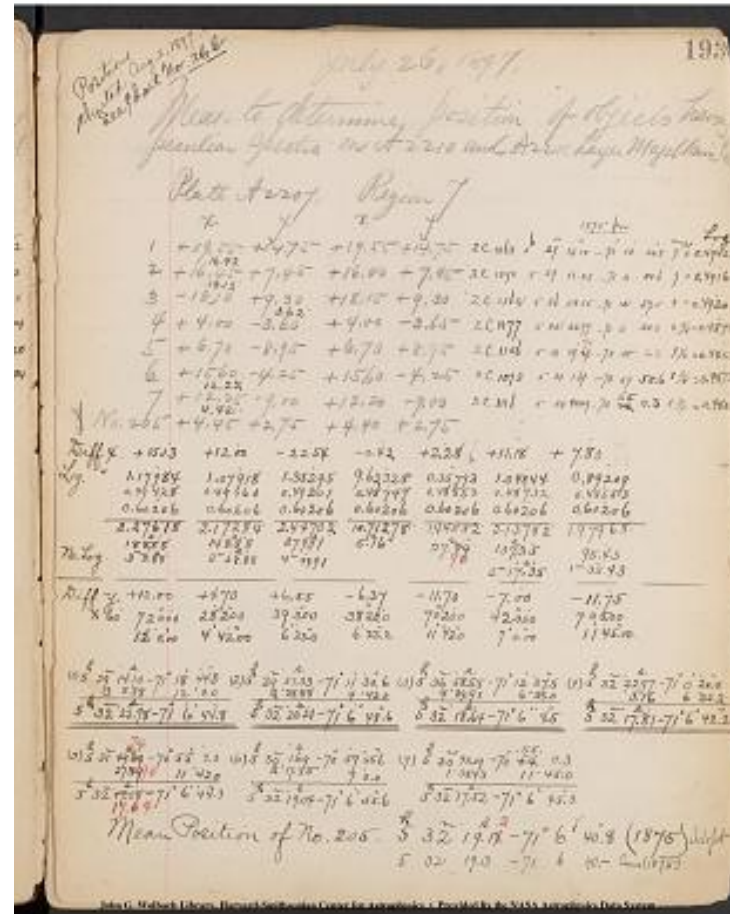
| | 188.88^h | 148.88^h | 279.91^h | 5.16^h || 27. | ~~89~~ | 90^h | 137.35^h | 95.43^h || No. Log. | 3^h | 8.88^h | 2^h | 28.88^h | 4^h || 39.91^h | 2^h | 17.35^h | 1^h | 35.43^h | 1^h |

| Diff. Y. | +12.00 | +4.70 | +6.55 | -6.37 | -11.70 | -7.00 | -11.75 |

| X60 | 720.00" | 282.00" | 393.00" | 382.20" | 702.00" | 420.00" | 705.00 |

| | 12' 0.00" | 4' 42.00" | 6' 33.00" | 6' 22.20" | 11' 42.00" | 7' 0.00" | 11' 45.00" |

[[28 columned table]]

| (1) | 5^h | 29^m | 14.10^s | -71° | 18' 44.8" | (2) | 5^h | 29^m || 51.33^s | -71° | 11' 30.6" | (3) | 5^h | 36^m | 58.55^s | -71° | 12' || 37.5" | (4) | 5^h | 32^m | 22.97^s | -71° | 0' 20.0" || | 3 | 8.88 | | 12 | 0.0 | 2 || 28.88 | | 4 | 42.0 | 4 | 39.91 | | 6 |

33.0^h 51.6^m 6.22.2^s
 5^h 32^m 22.98^s -71° 6' 44.8"
 5^h 32^m 20.21^s -71° 6' 48.6"
 5^h 32^m 18.64^s -71° 6' 4.5"
 5^h 32^m 17.81^s -71° 6' 42.2^s

[[21 columned table]]
 (5) 5^h 31^m 49.~~69~~ 74^s -70° 55' 2.3" (6) 5^h 30^m 1.69^s -70° 59' 55.6" (7) 5^h 30^m 42.09^s -70° 54^s 0.3"
 27.~~89~~ 90^s 11^s 42.0^s 2^s 17.35^s 7^s 0.0^s
 1^s 35.43^s 11^s 45.0^s
 5^h 32^m 17.58^s 17.04^s -71° 6' 44.3" 5^h 32^m 19.04^s -71° 6' 55.6"
 5^h 32^m 17.52^s -71° 6' 45.3"

[[3 columned table]]
 Mean Position of No. 205. 5^h 32^m 19.1^s -71° 6' 40.8" (1875) Adopt
 5^h 32^m 19.3^s -71° 6' 40.8" Curve (1875)

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Positions charted.
 Aug. 2, 1897. M.C.S.
 See Chart No. 27b.

July 26, 1897.

Meas. to determine positions of objects having peculiar spectra on
 A2210 and A2211. Large Magellanic Cloud.

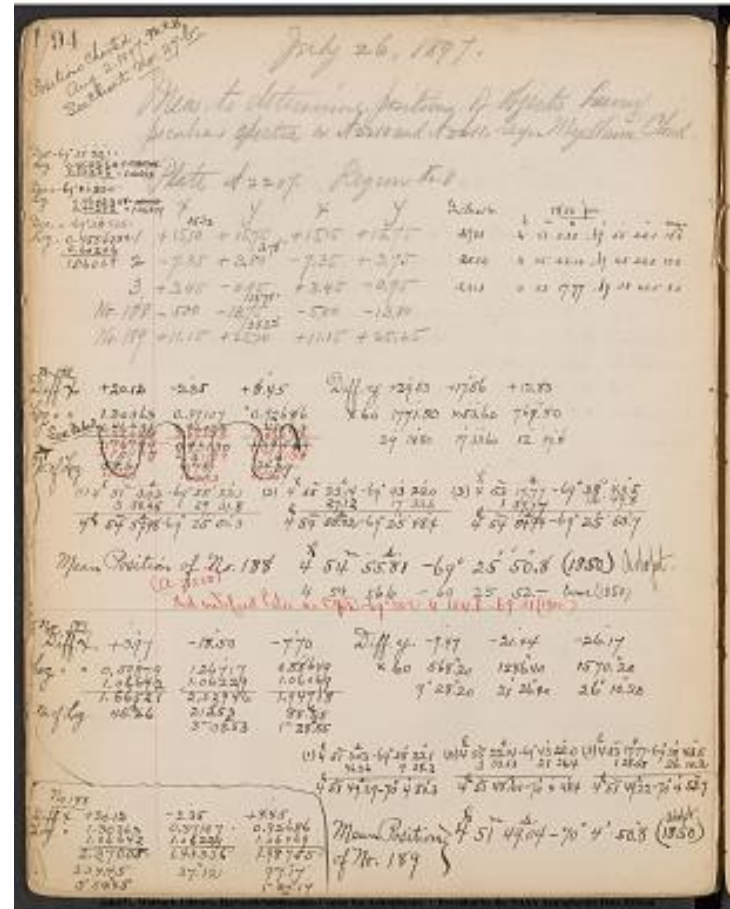
Plate A2207. Region No. 8

[9 columned table]
 | x|y|x|y|Gillies No.|1850 pos.| |Magn.|
 |---|---|---|---|---|---|
 |1|+15.10^15.12|+15.75|+15.15|+15.75|2783|4^|51^|3.03^|s|-
 |69° 55' 22.1"|10.0|
 |2|-7.35|+3.80^|3.78||-7.35|+3.75|2832|4 55 22.14|-69 43' 22.0"|
 |10.0|
3	+3.45	-0.95	+3.45	-0.95	2813	4 53 17.77	-69 38' 43.5"	8.0	
No. 188	-5.00	-13.75^	13.78		-5.00	-13.80			
No. 189	+11.15	+25.20^	25.22		+11.15	+25.25			

[left margin]
 [3 columned table]
 Dec. = -69° 55' 22.1" = |
 Log. [0.46436x4 = |
 |0.60206 = 1.06642|
 Dec. = -69° 43' 22.0" = |
 Log. [0.46023x4 = |
 |0.60206 = 1.06229|
 Dec. = -69° 38' 43.5" = |
 Log. [0.45863x4 = |
 |0.60206 = 1.06069|
 [left margin]

No. 188
 [8 columned table]
 Diff. X. |+20.12|-2.35|+8.45|Diff. Y. |+29.53|+17.56|+12.83|
 Log. Diff. X. |1.30363|0.37107|0.92686|X60|1771.80|1053.60|769.80|
 See
 Below 0.46436 | 0.46023 | 0.45863 |
 | 29° 31.80" | 17° 33.60" | 12° 49.8" |
 |
 |1.85744 | 1.84092 | 1.83452 |
 |
 |1.76799 | 0.83130 | 1.38549 |
 |3.16107 | 2.21199 | 2.76138 |
 No. of
 Log. |58.61^ | 6.78^ | 24.29^ |
 |
 |1449.0 | 162.93 | 577.27 |

[21 columned table]
 | (1) 4^ | 51^ | 3.03^ | s | -69° | 55' | 22.1" | (2) 4^ | 55^ | 55^ | m |



22.14^h 43^m 22.0^s (3) 4^h 53^m 17.77^s -69° 38'
 43.5"
 | 3 | 54.45 | 29 | 31.8 | 37.17 | 12 |
 27.12 | 17 | 33.6 | 1 | 37.17 | 12 |
 49.8 | 57.48^h 25^m 50.3^s 4^h 54^m 55.02^s -69° 25'
 48.4" 4^h 54^m 54.94^s -69° 25' 53.7"

[[3 columned table]]
 Mean Position of No. 188 4^h 54^m 55.81^s -69° 25'
 50.8" (1850) Adopt.
 (A 2210) 4 54 56.6 -69 25 52. -Curve(1850)

Identified later as CPD -69° 302 4 54.6 -69 21
 (1900)

No. 189
 [[8 columned table]]
 Diff. X. | +3.97 | -18.50 | -7.70 | -9.47 | -21.44 | -26.17 |
 Log. Diff. X. | 0.59879 | 1.26717 | 0.88649 | X60 | 568.20" | 1286.40" |
 1570.20"
 | 1.06642 | 1.06229 | 1.06069 | | 9' 28.20" | 21' 26.40" | 26' 10.20" |
 | 1.66521 | 2.32946 | 1.94718 | | | |
 No. of Log. | 46.26^h 213.53^m 88.55^s | | | |
 | 3^h 33.53^m 1^h 28.55^s | | | |

[[21 columned table]]
 (1) 4^h 51^m 3.03^s -69° 55' 22.1" (2) 4^h 55^m 22.14^s -69° 43' 22.0" (3) 4^h 53^m 17.77^s -69° 38' 43.5"
 | | 46.26 | 9 | 28.2 | 3 |
 33.53 | 21 | 26.4 | 1 | 28.55 | 26 |
 10.2 | 4^h 51^m 49.29^s -70° 4' 50.3" 4^h 51^m 48.61^s -70° 4' 48.4" 4^h 51^m 49.22^s -70° 4' 53.7"

No. 188
 [[4 columned table]]
 Diff. X. | +20.12 | -2.35 | +8.45 |
 Log. Diff X. | 1.30363 | 0.37107 | 0.92686 |
 | 1.06642 | 1.06229 | 1.06069 |
 | 2.37005 | 1.43336 | 1.98755 |
 | 234.45^h 27.12^m 97.19^s |
 | 3^h 54.45^m 1^h 37.17^s |

Mean Position } 43^h 51^m 49.04^s -70° 4' 50.8"
 (1850) (Adopt.)
 of No. 189 }

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September 7, 1897.

Meas. of bright lines in Gas. neb. Dryer 418. Sid. Meso. X, 240. mm. scale used.

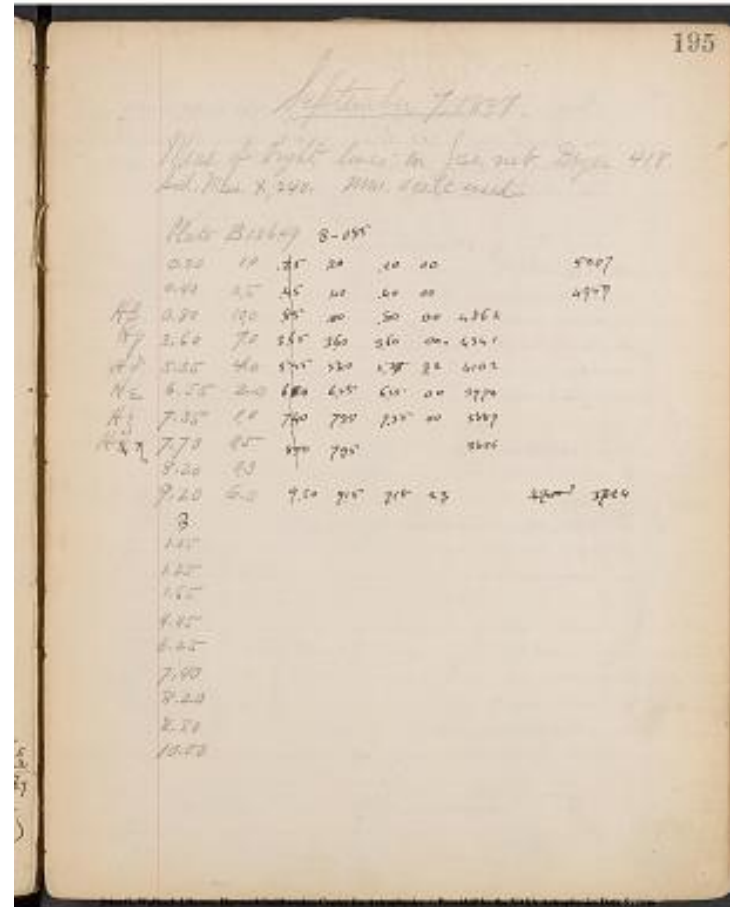
Plate B18649 B -0.85

[[10 columned table]]

0.20	1.0	25	20	20	00	5007
0.40	0.5	45	40	60	00	4959
H beta	0.80	10.0	85	80	00	4862
H						
gamma	3.60	7.0	3.65	3.60	3.60	00.4341
H						
delta	5.35	4.0	5.45	5.40	5.3	5.3
H						
epsilon	6.55	2.0	6.80	6.55	6.55	00.3970
H						
xi	7.35	1.0	7.40	7.35	7.35	00.3889
H						
epsilon	eta	7.70	0.5	8.00	8.00	7.95
		8.20	0.3			3836
		9.20	6.0	9.20	9.15	9.18
		3700	3724			

B

1.05
1.25
1.65
4.45
6.25
7.40
8.20
8.80
10.00



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September 11, 1897

Meas. to determine position of new star (No. 2 in Centaurus R.A. $11^{\text{h}} 9^{\text{m}}$ -47.7° (approx 1900). No. 9786 on B1902. Lines H_{γ} , H_{δ} and H_{ϵ} br. Cont. Sp. ft. Not found on chart plates.

B19002

[8 columned table]

| | x | y | Z.C. $11^{\text{h}} 9^{\text{m}}$ | 1875 pos.

~~magn.~~ | ~~magn.~~

| H_{γ} | H_{δ} | H_{ϵ} |

4. ~~55~~ | 25 | -

18. ~~65~~ | 90 | $298^{\text{h}} 11^{\text{m}} 3^{\text{s}}$ | 56.96° | $8\frac{1}{2}$ |

b	-2.30	-17.30	326	11 4 28.97	-47 51 48.2	9
c	+0.90	-0.80	370	11 5 4.79	-47 1 38.7	9
d	+10.15	-3.80	557	11 7 49.77	-47 8 31.1	$8\frac{1}{2}$
e	+16.20	-13.20	719	11 9 50.81	-47 34 39.9	$8\frac{1}{2}$
Nova ?	~~+8.00~~	~~+8.20~~	-10.70	---		

[6 columned table]

| | | | +65 | -45 |

| H_{δ} | H_{γ} | H_{ϵ} | H_{δ} | H_{γ} | H_{ϵ} |

| b | -2.30 | -17.95 | 17.95 | 17.90 |

| c | +0.90 | -1.50 | 1.45 | 1.45 |

| d | +10.15 | -4.45 | 4.45 | 4.45 |

| e | +16.20 | -13.70 | 13.85 | 13.75 |

| Nova ? | ~~+8.00~~ | ~~+8.20~~ | -11.50 | 11.35 | 11.45 |

[8 columned table]

| H_{δ} | H_{γ} | H_{ϵ} | H_{δ} | H_{γ} | H_{ϵ} |

19.0 | 20.00 | -4.25 | 000 | -19.55 | 000 |

| b | -2.30 | -18.35 | -7.30 | 000 | -17.93 | 22 | 3 |

| c | +0.90 | -1.90 | +0.90 | 000 | -1.47 | 2 | 3 | 2 |

| d | +10.15 | -4.90 | +10.15 | 000 | -4.45 | 000 |

| e | +16.20 | -14.20 | +16.20 | 000 | -

13.7 | ~~4~~ | 7 |

| ~~78.3~~ | 72 |

| | | ~~+8.00~~ | ~~+8.20~~ | -11.90 | +8.20 | 000 | - 11.43 | 72 |

[5 columned table]

Nova H_{δ} | H_{γ} | H_{ϵ} | H_{δ} | H_{γ} |

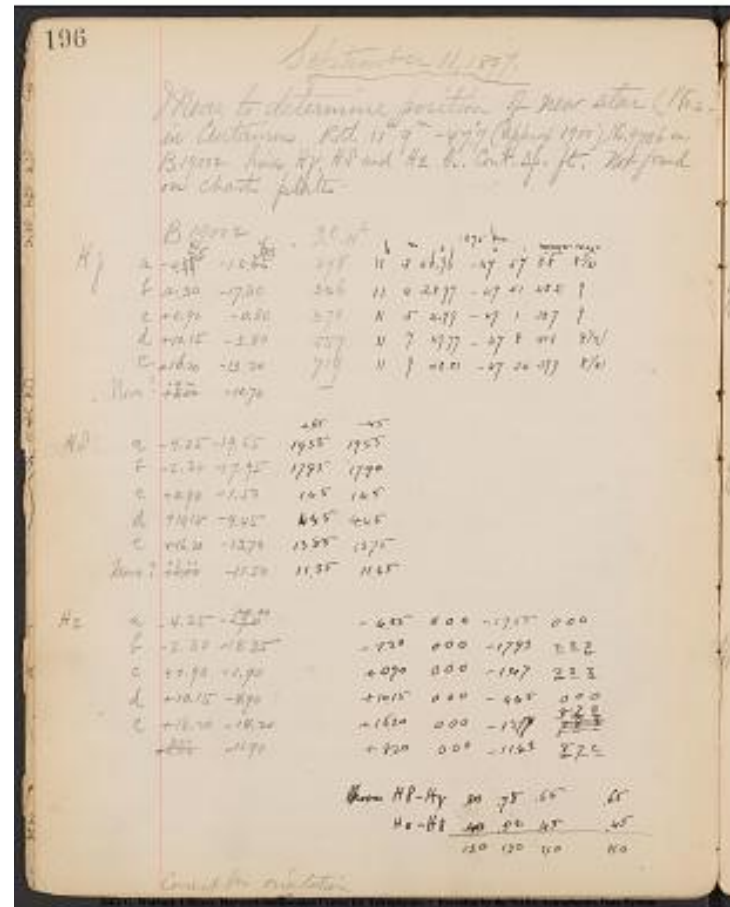
.80 | .78 | .65 | .65 |

| .40 | .52 | .45 | .45 | .40 |

| H_{δ} | H_{γ} | H_{ϵ} | H_{δ} | H_{γ} |

1.30 | 1.10 | 1.10 |

Correct for orientation



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September 11, 1897

Meas. to determine position of new star (No. 2 in Centaurus (Cont.)

Plate B19030 (On edge of Plate.

[[6 columned table]]

| | x|y| |Z.C. 11^h|

|---|---|---|---|

H gamma|a|-4.25|-15.70| |298|

|b|~~4.25~~-4.25~~16.45~~-2.30|~~16.45~~-14.10| |326|

off pl|c|---| |370|

|d|+10.10|-0.55| |557|

|e|+16.25|-9.65|9.75| |719|

Nova?|+8.10|-7.45|+8.15|-7.40|---|

H delta|a|-4.25|-16.45|-16.35|16.60|

|b|-2.30|-14.75|-14.75|16.80|

off pl.|~~16.45~~-14.10|---| | |

|d|+10.10|-1.25|-1.20|1.20|

|e|+16.25|10.40|-10.40^{10.30}|10.45|Nova?|+8.10|-8.20|+8.15|-8.20^{8.10}|8.30 8.25|

[[8 columned table]]

H epsilon|a|-4.25|16.85| |4.25|0 0 0|-16.40|5

|5|0||b|-2.30|-15.25| |4.30|0 0 0|-14.77|2 2 |3|3|

off pl.|c|---| | | | |

|d|+10.10|-1.65|+10.10|0 0 0|-12.2|2 |3|2|

|e|+16.25|-10.85| | | +16.25|0 0 0|-10.42|2 2

|3|3|Nova?|8.10|-8.75|-8.70|+8.12|2|3||2|3|3|2|3|3|8.18|8, 13,|2, 2, 12, 7|7|

[[right margin]]

8.10

8.05

8.20

8.20

8.30

|8.25|

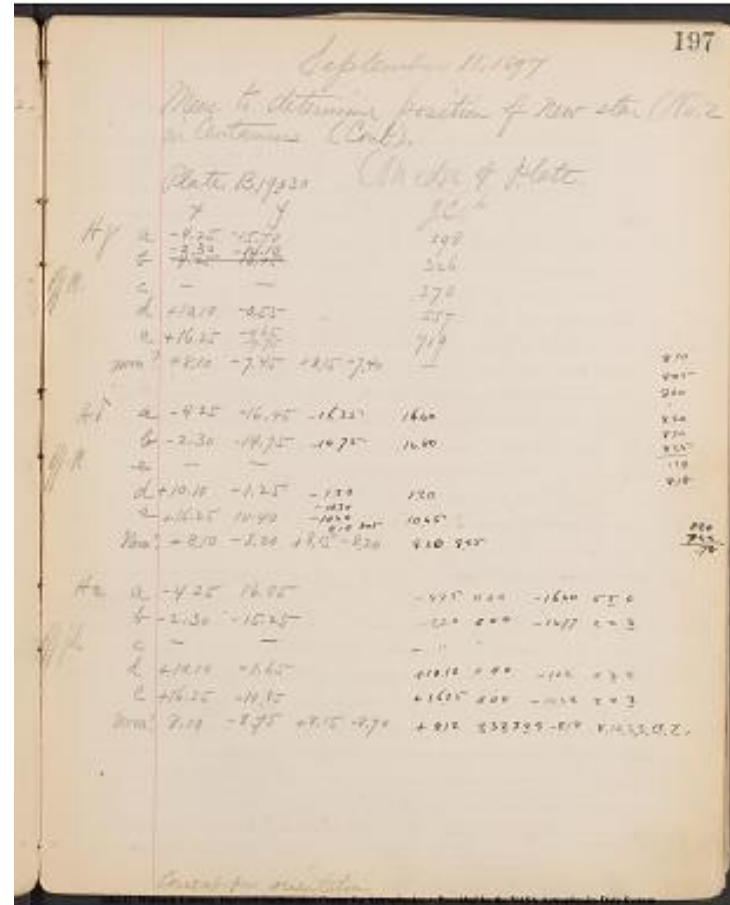
110

8.18

[[equation]]

[[/right margin]]

Correct for orientation

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Provided by the NASA Astrophysics Data System

September 11, 1897.

Meas. to determine position of new star (No. 2) in Centaurus (Cont).

Plate

~~P~~~~B1900~~~~2~~
4 (Near edge of plate. Very faint). Images very poor.

[[5 columned table]]

x|y|Z.C11^[[h]]|

---|---|---|

H gamma|a|-8.65|-13.65|298|

b|-7.70|-11.95|326|

c|---|370|

d|Too|poor|557|

e|Too|poor|719|

Nova|+~~4~~~~2.85~~|4.65|—|

H delta|a|-8.65|-14.35|14.30 14.30|

b|-7.70|-12.60|112.60? 12.65|

c|---|

d|Too|poor|

e|Too|poor|

~~ff~~ | | |

Nova|+2.85|5.30|(uncertain 5.30 5.30|

H epsilon|a|-8.65|-14.75|-8.65 000 -14.32 2

3 2b|-7.70|13.10|-7.70 000 -12.62 2 2 3

c|---|

d|Too|poor|

e|Too|poor|

Nova ~~ff~~ |+2.85|-5.75(uncertain)|+2.85
000 -5.30 000|

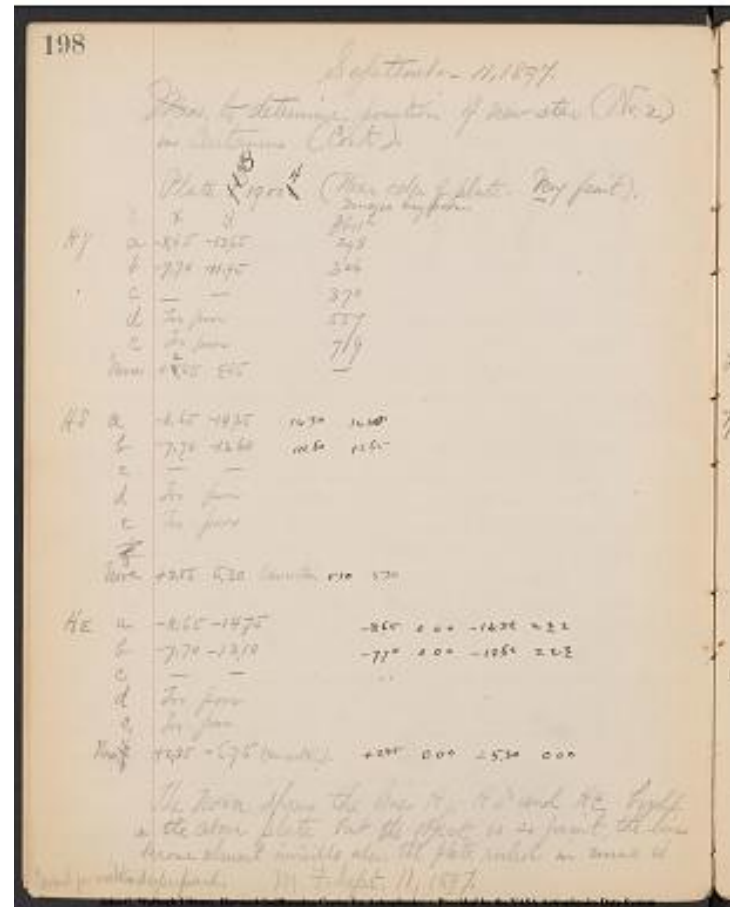
The Nova shows the lines H gamma, H delta and H epsilon bright in the above plate, but the object is so faint, the lines become almost invisible when the plate ruled in mins is superposed. M.F. Sept. 11, 1897

[[left margin]]

Correct for orientation

[[left margin]]

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Mean Dec. = -47° 30' 45.3" =

Log. = 0.17042

1.07700

1.24742

B19002

[7 columned table]

| x|y|Z.C. 11^h|[h]]| 1875 |

a|-4.25|-19.55|298|11^h|[h]]| 3^h|[m]| 56.96^s|[s]]|-47° 57' 8.8"|8½|

b|-2.30|-17.93|326|11 4 28.97|-47 51 48.2|9|

c|+0.90|-1.47|370|11 5 4.79|-47 1 38.7|9|

d|+10.15|-4.45|557|11 7 49.77|-47 8 31.1|8½|

e|+16.20|-13.77|719|11 9 50.81|-47 34 39.9|

Nova?|+8.20|-11.43|—| | |

[6 columned table]

Diff X.|-12.45|-10.50|-7.30|+1.95|+8.00|

Log. X|1.09517|1.02119|0.86332|0.29003|0.90309|

|1.24742|1.24742|1.24742|1.24742|1.24742|

|2.34259|2.26861|2.11074|1.53745|2.15051|

No. Log|220.08^s|[s]]|185.61|139.04|34.47^s|[s]]|141.42|

|3^h|[m]| 40.08^s|[s]]|3^h|[m]| 5.61^s|[s]]|2^h|[m]| 9.04^s|[s]]| 2^h|[m]| 21.42^s|[s]]|

[6 columned table]

Diff. Y.|-8.12|-6.50|+9.96|+6.98|-2.34|

X. 179|1453.48"|1163.50"|1782.84"|1249.42"|418.86"|

|24' 13.48|19' 23.50|29' 42.84|20' 49.42|6' 58.86|

[21 columned table]

(a)|11^h|[h]]|3^h|[m]| 56.96^s|[s]]|-47° 57' 8.8"| (b)|11^h|[h]]|4^h|[m]| 28.97^s|[s]]|-47° 51' 48.2"| (c)|11^h|[h]]|5^h|[m]| 4.79^s|[s]]|-47° 1' 38.7"|

|340.08| 24|13.5| | 3|5.61| 19|23.5| | 2|9.04|

29|42.8|719|

| 11^h|[h]]|7^h|[m]| 37.04^s|[s]]|-47° 32' 55.3"| 11^h|[h]]|7^h|[m]| 34.58^s|[s]]|-47° 32' 24.7"|

| 11^h|[h]]|7^h|[m]| 13.83^s|[s]]|-47° 31' 21.5"|

(d)|11^h|[h]]|7^h|[m]| 49.77^s|[s]]|-

47° 8' 31.1"| (e)|11^h|[h]]|9^h|[m]| 50.81^s|[s]]|-47° 34' 39.9"| | | | | |

|34.47| 20|49.4| | 2|21.42|

6|58.9|719|

| 11^h|[h]]|17^h|[m]| 15.30^s|[s]]|-47° 29' 20.5"| 11^h|[h]]|7^h|[m]| 29.39^s|[s]]|-47° 27' 41.0"| | | | | |

Mean Position of Nova? 11^h|[h]]| 7^h|[m]| 26.03^s|[s]] -47° 30'

44.~~8~~ (1875)

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

Mean Dec. = -47° 30' 45.3" = 199
Log. = 0.17042
1.07700
1.24742

B19002	x	y	z	1875
a	-4.25	-19.55	298	11 3 56.96 -47 57 8.8 8½
b	-2.30	-17.93	326	11 4 28.97 -47 51 48.2 9
c	+0.90	-1.47	370	11 5 4.79 -47 1 38.7 9
d	+10.15	-4.45	557	11 7 49.77 -47 8 31.1 8½
e	+16.20	-13.77	719	11 9 50.81 -47 34 39.9
Nova?	+8.20	-11.43	—	—

Diff. X.	-12.45	-10.50	-7.30	+1.95	+8.00
Log. X.	1.09517	1.02119	0.86332	0.29003	0.90309
	1.24742	1.24742	1.24742	1.24742	1.24742
	2.34259	2.26861	2.11074	1.53745	2.15051
No. Log.	220.08	185.61	139.04	34.47	141.42
	3 ^h 40.08	3 ^h 5.61	2 ^h 9.04	2 ^h 21.42	

Diff. Y.	-8.12	-6.50	+9.96	+6.98	-2.34
X.	1453.48	1163.50	1782.84	1249.42	418.86
	24' 13.48	19' 23.50	29' 42.84	20' 49.42	6' 58.86

(a)	11 3 56.96 -47 57 8.8	(b)	11 4 28.97 -47 51 48.2	(c)	11 5 4.79 -47 1 38.7
	340.08	24 13.5	3 5.61	19 23.5	2 9.04
	29 42.8	719			
	11 7 37.04 -47 32 55.3	11 7 34.58 -47 32 24.7	11 7 13.83 -47 31 21.5		
	11 7 49.77 -47 8 31.1	11 7 50.81 -47 34 39.9			
	34.47	20 49.4	2 21.42		
	6 58.9	719			
	11 17 15.30 -47 29 20.5	11 7 29.39 -47 27 41.0			

Mean Position of Nova? 11^h 7^h 26.03^s -47° 30' 44.8" (1875)

[[2 columned table]]

Mean Dec. = $-47^{\circ} 38' 20'' = |\text{Log } 0.17142|$ | 1.07700 |

| 1.24842 |

B19030

[[7 columned table]]

| x | y | Z.C. $11^{\circ} [h]$ | 1875. | |

|-----|

a | 4.25 | -16.40 | 298 | $11^{\circ} [h]$ | $3^{\circ} [m]$ | $56.96^{\circ} [s]$ | $-47^{\circ} 57' 8.8''$ | $8\frac{1}{2}$ |b | 2.30 | -14.77 | 326 | $11^{\circ} 4'$ | 28.97 | $-47^{\circ} 51' 48.2''$ | 9 |d | +10.10 | -1.22 | 557 | $11^{\circ} 7'$ | 49.77 | $-47^{\circ} 8' 31.1''$ | $8\frac{1}{2}$ |e | +16.25 | -10.42 | 719 | $11^{\circ} 9'$ | 50.81 | $-47^{\circ} 34' 39.9''$ | $8\frac{1}{2}$ |

| Nova? | +8.12 | -8.18 | | | | |

[[5 columned table]]

Diff. X. | -12.37 | -10.42 | +1.98 | +8.13 |

|-----|

Log. X. | 1.09237 | 1.01787 | 0.29667 | 0.91009 |

| 1.24842 | 1.24842 | 1.24842 | 1.24842 |

| 2.34079 | 2.26629 | 1.54509 | 2.15851 |

No. Log. | 219.17 | $17^{\circ} [s]$ | 184.62 | $15^{\circ} [s]$ | 35.08 | $14^{\circ} [s]$ || 3^{\circ} [m] | 39.17 | 3^{\circ} [m] | 4.62 | 2^{\circ} [m] || 24.05 | 16.9 |

[[5 columned table]]

Diff. Y. | -8.22 | -6.59 | +6.96 | -2.24 |

|-----|

X

179 | 1471.38" | 1179.61" | 1245.84" | 4 | ~~1~~ | 0.96"

| 24' 31.38" | 19' 39.61" | 20' 45.84" | 6' |

| ~~5~~ | 40.96" |

[[21 columned table]]

(a) | $11^{\circ} [h]$ | $3^{\circ} [m]$ | $56.96^{\circ} [s]$ | - $47^{\circ} 57' 8.8''$ | (b) | $11^{\circ} [h]$ | $4^{\circ} [m]$ | $28.9^{\circ} [s]$ | 7 | - $47^{\circ} 51' 48.2''$ | (d) | $11^{\circ} [h]$ | $7^{\circ} [m]$ | $49.77^{\circ} [s]$ | $-47^{\circ} 8' 31.1''$ || 3 | 39.17 | 24 | 31.4 | 35.08 | 20 | 45.8 | 34.62 || 19 | 39.6 | 35.08 | 20 | 45.8 | 34.62 || $11^{\circ} [h]$ | $7^{\circ} [m]$ | $36.13^{\circ} [s]$ | $-47^{\circ} 32' 37.4''$ | $11^{\circ} [h]$ | $7^{\circ} [m]$ | $33.59^{\circ} [s]$ | $-47^{\circ} 32' 8.6''$ | $11^{\circ} [h]$ | $7^{\circ} [m]$ | $14.69^{\circ} [s]$ | - $47^{\circ} 29' 16.9''$ |(e) | $11^{\circ} [h]$ | $9^{\circ} [m]$ | $50.81^{\circ} [s]$ | $-47^{\circ} 34' 39.9''$ | | | | | | | | | || 2 | 24.05 || ~~6~~ | ~~5~~ | 41.0 | | | | | | | | | || $11^{\circ} [h]$ | $7^{\circ} [m]$ | $26.76^{\circ} [s]$ | - $47^{\circ} 27' 11.9''$ | ~~4~~ | ~~58.9~~ | | | | | | | | | |

| | | |

200

Mean Dec. = $-47^{\circ} 38' 20'' = |\text{Log } 0.17142|$
 1.07700
 1.24842

B19030

	x	y	Z.C.	$11^{\circ} [h]$	$3^{\circ} [m]$	$56.96^{\circ} [s]$	$-47^{\circ} 57' 8.8''$	$8\frac{1}{2}$
a	4.25	-16.40	298	$11^{\circ} [h]$	$3^{\circ} [m]$	$56.96^{\circ} [s]$	$-47^{\circ} 57' 8.8''$	$8\frac{1}{2}$
b	2.30	-14.77	326	$11^{\circ} 4'$	28.97	$-47^{\circ} 51' 48.2''$		9
d	+10.10	-1.22	557	$11^{\circ} 7'$	49.77	$-47^{\circ} 8' 31.1''$		$8\frac{1}{2}$
e	+16.25	-10.42	719	$11^{\circ} 9'$	50.81	$-47^{\circ} 34' 39.9''$		$8\frac{1}{2}$
Nova?	+8.12	-8.18						

Diff. X. -12.37 -10.42 +1.98 +8.13

Log. X. 1.09237 1.01787 0.29667 0.91009

1.24842 1.24842 1.24842 1.24842

2.34079 2.26629 1.54509 2.15851

No. Log. 219.17 $17^{\circ} [s]$ 184.62 $15^{\circ} [s]$ 35.08 $14^{\circ} [s]$

3^{\circ} [m] 39.17 3^{\circ} [m] 4.62 2^{\circ} [m]

24.05 16.9

Diff. Y. -8.22 -6.59 +6.96 -2.24

X

179 | 1471.38" | 1179.61" | 1245.84" | 4 | ~~1~~ | 0.96"

24' 31.38" 19' 39.61" 20' 45.84" 6'

~~5~~ | 40.96" |

Mean Position of Nova. $11^{\circ} 7' 27.79'' -47^{\circ} 30' 28.0'' (1875)$

Mean Position of Nova? 11^h 7^m 27.79^s -47° 30'
[[~~28.0~~]]30.4 (1875)

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201

Mean Dec. = $-47^{\circ} 54' 28.5''$ = Log. 0.17372
1.07700

1.25072
B1900 ~~[[[strikethrough]]]~~ 2 ~~[[[strikethrough]]]~~ 4
| x|y|3.C.| | 1875.| |
| | | 11h|h|m|s.| | |
a| -8.65|-14.32|298|11|3|56.96|-47°|57'|8.8".|8 1/2
b|-7.70|-12.62|326|11|4|28.97|-47|51|48.2|9
Nova: ~~[[[?]]]~~ +2.85|-5.30

Diff. x.
| -11.50|-10.55
Log. | 1.06070|1.02325
| 1.25072|1.25072

| 2.31142|2.27397
| s.|s.
No. Log. | 204.84|187.92
| 3^m 24.84|3^m 7.92

Diff. y. | -9.02|-7.32
x 179|1614'.58|1310."28
| 26' 54."58|21' 50."28

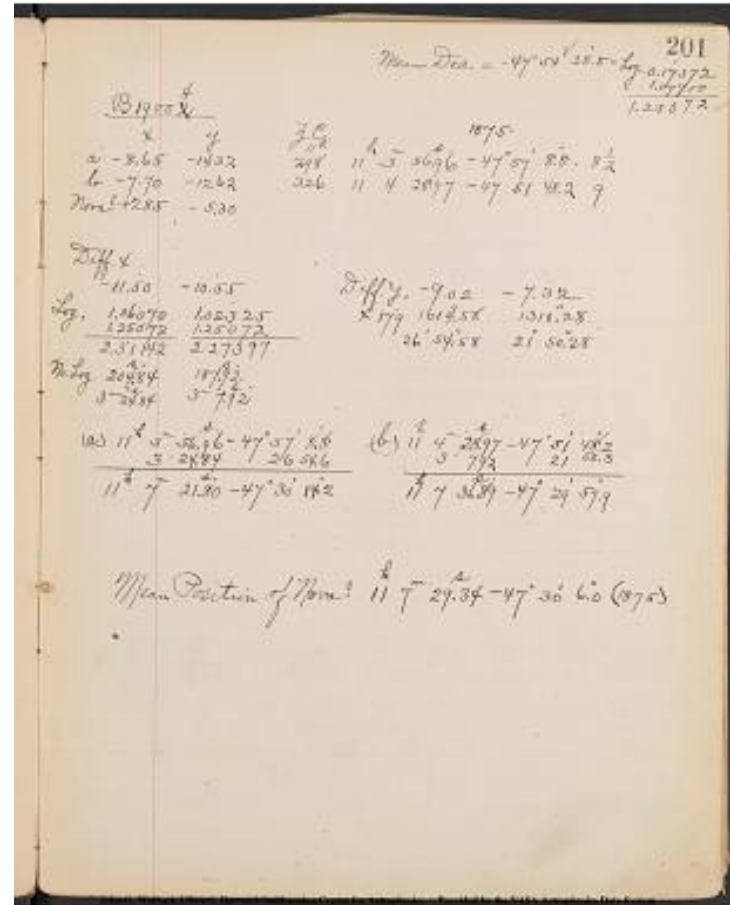
S.
(a) 11^h 3^m 56.96-47° 57' 8.8"
3 24.84 26 54.6

S.
11^h 7^m 21.80-47° 30' 14.2"

S.
(b) 11^h 4^m 28.97-47° 51' 48.2"
3 7.92 21 50.3

S.
11^h 7 36.89-47° 29' 57.9"

S.
Mean Position of Nova? 11^h 7^m 29.34-47° 30' 6.0" (1875)



Project PHaEDRA - Williamina P. Fleming - Variable Stars #4
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Extracted Dec-02-2022 11:17:38

202.

September ~~29~~~~30~~,
1897.

Positions charted. M.C.S.
See chart. No. 28b.
Var. No. 78

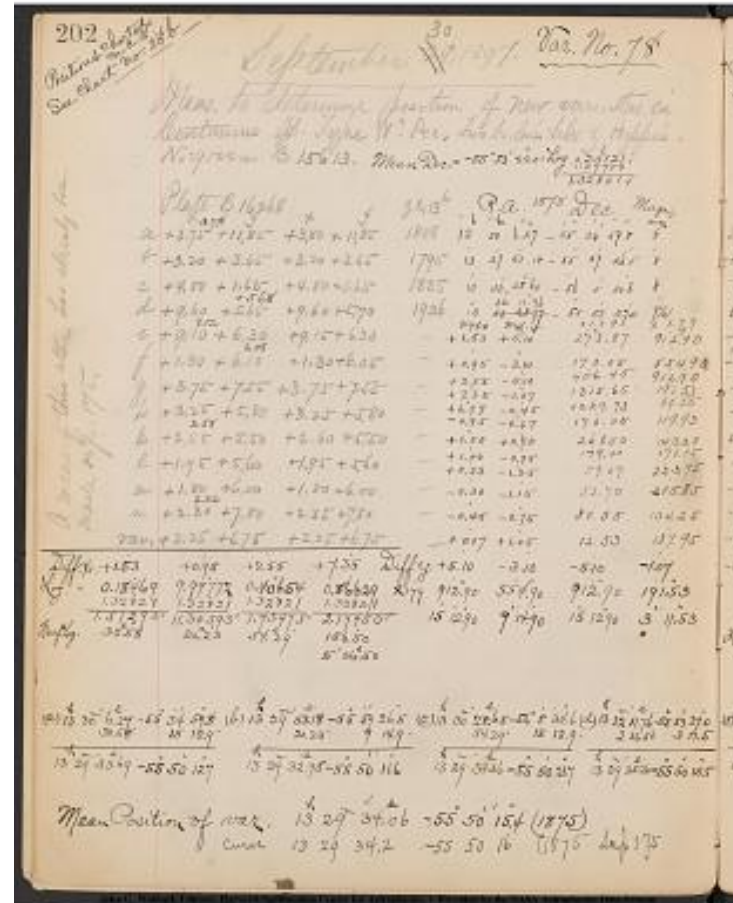
Meas. to determine position of new var. star in Centaurus SP. Type W?
Pec. Two br lines like zeta Puppis. No. 9122 on B 15613.

2 columned table
Mean Dec. = -55° 53' 22.0 = Log. 0.25121
| 1.07700
| 1.32821

A meas. of this star has already been made on p. 175.

Plate B 16268
9 columned table
x	y	x	y	Z.C. 13^h	R.A. 1875	Dec.	Magn.
a	+3.75	+11.85	+3.80	+11.85	1808	13 30 6.27	-55 34 59.8
b	+3.20	+3.65	+3.20	+3.65	1795	13 29 53.18	-55 59 26.5
c	+4.80	+1.65	+4.80	+1.65	1835	13 30 28.65	-56 5 34.6
d	+9.60	+5.65	+9.60	+5.65	1936	13 32 11.76	-55 53 27.0
---	---	---	---	---	---	---	---
Diff. X.	Diff. Y.	X 179	X 179				
---	---	---	---				
e|+9.10|+9.12|+6.30|+9.15|+6.30|+1.53|+5.10|273.87|912.90|
f|+1.30|+6.10|+6.08|+1.30|+6.05|+0.95|-3.10|170.05|554.90|
g|+3.75|+7.55|+3.75|+7.55|---|---|---|---|
h|+2.55|7.35|-5.10|-1.07|456.45|1315.65|912.90|191.53|
i|+3.25|+5.80|+3.25|+5.80|---|---|---|---|
j|+6.87|-0.95|-0.45|-0.67|1229.73|170.05|80.55|119.93|
k|+2.55|+5.50|+2.60|+5.50|---|---|---|---|
l|+1.50|+1.00|+0.80|-0.95|268.50|179.00|143.20|170.05|
m|+1.95|+5.60|+1.95|+5.60|---|---|---|---|
n|+1.00|+0.33|-0.95|-1.25|179.00|59.07|170.05|223.75|
o|+1.80|+6.00|+1.80|+6.00|---|---|---|---|
p|-0.30|-1.15|53.70|205.85|---|---|---|---|
q|+2.30|+2.32|+7.80|+2.35|+7.80|---|---|---|---|
r|-0.45|-0.75|80.55|134.25|---|---|---|---|
s|+2.25|+6.75|+2.25|+6.75|---|---|---|---|
t|+0.07|+1.05|12.53|187.95|---|---|---|---|

five-columned table
Diff. X. | +1.53 | +0.95 | +2.55 | +4.35 |
|---|---|---|---|
Log. X | 0.18469 | 9.97772 | 0.40654 | 0.86629 |
|---|---|---|---|
1.32821 1.32821 1.32821 1.32821



erline]]1.32821[[/underline]]1.32821[[/underline]]
 |1.51290[[checkmark]]|11.30593[[checkmark]]|1.73475[[checkmark]]|2.1
 9450[[checkmark]]
s	s	s		
No. of Log.	32.58	20.23	54.29	156.50
			s	
			2^[[m]] 36.50	

[[five-columned table]]
Diff.y.	+5.10	-3.10	-5.10	-1.07
X179	912".90	554".90	912".90	191".53
1'5 12".90	9'14".90	1'5 12".90	3' 11".53	

[[seven-columned table]]
h	s					
(a)	13	30^[[m]]	6.27	-55°	3'4	59".8
[[underlined]]		32.58		15	12.9[[/underlined]]	
h	s					
13	29^[[m]]	33.69	-55°	5'0	12".7	

[[seven-columned table]]
h	s					
(b)	13	29^[[m]]	53.18	-55°	5'9	26".5
[[underlined]]		20.23		9	14.9[[/underlined]]	
h	s					
13	29^[[m]]	32.95	-55°	5'0	11".6	

[[seven-columned table]]
h	s					
(c)	13	29^[[m]]	28.65	-56°	5'	34".6
[[underlined]]		54.29		15	12.9[[/underlined]]	
h	s					
13	29^[[m]]	34.36	-55°	5'0	21".7	

[[seven-columned table]]
h	s					
(d)	13	32^[[m]]	11.76	-55°	5'3	27".0
[[underlined]]		2	36.50		3	11/5[[/underlined]]
h	s					
13	29^[[m]]	35.26	-55°	5'0	15".5	

[[eight-columned table]]
 | |h|s| | | |
 |---|---|---|---|---|
 |Mean Position of var.|13|29^[[m]]|34.06|-55°|5'0|15".4|(1875)
 |curve|13|29|34.2|-55|50|16|(1875)

Dad 175

September 30, 1897.

Positions charted.

M.C.S.

See Chart No. 28b

Meas. to determine pos. of new var. star in Pavonis, R.A. $17^{\circ} 38' [m]$
Dec. -62°

[[2 columned table]]

Mean Dec. = $-62^{\circ} 19' 48.0'' = [\text{Log. } 0.33313]$ | 1.07700

| 1.41013

Plate B17079

[[11 columned table]]

Diff X. Diff Y. | x|y|x|y|Z.C. $17^{\circ} [h]$ | R.A. 1875 | Dec. | Mag. || | | 5|+7.80|+20.75|[20.78]|+7.80|+20.80|A.G.C. 24106| $17^{\circ} [h]$

| 38|[m]| 50.28|[s]| -61' 52' 44.6"|7.1|

|+0.22|+9.58|a|+6.95|+5.70|+6.95|+5.70|2623|17 38 26.96|-62 37 57.1|8|

|-0.63|-5.50|b|+10.10|+6.60|+10.10|+6.60|A.G.C. 24126 2698|17 39

48.08|-62 35 29.5|8|

|+2.52|-4.60|c|+3.20|+3.18|+0.65|[0.62]|+3.15|+0.60| | | |

|-4.40|-10.58|d|+9.70|+9.72|+10.75|+9.75|+10.75|2685|17 39 38.42|-62

22 47.2|8 1/2|

|-3.38|[+2.14]|+3.88|[-

0.45]|e|+4.20|+15.10|[15.08]|+4.20|+15.05|2539|17 37

15|~~12~~|15| -62 10 1.4| 9 |

[[10 columned table]]

|-3.78|-

5.12|f|+3.80|+6.10|[6.08]|+3.80|+~~5~~|6.05|

-|X 1.79|X 1.79|

|-3.26|+1.60|g|+4.35|[4.32]|+12.80|+4.30|+12.80|-|

|112.77|[39.38]|x| 984.50|[17 140.82]|y|

|+0.24|-1.98|h|+7.85|[7.82]|+9.20|[9.22]|+7.80 | +9.25|-|

787.60|[451.08]| 1893.82|[823.40]|

|-1.10|-0.82|i|+6.50|[6.48]|+10.35|+10.38|+6.45 | +10.40|-|

605.02|[383.06]| 694.52|[80.55]|

|-1.43|-0.38|j|+6.15|+10.85|[10.82]|+6.15|+10.80|-| 583.54|[676.62]|

286.40|[916.48]|

|-0.78|-0.45|m|+6.80|+10.75|+6.80|+10.75|-| 196.90|[42.96]| 354.42|

|-0.78n|-

0.05|[~~var~~]|+6.80|+11.15|+6.80|+11.15| |

50.12|[139.62]| 62.65|[8.95]|

|-0.28|+0.35|o|+7.30|+11.55|+7.30|+11.55| | 139.62|[255.97]|

68.02|[146.78]|

| | var |+7.60|[7.58]|+11.20|+7.55|+11.20|

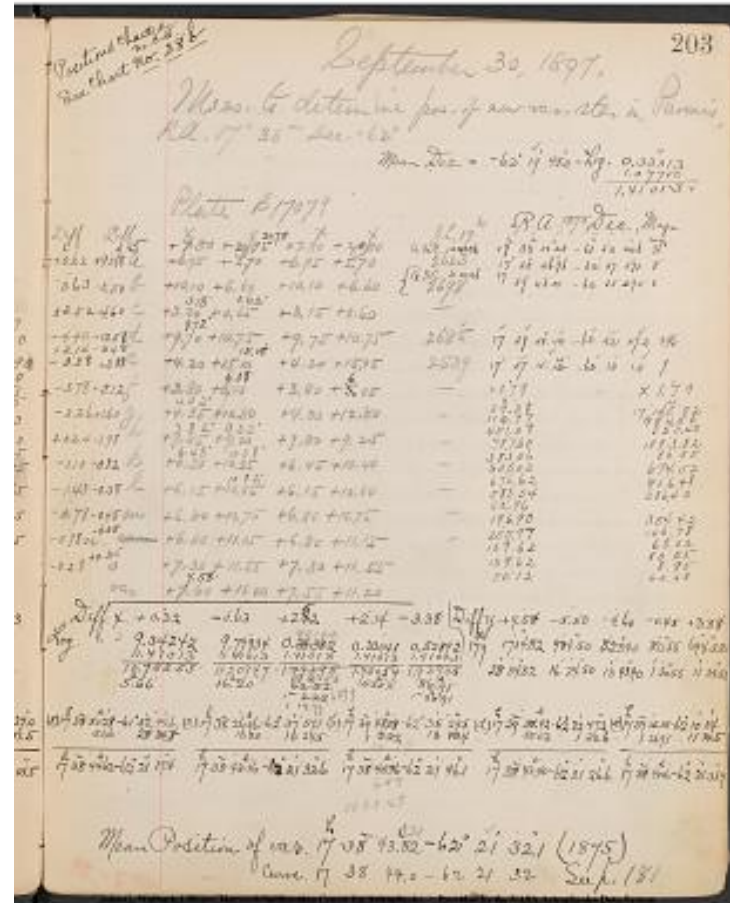
[[right margin]]

[[6 columned table]]

| Diff. Y. | +9.58 | -5.50 | -4.60 | -0.45 | +3.88 |

| X 179 | 1714.82" | 984.50" | 823.40" | 80.55" | 694.52" |

| | 28' 34.82" | 16' 24.50" | 13' 43.40" | 1' 20.55" | 11' 34.52" |



[[/right margin]]

[[left margin]]

[[6 columned table]]

| Diff. X. | +0.22 | -0.63 | +2.~~4~~52 | +2.14 |
-3.38 |
| Log. X | 9.34242 | 9.79934 |
0.~~38382~~40140 | 0.33041 | 0.52892 |
| 1.41013 | 1.41013 | 1.41013 | 1.41013 | 1.41013 |
| 10.75255 | 11.20947 |
1.~~79395~~81153 | 1.74054 | 1.93905 |
| 5.66^s | 16.20^s | ~~62.22~~811.53^s |
55.02^s | 86.91^s |
| | 1^m | ~~2.22~~64.79^s | 1^m |
26.91^s |
[[/left margin]]

[[35 columned table]]

(5) 17^h 38^m 50.28^s -61° 52' 44.6" (a) 17^h 38^m 26.96^s -62° 37' 57.1" (b) 17^h 39^m 48.08^s -62° 35' 29.5" (d) 17^h 39^m 38.42^s -62° 22' 47.2" (e) 17^h 37^m 15.15^s -62° 10' 1.4"
| 5.66 | 28 | 34.8 | 16.20 | 16 | 24.5 | 2.22 | 14.79 | 13 | 43.4 |
~~2.22~~ | 1 | 20.6 | 1 | 26.91 | 11 | 34.5 |
| 17^h 38^m 44.62^s -62° 21' 19.4" | 17^h 38^m 43.16^s -62° 21' 32.6" | 17^h 38^m ~~45.86~~ |
28.7~~33.29~~^s -62° 21' 46.1" | 17^h 38^m 43.40^s -62° 21' 26.6" | 17^h 38^m 42.06^s -62° 21' 35.9" |

Mean Position of var. 17^h 38^m

43.~~82~~3.1^s -62° 21' 32.1" (1875)

Curve. 17 38 44.0 -62 21 32 See p. 181

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

Project PHaEDRA - Williamina P. Fleming - Variable Stars #4
Transcribed and Reviewed by Digital Volunteers
Extracted Dec-02-2022 11:17:38

Positions charted.

M.C.S.

See Chart No. 28b.

September 30, 1897.

Meas. to determine position of ^{comparison stars of} new var. in
Phoenix marked by Dr L. Stewart as bright line (hydrogen?).
Classified as Md and found to be variable by M. Fleming.

[[2 columned table]]

Mean Dec. = $-47^{\circ} 5' 46.6'' = \text{Log. } 0.16700$ | 1.07700 |

| 1.24400 |

Plate B 5706

[[9 columned table]]

| ~~6~~ | ~~7~~ | ~~8~~ | ~~9~~ | ~~10~~ | ~~11~~ | ~~12~~ | ~~13~~ | ~~14~~ | ~~15~~ | ~~16~~ | ~~17~~ | ~~18~~ | ~~19~~ | ~~20~~ | ~~21~~ | ~~22~~ | ~~23~~ | ~~24~~ | ~~25~~ | ~~26~~ | ~~27~~ | ~~28~~ | ~~29~~ | ~~30~~ | ~~31~~ | ~~32~~ | ~~33~~ | ~~34~~ | ~~35~~ | ~~36~~ | ~~37~~ | ~~38~~ | ~~39~~ | ~~40~~ | ~~41~~ | ~~42~~ | ~~43~~ | ~~44~~ | ~~45~~ | ~~46~~ | ~~47~~ | ~~48~~ | ~~49~~ | ~~50~~ | ~~51~~ | ~~52~~ | ~~53~~ | ~~54~~ | ~~55~~ | ~~56~~ | ~~57~~ | ~~58~~ | ~~59~~ | ~~60~~ | ~~61~~ | ~~62~~ | ~~63~~ | ~~64~~ | ~~65~~ | ~~66~~ | ~~67~~ | ~~68~~ | ~~69~~ | ~~70~~ | ~~71~~ | ~~72~~ | ~~73~~ | ~~74~~ | ~~75~~ | ~~76~~ | ~~77~~ | ~~78~~ | ~~79~~ | ~~80~~ | ~~81~~ | ~~82~~ | ~~83~~ | ~~84~~ | ~~85~~ | ~~86~~ | ~~87~~ | ~~88~~ | ~~89~~ | ~~90~~ | ~~91~~ | ~~92~~ | ~~93~~ | ~~94~~ | ~~95~~ | ~~96~~ | ~~97~~ | ~~98~~ | ~~99~~ | ~~100~~ | ~~101~~ | ~~102~~ | ~~103~~ | ~~104~~ | ~~105~~ | ~~106~~ | ~~107~~ | ~~108~~ | ~~109~~ | ~~110~~ | ~~111~~ | ~~112~~ | ~~113~~ | ~~114~~ | ~~115~~ | ~~116~~ | ~~117~~ | ~~118~~ | ~~119~~ | ~~120~~ | ~~121~~ | ~~122~~ | ~~123~~ | ~~124~~ | ~~125~~ | ~~126~~ | ~~127~~ | ~~128~~ | ~~129~~ | ~~130~~ | ~~131~~ | ~~132~~ | ~~133~~ | ~~134~~ | ~~135~~ | ~~136~~ | ~~137~~ | ~~138~~ | ~~139~~ | ~~140~~ | ~~141~~ | ~~142~~ | ~~143~~ | ~~144~~ | ~~145~~ | ~~146~~ | ~~147~~ | ~~148~~ | ~~149~~ | ~~150~~ | ~~151~~ | ~~152~~ | ~~153~~ | ~~154~~ | ~~155~~ | ~~156~~ | ~~157~~ | ~~158~~ | ~~159~~ | ~~160~~ | ~~161~~ | ~~162~~ | ~~163~~ | ~~164~~ | ~~165~~ | ~~166~~ | ~~167~~ | ~~168~~ | ~~169~~ | ~~170~~ | ~~171~~ | ~~172~~ | ~~173~~ | ~~174~~ | ~~175~~ | ~~176~~ | ~~177~~ | ~~178~~ | ~~179~~ | ~~180~~ | ~~181~~ | ~~182~~ | ~~183~~ | ~~184~~ | ~~185~~ | ~~186~~ | ~~187~~ | ~~188~~ | ~~189~~ | ~~190~~ | ~~191~~ | ~~192~~ | ~~193~~ | ~~194~~ | ~~195~~ | ~~196~~ | ~~197~~ | ~~198~~ | ~~199~~ | ~~200~~ | ~~201~~ | ~~202~~ | ~~203~~ | ~~204~~ | ~~205~~ | ~~206~~ | ~~207~~ | ~~208~~ | ~~209~~ | ~~210~~ | ~~211~~ | ~~212~~ | ~~213~~ | ~~214~~ | ~~215~~ | ~~216~~ | ~~217~~ | ~~218~~ | ~~219~~ | ~~220~~ | ~~221~~ | ~~222~~ | ~~223~~ | ~~224~~ | ~~225~~ | ~~226~~ | ~~227~~ | ~~228~~ | ~~229~~ | ~~230~~ | ~~231~~ | ~~232~~ | ~~233~~ | ~~234~~ | ~~235~~ | ~~236~~ | ~~237~~ | ~~238~~ | ~~239~~ | ~~240~~ | ~~241~~ | ~~242~~ | ~~243~~ | ~~244~~ | ~~245~~ | ~~246~~ | ~~247~~ | ~~248~~ | ~~249~~ | ~~250~~ | ~~251~~ | ~~252~~ | ~~253~~ | ~~254~~ | ~~255~~ | ~~256~~ | ~~257~~ | ~~258~~ | ~~259~~ | ~~260~~ | ~~261~~ | ~~262~~ | ~~263~~ | ~~264~~ | ~~265~~ | ~~266~~ | ~~267~~ | ~~268~~ | ~~269~~ | ~~270~~ | ~~271~~ | ~~272~~ | ~~273~~ | ~~274~~ | ~~275~~ | ~~276~~ | ~~277~~ | ~~278~~ | ~~279~~ | ~~280~~ | ~~281~~ | ~~282~~ | ~~283~~ | ~~284~~ | ~~285~~ | ~~286~~ | ~~287~~ | ~~288~~ | ~~289~~ | ~~290~~ | ~~291~~ | ~~292~~ | ~~293~~ | ~~294~~ | ~~295~~ | ~~296~~ | ~~297~~ | ~~298~~ | ~~299~~ | ~~300~~ | ~~301~~ | ~~302~~ | ~~303~~ | ~~304~~ | ~~305~~ | ~~306~~ | ~~307~~ | ~~308~~ | ~~309~~ | ~~310~~ | ~~311~~ | ~~312~~ | ~~313~~ | ~~314~~ | 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~~415~~ | ~~416~~ | ~~417~~ | ~~418~~ | ~~419~~ | ~~420~~ | ~~421~~ | ~~422~~ | ~~423~~ | ~~424~~ | ~~425~~ | ~~426~~ | ~~427~~ | ~~428~~ | ~~429~~ | ~~430~~ | ~~431~~ | ~~432~~ | ~~433~~ | ~~434~~ | ~~435~~ | ~~436~~ | ~~437~~ | ~~438~~ | ~~439~~ | ~~440~~ | ~~441~~ | ~~442~~ | ~~443~~ | ~~444~~ | ~~445~~ | ~~446~~ | ~~447~~ | ~~448~~ | ~~449~~ | ~~450~~ | ~~451~~ | ~~452~~ | ~~453~~ | ~~454~~ | ~~455~~ | ~~456~~ | ~~457~~ | ~~458~~ | ~~459~~ | ~~460~~ | ~~461~~ | ~~462~~ | ~~463~~ | ~~464~~ | ~~465~~ | ~~466~~ | ~~467~~ | ~~468~~ | ~~469~~ | ~~470~~ | ~~471~~ | ~~472~~ | ~~473~~ | ~~474~~ | ~~475~~ | ~~476~~ | ~~477~~ | ~~478~~ | ~~479~~ | ~~480~~ | ~~481~~ | ~~482~~ | ~~483~~ | ~~484~~ | ~~485~~ | ~~486~~ | ~~487~~ | ~~488~~ | ~~489~~ | ~~490~~ | ~~491~~ | ~~492~~ | ~~493~~ | ~~494~~ | ~~495~~ | ~~496~~ | ~~497~~ | ~~498~~ | ~~499~~ | ~~500~~ | ~~501~~ | ~~502~~ | ~~503~~ | ~~504~~ | ~~505~~ | ~~506~~ | ~~507~~ | ~~508~~ | ~~509~~ | ~~510~~ | ~~511~~ | ~~512~~ | ~~513~~ | ~~514~~ | ~~515~~ | ~~516~~ | ~~517~~ | ~~518~~ | ~~519~~ | ~~520~~ | ~~521~~ | ~~522~~ | ~~523~~ | ~~524~~ | ~~525~~ | ~~526~~ | ~~527~~ | ~~528~~ | ~~529~~ | ~~530~~ | ~~531~~ | ~~532~~ | ~~533~~ | ~~534~~ | ~~535~~ | ~~536~~ | ~~537~~ | ~~538~~ | ~~539~~ | ~~540~~ | ~~541~~ | ~~542~~ | ~~543~~ | ~~544~~ | ~~545~~ | ~~546~~ | ~~547~~ | ~~548~~ | ~~549~~ | ~~550~~ | ~~551~~ | ~~552~~ | ~~553~~ | ~~554~~ | ~~555~~ | ~~556~~ | ~~557~~ | ~~558~~ | ~~559~~ | ~~560~~ | ~~561~~ | ~~562~~ | ~~563~~ | ~~564~~ | ~~565~~ | ~~566~~ | ~~567~~ | ~~568~~ | ~~569~~ | ~~570~~ | ~~571~~ | ~~572~~ | ~~573~~ | ~~574~~ | ~~575~~ | ~~576~~ | ~~577~~ | ~~578~~ | ~~579~~ | ~~580~~ | ~~581~~ | ~~582~~ | ~~583~~ | ~~584~~ | ~~585~~ | ~~586~~ | ~~587~~ | ~~588~~ | ~~589~~ | ~~590~~ | ~~591~~ | ~~592~~ | ~~593~~ | ~~594~~ | ~~595~~ | ~~596~~ | ~~597~~ | ~~598~~ | ~~599~~ | ~~600~~ | ~~601~~ | ~~602~~ | ~~603~~ | ~~604~~ | ~~605~~ | ~~606~~ | ~~607~~ | ~~608~~ | ~~609~~ | ~~610~~ | ~~611~~ | ~~612~~ | ~~613~~ | ~~614~~ | ~~615~~ | ~~616~~ | ~~617~~ | ~~618~~ | ~~619~~ | ~~620~~ | ~~621~~ | ~~622~~ | ~~623~~ | ~~624~~ | ~~625~~ | ~~626~~ | ~~627~~ | ~~628~~ | ~~629~~ | ~~630~~ | ~~631~~ | ~~632~~ | ~~633~~ | ~~634~~ | ~~635~~ | ~~636~~ | ~~637~~ | ~~638~~ | ~~639~~ | ~~640~~ | ~~641~~ | ~~642~~ | ~~643~~ | ~~644~~ | ~~645~~ | ~~646~~ | ~~647~~ | ~~648~~ | ~~649~~ | ~~650~~ | ~~651~~ | ~~652~~ | ~~653~~ | ~~654~~ | ~~655~~ | ~~656~~ | ~~657~~ | ~~658~~ | ~~659~~ | ~~660~~ | ~~661~~ | ~~662~~ | ~~663~~ | ~~664~~ | ~~665~~ | ~~666~~ | ~~667~~ | ~~668~~ | ~~669~~ | ~~670~~ | ~~671~~ | ~~672~~ | ~~673~~ | ~~674~~ | ~~675~~ | ~~676~~ | ~~677~~ | ~~678~~ | ~~679~~ | ~~680~~ | ~~681~~ | ~~682~~ | ~~683~~ | ~~684~~ | ~~685~~ | ~~686~~ | ~~687~~ | ~~688~~ | ~~689~~ | ~~690~~ | ~~691~~ | ~~692~~ | ~~693~~ | ~~694~~ | ~~695~~ | ~~696~~ | ~~697~~ | ~~698~~ | ~~699~~ | ~~700~~ | ~~701~~ | ~~702~~ | ~~703~~ | ~~704~~ | ~~705~~ | ~~706~~ | ~~707~~ | ~~708~~ | ~~709~~ | ~~710~~ | ~~711~~ | ~~712~~ | ~~713~~ | ~~714~~ | ~~715~~ | ~~716~~ | ~~717~~ | ~~718~~ | ~~719~~ | ~~720~~ | ~~721~~ | ~~722~~ | ~~723~~ | ~~724~~ | ~~725~~ | ~~726~~ | ~~727~~ | ~~728~~ | ~~729~~ | ~~730~~ | ~~731~~ | ~~732~~ | ~~733~~ | ~~734~~ | ~~735~~ | ~~736~~ | ~~737~~ | ~~738~~ | ~~739~~ | ~~740~~ | ~~741~~ | ~~742~~ | ~~743~~ | ~~744~~ | ~~745~~ | ~~746~~ | ~~747~~ | ~~748~~ | ~~749~~ | ~~750~~ | ~~751~~ | ~~752~~ | ~~753~~ | ~~754~~ | ~~755~~ | ~~756~~ | ~~757~~ | ~~758~~ | ~~759~~ | ~~760~~ | ~~761~~ | ~~762~~ | ~~763~~ | ~~764~~ | ~~765~~ | ~~766~~ | ~~767~~ | ~~768~~ | ~~769~~ | ~~770~~ | ~~771~~ | ~~772~~ | ~~773~~ | ~~774~~ | ~~775~~ | ~~776~~ | ~~777~~ | ~~778~~ | ~~779~~ | ~~780~~ | ~~781~~ | ~~782~~ | ~~783~~ | ~~784~~ | ~~785~~ | ~~786~~ | ~~787~~ | ~~788~~ | ~~789~~ | ~~790~~ | ~~791~~ | ~~792~~ | ~~793~~ | ~~794~~ | ~~795~~ | ~~796~~ | ~~797~~ | ~~798~~ | ~~799~~ | ~~800~~ | ~~801~~ | ~~802~~ | ~~803~~ | ~~804~~ | ~~805~~ | ~~806~~ | ~~807~~ | ~~808~~ | ~~809~~ | ~~810~~ | ~~811~~ | ~~812~~ | ~~813~~ | ~~814~~ | ~~815~~ | ~~816~~ | ~~817~~ | ~~818~~ | ~~819~~ | ~~820~~ | ~~821~~ | ~~822~~ | ~~823~~ | ~~824~~ | ~~825~~ | ~~826~~ | ~~827~~ | ~~828~~ | ~~829~~ | ~~830~~ | ~~831~~ | ~~832~~ | ~~833~~ | ~~834~~ | ~~835~~ | ~~836~~ | ~~837~~ | ~~838~~ | ~~839~~ | ~~840~~ | ~~841~~ | ~~842~~ | ~~843~~ | ~~844~~ | ~~845~~ | ~~846~~ | ~~847~~ | ~~848~~ | ~~849~~ | ~~850~~ | ~~851~~ | ~~852~~ | ~~853~~ | ~~854~~ | ~~855~~ | ~~856~~ | ~~857~~ | ~~858~~ | ~~859~~ | ~~860~~ | ~~861~~ | ~~862~~ | ~~863~~ | ~~864~~ | ~~865~~ | ~~866~~ | ~~867~~ | ~~868~~ | ~~869~~ | ~~870~~ | ~~871~~ | ~~872~~ | ~~873~~ | ~~874~~ | ~~875~~ | ~~876~~ | ~~877~~ | ~~878~~ | ~~879~~ | ~~880~~ | ~~881~~ | ~~882~~ | ~~883~~ | ~~884~~ | ~~885~~ | ~~886~~ | ~~887~~ | ~~888~~ | ~~889~~ | ~~890~~ | ~~891~~ | ~~892~~ | ~~893~~ | ~~894~~ | ~~895~~ | ~~896~~ | ~~897~~ | ~~898~~ | ~~899~~ | ~~900~~ | ~~901~~ | ~~902~~ | ~~903~~ | ~~904~~ | ~~905~~ | ~~906~~ | ~~907~~ | ~~908~~ | ~~909~~ | ~~910~~ | ~~911~~ | ~~912~~ | ~~913~~ | ~~914~~ | ~~915~~ | ~~916~~ | ~~917~~ | ~~918~~ | ~~919~~ | ~~920~~ | ~~921~~ | ~~922~~ | ~~923~~ | ~~924~~ | ~~925~~ | ~~926~~ | ~~927~~ | ~~928~~ | ~~929~~ | ~~930~~ | ~~931~~ | ~~932~~ | ~~933~~ | ~~934~~ | ~~935~~ | ~~936~~ | ~~937~~ | ~~938~~ | ~~939~~ | ~~940~~ | ~~941~~ | ~~942~~ | ~~943~~ | ~~944~~ | ~~945~~ | ~~946~~ | ~~947~~ | ~~948~~ | ~~949~~ | ~~950~~ | ~~951~~ | ~~952~~ | ~~953~~ | ~~954~~ | ~~955~~ | ~~956~~ | ~~957~~ | ~~958~~ | ~~959~~ | ~~960~~ | ~~961~~ | ~~962~~ | ~~963~~ | ~~964~~ | ~~965~~ | ~~966~~ | ~~967~~ | ~~968~~ | ~~969~~ | ~~970~~ | ~~971~~ | ~~972~~ | ~~973~~ | ~~974~~ | ~~975~~ | ~~976~~ | ~~977~~ | ~~978~~ | ~~979~~ | ~~980~~ | ~~981~~ | ~~982~~ | ~~983~~ | ~~984~~ | ~~985~~ | ~~986~~ | ~~987~~ | ~~988~~ | ~~989~~ | ~~990~~ | ~~991~~ | ~~992~~ | ~~993~~ | ~~994~~ | ~~995~~ | ~~996~~ | ~~997~~ | ~~998~~ | ~~999~~ | ~~1000~~ | ~~1001~~ | ~~1002~~ | ~~1003~~ | ~~1004~~ | ~~1005~~ | ~~1006~~ | ~~1007~~ | ~~1008~~ | ~~1009~~ | ~~1010~~ | ~~1011~~ | ~~1012~~ | ~~1013~~ | ~~1014~~ | ~~1015~~ | ~~1016~~ | ~~1017~~ | ~~1018~~ | ~~1019~~ | ~~1020~~ | ~~1021~~ | ~~1022~~ | ~~1023~~ | ~~1024~~ | ~~1025~~ | ~~1026~~ | ~~1027~~ | ~~1028~~ | ~~1029~~ | ~~1030~~ | ~~1031~~ | ~~1032~~ | ~~1033~~ | ~~1034~~ | ~~1035~~ | ~~1036~~ | ~~1037~~ | ~~1038~~ | ~~1039~~ | ~~1040~~ | ~~1041~~ | ~~1042~~ | ~~1043~~ | ~~1044~~ | ~~1045~~ | ~~1046~~ | ~~1047~~ | ~~1048~~ | ~~1049~~ | ~~1050~~ | ~~1051~~ | ~~1052~~ | ~~1053~~ | ~~1054~~ | ~~1055~~ | ~~1056~~ | ~~1057~~ | ~~1058~~ | ~~1059~~ | ~~1060~~ | ~~1061~~ | ~~1062~~ | ~~1063~~ | ~~1064~~ | ~~1065~~ | ~~1066~~ | ~~1067~~ | ~~1068~~ | ~~1069~~ | ~~1070~~ | ~~1071~~ | ~~1072~~ | ~~1073~~ | ~~1074~~ | ~~1075~~ | ~~1076~~ | ~~1077~~ | ~~1078~~ | ~~1079~~ | ~~1080~~ | ~~1081~~ | ~~1082~~ | ~~1083~~ | ~~1084~~ | ~~1085~~ | ~~1086~~ | ~~1087~~ | ~~1088~~ | ~~1089~~ | ~~1090~~ | ~~1091~~ | ~~1092~~ | ~~1093~~ | ~~1094~~ | ~~1095~~ | ~~1096~~ | ~~1097~~ | ~~1098~~ | ~~1099~~ | ~~1100~~ | ~~1101~~ | ~~1102~~ | ~~1103~~ | ~~1104~~ | ~~1105~~ | ~~1106~~ | ~~1107~~ | ~~1108~~ | ~~1109~~ | ~~1110~~ | ~~1111~~ | ~~1112~~ | ~~1113~~ | ~~1114~~ | ~~1115~~ | ~~1116~~ | ~~1117~~ | ~~1118~~ | ~~1119~~ | ~~1120~~ | ~~1121~~ | ~~1122~~ | ~~1123~~ | ~~1124~~ | ~~1125~~ | ~~1126~~ | ~~1127~~ | ~~1128~~ | ~~1129~~ | ~~1130~~ | ~~1131~~ | ~~1132~~ | ~~1133~~ | ~~1134~~ | ~~1135~~ | ~~1136~~ | ~~1137~~ | ~~1138~~ | ~~1139~~ | ~~1140~~ | ~~1141~~ | ~~1142~~ | ~~1143~~ | ~~1144~~ | ~~1145~~ | ~~1146~~ | ~~1147~~ | ~~1148~~ | ~~1149~~ | ~~1150~~ | ~~1151~~ | ~~1152~~ | ~~1153~~ | ~~1154~~ | ~~1155~~ | ~~1156~~ | ~~1157~~ | ~~1158~~ | ~~1159~~ | ~~1160~~ | ~~1161~~ | ~~1162~~ | ~~1163~~ | ~~1164~~ | ~~1165~~ | ~~1166~~ | ~~1167~~ | ~~1168~~ | ~~1169~~ | ~~1170~~ | ~~1171~~ | ~~1172~~ | ~~1173~~ | ~~1174~~ | ~~1175~~ | ~~1176~~ | ~~1177~~ | ~~1178~~ | ~~1179~~ | <

689.15	461.82
71.60	00.00
399.17	103.82
603.23	429.60
1020.30	200.48
94.87	451.08
94.87	390.22
84.13	390.22
30.43	75.18

[[right margin]]
[[5 columned table]]
Diff. Y. | +10.10 | -8.75 | -5.42 | +4.40 |
X179 | 1807.90|1566.25|970.18|787.60|
| 30' 7.90|26' 6.25|16' 10.18|13' 7.60|
[[/right margin]]

[[left margin]]
[[5 columned table]]
Diff. X. | +3.50 | +4.23 | -1.67 | -1.45 |
Log. X | 0.54407 | 0.62634 | 0.22272 | 0.16137 |
1.24400	1.24400	1.24400	1.24400
1.78807	1.87034	1.46672	1.40537
61.39^{[[s]]}	74.19^{[[s]]}	29.29^{[[s]]}	25.43^{[[s]]}
[[/left margin]]

[[28 columned table]]
(6)0^{[[h]]} 25^{[[m]]} 20.38^{[[s]]} -46° | 35' 32.2" (7)0^{[[h]]} 25^{[[m]]}
41.13^{[[s]]} -47° | 31' 59.0" (a)0^{[[h]]} 23^{[[m]]} 55.22^{[[s]]} -47° | 22'
25.8" (b)0^{[[h]]} 23^{[[m]]} 55.84^{[[s]]} -46° | 53' 9.6"
| 1 | 1.39 | | 30 | 7.9 | 1 |
14.19 | | 26 | 6.2 | 1 | 29.29 | | 16 |
10.2 | 1 | 25.43 | | 13 | 7.6 | 1 |
| 0^{[[h]]} 24^{[[m]]} 18.99^{[[s]]} -47° | 5' 40.1" | 0^{[[h]]} 24^{[[m]]}
26.94^{[[s]]} -47° | 5' 52.8" | 0^{[[h]]} 24^{[[m]]} 24.51^{[[s]]} -47° | 6' 15.6"
0^{[[h]]} 24^{[[m]]} 21.27^{[[s]]} -47° | 6' 17.2"

[[3 columned table]]
Mean Position of var. 0^{[[h]]} 24^{[[m]]} 22.93^{[[s]]} -47° 6' 1.4" (1875) |
Curve 0^{[[h]]} 24^{[[m]]} 22.8^{[[s]]} -47° 6' 8" see p. 183

[[right margin]]
Identified later as
CDM -47° 131
0^{[[h]]} 24^{[[m]]} 22.6^{[[s]]}.
-47° 6.1' (1875)
[[/right margin]]

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December 31, 1897.

Meas. to check identification of Cira Z 5^h 243

[[6 column table]]

34.0	34.0	40.6	6.6	34.0	---	3 437
37.0	B	43.6	6.6	37.0	d ^h [3.0]	
159 ^h [158]	4 ^h [m]	33.4	5	5	5	
42.6	49.1	6.5	42.6	---	5	
43.8	50.4	6.6	43.8	1.2	6 8.1 6 29.3	
45.3	51.9	6.6	45.3	1.5	6 40.6	

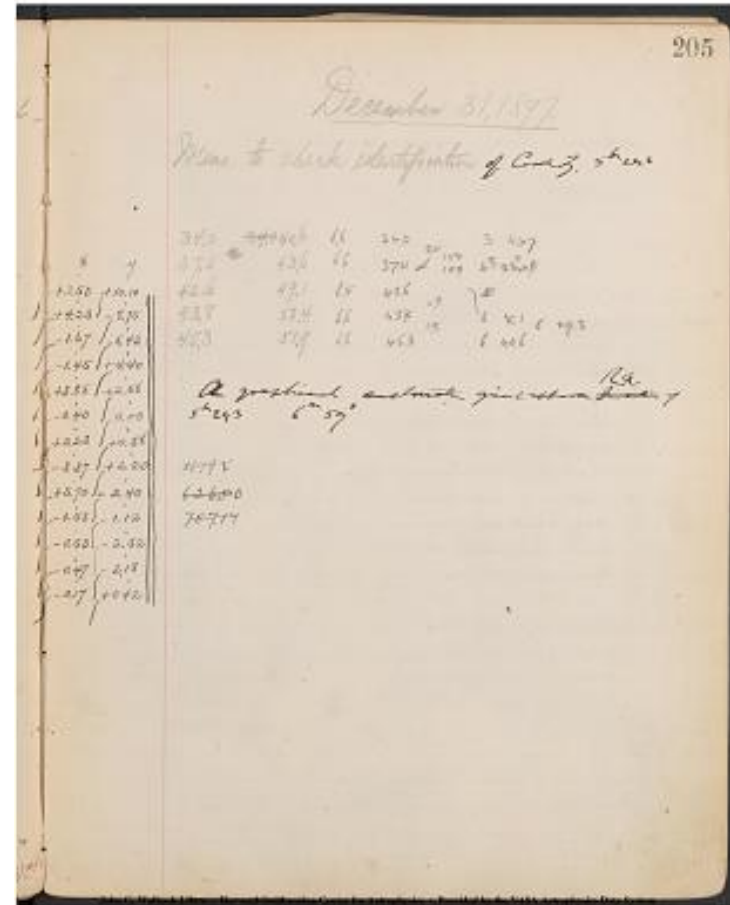
A graphical example given approx
~~height~~ RA of
 5^h 243 6^h 59^h

~~x1.794~~
~~626.50~~
~~757.17~~

[[left margin]]

[[2 column table]]

x	y
---	---
+3.50	+10.10
+4.23	-8.75
-1.67	-5.42
-1.45	+4.40
+3.85	+2.58
-0.40	0.00
+2.23	+0.58
-3.37	+2.20
+5.70	-2.40
-0.53	-1.12
-0.53	-2.52
-0.47	-2.18
-0.17	+0.42



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[[Left Margin]]

Positions Charted

Jan. 21, 1898. M.C.S.

See Chart No. 296

[[/Left Margin]]

Var. No. 119

January 20, 1898

Meas. to determine position of new var. in Ava sp. Md on B19961

No. 10738 Appror. pos. $17^{\text{h}} 44.0^{\text{m}} -51^{\circ} 39'$ (1875)

Mean Dec. = $51^{\circ} 54' 20.0'' = \text{Log. } 0.20974$

1.07700

1.28674

Plate B13576

[[five-columned table]]

| x | y | x | y |

-4.07-060 a | -1.55 | +5.60^5.62 | -1.55 | +5.65 |

-2.60-15.92 b | -0.10^0.08 | -9.70 | -0.05 | -9.70 |

-0.32-1.12 c | +2.20 | +5.10 | +2.20 | +5.10 |

-9.07-7.24 d | -6.55 | -1.05^1.02 | -6.55 | -1.00 |

+6.90-7.12 e | +9.40^9.42 | -0.90 | +9.45 | -0.90 |

+3.73+3.40 f | +6.25 | +9.60^9.62 | +6.25 | +9.65 |

+0.03+2.78 g | +2.55 | +9.00 | +2.55 | +9.00 |

-1.04-2.10 h | +1.50^1.48 | +4.15^4.12 | +1.45 | +4.10 |

-2.77-2.50 k | -0.25 | +3.75^3.72 | -0.25 | +3.70 |

-1.54-1.64 l | +1.00^0.98 | +4.55^4.58 | +0.95 | +4.60 |

+2.10+1.28 m | +4.65^4.62 | +7.50 | +4.60 | +7.50 |

-0.32-0.42 n | +2.20 | +5.80 | +2.20 | +5.80 |

-0.62+0.33 o | +1.90 | +6.55 | +1.90 | +6.55 |

[[/strickethrough]]+[[/strickethrough]]-0.17+0.60

[[/strickethrough]]p[[/strickethrough]]o | +2.35 | +6.80^6.82 | +2.35 | +6.85 |

+0.03-0.20 [[/strickethrough]]q[[/strickethrough]]p | +2.55 | +6.05^6.02 |

2.55 | +6.00 |

| var. | +2.50^2.52 | +6.20^6.22 | +2.55 | +6.25 |

[[right side of page]]

R.A. 1875.Dec. Mag.

[[eight-columned table]]

| h | m. | s. | | | | |

A.G.C. 24205 | 17 | 42 | 22.80 | -51° | 40 | 34.9 | 7 1/2 |

Z.C. 17h 2880 | 17 | 42 | 40.15 | -52 | 26 | 32.8 | 8 1/2 |

| Z.C. 17h 3103 | 17 | 45 | 52.28 | -52 | 0 | 54.0 | 9 |

| Z.C. 17 3041 | 17 | 44 | 55.20 | -51 | 29 | 18.4 | 9 |

[[two-columned table]]

| x1.79 | x1.79 |

| x | y. |

a 728.53 | 107.40 |

b 465.40 | 2849.68 |

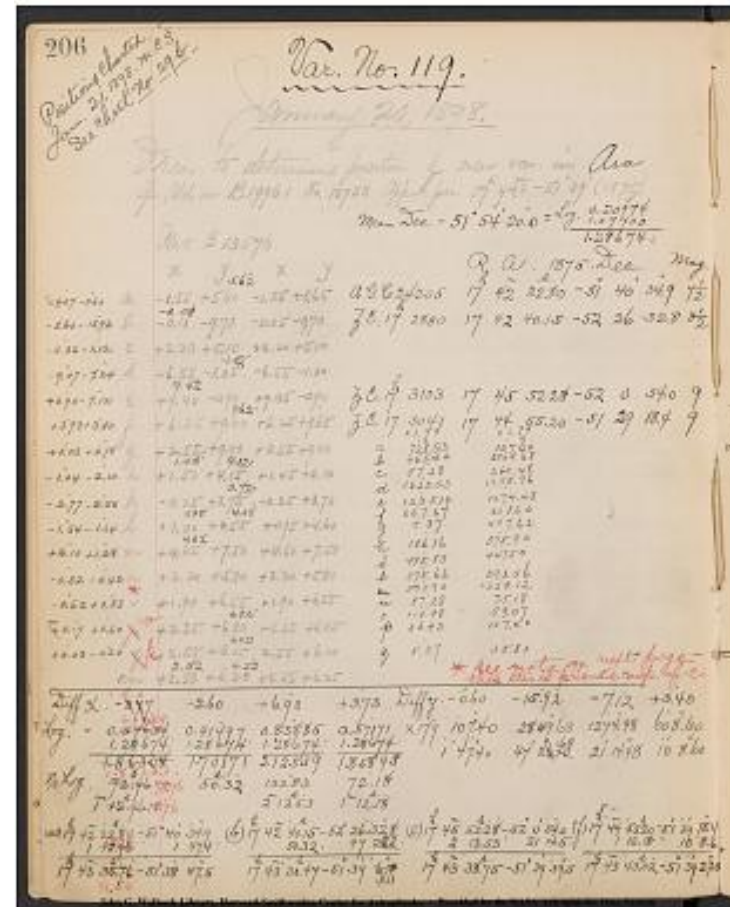
c 57.28 | 200.48 |

d 1623.53 | 1295.96 |

e 1235.10 | 1274.48 |

f 667.67 | 608.60 |

g 5.37 | 497.62 |



h	186.16	375.90
k	495.83	447.50
l	275.66	293.56
m	375.90	229.12
n	57.28	75.18
o	110.98	59.07
p	30.43	107.40
q	5.37	35.80

*see note on next page - this star is prismatic comp. abc.

[[leftward margin]]

-4.07	-0.60
-2.60	-15.92
-0.32	-1.12
-9.07	-7.24
+6.90	-7.12
+3.73	+3.40
+0.03	+2.78
-1.04	-2.10
-2.77	-2.50
-1.54	-1.64
+2.10	+1.28
-0.32	-0.42
-0.62	+0.33
-+0.17	+0.60
+0.03	-0.20

[[five-columned table]]

Diff.y.	-0.60	-15.92	-7.12	+3.40
X179	107".40	2849".68	1274".48	608".60
	1' 47".40	47' 2	6.10	9".68
10' 8".60				

[[four-columned table]]

Diff.X.	-	3.7	4.07	-2.60	+6.90	+3.73
Log. "	0.	57634	60959	0.41497		
0.83885	0.57171					
	1.28674	1.28674	1.28674	1.28674		
	1.86308	1.89633	1.70171	2.12559		
1.85845						
	s.	s.	.	.		
No.Log.	72.96	78.76	50.32	133.53		
72.18						
	s.	s.	s.			
1m.	12.96	18.76	2m 13.53	1m 12.18		

[[twenty-four-columned table]]

h	m.	s.		'	"	h	m.	s.		'	"	h	m.	s.		'	"	h	m.	s.		'	"												
(a)	17	42		22.80	-51°	40		34.9	(b)	17	42		40.15	-52°	26		32.8	(e)	17	45		52.28	-52°	0		54.0	(f)	17	44		55.20	-51°	29		18.4
	1			12.96		18.76		1		47.4																									
50.32		47		2		6.1		9.7		2		13.53																							
21		14.5		1		12.18		10		8.6																									
h	m.	s.		'	"	h	m.	s.		'	"	h	m.	s.		'	"	h	m.	s.		'	"												
17		43		35.76		41.56		-51°	38		47.5																								

17 | 43 | 30.47 | -51° | 39 | ~~6.7~~ 3.1 | 17 |
43 | 38.75 | -51° | 39 | 39.5 | 17 | 43 | 43.02 | -51° | 39 | 27.0 |

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Jan. 20, 1898

Chart of region of new var in Ara.
 $17^{\circ}44.0'[[m]] - 57^{\circ}39'$

[[image]]
 p.c. of "c"

For meas. of brightness see Book 10 p. 182.

Mean Dec. = $52^{\circ}2'40.6'' =$

[[2 columned table]]

Log = 0.21109

[[1.07700]]
 1.28809

[[8 columned table]]

Diff X. -7.80|-6.33|+3.17|Diff. Y. -4.00'|-19.32'|-10.52'

Log Diff X|0.89209|0.80140|0.50106|X|179|716|.00"|3458.28"|1883.08"|

[[1.28809]]1.28809|1.28809|1.28809|[[11'56.00"57'38.28"31'23.08"]]

2.18018|2.08949|1.78915| | | |

151.42^[[s]]|122.88|61.54| | | |

2^[[m]] s31.42^[[s]]|2^[[m]] 2.88^[[s]]|1^[[m]] 1.54^[[s]]| | | |

(a)

[[21 columned table]]

(a)|17^[[h]]|42^[[m]]|22.80^[[s]]|-

51^40'34.9"|(b)|17^[[h]]|42^[[m]]|[[checkmark]]40.15^[[s]]|-

52^26'32.8"|(e)|17^[[h]]|45^[[m]]|[[checkmark]]52.28^[[s]]|-52^0'54.0" |

[[2|31.42|11|56.0|]]|[[2|2.88|57|38.3|]]|[[1|1.54|31|23.1|]]|

17^[[h]]|44^[[m]]|54.22^[[s]]|-51^28'38.9" |

17^[[h]]|44^[[m]]|43.03^[[s]]|-51^28'54.5| 17^[[h]]|44^[[m]]|50.74^[[s]]|-

51^29'30.9"

[[Mean Position of 'f' 17^[[h]] 44^[[m]] 49.33^[[s]] -51^29'1.4" (1875)]]

[[7 columned table]]

a|17^[[h]]|43^[[m]]|[[35.76|41.56^[[s]]|-

51^38'47.5" |

b|17|43|30.47|-51|39|3.1|

c|17|43|38.75|-51|39|39.5|

f|17|43|43.02|-51|39|27.0|

17^[[h]]|43^[[m]]|[[37.00|38.45^[[s]]|-

51^39'14.3" |

17|43|[[40|41.8|-

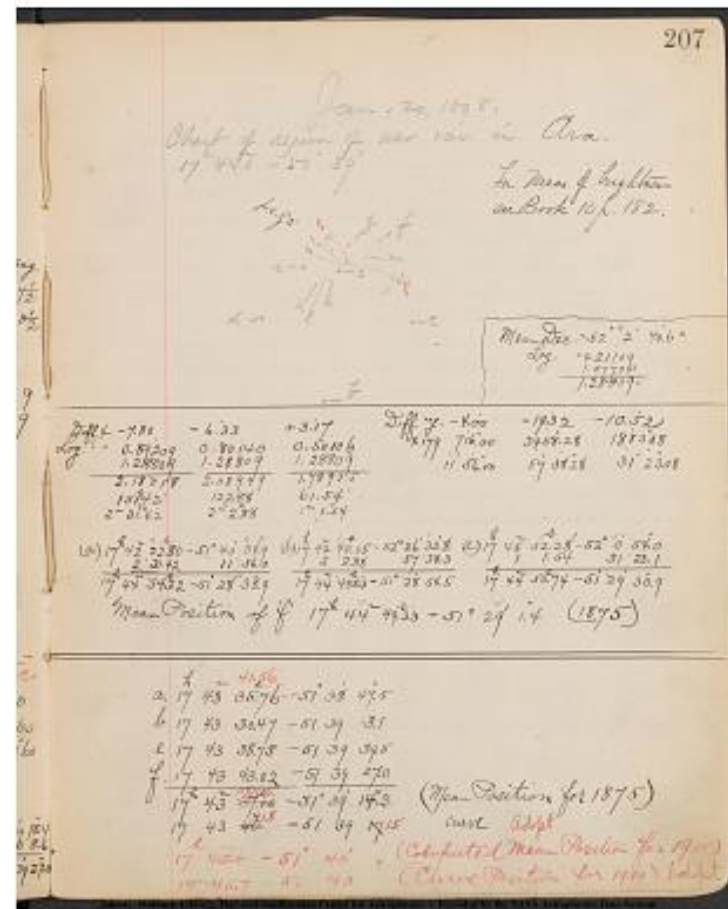
51|39|[[17|15|

[[right margin]]

(Mean Position for 1875)

curve Adopt

[[/right margin]]



[[5 columned table]]
|17^h|45.6^m|51^s|40'| (Computed Mean Position for 1900)|
|17|45.7|-51|40| (Curve Position for 1900) adopt|

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Positions charted.
January 21, 1898. M.C.S.
 See Chart No. 30 b.

January 21, 1898.

Meas. to determine position of new var. star in Sp. Md on
~~B~~ 16947 No. 4474. R.A. 23^h 55.9^m Dec. +54.8° (1855)

Mean Dec. = 54° 46'
 Log. ~~0.23894~~ 0.23900
 1.03623 1.03623
 1.27517 1.27523

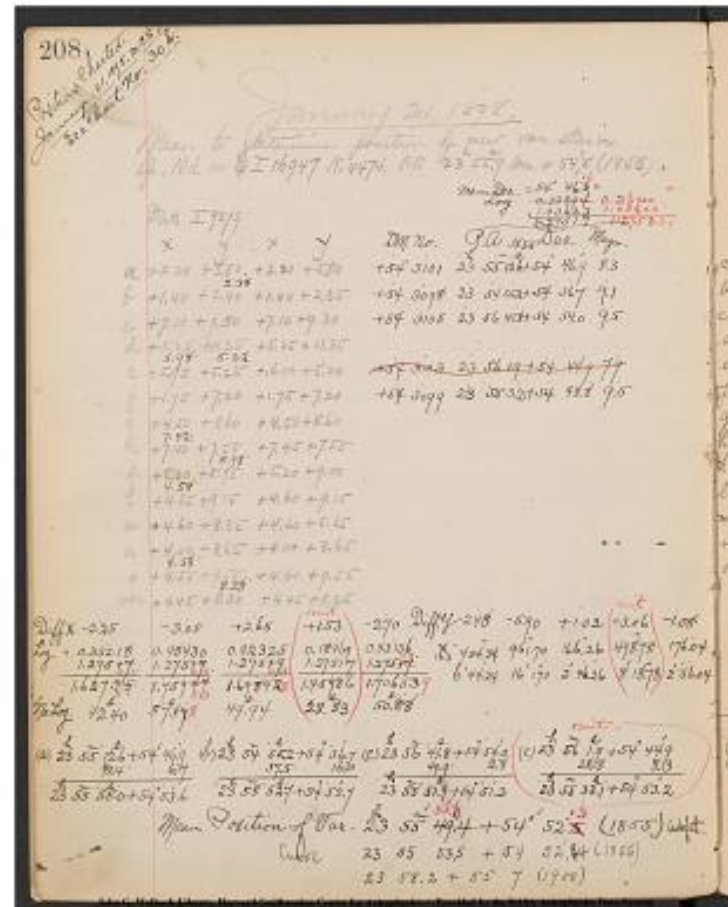
Plate 19379

9 columned table

x	y	x	y						
a	+2.20	+5.80	+2.20	+5.80	DM. No.	R.A.	1855	Dec.	Magn.
b	+1.40	+2.40	+2.38	+1.40	+2.35	+54° 3101	23 ^h 55 ^m	55 ^s	12.6
c	+7.10	+9.30	+7.10	+9.30	+54 3098	23 54 55.2	+54 36.7	9.1	
d	+5.25	+11.35	+5.25	+11.35	+54 3105	23 56 41.8	+54 54.0	9.5	
e	+5.95	+5.98	+5.25	+5.22	+6.00	+5.20	+54 3103	23 56 1.9	+54 44.9
f	+1.75	+7.20	+1.75	+7.20	+54 3099	23 55 3.2	+54 48.8	9.5	
g	+4.50	+8.60	+4.50	+8.60					
h	+7.40	+7.42	+7.55	+7.45	+7.55				
k	+5.20	+8.95	+8.98	+5.20	+9.00				
l	+4.55	+4.58	+9.15	+4.60	+9.15				
m	+4.60	+8.35	+4.60	+8.35					
n	+4.00	+8.65	+4.00	+8.65					
o	+4.55	+4.58	+9.55	+4.60	+9.55				
var	+4.45	+8.30	+8.28	+4.45	+8.25				

12 columned table

Diff. X	-2.25	-3.05	+2.65	+1.53	-2.70	Diff. Y	-2.48	-5.90	+1.02					
Log. X	0.35218	0.48430	0.42325	0.18469	0.43136	X163								
404.24"	961.70"	166.26"	498.78"	176.04"										
1.275	1.275	1.275	1.275	1.275										
1.275	1.275	1.275	1.275	1.275										
1.275	1.275	1.275	1.275	1.275										
1.275	1.275	1.275	1.275	1.275										
46.26"	8' 18.78"	2' 56.04"												
1.627	1.627	1.627	1.627	1.627										
1.759	1.759	1.759	1.759	1.759										
1.6984	1.6984	1.6984	1.6984	1.6984										



[[7 column table]]

[[cross out column 4 and 5]]

---|---|---|x1.79|x1.79|x1.63|x1.63|

---|x|y|x|y|x|y|

---|---|---|---|---|---|

a|-2.25|-2.48|402.75|443.92|366.75|404.24|

b|-3.05|-5.90|545.95|1056.10|497.15|961.70|

c|+2.65|+1.02|474.35|182.58|431.95|166.26|

d|+0.80|+3.07|143.20|549.53|130.40|500.41|

e|+1.53|-3.06|273.87|547.74|249.39|498.78|

f|-2.70|-1.08|483.30|193.32|440.10|176.04|

g|+0.05|+0.32|8.95|57.28|8.15|52.16|

h|+2.97|0.73|531.63|130.67|484.11|118.99|

k|+0.75|+0.70|134.25|125.30|122.25|114.10|

l|+0.13|+0.87|23.27|155.73|21.19|141.81|

m|+0.15|+0.07|26.85|12.53|24.45|11.41|

n|-0.45|+0.37|80.55|66.23|73.35|60.31|

o|+0.13|+1.27|23.27|227.33|21.19|207.01|

[[equation]]

h m. s. o 1
 (f) 23 55 3.3 + 54 48.8
 50.9 2.9

h m. s. o 1
 23 55 54.1 + 54 51.7

[[/equation]]

209

V	Y	X	Y	X	Y
a-2.25	-2.48	402.75	443.92	366.75	404.24
b-3.05	-5.90	545.95	1056.10	497.15	961.70
c+2.65	+1.02	474.35	182.58	431.95	166.26
d+0.80	+3.07	143.20	549.53	130.40	500.41
e+1.53	-3.06	273.87	547.74	249.39	498.78
f-2.70	-1.08	483.30	193.32	440.10	176.04
g+0.05	+0.32	8.95	57.28	8.15	52.16
h+2.97	0.73	531.63	130.67	484.11	118.99
k+0.75	+0.70	134.25	125.30	122.25	114.10
l+0.13	+0.87	23.27	155.73	21.19	141.81
m+0.15	+0.07	26.85	12.53	24.45	11.41
n-0.45	+0.37	80.55	66.23	73.35	60.31
o+0.13	+1.27	23.27	227.33	21.19	207.01

$$\frac{(23^h 55^m 3.3^s + 54^d 48.8')}{50.9 \quad 2.9}$$

$$\frac{(23^h 55^m 54.1^s + 54^d 51.7')}{50.9 \quad 2.9}$$

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[[image]]

Var. No. 76 Positions charted.
See Chart. No. 31b

January 24, 1898.

Meas. to determine position of new var. star in Sp Md? on A2218 No.
 R.A. 13 ~~17.3~~ 13.5 -60.9° (1875)
 var. about 0.6 magn

[[right margin]]

[[2 columned table]]

Mean Dec. = -61° 0' 40.6" = Log. 0.31459

1.07700

1.39159

[[right margin]]

Plate B3543

[[11 columned table]]

| | | x | y | x | y | Cat. | R.A. | 1875 | Dec. | Magn. |

-----|-----|-----|-----|-----|

-4.02 | -8.10 | 1 | +1.25 | 1.75 |

+1.25 | Z.C. 13^h 725^m [A.G.C. 18109] 13^h 46.29^m [13^h [h]]

11^m [m] 46.12^s [s.]] -61 18 35.4^s [-61° 18' 38.0"] 8.25^m [8^m use

A.G.C. star]]

+1.28 | +3.70 | 2 | +7.10^m 7.08 | +13.05 | +7.05 | +13.05 | Z.C. 13^h [h] 851

13 14 5.52 | -60 43 59.0 | 9 |

+9.20 | -2.35 | a | +15.00 | +7.00 | +15.00 | +7.00 | Z.C. 13^h [h] 1044 | 13

17 16.95 | -61 2 33.5 | 9 |

+6.48 | -0.77 | b | +12.30^m [12.28] | +8.60^m [8.58] | +12.25 | +8.55 | Z.C.

13^h [h] 968 | 13 16 9.62 | -60 57 36.7 | 9^m 2 |

-4.12 | +1.05 | c | +1.70^m [1.68] | +10.40 | +1.65 | +10.40 | | | |

-3.60 | +3.00 | d | +2.20 | +12.35 | +2.20 | +12.35 | | | |

+1.02 | +0.15 | e | +6.85^m [6.82] | +9.50 | +6.80 | +9.50 | | | |

-1.20 | 0.00 | f | +4.60 | +9.35 | +4.60 | +9.35 | | | |

-0.05 | -1.03 | g | +5.75 | +8.35^m [8.32] | +5.75 | +8.30 | | | |

-0.38 | -1.63 | h | +5.40^m [5.42] | +7.75^m [7.72] | +5.45 | +7.70 | | | |

-2.30 | -0.10 | k | +3.50 | +9.25 | +3.50 | +9.25 | | | |

-0.45 | ~~[[strikethrough]]~~ -8.10^m [strikethrough] +0.87

[[strikethrough]] +5.65^m [strikethrough] +5.35 |

[[strikethrough]] +9.20^m [strikethrough] +10.25^m [10.22] | +5.35 | +10.20 |

| | |

••••• var. | +5.80 | +9.35 | +5.80 | +9.35 | | | |

[[3 columned table]]

| x1.79 | x1.79 |

| x. | y. |

-----|-----|-----|

1 | 719.58 | 1449.90 |

2 | 229.12 | 662.30 |

a | 1646.80 | 420.65 |

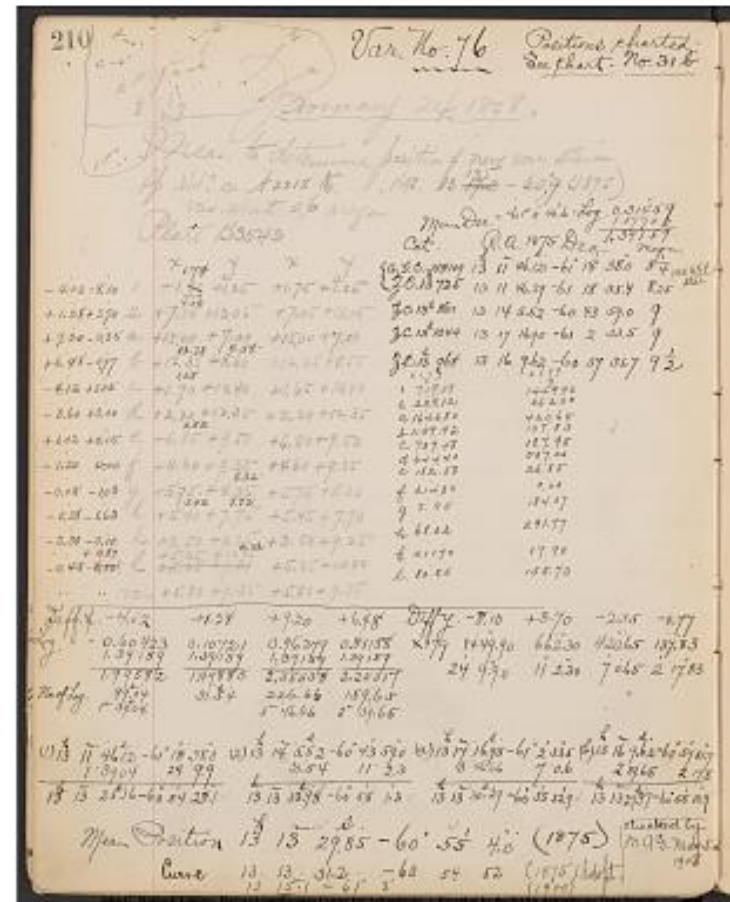
b | 1159.92 | 137.83 |

c | 737.48 | 187.95 |

d | 644.40 | 537.00 |

e | 182.58 | 26.85 |

f | 214.80 | 0.00 |



g	8.95	184.37
h	68.02	291.77
k	411.70	17.90
l	80.55	155.73

[[10 columned table]]
| Diff. X. | -4.02 | +1.28 | +9.20 | +6.48| Diff. Y. | -8.10 | +3.70 | -2.35 | -
0.77 |
| Log. Diff. X. | 0.60423 | 0.10721 | 0.96379 | 0.81158| X179 | 1449.90"|
662.30"| 420.65"| 137.83"|
	[[underlined]]1.39159	1.39159	1.39159	1.39159[[/underlined]]							
	1.99582	1.4988	2.35538	2.20317		24' 9.90		11' 2.30		7' 0.65	
2' 17.83											
No. of Log.	99.04^[[s]]	31.54	226.66	159.65							
	1^[[m]] 39.04^[[s]]		3^[[m]] 46.66	2^[[m]] 39.65							

[[28 columned table]]
|(1)|h 13^[[h]]|11^[[m]]|46.12^[[s]]| -61° | 1'8|
38.0"| (2)|13^[[h]]|14^[[m]]|5.52^[[s]]| -60° | 4'3|
59.0"(a)|13^[[h]]|17^[[m]]|16.95^[[s]]| -61° | 2'|
33.5"| (b)|13^[[h]]|16^[[m]]|9.62^[[s]]| -60° | 57'| 31.7"|
| | |1| 39.04 | | 24 | 9.9 | | | 31.54 | | 11 | 2.3 | | 3 | 46.66 | | 7 |
0.6| | | 2 | 39.65 | | 2 | 17.8 |
13^[[h]]	13^[[m]]	25.16^[[s]]	-60°	54'	28.1"
13^[[h]]	13^[[m]]	33.98^[[s]]	-60°	55'	1.3"
13^[[h]]	13^[[m]]	30.29^[[s]]	-60°	55'	32.9"
13^[[h]]	13^[[m]]	29.97^[[s]]	-60°	55'	13.9"

[[8 columned table]]
Mean Position	13^[[h]]	13^[[m]]	29.85^[[s]]	-60°	55'	4.0"	(1875)
Curve	13.	13.	31.2.	-60	54	52	(1875) Adopt.
	13	15.1^[[m]]		-61°	3'		(1900)

[[right margin]]
Checked by
M.A.G. May 5 1903
[[/right margin]]

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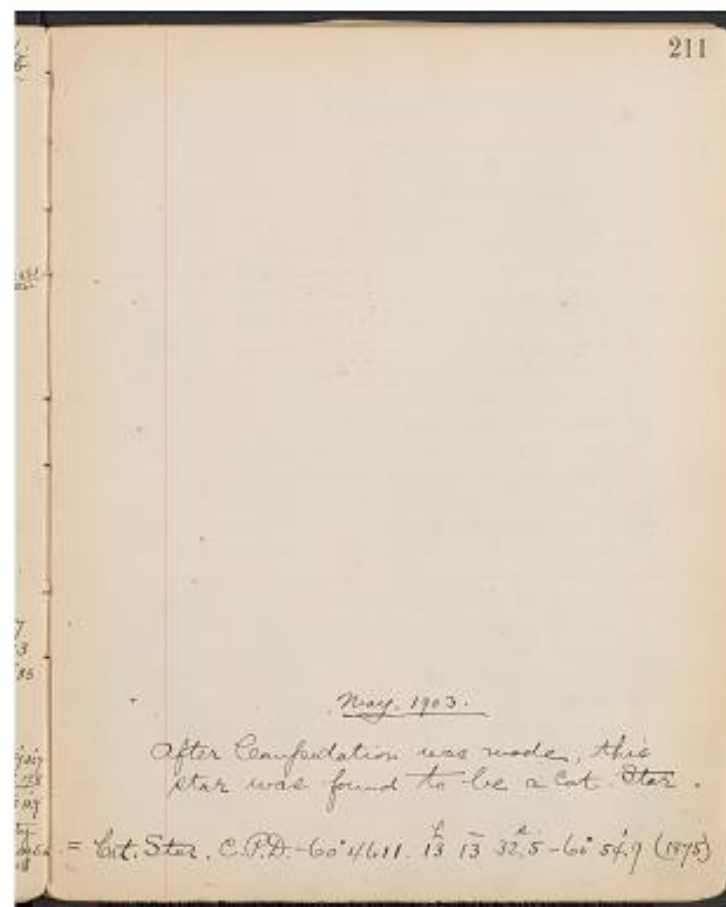
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211

May. 1903.

After Computation was made, this star was found to be a Cat. Star.

= Cat. Star, C.P.D.- 60°46'11. 13 13 32.5 - 60°54.9 (1875)



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212

February 25, 1898

Meas. of position of Z. C. 5^h 243.

Plate B 17832

[3 columned table]

~~5^h 243~~ ~~+1.35~~ ~~+4.20~~

~~1~~ ~~-0.25~~ ~~+4.00~~

~~2~~ ~~-1.45~~ ~~+3.65~~

~~3~~ ~~+1.75~~ ~~+2.20~~ ~~+0.75~~ assumed ~~+2.70~~

~~4~~ ~~+4.00~~ ~~+2.20~~

~~5~~ ~~+2.15~~ ~~+9.55~~

~~6~~ ~~+1.50~~ ~~+9.70~~

~~7~~ ~~+25.85~~ ~~+4.00~~

~~5^h 243~~ ~~+1.30~~ ~~+4.20~~

~~5^h 243~~ ~~+1.30~~ ~~+4.20~~

Plate B4393

[3 columned table]

5^h 243 +3.45 +0.40

1 ~~+0.00~~ ~~+2.20~~ ~~0.00~~ assumed

2 +0.90 -0.30

very ft. 3(?) +3.10 -1.25

4 +6.30 -1.80

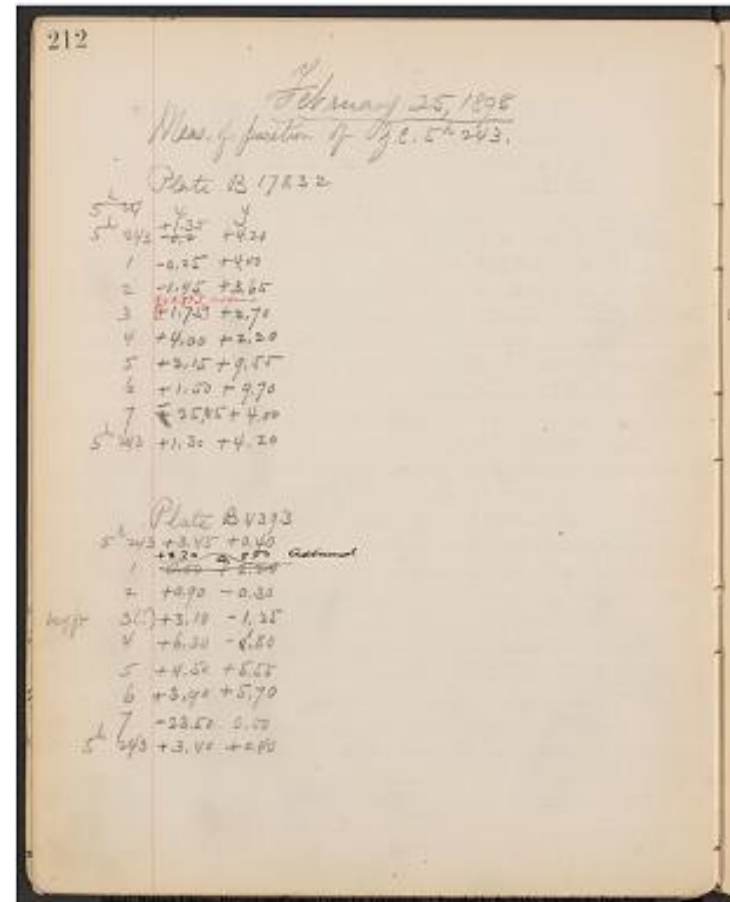
5 +4.50 +5.55

6 +3.90 +5.70

7 -23.50 0.00

5^h 243 +3.40 +0.40

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213

February 25, 1898.
Meas. of position of z. c. 5^h 243.

Plate ²⁰¹⁷⁹[B]

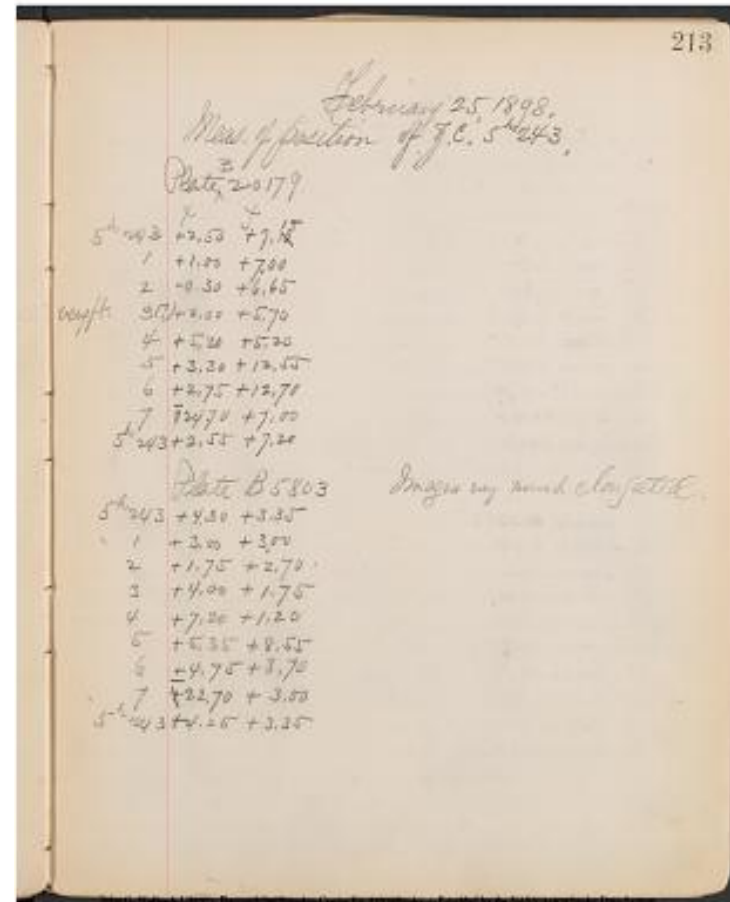
[[3 column table]]
| x | X

[[left margin]] very ft. [[/left margin]]

5^h 243 | +2.50 | +7.~~10~~ 10 ~~15~~
1 | +1.00 | +7.00
2 | -0.30 | +6.65
3(?) | +2.00 | +5.70
4 | +5.20 | +5.20
5 | +3.30 | +12.55
6 | +2.75 | +12.70
7 | -24.70 | +7.00
5^h 243 | +2.55 | +7.20

Plate B5803 Images very much elongated.

5^h 243 | +4.30 | +3.35
1 | +3.00 | +3.00
2 | +1.75 | +2.70
3 | +4.00 | +1.75
4 | +7.20 | +1.20
5 | +5.35 | +8.55
6 | +4.75 | +8.70
7 | ~~22.70~~ + ~~3.00~~
5^h 243 | +4.25 | +3.35



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214

February 26, 1898.
Meas. of pos. of images of 26 Arietis

C11008

[3 columned table]

	x	y	
151	-2.95	+0.50	
151a	-3.15	+0.52	
151b	-3.55	+0.47	
152?	-3.80	+0.50	
101	+32.00	+0.50	
101a	+ 31.45	+ 31.75	+0.52
111	+24.95	+0.45	
111a	+24.75	+0.47	
121	+17.70	+0.50	
121a	+17.55	+0.52	
131	+11.70	+0.48	
131a	+1 0.35	+0.50	
141	+4.15	+0.48	
141a	+3.70	+0.50	
151	-2.90	+0.50	
151a	-3.20	+0.52	
151b	-3.55	+0.48	
152?	-3.80	+0.50	
142	+3.50	+0.50	
132	+10.20	+0.50	
122	+17.20	+0.50	
112	+24.40	+0.52	
102	+31.45	+0.52	

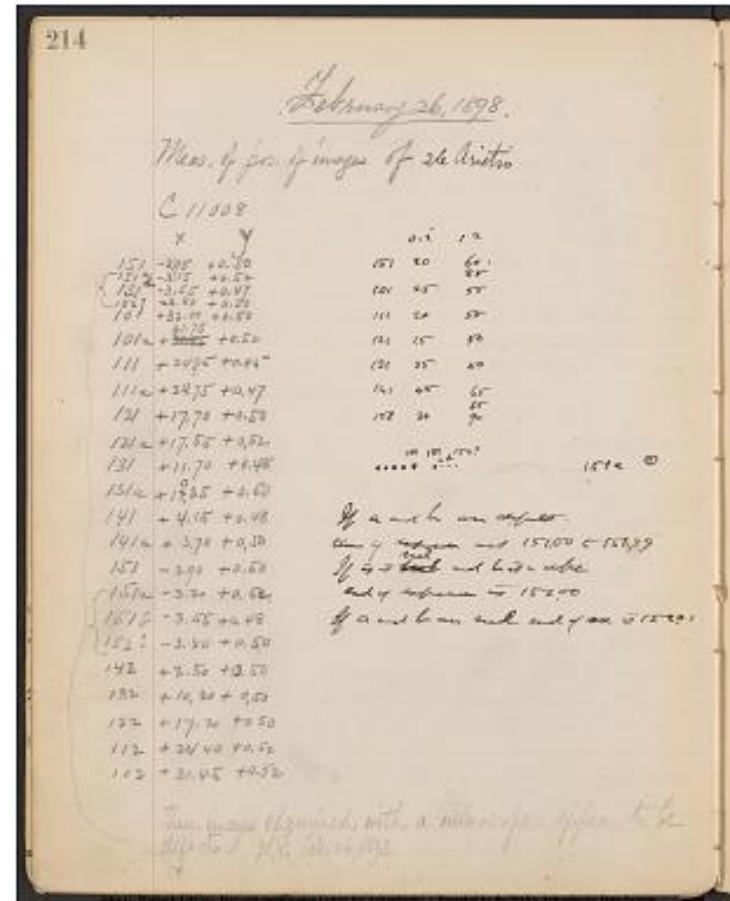
[3 columned table]

	0-2	12
151	20	60
	85	
101	25	55
111	20	55
121	15	50
131	35	50
161	45	65
	65	
151	30	90

[image]

150, 151, 151a, and 152?

If a and b are defects, time of exposure [??] 151.00 151.99. If it is real and [not??] a defect end of exposure is 152.00. If a and b are [read??] end of ex is 152.01.



These images examined with a microscope appear to be defects. M.F.
Feb. 26, 1898.

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February 28, 1898

Meas. of stars in Pleiades to determine diff in scale bet. br. and faint images taken with var. star apparatus.

C10868

[[5 columned table]]

A|41|6.4|6.38| |

51 6.3
61 6.3
71 6.3

B|41|6.7|6.68| |

51 6.7
61 6.7
71 6.6

C|41|7.0|6.95| |

51 7.0
61 6.9
71 6.9

d|41|9.4|2.97|

51 9.4
61 9.3
71 9.3

b|41|9.8|9.78|3.10|

51 9.8
61 9.8
71 9.7

c|41|10.2|10.20|3.25|

51 10.2
61 10.2
71 10.2

March 1, 1898

Meas. of br. images of 26 Arietis

No. C11008

[[4 columned table]]

No.|10.45|11.22| |

---|---|---|

151|8.8|8.9|167 8.90 +.03|

~~149|8.9|8.9|149 8.85 -.02|~~

148|8.9|8.9|150 8.90 +.03|

147|8.8|9.0|157 8.85 -.02|

146|8.9|8.9|

145|8.8|8.9|

144|8.8|8.9|

143|8.8|8.9|

142|8.8|8.9|

141|8.9|9.0|

131|8.9|9.0|

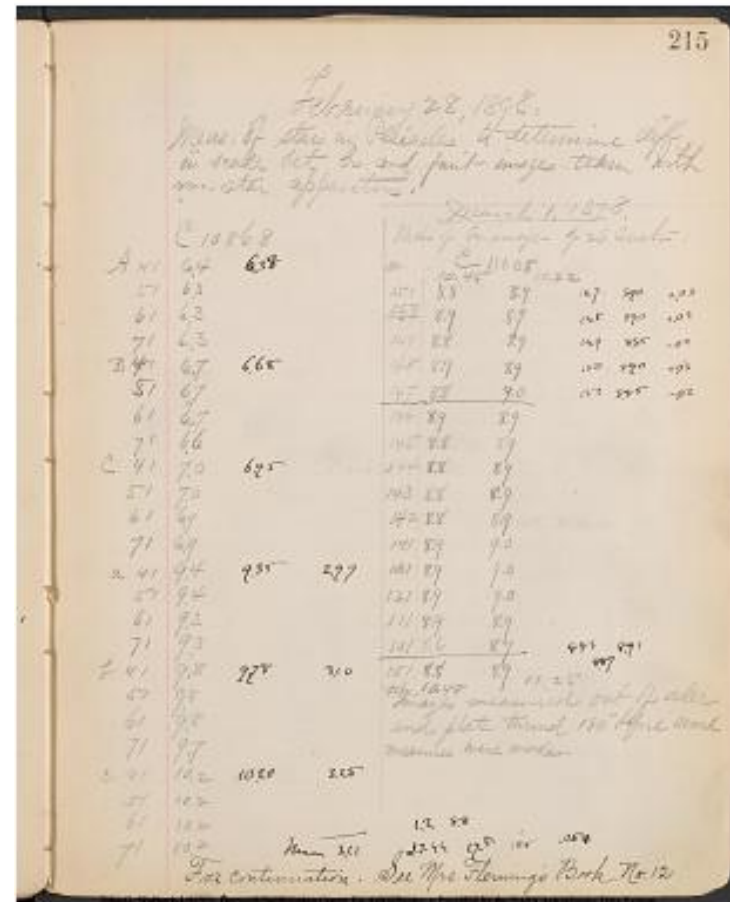
121|8.9|9.0|

111|8.9|8.9|

101|8.6|8.7|8.83 8.91|

151|8.8|8.9|8.87|

time|10.48|11.25|



Images measured out of order and plate turned 180° before several measurements were made.

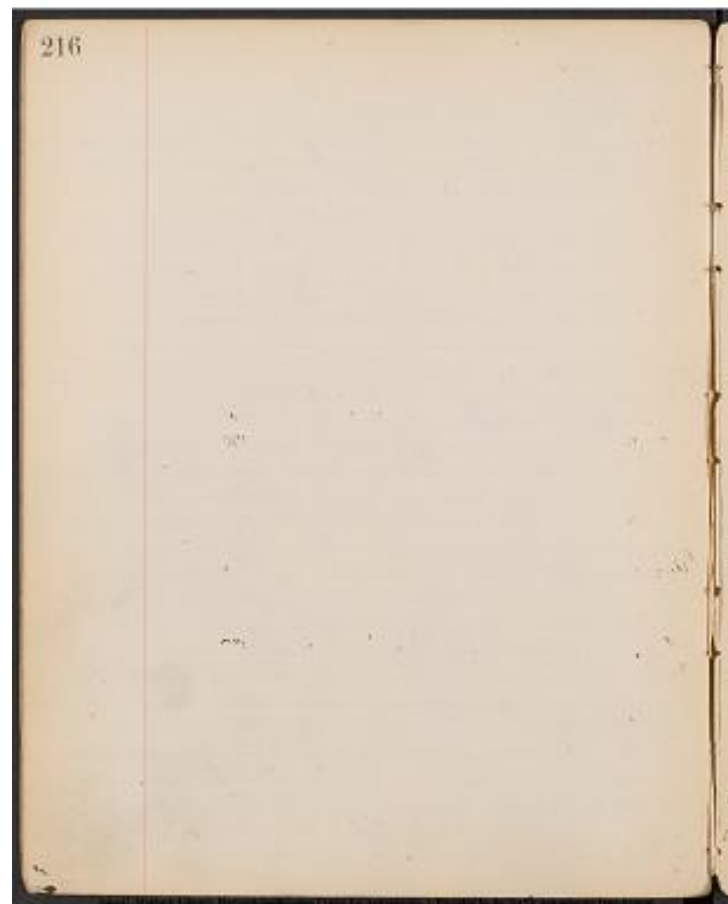
1.2 8.8

Mean 3.11 1.244 17.5 18.5 .054

For continuation. See Mrs. Fleming's Book No. 12

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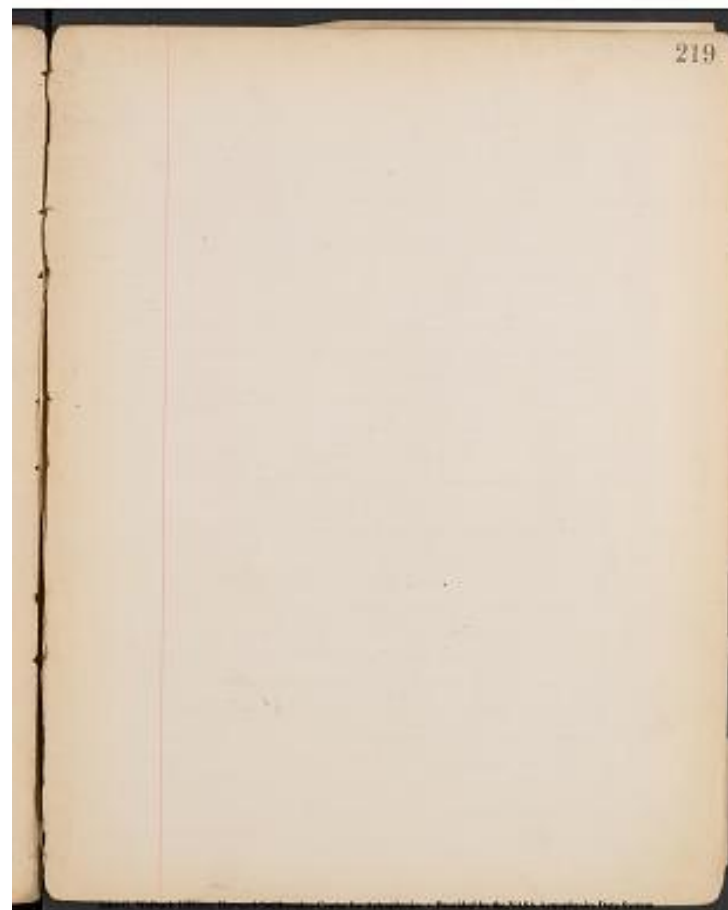
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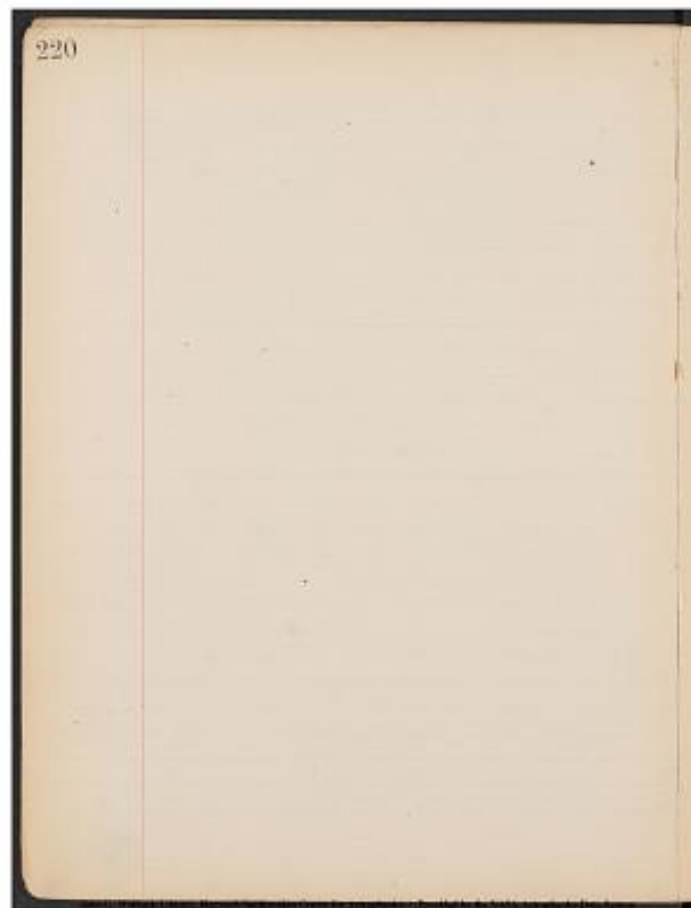
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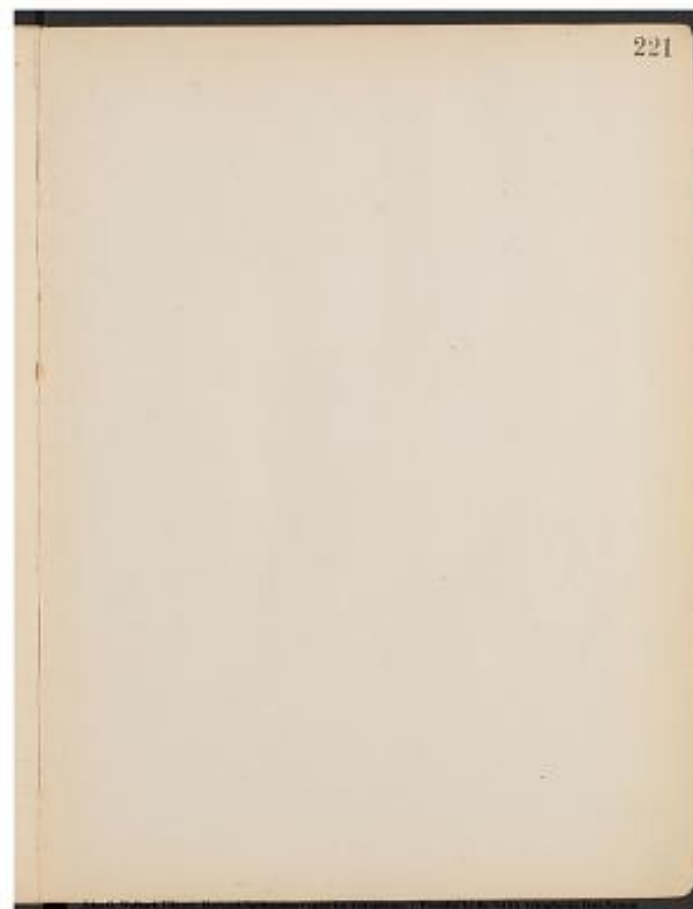
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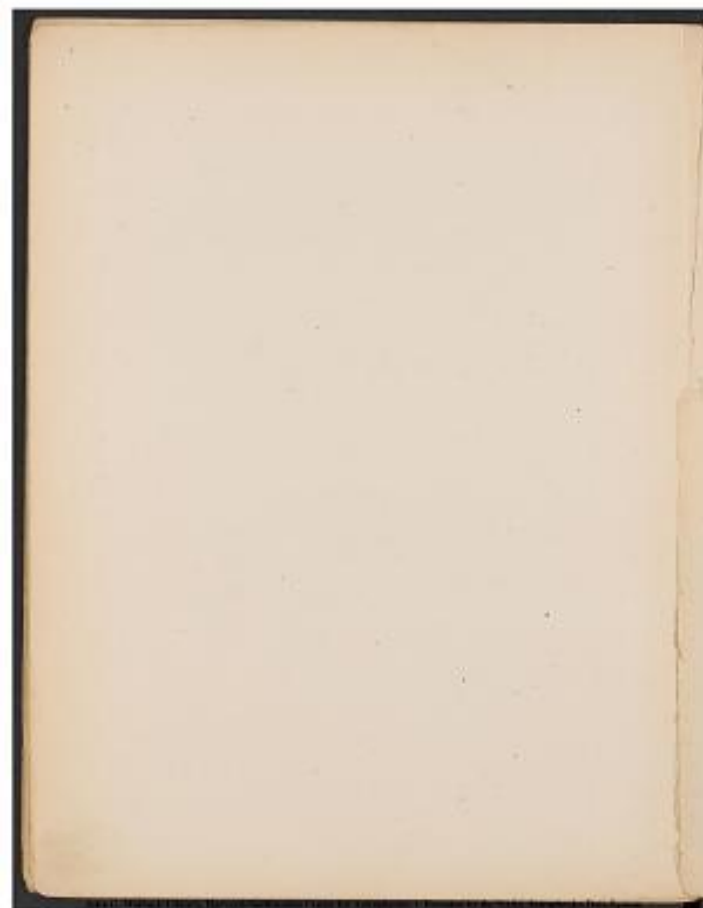
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[[graph]]
[[vertical y-axis values]]
50

40

20

0

-20

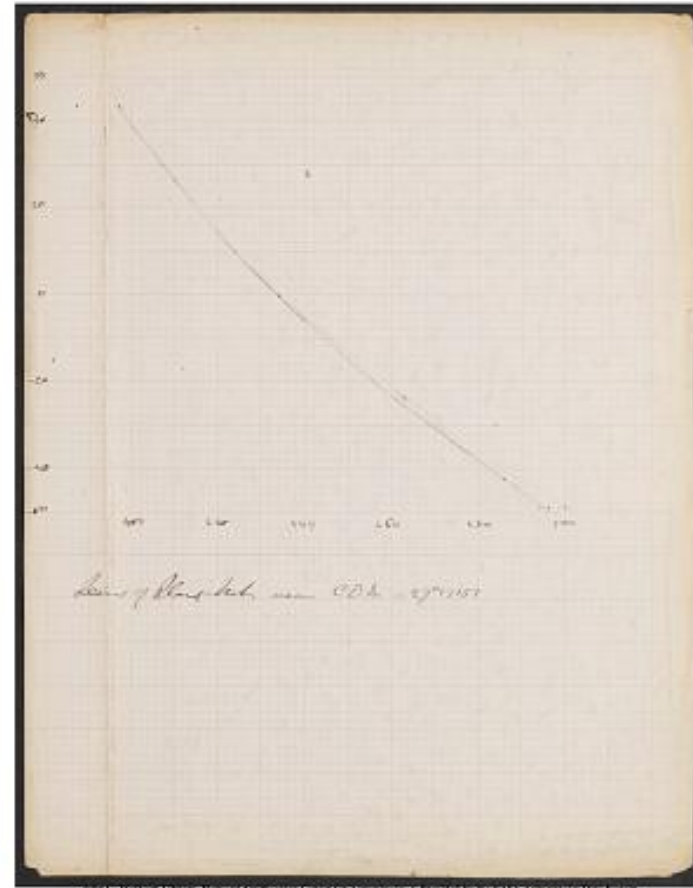
-40

-50

[[x-axis values]]
400 420 440 460 480 500

[[dots on line graph at: (397,43), (410,26), (434,0), (465,-25), (486,-42), (495,-49)]]

[[?]] of [[?]]-Neb. near CDM - 27° 13151



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$$y = \tan(a-q) \quad y = \cot$$

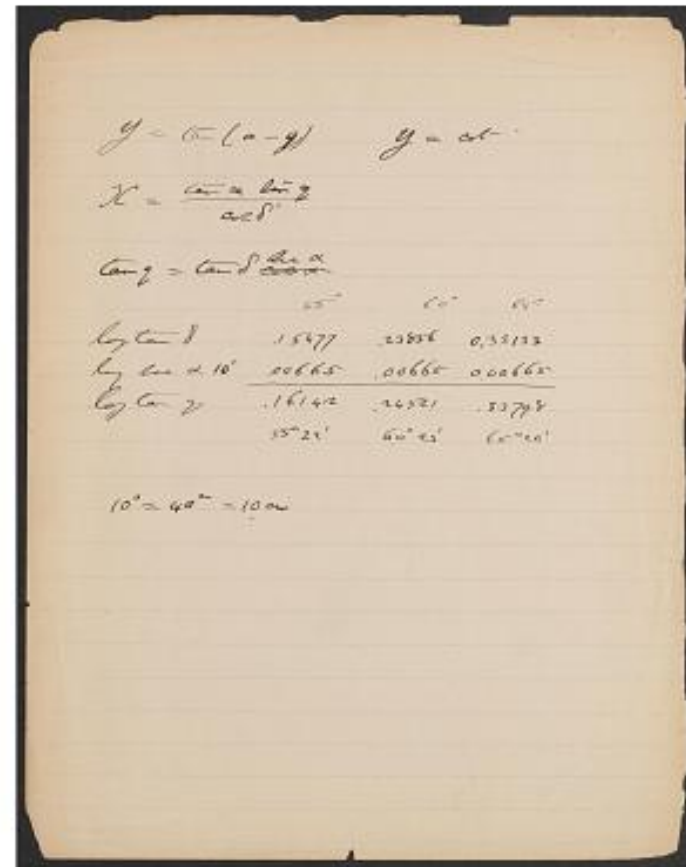
$$x = \tan \alpha \sin q / \cos \delta$$

$$\tan q = \tan \delta \cos \alpha \sec \alpha$$

[[4 column table]]
| 55° | 60° | 65°

log tan 8 | .15677 | .23856 | 0.33133
log sec alpha 10° | .00665 | .00665 | 0.00665 [[/underline]]
log tan q | .16142 | .26521 | .33798
| 55° 22' | 60° 23' | 65° 20'

$$10^\circ = 40^\circ \sin 10^\circ$$



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Table
Position of Nova Persei.

[[8 columned table]]
B.D.	RA. 1855.	Dec. 1855.	Magn.	X	Resid.	Y	Resid.
[[strikethrough]]+55° 473	[[strikethrough]]1^[[h]] 51^[[m]] 46.8^[[s]]	+55°					
17.8	9.5	0.00	000000	0.00	000000		
+56° 406	1 51 49.4	+56					
43.0	9.2	0.00	000000	27.28	2222	33	33
+56° 404	1 51						
21.0	+56	4.8	9.5	0.60	000000	15.13	2222
Nova	...						
 ...|...|...|1.12|2222|33|13.40|5500|55|55|

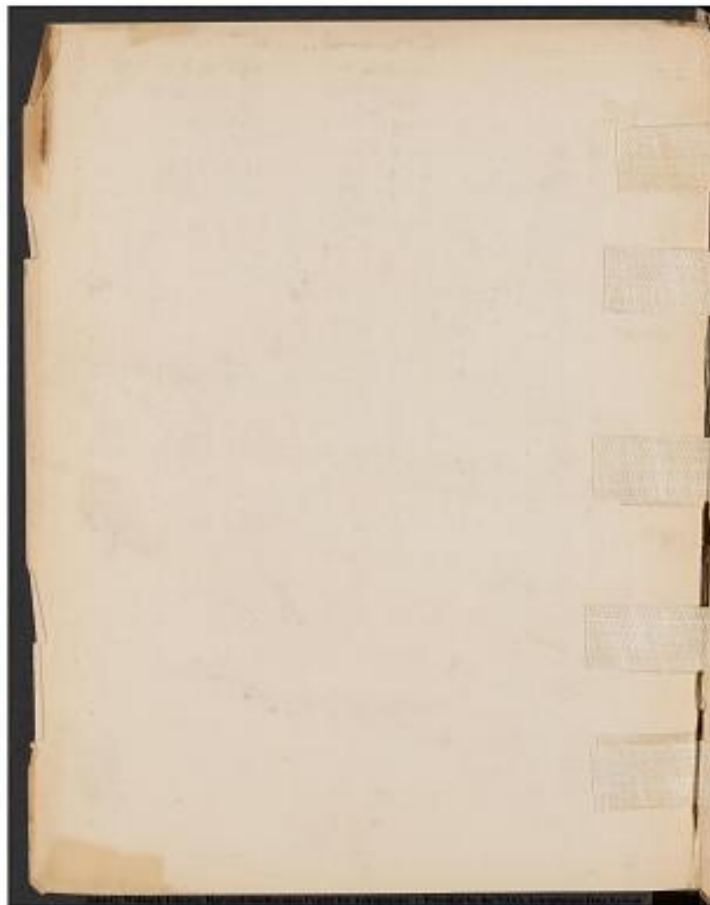
Table
Position of Nova Persei.

B.D.	RA. 1855.	Dec. 1855.	Magn.	X.	Resid.	Y.	Resid.
+55° 473	1 51 46.8	+55° 17.8	9.5	0.00	000000	0.00	000000
+56° 406	1 51 49.4	+56° 43.0	9.2	0.00	000000	27.28	2222 33
+56° 404	1 51 49.4	+56° 43.0	9.2	0.60	000000	15.13	2222 33
Nova	1 51 49.4	+56° 43.0	9.2	0.60	000000	15.13	2222 33

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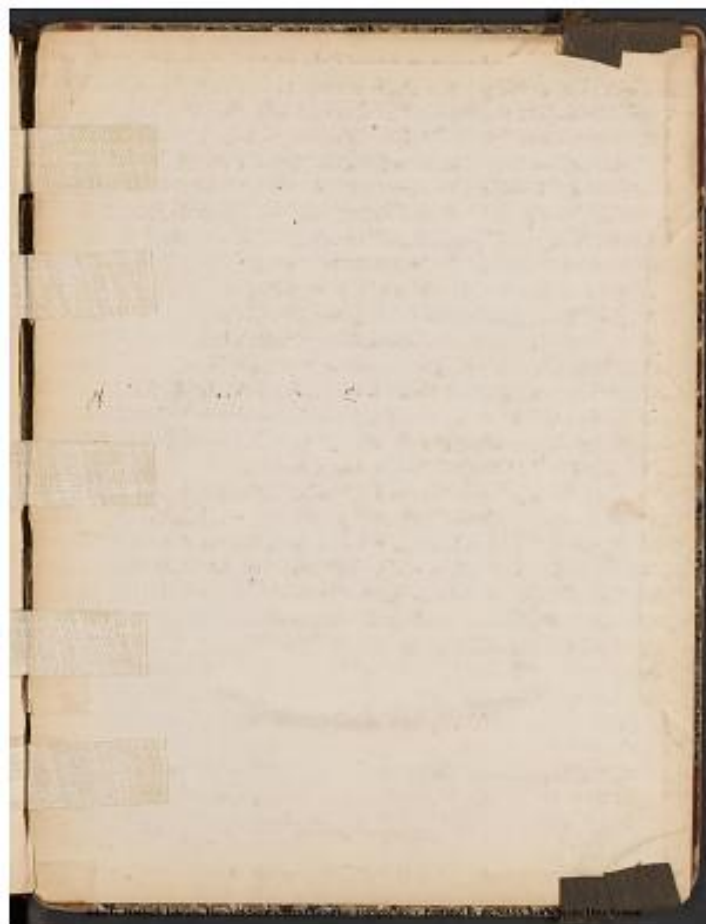
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