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Measures to determine amount of variation of ε Aurigae

March. 22. 1904

(1) ✓ aJ 107

0.00 η 6 ε 0.60 0.75 = 0.68 .08 .07

0.75 ε X' υ 0.85

✓ aJ 457

0.00 η 3 ε 0.30 0.25 = 0.28 .02 .03

0.25 ε 6 υ 0.85

✓ aJ 505

η 1 ε

ε ?

✓ aJ 452

0.00 η 7 ε 0.70 0.55 = 0.62 .08 .07

0.55 ε 3 υ 0.85

✓ aJ 804

0.85 υ 3 ε 1.15 1.22 = 1.18 .03 .04

1.22 ε 4 4 1.62

✓ aJ 827

0.00 η 8 ε 0.80 0.55 = 0.68 12 13

0.55 " ε 3 υ 0.85

✓ aJ 853

0.85 υ 4 ε 1.25 1.22 = 1.24 .01 .02

1.22 ε 3 4 1.62

Poor Plate. ✓ aJ 881

0.00 η 4 ε 0.40 0.55 = 0.48 .08 .07

0.55 ε 3 υ 0.85

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Measures of ε Aurigae (cont)

March 22, 1904

✓ A.I 898

0.00 η 7 ε 0.70 0.55 = 0.62 08 .07

0.55 ε 3 i 0.85

A I 907

0.00 η 3 ε 0.30 0.35 = 0.32 .02 .03

0.35 ε 5 i 0.85

A I 903

0.00 η 5 ε 0.50 0.35 = 0.42 .08 .07

0.35 ε 5 i 0.85

✓ A I 724

η 2 ε

ε ? i

✓ A I 745

η 3 ε

ε ? i

✓ A I 760

Too poor.

✓ A I 775

0.00 η 7 ε 0.70 0.65 = 0.68 .02 .03

0.65 ε 2 i 0.85

✓ A I 626

0.00 η 3 ε 0.30 0.35 = 0.32 .02 .03

0.35 ε 5 i 0.85

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Measures of ε Aurigae (cont)

March 21, 1904

✓ a 649

0.00 η 5 ε 0.50 0.55 = 0.52 02 .03

0.55 ε 3 i 0.85

✓ a 659

0.00 η 7 ε 0.70 0.55 = 0.62 .08 .07

0.55 ε 3 i 0.85

✓ a 682

Too poor.

✓ a 699

η 2 ε

ε ? i

✓ a 548

0.00 η 7 ε 0.70 0.65 = 0.68 .02 .03

0.65 ε 2 i 0.85

✓ a 482

0.00 η 4 ε 0.40 0.35 = 0.38 .02 .03

0.35 ε 5 i 0.85

✓ a 350

0.00 η 5 ε 0.50 0.25 = 0.38 12 13

0.25 ε 6 i 0.85

✓ a 434

0.00 η 7 ε 0.70 0.65 = 0.68 .02 .03

0.65 ε 2 i 0.85

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Measures of E Aurigae (cont)

March 22, 1904

✓ AJ 356

0.00 η 3 ε 0.30 0.35 = 0.32 .02 .03

0.35 ε 5 i 0.85

✓ AJ 465

0.00 η 7 ε 0.70 0.75 = 0.72 .02 .03

0.75 ε 1 i 0.85

✓ AJ 380

Too poor.

✓ AJ 480

0.00 η 6 ε 0.60 0.85 1.12 = 0.86 26 01 26

0.85 ε 0 i 0.85

1.12 ε 5 4 1.62

✓ AJ 151

0.00 η 8 ε 0.80 0.75 = 0.78 .02 .03

0.75 ε 1 i 0.85

✓ AJ 96

0.00 η 7 ε 0.70 0.85 0.92 = 0.82 12 .03 .10

0.85 ε 0 i 0.85

0.92 ε 7 4 1.62

✓ AJ 135

0.85 ι 1 ε? 0.95 0.92 = 0.94 .01 02

0.92 ε 7 4 1.62

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Measures of ε Aurigae (cont)

March 23, '04

✓ a 2129

0.00 η 6 ε 0.60 0.75 = 0.68 08 .07

0.75 ε 1 ζ 0.85

✓ a 1411

Too poor

✓ a 2047 Eryth?

0.00 η 7 ε 0.70 0.65 = 0.68 .02 .03

0.65 ε 2 ζ 0.85

✓ a 2007

0.00 η 3 ε 0.30 0.45 = 0.38 08 07

0.45 ε 4 ζ 0.85

✓ a 1919

0.00 η 7 ε 0.70 0.75 = 0.72 .02 .03

0.75 ε 1 ζ 0.85

✓ a 1878

0.00 η 6 ε 0.60 0.85 = 0.72 08 07

0.85 ε 0 ζ 0.85

✓ a 1705

0.00 η 6 ε 0.60 0.55 = 0.58 .02 .03

0.55 ε 3 ζ 0.85

Poor plate. ✓ a 1487

0.00 η 4 ε 0.40 0.35 = 0.38 .02 .03

0.35 ε 5 ζ 0.85

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1904phae..proj..982L

Measures of ε Aurigæ

March 23, '04

Poor Plate ✓ AJ 1420

0.00 η 4 ε 0.40 0.35 = 0.38 02 .03

0.35 ε 5 6 0.85

✓ AJ 1493

Too poor.

✓ AJ 1481

0.00 η 4 ε 0.40 0.35 = 0.38 .02 .03

0.35 ε 5 6 0.85

✓ AJ 1442

0.00 η 5 ε 0.50 0.35 = 0.42 08 .07

0.35 ε 5 6 0.85

✓ AJ 1362

η 3 ε

ε ? 6

Poor plate ✓ AJ 1369

η 7 ε

ε ? 6

✓ AJ 1890

0.00 η 6 ε 0.60 0.55 = 0.58 .02 03

0.55 ε 3 6 0.85

✓ AJ 1821

η 3 ε

ε ? 6

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Measures of ε Aurigae. (cont)

March 23, 1904

v AJ 1800

0,00 η 5 ε 0.50 0.45 = 0.48 .02 .03
0.45 ε 4 6 0.85

v AJ 1741

0.85 6 2 ε 1.05 0.92 = 0.98 .07 .06
0.92 ε 7 4 1.62

v AJ 1712

0,00 η 5 ε 0.50 0.55 = 0.52 .02 .03
0.55 ε 3 6 0.85

v AJ 2106

0.00 η 6 ε 0.60 0.65 = 0.62 02 .03
0.65 ε 2 6 0.85

v AJ 2159

0.00 η 5 ε 0.50 0.55 = 0.52 02 .03
0.55 ε 3 6 0.85

v AJ 2115 Eyth?

0.00 η 7 ε 0.70 0.85 0.92 = 0.82 12 .03 10
0.85 ε 0 6 0.85
0.92 ε 7 4 1.62

v AJ 2098

0.00 η 7 ε 0.70 0.75 = 0.72 02 .03
0.75 ε 1 6 0.85

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Measures of ε Aurigae (cont)

March 23, '04

Poor Plate. ✓ AJ 2051

0.00 η 6 ε 0.60 0.55 = 0.58 .02 .03
0.55 ε 3 6 0.85

✓ AJ 2020

0.85 6 1 ε 0.95 0.82 = 0.88 07 .06
0.82 ε 8 4 1.62

✓ AJ ~~2014~~ 2014

0.85 6 4 ε 1.25 1.02 = 1.14 11 .12
1.02 ε 6 4 1.62

✓ AJ 1911

0.85 6 1 ε 0.95 0.92 = 0.94 01 .02
0.92 ε 7 4 1.62

✓ AJ 1561

0.00 η 5 ε 0.50 0.65 = 0.58 .08 07
0.65 ε 2 6 0.85

✓ AJ 1575

0.00 η 7 ε 0.70 0.55 = 0.62 .08 .07
0.55 ε 3 6 0.85

✓ AJ 1618

0.00 η 2 ε
ε ? 6

✓ AJ 1595

η 2 ε
ε ? 6

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Measures of ε Aurigae (cont)

March 23, 1904

✓ AD 1980

0.00 η 8 ε 0.80 0.85 0.92 = 0.86 .06 .01 .06

0.85 ε 0 6 0.85

0.92 ε 7 4 1.62

✓ AD 1948

0.00 η 6 ε 0.60 0.65 = 0.62 .02 .03

0.65 ε 2 0 0.85

✓ AD 1652

0.00 η 2 ε 0.20 0.15 = 0.18 .02 .03

0.15 ε 7 6 0.85

0.92

✓ AD 1668

0.00 η 2 ε 0.20 0.15 = 0.18 02 .03

0.15 ε 7 6 0.85

✓ AD 1684

0.00 η 4 ε 0.40 0.55 = 0.48 .08 .07

0.55 ε 3 6 0.85

✓ AD 1875

0.00 η 7 ε 0.70 0.65 = 0.68 .02 .03

0.65 ε 2 6 0.85

✓ AD 1693

0.00 η 7 ε 0.70 0.75 = 0.72 .02 .03

0.75 ε 1 6 0.85

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Measures of ε Aurigae (cont.)

March 23, 1904

a 1998

0,00 η 8 ε 0,80 0,75 = 0,78 .02 .03

0,75 ε 1 6 0,85

a 2177

0,00 η 7 ε 0,70 0,75 = 0,72 .02 .03

0,75 ε 1 6 0,85

a 1838

0,00 η 7 ε 0,70 0,65 = 0,68 .02 .03

0,65 ε 2 ν 0,85

a 1779

η 2 ε

ε ? ν

a 2191

0,00 η 6 ε 0,60 0,65 = 0,62 .02 .03

0,65 ε 2 ν 0,85

a 1449

0,00 η 4 ε 0,40 0,35 = 0,38 .02 .03

0,35 ε 5 ν 0,85

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Examination of I Plates to find amount of variation in DM +56° 2829 disc. while examining map of Sky.

May 28, 1908

Pl.	Date	Ex.	Est. Mag.
I 15799			9.1
" 23947	1899 10 26.	68	9.2
" 9750	1893 10 24.	11	7.9
" 21564	1898 10 31.	10	8.8
" 9716	1893 10 20.	11	8.6
" 11592	1894 10 11.	9	8.8
" 9732	1893 10 21	10	8.6
" 21047	1898 8 13	10	8.3
" 16272	1896 10 24	11	8.6
" 13332	1895 9 1	11	8.4
" 6886	1892 9 6	14	8.1
" 9009	1893 8 1	13	8.7
" 4488	1891 10 9	16	9.0
" 9328	1893 8 29	10	7.9
" 26012	1900 11 2	29	8.5
" 27374	1901 8 28	11	8.0
" 31207	1903 11 28	15	8.7
" 29365	1902 10 10	16	8.8
" 25637	1900 8 9	13	8.0
" 23500	1899 9 14	19	8.6
" 21519	1898 10 27	14	7.9
" 18744	1897 9 9	10	8.0
" 11465	1894 9 20	15	9.0
" 25557	1900 7 14	8	8.9
" 7359	1892 10 14	15	9.1
" 9352	1893 8 31	14	8.0

8.2 — · — 90
· — 9.5
⊙ + 56° 2829
8.6

An examination of the above plates shows a variation of 1.3

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1904phae.proj..982L

Examination of plates to find variation if any in +56 2793 found in examining map of sky

May 28, 1908

	Pl.	Date	Ex	Est. Mag.	
I	15799			9.5	9.2
"	9352			10.0	10.2
"	23947			9.9	10.0
"	9750			10.5	10.8
"	21564			9.3	9.3 Image peculiar shape
"	9716			10.0	10.3
"	11592			9.3 10.2	9.4
"	9732			9.9	10.2
"	21047			9.3	9.5
"	13332			9.6	9.7
"	6886			9.8	10.1
"	16272			9.2	9.2 Edge of Pl.
"	9009			9.5	9.4
"	4488			10.0	10.3
"	9328			9.9	10.4
"	26012	⊙ +56 2793		9.7	9.6
"	27374	9.5		9.5	9.6
"	31207			9.9	10.1
"	29365			9.8	9.8
"	25637			9.7	10.0
"	23500			9.4	9.5
"	21519			9.7	9.6
"	18744			9.3	9.3
"	11465			9.6	9.8
"	25557			9.9	10.2
"	7359			9.9	10.1

Fr dates on the reading of Image.

On examination of the above plates shows a variation of 1.6 The image of the var. is peculiar in shape on some plates.

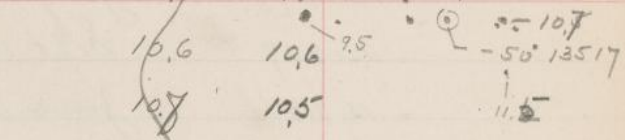
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Examination of plates to find amount of variation in −50° 13517 found in examining map of Sky

May 30, 1908

Pl.	Date.	Ex.	Est. Mag	
B 10190			10.4	10.4
" 31926	June 2, 1906	61	11.1	11.1
" 24385	Oct 13, 1899	10	10.5	10.5
" 19851	July 16, 1897	11	10.6	10.5
" 23592	" 19, 1899	10	10.3	10.4
" 22943	May 30, 1899	10	11.0	11.2
" 21622	June 10, 1898	10	10.8	10.7
" 31058	Nov. 8, 1902	10	11.1	11.0
" 32130	July 6, 1903	10	10.7	10.6
" 33936	June 2, 1904	11	11.4	11.6
" 29778	May 17, 1902	10	10.9	11.0
" 28183	Aug 9, 1901	10	10.4	10.4
" 30166	June 25, 1902	10	10.6	10.6
" 18182	Dec 2, 1896	12	10.7	10.5
" 3621			10.5	10.4
" 20746	Nov. 16, 1897	10	10.3	11.0
" 26267	Sept. 21, 1900	60	10.6	10.7
" 30324	July 9, 1902	61	10.6	10.6
" 30343	" 11, "	61	10.7	10.7
" 30313	" 8, "	61	11.0	11.0
" 34390	" 20, 1904	10	10.5	10.4
" 36476	" 22, 1905	12	11.5	11.5
" 36406	" 11, 1905	10	10.4	10.3
" 36099	May 22, "	10	10.6	10.5
" 23178	June 26, 1899	10	11.3	11.3



An examination of the above plates shows a variation of 1.2

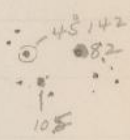
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Examination of plates to find amount of variation in −45° 14237 disc. while examining map of sky. (B 23118)

June 4, 1908

No. Pl.	Date.	Ex.	Mag.
B 23118	June 19, 1899	12	~~9.3~~ 9.4
" 11813	Aug 11, 1894	10	~~8.6~~ 9.0
" 17565	Oct 6, 1896	12	9.0
" 25560	June 18, 1900	10	9.1
" 4362	Oct 8, 1889	11	9.5
" 26096	Sept 12, 1900	10	9.5
" 10050	July 31, 1893	10	9.5
" 14217	" " 1895	10	9.2
" 13227	May 9, "	12	9.1
" 13677	June 6, "	10	8.4
" 19523	June 10, 1897	10	9.0
" 10047	July 31, 1893	10	Does not cover region.
" 26209	Sept 18, 1900	10	8.4
" 16237	June 10, 1896	10	" " " "
" 28038	July 26, 1901	10	9.4 9.5 10.5
" 24484	Nov 11, 1899	13	9.1
" 30785	Oct 9, 1902	10	9.5
" 32044	June 23, 1903	60	8.5
" 23839	Aug 14, 1899	10	8.5
" 34037	June 9, 1904	10	8.0
" 32363	July 31, 1903	10	8.0
" 34183	June 23, 1904	15	~~8.0~~ 7.9
" 32195	July 14, 1904	10	9.1
" 33664	May 5, 1904	10	8.5
" 36093	May 22, 1905	10	9.6*



An examination of the above plates shows a variation of 1.7

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Examination of plates to find variation in −48° 13729 and 20 51.2 −48 53 (appar) marked on B 23118

June 6, 1908

B	23118	9.7	11.9
"	11813	10.0	12.3
"	17565	9.6	12.3
"	25560	~~9.9~~ 9.6	12.3
"	4362	9.9	Too poor.
"	26096	9.5	12.2
"	10050	~~9.7~~ 10.0	11.5
"	14217	9.9	12.3
"	13677	9.7	11.7
"	10047	10.0	11.9
"	26209	10.1	Too poor.
"	16237	10.0	11.9
"	19522	10.2	12.0
"	21350	10.0	Too poor
"	24484	9.8	12.1
"	30485	9.5	12.3
"	23839	9.8	12.4
"	34037	9.61	Too poor.
"	32363	9.8	12.1
"	34183	9.8	12.2
"	32195	~~9.7~~ 9.6	12.3
"	33664	~~9.9~~ 9.6	12.4
"	36093	9.7	12.0
"	32044	9.9	11.8
"	28038	9.7	11.9
"	13227	9.9	12.3

−48° 13729 shows a variation of 0.7 It is a red star.

The above plates show variation of 0.9

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Examination of plates to find amount of variation in +55° 1409 10ᵐ

June 23, 1908

	No. Pl.	Date.	Ex.	Mag	
I	33959	Mar. 28, 1906	17	9.0	9.0
"	19731	Dec. 12, 1897	10	9.3	9.3
"	6076	Apr. 12, 1892	14	8.4	8.4
"	8359	Apr 5, 1893	19	9.0	9.0
"	8213	Mar. 12, 1893	15	8.2	8.2
"	12306	Feb 10, 1895	14	9.0	9.0
"	22483	" 25, 1899	15	8.9	8.9
"	24246	Dec. 13, 1899	20	9.0	9.0
"	32669	Feb " 1905	21	9.2	9.2
"	32846	Mar. 5 "	26	8.9	8.9
"	34549	Feb 21, 1907	20	9.7	9.7
"	26284	Dec. 20, 1900	15	8.4	8.4
"	12105	" 17, 1894	10	9.2	9.2
"	26751	Mar. 6, 1901	10	8.9	8.9
"	16651	Dec 1, 1896	10	9.4	9.4
"	15131	May 16, 1896	10	9.4	9.4
"	30480	" 13, 1903	13	9.3	9.3
"	21846	Nov 30, 1898	12	8.7	8.7

9.7
7.5
⊙ +55° 1409
8.7

An examination of above plates shows a variation of 1.5 magn.

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1904phae.proj..982L

Examination of plates to find amount of variation in var at 19 35.4 – 42 8 (apprx)

Map of Sky
Reg 25½ – 30

June 26, 1908

B 21340	Apr. 30,	1898	10	9.5
" 37118	Oct 16,	1905	10	11.4
" 27522	May 29,	1901	10	11.4
" 29456	Apr. 26,	1902	10	11.4
" 37043	Oct 2,	1905	16	11.4
" 29878	May 28,	1902	10	11.4
" 17372	Sept 5,	1896	16	N.S
" 16292	June 12,	1896	10	N.S
" 23854	Aug 15,	1899	10	11.4
" 21414	May 16,	1898	10	10.0 → Image on edge of plate. Probably brighter ?
" 34256	July 1,	1904	10	11.4
" 22559	Apr. 8,	1899	10	11.4
" 32357	July 31	1903	10	11.5
" 13939	" 3,	1895	11	10.0
" 30299	" 7,	1902	62	10.5
" 30017	June 12,	"	60	11.6
" 28172	Aug 8,	1901	60	11.4 ·⊙ 19 35.4-42 8
" 21478	May 25,	1898	12	9.9
" 21409	May 16	1898	13	9.6
" 9217				10.0

Estimates made from comparison stars for var. -41° 13684 marked on B9217 - Examination of above plates shows a variation of more than 2.0

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1904phae.proj..982L

Examination of plates to find amount of variation in −18° 5641 $20^h\ 9^m\ 39^s.0$ −18 7'.4 (Algol) marked on B 28507

Aug 10, 1908

	No Plate	Date	Ex.	Est. Magn.
B	28507	Sept 10, 1901	62	9.0
"	26059	" 11, 1900	10	9.4
"	29662	May 14, 1902	10	9.8
"	19093	" 12, 1897	10	9.0
"	9898	July 22, 1893	12	9.2
"	29669	May 14, 1902	10	10.6
"	17718	Oct. 27, 1896	11	9.0
"	36125	May 26, 1905	10	9.3
"	6144	" 30, 1891	10	8.8
"	31774	" 14, 1903	10	9.1
"	30874	Oct 11, 1902	10	9.3
"	16623	July 2, 1896	13	9.1
"	33596	May 3, 1904	10	9.3
"	30278	July 1, 1902	60	9.1
"	29893	May 28, 1902	10	9.3
"	21969	Sept 16, 1898	10	9.1
"	17561	Oct 6, 1896	11	9.3
am	3618	June 10 1905	62	10.6
"	2967	Aug. 19, 1904	65	10.5
ac	7991	Nov 8, 1906	60	10.5
am	575 Iso.	Aug 1, 1900	60	10.2
ac	7709	" 15, 1906	66	10.2
"	7732	" 19, "	62	10.0?
am	1462	July 12, 1902	60	9.2

8.8 — • 9.5

• — 18°5641

• 10.5

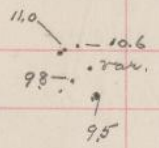
An examination of the above plates shows a variation of more than 1^m magn

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1904phae.proj..982L

Examination of plates to find amount of variation in var. at $20^h\ 6.^m8 - 13°\ 20$ (Appx 1855)
Marked on B 28507 (See plates on page 22)
Same as for -18° 5641
Aug. 12, 1908

Est Magnitude	
10.7	
10.0	
Does not cover reg.	
9.6	
9.9	
On edge of film.	
9.9	
10.8	
9.6	
10.5	
9.8	
Near edge. reg. poor	
9.7	
9.7	Near edge of film.
10.0	Near edge of film.
On edge of film.	
10.3	
11.0	
9.6	
9.7	
9.5	Plate scratched in reg. of var.
9.7?	
Too poor.	
10.0	



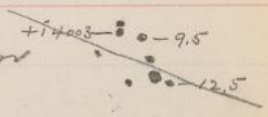
John G. Wolbach Library, Harvard-Smithsonian Center for Astrophysics • Provided by the NASA Astrophysics Data System

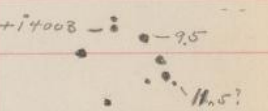
1904phae.proj..982L

Examination of plates to find amount of variation in +i 4003 $19^{h}\ 20^{m}\ 16.^{s}5$ +i 45'.5 9.5

Aug 13, 1908

	No Plate.	Date.	Ex.	Est. Magn
– I	32033	Sept. 15, 1904	16	9.3
– "	31995	Aug. 27, "	11	9.0
– "	31771	June 14, "	10	11.4
– "	18454	Aug 6 1897	10	N.S
– "	6827	Sept 2, 1892	10	9.6
– "	13545	" 30, 1895	12	9.5
– B	6162	June 1, 1891	10	Too poor
– "	23792	Aug 9, 1899	178	11.3
– "	25436	May 22, 1900	10	N.S
– I	3961	Aug. 8, 1891	15	N.S
– "	11376	" 21, 1894	12	N.S
– "	21064	" 15, 1898	15	9.4
– "	23056	June 18, 1899	10	9.0
– "	24079	Nov. 17, 1899	11	N.S? Poor plate.
– "	25538	July 9, 1900	43	N.S
– "	26101	Nov. 16, 1900	10	10.5
– "	15398	June 30, 1896	12	9.5
– "	31949	Aug 18, 1904	10	9.0
– B	31026	Nov 6, 1902	10	N.S
– "	31959	June 3, 1903	10	N.S
– "	31961	" " "	62	11.0
– "	32361	July 31, "	10	11.0





An examination of the above plates shows a variation of two magnitudes - possibly more.

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1904phae.proj..982L

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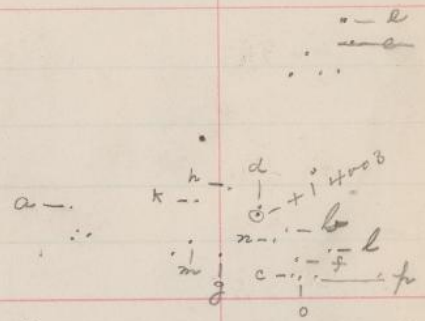
1904phae.proj..982L

Scale measures of seq. for var. +1°4003 19h found in examining chap of sky

(Sc I 32811) (Seq on I 32033)

Aug 17, 1908

I 32033		I 31995		
a	5.7	a	~~7.2~~ ~~7.0~~	6.8
b	6.3	b	~~7.7~~ ~~7.5~~	7.3
c	6.8	c	~~7.9~~ ~~7.5~~	7.7
d	6.9	d	~~8.2~~ ~~7.7~~	7.8
e	7.3	e	~~8.5~~	8.1
f	7.8	f	8.5	
g	8.0	g	8.5	
h	8.2	h	8.7	
k	8.3	k	8.7	
l	8.7	l	9.0	
m	8.9	m	9.3	
n	9.1	n	9.5	
o	9.3	o	9.5	
p	9.5	p	9.9	
r	6.5	r	6.8	



Sequence selected by E.F.S.
checked by W.P.S.

f + g are very much alike in brightness - but both were selected because so near the var. The same is true of h + k.

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1904phae.proj..982L

Var +1° 4003 (cont)

Aug 17, 1908

I	31949	I	11376
a	7.2	a	6.9 ~~7.1~~
b	7.6	b	7.3
c	8.0	c	7.5
d	8.3	d	7.7
e	8.6	e	8.0
f	9.0 9.0	f	8.5
g	~~8.9~~	g	8.5
h	9.1	h	8.7
k	9.2	k	8.9
l	9.5	l	9.2
m	9.8	m	9.5
n	10.1	n	9.7
o	n 3 0	o	10.0
p	n.s	p	0 3 p
v	7.4	v	n.s

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1904phae.proj..982L

Measures of Var + i 40033. Found in examining Map of Sky. (E.P.L.) (I 32033)

Aug. 19. 1908

✓ I 32033	✓ B 6162
10.5	Too poor in reg. of var.
✓ I 18454	✓ B 31026
13.5	13.2 ?
✓ I 13545	✓ B 31961
11.0	13.6
~~B~~ -	
✓ B 23792	✓ B 32361
12.7	13.5
✓ B 25436	✓ I 18482
12.2	Off the film.
✓ I 6827	✓ I 15674
10.5	Off the film.
✓ I 21064	✓ I 27403
10.4	Too poor
✓ I 24079 Poor plate.	✓ I 27497
12.2	10.1
✓ I 25538	✓ I 26004
13.5	Off film.
✓ I 23056	✓ I 9348 → On this plate k is several tenths fainter than k
10.1	12.0

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1904phae.proj..982L

+1° 4003 (cont)

Aug 19, 1908

✓ I 9508	✓ I 11419 (Poor Pl.)	✓ B 34528
Too poor	12.8 /	10.2? Cannot separate var. and "di"
✓ I 1583	✓ I 11357	✓ B 34527
On edge of film	12.5	10.0
✓ I 1752	✓ I 11290	✓ B 33591
Does not cover reg. [of var	Too poor.	12.8
Poor plate ✓ I 1742	✓ B 19597	✓ B 27631
10.9	11.9	13.0
✓ I 6612	✓ B 34252	✓ B 21322
Does not cover reg. [of var	12.2	12.2
✓ I 3974	✓ B 33986	✓ B 13663
Too poor in reg. of var.	12.9	12.8
		/
✓ I 1739	✓ B 34683	✓ I 23428
Does not cover reg. [of var	9.9	Plate does not cover [reg.
✓ I 1547	✓ B 27999	✓ I 23094
Does not cover reg. [of var	10.6	Off film
✓ I 8752	✓ B 34376	✓ I 21299
Image looks peculiar; may be defective! 9.8	11.1?	Off film.
✓ I 9138	Images spread, and cannot separate var. from di - seems to be about equal to "di"	✓ I 25431
Too poor in reg. of var.		Off film.

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1904phae.proj..982L

Van + i° 4003 (cont)

Aug 20 1908

✓ I 25701	✓ B29861	✓ I 18525
near edge. 12.5	10.0	Off film
✓ I 25684	✓ B29707	✓ I 15451
13.5	Too poor in reg. of var.	Off film.
✓ I 23184	✓ B28625	✓ I 15402
11.9	10.2	Off film
✓ I 30933	✓ B29460	✓ I 21281
Too near edge.	11.1	10.8
✓ I 29162	✓ B37319	✓ I 21068
Too near edge	13.5	Off film.
✓ I 28669	✓ B9030	✓ I 15398
Too near edge	10.3	10.6
✓ I 27319	✓ I 4138	✓ B31959
~~10.5~~	Does not cover reg.	13.0
~~12.2~~ ? 10.2		
	✓ I 8900	✓ I 26101
✓ I 27767	Off film.	11.6
Off film.		
	✓ I 18620	✓ I 31771
✓ B31821	13.5	12.8
12.8		
	✓ I 15925	✓ I 3961
	12.8	12.5

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1904phae.proj..982L

Var +1° 4003

Aug 20, 1908

✓ I 11376	✓ B 25281	✓ B 22707
13.2	Too poor.	11.4
✓ I 31949	✓ B 26143	✓ B 21997
10.2	Too poor in reg. of var.	Too poor in reg. of var.
✓ I 31995	✓ B 26208	✓ B 36249
10.1	Too poor.	11.2
✓ B 13631	✓ B 7834	✓ B 36217
13.2	Too poor.	10.3
✓ B 19527	✓ B 7609	✓ B 37395
12.2	Does not cover reg. Of var.	12.5
✓ B 20613	✓ B 9236	✓ B 37039
12.3	13.0 ? → Images large- Spread out- Estimate uncertain	12.8
✓ B 17688	✓ B 9883	✓ B 37200
13.0	10.1	Too poor.
✓ B 17368	✓ B 23365	✓ B 37299
12.5	10.2	Too poor.
✓ B 16296	✓ B 23971	B 9235
10.4	13.2	12.6
✓ B 27620	✓ B 23579	
12.5	11.1	

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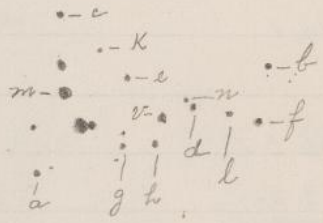
1904phae.proj..982L

Measures of Seq. for var. 19h 44m.3 + 13° 38' (appx)
Found in examining map of sky (E.F.S.) (Comp. stars on I 9360)

(Sc. I 32811) Aug. 26, 1908

I 9360

a	4.4
b	5.1
c	5.5
d	5.7
e	6.3
f	6.5
g	6.9
h	7.3
k	7.6
l	7.9
m	8.2
n	8.7
var	5.5



Seq. selected by E.F.S. Checked by W.P.S.

I 9511

a	4.5
b	5.2
c	5.7
d	6.0
e	6.7
f	6.9
g	7.3
h	7.8
k	8.0
l	8.3
m	8.5
n	9.0
var	6.0

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1904phae.proj..982L

19h 44m.3 +13° 38' (cont)

Aug 26, 1908

I	9061
a	5.4
b	6.0
c	6.5
d	6.7
e	7.5'
f	7.5
g	7.8
h	8.3
k	8.7
l	9.0
m	9.2
n	9.7
var.	6.7

I	7003
a	6.2
b	6.8
c	7.3
d	7.5'
e	8.2
f	8.2
g	8.5'
h	9.0
k	9.3
l	9.7
m	10.0
n	ns
var.	8.0

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1904phae.proj..982L

Measures of var. 19 44.3 +13 35 (approx)
(I 9360)

Aug 27 1908

I 9360	I 21361	I 18624
10.9	12.0	11.3
I 9511	I 15870	I 21300
11.1	11.8	11.7
I 9061	I 27417	I 33643
~~11.3~~ 11.1	11.2	10.9
I 7003	I 27465	I 23053
12.0	11.7	11.3
I 26097	I 27427	I 23071
11.8	11.3	11.0
I 4194	I 27769	I 23100
11.2	11.7	10.9
I 25855	I 26078	I 21362
11.0	12.0	Too poor in neg of 7
I 13467	I 15675	I 13544
11.8	10.9	10.9
I 23641	I 18527	I 8782
11.3	12.4	12.2
I 23890	I 18529	I 9003
10.8	12.6	12.1

Image edge of pl.

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1904phae.proj..982L

$19^h\ 44.^m3 + 13\ 35$ (cont)

Aug 27, 1908

I 8821	I 8846	am
Too near edge	Too near edge.	3162
		11.9
I 23462	I 8959	
11.0	11.8	am 1416
		10.6
I 1265	I 8847	
10.9	11.9	am 624
		109
I 1753	I 9458	
11.5	10.6	am 1968
		~~11.8~~
		11.1
I 6828	I 29167	
12.2	12.0	am 2726
		~~10.9~~ 10.6 ?
I 6806	I 16133	
12.0	11.1	am 3569
		12.1
I 6861	I 1598	
11.8	12.1	am 2161
		~~11.8~~ 10.9
I 6978	am 2094	
Too poor in regr.	~~12.0~~	am 2867
	11.0	12.7
I 7184	am 2274	
11.1	11.3	am 2716
		10.7
I 7233	am 1590	
11.1	10.9	am 2591
		10.8

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1904phae.proj..982L

1944.3+13 35

Aug 27, 08

AM 2925

11.7?

AM 946

11.0

AC 5344

11.2

AC 5302

10.9?

AC 5150

12.0

AC 5083

12.3

AM 1022

12.0

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1904phae.proj..982L

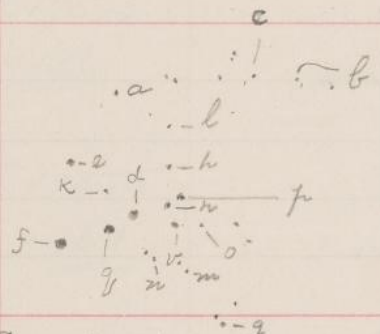
Measures of Seq for var. 20h 5.7m +5° 5'2 (1855 affirm.

Found in examining map of sky (E.F.S.) (Comp stars on ~~B 19529~~ I 29206

(Sc I 32811) Sept 14 1908

* B 19529

a	4.9
b	5.3
c	5.3
d	5.6
e	6.0
f	6.4
g	6.5
h	6.9
k	7.1
l	7.2
m	7.7
n	8.0
o	8.5
p	8.9
q	9.1
r	9.7
var.	6.9



Seq. selected by E.F.S.

I	18654
a	5.7
b	6.1
c	6.2
d	6.5
e	6.7
f	7.1
g	7.3
h	7.8
k	7.8
l	8.0
m	8.3
n	8.5
o	8.8
p	9.1
q	9.2
r	9.6
var	9.1

* After the seq was marked the film was scratched in neg. of "p" transferred to I

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1904phae.proj..982L

$20^h\ 5.^m7 + 5'\ 52''$ (cont)

Sept 4, 1908

	I 29206		I 8876
a	5.5	a	5.7
b	5.9	b	6.2
c	6.0	c	6.2
d	6.4	d	6.7
e	6.7	e	6.9
f	7.0	f	7.3
g	7.2	g	7.7
h	7.6	h	8.2
k	7.6	k	8.3
l	7.8	l	8.5
m	8.2	m	8.8
n	8.5	n	9.0
o	8.8	o	9.5
p	9.1	p	9.9
q	9.3	q	p 39 F.
r	9.7	r	q
var.	8.5	var.	~~4.9~~

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1904phae.proj..982L

Measures of var. at $20^h\ 5.^m7 + 5^s\ 52$ (approx)

Sept 9 1908

I 29206
v 12.6

I 15725
v Too poor in neg of var.

I 29600
v ~~12.4?~~ 11.8 Poor Pl.

I 19356
v Too poor in neg. of var.

I 15869
v Too poor in neg. of var.

I 34144
v 14.1

I 19529
v 11.5

I 17510
v 13.6

I 27405
v Too poor in neg of var.

I 7053
v 12.7

I 17855
v 13.1

I 23099
v 10.5

I 32873
v 14.1

I 1503
v Too poor.

I 25812
v 11.2

I 9587
v Too poor in neg of var.

I 4127
v 12.7

I 21028
v 14.2?

I 18654
v 13.4

I 8701
v 11.5

I 25878
v 11.3

I 8876
v 10.7

I 9091
v 11.1

I 13579
v Too near edge of pl.

I 21301
v 13.1

I 33257
v 12.6

I 14982
v Too poor in neg. of v

I 15494
v 13.1

I 33464
v 14.1

I 14742
v 11.1

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1904phae.proj..982L

$20^h\ 5.7^m + 5^\circ\ 52'$ (cont)

Sept 9, 1908

I 15183	I 13046	I 18528
Too poor.	10.6	12.5
I 13019	I 6965	I 21069
10.8	Too poor.	Too poor.
I 20793	I 20741	I 23185
Too poor.	12.5	11.1
I 23583	I 28297	I 16135
13.4	12.3	12.4
I 30754	I 18430	I 25903
13.4	Too poor in reg. of var.	10.5
I 16513	I 20279	I 11372
10.5	10.5	Too poor.
I 16192	I 20391	I 11514
+3.3 11.7	~~Too poor in reg. of var.~~	12.6
	10.0	
I 16070		I 11652
12.8	I 19442	11.7
	13.4	
I 15280		I 12675
14.1	I 18802	13.6
	13.9	
I 18341		I 13423
10.5	I 21212	13.4
	Too [illegible]	

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1904phae.proj..982L

h m ° ′
20 5.7 + 5 52 (emit)

Sept 9. 1908

I 12783
v 13.4

I 15326
v 13.4

I 15399
v 13.4

I 4043
v 11.6

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1904phae.proj..982L

Var - 19h 59m.3 + 3° 26'(app) Found in examining map of Sky.

(Comp stars on I 25812)

(Sec I 32811) Sept 16, 1908

I 25812

a	4.7
b	5.2
c	5.5
d	5.8
e	6.1
f	6.4
g	6.6
h	6.9
k	7.1
l	7.3
m	7.3
n	7.8
o	8.2
p	8.2
q	8.7
r	9.2
s	9.5
t	9.6
u	9.8
var	5.4



Seq sel. by E. F. Le.

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1904phae.proj..982L

h m
19 59.3 + 3 26 (cont)

Sept 16, 1908

I 11652		I 12783 Barnard.		I 33464	
a	5.5	a	5.0	a	5.5
b	6.2	b	5.7	b	6.1
c	6.5	c	6.1	c	6.4
d	6.7	d	6.3	d	6.6
e	7.1	e	6.7	e	6.9
f	7.5	f	7.0	f	7.3
g	7.6	g	7.3	g	7.4
h	7.9	h	7.7	h	7.8
k	8.1	k	7.8	k	7.9
l	8.4	l	8.2	l	8.2
m	8.5	m	8.4	m	8.3
n	8.7	n	8.9	n	8.5
o	9.0	o	9.1	o	8.9
p	9.1	p	9.1	p	9.2
q	9.5	q	9.5	q	9.5
r	9.8	r	9.8	r	9.8
s	10.0	s	10.1	s	9.9
t	10.0	t	~~t~~ 1 tr	t	10.1
u	n.s	u	n.s	u	t 3 u
var.	6.8	var.	6.3	var.	6.7

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1904phae.proj..982L

19 · 59.3 + 3 26 (cont)

Sept. 22, 1908

I 25812	I 19196	I 11514
· 9.6	· Too poor.	· 10.3
I 15399	I 15999	I 12675
· 9.0	· 10.1	· 9.6
I 4043	I 18350	I 9091
· 9.6	· Too poor	· 10.0
I 7002	I 17646	I 20793
· 10.6	· Too poor	· 9.6
I 33452	I 17693	I 15326
· 10.1	· 10.3 ?	· 10.2
I 29148	I 33464	I 13423
· 10.1	· 9.9	· 9.6
I 27742	I 12783	I 11372
· 10.2	· 10.1	· 9.8
I 27495	I 11652	I 25903
· 9.8	· 9.8	· 9.7
I 26127	I 18802	I 16135
· 9.7	· 9.5	· 9.4
I 18111	I 21212	I 23185
· Too poor.	· 10.0	· 9.5

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1904phae..proj..982L

h m ° ′
19 59.3 + 3 26 (cont)

Sept 24 1908

I 21069	I 8701	I 18341
v 9.7	v 9.6	v 9.8
I 18528	I 4127	I 15280
v 10.5	v Too poor in reg of v.	v 10.1
I 19442	I 13019	I 16040
v 9.6	v 9.5	v 10.2
I 20391	I 15183	I 16192
v 9.6	v 9.1	v 10.0
I 20279	I 14742	I 16513
v 9.3	v 9.6	v 93
I 18430	I 14982	I 30754
v 10.3	v 9.1	v 10.0
I 23297	I 13579	I 23583
v 9.7	v 9.3	v 9.3
I 34144	I 20741	I 19529
v 10.4	v 9.7	v 9.6
I 29600	I 6965	I 19356
v 10.3	v Double cover reg.	v 9.7
I 33257	I 13046	I 1503.
v 9.7	v 9.6	Too poor.

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1904phae.proj..982L

h m
19 59.3 +3 26 (cont)

Sept 26, 1908

I 17855	I 8876	I 9115
9.2	Off film.	9.9
I 17510	I 18654	I 6860
9.6	9.6	9.3
I 15869	I 9587	I 11473
9.6	Off film	9.9
I 25878	I 32873	I 11586.
10.3	10.6	9.9
I 21028	I 7053	I 12616
10.3	Too poor on neg. of v.	9.1
I 23099	I 1597	I 11964
10.3	9.1	10.3
I 27405	I 1906	I 13781
93? Image scratched.	9.8	Too poor.
I 15725	B 5978	I 13162
10.5	9.2	10.6
I 15494	I 4193	I 25854
10.8	10.3	10.1
I 21301	~~I 6860~~	I 25902
9.9	9.9	10.0

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1904phae.proj..982L

Measures of Seq. for var at 19h 35.4-42 8

(Comp stars on B22559)

(Sc. I 32811) Oct 13, 1908

B22559		B9217	
a	~~4.9~~ 5.1	a	4.9
b	5.3	b	5.2
c	5.4	c	5.4
d	5.7	d	5.8
e	6.2	e	6.3
f	~~7.3~~ 6.5'	f	6.5'
g	6.6	g	6.5'
h	6.8	h	6.7
k	7.0	k	6.8
l	7.4	l	7.2
m	7.6	m	7.5'
n	8.0	n	7.8
o	8.1	o	8.0
p	8.4	p	~~8.8~~ 8.3
q	8.7	q	8.7
r	8.9	r	9.0
s	9.1	s	9.2
t	9.5	t	9.7
var.	9.5	var.	6.2

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1904phae.proj..982L

Measures for var at 19h 35.4-42.8 (cont)

Oct 13, 1908

B 32357	
a	5.3
b	5.7
c	5.9
d	6.2
e	6.5
f	6.7
g	6.8
h	7.0
k	7.2
l	7.5
m	7.8
n	8.0
o	8.2
p	8.5
q	8.8
r	9.0
s	9.1
t	9.4
var	8.6

B 13939	
a	4.8
b	5.1
c	5.2
d	5.4
e	5.7
f	5.9
g	6.1
h	6.4
k	6.5
l	6.9
m	7.3
n	7.5
o	7.7
p	8.1
q	8.3
r	8.7
s	8.9
t	9.2
var.	6.1

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1904phae.proj..982L

h m
19 35.4 — 42 8 (cont)

Oct 19 1908

B 22559
13.0

B 19516
11.4

B 13939
9.9

B 32357
12.0

B 9217
9.6

B 22933
12.6

B 22518
Off film.

B 22158
Does not cover reg.

B 22037
Off film.

B 22041
13.0

B 22074
13.3

B 20675
13.0

B 20609
12.1

B 20606
Too poor.

B 20568
Does not cover reg.

B 20567
Does not cover reg.

B 19697
9.3

B 19092
12.8

B 19583
Off film

B 20329
10.9

B 19335
Off film

B 19334
Too poor.

B 27629
13.0 Near edge

B 27640
Off film

B 27903
Too near edge

B 16519
Too poor in reg

B 16109
13.0

B 16901
13.5

B 16584
13.5

B 25438
9.3

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1904phae.proj..982L

19h 35m 4 – 42 8 (cont)

Oct 19, 1908

B25277	B24417	B30322
9.5	9.8 ? Near edge	Off film
B25276	B33960	B30829
9.3	12.4	Off film
B21413	B33959	B37069
Off film	Off film	Off film
B23857	B28181	B30084
12.1 Near edge.	Does not cover reg of v.	Does not cover reg
B33856	B28311	B36438
Off film	Does not cover reg. of v.	8.8
B23066	B28629	B35856
Too poor in regr.	Too near edge	12.6
B23067	B34288	B32128
Does not cover regr	13.5	Off film
B23110	B30267	B32129
12.6 Near edge.	10.7	10.5 ? Near edge
B23540	B30311	B30003
13.5	Off film	Does not cover
B24416	B30515	B36216
9.7 Near edge	Does not cover	10.4

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1904phae.proj..982L

h m
19 35.4 – 42 8 (cont)

Oct 19, 1908

B15895	B15454	B30017
v 13.2	v Too poor.	v 12.1
B36090	B15590	B31299
v Does not cover reg.	v 11.5	v 10.7
B36195	B15561	B34256
v Off film	v 11.0	v 13.0
B31690	B32519	B21414
v 8.5	v Too near edge	v Too near edge
B33545	B15086	B23854
v 12.1	v 12.6	v 11.8
B33498	B21523	B16292
v Off film	v Off film.	v 12.4
B37907	B36065	B17372
v 11.3	v 13.0	v 13.0
B37647	B21340	B29878
v 13.0	v 9.0	v 12.7
B37545	B21409	B37043
v 13.3	v 9.8	v 12.4
B29484	B21478	B28172
v Off film	v 10.1	13.5

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1904phae.proj..982L

19 35.4 − 42° 8 (cont)

Oct 19, 1908

B29456	B6173	B26075
v 13.2	v Too poor	Too poor
B27522	B6168	B14857
v 12.5	v Too poor	v 12.6
B37118	B6155	B14503
v 12.7	v Too poor	v 13.0
B25669	B11644	B14402
v 8.7	v 10.9	v 12.4
B17242	B17510	B14094
v 13.5	v 11.5	v 10.5
B9216	B17838	B17728
v 9.4	v 9.7	v 9.3
B7841	B17871	B17082
v 9.0	v Too poor	v 13.5
B9865	B18790	B30367
v Too poor	12.6	v 10.4
B13666	B18662	B15747
v 8.8	v 12.4	v 12.8
B6598	B18640	B21576
v Too poor	Too near edge	11.1

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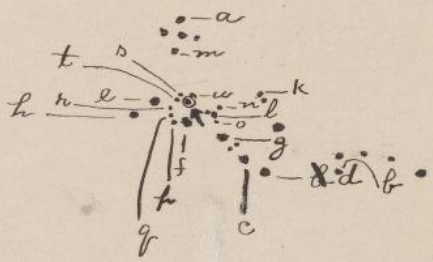
Measures of Seq for −48° 12918 (S.E.B.)
Seq on B 30084
" " a 7426

Feb 15. '09

(Sc. I 32811)

B 16200

a	5.2
b	5.3
c	6.3
d	6.5
e	6.9
f	7.2
g	7.7
h	8.3
k	8.7
l	9.2
m	9.7
n	ns.
o	ns
p	ns
q	ns
r	ns
s	ns
t	ns
u	ns
var	7.3



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1904phae.proj..982L

− 48° 12915 (cont)

Feb 15, '09

✓ B 22518

a 4.9
b 5.1
c 6.2
d 6.3
e 6.7
f ~~6.9~~
g 7.5
h 8.0
k 8.4
l 8.8
m 9.2
n ~~nn 3 7n~~ 9.5
o 9.8 ~~n 2 0~~
p ns
q ns
r ns
s ns
t ns
u ns
v ~~7.2~~

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1904phae.proj..982L

-48° 12915 (cont)

Feb 16, 1909

	B 12174 ~~38258~~	B 36705 ~~4.9~~ 5.2
a	5.1	~~5.6~~
b	5.2	5.2
c	6.2	6.3
d	6.2	6.3
e	6.8	6.8
f	7.1	7.2
g	7.7	7.8
h	8.3	8.2
k	8.7	8.7
l	9.1	9.1
m	9.7	9.7
n	10.1	10.0
o	n 30	n 30
p	n,s	n,s
q	ns	n,s
r	ns	n,s
s	ns	n,s
t	ns	n,s
u	n,s	n,s
v	ns	n,s

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1904phae.proj..982L

Estimates between faint comp stars for −48°12915

Feb 16, 1909

✓ A 7426

l 4 m
m 5 n
n 3 o
o 6 p
p 4 q
q 3 r
r 3 s
s 2 t
t 1 u

✓ A 7426.

l 4 m
m 4 n
n 3 o
o 5 p
p 5 q
q 3 r
r 3 s
s 2 t
t 1 u

✓ A 4469

l 5 m
m 4 n
n 4 o
o 5 p
p 3 q
q 2 r
r 3 s
t n,s
u n,s

✓ A 4469

l 4 m
m 5 n
n 4 o
o 5 p
p 4 q
q 3 r
r 2 s
t n,s
u n,s

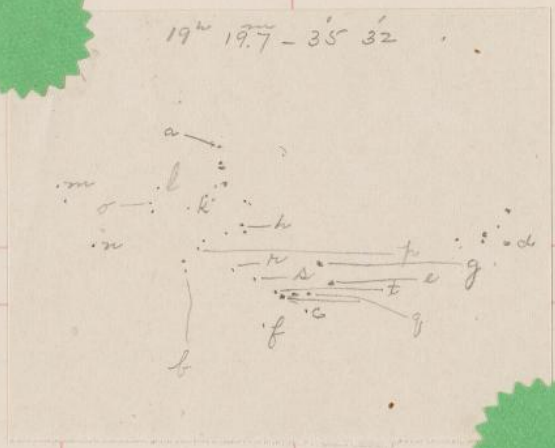
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1904phae.proj..982L

Measures of Seq for var $19^h\ 19.7 - 35' 32$

(Sc. I 32811) February 24, '09 (Comp. stars on B 32320)

	B 32320		B 19347
a	B		a 4.8
b	4.1		b 5.2
c	4.4		c 5.4
d	4.8		d 5.7
e	5.0		e 6.0
f	5.3		f 6.4
g	5.5		g 6.8
h	6.2		hi 7.3
k	6.5		k 7.7
l	6.8		l 8.1
m	7.3		m 8.4
n	7.8		n 9.0
o	8.2		o 9.3
p	8.5		p 9.5
q	8.5		q 9.7
r	8.9		r 9.9
s	9.0		s 10.1
t	9.3		t ns
v	5.3		v 6.2



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1904phae.proj..982L

Measures of Seq. for var 19 19.7-25 (cent)

February 24, 1909

B29581		B23851	
a	5.3	a	5.8
b	5.8	b	6.1
c	6.2	c	6.3
d	6.7	d	6.8
e	7.0	e	7.2
f	7.5	f	7.5
g	7.8	g	7.7
h	8.3	h	8.1
K	8.6	K	8.4
l	9.0	l	8.8
m	9.3	m	9.0
n	9.7	n	9.4
o	10.0	o	9.7
p	10.2	p	10.0
q	p 2 q	q	p 2 q
r	q 3 r	r	q 3 r
s	r 2 s	s	r 2 s
t	s 3 t	t	s 3 t
var.	7.5	var.	7.2

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1904phae.proj..982L

Measures of brightness for 19 19.7-35 32.

Feb 25, 09

B 32320	B 38019	B 14589 Sp.
10.5	11.0	Too poor.
B 33953	B 37545	B 16263 Sp.
11.6	11.2	Too poor.
B 33499	B 28628	B 16502
11.9	10.5? Poor Pl.	9.7
B 33449	B 28312	B 16575.
11.3	11.3	10.1
B 32470	B 27873	B 16984
11.6	Class S	10.6
B 19929	B 27629	B 7809 Sp.
Too poor in R. of V.	11.9	Too poor in R. of V.
B 39396	B 32358	B 5238
Too poor in R. of V.	10.9	11.9
B 38981	B 16293	B 21288
10.3	9.8	11.7
B 38210	B 13852 Sp.	B 16199
9.7	Too poor.	9.9
B 38116	B 4224 Sp.	B 14090
10.6	Too poor.	10.8

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1904phae.proj..982L

19 19.7-35 32 (cont)

Feb 25, 1909

B17328	B26055	B3718
11.0 Poor Pl.	9.9	Too poor.
B18056	B25615	B3963
9.5? Poor Pl.	11.0 Poor Pl.	11.7? Poor plate
B19149	B25533	B3964
10.6	11.6	Too poor.
B17691	B25398	B4005
12.3	11.8	Too poor
B9216	B18970	B32306
10.5	11.3 Poor Pl.	10.6
B3697	B20154 Sp	B32257
missing	Too poor.	10.4
B27515	B25278	B32161
11.5	11.5	9.7
B27488	B24417	B32129
11.4	11.2	9.8
B26370	B23819 Sp	B32050
9.8	Too poor	9.5
B26146	B3708 Sp	B32043
10.2? Poor Pl.	Too poor.	9.6

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1904phae.proj..982L

h m ° ′
19 19.7 − 35 32 (cont)

Feb 26, 1909

✓B 32033	✓B7841	✓B18733
9.4	11.0 Poor Plate.	11.7?. Poor im reg.
✓B 32031	✓B8605 Sp.	✓B19454
9.6	Too poor im ro.	9.4
✓B 31859	✓B17264	✓B19347
11.2	11.6	9.6
✓B 31739	✓B17371	✓B29581.
Too poor	11.5?. ~~Poor~~ im reg. gr	9.8
✓B 31810	✓B17450 Sp.	✓B23851
11.5	Too poor	9.6
✓B 31923	✓B17552	✓B9608 Sp.
11.0	Too poor	Too poor im ro.
✓B 31963	✓B17871	✓B9780
10.9	10.8	Too poor im ro.
✓B 37297	✓B17977	✓B9889
10.2	9.9 Poor Plate.	12.6
✓B7792 Sp.	✓B18640	✓B10044
Too poor	Too poor "f" faintest comp. im	13.1
✓B7840	✓B18662	✓B10087 Sp.
Too poor	11.5 Near edge	Too poor

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1904phae.proj..982L

h m
19 19.7 −35 32 (cont)

Feb 26, 1909

✓B10106 Sp. Too poor.	✓B13666 10.3	✓B21826 Sp. Too poor
✓B10255 Too poor	✓B13768 Sp. Too poor in n.	✓B21522 11.8
✓B11538 11.7	✓B37117 10.6	✓B21341 Too poor
✓B13938 10.8	✓B37042 10.7	✓B20606 12.3
✓B14135 Sp. Too poor in n.	✓B36704 10.5	✓B20605 Too poor
✓B14153 Sp. Too poor.	✓B36497 10.8	✓B20289 11.0
✓B11644 12.3	✓B36091 12.1	✓B20184 Sp. Too poor
✓B11762 Too near edge	✓B35856 11.6	✓B20130 Sp. Too poor in n.
✓B13407 Sp. Too poor.	✓B34255 10.9	✓B20083 Sp. Too poor in n.
✓B13590 10.5	✓B21876 Sp. Too poor.	✓B19975 10.9

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1904phae.proj..982L

h m ° ′
19 19.7- 35 32 (cont)

Feb 26, 1909

B 23782 Sp. Too poor	B 9559 Sp. Too poor in ra.	B 5286 Sp Too poor
B 23697 10.8	B 4348 11.0 Poor plate.	B 5380 Sp Too poor
B 23472 Sp. Too poor.	B 4351 Too near edge	B 5421 9.6
B 23109 11.9	B 4945 Sp Too poor	B 5433 Sp. Too poor
B 23066 12.1	B 4966 Sp. Too poor	B 5482 9.7
B 22985 Sp. Too poor.	B 5165 Sp Too poor	B 5924 Too poor in ra.
B 23747 Too poor	B 5185 Sp. On edge	B 6155 11.0 Poor pl.
B 22614 Too poor.	B 5195 Sp. On edge	B 6156 Too poor
B 19517 9.6	B 5257 ~~Sp.~~ ~~Too near edge~~ 11.2	B 6647 Sp Too near edge
B 19694 Too poor		B 7144 10.9

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1904phae.proj..982L

19 19.7-35 32 (cont)

Feb 26, 1909

B6570 Sp.
Too poor

B6610 Sp.
Too poor

B6623 Sp
Too poor

B6624 Sp
Too poor.

B7774 Sp.
Too poor.

B7746 Sp.
Too poor.

B22517
11.1

B22157
11.8

B22036
Too poor

B31550
11.7

B30483
12.3

B30364
11.8

B29457
10.3

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1904phae.proj..982L

In all cases where the number is underlined the variable is fainter - not brighter than comparison star "e"

Measures of μ Herculis (cont'd from B32)

Apr 26, 1909

AI 6115 Too poor.	AI 6101 m o e	AI 6001 m 1 e
AI 6114 m 2 e	AI 6008 m 1 e	AI 6010 m 3 e
AI 6023 m o e	AI 6025 m 2 e	AI 6074 m 1 e
AI 1076 m 1 e	AI 1071 m 2 e	AI 1066 m 2 e
AI 1064 m 3 e	AI 1058 m 3 e	AI 1055 m 1 e
AI 1048 m o e	AI 621 m 1 e	AI 630 m o e
AI 644 m 1 e	AI 666 m 2 e	AI 645 m 3 e
AI 667 m 1 e	AI 559 m 2 e	AI 584 m 1 e
AI 1133 Too poor.	AI 1132 m 2 e	AI 1126 m o e
AI 1102 m 1 e	AI 1041 m o e	AI 1036 m 2 e

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1904phae.proj..982L

Measures of μ Herculis (cont)

Apr 26, 1909

AI 1029 μ 2 e	AI 1028 μ 1 e	AI 1011 μ 1 e
AI 1004 μ 1 e	AI 1083 μ 0 e	AI 1082 μ 0 e
AI 1077 M. R	AI 1745 μ 1 e	AI 1709 μ 0 e
AI 1657 μ 1 e	AI 1663 μ 2 e	AI 1689 μ 3 e
AI 1622 μ 2 e	AI 1579 μ 7 e	AI 1589 μ 2 e
AI 1571 μ 1 e	AI 1572 μ 1 e	AI 1564 μ 3 e
AI 1556 μ 0 e	AI 1550 μ 1 e	AI 1540 μ 1 e
AI 1538 μ 5 e	AI 1522 μ 3 e	AI 1514 μ 0 e
AI 1508 μ 1 e	AI 1502 μ 2 e e 5 π	AI 1962 μ 2 e
AI 1963 μ 2 e	AI 1813 μ 5 e	AI 1865 μ 2 e

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1904phae.proj..982L

Measures of μ Herculis (cont)

Apr 28 1909

AI 4130
μ 1 e

AI 4137
μ 1 e
e 4 π

AI 4138
μ 1 e

AI 4155
μ 2 e

AI 4162
μ 2 e

AI 4170
Too poor.

AI 4177
μ 4 e

AI 4190
μ 2 e

AI 4119
Too poor

AI 4107
μ 1 e

AI 1201
μ 0 e

AI 793
μ 1 e

AI 772
μ 2 e

AI 764
Too poor.

AI 750
μ 0 e

AI 731
μ 0 e

AI 1296
μ 1 e
e 2 π

AI 1286
μ 1 e

AI 1280
μ 1 e
e 0 π

AI 1717
μ 0 e

AI 1736
μ 2 e

AI 1186
μ 3 e

AI 1189
Too poor.

AI 1196
μ 3 e

AI 1199
μ 2 e

AI 1151
μ 3 e

AI 1160
μ 5 e

AI 1162
μ 3 e

AI 1172
μ 2 e

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Measures of ν Herculis (cont)

Apr. 28, 1909

AI 4057
ν 2 e

AI 4058
ν 3 e

AI 4067
ν o e

AI 4054
ν 8 e

AI 4026
Too near edge

AI 4034
ν 2 e

AI 2864
ν o e
e o π

AI 2739
ν 6 e

AI 2785
ν 4 e

~~AI 2705~~

AI 4059
Too poor

AI 4039
ν 1 e

AI 4006
ν 2 e
e 4 π

AI 4014
ν 2 e

AI 4035
ν 1 e
e 6 π

AI 2884
ν 1 e

AI 2745
ν 3 e

AI 2705
ν 2 e

AI 2713
ν 1 e

AI 4018 ~~4054~~
ν 4 e
e o π

AI 4024
ν o e

AI 4025
ν 1 e

AI 4030
ν 3 e

AI 4088
ν 1 e
~~e o~~

AI 2897
ν 2 e

AI 2786
ν o e

AI 2707
ν o e

AI 2714
ν 2 e

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Measures of ν Herculis (cont)

Apr. 28, 1909

AI 2721 ν 3 e	AI 1257 ν 2 e	AI 1258 ν o e
AI 2728 ν 3 e	AI 404 ν 1 e	AI 376 ν o e
AI 2734 ν o e	AI 375 ν 1 e	AI 358 ν 1 e
AI 2787 ν 1 e	AI 345 ν 2 e	AI 332 (17th) ν 9 e
AI 2750 ν 4 e e = π	AI 323 ν o e	AI 325 ν o e
AI 2770 ν 3 e	AI 320 ν 1 e	AI 317 ν 2 e
AI 1178 ν 3 e	AI 316 ν 1 e	AI 311 ν 2 e
AI 1143 ν 5 e	AI 2910 ν 2 e	AI 2918 ν 1 e
AI 1274 ν 1 e	AI 2933 ν 5 e	AI 2937 ν 3 e
AI 1262 ν 3 e	AI 2974 ν 2 e	AI 2985 ν 1 e

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Measures of μ Herculis (cont)

Apr. 29, 1909

AI 5004
μ 1 e

AI 5025
μ 3 e

AI 5038
μ 4 e

AI 5049
μ 1 e

AI 5094
μ 4 e
Rho 4 e

AI 5081
μ 1 e

AI 5111
μ 4 e
C 6 e

AI 5112
μ 2/1 e

AI 5119
μ o e

AI 5039
μ 3 e

AI 5055
μ 3 e

AI 5080
Too poor.

AI 4281
μ o e

AI 5133
μ 2 e

AI 5150
μ 4 e

AI 5159
μ 3 e

AI 5172
μ o e

AI 5175
μ 6 e

AI 5189
μ o e

AI 5046
μ 3 e

AI 5058
μ 3 e

AI 5090
μ N,S
e 10 Rho
e 7 π

AI 5113
μ o e

AI 5130
μ 3 e

AI 5132
μ o e

AI 5135
μ 1 e

~~AI 5145~~

AI 5196
μ o e

AI 4288
μ 2 e

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Measures of ν Herculis (cont)

Apr. 29, 1909

AI 4212	AI 4524	AI 2956
ν 2 e	ν 1 e	ν 0 e
AI 4242	AI 4537	AI 2957
ν 3 e	ν 10 e?	ν 7 e
AI 4252	AI 4519	AI 2820
ν 3 e	ν 1 e	ν 0 e
AI 4253	AI 4514	AI 2821
ν 3 e	ν 1 e	ν 1 e
e 3 π.		
P 7 e	AI 4504	AI 2825
	ν 3 e	ν 1 e
AI 4262		
ν 0 e	AI 4541	AI 2827
	ν 4 e	ν 0 e
AI 4550		
ν 1 e	AI 4289	AI 4894
	ν 0 e	ν 1 e
AI 4562		
Dupr	AI 4280	AI 4865
	ν 0 e	ν 0 e
AI 4574		
ν 3 e	AI 4270	AI 4847
	ν 3 e	ν 5 e
AI 4592		
ν m, s?	AI 2945	AI 4846
	ν 8 e	ν 3 e

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1904phae.proj..982L

Measures of ν Herculis (cont)

Apr. 29, 1909

AI 4970
ν 4 e

AI 4952
ν 3 e

AI 4953
ν 2 e

AI 4946
ν 4 e

AI 4930
ν 1 e

AI 4926
ν o e

AI 4919
ν 2 e

AI 4831
ν 4 e

AI 4810
Too poor.

AI 4998
ν 8 e

AI 4830
ν 3 e

AI 4995
ν o e
e. o P

AI 4993
ν 2 e

AI 4990
Too poor.

AI 4989
ν 5 e
e 6 π
P 3 e

AI 4986
ν 3 e
P 4 e

AI 4984
ν 1 e

AI 4982
ν 1 e

AI 4971
ν o e

AI 2834
ν o e

AI 2851
ν o e

AI 2855
ν o e

AI 1971
ν o e

AI 1914
ν 10 e

AI 1923
ν 8 e
P 3 e

AI 1924 Poor Pl.
ν 1 e
P 5 e

AI 4721
ν o e

AI 4722
ν 5 e

AI 4754
ν 3 e

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Measures of ν Hercules (cont)

Apr 30. 1909

AI 4762
ν 4 e

AI 4769
ν 1 e

AI 4796
ν 2 e

AI 4405
ν 1 e

AI 4427
ν o e

AI 4435
ν 1 e

AI 4455
N.R.?

AI 4456
ν o e

AI 4468
ν o e

AI 4470
ν o e

AI 4436
ν 3 e

AI 4479
ν 3 e

AI 4488
ν 1 e

AI 4496
ν 2 e

AI 4385
ν o e

AI 4388
ν 5 e

AI 4397
ν o e
P 6 e

AI 4302 Eng?
ν 3 e
e 3 π

AI 4303 Iso
Too poor

AI 4306
ν 2 e

AI 4329
ν o e

AI 4343
ν 5 e
e 3 π

AI 4344
ν 4 e

AI 4357
ν 1 e

AI 2282
ν 4 e

AI 2286
ν o e

AI 2289
ν 1 e

AI 2295
ν o e

AI 2263
ν o e

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Measures of ν Herculis (cont)

Apr. 20, 1909

✓ AI 2283 n o e	✓ AI 2254 n 1 e	✓ AI 2208 Roman edge
✓ AI 2265 n 1 e	✓ AI 2246 n 2 e	✓ AI 6233 Roman edge
✓ AI 2276 n o e	✓ AI 2235 n 6 e	✓ AI 6283 n 5 e
✓ AI 2253 n 3 e	✓ AI 2205 n 2 e	✓ AI 6110 n 9 e
✓ AI 2245 n o e	✓ AI 2216 n 1 e	✓ AI 6157 n 3 e e γ π
✓ AI 2222 n o e	✓ AI 6477 Too poor.	✓ AI 6191 n o e
✓ AI 2224 n 1 e	✓ AI 6336 n 2 e	✓ AI 6192 n 3 e
✓ AI 2226 n o e	✓ AI 6319 n 3 e	✓ AI 5800 n 1 e
✓ AI 2234 n 8 e	✓ AI 6204 Too poor	✓ AI 5848 n 2 e
✓ AI 2203 n 1 e	✓ AI 6212 n 4 e	✓ AI 5855 n o e

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Measures of ω Hercules (cont)

Apr. 30, 1909

AI 5880	AI 5813	AI 5787
m 1 e	m 1 e	m 3 e
AI 5883	AI 5818	AI 5728
m 2 e	m o e	m 3 e
AI 5894	AI 5830	AI 5721
m 1 e	m 1 e	m 1 e
AI 6002	AI 5838	AI 5315
m o e	m 2 e	m o e
AI 6011	AI 5916	AI 5326
m 3 e	m 2 e	m o e
AI 6039	AI 5934	AI 5360
m 3 e	m 2 e	m 4 e
AI 6050	AI 5973	AI 5382
m 8 e	m 3 e	Too poor
AI 6055	AI 5786	AI 5578
m 5 e	m 1 e	m 1 e
AI 6085	AI 5740	AI 2104
m 3 e	m 1 e	m 3 e
AI 5805	AI 5739	AI 2129
m 2 e	m o e	m 1 e

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Measures of ν Hercules (cont)

Apr. 30, 1909

AI 2134	AI 3173	AI 2414
n o e	n 4 e	n 3 e
AI 2138	AI 3121	AI 2419
n 1 e	n 3 e	n 1 e
AI 2147	AI 3157	AI 2423
n 4 e	n 9 e	n 8 e
AI 2157	AI 3002	AI 2424
n o e	n 3 e	n o e
AI 2164	AI 3008	AI 2441
n 1 e	n 3 e	n 3 e
AI 2175	AI 3030	AI 2446
n 3 e	n o e	n o e
AI 2182	AI 3047	AI 2447
n o e	n 1 e	n 3 e
AI 2197	AI 3088	AI 2452
n 2 e	n o e	n 1 e
AI 2198	AI 2403	AI 3312
n 1 e	n 1 e	n 2 e
AI 2003	AI 2408	AI 3323
n o e	n 1 e	n o e

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Measures of ν Herculis (cont)

May 3 1909

AI 3326	AI 3484	AI 3351
ν 3 e	n o e	n o e
AI 3342	AI 3487	AI 3362
n o e	ν 1 e	ν 3 e
AI 3350	AI 3497	AI 3385
ν 2 e	ν 1 e	ν 1 e
AI 3360	AI 3499	AI 2386
n o e	ν 3 e	n o e
AI 3371	AI 3402	AI 3446
ν 1 e	n o e	ν 1 e
AI 3384	AI 3411	AI 3421
ν 2 e	n o e	ν 2 e
AI 2385	AI 3432	AI 3433
ν 1 e	ν 3 e	ν 1 e
AI 2365	AI 3445	AI 3455
n o e	n o e	ν 2 e
AI 3467	AI 3465	AI 3466
n o e	ν 1 e	n o e
AI 3475	AI 2366	AI 2355
ν 2 e	ν 3 e	n o e

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Measures of ν Herculis

May 3, 1909

AI 3521 ν o e	AI 3627 ν 3 e	AI 3637 ν 2 e
AI 3528 ν 2 e	AI 3638 ν 4 e	AI 3658 ν 2 e
AI 3536 ν 2 e	AI 3575 ν 3 e	AI 3664 ν o e
AI 3538 ν 1 e	AI 3584 ν 1 e	AI 3683 ν 1 e
AI 3537 ν 1 e	AI 3587 ν 2 e	AI 3602 ν o e
AI 3552 ν o e	AI 3600 ν 2 e	AI 3606 ν 2 e
AI 3626 ν 8 e	AI 3700 ν 1 e	AI 3615 ν 2 e
AI 3631 ν 1 e	AI 3644 ν o e	AI 3945 ν 2 e
AI 3636 ν 3 e	AI 3648 ν 2 e	AI 3949 ν 1 e
AI 3564 ν 3 e	AI 3656 ν 3 e	AI 3980 ν 1 e

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Measures of ν Herculis

May 3, 1909

AI 3983 n o e	AI 3909 n o e	AI 3883 n o e
AI 3923 n 2 e	AI 3826 n 1 e	AI 3796 n o e
AI 3931 n o e	AI 3837 n o e	AI 3702 n 2 e
AI 3946 n 1 e	AI 3851 n o e	AI 3709 n o e
AI 3918 n 1 e	AI 3854 n 1 e	AI 3713 n o e
AI 3902 n 1 e	AI 3864 n 1 e	AI 3728 n 2 e
AI 3908 n 1 e	AI 3866 n 2 e	AI 3730 n 1 e
AI 3889 n 2 e	AI 3795 n 3 e	AI 3738 n o e
AI 3812 n 2 e	AI 3789 n 1 e	AI 3731 n o e
AI 3825 n o e	AI 3764 n 2 e	AI 3739 n 1 e

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1904phae.proj.0021

Measures of ν Herculis

May 3, 1909

AI 3746	AI 2337
ν o e	ν 2 e
AI 3747	AI 2305
ν 2 e	ν 1 e
AI 3758	AI 2325
ν 1 e	ν 2 e
AI 3759	AI 2326
ν o e	ν o e
AI 2357	AI 2043
ν o e	ν o e
AI 2348	AI 2064
ν 2 e	ν 1 e
AI 2349	AI 2095
ν o e	ν 2 e
AI 2336	
ν 3 e	
AI 2304	
ν 1 e	
AI 2318	
ν 1 e	

In making these comparisons of "ν" with ε Herculis I found on AI 5090 that P Herculis was 0.6 fainter than "ε". On most of the plates examined, it is from 0.4 to 0.7 brighter than "ε". Is it an Algol? The image on AI 5090 does not seem to be defective. May 3, 1909.

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Remeasures of ν Herculis

May 12, 1909

	AI 7683 Too near edge of Pl.	AI 5038 Too near edge	+60 AI 4057 ν 4 e
	AI 7575 ν 3 e	+60 AI 5094 ν 7 e	15+30 AI 3626 ν 8 e Too n. e?
	AI 5958 ν 3 e	AI 5260 ν 4 e	+60 AI 3638 ν 6 e
Near edge -			
18+60	AI 6050 ν 7 e	+60 AI 5261 ν 6 e	AI 2739 ν 1 e
+60	AI 6110 ν 9 e	AI 4537 Too poor v ft.	AI 2933 ν 7 e
+60	AI 6933 ν 3 e	15+30 AI 4846 ν 4 e	AI 2945 ν 9 e
15+60	AI 7099 Too near edge	AI 4847 ν 5 e	AI 2957 ν 5 e
15+30 Too near edge?	AI 7337 ν 5 e	AI 4946 ν 5 e	15+30 AI 2629 ν 7 e
18+60	AI 7557 ν 5 e	AI 4998 Too near edge	AI 2680 ν 2 e e 0 π
15+30	AI 5017 ν 5 e Too near edge?	AI 4054 ν 7 e	AI 2234 Too near edge

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1904phae.proj..982L

Remeasures of μ Herculis.

May 12, 1909

+60	AI 2235 μ 5 e	15+30 AI 1215 μ 1 e	AI 1029 μ o e
15+30	AI 2064 μ o e	AI 1286 μ 1 e	AC 1656 Comp. Difficult images unlike μ 6 e
15+30	AI 2095 μ 2 e	15+30 AI 1301 μ 1 e	AC 928 μ o e
	AI 2216 μ 1 e	15+30 AI 186 μ 7 e	AC 2425 μ 3 e
	AI 1914 Too near edge	AI 188 μ 6 e	AC 1441 μ 4 e
	AI 1923 Too near edge	15+30 AI 258 μ 2 e	AC 1505 μ 3 e
+60	AI 1924 μ o e	AI 267 μ 2 e Pair Pl.	AC 1670 μ 5 e
	AI 1589 μ 2 e	AI 332 μ 6 e Difficult images unlike	AC 4736 μ 4 e Near edge
	AI 1579 μ 1 e	AI 584 μ 2 e	AC 8826 Too near edge
	AI 1160 μ 5 e	15+30 AI 1011 μ 2 e	AC 9413 μ o e AC 10265 μ 2 e

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Measures of ν Herculis

May 17, 1909

aI 332
ν 2 e? difficult. images unlike.

aI 2739
ν o e

aC 1656
ν ~~4~~ 3 e difficult. images br.

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Measures of faint stars in Polar seq.
g, h, k, k2 & k3 also a, b, c, d & e

May 19, 1909

h
20+45

I 31764

g	8.9	8.8	8.85	10
h	9.3	9.4	9.35	10
k	9.8	9.7	9.75	01
k2	9.8	9.8	9.80	00
k3	10.0	10.1	10.05	06
a	8.5	8.3	8.40	3.43
b	8.7	8.6	8.65	3.41
c	9.9	10.1	10.00	3.55
d	9.7	10.0	9.85	3.49
e	9.8	10.0	9.90	3.50
g	8.8			
h	9.4			
k	9.7			
k2	9.8			
k3	10.1			
a	8.3			
b	8.6			
c	10.1			
d	10.0			
e	10.0			

h m
22 40+45

I 30558

g	~~8.5~~ 8.8	8.8	8.80	
h	9.2	9.1	9.15	
k	9.7	9.7	9.70	
k2	9.9	9.9	9.90	
k3	10.2	10.1	10.15	
a	8.5	8.5	8.50	3.50
b	9.0	9.0	9.00	3.50
c	8.8	8.8	8.80	3.50
d	7.7	7.6	7.65	3.51
e	8.3	8.4	8.35	3.51
g	8.8			
h	9.1			
k	9.7			
k2	9.9			
k3	10.1			
a	8.5			
b	9.0			
c	8.8			
d	7.6			
e	8.4			

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22 40 +45 Sc 32811

I 35346

g	8.4	8.3	8.35	
h	8.7	8.6	8.65	
k	9.5	9.3	9.40	
k_2	9.7	9.5	9.60	
k_3	10.1	9.9	10.00	
a	8.2	8.3	8.25	401
b	9.0	8.9	8.95	3.91
c	8.9	8.9	8.90	3.92
d	7.7	7.8	7.75	4.09
e	8.3	8.3	8.30	4.00
g	8.3			
h	8.6			
k	9.3			
k_2	9.5			
k_3	9.9			
a	8.3			
b	8.9			
c	8.9			
d	7.8			
e	8.3			

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N Plates.

Measures of Polar Seq. and other stars.

Scale "N" June 11, 1909

	Sc 2	Sc 3
ab 9475		
a	2.9	
B		4.9
b		5.7
D		6.5
E		6.5
F		6.8
G		7.0
a1		7.1
a2		7.2
a3		7.8
a4		8.0
a5		8.5
b1		8.5
b2		9.0
b3		8.7
c1		9.5
c2		9.7
c3		9.8
13		8.9
83		8.5
105		8.2
132		8.5
238		8.7
496		8.3
601		7.5
684		8.5
722		8.5
765		8.3
778		8.3
977		8.3
1100		8.5
1109		7.5
1016		8.7
1156		8.5
1171		7.5
2001		9.0
2004		8.8
2034		8.5
2035		8.3
2036		8.3
2046		8.5
2049		8.8

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1904phae.proj..982L

F' Plates.

Measures of Polar seq. and other bn. stars.

Sc. "N" June 15, 1909

AC 9478

a	Bn.	977	8.3
B	3.6	1100	8.5
C	4.4	1109	7.3
D	4.9	1016	8.7
E	5.2	1156	8.7
F	5.7	1171	7.3
G	5.9	2001	9.2
a1	5.7	2004	9.0
a2	6.3	2034	8.5
a3	6.7	2035	8.2
a4	7.0	2036	8.3
a5	7.7	2046	8.5
b1	8.3	2049	8.7
b2	8.7		
b3	8.5		
C1	8.7		
$C\frac{2}{3}$	9.3 9.7		
13	8.7		
83	8.5		
105	8.2		
132	8.8		
238	8.5		
496	8.3		
601	7.5		
684	8.7		
722	8.5		
765	8.3		
778	8.2		

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1904phae.proj..982L

F' Plates.

Measures of Polar seq. and other br. stars.

Scale N."

June ~~18~~ 21, 1909

ac 9480

	Sec 2	Sec 3
A	1.9	
B	~~3.7~~	3.7
C		4.6
D		5.6
E		5.6
F		6.3
G		6.7
a1		5.9
a2		6.7
a3		6.9
a4		7.2
a5		7.8
b1		8.3
b2		8.8
b3		9.0
c1		9.3
c2		9.5
c3		9.8
13		8.8
83		8.8
105		7.9
132		8.5
288		8.7
496		8.3
601		6.7
684		8.5
722		8.3
765		8.0
778		8.5
977		8.3
1100		8.7
1109		7.7
1016		8.5
1156		8.9
1171		7.4
2001		9.0
2004		8.7
2034		8.7
2035		8.0
2036		8.2
2046		8.5
2049		8.5

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1904phae.proj.9821

N' Plates.

Measures of Polar Seq. and other br. stars.

Scale "N" June 21, 1909

AC 9485

A	Brt.		778	8.3
B	3.7		977	8.5
C		4.7	1100	8.5
D		5.3	1109	7.5
E		5.3	1016	8.5
F		5.7	1156	8.8
G		6.1	1171	7.3
a'		5.9	2001	8.9
a2		6.5	2004	8.7
a3		6.6	2034	8.5
a4		6.9	2035	8.0
a5		7.5	2036	8.5
b1		8.0	2046	8.5
b2		8.5	2049	8.5
b3		8.5		
c1		8.7		
c2		9.4		
~~c3~~				
13		8.7		
83		8.7		
105		8.1		
132		8.5		
228		8.5		
496		8.3		
601		7.5		
684		8.5		
722		8.5		
765		8.3		

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1904phae.proj..982L

T' Plates.

Direct Estimates of bright-stars-compared with Polar seq. (AC No. in upper right-hand corner)

June 22, 1909

AC 9475	
13	8.7
83	8.5
105	8.1
132	8.5
238	8.6
496	8.2
601	7.4
684	8.4
722	8.5
765	8.3
778	8.1
977	8.4
1100	8.5
1109	7.5
1016	8.5
1156	8.5
1171	7.6
2001	8.9
2004	8.8
2034	8.4
2035	8.1
2036	8.4
2046	8.6
2049	8.6

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1904phae.proj..982L

N. Plates.

Estimates direct of br. stars – compared with Pol. Seq
(AC No in upper right-hand corner)

June 22, 1909

AC	9478
13	8.5
83	8.4
105	8.1
132	8.6
238	8.5
496	8.3
601	7.5
684	8.8
722	8.4
765	8.1 ~~8.2~~
778	8.2
977	8.4
1100	8.4
1109	7.4
1016	8.5
1156	8.7
1171	7.3
2001	8.9
2004	8.9
2034	8.5
2035	8.1
2036	8.5
2046	8.5
2049	8.5

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1904phae.proj..982L

F' Plates.

Estimates direct of br. stars - compared with Pol. seq
(AC Ns. in upper right hand corner)

June 22, 1909

AC 9480	
13	8.5
83	8.6
105	8.0
132	8.6
238	8.4
496	8.3
601	7.8
684	8.6
722	8.5
765	8.0
778	8.3
977	8.1
1100	8.7
1109	7.4
1016	8.5
1156	8.6
1171	7.2
2001	8.5
2004	8.5
2034	8.6
2025	8.3
2036	8.2
2046	8.4
2049	8.7

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1904phae.proj.:982L

F' Plates.

Estimates (direct) of bright-stars compared with Polar Seq. (AC No. in upper right-hand corner)

June 22, 1909

AC	
9485	
13	8.6
83	8.5-
105	7.9
132	8.5-
238	8.3
496	8.2
601	7.4
684	8.5-
722	8.4
765	8.1
778	8.3
977	8.4
1100	8.6
1109	7.3
1016	8.5-
1156	8.7
1171	7.2
2001	8.7
2004	8.5-
2034	8.5-
2035	8.2
2036	8.5-
2046	8.3
2049	8.6

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1904phae.proj..982L

F' Plates.

Direct estimates of br. stars compared with Pol. Seq. (Plate No. in lower right hand corner)

June 24, 1909

AC 9445

13	8.5
83	8.4
105	8.0
132	8.4
238	8.5
496	8.3
684	8.3
722	8.3
765	8.5
601	7.4
778	8.3
977	8.2
1100	8.5
1109	7.4
1016	8.5
1156	8.6
1171	7.3
2001	8.8
2004	8.5
2034	8.5
2035	8.2
2036	8.3
2046	8.5
2049	8.6

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1904phae.proj.0021

T' Plates.

Direct estimates of br. stars - compared with Pol. seq. (Plate No. in lower-left hand corner)

June 24, 1909

AC 9478

13	8.3
83	8.4
105	8.0
132	8.5
238	8.4
496	8.3
601	7.3
684	8.7
722	8.3
765	8.1
778	8.2
977	8.3
1100	8.4
1109	7.3
1016	8.3
1156	8.7
1171	7.2
2001	8.8
2004	8.9
2034	8.3
2035	8.1
2036	8.3
2046	8.5
2049	8.3

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1904phae.proj..982L

F' Plates

Direct estimates of br. stars - compared with Pol. seq. (Plate No. in lower.)

June 28, 1909

AC 9480

13 8.3
83 8.5
105 8.0
132 8.5
238 8.3
496 8.3
601 8.7
684 8.5
722 8.3
765 7.9
778 8.3
977 8.1
1100 8.5
1109 7.3
1016 8.3
1156 8.5
1171 7.2
2001 8.3
2004 8.5
2034 8.5
2035 8.2
2036 8.2
2046 8.3
2049 8.5

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1904phae.proj..982L

Direct estimates of br. stars - compared with Pol. Seq. (Plate No. in lower left-hand corner)

June 24, 1909

AC 9485

13	8.4
83	8.5
105	7.9
132	8.3
238	8.5
496	8.1
601	7.2
684	8.5
722	8.5
765	8.4
778	8.1
977	8.3
1100	8.4
1109	7.3
1016	8.3
1156	8.7
1171	7.0
2001	8.8
2004	8.5
2034	8.3
2035	7.9
2036	8.2
2046	8.3
2049	8.5

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1904phae.proj..982L

T' Plates.

August 12, 1909

Reg.
22 40 + 45 I 35346

Pol.														
	a	5.0	5.1	5.0	5.03	010	+44 4199	5	8.2	7.9	8.3	8.23	21	7.7
	b	6.3	6.2	6.3	6.27	010	+44 4220	1	7.7	7.9	7.9	7.83	25	8.1
	c	7.2	7.0	7.1	7.10	110	+44 4245	2	7.9	7.9	7.9	7.90	24	6.5
	d	8.2	8.1	8.1	8.13	100	+44 4182	4	7.9	7.8	7.9	7.87	6	7.9
	e	8.5	8.4	8.5	8.47	010	+43 4278	10	7.6	7.5	7.7	7.60	1	7.9
	f	9.0	8.9	8.9	8.93	100							5	8.2
	h	9.7	9.7	9.7	9.70	000							2	7.9
	k	10.2	10.2	10.1	10.17	001							4	7.8
													10	7.5
M.P	1	6.9	7.0	7.0	6.97									
	2	~~7.2~~ 6.3	6.3	6.3	6.30									
	3	6.3	6.3	6.4	6.33									
	4	7.9	7.9	7.8	7.87									
	5	7.2	7.1	7.1	7.13	M.P								
	6	7.7	7.8	7.9	7.80									
	7	7.4	7.4	7.5	7.43									
	8	8.1	8.0	8.1	8.07									
	9	7.3	7.1	7.3	7.23									
	10	7.9	7.8	7.9	7.87									
On I 35346	A	9.5	9.5	9.5	9.50									
	B	9.8	9.8	9.8	9.80									
	C	9.8	9.7	9.8	9.77									
	D	~~8.8~~ 8.9	8.9	8.9	8.87									
	E	9.3	9.4	9.3	9.33									
Star +46 3820	16	8.5	8.6	8.5	8.53									
+46 3797	20	7.9	8.0	8.0	7.97									
+45 4071	22	8.5	8.5	8.5	8.50									
+45 4048	21	7.8	7.7	7.7	7.73									
+45 4045	25	8.2	8.1	8.2	8.17	Star								
+45 4008	24	~~8.4~~ 8.2	6.5	6.5	6.47									
+42 4500	6	7.9	7.9	7.9	7.90									

Pol.				
	a	5.1		
	b	6.2		
	c	7.0		
	d	8.1		
	e	8.4		
	f	8.9		
	h	9.7		
	k	10.2		
M.P	1	7.0		
	2	6.3		
	3	6.3		
	4	7.9		
	5	7.1		
	6	7.8		
	7	7.4		
	8	8.0		
	9	7.1		
	10	7.8		
	A	9.5		
	B	9.8		
	C	9.7		
	D	8.9		
	E	9.4		
Star	16	8.6		
	20	8.0		
	22	8.5		

Pol.		
	a	5.0
	b	6.3
	c	7.1
	d	8.1
	e	8.5
	f	8.9
	h	9.7
	k	10.1
M.P	1	7.0
	2	6.3
	3	6.4
	4	7.8
	5	7.1
	6	7.9
	7	7.5
	8	8.1
	9	7.3
	10	7.9
	a	9.5
	B	9.8
	C	9.8
	D	8.9
	E	9.3

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1904phae.proj.:982L

T' Plates.

22 40 + 45

S Tau.	16	8.5
	20	8.0
	22	8.5
	21	7.7
	25	8.2
	24	6.5
	6	7.9
	5	8.3
	1	7.9
	2	7.9
	4	7.9
	10	7.7

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1904phae.proj..982L

T' Plates.

Aug 13h+15 — Aug 14, 1909

		I 34716					I 34716					I 34716	
Pol.	a	5.1	5.2	5.1	5.13		4	8.5	8.5	8.4	8.47	21	8.7
	b	6.3	6.4	6.3	6.33		5	8.6	8.6	8.5	8.57	25	8.0
	c	7.3	7.3	7.2	7.27		1	8.2	8.1	8.2	8.17	24	7.5
	d	8.4	8.3	8.4	8.37		2	8.7	8.6	8.8	8.70	4	8.5
	e	8.7	8.7	8.7	8.70 Pol		10	8.8	8.7	8.7	8.73	5	8.6
	f	9.1	9.1	9.1	9.10		a	5.2				1	8.1
	h	10.1	10.2	10.1	10.13		b	6.4				2	8.6
	K P						c	7.3				6	8.8
M.P	1	6.0	6.1	5.9	6.00		d	8.3				10	8.7
	2	6.8	6.7	6.7	6.73		e	8.7	Pol.			a	5.1
	3	8.2	8.1	8.2	8.17		f	9.1				b	6.3
	4	8.7	8.8	8.9	8.80		h	10.2				c	7.2
	5	8.3	8.3	8.2	8.27 M.P		K P 1	6.1				d	8.4
	6	8.7	8.7	8.8	8.73		2	6.7				e	8.7
	7	8.7	8.8	8.9	8.80		3	8.1				f	9.1
	8	8.9	9.0	9.1	9.00		4	8.8				h	10.1
	9	6.8	6.9	6.8	6.83		5	8.3				k	P.
	10	9.0	9.1	9.1	9.07		6	8.7	M.P			1	5.9
	a	9.5	9.4	9.5	9.47		7	8.8				2	6.7
	B	9.8	9.7	9.8	9.77		8	9.0				3	8.2
	C	10.0	10.0	10.0	10.00		9	6.9				4	8.9
	D	10.2	10.2	10.2	10.20		10	9.1				5	8.2
	E	F	F	F	—		a	9.4				6	8.8
Sl-	16	8.8	8.7	8.8	8.77		B	9.7				7	8.9
	20	8.9	8.9	8.8	8.87		C	10.0				8	9.1
	22	8.6	8.8	8.7	8.77		D	10.2				9	6.8
	21	8.7	8.7	8.7	8.70		E	F				10	9.1
	25	8.1	8.0	8.0	8.03 Sl-		16	8.7				a	9.5
	24	7.7	7.5	7.7	7.63		20	8.9				B	9.8
	6	9.1	9.1	9.2	9.13		22	8.8					

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1904phae.proj.:002L

T' Plates.

h
13 + 15

Aug 14, 1909

I 34716

C	10.0
D	10.2
E	F
16	8.8
20	8.8
22	8.7
21	8.7
25	8.0
24	8.7
4	8.4
5	8.8
1	8.2
2	8.8
6	9.2
10	8.7

Faint Stars.

	I 33780	I 34716	I 34716	I 33780	
g	8.7	8.7	8.3	8.5	8.40
h	9.0	9.0	8.5	8.7	8.60
k	9.5	9.4	8.9	9.1	9.00
k_2	9.7	9.5	9.1	9.3	9.20
k_3	10.0	9.9	9.7	9.9	9.80
a	7.5	7.5	8.3	8.2	8.25
b	7.8	8.0	8.5	9.0	8.75
c	8.0	8.2	8.8	8.8	8.80
d	8.7	8.8	9.1	9.0	9.05
e	9.0	9.1	9.5	9.5	9.50

g	8.7	8.5
h	9.0	8.7
k	9.4	9.1
k_2	9.5	9.3
k_3	9.9	9.9
a	7.5	8.2
b	8.0	9.0
c	8.2	8.8
d	8.8	9.0
e	9.1	9.5

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1904phae.proj..982L

F Plates.

Reg 7 - 15

Aug 20, '09

I 35117

Pl.	a	5.0	5.1	5.0	5.03
	b	6.4	6.3	6.3	6.33
	c	7.2	7.1	7.1	7.13
	d	7.9	7.8	7.7	7.80
	e	8.1	8.1	7.9	8.03
	f	8.3	8.4	8.2	8.30
	h	9.4	9.3	9.3	9.33
	k	9.9	9.7	9.7	9.77
MP.	1	6.4 ~~6.2~~	6.7 ~~6.1~~	6.8 ~~6.1~~	6.73 ~~6.13~~ ✓
	2	8.1	8.1	7.9	8.03
	3	~~7.9~~	~~7.8~~	~~7.8~~	~~7.83~~ ✓
	4	6.8	6.8	6.9	6.83 ✓
	5	6.3 ~~5.7~~	6.5 ~~5.8~~	6.3 ~~5.8~~	6.37 ~~5.77~~ ✓
	6	7.3	~~7.5~~	7.4	~~7.40~~ ✓
	7	8.0	7.8	7.9	7.90 ✓
	8	~~8.0~~	8.0	7.8	7.93 ✓
	9	7.9	7.8	7.9	7.87
	10	7.8	7.8	7.7	7.77
	A	8.5	8.6	8.5	8.53
	B	8.8	8.9	8.8	8.83
	C	8.8	9.0	8.9	8.90
	D	9.1	9.2	9.1	9.13
	E	9.3	9.2	9.2	9.23
St.	16	~~7.7~~ ~~7.8~~	~~7.7~~ ~~7.4~~	~~7.7~~ ~~7.5~~	~~7.70~~ ~~7.37~~
	20	8.7	8.6	8.5	8.60 ✓
	22	8.8	~~8.8~~	8.8	~~8.80~~ ✓
	21	8.6	8.5	8.3	8.47 ✓

35117

	25	~~8.2~~	8.2	8.1	~~8.17~~ ✓
	24	7.0	7.3	~~7.2~~	~~7.17~~ ✓
	4	7.9	8.1	7.9	7.97 ✓
	5	8.6	~~8.5~~	8.5	~~8.53~~ ✓
	1	~~7.8~~	~~7.7~~	7.7	~~7.70~~ ✓ 7.87 ✓
	2	~~7.8~~	7.9	~~7.9~~	~~7.90~~ 7.83 ✓
	6	7.8	~~7.8~~	7.9	~~7.60~~ 7.87 ✓
	10	7.8	7.9	~~7.9~~	~~7.77~~
Pl.	a	5.1			
	b	6.3			
	c	7.1			
	d	7.8			
	e	8.1			
	f	8.4			
	h	9.3			
	k	9.7			
MP	1	6.7			
	2	8.1			
	3	7.8			
	4	6.8			
	5	6.5			
	6	7.5			
	7	7.8			
	8	8.0			
	9	7.8			
	10	7.8			
	A	8.6			

B	8.9	
C	9.0	
D	9.2	
E	9.2	
16	~~7.4~~	7.7
20	8.6	
22	8.8	
21	8.5	
25	8.2	
24	7.3	
4	8.1	
5	~~8.5~~	
1	7.7	
2	7.9	
6	7.6	
10	7.7	
Pl. a	5.0	
b	6.3	
c	7.1	
d	7.7	
e	7.9	
f	8.2	
h	9.3	
k	9.7	
MP 1	6.8	
2	7.9	
3	7.8	
4	6.9	

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1904phae.proj..992L

Aug 20, 09 7h - 15

35117

5 6.3
6 7.4
7 7.9
8 7.8
9 7.9
10 7.7
a 8.5
B 8.8
c 8.9
D 9.1
E 9.2
St 16 7.7
20 8.5
22 8.8
21 8.3
25 8.1
24 ~~6.9~~ 7.2
4 7.9
5 8.8
1 7.7
2 7.9
6 7.9
10 7.9

Faint Stars
I 35117

g 8.3 8.1 8.20
h 8.5 8.4 8.45
k 9.1 9.0 9.05
k_2 9.2 9.1 9.15
k_3 9.5 9.5 9.50
a 7.3 7.2 7.25
b 7.7 7.5 7.60
c 7.5 7.2 7.35
d 8.2 8.0 8.10
e 8.5 8.3 8.40
g 8.1
h 8.4
k 9.0
k_2 9.1
k_3 9.5
a 7.2
b 7.5
c 7.2
d 8.0
e 8.3

Faint Stars
I 33937

g 9.2 9.1 9.15
h 9.5 9.3 9.40
k 10.0 9.9 9.95
k_2 10.0 10.0 10.00
k_3 10.3 10.2 10.25
a 8.3 8.2 8.25
b 8.7 8.6 8.65
c 8.6 8.3 8.45
d 9.2 9.0 9.10
e 9.5 9.4 9.45
g 9.1
h 9.3
k 9.9
k_2 10.0
k_3 10.3
a 8.2
b 8.6
c 8.3
d 9.0
e 9.4

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1904phae.proj..982L

T' Plates.

Reg. 11–15 Aug 21, 1909

I 35183

Pl.	a	4.9	4.9	4.8	4.87	4	8.5	8.7	8.8	8.63	5	10.2		8	9.8	9.8	9.8	9.80
	b	6.2	6.0	6.0	6.07	5	7.9	8.1	7.9	7.97	16	7.9		9	9.7	9.7	9.5	9.63
	c	7.1	6.9	6.9	6.97	1	7.0	6.9	6.9	6.93	20	8.6		10	9.8	9.7	9.8	9.77
	d	8.2	8.0	8.1	8.10	2	8.2	8.3	8.3	8.27	22	7.9		a	9.5	9.5	9.5	9.50
	e	8.5	8.3	8.4	8.40	6	8.7	8.8	8.7	8.73	21	7.7		B	9.8	9.5	9.4	9.60
	f	9.0	8.9	8.9	8.93	10	8.3	8.3	8.2	8.27	25	8.2		C	9.5	9.8	9.7	9.67
	h	9.9	9.8	9.8	9.83	a	4.9				24	8.3		D	9.9	9.9	9.9	9.90
	K	10.3	10.3	10.2	10.27									E	10.1	10.2	10.2	10.17
M.P.	1	5.7	5.7	5.7	5.70	b	6.0				4	8.4						
	2	8.8	8.3	8.3	8.30	c	6.9				5	8.1		St	B 3296		16	8.0
WS	3	8.3	7.8	7.7	7.73	d	8.0				1	6.9			− 13 3281		20	8.7
	4	8.7	8.3	8.3	8.33	e	8.3				2	8.1			− 14 3270		22	7.8
	5	6.4	6.7	6.5	6.53	f	8.9				6	8.8			− 14 3256		21	7.7
	6	6.2	6.3	6.2	6.23	h	9.8				10	8.3			− 14 3242		25	8.2
	7	7.7	7.2	7.1	7.13	k	10.3				Pol.	a	4.8		− 14 3235		24	8.3
	8	9.8	9.8	9.8	9.77	1	5.7					b	6.0		− 15 3171		4	8.3
	9	9.7	9.5	9.4	9.47	2	8.3					c	6.9		− 15 3184		5	7.9
	10	9.7	9.3	9.3	9.27	3	7.8					d	8.1		− 15 3192		1	6.9
	a	9.5	9.5	9.5	9.50	4	8.3					e	8.4		− 15 3209		2	8.0
C	B	9.8	9.7	9.8	9.77	5	6.7					f	8.9		− 16 3191		6	8.7
B	C	9.5	9.4	9.5	9.47	6	6.9					h	9.8		− 16 3170		10	8.2
	D	9.9	9.9	9.9	9.90	7	7.8					K	10.2					
	E	10.2	10.2	10.1	10.17	8	9.8				M.P.	1	5.7	6.1	6.0	6.07		
St	16	8.1	7.9	8.0	8.00	9	9.5					2	8.8	8.8	8.7	8.77		
	20	8.7	8.6	8.7	8.67	10	9.8					3	8.3	8.3	8.3	8.30		
	22	8.1	7.9	7.8	8.20	A	9.5					4	8.8	8.7	8.7	8.73		
	21	7.9	7.7	7.7	7.77	B	9.7					5	7.5	7.3	7.3	7.27		
	25	8.3	8.2	8.2	8.23	C	9.7					6	6.9	6.9	6.8	6.87		
	24	8.3	8.3	8.3	8.37	D	9.9					7	7.8	7.7	7.8	7.77		

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1904phae.proj..982L

T' Plates.

Aug 21, 1909

Ft stars.

	I 33940			I 35183		
g	8.5	8.3	8.40	8.4	8.5	8.45
h	8.8	8.7	8.75	8.7	8.7	8.70
k	9.2	9.3	9.25	9.1	9.2	9.15
k_2	9.4	9.3	9.35	9.3	9.3	9.30
k_3	9.7	9.7	9.70	9.7	9.7	9.70
a	8.3	8.2	8.25	8.2	8.3	8.25
b	8.7	8.5	8.60	8.7	8.7	8.70
c	8.5	8.6	8.55	8.4	8.5	8.45
d	9.1	9.2	9.15	9.1	9.2	9.15
e	9.2	9.4	9.30	9.3	9.3	9.30
g	8.3			8.5		
h	8.7			8.7		
k	9.3			9.2		
k_2	9.3			9.3		
k_3	9.7			9.7		
a	8.2			8.3		
b	8.5			8.7		
c	8.6			8.5		
d	9.2			9.2		
e	9.4			9.3		

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1904phae.proj..982L

T' Plates.

Reg 17–15 August 24 1909

I 35356

Pl.	a	5.5	5.7	5.7	5.63	4	10.0	9.9	10.1	10.05	5		
	b	~~6.8~~ 6.9	7.1	7.1	7.03	4	9.1	9.0	9.0	9.03	E		
	c	7.5	7.7	7.7	7.63	5	9.3	9.3	9.3	9.30	16	8.7	
	d	8.5	8.6	8.5	8.53	1	9.6	9.8	9.7	9.70	20	9.8	
	e	8.9	8.9	8.8	8.87	2	9.8	9.9	9.8	9.83	22	9.8	
	f	9.3	9.3	9.2	9.27	6	8.6	8.6	8.6	8.60	21	9.8	
	h	10.2	10.2	10.1	10.17	10	9.2	9.3	9.3	9.27	25	9.7	
	k	f		Pl.	a		5.7				24	9.9	
M.P	1	7.1	6.9	7.1	7.03	b	7.1				4	9.0	
	2	7.8	7.9	7.8	7.83	c	7.7				5	9.3	
	3	7.9	7.7	7.7	7.77	d	8.6				1	9.8	
	4	9.6	9.5	9.5	9.53	e	8.9				2	9.9	
	5	9.8	9.8	9.9	9.83	f	9.3				6	8.6	
	6	10.1	10.0	10.0	10.03	h	10.2				10	9.3	
	7	10.0	10.0	10.0	10.00	k	—				Pl.	a	5.7
	8	8.5	8.3	8.3	8.37	M.P 1	6.9				b	7.1	
	9	9.3	9.5	9.3	9.37	2	7.8				c	7.7	
	10	9.0	8.9	8.9	8.93	3	7.7				d	8.5	
	a	10.0	10.0	9.9	9.97	4	9.5				e	8.8	
	B	10.1	10.2	10.1	10.13	5	9.9				f	9.2	
Duplic.	b	—				6	10.0				h	10.2	
	D	—				7	10.0				k	—	
	E	—				8	8.3				M.P	1	7.1
St.	16	8.7	8.7	8.7	8.77	9	9.5				2	7.9	
	20	9.9	9.8	9.7	9.87	10	8.9				3	7.7	
	22	9.7	9.8	9.8	9.77	a	10.0				4	9.5	
	21	9.9	10.0	10.0	9.97	b	10.2				5	9.8	
	25	9.7	9.7	9.8	9.73	c					6	10.0	
											7	10.0	
											8	8.3	
											9	9.3	
											10	8.9	
											a	9.9	
											B	10.1	
											c		
											D		
											E		
											St.	16	8.7
												20	9.9
												22	9.8
												21	9.7
												25	9.8
												24	9.8
												4	9.0
												5	9.3
												1	9.7
												2	9.8
												6	8.6
												10	9.3

Seeing 124

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Faint Stars. a, b, c, d, e

64

Nov 29, 1909

	I 28188				I 33939				I 35046			
a	9.7	9.8	9.8	9.80	9.5	9.6	9.55		9.8	9.7	9.75	
b	10.0	10.0	10.0	10.00	9.8	9.8	9.80		10.0	10.0	10.00	
c	9.6	9.7	9.6	9.65	9.6	9.5	9.55		9.7	9.7	9.70	
d	—	10.1	10.1	10.10	9.9	9.9	9.90		10.2	10.1	10.15	
e	9.8	9.8	9.7	9.75	9.7	9.7	9.70		9.8	9.8	9.80	
a	9.8				9.6				9.7			
b	10.0				9.8				10.0			
c	9.6				9.5				9.7			
d	10.1				9.9				10.1			
e	9.7				9.7				9.8			

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1904phae.proj..982L

J'

Direct estimates of stars near Polar –

Dec 2, 1909

I 33939	
1	8.6
6	10.1
10	10.2
4	10.0
2	9.6
7	10.7

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1904phae.proj..982L

Measures of faint stars in 15 + 15 L.

Jan 21 1910

	I 28731 Sc. C.	I 31855 Sc.	I 35286 Sc. "C"
a	9.5 9.6 9.5 9.53	9.5 9.6 9.5 9.53	9.7 9.7 9.8 9.73
b	9.7 9.7 9.6 9.67	9.6 9.7 9.6 9.63	9.8 9.8 9.8 9.80
c	10.0 10.0 9.9 9.97	9.9 10.0 9.9 9.93	10.0 9.9 9.9 9.93
d	9.9 9.8 9.8 9.83	9.9 9.9 10.0 9.93	9.9 9.8 9.8 9.83 10.03
e	10.1 10.0 10.1 10.07	10.0 9.9 9.9 9.93	10.1 10.0 10.0 9.97
a	9.6	9.6	9.7
b	9.7	9.7	9.8
c	10.0	10.0	9.9
d	9.8	9.9	9.8
e	10.0	9.9	10.0
a	9.5	9.5	9.8
b	9.6	9.6	9.8
c	9.9	9.9	9.9
d	9.8	10.0	9.8
e	10.1	9.9	10.0 / 9.9

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1904phae.proj..982L

Measures of ft. stars in $15^h + 15$

Jan 21, 1910

	Sc "M" 35256 I ~~28731~~			Sc M I 28731		
a	8.2	8.3	8.25	8.5	8.6	8.55
b	8.2	8.4	8.30	8.5	8.7	8.60
c	8.5	8.7	8.60	8.8	9.0	8.85
d	8.4	8.5	8.45	8.7	8.8	8.75
e	8.7	8.8	8.75	9.0	9.1	9.05
g	8.5	8.5	8.50	8.3	8.4	8.35
h	8.8	8.8	8.80	8.6	8.5	8.55
K	9.2	9.1	9.15	9.0	8.9	8.95
K_2	9.3	9.3	9.30	9.2	9.0	9.10
K_3	9.7	9.7	9.70	9.5	9.3	9.40
a	8.3			8.6		
b	8.4			8.7		
c	8.7			9.0		
d	8.5			8.8		
e	8.8			9.1		
g	8.5			8.4		
h	8.8			8.5		
K	9.1			8.9		
K_2	9.2			9.0		
K_3	9.7			9.3		

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1904phae.proj..982L

Measures of faint stars in 17h +15

Scale "C"

Jan 22, 1900

	I 30580				I 30580		I 32021			
a	5.2	5.2	5.2	5.20	a 5.2		a 5.3	5.3	5.2	5.27
b	6.9	6.7	6.7	6.77	b 6.7		b 6.9	6.8	6.8	6.83
c	7.5	7.4	7.4	7.43	c 7.4		c 7.5	7.5	7.4	7.47
d	8.4	8.5	8.4	8.43	d 8.4		d 8.6	8.7	8.5	8.60
e	8.7	8.7	8.7	8.70	e 8.7		e 8.9	8.9	8.9	8.90
f	9.2	9.2	9.1	9.17	f 9.1		f 9.4	9.5	9.3	9.40
g	9.8	9.7	9.7	9.73	g 9.7		g 10.0	10.0	9.8	9.93
h	10.0	9.9	10.0	10.00	h 10.0		h 10.2	10.2	10.1	10.17
A	9.3	9.5	9.3	9.37	A 9.3		A 9.6	9.5	9.6	9.57
B	9.9	9.9	9.9	9.83	B 9.9		B 10.1	10.0	10.1	10.07
C	F	F	F	—	C F		C F	F	F	—
D	9.9	10.0	10.0	9.97	D 10.0		D 10.0	10.1	10.1	10.07
E	F	F	F		E F		E F	F	F	—

a	5.2		
b	6.7		
c	7.4		
d	8.5		
e	8.7		
f	9.2		
g	9.8		
h	9.9		
A	9.5		
B	9.9		
C	F		
D	10.0		
E	F		

a	5.3
b	6.8
c	7.5
d	8.7
e	8.9
f	9.5
g	10.0
h	10.2
A	9.6
B	10.0
C	F
D	10.1
E	F

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1904phae.proj..982L

Measures of faint stars in 17h + 18

Scale "C"

Jan 22, 1910

	I 32021	I 34831					
a	5.2	a	5.2	5.2	5.3	5.23	a 5.3
b	6.8	b	6.5	6.4	6.4	6.43	b 6.4
c	7.4	c	7.3	7.4	7.3	7.33	c 7.3
d	8.5	d	8.3	8.3	8.3	8.30	d 8.3
e	8.9	e	8.5	8.6	8.6	8.57	e 8.6
f	9.3	f	9.0	9.1	9.1	9.07	f 9.1
g	9.8	g	9.5	9.6	9.7	9.60	g 9.7
h	10.1	h	9.7	9.8	9.9	9.80	h 9.9
		K	10.1	10.1	10.2	10.13	K 10.2
A	9.6	A	8.9	8.9	8.9	8.90	A 8.9
B	10.1	B	9.6	9.7	9.6	9.63	B 9.6
C	7	C	10.0	10.0	10.0	10.00	C 10.0
D	10.1	D	9.8	9.8	9.8	9.77	D 9.8
E	7	E	10.0	10.0	10.0	10.00	E 10.0

a 5.2
b 6.4
c 7.4
d 8.3
e 8.6
f 9.1
g 9.6
h 9.8 10.1
A ~~9.3~~ 8.9
B 9.7
C 10.0
D 9.8
E 10.0

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1904phae.proj..982L

Measures of faint stars $17^h + 15$

Sc. M

I 34831

g	8.5	8.4	8.45	385
h	8.7	8.7	8.70	395
K	9.0	9.1	9.05	420
K_2	9.1	9.1	9.10	430
K_3	9.5	9.4	9.45	430
a	7.7	7.8	7.75	
B	8.3	8.3	8.30	
C	8.9	8.9	8.90	
D	8.3	8.3	8.30	
E	8.9	9.0	8.95	
g	8.4			
h	8.7			
K	9.1			
K_2	9.1			
K_3	9.4			
a	7.8			
B	8.3			
C	8.9			
D	8.3			
E	9.0			

Sc. M

I 32021

g	9.0	9.0	9.00	330
h	9.3	9.3	9.30	335
K	9.7	9.8	9.75	350
K_2	9.8	9.9	9.85	355
K_3	10.0	10.1	10.05	370
a	8.5	8.4	8.45	
B	9.1	9.0	9.05	
C	9.9	9.9	9.90	
D	9.2	9.7	9.20	
E	9.9	9.9	9.90	
g	9.0			
h	9.3			
K	9.8			
K_2	9.9			
K_3	10.1			
a	8.4			
B	9.0			
C	9.9			
D	9.1			
E	9.9			

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1904phae.proj..982L

Measures of Polar and other sequences

Reg
12 + 45

I 36429 Sc "C" January 25 1910

Rol	a	5.0	5.1	5.1	5.07		1	8.7	8.8	8.9	8.80	25 9.1
	b	6.3	6.2	6.3	6.27		2	9.1	9.3	9.3	9.23	24 8.5
	c	7.0	7.1	7.2	7.10		6	9.5	9.7	9.8	9.67	4 9.3
	d	8.1	8.2	8.2	8.17		10	9.9	9.7	9.7	9.77	5 9.0
	e	8.5	8.5	8.5	8.50	Pol	a	5.1				1 8.8
	f	8.9	8.9	9.0	8.93		b	6.2				2 9.3
	h	9.8	9.7	9.8	9.77		c	7.1				6 9.7
mp	1	6.7	6.7	6.8	6.73		d	8.2				10 9.7
	2	7.3	7.2	7.3	7.27		e	8.5				Pol a 5.1
	3	8.3	8.3	8.2	8.27		f	8.9				b 6.3
	4	8.5	8.5	8.7	8.57		h	9.7				c 7.2
	5	8.6	8.7	8.7	8.67	mp	1	6.7				d 8.2
	6	8.7	8.5	8.5	8.57		2	7.2				e 8.5
	7	8.9	8.8	8.9	8.87		3	8.3				f 9.0
	8	7.3	7.2	7.3	7.27		4	8.5				h 9.8
	9	7.5	7.7	7.7	7.63		5	8.7				mp 1 6.6
	10	8.7	8.7	8.7	8.70		6	8.5				2 7.3
	A	9.5	9.4	9.4	9.43		7	8.8				3 8.2
	B	9.8	9.7	9.8	9.77		8	7.2				4 8.7
	C	10.0	10.0	10.0	10.00		9	7.7				5 8.7
	D	10.2	10.1	10.1	10.13		10	8.7				6 8.5
	E	10.2	10.2	10.2	10.20		A	9.4				7 8.9
	16	9.9	9.1	9.1	9.07		B	9.7				8 7.3
	20	8.5	8.3	8.3	8.37		C	10.0				9 7.7
	22	8.7	8.9	8.7	8.77		D	10.1				10 8.7
	21	7.9	8.1	8.2	8.07		E	10.2				A 9.4
	25	8.9	9.1	9.2	9.07		16	9.1				B 9.8
	24	8.3	8.5	8.5	8.43		20	8.3				C 10.0
	4	9.3	9.3	9.4	9.33		22	8.9				D 10.1
	5	8.9	9.0	9.1	9.00		21	8.1				E 10.2

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1904phae.proj..982L

12 + 45

January 24, 1910

I 36429

16	9.1
20	8.3
22	8.7
21	8.2
25	9.2
24	8.5
4	9.4
5	9.1
1	8.9
2	9.3
6	9.8
10	9.7

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1904phae.proj..982L

12 +45 Sc "M" January 24, 1910

I 36429

g	8.3	8.4	8.35
h	8.6	8.7	8.65
K	9.2	9.2	9.20
K_2	9.4	9.3	9.35
K_3	9.8	9.8	9.80
a	8.0	8.1	8.05
b	8.5	8.4	8.45
c	8.9	8.9	8.90
d	8.9	9.0	8.95
e	8.8	8.9	8.85
g	8.4		
h	8.7		
k	9.2		
k_2	9.3		
k_3	9.8		
a	8.1		
b	8.4		
c	8.9		
d	9.0		
e	8.9		

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1904phae.proj..982L

Measures of Polar and other sequences

7+15

January 26, 1910

I 36360

Pol.	a	5.1	5.2	5.2	5.17		4	8.5	8.4	8.5	8.47	S1-	20	8.3	
	b	6.3	6.3	6.5	6.37		5	8.5	8.5	8.6	8.53		16	8.6	
	c	7.2	7.3	7.2	7.23		1	7.8	7.9	7.8	7.83		24	7.5	
	d	8.2	8.1	8.2	8.17		2	8.1	8.2	8.0	8.10		25	7.8	
	e	8.5	8.4	8.5	8.47		6	7.0	7.1	7.1	7.07		21	8.5	
	f	8.9	8.7	9.0	8.93		10	7.9	7.9	7.8	7.87		22	7.8	
	h	9.8	9.9	10.0	9.90	Pol	a	5.2					4	8.4	
MP	1	6.2	6.3	6.2	6.23v		b	6.3					5	8.5	
	2	7.0	7.1	7.0	7.03v		c	7.3					1	7.9	
	3	6.6	6.7	6.7	6.67v		d	8.1					2	8.2	
	4	6.7	6.8	6.7	6.73		e	8.4					6	7.1	
	5	7.3	7.4	7.3	7.33v		f	8.7					10	7.9	
	6	7.3	7.2	7.3	7.27		h	9.9				Pol	a	5.2	
	7	8.9	8.7	8.8	8.80 7.90	MP	1	6.3					b	6.5	
	8	6.8	6.9	6.9	6.87v		2	7.1					c	7.2	
	9	6.9	6.8	6.9	6.87 7.23v		3	6.7					d	8.2	
	10	7.2	7.3	7.2	7.23 7.17		4	6.8					e	8.5	
	A	9.5	9.5	9.5	9.50		5	7.4					f	9.0	
	B	9.8	9.7	9.8	9.77		6	7.2					h	10.0	
	C	9.4	9.5	9.5	9.47		7	8.7				MP	1	6.2	
	D	9.7	9.7	9.7	9.70		8	6.9					2	7.0	
	E	9.9	9.9	10.0	9.93		9	6.8					3	6.7	
	20	8.2	8.3	8.2	8.23		10	7.3					4	6.7	
S1-	16	8.5	8.6	8.5	8.53		A	9.5					5	7.3	
	24	7.3	7.5	7.3	7.37		B	9.7					6	7.3	
	25	7.7	7.8	7.7	7.73		C	9.5					7	8.8	
	21	8.3	8.5	8.4	8.40		D	9.7					8	6.9	
	22	7.8	7.8	7.8	7.80		E	9.7					9	6.7	

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1904phae.proj..982L

Measures of faint Polar Seq. to

January 28, 1910 Sc. "M"

I 36360			I 36360		
	10	7.7	g	8.1 8.1	8.15
	a	9.5	h	8.5 8.4	8.45
	B	9.8	K	9.2 9.2	9.20
	C	9.5	K_2	9.4 9.3	9.35
	D	9.7	K_3	9.8 9.7	9.75
	E	10.0	a	8.2 8.3	8.25
Sl-	20	8.2	B	8.4 8.4	8.40
	16	8.5	C	8.2 8.3	8.25
	24	7.3	D	8.2 8.2	8.20
	25	7.7	E	8.7 8.5	8.60
	21	8.4	g	8.1	
	22	7.8	h	8.4	
	4	8.5	K	9.2	
	5	8.6	K_2	9.3	
	1	7.8	K_3	9.7	
	2	8.0	a	8.3	
	6	7.1	B	8.4	
	10	7.8	C	8.3	
			D	8.2	
			E	8.5 8.4	

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1904phae.proj..982L

Measures of faint stars.

17-15

February 4, 1910.

	I 28766			I 33987		
q	8.5	8.4	8.45	8.4	8.5	8.45
h	8.7	8.7	8.70	8.7	8.8	8.75
k	9.3	9.3	9.30	9.3	9.3	9.30
k_2	9.5	9.4	9.45	9.5	9.4	9.45
k_3	9.9	9.9	9.90	9.8	9.8	9.80
a	8.8	8.7	8.75	9.0	8.9	8.95
B	8.5	8.5	8.50	8.5	8.6	8.55
C	8.9	8.8	8.85	9.1	9.0	9.05
D	9.3	9.2	9.25	9.5	9.4	9.45
E	9.7	9.7	9.70	9.9	9.9	9.90
g	8.4			8.5		
h	8.7			8.8		
k	9.3			9.3		
k_2	9.4			9.4		
k_3	9.9			9.8		
a	8.7			8.9		
B	8.5			8.6		
C	8.8			9.0		
D	9.2			9.4		
E	9.7			9.9		

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1904phae.proj..982L

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1904phae.proj..982L

Polar and other Sequences.

23 – 15

I 34918

Feb 10, 1910

a	5.1	5.0	5.1	5.07
b	6.3	6.4	6.3	6.33
c	7.1	7.0	7.0	7.03
d	8.1	8.1	8.0	8.07
e	8.3	8.4	8.3	8.33
f	8.9	8.8	8.7	8.80
h	9.8	9.9	9.8	9.83
1	7.4	7.3	7.5	7.40
2	6.9	7.0	6.9	6.93
5	7.4	7.4	7.3	7.37
3	7.3	7.4	7.4	7.37
4	7.7	7.8	7.5	7.67
6	8.1	8.0	8.1	8.07
7	8.2	8.1	8.2	8.17
8	8.6	8.5	8.5	8.53
9	9.0	9.0	8.9	8.97
10	8.5	8.4	8.3	8.40
A	9.7	9.6	9.5	960
B	9.5	9.5	9.6	953
C	9.7	9.5	9.6	9.60
D	10.0	10.0	9.9	9.97
E	F	F	F	—
16	8.9	8.7	8.7	8.77
20	8.8	8.7	8.8	8.77
24	8.2	8.0	8.0	8.07
25	7.9	7.8	7.8	7.83
21	8.1	8.0	8.1	8.07
22	8.2	8.2	8.2	8.20

4	7.5	7.3	7.5	7.43
25	7.8	7.6 7.7	7.6 7.7	7.67 7.73
1	8.3	8.2	8.2	8.23
2	8.0	7.9	8.0	7.97
6	8.9	8.8	8.8	8.83
10	8.5	8.3	8.5	8.43
a	5.0			
b	6.4			
c	7.0			
d	8.1			
e	8.4			
f	8.8			
h	9.9			
1	7.3			
2	7.0			
3	7.4			
4	7.4			
5	7.8			
6	8.0			
7	8.1			
8	8.5			
9	9.0			
10	8.4			
A	9.6			
B	9.5			
C	9.5			
D	10			
E	F			

16	8.7
20	8.7
24	8.0
25	7.8
22	8.2
21	8.0
4	7.3
5	7.7
1	8.2
2	7.9
6	8.8
10	8.3
a	5.1
b	6.3
c	7.0
d	8.0
e	8.3
f	8.7
h	9.8
1	7.5
2	6.9
3	7.3
4	7.4
5	7.5
6	8.1
7	8.2
8	8.5
9	8.9
10	8.3

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1904phae.proj..982L

23. −15 I 3×918 Feb 11, 1910 Sc "M"

	a	9.5			Faint-Stars.	
	B	9.6		g	8.2	8.3	8.25
	C	9.6		h	8.5	8.4	8.45
	D	9.9		k	9.0	8.9	8.95
	E	F		k_2	9.2	9.1	9.15
−13 6341	16.	8.7		k_3	9.5	9.5	9.50
−13 6329	20	8.8		a	8.3	8.3	8.30
−14 6378	24	8.0		B	8.3	8.4	8.35
−14 6394	25	7.8		C	8.5	8.5	8.50
−14 6408	21	8.1		D	8.8	8.7	8.75
−14 6414	22	8.2		E	9.2	9.2	9.20
−15 6309	4	7.5		g	8.3		
−15 6331	5	7.7		h	8.4		
−15 6350	1	8.2		k	8.9		
−15 6363	2	8.0		k_2	9.1		
−16 6212	6	8.8		k_3	9.5		
−16 6196	10	8.5		a	8.3		
				B	8.4		
				C	8.5		
				D	8.7		
				E	9.2		

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1904phae.proj..982L

Measures of Polar + other Sequence

5–15

Feb. 11, 1910

I 36565

a	5.0	5.1	5.1	5.07	4	8.3	8.4	8.3	8.33	16	9.5
b	6.2	6.3	6.3	6.27	5	8.5	8.6	8.5	8.53	20	7.3
c	6.9	7.0	7.0	6.97	1	8.0	8.1	8.3	8.13	24	7.2
d	7.9	7.9	7.9	7.90	2	7.9	8.0	8.2	8.03	25	8.2
e	8.2	8.2	8.1	8.17	6	8.3	8.3	8.5	8.37	4	8.4
f	8.7	8.6	8.7	8.67	10	8.1	8.2	8.3	8.20	5	8.6
h	9.7	9.8	9.8	9.77	a	5.1				1	8.1
K	10.1				b	6.3				2	8.0
1	6.9	6.7	6.7	6.77 v	c	7.0				6	8.3
2	6.9	6.8	6.9	6.87 v	d	7.9				10	8.2
3	7.1	7.0	7.2	7.10 v	e	8.2				21	9.5
4	6.9	6.9	7.0	6.93 v	f	8.6				22	8.2
5	7.7	7.6	7.7	7.67 v	h	9.8				a	5.1
6	8.7	8.8	8.9	8.80 v	1	6.7				b	6.3
7	8.5	8.6	8.5	8.53 v	2	6.8				c	7.0
8	8.4	8.3	8.5	8.40 v	3	7.0				d	7.9
9	8.7	8.7	8.7	8.70 v	4	6.5				e	8.1
10	8.2	8.5	8.3	8.33 v	5	7.6				f	8.7
A	9.5	9.4	9.5	9.47	6	8.8				h	9.8
B	9.7	9.6	9.7	9.67	7	8.6				1	6.7
C	9.9	9.8	9.8	9.83	8	8.3				2	6.9
D	10.1	10.1	10.0	10.07	9	8.7				3	7.2
E	10.0	10.0	10.1	10.03	10	8.5				4	6.5
16	9.5	9.5	9.4	9.47	A	9.4				5	7.7
20	7.3	7.3	7.4	7.33	B	9.6				6	8.9
24	7.1	7.2	7.3	7.20	C	9.8				7	8.5
25	8.1	8.2	8.3	8.20	D	10.1				8	8.5
22	8.2	8.2	8.3	8.23	E	10.0				9	8.7
21	9.5	9.5	9.4	9.47							

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1904phae.proj..002L

Feb 14, 1910

I 36565	
10	8.3
a	9.3
B	9.7
C	9.8
D	10.0
E	10.1
16	9.4
20	7.4
22	8.3
21	9.4
25	8.3
24	7.3
4	8.3
5	8.5
1	8.3
2	8.2
6	8.5
10	9.3

Ft stars.

I 36565			
g	8.0	8.1	8.05
h	8.3	8.5	8.40
k	8.9	8.9	8.90
k_2	9.0	9.0	9.00
k_3	9.3	9.4	9.35
a	7.3	7.3	7.30
B	7.7	7.8	7.75
C	8.0	8.1	8.05
D	8.3	8.5	8.40
E	8.5	8.5	8.50

g	8.1
h	8.5
k	8.9
k_2	9.0
k_3	9.4
a	7.3
B	7.8
C	8.1
D	8.5
E	8.5

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1904phae.proj..982L

Polar Sequences and others.

Remeasures. Feb 14, 1910

I 35117

M.P	5	6.3
	1	6.7
	4	6.8
	6	7.3
	3	7.9
	10	7.7

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1904phae.proj..982L

Polar sequence and others.

Reg. 7+15 February 18, 1910

I 36560 36572

Pol.	a	6.5	6.3	5.2	5.2	5.2	5.20	5	8.8	8.8	8.8	8.80	St	16	8.8
	b	7.7	7.5	6.4	6.3	6.4	6.37	4	8.7	8.7	8.8	8.73		20	8.8
	c	8.3	8.2	7.1	7.2	7.2	7.17	1	8.0	7.9	8.0	7.97		22	8.0
	d		8.9	8.2	8.1	8.2	8.17	2	8.3	8.1	8.1	8.17		21	8.4
	e		9.2	8.5	8.4	8.8	8.47	6	7.2	7.3	7.2	7.23		25	7.9
	f		9.6	9.0	9.0	8.9	8.97	10	8.1	8.1	8.1	8.10		24	8.8 4.3
	h	Too ft.		9.9	9.9	10.6	Pol	a	5.2					4	8.7
mp	1	6.3	6.2		6.2	6.23		b	6.3					5	8.8
	2	6.7	7.1	7.2	7.1	7.13		c	7.2					1	7.9
	3	6.7	6.8		6.7	6.73		d	8.1					2	8.1
	4	6.9	6.8		6.9	6.87		e	8.4					6	7.3
	5	7.5	8.2	8.4	8.2	8.27		f	9.0					10	8.1
	6	8.5		8.5	8.5	8.50		h	9.9				Pol	a	5.2
	7	8.7		8.7	8.7	8.70	mp	1	6.2					b	6.4
	8	6.8		6.8	6.8	6.80		2	7.2					c	7.2
	9	7.1		7.2	7.1	7.13		3	6.8					d	8.2
	10	8.2		8.3	8.2	8.23		4	6.8					e	8.5
	a	9.9		9.8	9.9	9.87		5	8.4					f	8.9
	B	10.0		10.0	10.0	10.00		6	8.5					h	9 10.0
	C	9.8		9.8	9.9	9.83		7	8.7				mp	1	6.2
	D	9 10.0		10.0	10.0	10.00		8	6.8					2	7.1
	E	9.8		f	f	—		9	7.2					3	6.7
St.	16	8.7		8.8	8.8	8.80		10	8.3					4	6.9
	20	8.5		8.5	8.7	8.57		a	9.8					5	8.2
	22	7.9		8.0	8.0	7.97		B	10.0					6	8.5
	24	7.3		7.3	7.5	7.37		C	9.8					7	8.7
	25	7.9		7.9	8.0	7.93		D	10.0					8	6.8
	21	8.5		8.5	8 6	8.53		E	f 10.2					9	7.1
														10	8.2

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1904phae.proj..982L

7+15

February 18, 1910

I 36572

	a	9.9
	B	10.0
	C	9.8
	D	10.0
	E	F
St.	16	8.8
	20	8.7
	22	8.0
	21	8.6
	25	8.9
	24	~~8.8~~ 7.5
	4	8.8
	5	8.8
	1	8.0
	2	8.1
	6	7.2
	10	8.1

Fb Stars

f	8.5
h	8.8
k	9.5
K_2	9.7
K_3	10.0
a	9.0
b	9.2
c	9.0
d	9.1
e	9.3
g	
h	
K	
K_2	
K_3	
a	
b	
c	
d	
e	

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1904phae.proj..982L

Polar sequence and others.

Reg 9h 15 — Feb. 21, 1910

I 36580

Pol	a	5.1	5.0	5.0	5.03		25	8.3	8.3	8.3	8.30	St	16	8.7	
	b	6.3	6.4	6.4	6.37		4	8.1	8.1	8.2	8.13		20	8.0	
	c	7.1	7.1	7.0	7.07		5	8.2	8.3	8.2	8.23		22	8.3	
	d	8.1	8.2	8.1	8.13		1	7.7	7.9	7.7	7.77		21	7.8	
	e	8.4	8.5	8.4	8.43		2	8.5	8.3	8.4	8.40		24	7.8	
	f	8.9	9.0	9.0	8.97		6	8.2	8.1	8.2	8.17		25	8.3	
	g	~~8.7~~ 8.5-					10	8.1	8.0	8.2	8.10		4	8.1	
	h	9.8	10.0	10.0	9.93	Pol.	a	5.0					5	8.3	
MP	1	7.2	7.3	7.2	7.23		b	6.4					1	7.9	
	2	7.3	7.2	7.1	7.20		c	7.1					2	8.3	
	3	8.3	8.1	8.3	8.23		d	8.2					6	8.1	
	4	7.7	7.9	7.8	7.80		e	8.5					10	8.0	
	5	7.7	7.8	7.9	7.80		f	9.0				Pol.	a	5.0	
	6	8.2	8.3	8.1	8.20		h	10.0					b	6.4	
	7	9.3	9.4	9.5	9.40	MP	1	7.3					c	7.0	
	8	7.0	6.9	7.0	6.97		2	7.2					d	8.1	
	9	7.7	7.8	7.8	7.77		3	8.1					e	8.4	
	10	7.9	7.9	7.7	7.83		4	7.9					f	9.0	
	A	9.5	9.4	9.4	9.43		5	7.8					h	10.0	
	B	9.5	9.5	9.5	9.50		6	8.3				MP	1	7.2	
	C	9.7	9.8	9.7	9.73		7	9.4					2	7.1	
	D	9.9	10.0	9.9	9.93		8	6.9					3	8.3	
	E	10.1	10.2	10.1	10.13		9	7.8					4	7.8	
Stan.	16	8.9	8.7	8.9	8.83		10	7.9					5	7.9	
	20	8.1	8.0	8.1	8.07		a	9.4					6	8.1	
	22	8.5	8.3	8.5	8.43		B	9.5					7	9.5	
	21	7.8	7.8	7.7	7.77		C	9.8					8	7.0	
	24	7.7	7.6	7.8	7.77		D	10.0					9	7.8	
							E	10.2					10	7.7	

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1904phae.proj..982L

$9^h + 15$ Feb 21, 1910

I 36580

a	9.4
B	9.5
C	9.7
D	9.9
E	10.1
16	8.9
20	8.1
22	8.5
21	7.7
24	7.8
25	8.3
5	8.2
4	8.1
1	7.7
2	8.4
6	8.2
10	8.2

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1904phae.proj..982L

Polar Sequence + others.

h
11. +15

Feb. 21, 1910

I 36581

Pol.	a	5.1	5.2	5.1	5.13		4	8.5	8.8	8.7	8.73	8.3	16	7.9	8.1	7.9	7.97
	b	6.3	6.4	6.4	6.37		5	7.5	7.8	7.9	7.87	7.3	20	7.8	7.8	7.8	7.80
	c	7.3	7.3	7.2	7.27		1	8.3	8.7	8.7	8.70	8.2	22	8.0	8.0	8.0	8.00
	d	8.1	8.0	8.1	8.07		2	7.3	7.8	7.8	7.77	7.2	21	7.2	7.2	7.2	7.20
	e	8.4	8.3	8.4	8.37		6	7.3	7.4	7.4	7.43	7.3	25	7.4	7.5	7.4	7.43
	f	8.9	8.8	8.9	8.87		10	8.5	8.7	8.7	8.70	8.2	24	8.3	8.4	8.3	8.33
	h	9.9	9.9	10.0	9.93	Pol.	a	5.2					4	8.3	8.3	8.3	8.30
MP	1	6.7	6.4	6.7	6.60		b	6.4					5	7.3	7.3	7.2	7.27
	2	7.1	7.0	7.1	7.07		c	7.3					1	8.1	8.2	8.1	8.13
	3	7.2	7.2	7.3	7.23		d	8.0					2	7.1	7.2	7.1	7.13
	4	7.4	7.3	7.5	7.40		e	8.3					6	7.2	7.3	7.2	7.23
	5	8.4	8.4	8.3	8.37		f	8.8					10	8.3	8.2	8.3	8.27
	6	8.7	8.6	8.7	8.67		h	9.9				Pol.	a	5.1			
	7	8.3	8.4	8.3	8.33	MP	1	6.4					b	6.4			
	8	7.7	7.6	7.7	7.67		2	7.0					c	7.2			
	9	8.5	8.7	8.5	8.57		3	7.2					d	8.1			
	10	8.5	8.7	8.7	8.63		4	8.0					e	8.4			
	a	9.7	9.7	9.6	8.67		5	8.4					f	8.9			
	B	10.0	9.9	10.0	8.97		6	8.6					h	10.0			
	C	10.0	10.1	10.1	9.07		7	8.4				MP	1	6.7			
	D	F	—	—	—		8	7.6					2	7.1			
	E	F	—	—	—		9	8.7					3	7.3			
SI	16	8.1	8.2	8.1	8.13	8.1	10	8.7					4	7.9			
	20	7.7	7.8	7.7	7.73	7.8	a	9.7					5	8.3			
	22	8.0	8.2	8.1	8.13	8.0	B	9.9					6	8.7			
	21	7.3	7.7	7.7	7.70	7.2	C	10.1					7	8.3			
	24	8.5	8.7	8.8	8.77	8.4	D	F					8	7.7			
WS?	25	7.4 6.5	6.9	6.8	6.83	? 7.5	E	F					9	8.5			

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1904phae.proj..982L

11 + 15

Feb 21, 1910

	I 36581		I 36581 Fk Star
	10 8.7		g
	a 9.6		h
	B 10.0		K
	C 10.1		K_2
	D F		K_3
	E F		a
St-	16 7.7		B
	20 7.8		C
	22 8.0		D
	21 7.2		E
	25 7.7		g
	24 8.3		h
	4 8.3		k
	5 7.3 / 7.9		K_2
	1 8.1		K_3
	2 7.2		a
	6 7.2		B
	10 8.3		C
			D
			E

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1904phae.proj..982L

Polar seq. and altus

11+15

Feb 24, 1910

T 36421

	a	5.2	5.1	5.1	5.13		4	8.3	8.3	8.3	8.30	7.9	S/-16	7.7	7.7	7.8	7.73
	b	6.3	6.2	6.3	6.27		5	7.2	7.3	7.2	7.23	7.1	20	7.5	7.5	7.7	7.57
	c	7.1	6.9	6.9	6.97		1	8.3	8.4	8.3	8.33	7.9	22	7.9	7.9	7.9	7.90
	d	8.0	7.9	8.1	8.00		2	7.3	7.3	7.3	7.30	7.0	21	7.0	7.0	7.0	7.00
	e	8.3	8.2	8.4	8.30		6	7.3	7.4	7.3	7.33	7.0	24	8.1	8.1	8.1	8.10
	f	8.8	8.8	8.9	8.83		10	8.3	8.3	8.3	8.30	8.1	25	7.1	7.1	7.2	7.13
	h	9.8	9.9	9.9	9.87	Pol	a	5.1					4	7.9	7.9	7.8	7.87
MP	1	6.7	6.4	6.3	6.33		b	6.2					5	7.1	7.1	7.1	7.10
	2	7.1	7.2	7.1	7.13		c	6.9					1	7.9	7.9	7.8	7.87
	3	7.2	7.2	7.2	7.20		d	7.9					2	7.0	7.0	7.1	7.03
	4	7.7 4	7.5	7.5	7.47		e	8.2					6	7.0	7.1	7.1	7.07
	5	8.7	8.8	8.7	8.73		f	8.8					10	8.1	8.1	8.2	8.13
	6	8.9	8.9	8.9	8.90		h	9.9									
	7	7.9 8.2	8.3	8.2	8.23	MP	1	6.4					Pol	a	5.1		
	8	7.7	7.8	7.7	7.73		2	7.2						b	6.3		
	9	8.3	8.3	8.3	8.30		3	7.2						c	6.9		
	10	8.5	8.5	8.5	8.50		4	7.8						d	8.1		
	A	9.8	9.7	9.7	9.73		5	8.8						e	8.4		
	B	10.0	10.0	10.0	10.00		6	8.9						f	8.9		
	C	F					7	8.3						h	9.9		
	D	F					8	7.8					MP	1	6.3		
	E	F					9	8.3						2	7.1		
														3	7.2		
S/-	16	8.0	8.1	8.0	8.03	7.7	10	8.5						4	7.7		
	20	7.9	8.0	7.9	7.93	7.5	A	9.7						5	8.7		
	22	8.7	8.4	8.4	8.40 8.23	7.9	B	10.0						6	8.9		
	21	7.2	7.3	7.2	7.23	7.0	C	-						7	8.2		
W.D.	25	7.4 6.2	7.4 6.3	7.5 6.2	7.43 6.23	7.1	D	-						8	7.7		
	24	8.5	8.5	8.5	8.50	8.1	E							9	8.3		
														10	8.5		

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11+15

Feb 24, 1910

I 36421

a 9,7

B 10+

C —

D =

E

16	8.9		7.8
20	7.9		7.7
22	8.7		7.9
21	7.2		7.0
25	8.2	7.5	7.1
24	8.5		8.1
4	8.3		7.9
5	7.2		7.1
1	8.3		7.8
2	7.3		7.1
6	7.3		7.1
10	8.8		8.2

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Estimates of brightness between images of seg. for 10 G.1. C 6656

April 13, 1910.

X 8919			X 10869		
a	4	b	a	3	b
b	6	c	b	4	c
c	4	d	c	5	d
d	2	e	d	1	e
e	5	f	e	3	f
f	4	g	f	4	g
g	5	h	g	3 4	h
h	3	k	h	3	k
k	2	l	k	3	l
l	3	m	l	2	m
m	4	n	m	3	n
n	2	o	n	1	o
o	3	p	o	3	p
p	1	q	p	2	q
q	3	r	q	2	r
r	1	s	r	2	s
s	3	t	s	1	t
t	2	u	t	2	u?

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1904phae.proj..982L

Measures of prismatic companions.

(Isv. scale "B")

May 2, 1910

7h + 15

MC 144

	Sel	Sc.2	Br.im
1	8.8		
2	9.6		
3	9.1		
4	10.2		5.9
5	9.9		5.3
6	10.1	~~12~~	5.9
7		12.1	6.2
8	9.5		
9	9.0		
10	10.3		5.9
16		12.2	6.3
20		12.0	6.0
22	9.7		5.3 ~~5.7~~
21		12.1	6.2
25	9.2		
24	9.3		
4		12.0	6.1
5		12.0	6.0
1	10.0		
2		12.2	5.9
6	9.7		
10		11.9	

H.R ~~5760~~	7.1		
" 2717	6.7	7.2	
" 2684	9.9	7.1	
" 2615	10.1	7.7	
" ~~2682~~	9.7	7.2	
" ~~0564~~ 1a	8.7	7.6	
2a		7.2	
3a		7.7	

MC 214

	Sel	Sc.2
1	8.9	
2	9.6	
3	9.2	
4	10.2	
5	9.9	
6	10.0	
7		12.2
8	9.4	
9	9.2	
10	10.2	
16		12.4
20		11.9?
22	9.9	
21		12.1
25	9.2	
24	9.4	
4		12.1
5		12.0
1	10.1	
2		12.1
6	9.8	
10		12.1

2717	7.3	7.3
2684	7.3	7.1
2615	7.5	7.8
2632	7.3	7.5
1a	7.1	7.9
2a	7.2	7.3
3a	7.6	7.8

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1904phae.proj..982L

Measures of prismatic companions.

(Iso. scale "B")

7^h+15

May 2, 1910

St. image	MC 144	Sc 1	Sc. 2	St. image	MC 214	St. image
	1	8.7			1	9.1 ~~8.9~~
	2	9.5			2	9.6
	3	9.1			3	9.3
7.7	4	10.1		5.8	4	10.2
7.2	5	9.9		5.3	5	10.0
7.8	6	10.1		6.0	6	10.1
8.1	7		12.1	6.3	7	12.1
6.0	8	9.5			8	9.5
~~7.6~~	9	9.1			9	9.1
7.6	10	10.2		6.0	10	10.1
7.3	16		12.2	6.4	16	12.1
6.9	20		12.1	5.9	20	12.0
	22	9.8		5.2	22	9.9
	21		12.3	6.1	21	12.2
	25	9.1			25	9.1
	24	9.2			24	9.3
	4		12.2	6.0	4	12.0
	5		12.2	5.9	5	12.1
	1	9.9		5.3	1	10.1
	2		12.1	5.7	2	12.0
	6	9.9			6	9.7
	10		12.0	5.1	10	12.1
	2717	7.3				7.2
	2684	7.3				7.2
	2615	7.5				7.7
	2632	7.3				7.4
	1a	7.7				7.9
	2a	7.2				7.3
	3a	7.6				7.7

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1904phae.proj..982L

Measures of prismatic companions.

$9^h + 15$ Iso. Sö B"

May 3, 1910

MC 151

	Sc1 5	Sc2	Slit image Sc1
1	9.7		
2	9.7		
3		11.9	6.5
4	10.0		
5		11.9	
6		11.8	6.2
7		12.9	7.8
8	9.4		
9	9.8		
10	10.1	11.7	6.1
16		12.6	7.2
20		12.0	6.7
22		12.3	6.9
21	9.7		5.9
25		12.0	6.7
24	10.1		6.0
4		11.7	6.1
5		12.0	6.6
1	9.7		5.9
2		12.4	6.6
6	10.3	11.7 ~~12.0~~	6.2
10	10.2		5.9
a			8.1
b			8.3
c			8.7
d			9.1
e			9.5

HR	~~3650~~ 3648	~~6.6~~ 6.6	7.9
"	3565	5.0	6.8
"	3561	4.8	6.4
"	3550	~~7.7~~ 7.7	~~7.1~~ 7.1
"	3572	4.6	5.3

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1904phae.proj..982L

Measures of prismatic companions.

May 3, 1910

9h +15

MC 275

	Sa1	Sa2	Star image
1	9.1		
2	9.1		
3	9.8		6.3
4	9.3		
5	9.6		5.9
6	9.9		6.1
7		12.5	7.4
8	8.7		
9	9.1		5.1
10	9.5		5.3
16		11.9	6.9
20	10.1		6.2
22	10.3		6.2
21	9.3		5.3
25	10.2		6.4
24	9.4		5.7
4	9.7		5.9
5	9.9		6.2
1	9.1		5.1
2	10.1		6.0
6	9.9		5.4
10	9.7		5.7
a		12.6	8.2
b		12.9	8.3
c		13.0	8.7
d			9.0
e			9.5

HR	3650	6.3
"	3565	5.2
"	3550	7.1
"	3572	5.0
"	3561	4.9

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1904phae.proj..982L

Measures of prismatic companions

$9^h + 15$

May 3, 1910

	Mc 151 Sc1	Sc2	Star image.
1	9.6		
2	9.9		
3		12.0	6.3
4	10.0		
5	10.3		
6	10.3		6.1
7		12.8	7.7
8	9.3		
9	9.8		5.9
10	10.0		6.6
HR 3650 ~~3003~~	8.0		
" 3565	6.9		
" 3561	6.3		
" 3550	6.9		
" 3572	~~5.1~~		
16		12.4	7.1
20		12.1	6.7
22		12.3	6.8
21	9.9		6.1
25		12.2	6.7
24	9.9		6.1
4		11.9	6.1
5		12.0	6.7
1	9.7		6.0
2		~~12.5~~ 12.5	6.8
6		~~12.0~~ 11.8	5.9
10	10.3		5.8

		Star image
a	12.7	8.2
b	~~13.1~~ 13.1	8.5
c	~~13.9~~ 13.9	8.9
d	—	9.2
e	—	9.7

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1904phae.proj..982L

Measures of prismatic comp.

9+15

May 4, 1910

MC 275

	Sec 1	Sec 2	Star image.		
1	9.2			a	8.7
2	8.9			b	8.9
3	9.8		6.3	c	8.8
4	9.2			d	9.0
5	9.7		5.9	e	9.4
6	10.0		6.1		
7		12.7	7.4		
8	8.5				
9	9.2		5.1		
10	9.7		5.3		
HR 3650 ~~2008~~	6.4				
3565	5.2				
3561	4.8				
3550	7.3				
3572	4.7				
16		12.0	6.9		
20	10.0		6.2		
22	10.1		6.2		
21	9.5		5.3		
25	10.2		6.4		
24	9.3		5.7		
4	9.5		5.9		
5	9.7		6.2		
1	9.3		B		
2	10.3		6.0		
6	9.7		5.4		
10	9.9		5.5		

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1904phae.proj..982L

Measures of prismatic companions

$11^h + 15$ Dec. Sept.

May 5, 1910

		MC 121 Sec 1	MC 121 Sec 2
Vol 54	1a	8.2	
"	2a	8.3	
"	3a	7.2	
"	4a	8.1	
"	5a	8.9	
"	6a	8.2	
"	7a	7.3	
HR 4281 =	9a	7.1	
	1	8.9	
	2	9.4	
	3	9.7	
	4	10.0	
	5		12.4
	6		12.8
	7		12.9
	8	9.9	
	9		12.1
	10		12.3
	16		12.0
	20	10.5	
	22	"	12.3
	21	9.7	
	25	9.9	
	24		12.4
	14		12.2
	5	10.1	
	12		12.2
	2	9.7	
	6	9.6	
	10		11.8

	MC 121	
	1a	8.1
	2a	8.3
	3a	7.1
	4a	8.2
	5a	8.7
	6a	8.2
	7a	7.2
H.R. 4821		7.0
	1	9.0
	2	9.3
	3	9.7
	4	9.9
	5	12.3
	6	12.4
	7	11.9
	8	10.0
	9	12.0
	10	12.3
	16	12.1
	20	10.3
	22	12.3
	21	9.5
	25	9.8
	24	12.2
	4	12.2
	5	9.9
	12	12.1
	2	9.9
	6	9.5
	10	12.1

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May 13, 1910

MC 81

	P.C	Slit image
26	8.9	
27	9.2	
45		9.4

MC 285

26	9.8
27	10.0

MC 293

26	8.8	9.1
27	9.3	9.5
28	9.8	9.8
~~29~~	9.9	9.9
~~30~~	10.1	~~10.1~~

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Standard Polar Sequence.

Magnitudes. May 3, 1909.

Des	No.	Magn.		Des	No.	Magn.	
A	1	2.62	2.6	c^6	21	9.89	9.9
B	2	4.57	4.6	d	22	10.14	10.1
C	3	5.25	5.2	c^7	23	10.14	10.1
D	4	5.68	5.7	e	24	10.53	10.5
E	5	5.87	5.9	f'	25	10.99	11.0
7	6	6.34	6.3	f^2	26	11.52	11.5
b	8	6.47	6.5	f^3	27	11.92	11.9
a'	7	6.41	6.4	g	28	12.31	12.3
a^2	9	6.56	6.6	h	29	12.65	12.6
a^3	10	7.00	7.0	i	30	12.86	12.8
a^4	11	7.20	7.2	K'	31	13.25	13.2
a^5	12	7.70	7.7	K^2	32	13.40	13.4
b'	13	8.07	8.1	K^3	33	13.75	13.8
b^3	14	8.62 (59)	8.6	K^4	34	14.07	14.1
b^2	15	8.62	8.6	K^5	35	14.19	14.2
c'	16	8.81	8.8	l	36	14.31	14.3
c^4	17	8.92	8.9	m	37		14.6
c^2	18	9.35	9.3	n	38		14.9
c^3	19	9.65	9.6				
c^5	20	9.73	9.7				

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