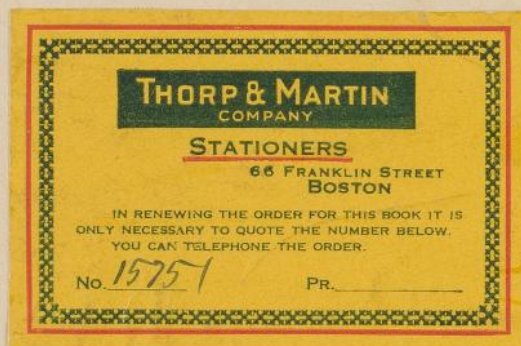


Cepheids

Book III



Scale of mcs $1'' = 49.4$

Int Sec.	<u>.010</u>	.015
25	.0198	.0297
26	.0190	.0285
27	.0183	.0274
28	.0176	.0264
29	.0170	.0255
30	.0165	.0247
31	.0159	.0239
32	.0154	.0231
33	.0150	.0225
	.0145	.0217

TU Per. Cat 3 3 04 +52.9
113° -4°
 No astrophysic
 4Ds 8 comp. 1895.4 +011-026 34.5 +0.16 -037
 2mCs 1929.9

R. W. Draconis					16	34	+58.6
						54°	+40°
Bk 4 P 18						070	
Rome	1907.5	8	-002	000	22.1	-004	000
	1905.5	6.072					
	1908.5	4					
2mCs	1929.3					.006	
49s	1892.5		-004	-001	36.8	-005	-001
						-005	-001

SZ Bro					14 39	+28.5
					-7	+63°
Bk4 P3						
Oxmol	1901.4	3cs.	+004	+005	27.8	+007 +009
	1901.4	8	+004			
H Is	1897.8	8	+006	-006	31.4	+008 -009
2 mcs	1929.2					+008.006 000

S T Bortis 15 27 +36.1
- 23° +54°
 Bk4 P11265
 No astrophysic
 7Ds 1894.8 8c.s. - 006 +012 34.5 $\bar{4.008}^{007}$ +017
 2 mcs 1929.3

RR Canum Ven. 12 24 +35.2
 115° +83°
 Bk IV P56
 No astrophotographic 1929.4
 2 M Cs ↑ -005 +009 34.8 -007 +013 007
 4 IS 8 comp stars 1894.8

SS Tauri				3	33	+5.1	
Bk II P 36						148°	-37°
			Δx	Δy			+009
Toulouse	1895.0	3 comp stars	+004	+025	33.0	+006	+038
4 BS	1898.3	8 " "	+019	+021	30.7	+031	+042
2 MCS	1929.0	" " "				+020 ⁰⁰⁶	+040

T.W. Her.				17 51	+30.4
Bk IV P50				23° +23	
Oxford	1902.5	8 comparisons	+009	013	26.5 +017 -024
	1902.5	6 " "			
4 Is.	1893.4	8	000 - 015	35.6	000 -028
2 MCs	1929.0	8		+007	⁰⁰⁶ -027

Cluster Type Variables for which M C Plates are to be taken

mc

SW AND	10	0:20	+29.0		Oxford 1906
UZ Cas	11-12	1:00	+60.8		Rome $\begin{matrix} +61^{\circ} & 1903 \\ +60 & 1900 \end{matrix}$
RR Cet	9	1:28	+1.0		Algiers 1908
U Tri	11	1:51	+30.4		Potsdam 1896
X Ari	10	3:03	+10.0		Toulouse $\begin{matrix} +9 & 1897 \\ +11 & 1899 \end{matrix}$
TU Per	11	3:04	+52.9	22304	none
SS Tau	12	3:33	+5.1		Toulouse 1895
RZ Tau	10	4:31	+18.6		none
RX Eri	9	4:46	-15.9		Tacubaya 1904
SU Aur	9	4:50	+30.4		Oxford 1903
U Lep	10	4:52	-21.4		Hyderabad 1921
UW Ori	11	5:00	+20.2	21832	Paris 1895
RW Cnc	11	9:13	+29.0	21859	Oxford $\begin{matrix} +29 & 1901 \\ +30 & 1903 \end{matrix}$
S Ant	7	9:29	-28.3		none at the south
X LMi	12	10:02	+39.7		Helsingfors 1893
RV Leo	12.5	10:20	+10.1		Toulouse $\begin{matrix} +9^{\circ} & 1897 \\ +11^{\circ} & 1910 \end{matrix}$
RX Leo	11	11:19	+27.2	21864, 21921	Oxford 1900
SU Dra	9	11:32	+67.9	21862	Greenwich +68° 1895
SW Dra	10	12:13	+70.1	21863	1895, 99
RR CVn	11	12:24	+35.2	21871, 21926	none

Cluster Type Variables for which MC Plates are to be taken.

m c.					
SV Hya	11	12:25	-25.5	21868, 21924	- Carolsbra 1911
U Com	11	12:30	+27.9	22535, 22545	Oxford +27 1900 +28 1901
SX UMa	11	13:22	+56.8	21880, 21928	{ Rome +57° 1913 " +56° 1913
RV UMa	10	13:29	+54.5	21879, 21929	none
RU CMX	11	13:55	+32.1	21873, 21930	Potsdam 1899
W CMX	10	14:02	+38.3	21875, 21931	none
SW Boo	11	14:23	+36.5	21877, 21933	none
RS Boo	10	14:29	+32.2	22537, 22547, 21878	Potsdam 1899
SZ Boo	11.5	14:39	+28.5	22536, 22546	Oxford 1901
ST Boo	11	15:27	+36.1		none
RV Cor	10	16:16	+29.9	22538, 21882	Oxford +30 1902
- VX Her	10	16:26	+18.6	22539, 21881	none old A
RW Dra	10	16:34	+58.6	22540, 21883	{ Rome +58° 1907 +59 1905
VZ Her	10	17:09	+30.2	22541	none
- ST Oph	11	17:30	- 1.0	22542	Algiers 1892
TW Her	11	17:51	+30.4	22543	Oxford 1902
Y Lyr	11	18:35	+43.9	22533, 22555	none
RZ Lyr	10	18:40	+32.7	22534, 22556	Potsdam 1893
XZ Cyg	10	19:30	+56.2	22551	{ Rome 19h 29m 1903 19h 36m 1905
XX Cyg	12	20:02	+58.7	22552	{ Rome +59° 1904 +58° 1906

-3-

Cluster Type Variables for which MC Plates are to be taken

				mc	Cluster Variables
*AA Aql	10	20:34	- 3.2	22561	San Fernando 1894
UY Cyg	10	20:52	+30.1	22635	Oxford 1900
*RV Cas	10	20:06	-15.6	22644	Tarubaya 1905
*SW Aqr	10	21:10	- 0.3	22645	Algiers 1896
SX Aqr	12	21:31	+ 2.8		Algiers 1909
VV Peg	11	22:08	+17.9	22636	Bordeaux +17° 1900
VW And	10	24:00	+34.2	22637	none

47

12 none.

13 Oxford

after 1908

25

22

Magnitudes:

Reduction of thirty-nine Astrogaphic zones to the international
photographic scale. Frederick H. Seares and Mary C. Joyner
Contributions from Mount Wilson Observatory No 305

Vol 2 Book 3 - Cepheids.

Cluster Variables

HN 81.
361

C.D.B.
Harvard Observatory,
Cambridge Mass.

p. Index

- 3 SW Aquarii red PZ ✓
- 11 AA Aquilae red C.D.B. ✓
- 17 SX Aquarii ~~one plate missing~~ reduced by C.D.B. ✓ ~~see notes~~ ~~not checked~~
- 25 SW Dra ~~try again later~~ C.D.B. ✓
- 31 RZ Lyrae ^{see P.F.B.} ~~try reduction again~~ C.D.B. ✓
- 41 RV Ursae Majoris " " ✓ But look at value for RV in y!
- 47 W Canum Venet. ~~one MC plate missing~~ red by C.D.B. ✓
- 55 RR Ceti red C.D.B. (as Messier's) ✓
- 59 RX Eridani red C.D.B. remeasure y's on MCS.
- 71 SU Aurigae red C.D.B. ~~try aster to 5th mag again~~ ✓
- 79 U keponis red C.D.B. ~~try the 4th to MCS again~~ ✓
- 87 XX Cygni red C.D.B. ✓
- 95 SU Draconis red C.D.B. try again MC to act OK. remeasure D's with closer comp stars
- 105 VV Pegasi red C.D.B. ✓
- 113 SV Hydrae MC on Coast Survey p. 125-127 red C.D.B. ✓
- 129 Y Lyrae red C.D.B. ✓
- 137 VZ Herculis red C.D.B. ✓
- 145 RV Capricorni red C.D.B. ✓

Sep 190

1855 21^h 7^m 52^s -0 31.3 9.8-11.4Algiers 5 0° Chiché 1412 0° 21^h 12^m

Oct 10, 1896

Star

1	186(9.4) -44.7597	-14.7785	32.9865	13.7814
2	189(9.3) -42.0687	-25.7848	30.2955	2.7751
3	203(10.4) -29.4122	-18.2462	47.6390	10.3137
4	207(10.4) -27.9086	-23.9484	16.1354	4.6115
5	208(11.1) -27.6830	-21.2744	15.9098	7.2855
6	229(10.1) -14.4883	-10.8438	2.7151	17.7161
7	230(8.7) -12.6273	-28.2670	0.8541	0.2929
8	232(9.8) -11.7732	-28.5399	0.0000	0.0000
SW	204(10.1) -29.1818	-21.1245	17.4086	7.4354
	239.9028	-19.28275	133.9440	64.2116
			105.9588	257.0391
			239.9028	192.8275

Mean of mc

.824 mc

	Δx	Δy	Δz	Δx	Δy
1	39.582	17.660	32.6156	14.5527	-0.3709
2	36.659	4.244	33.4396	3.4972	+0.4531
3	21.089	13.009	17.3773	10.7194	-0.0885
4	19.420	6.044	16.0821	4.9803	-0.2617
5	19.090	9.292	15.7302	7.6566	-0.1333
6	2.762	21.544	2.2759	17.7523	-0.1796
7	1.038	0.377	0.8520	.3106	-0.4392
8	-0.002	—	-0.0016	—	+0.054
					-0.0016

SW	20.928	9.478	17.2447	7.8000	-0.1639	+0.3746
	$a = -0.0004$	$c = +0.0022$	$d = +0.0240$	$e = -0.0004$	$f = -0.0044$	
	$b = -0.243$					

	Δx	Δy	Δz	Δx	Δy	Δz	Δx	Δy	Δz
1	-0.0130	-0.3826	+0.0012	-0.0644	-0.0065	+0.0087	+0.7726	-0.0558	+0.7828
2	-0.0121	-0.0850	—	-0.0949	+0.0064	+0.0028	.7192	-0.014	.7250
3	-0.0069	-0.2605	—	-0.2652	+0.0035	-0.0026	4.083	-0.043	.4120
4	-0.0064	-0.1210	—	-0.1262	-0.0081	-0.0088	3.776	-0.020	.3840
5	-0.0063	-0.1861	—	-0.1902	+0.0106	+0.0111	3.700	-0.030	.3775
6	-0.0010	-0.4014	—	-0.4302	-0.0090	-0.0069	0.431	-0.071	.0546
7	-0.0003	-0.0075	—	-0.0056	+0.0035	+0.0018	0.159	-0.001	.0204
8	—	—	—	—	-0.0022	+0.0044	-0.044	—	—
SW	-0.0069	-0.1897	—	-0.1944	+0.0305	-0.0348	+0.4064	-0.031	.4139

Int. 32.40

4.553

MC 22645

SW AquariaSee Book I, p. 12 **3**

Aug. 15-16, 1927	prec.	D	fol.	prec.	R	fol.	prec.	fol.	(4)	prec.	fol.
1	0.754	2.378	43.142	41.510	4.400	4.449	18.042	18.008			
C.D.B.	2	4.765	6.374	39.180	37.562	17.821	17.880	4.657	4.622		
3	20.282	21.905	23.636	22.016	8.990	9.051	13.500	13.445			
4	21.985	23.607	21.949	20.334	15.950	16.060	6.543	6.492			
5	22.300	23.926	21.623	19.998	12.689	12.740	9.800	9.742			
6	38.540	40.182	5.332	3.690	0.340	0.362	22.077	22.038			
7	40.401	42.013	3.552	1.934	21.480	21.510	0.895	0.840			
8	41.435	43.058	2.512	0.896	21.834	21.884	0.524	0.466			

SW Apr. 20.464 22.086 23.465 21.840 12.520 12.572 9.973 9.923

1	40.681	40.680	40.630	40.614	2	4.013	4.004	4.133	4.156
2	36.670	36.684	36.668	36.666	3	12.844	12.833	12.976	12.979
3	21.153	21.153	21.124	21.120	4	5.884	5.884	6.019	6.026
4	19.450	19.451	19.437	19.438	5	9.145	9.144	9.276	9.276
5	19.135	19.132	19.111	19.102	6	21.494	21.522	21.553	21.572
6	2.895	2.876	2.820	2.794	7	0.354	0.374	0.371	0.374
7	1.034	1.045	1.040	1.038					
8	—	—	—	—					

SW Apr. 20.971 20.972 20.953 20.942 9.314 9.312 9.449 9.457

	S	R	means	R	X	direct mean	X	mc	g - mc	μx	μy
1	40.680	40.622	83	17.434	17.530	39	40.682	17.482	+1.104	+1.174	+1.007
2	36.677	36.667	676	4.008	4.144		36.676	4.076	+0.015	-1.168	-0.005
3	21.153	21.122	66	12.838	12.977		21.159	12.908	+0.070	-1.106	0.000
4	19.450	19.437	62	5.884	6.023		19.451	5.959	+0.031	-0.992	+1.001
5	19.133	19.106	35	9.144	9.276		19.134	9.210	+0.040	-0.078	-0.009
6	2.885	2.807	84	21.508	21.562		2.884	21.635	+1.124	-0.007	+0.005
7	1.040	1.039	34	0.364	0.372		1.037	0.368	+0.005	-0.011	-0.003
8	—	—	-7	—	—		-0.004	—	+0.001	—	+0.008

SW Apr. 20.972 20.948 9.313 9.453 20.974 9.388 +0.042 -0.095 -0.008 0.000

4

 Σx

97.17

Reduction of D_s and $M C_s$.

5-8 19.48

all 116.65

1+3+5+6

2+4+7+8

Mean of 4 D_s $D(1.37)$ $.824 M C$

1	23.205	10.132	31.791	13.880	31.767	14.241
2	21.373	2.107	29.281	2.887	29.358	3.186
6	1.158	12.696	1.586	17.394	1.427	17.242
7	-.001	-.002	-.001	-.003	—	—
SW	11.955	5.360	16.378	7.343	16.396	7.499

 x y

32.89 13.78

30.30 2.78

17.64 10.31

16.14 4.61

15.91 7.29

2.72 17.72

0.85 0.29

— —

17.41 7.44

Δx	Δy	Σx	Σy	$\Sigma \Delta x$	$\Sigma \Delta y$	
-0.024	+361	142	642	17.4	+053	+660
+0.077	+299	647	1.4	17.4	-.158	+051
-159	+048	all	62.6	34.8	-105	+711
+001	+003	146	33.2	31.6	-183	+409
+018	+156	247	29.4	3.2	+078	+302

$$+59.8a + 0b = +.211 +.609$$

$$+3.8a + 28.4b = -.261 +.107$$

$$a = +0035 \quad d = +0102$$

$$b = -.0096 \quad e = +.0024$$

$$c = +0025 \quad f = -.003$$

 x y

	Δx	Δy	c	μx	μy	$d x$	$e y$	f
1	+0.111	-0.136 ⁵	+002 ⁵	+001	+010	+0.324	+0.034	+0.003
2	+0.103	-0.030 ⁵		+002	-006	+0.300	+0.008	
6	+0.005	-0.167		-001	-005	+0.014	+0.042	
7	—	—		-001	+006	—	—	
N	+0.057 ⁵	-0.072		+030	-026	+0.167	+0.018	

Reduced to scale of astrophotographic 1mm = 60"

Int = 28 μ s.

$$\mu_x = +.064$$

$$\mu_y = -.056$$

MC 23608

Sept. 1-2, 1928

SW Aquarii

	pr.	D	fol.	✕	pr.	R	fol.	pr.	D	fol.	Ⓢ	pr.	R	fol.
C.D.B.	1	.680	.698		.693	.663	.260	.318	.678	.658				
	2	.590	.615		.747	.728	.702	.750	.296	.264				
	3	.174	.188		.201	.169	.924	.015	.101	.089				
	4	.823	.854		.507	.480	.953	.976	.137	.112				
	5	.157	.192		.201	.164	.694	.758	.328	.349				
	6	.485	.507		.857	.848	.469	.509	.660	.622				
	7	.209	.226		.101	.072	.620	.648	.421	.448				
	8	.248	.282		.074	.047	.990	.021	.112	.032				
SW Agr.		.324	.348		.035	.008	.501	.546	.570	.521				

	1	.568	.584	.619	.616	.730	.703	.566	.626
	2	.658	.667	.673	.681	.288	.271	.184	.232
	3	.074	.094	.127	.122	.006	.006	.989	.057
	4	.425	.428	.433	.433	.037	.045	.025	.080
	5	.091	.090	.127	.107	.296	.263	.276	.317
	6	.763	.775	.783	.801	.521	.512	.548	.590
	7	.039	.056	.027	.025	.370	.373	.369	.416
	8	—	—	—	—	—	—	—	—
SW Agr.		.924	.934	.961	.961	.489	.475	.458	.489

	D	✕	R	Means	D	Ⓢ	R	x	✓
				580					
1	40.576	40	.617 ⁸	17.716	17.596	70.598	17.656		
2	36.662	36	.677 ⁶⁰	4.277 ⁸⁰	4.208	36.661	4.244		
3	21.084	21	.124 ⁰⁹⁴	13.006	13.018 ²³	21.089	13.014		
4	19.426	19	.433 ⁴¹³	6.041	6.052	19.420	6.046		
5	19.090	19	.122 ⁰⁹⁸	9.277 ⁸⁰	9.296	19.094	9.288		
6	2.769	2	.792 ⁵⁰	21.516	21.569	2.760	21.542		
7	1.047 ⁸	1	.016 ^{1.016}	0.377 ²	0.392	1.032 ^{1.032}	0.382		
8	—	—	.010	—	—	—	—		
SX Agr.	20.929	20	.961 ³⁶	9.482	9.473	20.932	9.478		

Reduced to 9577
928965

$a = -.0008$ $b = -.0074$ $c = +.0007$ $d = +.0069$ $e = .0014$

$$a = 7.002 \quad b = 7.008 \quad c = +0.004 \quad d = +0.070 \quad e = +0.000 \quad f = -0.015$$

824 me - Is.

	ax	by	Σ	u_x	u_y	Σf	ex	dx
1	+ .106	-.124	+002	-006	-002	.367	+042	+ .318
2	+ .098	-.025	+71	+003	+010	.208	+008	+ .293
6	+ .005	-.157	154	+002	-002	.075	+052	+ .016
7	—	—	-3	+002	-007	—	—	—
SW	+ .0545	-.066	-.015	+ .037	-.029	1.93	+022	+ .064

SW	-0.13	4844	J 28965		J 28971		J 28966	
	χ	y	ΔX	Δy	ΔX	Δy	ΔX	Δy
1 #2	44.6	12.2	-0.19	+292	-142	+320	-081	+370
6+7	1.2	12.7	-0.087	-008	-096	+012	-032	+021
all	45.8	24.9	-0.206	+284	-038	+332	-113	+191
+3	24.4	22.8	-178	+138	-203	+174	-087	+105
2+4	21.4	2.1	-028	+146	-035	+158	-026	+086
	+43.4	-0.56	= -032	+300	-046	+308	-049	+149
	+3.0	+20.7	= -150	-008	-168	+016	-061	+011

SW Aquarii

✓
9

	\rightarrow	\boxtimes	\mathcal{R}	D.	\odot	\mathcal{R}	D.	\boxtimes	\mathcal{R}	D.	\odot	\mathcal{R}	X	Y
I 9577 Oct 5, '93														
1	0.574		.276	2.606		.556	23.210		23.176	10.130		10.167	23.207	10.135
2	2.406		.459	10.633		.524	21.378		21.359	2.097		2.135	21.372	2.044
6	22.625		.219	0048		.096	1.159		1.119	12.682		12.707	1.157	12.684
7	23.784		0.100	12.730		0.389	—		+005	—		-012	—	—
SX Agr	11.832		.036	7.380		.777	11.952		11.936	5.350		5.378	11.957	5.320

I 28965 July 6, '02														
1	.420		.103	.742		.426	23.110		23.151	10.281		10.256	23.116	10.281
2	.196		.312	.778		.401	21.334		21.360	2.245		2.231	21.344	2.250
6	.464		.060	0.338		.855	1.066		1.108	12.685		12.685	1.070	12.686
7	.530		0.952	.023		0.170	—		-010	—		—	—	—
SX Agr	.638		.871	.581		.590	11.892		11.919	5.442		5.420	11.898	5.438

I 28971 July 8, '02														
1	0.851		.221	.223		.063	23.099		23.101	10.295		10.342	23.100	10.297
2	.611		.455	.255		.022	21.339		21.335	2.263		2.301	21.337	2.262
6	.887		.176	0.813		.431	1.063		1.056	12.705		12.710	1.060	12.706
7	.950		0.120	.518		0.721	—		—	—		-002	—	—
SX Agr	.042		.024	.073		.193	11.908		11.904	5.445		5.472	11.906	5.447

I 28966 July 6, '02														
1	0.174		.806	.258		.375	23.157		23.146	10.199		10.239	23.152	10.219
2	.971		.992	.286		.347	21.360		21.332	2.171		2.211	21.346	2.190
6	.201		.779	0.720		.829	1.130		1.119	12.737		12.793	1.124	12.715
7	.331		0.660	.457		0.136	—		—	—		—	—	—
SX Agr	.390		.593	.262		.552	11.941		11.933	5.195?		5.416	11.937	5.406

1855

20^h 30^m 43^s - 3 23.7 9.4

See P192

San Fernando Astrophotographic zone - 3°

Plate 2065

Center 20^h 36^m - 3°

Comp Star	No	Mag.	x	y	x ₀	y ₀	x _c	y _c
1	32	9.5	-55.3897	+16.0652	-55.0020	+15.9530	—	2.7299
2	39	10.0	-51.1798	+11.1572	-50.8215	+11.0792	4.1805	7.6037
3	40	10.0	-51.1212	+8.4984	-50.7633	+8.4391	4.2387	10.2438
4	56	10.4	-47.9951	+5.7163	-47.6591	+5.6765	7.3429	13.0064
5	86	10.1	-42.8797	+18.8144	-42.5796	+18.6829	12.4224	—
6	108	10.6	-39.2895	+11.8232	-39.0145	+11.2440	15.9875	7.4389
7	132	10.2	-36.6987	+14.1652	-36.4418	+14.0662	18.5602	4.6167
8	156	9.8	-31.8186	+16.9440	-31.5959	+16.8255	23.4061	1.8574
44	74	10.1	-44.8384	+14.5338	-44.5246	+14.4541	10.4774	4.2288

x:125 y:125 Auto films. x y 398.4023 116.4205 96.6157 51.7256
 495.0180 168.1461
 9(A): 495.0180 168.1461

See P192

	x	y	x	y	x	y
1	—	3.412	—	-124	5.2	3.5
2	5.226	9.505	+36	+47	5.2	9.5
3	5.298	12.805	-12	+107	5.3	12.7
4	49.179	16.258	+9	+202	9.2	16.0
5	15.528	—	+338	—	15.2	—
6	19.984	9.299	+306	+219	19.7	9.1
7	23.200	5.771	+412	+213	22.8	5.6
8	29.258	2.322	+602	+210	28.7	2.1
AAH	13.097	5.286	+231	+58	12.9	5.2

$a = +0.10$
 $b = -0.288$
 $c = +0.289$
 $d = +0.007$
 $e = +0.0026$
 $f = +0.003$

$8c = \begin{cases} +1691 \\ -1061 \\ +1684 \end{cases}$
 $8c = +2314$
 $c = +2822$

$8f = \begin{cases} +884 \\ -743 \\ -152 \end{cases}$
 $8f = +0.0028$

$36.1b = \begin{cases} -1013 \\ -27 \end{cases}$
 $36.1b = -1040$
 $b = -0.288$

$36.1e = \begin{cases} +236 \\ -191 \end{cases}$
 $36.1e = +95$
 $e = +0.0026$

$126.0a = 13.392$
 $126.0a = 13.392$

$a = +0.10$
 $d = +0.0070$

	ax	+by	+c	Σ	dx	+ey	+f	Σ
1	—	—	—	—	—	—	—	—
2	+52	-150	+191	+36	+9	—	—	+8
3	+53	-366	-24	+37	+33	—	—	+69
4	+92	-461	-80	+64	+42	—	—	+105
5	+152	—	+441	+106	—	—	—	+105
6	+197	-262	+224	+138	+24	—	—	+161
7	+228	-161	+356	+160	+15	—	—	+174
8	+287	-61	+515	+201	+5	—	—	+205
AAH	+129	-150	+268	+090	+13	—	—	+102

see next page

A A Aquilae

11

MC 23606

pr. D fol. ∇ pr. R fol. pr. D fol. \odot pr. R fol. See Book I p. 8
 Sept. 1-2, 1928 0.201 1.248 2 .268 2 .214 13.192 13.194 4.287 4.250

2 5.392 6.429 .081 .028 7.289 7.305 10.231 10.193

3 5.507 6.549 .966 .923 4.033 4.074 13.462 13.422

4 9.360 10.413 .126 .072 0.672 0.701 16.807 16.785

5 15.381 16.441 .064 .006 16.730 16.758 0.773 0.746

6 19.858 20.926 .610 .538 7.655 7.705 9.880 9.830

7 22.883 24.026 .469 .425 11.192 11.209 6.361 6.343

8 28.850 29.900 .600 .549 14.624 14.650 2.917 2.887

AA Aql. 13.059 14.113 .396 .353 11.502 11.546 6.006 5.964

Differences

1 — — — — 3.538 3.514 3.514 3.504

2 5.191 5.181 .187 .186 9.441 9.453 9.458 9.447

3 5.306 5.301 .302 .291 12.697 12.684 12.689 12.676

4 9.159 9.165 .142 .142 16.058 16.057 16.034 16.039

5 15.180 15.193 .204 .208 — — — —

6 19.657 19.678 .658 .676 9.075 9.053 9.107 9.084

7 22.782 22.778 .900 .789 5.538 5.549 5.588 5.597

8 28.649 28.692 .668 .665 2.106 2.108 2.144 2.141

AA Aql. 12.858 12.865 .872 .861 5.228 5.212 5.233 5.218

	D	∇ R	Mean D	\odot R	X	Y	Mean of 2 MCs	\bar{y}
1	—	—	—	—	—	—	—	—
2	5.186	5.186 ³	1	3.526 ³³	3.509	3.526	—	3.536
3	5.303 ⁴	5.296 ³⁰⁸	2	9.447 ⁶⁴	9.452	5.193	9.462	5.190
4	9.162	9.142 ⁵⁹	3	12.690 ⁹⁴	12.682	5.304 ¹⁰	12.698	5.310
5	15.186	15.206 ¹⁸⁶	4	16.058 ⁰³⁸	16.036	9.166	16.054	9.170
6	19.668	19.667 ⁶⁶⁸	5	— ⁰¹²	—	15.192	—	15.190
7	22.779 ⁸⁰	22.794 ⁷⁸⁷	6	9.064 ⁷²⁶	9.095 ⁶¹	19.674	9.074	19.678
8	28.650	28.666 ⁵¹	7	5.543 ⁰⁹⁷	5.592	22.790	5.558	22.788
AA Aql.	12.861 ²	12.866 ⁵⁸	8	2.107 ²¹⁹	2.142	28.656	2.108	28.656
			AA Aql.	5.220	5.225 ⁶	12.866	5.226	12.866

I₀ to Mes

Mean of 2 Mes.	$\frac{1}{2}x$	$\frac{1}{2}y$	I ₀	I ₀ to Mes	x	y	x	y
1 3.536	+003	3.568	+3	+32	0	3.5	-17	+46
2 5.190 9.458	5.170	9.472	-20	+14	5.2	9.5	+8	+27
5 15.190	15.183	+007	-7	+7	15.2	-	-25	+73
6 19.678 9.080	19.677	9.100	-1	+20	19.7	9.1	+39	+18.2 + 3.5
AAApl 12.866 5.228	12.868	5.246	+2	+18	12.9	5.2	+34	+24.9 + 18.6

$$\begin{aligned}
 a &= +0.006 \\
 b &= -0.0021 \\
 c &= -0.0004 \\
 d &= -0.0021 \\
 e &= +0.0001 \\
 f &= +0.18
 \end{aligned}$$

$$I + 29.7a - 2.4b = +9 - 19$$

$$II + 9.7a + 15.1b = -31 - 5$$

$$III + 29.1a + 45.3b = -51 - 15$$

$$-48.2b = +102 - 134$$

$$\begin{aligned}
 4c &= \begin{cases} -25 \\ -24 \\ +46 \end{cases} \\
 4c &= -0.003 \\
 c &= -0.00075
 \end{aligned}$$

$$\begin{aligned}
 b &= \frac{-0.012}{-0.0021} = +5.714 \\
 e &= +0.0001 \\
 9.7a &= \begin{cases} -31 \\ +37 \end{cases} \\
 9.7a &= +0.006 \\
 a &= +0.0006 \\
 f &= +0.024
 \end{aligned}$$

$$\begin{aligned}
 4f &= \begin{cases} +73 \\ +84 \\ -22 \end{cases} \\
 4f &= +135 \\
 f &= +0.034
 \end{aligned}$$

omit	ax	by	c	Σ	dx	ey	f	Σ
1	-	-7	-8	-8	-	0	+34	+34
2	+3	-20	-18	-18	-11	+1	+24	+24
5	+9	-	+8	+8	-32	-	+2	+2
6	+12	-19	-8	-8	-41	+1	-6	-24
AAApl	+8	-11	-4	-4	-27	+1	+8	+8

μ _x	μ _y
1 +008	+008
2 -008	-008
5 -007	-008
6 +009	+007
AAA +008	+001

These have opposite signs from P.M.
Interval = 33 yrs.
Scale of M.C.s

μ _x	μ _y
1 -10	-2
2 +2	+10
5 -15	-5
6 +6	-26
AAA -6	-26

and the difference between the I₀ and Mes. better than this method?

Comb. of M.C.s & Acl.

$$+66.7a - 24.9b = +1625 + 400$$

$$-27.3a + 36.1b = -1013 + 286$$

$$II 2.44 - 66.6a + 88.1b = -847 + 1096$$

$$+63.2b = -847$$

$$b = \frac{-134}{6} = -0.0173$$

$$-27.3a = -1013 + 484$$

$$a = \frac{-529}{-27.3} = +19.4$$

$$-27.3d = +288$$

$$d = \frac{-1013}{-27.3} = +37.1$$

$$\begin{aligned}
 8f &= \begin{cases} +884 \\ -1315 \\ -1012 \end{cases} \\
 8f &= -180 \\
 f &= -0.0225
 \end{aligned}$$

$$\begin{aligned}
 8c &= \begin{cases} +1691 \\ -2058 \\ +784 \end{cases} \\
 8c &= -180 \\
 c &= -0.0225
 \end{aligned}$$

ax	by	c	Σ	dx	ey	f	Σ
1	-	-47	+52	+5	-	+061	-180
2	+101	-127	+26	+64	+164	-	+48
3	+103	-170	-15	+66	+220	-	+107
4	+179	-214	+17	+114	+277	-	+211
5	+295	-	+347	+189	-	-	-9
6	+382	-122	+312	+244	+157	-	+221
7	+443	-75	+420	+283	+97	-	+200
8	+557	-28	+581	+356	+36	-	+212
AAApl	+250	-70	+133	+160	+90	-	+70

μ _x	μ _y
1 +5	+5
2 -10	-1
3 +3	0
4 +8	+1
5 +11	+9
6 +6	-2
7 +8	+13
8 -21	-2
AAApl	-12

From JS $\mu_a = +0.022 \mu_s = +0.03$

From Acl $\mu_a = \mu_s =$

AA Aquilae

MC 22561
June 6-7, 1927

	prec.	D	fol.	prec.	R	fol.	prec.	D	fol.	prec.	R	fol.
1	0.412		.610	.840		.649	.977		.011	.582		.556
2	.636		.826	.625		.435	.100		.138	.486		.447
3	.797		.970	.490		.298	.848		.883	.720		.684
4	.667		.872	.612		.410	.528		.568	.040		.997
5	.568		.777	.683		.488	.597		.644	.0973		.920
6	.131		.334	.137		.938	.591		.594	.046		.989
7	.214		.403	.051		.863	.092		.133	.487		.450
8	.046		.257	.201		.005	.556		.593	.007		.972
AAAd	.302		.475	.962		.780	.365		.403	.218		.182

Differences

1	—	—	—	—	.620	.633	.609	.636
2	.224	.216	.215	.214	.497	.508	.513	.527
3	.385	.366	.350	.351	.749	.761	.747	.764
4	.255	.262	.228	.239	.069	.076	.067	.077
5	.156	.167	.157	.161	—	—	—	—
6	.719	.724	.703	.711	.056	.050	.667	.669
7	.804	.793	.789	.786	.585	.511	.514	.530
8	.634	.641	.639	.644	.041	.051	.034	.052
AAAd	.890	.865	.878	.869	.282	.241	.245	.262

	D	R	mean	D	R	X	Y	reduced to MC 23606 from graph	ΔX	ΔY	μX	μY
1	—	—	+002	3.626	3.622	—	3.624	—	+0.088	+0.003	000	—
2	5.220	5.214	.27	9.502	9.520	5.222	9.511	+0.029	+0.048	+0.006	-0.009	—
3	5.372	5.356	.69	12.755	12.755	5.370	12.755	+0.061	+0.057	+0.001	000	—
4	9.258	9.234	.59	16.072	16.072	9.258	16.072	+0.092	+0.018	+0.008	-0.017	—
5	15.161	15.159	.155	—	—	15.151	—	-0.035	—	-0.005	-0.001	—
6	19.721	19.767	.19	9.053	9.068	19.714	9.060	+0.045	-0.054	+0.008	+0.011	—
7	22.798	22.798	.793	5.508	5.522	22.794	5.515	+0.004	-0.043	-0.005	000	—
8	28.637	28.641	.642	2.046	2.043	28.638	2.044	-0.018	-0.064	-0.001	+0.009	—
AAAd	12.877	12.873	.877	5.236	5.253	12.876	5.244	+0.010	+0.018	+0.001	+0.003	—

99082 reduced to 97220

	Σx	Σy	Σax	Σay	
1+2	3.1	7.8	+0.20	+0.23	$+17.8a - 2.3b = -.058 - .090$
5+6	20.9	5.5	-.028	-.067	$+ 5.8a + 9.1b = +.026 +.084$
all	24.0	13.3	+0.02	-.044	$-17.4a - 27.3b = -.078 + 150$
1+5	9.1	2.1	-.012	+.003	$-29.6b = -.052 +.060$
2+6	14.9	11.2	+0.14	+.047	$b = +.0046 \quad c = -.0020$
					$+77.0a - 9.2b = -232 - .360$
					$+77.0a = -.206 - 410$
					$a = -.0027 \quad d = -.0053$

+0.002	-.044
+0.0648	+1.272
-0.0612	+0.266
+0.0016	+1.00
$c = +.0004$	+0.25

	ax	by	c	Σ	μ_x	μ_y	Σ	f	ay	dx
1	—	+.0095	+.0004	+0.10	-.010	-.018	+0.21	+0.25	-.004	—
2	-.0085	+.022	—	+0.18	+0.12	+0.22	-.002	1	-.0114	-.0155
3	-.0245	—	—	-.024	+0.12	+0.11	-.023	—	—	-.0482
4	-.0319	+0.0250	—	-.006	-.010	-.015	-.048	—	-.0110	-.0625
AA	-.0208	+0.0147	—	-.005	+0.16	-.003	-.022	—	-.0064	-.0408

	Σax	Σay	
1+2	+0.62	-.120	
5+6	+0.05	-.013	$-.057 + .107$
all	+0.67	-.133	$+0.69 + .003$
1+5	-.001	-.068	
2+6	+0.068	-.065	$-.207 - .009$
			$-29.6b = -.264 + .098$
			$-1228 + .428$
			$+77.0a = -.159 + .431$
			$b = +.0082 \quad c = +.0033$
			$a = -.0020 \quad d = +.0056$

	ax	by	c	Σ	μ_x	μ_y	Σ	f	ay	dx
1	—	+0.017	+0.02	+0.19	-.019	-.025	-.063	-.0559	-.007	—
2	-.006	+0.047	—	+0.43	+0.19	+0.05	-.057	—	-.019	+0.175
3	-.018	—	—	-.016	+0.15	+0.05	-.005	—	—	+0.51-
4	-.0236	+0.045	—	+0.24	-.018	-.005	-.008	—	-.018	0.66
AA	-.0154	+0.26	—	+0.13	-.014	0.001	-.023	—	-.0105	0.43

	Σax	Σay	
1+2	+0.26	+0.18	$-.061 - .065$
5+6	-.035	-.047	$+0.43 - .073$
all	-.009	-.029	$-.129 + .219$
1+5	-.026	+0.22	
2+6	+0.017	-.051	$-29.6b = -.190 + .154$
			$b = +.0064 \quad c = -.0052$
			$a = -.0026 \quad d = -.0043$

	ax	by	c	Σ	μ_x
1	—	+0.0134	-.0104	+0.030	-.003
2	—	—	—	—	—
3	-.02366	—	—	337	+0.08

AA Aquilae

		D	X	R	D	Q	R	D	X	R	D	Q	R	X	Y	AX	AY
I 7220																	
Sept. 30, 1892	1	0.770		12.751	3.748	2.641	—	—	2.162	2.113	—	—	—	2.138			
	2	3.867		9.673	0.224	6.262	3.097	3.078	5.689	5.674	3.088		5.682				
	5	9.876		3.632	5.910	0.528	9.106	9.179	—	—	9.112		—				
	6	12.601		0.955	0.450	6.022	11.831	11.796	5.460	5.494	11.814		5.477				
AA Apr.		8.500		5.035	2.752	3.676	7.730	7.716	3.158	3.148	7.723		3.153				
I 9082																	
Aug. 4, 1893	1	0.354		2.902	1.482	.029	—	—	2.155	2.127	—	—	2.141	—	+003		
	2	.473		.782	0.922	.590	3.117 ⁹	3.120	5.745	5.688	3.118 ²⁰		5.702	+032	+020		
	5	.455		.804	1.637	0.902	9.101	9.098	—	—	9.100		—	-.012	—		
(programming) used 100 ft	6	.200		0.153	.240	.324	11.846	11.749	5.397	5.422	11.798		5.410	-.016	-.067		
AA Apr.		.090		.171	.508	.028	7.736	7.731	3.129	3.126	7.734		3.128	+011	-.025		
I 13542																	
Sept. 30, 1895	1	0.571		2.382	.981	.115	—	—	2.089	2.051	—	—	2.070	—	-.068		
	2	.660		.230	.917	.672	3.149	3.152	5.653	5.608	3.150		5.630	+062	-.052		
	5	.618		.267	.070	0.064	9.107	9.115	—	—	9.111		—	-.001	—		
	6	.1326		0.558	0.593	.514	11.815	11.824	5.477	5.450	11.820		5.464	+006	-.013		
AA Apr.		.247		.673	.948	.201	7.736	7.709	3.122	3.137	7.722		3.130	-.001	-.023		
I 18804																	
Sept. 14, 1897	1	0.393		2.744	.780	.472	—	—	2.182	2.137	—	—	2.160	—	+022		
	2	.502		.626	.282	.016	3.109	3.118	5.680	.675	3.114		5.678	+026	-.004		
	5	.480		.658	.962	0.1335	9.087	9.086	—	—	9.086		—	-.026	—		
	6	.196		0.937	0.538	.72	11.803	11.807	5.424	5.437	11.805		5.430	-.009	-.047		
AA Apr.		.100		.032	.825	.464	7.707	7.712	3.137	3.129	7.710		3.133	-.013	-.020		
I 9082																	
mean		mean		mean		mean			mean		mean						
1	3.104	5.692	3.119	5.679	3.096	5.680	3.102	5.683	5.170	9.472							
5	9.106	—	9.112	+016	9.110	—	9.110	+004	15.183	+007							
6	11.806	5.444	11.817	5.465	11.789	5.454	11.806	5.460	19.677	9.100							
AA Apr.	7.728	3.140	7.722	3.154	7.710	3.143	7.721	3.148	12.868	5.246							

029
1032
0692143
046

c.s.b.

21^h 28^m 49^s + 2° 35' 11" 10.9 - 12.6Algiers Plate 2197 + 2° 21^h 28^m Sep 28, 1909.See also P. 174
2 156

Comparison

			x	y	x	y
1	141	9.5	+28.2753	+40.1087	—	19.8069
2	149	10.2	+36.2799	+48.8531	2.0046	11.0625
3	156	10.8	+43.6407	+59.9156	15.3654	—
4	157	10.4	+43.9583	+49.3391	15.6830	10.5765
5	167	10.7	+48.4071	+34.7522	20.1318	25.1634
6	166	10.8	+47.2098	+28.9297	18.9345	30.9859
7	177	10.7	+55.1013	+53.5821	26.8260	6.3335
8	183	10.4	+58.3367	+46.5251	30.0614	13.3905
SX	165	10.1	+46.9443	+47.4763	18.6690	12.4393

Ans. x 1.2

XX1.2

y

Astrophys. & Mech.

x

y

x

y

Δx

Δy

1	—	23.768	Δx +0.002	Δy -0.060	—	23.7	+47.9	99.7	+10.83	+80	+71
2	9.606	13.275	+237	-21	9.8	13.2	116.2	92.7	+11.53 +16.65	+1647	+1647
3	18.438	—	+506	+0.15	18.9	—	164.1	142.4	+22.36 +22.48	+1727	+1718
4	18.820	12.623	+338	+137 +146	19.2	12.8	213.44	180.6	33.9	+1610	+462 +453
5	24.15.8	30.196	+154	+395	24.3	30.6	83.5	10.85	+638	+1265	
6	22.709	37.183	+9 +21	+447	22.7	37.6					
7	32.191	7.606	+529	+322	32.7	7.9	+68.3a	+43.0b	+4082	+1.567	
8	36.074	16.069	+461	+483	36.5	16.6	+29a	+74.6b	+984 -972	+803	
SX Agr.	22.403	14.926	+327	+236	22.7	15.2	-102.45a	+64.5b	-123	-2.3505	

I discovered that B. should be 721 after I had made the reduction so it is big enough to make much difference

a	+0.110	ay	+64	+c	Σ
b	-0.155				
c	+0.3312	1	-368	+331	-0.037
d	+0.0156	2	+0.08	-205	+234
e	+0.0006	3	208	—	+839
f	-0.14	4	-211	-199	+342
		5	267	-478	+123
		6	322	-584	+069
		7	360	-122	+569
		8	401	-259	+474
		SX Agr.	250	-236	+345

see next page

a	+0.110
d	+0.156
64.6b	= -972 + (-0.0319)
64.6b	= -1003.9
b	= -0.155
64.6a	= +0.83 + (-0.45)
64.6a	= +0.38
c	= +0.0006
64.1a	+142.4b +8c = +224.8
8c	= +2.650
c	= +0.3312
8f	= 2.248 + (-2.560)
8f	= -0.112
f	= -0.14

MC 24346 July 11-12, 1929
MC 22689 Sept 15-16, 1927

		D		R		D		R	
		pr.	ft.	pr.	ft.	pr.	ft.	pr.	ft.
O.D.B.									
1	0.410	1.463	h.508	h.438	24.719	24.197	.671	.605	
2	10.243	11.316	.660	.598	13.675	13.750	.152	.080	
3	19.351	20.403	.548	.496	0.441	0.494	.395	.341	
4	19.580	20.615	.343	.300	13.262	13.330	.574	.502	
5	24.710	25.768	.182	.122	31.024	31.081	.803	.752	
6	23.109	24.132	.709	.668	38.051	38.130	0.761	0.700	
7	33.124	34.190	.790	.723	8.344	8.413	.471	.411	
8	36.941	37.983	.970	0.918	16.944	17.001	.806	.704	
SX Agr.	23.164	24.189	.780	.730	15.591	15.650	.246	.180	

Differences

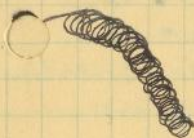
1	—	—	—	—	12.678	23.703	.724	.736	
2	9.833	9.853	.848	.840	13.234	13.256	.243	.261	
3	18.941	18.940	.960	.942	—	—	—	—	
4	19.170	19.152	.165	.138	12.821	12.836	.821	.839	
5	24.300	24.305	.326	.316	30.583	30.587	.592	.589	
6	22.849	22.669	.799	.770	37.610	37.636	.634	.641	
7	32.714	32.727	.718	.715	7.903	7.919	.924	.930	
8	36.531	37.520	.538	.520	16.503	16.517	.589	.637	
SX Agr.	22.754	22.726	.728	.708	15.150	15.156	.149	.161	

D		R Means		D		R		Final	
		Take means		Take means					
1	—	—	23.690	.730	—	—	23.710		
2	9.843	.844	13.245	.252	9.844	13.248			
3	18.940	.951	—	—	18.946	—			
4	19.161	.152	12.823	.830	19.156	12.829			
5	24.302	.321	30.585	.590	24.312	30.588			
6	22.684	.784	37.623	.638	22.734	37.630			
7	32.720	.716	7.911	.927	32.718	7.917			
8	36.526	.529	*16.510	.614	36.528	16.562			
SX Agr.	22.740	.718	15.153	.155	22.729	15.154			

*manuscript

$$\begin{array}{r}
 = 68.3 \\
 \mp + 2.9 \\
 \text{I} \times 1.73 \quad -118.16 \\
 \hline
 -115.3
 \end{array}$$

2



$$\begin{array}{r}
 47.9 \quad 49.7 \quad +1083 \quad +8 \\
 116.2 \quad 92.7 \quad +1153 \quad +164 \\
 164.1 \quad 142.4 \quad +2238 \quad +172 \\
 80.6 \quad 33.9 \quad +1610 \quad +462 \\
 88.5 \quad 108.5 \quad +626 \quad +126
 \end{array}$$

$$\begin{array}{l}
 \text{I} \quad +68.3a + 33.0b = +0.70 \quad +1.567 \\
 \text{II} \quad 2.9a + 74.6b = -984 \quad +803
 \end{array}$$

$$\begin{array}{r}
 164.1a \\
 +1.5
 \end{array}$$

$$\begin{array}{r}
 \text{I} \times 1.73 \quad -118.16a - 74.4b = -0.1211 \quad +2710 \\
 -49.86a - 986b = - \\
 -115.26a = -1.1051 \quad -1.907 \\
 a = +0.0096 \\
 b = +0.0165
 \end{array}$$

164

$$\begin{array}{r}
 +2784 + 74.6b = -984 \\
 74.6b = -1.2624 \\
 b = -0.0169 \\
 74.6b = +803 + (-0.04875) \\
 74.6b = +754.25 \\
 b = +0.0101
 \end{array}$$

$$\begin{array}{r}
 164.1a + 42.4b + 8c = +2236 \\
 8c = +1378 \\
 c = +1722
 \end{array}$$

$$\begin{array}{r}
 164.1a + 42.4b + 8f = +1727 \\
 8f = +1.727 + c \\
 8f = -1.409 \\
 f = -0.1761
 \end{array}$$

Atelopus 5 MCs

μf	μf
1 -12	+3
2 -3	-9
3 -2	+5
4 +1	+4
5 +9	-13
6 -25	-6
7 -6	+4
8 +8	-11

SX Apr -11 +9 Sec 175
 2000
 1000
 0000

Use another M C plate.

See same book p. 153

21

MC 22696 Sept 16/17

	for	D	for	R	for	S X Again	for	(4)	for	
c.o.d.	1	0.354	2.010	38.524	36.869	24.049	24.170	14.505	14.456	N
	2	10.270	11.919	26.616	26.958	13.813	13.892	25.023	24.942	.3
	3	19.354	21.008	19.450	17.795	0.586	0.648	38.272	38.206	.7
	4	19.580	21.260	19.301	17.631	13.408	13.480	25.456	25.379	.5
	5	24.634	26.304	14.245	12.568	31.209	31.282	7.665	7.598	.6
	6	23.043	24.697	15.749	14.086	38.237	38.308	0.624	0.553	5
	7	33.160	34.827	5.717	4.555	8.534	8.611	30.356	30.283	
	8	36.933	38.594	1.948	0.290	17.170	17.240	21.728	21.655	
S X Apr.	23	152	24.804	15.741	14.088	15.751	15.823	23.123	23.043	

Differences

1	—	—	—	—	23.463	23.522	23.767	23.756	
2	9.916	9.909	9.908	9.911	13.227	13.244	13.249	13.264	
3	19.004	18.998	19.074	19.074	—	—	—	—	
4	19.226	19.250	19.223	19.238	12.822	12.832	12.816	12.827	
5	24.280	24.294	24.279	24.301	30.623	30.634	30.607	30.608	
6	22.689	22.687	22.775	22.783	37.651	37.660	37.648	37.653	
7	32.806	32.817	32.807	32.814	7.948	7.963	7.916	7.923	
8	36.579	36.584	36.576	36.579	16.584	16.592	16.544	16.551	
S X Apr.	22.798	22.794	22.783	22.781	15.165	15.175	15.149	15.163	

	D	R	Means	(4)	R
1	—	—	1	6	23.758
2	9.912	9.904	2	13.235	13.256
3	18.999	19.001	3	—	—
4	19.238	19.230	4	12.827	12.825
5	24.287	24.296	5	30.628	30.608
6	22.688	22.779	6	37.655	37.650
7	32.812	32.810	7	7.955	7.949
8	36.581	36.578	8	16.588	16.548
S X Apr.	22.796	22.787	15.170	15.156	

Stars 3 & 6 off
line of others

X near edge of field, machine ran irregularly - measure of no value.

	I 13838 red by 5 I 9876	I 16177 red by 5 I 9876	I 18809 red by 5 I 9876	Means of 4 plates
	\bar{x} \bar{y}	\bar{x} \bar{y}	\bar{x} \bar{y}	\bar{x} \bar{y}
2	+0.07 7.953	+0.02 7.939	-0.02 7.950	-0.01 7.948
3	5.476 +0.04	5.463 +0.18	5.476 0.08	5.473 +0.08
5	8.660 18.361	8.651 18.342	8.658 18.369	8.656 18.352
7	13.724 4.749	13.730 4.767	13.725 4.756	13.726 4.760
SX Apr	7.741 9.079	13.739 9.078	7.747 9.087	7.742 9.080

$\frac{x}{6}$ $\frac{y}{6}$

2 -0.02 13.247

3 9.122 +0.03

5 14.427 30.587

7 22.877 7.933

SX Apr 12.903 15.133

	I 13838 red by 5 I 9876	I 16177 red by 5 I 9876	I 18809 red by 5 I 9876	Means of 4 plates
	\bar{x} \bar{y}	\bar{x} \bar{y}	\bar{x} \bar{y}	\bar{x} \bar{y}
	+0.07 7.953	0.000 7.950	-0.01 7.950	+0.02 7.951
	5.476 -0.004	5.450 +0.019	5.476 +0.006	5.470 +0.007
	8.660 18.361	8.648 18.338	8.654 18.364	8.654 18.350
	13.730 4.749	13.734 4.755	13.726 4.748	13.729 4.755
	7.749 9.080	7.738 9.077	7.748 9.082	7.744 9.080
	$\frac{x}{6}$ $\frac{y}{6}$	Mean \bar{x} \bar{y}	\bar{x} \bar{y}	
		$\bar{x} = 9.543$ \bar{y}	\bar{x} \bar{y}	

2 +0.08 13.252

3 9.117 +0.012

5 14.425 +30.583

7 22.882 7.926

SX 12.907 15.133

— 13.254 -0.03 +0.02

9.101 +0.015 -0.016 +0.03

14.469 30.591 +0.046 +0.008

22.877 7.922 -0.005 -0.003

12.887 15.162 -0.020 +0.029

$$\begin{aligned}
 +28.3a + 25.2b &= +0.600 \\
 +17.5a - 36.0b &= -0.064010 \\
 a &= +0.0004 \\
 b &= +0.0019 \\
 c &= -0.0245 \quad f = +0.0020
 \end{aligned}$$

	μ_x	μ_y
2	-0.05	+0.01
3	+0.05	+0.03
5	+0.05	+0.02
7	-0.05	+0.03
SX	-0.030	+0.026

Scale $m \text{ @ } 90'' = 1''$

Int = 1896.0 to 1929.5 = 33.5 yrs.

$\mu_x = -0.081$ $\mu_y = +0.070$

Are these accurate enough
to be worth while?
Only 20 yrs for astrog.
4 comp stars for 25

SX Aquarii

23

29876 Nov. 2, 1893

	D	R	D	R		D	R	D	R	Final	
c.o.8											
2	0.517	0.035	8.426	4.80	—	+0.07	7.951	7.950	+0.04	7.950	
3	5.994	0.588	0.475	0.443	5.477	5.447	—	5.476	+0.08		
5	9.172	.358	18.812	0.136	8.655	8.677	18.337	18.307	8.654	18.336	
7	14.245	0.326	5.243	.733	13.728	13.709	4.768	4.770	13.726	4.768	
SX Agr.	8.265	.307	9.547	.382	7.748	7.728	9.072	9.061	7.740	9.078	

I13838 Nov. 21, 1892

	D	R	D	R		D	R	D	R	Final	ΔX	Δy
					Take means							
2	0.579	0.657	.007	.128	—	8.002	7.967	—	8.002	—	-4	+52
3	.004	.238	0.005	0.095	5.425	5.419	—	5.422	.008	—	-54	-8
5	.290	.948	0.346	0.736	8.711	8.709	18.341	18.359	8.710	18.341	+56	+5
7	.290	0.959	.694	.356	13.711	13.698	4.689	4.739	13.704	4.689	-22	-79
SX Agr.	.327	.912	.079	.021	7.748	7.745	9.074	9.074	7.746	9.068	+6	-10

I16177 Dec. 10, 1896

	D	R	D	R		D	R	D	R	Final	ΔX	Δy
					Take means							
2	0.140	0.997	.650	.819	—	7.956	7.922	.008	7.956	—	-4	+6
3	.608	.564	0.694	.741	5.468	5.433	—	5.450	+0.011	—	-26	+3
5	.785	.347	0.016	0.432	8.645	8.650	18.322	18.309	8.648	18.323	-6	-13
7	.867	0.255	.422	.020	13.737	13.742	4.728	4.721	13.734	4.727	+8	-41
SX Agr.	.873	.254	.748	.685	7.733	7.743	9.054	9.056	7.738	9.064	-2	-14

I18809 Sept. 14, 1897

	D	R	D	R		D	R	D	R	Final	ΔX	Δy
					Take means							
2	0.140	0.912	.900	.328	—	8.017	7.998	—	8.008	—	-4	+58
3	.542	.497	0.883	.326	5.402	5.415	—	5.408	—	—	-68	-8
5	.896	.148	.226	0.020	8.756	8.764	18.343	18.306	8.760	18.324	+106	-12
7	.836	0.213	.538	.686	13.696	13.699	4.655	4.640	13.698	4.648	-28	-120
SX Agr.	.902	.153	.949	.288	7.762	7.759	9.066	9.038	7.760	9.052	+20	-26

24

Sept

1855

12^h 10^m 55^s +70° 19' 0"

Greenwich w.I. +64° to +72°

Plate 2531

12^h 20^m +70°

1895 Apr 11

Plate 4377 1899 Mar 14

12^h 12^m +71°

Comp *	Aster	x	y				
P. 581	33						
5225-5242	5225	16	4.0856	16.3544	13	12.1381	4.3090
P. 479					9	12.9998	5.1893
4887-4894	5241	11	4.9773	17.2068	35	15.2012	22.2642
	4887	22	4.6743	10.2206	30	16.9803	23.7231
TSB 70° 692 9.5	4889	21	6.5147	11.5994	14	15.1250	3.8423
	5230	16	7.0601	15.7943	15	18.4460	5.3154
	5242	15	10.4245	17.1614	27	22.9711	23.9940
	4894	17	12.5101	11.6178	17	21.6012	2.4812
	5227	18	13.4859	14.2291	20	15.0218	2.7207
SW	5225	22	6.9163	14.6741			

Plate 3964
1898 Apr 18

4377

3964

4377

			x	y		
1	5233	16	4.0856	16.3544	5.7803	0.8524
2	4895	4	4.1152	11.9869	5.7507	5.2199
3	5241	11	4.9773	17.2068	4.8886	—
4	5234 4889	33	6.6024	16.8197	3.2635	0.3871
5	4889	21	6.5147	11.5994	3.3512	5.6074
6	5230	16	7.0601	15.7943	2.8058	1.4125
7	4890	4	9.6297	11.1502	0.2362	6.0566
8	5231	6	9.8659	15.2532	—	1.9536
SW	5225	22	6.9163	14.6741	2.9496	2.5327

	x	y	Aster	8 Mes.	x	y
1	35.549	5.242	-49	+20	35.5	5.3
2	35.367	32.102	-413	-102	35.4	32.0
3	30.065	—	+19	-4	30.1	0
4	20.071	2.381 23.807	+73	-135	20.1	2.5
5	20.610	34.486	-382	-353	20.2	34.1
6	17.256	8.687	+2	-173	17.3	8.5
7	14.526	37.248	-337	-514	14.2	36.7
8	—	12.015	+2	-427	0	11.6
SW	18.140 7.476	15.576	-124	-222	18.0	15.4

120.2	39.8	-370	-223
38.7	90.9	-713	-1467
158.9	130.7	-1083	-1690
103.0	16.3	+45	-292
55.9	114.4	-1128	-1398

I	-81.5a + 51.1b = -343	-1243
II	-48.1a + 98.1b = -1173	-1106
I.172	-156.5a + 98.1b = -659	-2387
II	-108.4a = +514	-1281

(continued next page)

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26

$$\begin{aligned}
 a &= -.0047 \\
 b &= +.0143 \\
 c &= -.2756 \\
 d &= +.0118 \\
 e &= -.0055 \\
 f &= -.355
 \end{aligned}$$

$$-108.4a = +.514 \quad | -1.281$$

$$\begin{aligned}
 a &= -.0047 \\
 d &= +.0118 \\
 +98.1b &= \begin{cases} -1173 \\ -226 \end{cases} + 98.1e = \begin{cases} -1106 \\ +568 \end{cases} \\
 +98.1b &= -1399. \quad e = -.0055 \\
 b &= +.0143
 \end{aligned}$$

$$8c = \begin{cases} -1083 \\ +747 \\ -1.869 \end{cases}$$

$$8c = -2205$$

$$c = -.2756$$

$$9f = \begin{cases} -1690 \\ -1875 \\ +.719 \end{cases}$$

$$8f = -2840$$

see below.

h.B

$$dx + by + c \quad \Sigma \quad dx + ey + f \quad \Sigma \quad f = -.355$$

The y's of both
stars and I a fit
fairly well, but
x's of both are
all off.

1	-167	+076	-276	-267	+419	-29	-355	+75
2	-162	+458		+20	+407	-171		-119
3	-142			-418	+356			+1
4	-.094	+036		-364	+237	-14		-132
5	-.095	+488		+117	+238	-188		-305
6	-.081	+123		-234	+202	-47		-200
7	-.006	+525		+243	+014	-201		-542
8		+166		-110		-64		-419
SW	-.085	+220		-141	+212	-85		-228

x	y	Δx	Δy	Σx	Σy	$\Sigma \Delta x$	$\Sigma \Delta y$
1 35.5	5.3	-.049	+020	1.4	120.7	39.5	-1370
2 35.0	32.0	-.413	-.102	5.8	38.6	90.9	-713
3 30.1		+019	-.004				
4 20.1	2.2	+073	-185	all	159.3	130.4	-1083
5 20.2	24.1	-382	-353	143146	103.0	16.0	+045
6 17.3	8.5	+002	-173	245148	56.3	114.4	-1.128
7 1.1	36.7	+335	-514				-1.396
8	11.6	+002	-427				

$$\begin{aligned}
 +82.1a - 51.4b &= +.343 & +1246 \\
 +46.7a - 98.4b &= +1.173 & +1.104
 \end{aligned}$$

$$\begin{aligned}
 a &= -.0047 & d &= +.0116 \\
 b &= -.0142 & e &= -.0057 \\
 c &= +.1895 & f &= -.3474
 \end{aligned}$$

$$SW \ 18.0 \ 16.4 \ -124 \ -222$$

	ax	by	c	Σ	μx	μy	Σ	f	ey	dx
1	-.167	-.075	+189 ⁵	-042	-.007	-.014	+034	-347 ⁵	-.030 ⁵	+412
2	-.165	-.454		-430	+017	+023	-125		-184	+406
3	-.141 ⁵			+048	-.029	-.005	+001			+349
4	-.094 ⁵	-.031		+064	+009	-.007	-128		-.013	+233
5	-.095	-.484		-390	+008	-.045	-310		-196 ⁵	+234
6	-.081	-.121		-12	+014	+022	-195		-.049	+201
7	-.005	-.520		-335	000	+031	-545		-211	+013
8		-.164 ⁵		+025	-.023	-.014	-410		-.065 ⁵	
SW	-.084 ⁵	-.219		-114	-.010	+005	-227		-.088 ⁵	+209

SW Decans

MC 24071 Feb 10-11, 19	km	D	ft	km	D	ft	km	D	ft	km	D	ft
40.8.	0.252	0.910	W, 400	0.731	5.908	5.977	.610	.580				
	0.820	1.486	.873	.207	32.653	32.725	.908	.849				
	5.640	6.300	.882	.239	0.685	0.720	W, 893	.856				
	15.606	16.274	.028	.370	2.941	2.972	.640	.601				
	15.545	16.220	.148	.473	34.828	34.853	.771	.742				
	18.505	19.178	.160	.498	9.222	9.258	.392	.351				
	34.561	35.258	.005	.332	37.420	37.440	.160	0.130				
	35.765	36.434	Q, 898	8.248	12.277	12.368	.285	.230				

SW Dec	17.761	18.422	.4930	.266	16.051	16.091	.540	.510
--------	--------	--------	-------	------	--------	--------	------	------

Differences

Mean H₂ MC plate

									x	y
1	35.513	35.524	.502	.483	5.223	5.252	.283	.276	35.500	5.262
2	34.945	34.948	.975	.959	31.968	32.005	.985	.007	34.954	32.000 31.998
3	30.125	30.134	.984	.991	—	—	—	—	30.084	-.004
4	20.159	20.190	.130	.122	2.256	2.252	.253	.255	20.144	2.246
5	20.220	20.214	.250	.225	34.143	34.133	.122	.114	20.228	34.133
6	17.260	17.256	.262	.250	8.537	8.538	.501	.505	17.258	8.514
7	1.204	1.176	.107	.084	36.735	36.720	.733	.726	1.118	36.734
8	—	—	—	—	11.592	11.588	.608	.626	+0.02	11.588

SW Dec	18.004	18.012	.032	.018	15.386	15.371	.353	.346
	Take means	Take means	Take means	Take means				
	D	Q	K	Q	D	Q	K	

Finally

MC 23884 and by graph to MC

1	35.518	.492	5.238	.280	35.505	5.259	35.496	5.266
2	34.946	.967	31.986	.986	34.956	31.991	34.953	32.008
3	30.130	.988	—	—	30.059	—	30.110	-.008
4	20.160	.126	2.254	.254	20.145	2.254	20.144	2.237
5	20.217	.238	34.138	.118	20.228	34.128	20.228	34.138
6	17.258	.256	8.538	.503	17.257	8.520	17.258	8.507
7	1.190	.096	36.728	.730	1.143	36.729	1.094	36.738
8	—	—	11.590	.617	—	11.604	+3	11.573

SW Dec	18.008	.025	15.368	.350	18.016	15.359	18.017	15.349
--------	--------	------	--------	------	--------	--------	--------	--------

It looks
little over
43307 per
off in de-
cause of
edge.
Differences
show up
later.

Mean of M.C.			I's to Mean of M.C.		x y					
1	38.496	5.266					120.2	39.8	+362	-7
2	34.953	31.008	1	+273	+165	35.5	5.3	38.7	90.9	-1490 -2705
3	30.110	-0.008	2	-671	+176	34.5	32.0	158.9	130.7	-1128 -2712
4	20.144	2.237	3	+406	-2	30.1	40	103.0	16.3	+1168 -589
5	20.228	34.188	4	+354	-346	20.1	2.5	55.9	114.4	-2296 -2123
6	17.258	8.507	5	+765	-372	20.2	34.1			
7	1.094	36.738	6	+135	-406					
8	+3		7	-860	-918	17.3	8.5	-81.5a + 51.1b		= -1852 -2698
			8	0	-1009	1.2	36.7	-48.1a + 98.1b		= -1128 -1534
SW	18.017		SW	-87	-389	10	11.6	-156.5a + 98.1b		= -3556 -5180

$$\begin{aligned}
 a &= +0.224 \\
 b &= +0.005 \\
 c &= -0.578 \\
 d &= +0.336 \\
 e &= +0.008 \\
 f &= -1.019
 \end{aligned}$$

$$8c = \begin{cases} -1128 \\ -3559 \\ +0.65 \end{cases}$$

$$8c = -4.622$$

$$c = -0.578$$

$$8d = \begin{cases} -2712 \\ -5339 \\ -105 \end{cases}$$

$$8d = -8.156$$

$$d = -1.019$$

$$\begin{aligned}
 a &= +0.224 \\
 b &= +0.336
 \end{aligned}$$

$$+98.1b = \begin{cases} +1.077 \\ -1128 \end{cases}$$

$$+98.1b = \pm -0.51$$

$$b = -0.005$$

$$+98.1e = \begin{cases} +1.534 \\ +1.616 \end{cases}$$

$$98.1e = +0.82$$

$$e = +0.008$$

omit

$$ax + by + c \leq dx + ey + f \leq$$

1	+1.795	-0.033	-578	+214	+1.193	+4	-1.019	+178
2	+1.774	-0.016		+180	+1.159	+26		+136
3	+1.675	-		+97	+1.011	0		-8
4	+1.451	-0.001		-128	+1.676	+2		-341
5	+1.456	-0.017		-139	+1.679	+37		-303
6	+1.388	-0.004		-144	+1.581	+7		-431
7	+1.027	-0.018		-569	+1.040	+29		-950
8	+1.027	-0.006		-584	+1.390	+109		-1.010
SW	+1.403	-0.008		-183	+1.605	+12		-402

$$\begin{aligned}
 \Sigma ax & \quad \Sigma ay \\
 +362 & \quad -0.06 \quad 1-4 \\
 -1490 & \quad -2.708 \quad 5-8 \\
 -1128 & \quad -2.714 \quad \text{all} \\
 +1168 & \quad -593 \quad 1+3+4+6 \\
 -2296 & \quad -2.121 \quad 2+5+7+8
 \end{aligned}$$

$$a = +0.008$$

$$b = -0.0347$$

$$c = +0.04093$$

$$d = +0.0380$$

$$e =$$

$$f = +0.9985$$

$$\mu_x \quad \mu_y$$

1	+0.020	-9
2	+0.002	+17
3	-0.027	+3
4	+5	-10
5	-5	-42
6	+7	+19
7	+2	+40
8	-6	-11

$$SW + 24 \quad +12$$

$$\therefore \quad \therefore$$

$$\text{Lat } 1897.2 \text{ to } 1929.0 = 31.8 \text{ yr.}$$

S W Inauguro

Remaining 2 I plates meas.
p. 103 Cambridge

29

I 3162 Feb. 22, 1891

	D	(X) R		(X) R		(X) R		(X) R		(X) R		(X) R
1.0.8.	1	0.764	.061	3.324	.641	21.165	.199	3.089	.088	21.182	3.078	
#2 too bad image to measure	2	4.054	.764	0.255	2.729	17.875	.902	—	—	17.888	—	
	3	10.020	.802	1.755	.233	11.909	.940	1.500	.496	11.924	1.498	
	4	9.455	.349	20.930	.070	12.474	.487	20.675	.659	12.480	20.687	
	5	11.634	.196	5.550	.441	16.295	.334	5.295	.288	10.314	5.292	
	6	20.860	.914	22.732	0.262	1.069	.052	22.477	.467	1.060	22.472	
	7	21.929	0.862	7.688	.328	—	—	7.433	.401	—	7.417	
RW Dia	8	11.103	.732	9.646	.358	10.826	.870	9.391	.371	10.848	9.381	

I 19785 Dec. 16, 1897

1	0.417	.380	4.052	.940	21.139	¹⁴³ .146	3.060	.056	21.141	3.058	
2	0.172	.652	20.100	.921	21.384	³⁶¹ .388	19.108	.075	21.372	19.092	
3	.748	.031	0.992	2.996	17.808	⁸⁰⁴ .767	—	—	17.806	—	
4	.668	.107	2.559	.433	11.888	⁸⁷⁶ .843	1.567	.563	11.882	1.565	
5	.956	.897	21.702	.320	12.600	⁶⁰⁰ .633	20.710	.676	12.600	20.693	
6	.299	.520	6.363	.436	10.257	²⁷⁵ .258	5.371	.360	10.266	5.356	
7	.370	.492	23.580	0.418	1.186	¹⁸⁸ .228	22.588	.578	1.187	22.583	
8	2.556	0.264	8.557	.420	—	^{+0.012} .887	7.565	.576	+0.06	7.570	
RW Dia	.686	.146	10.452	.541	10.870	⁸⁸⁷ .842	9.460	.455	10.878	9.458	

± 3162 red by graph to I 19785

Mean of 4 I plates

 $\frac{x}{6}$

mean of 4 I plates

1	21.130	3.058	21.136	3.058	35.227	5.097	+2.273	+1.165
2			21.375	19.093	35.625	⁸²² 31.855	-.671	+1.178
3	17.806	+0.06	17.807	+0.01	29.678	-.001	+4.06	-.3
4	11.858	1.556	11.874	1.555	19.670	⁷⁹⁰ 19.670	+3.54	-.346
5	12.589	20.709	12.596	20.703	20.993	3.4505	-7.65	-3.72
6	10.283	5.353	10.274	5.354	17.123	8.923	+1.35	-.409
7	1.187	22.600	1.187	22.591	1.978	37.652	-.860	-.918
8	-0.012	7.554	+0.01	7.558	+0.02	12.597	—	-1.009
RW Dia	10.852	9.438	10.862	9.446	18.103	15.743	-.087	-.389

mean of only 3 plates

$18^h 38^m 15^s + 32^d 39'.2$ 10.7-11.9

Not in Potsdam astrogaphic

MC23484, July 4-5, 1928

R 2 Lyrae

See Book I, p. 27

MC23484, July 4-5, 1928		fr.		✓	R		R 2 hyaline		fr.		fr. (4)	R	
C.D.B	1	0.624	1.373		fr.	fr.	fr.	fr.	fr.	fr.	fr.	fr.	fr.
	1	0.624	1.373		.501	.752	25.764	25.795	.392	.386			
	2	3.750	4.509		.405	.640	20.815	20.890	.328	.324			
	3	12.432	13.188		.751	.995	9.723	9.706	.503	.514			
	4	13.920	14.676		.253	.506	0.815	0.830	.461	.388			
	5	18.542	19.318		.648	.874	6.818	6.818	.402	.414			
	6	26.394	27.160		.681	.926	36.915	36.916	0.328	0.335			
	7	30.606	31.385		.527	.748	0.395	0.384	.842	.842			
	8	33.380	34.173		.756	.970	22.981	22.966	.221	.235			
R2 hyaline		15.974	16.745		.199	.424	16.978	16.970	.244	.262			

Differences

	—	—	—	—	11.151	11.121	11.064	11.045
2	3.126	3.136	3.096	3.112	16.030	16.026	16.000	15.989
3	11.808	11.815	11.750	11.757	27.192	27.210	27.175	27.179
4	1329.6	13.303	13.248	13.252	36.100	36.086	36.073	36.053
5	17.918	17.945	17.853	17.878	30.097	30.098	30.074	30.079
6	25.770	25.787	25.820	25.826	—	—	—	—
7	29.982	30.012	29.974	30.004	36.520	36.532	36.514	36.507
8	32.756	32.800	32.751	32.782	13.934	13.956	13.893	13.900
R2 byrse	15.350	15.372	15.302	15.328	19.937	19.946	19.916	19.927

R2 Lyrae

Final

	D	X	R	hans	b	y	R	Final
1	—	—	—	—	—	—	—	—
2	3.131	3.104	16.028	15.994	3.126	16.039		
3	11.812	11.753	27.201	27.177	11.812	27.205		
4	13.299	13.250	36.093	36.063	13.319	36.093		
5	17.938	17.855	30.098	30.076	17.933	30.097		
6	25.778	25.823	—	—	25.780	—		
7	29.992	29.989	36.526	36.510	30.034	36.514		
8	32.778	32.766	13.945	13.896	32.772	13.920		
9	15.361	15.315	19.942	19.922	15.363	19.946		

MC 23540 8:46+32.7
July 26-27, 1928
C.D.B.

R2 lysal

18:46+32.7 26-27, 1929		N 2 <u>upral</u>							
	for. D	fol. X	for. R	fol.	for. D	fol. ④	for. R	fol.	
1	0.319	0.207	0.736	0.851	0.751	0.770	0.872	0.871	
2	0.469	0.350	0.583	0.703	0.890	0.919	0.767	0.745	
3	0.195	0.070	0.856	0.983	0.758	0.772	0.897	0.882	
4	0.675	0.558	0.329	0.450	0.882	0.897	0.756	0.743	
5	0.316	0.208	0.739	0.853	0.904	0.924	0.739	0.722	
6	0.063	0.930	0.965	0.098	0.065	0.074	0.595	0.583	
7	0.390	0.276	0.606	0.732	0.555	0.575	0.105	0.072	
8	0.112	0.990	0.942	0.066	0.198	0.198	0.432	0.420	
R2 h _w	0.716	0.605	0.342	0.452	0.052	0.073	0.602	0.591	

	pr. Δ	fol. \boxtimes	pr. R	fol. Difference _{pr.}	Δ	fol. \odot	pr. R	fol.
1	—	—	—	—	.314	.304	.277	.288
2	.150	.143	.153	.149	.175	.155	.172	.162
3	.876	.863	.880	.868	.307	.302	.302	.299
4	.356	.351	.407	.401	.183	.177	.161	.160
5	.997	.001	.997	.998	.161	.150	.144	.139
6	.744	.723	.771	.753	—	—	—	—
7	.071	.069	.130	.119	.510	.499	.510	.489
8	.793	.783 .793	.794	.785	.867	.876	.837	.837
R2 lyr.	.397	.398	.394	.399	.013	.001	.007	.008

	R means 8 (4) R				means means				means means				means of MC plates			
	—		—		—		—		—		—		—		—	
1			11.309	82	11.277											
2	3.146	3.150	16.165	16.167					3.148	16.166	3.141	16.179	3.144	16.172		
3	11.869 ⁷⁰	11.874	27.304	27.300					11.872	27.302	11.854	27.293	11.863	27.298		
4	13.358 ⁴	13.404	36.180	36.160					13.379	36.170	13.391	36.169	13.385	36.170		
5	17.999	17.998	30.155 ⁶	30.142					17.998	30.149	17.988	30.146	17.993	30.148		
6	25.733 ⁴	25.762	—	—					25.748 ³	—	25.745	—	25.746	—		
7	30.070	30.124	36.504	36.499					30.097	36.502	30.107	36.486	30.102	36.494		
8	32.793 ⁸⁸	32.789 ⁹⁰	13.872	13.837					32.789	13.854	32.781	13.876	32.785	13.865		
h 2 Gyr	15.398	15.396	20.007	20.008					15.397	20.008	15.380	20.009	15.388	20.008		

Reduction of Is to MCs: Continued from ~~previous~~ ^{following} page

$$\begin{array}{rcll} +46.3a & +2.0b & = & +.135 \quad -1.692 \\ +7.5a & -42.6b & = & -1.559 \quad -0.342 \\ 21.3I & 985.0a & +42.6b & = 42.875 \quad -36.000 \\ & 982.5a & & = 41.316 \quad -36.342 \\ & & a = & +.0013 \quad d = -.0364 \\ & & b = & +.0368 \quad e = +.0016 \\ & & c = & -.002 \quad f = -.001 \end{array}$$

Int. 1896.5 - 1928.5 = 32.0 yrs.

RZ Lyrae

I 6690 July 27, 1892

	D	V	R	D	V	R	D	V	R	D	V	R	Finals
2	0.764		.730	12.415		.217	17.727		.714 17.722	2.026		2.026 17.935	17.720 2.026
4	7.356		.188	0.636		.010	11.135		.129 11.186	13.805		.786 13.728	11.832 13.796
7	17.383		.166	0.828		.881	1.108		.106 1.158	13.613		.605 13.599	1.107 13.609
8	18.491		.008	14.441		0.282	—		—	—		—	—
RZ Lyr	8.196		.318	10.387		.273	10.295		.295 10.310	4.054		4.045 3.991	10.295 4.050

I 15422
July 2, 1896

	D	V	R	D	V	R	D	V	R	D	V	R	Finals
2	0.911		.228	.595		.576	17.747		17.763	1.487		1.458	I 15422 and I 6680 by graph 17.696 2.083
4	.837		.954	.633		.530	11.421		11.489	13.449		13.418	11.4132 13.771
7	.447		.935	.513		.664	1.411		1.470	13.569		13.552	1.126 13.599
8	4.858		0.465	2.082		0.112	—		—	—		—	0.000
RZ Lyr	.490		.857	.353		.827	10.368		10.382	3.729		3.715	10.286 4.036

I 18921
Sept. 19, 1897

	D	V	R	D	V	R	D	V	R	D	V	R	Finals
2	.105		.600	.652		.917	17.715		17.726 7.20	2.067		2.094 0.67	17.718 2.067 17.722 2.023
4	.711		.958	.899		.660	11.109		11.084 1.05	13.820		13.837 0.820	11.107 13.820 (11.132) 13.792
7	.738		.936	.101		.450	1.082		1.062 0.82 -0.014	13.618		13.627 0.20	1.082 13.622 1.107 13.645
8	4.820		0.874	4.719		0.823	—		—	—		—	—
RZ Lyr	.530		.175	.632		.918	10.290		10.301 0.99	4.087		4.095 0.79	10.294 4.083 10.302 4.058

I 22801
April 28, 1899

	D	V	R	D	V	R	D	V	R	D	V	R	Finals
2	0.245		.110	.448		.534	17.735		17.734 0.731	1.907		1.890 0.21	I 22801 and by graph 5 17.733 1.914 17.719 2.020
4	.760		.613	0.624		.342	11.220		11.237 0.20 1.94	13.731		13.698 0.717 0.20	11.220 13.724 11.132 13.792
7	.785		.587	.740		.262	1.195		1.211	13.615		13.618	1.194 13.618 1.107 13.624
8	4.980		0.376	4.355		0.644	—		—	—		—	—
RZ Lyr	.667		.697	.373		.597	10.313		10.321 0.316	3.982		3.953 0.970	10.314 3.976 10.288 4.037

Means of 4 I plates

	D	V	R	D	V	R	D	V	R	D	V	R	Finals
2	17.714		2.030			29.523	3.388		29.460	2.307		+118 -82	29.5 3.4
4	11.132		13.788			18.553	22.980		19.400	22.305		-153 -875	18.5 23.0
7	1.112		13.613			1.853	22.688		2.683	22.629		-170 -59	1.9 22.7
8	—		—			—	—		—	—		—	—
RZ Lyr	10.293		4.045			17.155	6.722		17.397	6.143		+242 -595	17.2 6.7

40

 $13^h 27^m 37^s + 54^\circ 44.1'$

No astrogaphic

* Image of #6 proc. has been badly scratched.

MC 2929

RV Uraeae MagnisMay 8-9, 1926
C.D.B.

	hr.	D	fol.	R	fol.	hr.	D	fol.	(4)	hr.	R	fol.
1	0.941	3.280	.320	.980	1.688	1.694	.972	.973				
2	3.373	5.717	.915	.568	17.492	17.492	.181	.185				
3	2.250	4.612	.951	.596	31.051	31.045	0.616	0.622				
4	7.888	10.126	.374	.030	1.306	1.302	.373	.377				
5	20.509	22.856	.782	.433	15.941	15.933	.718	.731				
* 6	22.742	25.107	.539	.182	23.748	23.730	.910	.919				
7	25.056	27.372	.207	.886	0.581	0.568	.072	.082				
8	26.162	28.706	.911	0.568	10.328	10.300	.337	.347				
RVUM	16.746	19.080	.527	.178	11.516	11.507	.146	.150				

Differences

1	—	—	—	—	1.107	1.126	.100	.109
2	2.432	2.437	.405	.412	16.911	16.924	.891	.897
3	1.309	1.332	.369	.384	30.470	30.477	.456	.460
4	6.947	6.946	.946	.950	0.725	0.734	.699	.705
5	19.568	19.576	.538	.547	15.360	15.365	.354	.351
6	21.801	21.827	.781	.798	23.167	23.162	.162	.173
7	24.115	24.092	.113	.094	—	—	—	—
8	25.421	25.426	.409	.412	9.747	9.732	.785	.735
RVUM	15.805	15.800	.793	.802	10.935	10.939	.932	.932

☒ Take means ☒ Final
☒ Take means ☒ Final

	Take mean								
1	—	—	.116	.104	—	1.124	—	.004	0.684
2	2.434	2.408	.16.918	.16.894	2.421	16.918	2.156	16.522	
3	1.320	1.376	30.478 ⁴	30.458 ⁴⁸⁴	1.348	30.479	0.819	30.055	
4	6.946	6.948	0.729 ³⁰	0.702 ⁷²¹	6.947	0.726	6.964	0.410	
5	19.572	19.542	15.362	15.352 ³⁵⁷	19.557	15.360	19.319	15.262	
6	21.814	21.799 ⁹⁰	23.164	23.162 ¹⁶⁵	21.802	23.164	21.426	23.108	
7	24.104 ⁴	24.103 ⁴	—	—	24.104	—	24.128	.001	
8	25.421 ⁴	25.410 ⁴⁰	9.739 ⁷³⁴	9.735 ⁷³⁴	25.417	9.737	25.276	9.756	
RVUM	15.802	15.798	10.937	10.932 ⁹⁴²	15.800	10.940	15.641	10.795	

~~This apparently gives~~
 join DS were 1 unit too small for 2, 5 RV.

	Mean DS	$\frac{2}{6}$	Δy	
2	10.064	16.773	-.251	$+34.4a + 1.6b = -425$
4	0.393	0.655	-.245	$+9.6a + 31.4b = -77$
5	9.200	15.333	-.71	$d = -0.123$
7	—	—	—	$e = +0.13$
RV	6.532	10.887	-.92	$f = -17$

dx	xy	f	Σ	my	
-271	+21	-17	-267	+16	
-212	+5		-222	-21	
-59	+19		-57	-14	
—	—		-17	+17	
-105	+14		-108	+16	Sign wrong.

MC 23521

July 24-25, 1928

				RV Urae Majoris							
hr.	D	fol.	Σ	hr.	R	fol.	Σ	hr.	D	fol.	Σ
1	0.541	1.183		2	.860	.232		1	0.82	1.018	.461
2	2.708	3.346			.657	.025			16.919	16.851	.626
3	1.344	1.991			.957	.319			30.437	30.386	0.101
4	7.499	8.153			.904	.262			0.805	0.752	.759
5	19.870	20.516			.503	.865			15.650	15.582	.925
6	21.974	22.608			.366	.746			23.503	23.434	.080
7	24.670	25.318			.736	.088			0.396	0.329	.206
8	25.815	26.454			.574	0.935			10.147	10.090	.454
RV UMa	16.192	16.828			.192	.556			11.198	11.127	.368

Differences

1	—	—	—	—	0.686	0.689	.745	.743
2	2.167	2.163	.203	.207	16.523	16.522	.580	.576
3	0.803	0.808	.903	.913	30.041	30.057	.105	.101
4	6.958	6.970	.956	.970	0.409	0.423	.447	.457
5	19.329	19.327	.357	.367	15.254	15.263	.281	.278
6	21.433	21.425	.494	.492	23.107	23.105	.126	.106
7	24.129	24.135	.124	.144	—	—	—	—
8	25.774	25.271	.286	.297	9.751	9.761	.752	.766
RV UMa	15.651	15.645	.668	.676	10.802	10.798	.838	.831

D				R means D				Final			
Σ	Σ	Σ	Σ	Σ	Σ	Σ	Σ	Σ	Σ	Σ	Σ
—	—	—	—	—	—	—	—	—	—	—	—
1	—	—	—	—	—	—	—	—	—	—	—
2	2.165	2.165	16.522	16.522	16.522	16.522	16.522	2.162	16.522	16.523	X
3	0.805	0.808	30.049	30.049	30.049	30.049	30.049	0.814	30.046	30.046	X
4	6.964	6.963	0.416	0.416	0.416	0.416	0.416	6.964	0.411	0.410	X
5	19.328	19.328	15.258	15.258	15.258	15.258	15.258	19.324	15.259	15.265	X
6	21.429	21.429	23.106	23.106	23.106	23.106	23.106	21.430	23.106	23.109	X
7	24.132	24.134	—	—	—	—	—	24.133	—	—	X
8	25.272	25.272	9.756	9.756	9.756	9.756	9.756	25.269	9.756	9.756	X
RV UMa	15.648	15.672	10.800	10.800	10.800	10.800	10.800	15.646	10.804	10.786	X

In to Mes

$\sigma = +0.0015$

23568

	Σx	Σy	$\Sigma \Delta x$	$\Sigma \Delta y$
2,4	39.2	16.9	+2.41	+1.160
5,7	4.8	15.3	+1.70	+1.596
all	44.0	32.2	+4.11	+2.756
	17.2	.4	+0.18	-2.54
	26.8	31.8	+3.93	+3.020

$a = +0.0015$
 $b = +0.0005$
 $c = -0.0062$
 $d = -0.0075$
 $e = +0.1093$
 $f = +0.0018$

I - $34.4a - 1.6b = -0.71 + 4.36$

II + $9.6a + 31.4b = +3.75 + 3.264$

III + $34.6a + 113.0b = +1.350 + 11.750$

IV + $111.4b = +1.279 + 12.186$

$b = +0.115$
 $e = +0.1093$

+ $9.6a + 3611 = +3.75$
 $a = +0.0015$

$9.6d + 3.432 = +3.264$

$9.6d = -1.68$
 $d = -0.178$
 $d = -0.0175$
 $d =$

$c = -0.066$
 $4c = -0.276$
 $+4.11$

$4c = -0.25$
 $c = -0.0062$

$4f = +7.93$
 $+3.479$
 $+2.756$

$4f = +0.07 + 42$
 $f = +0.018$
 $f = +0.010$

	$ax + by + c \Sigma$	$dx + ey + f \Sigma$	Σ
2	+0.33 +190 -0.004 +217	-3.85 +1.809 +0.10	+1.4430 +1523
4	+0.26 -0.005 +0.25	-3.06 +0.044	-2.55 -252
8	+0.07 +1.76 +1.77	-0.88 +1.672	1.590 +1.597
7	- - -0.006	- - -	+0.002 +0.002
RXV	+0.13 +1.24 +1.31	-1.51 +1.1824 +0.20	1.029 +1.041

μx	μy
2 +9	+5 +8 -103
4 -10	+0 +3
5 -10	+5 -2
7 +3	-1 -1

RXV +17 $+546$ I can't find what is wrong with this, all the others seem to fit. e.d.B.

$d = -0.0031$
 $4f = -1.936$
 -0.863
 $+7.96$
 $4f = -2.043$
 $f = -0.5108$

mean ds		mes - ds	Σx	Σy	$\Sigma \Delta x$	$\Sigma \Delta y$
2 13.050	9.062	+1.222 +1.419	2+4	39.2	16.9	+2.46 +1.172
4 10.284	0.394	+1.024 -1.247	5+7	4.8	15.3	+1.62 +1.597
5 2.790	8.199	+1.159 +1.597	all	44.0	32.2	+4.08 +2.769
7 -0.005	-	+1.003 +1.597	2+5	26.8	31.8	+3.81 +3.016
RV 5.005	5.532	+1.154 +1.577	4+7	17.2	0.4	+0.27 -2.247

+ $34.4a + 1.6b = +0.84 -1.25$
+ $9.6a + 31.4b = +3.54 + 3.263$
 $a = +0.00195$ $d = -0.0174$
 $b = +0.0107$ $e = +0.1094$
 $c = -0.0055$ $f = +0.0035$

	ax	by	c	Σ	μx	μy	Σ	f	ey	dx
2 21.750	15.103				+8	-4	+1.423	+0.035	+1.808	-3.825
4 17.140	0.657				-8	+4	-1.251		+0.49	-2.99
5 4.650	13.665				-9	+2	+1.595		+1.675	-0.835
7 -0.008					+9	-4	+4			
RV 8.342	9.218				+28	+540	+1.037		+1.181	-1.48

All signs opposite to usual way, checked by F.D.

see P50

No astrographic

I's & Uco

x

y

x ↓'s reduced to Uco

1	$\frac{x}{6}$ +008	$\frac{y}{6}$ -007	-8	-16	0	0	14.7	40.0	20	+773	-453
2	6493	6.707	+151	-87	13	6.8	79.6	77.3	1	+1373	-1553
3	2.940	10.642	+222	-110	27	10.8	94.3	117.3		+2146	-2006
4	11.087 22	22.185	+408	-240	107	22.4	21.3	20.0		+413	-554
5	17.3 32	2.080	+48	-341	17.3	2.4	73.0	97.3		+1733	-1452
6	16.167	28.730	+527	-328	15.6	29.4					
7	20.488	25.145	+440	-397	20.0	25.6	I	+64.9a	+37.3b	= +600	-1100
8	27.032	19.675	+358	-487	26.7	20.2	II	+51.7a	+77.3b	= +1320	-898
WCVm	14.885	14.443	+302	-292	14.6	17.7	Inter	+64.6	+96.6b	= +1650	-1122

a = -0.0009

b = +0.0177

c = +0.0194

d = -0.0167

e = -0.0004

f = -0.048

$$8c = \begin{cases} +2146 \\ +35 \\ -2076 \end{cases}$$

8c = +155

c = +0.0194

$$8f = \begin{cases} -2006 \\ +1.575 \\ +0.47 \end{cases}$$

8f = -384

f = -0.048

b = +0.0177

e = -0.0004

$$64.9a = \begin{cases} +600 \\ -660 \end{cases}$$

64.9a = -660

d = -0.0009

$$64.9d = \begin{cases} -1100 \\ +0.15 \end{cases}$$

64.9d = -1085

d = -0.0167

	ax + by + c	Σ	ax + by + f	Σ	μx	μy
1	- - +0.19	+19	- - -0.48	-48	+11	-32
2	-1 +120	+138	-22 -3	-73	+13	-14
3	-2 +191	+208	-45 -4	-97	+14	-15
4	-10 +396	+405	-179 -9	-236	+3	-4
5	-16 +42	+45	-289 -1	-338	+3	-3
6	-14 +515	+520	-260 -12	-310	+7	-18
7	-18 +443	+444	-334 -10	-392	-4	-5
8	-24 +358	+353	-446 -8	-502	+5	+15
WCVm	-13 +314	+320	-244 -7	-299	+18	+7

See P50

W Camm Venat.

MC 23530 July 25-26-28

	pm.	D	for.	pm.	R	for.	pm.	D	for.	pm.	R	for.
1	0.690	1.584	h	.700	h	.804	29.371	29.328	0.834	0.890		
2	2.056	2.941		.370		.482	22.582	22.542	.631	.682	for	
3	3.429	4.327		.000		.114	18.625	18.591	.610	.641		
4	11.389	12.276		.036		.160	6.968	6.919	.290	.332		
5	17.998	18.878		.417		.532	26.963	26.926	.265	.313		
6	16.344	17.229		.058		.167	0.325	0.290	.928	.961		
7	20.758	21.642		.660		.778	3.831	3.800	.398	.436		
8	27.373	28.272		.040		.149	9.222	9.180	.007	.062		
W CVm	15.293	16.186		.133		.247	14.647	14.602	.588	.628		

Differences

1	—	—	—	—	—	—	—	—	—	—	—	—
2	1.366	1.357	.330	.322	6.789	6.786	.797	.792				
3	2.739	2.743	.700	.690	10.746	10.737	.776	.751				
4	10.699	10.692	.664	.644	22.403	22.409	.456	.442				
5	17.308	17.294	.283	.272	2.408	2.402	.431	.423				
6	15.654	15.654 ⁶⁴⁶	.642	.637	29.046	29.038	.094	.071				
7	20.068	20.058	.040	.026	25.540	25.528	.564	.546				
8	26.683	26.688	.660	.655	20.149	20.148	.173	.172				
W CVm	14.603	14.602	.567	.557	14.724	14.726	.754	.738				

	D	R	Means	D	R	Means	D	R	Means	D	R	Means
1	—	—	—	—	—	—	—	—	—	—	—	—
2	1.362	.326	6.7888	.772	.774	6.790	1.344	6.790	6.791	1.342	6.790	6.790
3	2.742	.694 ⁵	10.742	.760	.764	10.750	2.718 ⁸	10.750	10.753	2.718	10.750	10.750
4	10.696	.654	22.406	.427	.448 ⁹	22.416	10.674 ⁵	22.416	22.428	10.674	22.428	22.428
5	15.654 ⁰	.278	2.404 ⁵	.392	.418 ⁷	2.416	17.298 ⁹⁰	2.416	2.416	17.298	2.416	2.416
6	17.308	.640	29.042	.052	.052	29.048	15.646 ⁵	29.048	29.062	15.640	29.062	29.062
7	20.063	.032 ³	25.534	.514	.554 ⁵	25.524	20.048 ⁸	25.524	25.544	20.048	25.544	25.544
8	26.686	.658	20.148	.122	.172	20.134	26.672	20.134	20.160	26.674	20.162	20.162
W CVm	14.602	.562	14.725	.718	.748	14.726	14.582	14.726	14.736	14.583	14.735	14.735

+ further graph readings did not improve matters

graph reduction used for final 14.722

Reduced to 10916 (1899 Red by graph B 10916) Mean of 4 I plates

I 18198		— 000		x y	
Δx	Δy				
1				1	+0.05 -0.04
2	+0.074 -0.016	2	0.888 4.022	2	0.896 4.024
3	+0.093 -0.018				
4	+0.223 -0.103	3	1.758 6.383	3	1.764 6.385
5	+0.010 -0.160	4	6.674 13.317	4	6.652 13.311
6	+0.300 -0.148	5	10.401 12.45	5	10.403 12.48
7	+0.258 -0.181	6	9.694 17.240	6	9.700 17.238
8	+0.212 -0.259	7	12.292 15.097	7	12.293 15.087
W.C. Vm	+0.139 -0.145	8	16.225 11.802	8	16.219 11.805
		W.C. Vm	8.927 8.669		

I 24808 (24808 Red by graph B 10916) Mean

I 24808		— -010		x y	
Δx	Δy				
1	+0.013	1		1	
2	-0.031 +0.006	2	0.890 4.028	2	0.893 4.028
3	+0.006 +0.004	3	1.756 6.378	3	1.756 6.378
4	-0.020 -0.035	4	6.651 13.300	4	6.651 13.300
5	+0.018 -0.035	5	10.400 12.43	5	10.400 12.43
6	-0.028	6	9.703 17.241	6	9.703 17.241
7	+0.009 -0.038	7	12.300 15.093	7	12.300 15.093
8	+0.006 -0.060	8	16.223 11.806	8	16.223 11.806
W.C. Vm	-0.014 -0.046	W.C. Vm	8.931 8.657		

I 28372 (28372 Red by graph B 10916) Mean

I 28372		— -005		x y	
Δx	Δy				
1		1		1	
2	+0.077 -0.019	2	0.921 4.018	2	0.921 4.018
3	+0.071 +0.004	3	1.772 6.402	3	1.772 6.402
4	+0.160 -0.119	4	6.641 13.310	4	6.641 13.310
5	-0.163	5	10.410 12.60	5	10.410 12.60
6	+0.234 -0.174	6	9.708 17.232	6	9.708 17.232
7	+0.179 -0.226	7	12.284 15.069	7	12.284 15.069
8	+0.134 -0.288	8	16.208 11.805	8	16.208 11.805
W.C. Vm	+0.090 -0.164	W.C. Vm	8.927 8.665		

L 10916 Mar. 26, 1894

I 18198 June 2, 1897

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MEs - ds									
	Δx	Δy	x	y		$\Sigma \Delta x$	$\Sigma \Delta y$	Σx	Σy
1	-.008	+0.011	-	-					
2	-.151	+0.083	1.3	6.8	1-4	-.792	+0.445	1.147	10.0
3	-.222	+0.108	2.7	10.8	5-8	-1.374	+1.559	79.6	77.3
4	-.411	+0.243	10.7	22.4	all	-2.166	+2.004	94.3	117.3
5	-.649	+0.336	17.3	2.4	1421315	-.430	+0.538	21.3	20.0
6	-.527	+0.336	15.6	29.1	446148	-1.736	+1.466	73.0	97.3
7	-.440	+0.400	20.0	25.6					
8	-.358	+0.487	26.7	20.2					
W	-.802	+0.292	14.6	17.7					
						$+64.9a + 37.3b = -.582 + 1.114$			
						$+51.7a + 77.3b = -1.306 + .928$			
						$1.25D + 64.9a + 96.7b = -1.632 + 1.160$			
						$+59.4b = -1.050 + .046$			
						$b = -.0177 + .0008$			
						$2.07I + 134.1a + 77.3b = -1.203 + 2.306$			
						$+82.4a = +.103 + 1.378$			
						$a = +.00125 + .0167$			

W Canum Venaticorum

I24808 March 12, 1900	λ	\odot	\odot	\odot	\odot	\odot	\odot	\odot	\odot	\odot	\odot
	\odot	\odot	\odot	\odot	\odot	\odot	\odot	\odot	\odot	\odot	\odot
1	0.032	5.591	17.939	0.993	—	—	—	—	—	—	—
2	0.930	.710	13.914	.040	0.898	921 926	4.025	.043 047	0.997 098	4.034	—
3	1.780	.883	11.564	.390	1.748	708 732	6.375	390 397	1.740	6.382	—
4	6.679	.990	4.657	.302	6.647	688 688.83	13.282	.281 309	6.658	13.282	—
5	10.423	.208	16.730	.245	10.391	383 389	1.209	.208 222	10.390	1.208	—
6	9.743	.952	0.728	.244	9.711	659 713	17.211	.209 259	9.712	17.210	—
7	12.338	.352	2.883	.089	12.306	259 301	15.056	.096 44	12.304	15.050	—
8	16.252	0.408	6.190	.805	16.220	183 339	11.749	.842 812	16.228	11.746	—
WGM	8.954	.700	9.310	.660	8.922	897 927	8.629	.629 667	8.924	8.6289	—

I25372 March 27, 1902	λ	\odot	\odot	\odot	\odot	\odot	\odot	\odot	\odot	\odot	\odot
	\odot	\odot	\odot	\odot	\odot	\odot	\odot	\odot	\odot	\odot	\odot
1	0.580	4.440	4.001	0.810	—	—	—	—	—	—	—
2	.537	.450	.993	.822	0.957	790 968	4.008	.010 012	0.960	4.008	—
3	.422	.560	.632	.209	1.842	880 842	6.369	395 399	1.842	6.382	—
4	.398	.563	.892	.021	6.818	877 797	13.199	.197 211	6.808	13.198	—
5	.977	.010	.920	.908	10.397	430 423	1.081	.078 078	10.410	1.080	—
6	.507	.411	.941	.898	9.927	229 928	17.060	.069 088	9.928	17.064	—
7	.055	.874	.136	.694	12.475	566 474	14.865	860 884	12.474	14.862	—
8	.931	.013	.478	.354	16.351	427 457	11.523	.512 544	16.354	11.518	—
WGM	.611	.368	.491	.340	8.031	072 024	8.500	.512 530	9.028	8.500	—

52

MC 24072 reduced to MC 23520

	Σx	Σy	$\Sigma \Delta x$	$\Sigma \Delta y$	x	y
1-4	14.7	40.0	+1.08	+1.29	—	—
5-8	79.6	77.2	+1.92	+1.473	1.3	6.8
all	94.3	117.2	+3.00	+1.602	2.7	10.8
1+2+3+5	20.3	20.0	+0.50	+1.48	10.7	22.4
4+6+7+8	73.0	97.2	+2.50	+1.454	17.3	2.4
					15.6	29.1

$$(5-8)-(1-4) \text{ I } +64.9a + 37.2b = +.084 \quad \bar{+}.344$$

$$\text{II } +51.7a + 77.2b = +.200 \quad \bar{+}.306$$

$$51.7 \text{ I } 3355.3 + 1923.2b = +4.343 \quad \bar{+}.1775$$

$$-64.9 \text{ II } -3355.3a - 5010.3 \quad -12.980 \quad +19.859$$

$$-3087.1b = -8.637 + 2.084$$

$$b = +.0028 \quad \bar{+}.0007$$

$$77.2 \text{ I } + 5010.3 + (x) = +6.485 \quad \bar{+}.26557$$

$$-37.2 \text{ II } -1923.2 - (x) = -7.440 \quad +11.383$$

$$+3087.1a = -0.955 \quad \bar{+}.15.174$$

$$a = -.0003 \quad d = \bar{+}.0050$$

	$+ .300$	$\bar{+}.606$	$-ax$	$-by$	μ_x	μ_y	$-f$	$-ey$	$-dx$
$-\Sigma x_{ad}$	$+ .028$	$\bar{+}.464$	1	—	—	$\bar{+}.0007$	$\bar{+}.0063$	—	—
$\Sigma y_{b,e}$	$-.328$	$\bar{+}.082$	$+ .0004$	$-.0190$	$-.004$	—	$+ .0047$	$+ .0065$	
Σ	—	$\bar{+}.050^6$	8	300^2	-1	$-.6$	76	$+ .0135$	
cf.	—	$\bar{+}.0063^{70}$	32	629	+5	-1	157	$+ .0535$	
			52	67	+6	-2	17	$+ .0865$	
			47	815	$\bar{+}.12$	+9	204	$+ .0780$	
			60	714	-1	+2	178	$+ .1000$	
			50	566	+5	+3	141	$+ .1335$	
			45	412	+3	-3	103	$+ .0730$	

MC 24072 Feb 10/1/29		prec. D		prec. R ^{chicks}		W <u>Caum Veratrum</u> (4)		prec. R	
mc									
1	0.215	1.472	.280	.011	29.562	29.620	0.698	0.645	
2	1.576	2.848	.928	.672	22.796	22.848	.470	.437	
3	2.978	4.251	.552	.296	18.850	18.900	.432	.387	
4	10.974	12.248	.562	.307	7.230	7.272	.108	.062	
5	17.513	18.782	.978	.734	27.250	27.302	.102	.052	
6	15.875	17.132	.581	.337	0.600	0.651	.722	.673	
7	20.349	21.607	.196	.917	4.155	4.191	.212	.175	
8	26.966	28.240	.575	0.324	9.538	9.591	.808	.764	
WCKm	14.867	16.119	.680	.421	14.923	14.970	.408	.361	

Differences

1	—	—	—	—	—	—	—	—	—	MC 23520
2	1.361	1.376	.352	.339	6.766	6.772	.772	.792	1.341	MC 24072 and 24072.5 +0.18 +0.186.795
3	2.763	2.779	.728	.715	10.712	10.720	.734	.742	2.718	+0.795 10.752
4	10.759	10.776	.718	.704	22.332	22.348	.410	.417	10.683	10.752 22.422
5	17.298	17.310	.302	.277	2.312	2.318	.404	.407	17.291	22.422 24.26
6	15.660	15.660	.699	.674	28.962	28.969	.024	.028	15.636	24.26 29.055
7	20.134	20.135	.084	.094	25.407	25.429	.514	.530	20.047	25.541 29.055
8	26.751	26.768	.705	.687	20.024	20.029	.110	.119	26.676	20.183 29.541
WCKm	14.652	14.647	.600	.590	14.639	14.650	.710	.716	14.584	14.734 MC 24072-MC 23530

D	W	Caum	Veratrum	D	W	Caum	Veratrum	D	W	Caum	Veratrum
1	—	—	—	—	—	—	—	—	—	—	—
2	1.368	.346	6.768	.775	1.358	6.772	.772	1.358	6.772	.772	.772
3	2.770	.722	10.716	.724	2.746	10.720	.734	2.746	10.720	.734	.734
4	10.768	.718	22.340	.362	10.738	22.350	.410	10.738	22.350	.410	.410
5	17.304	.298	2.314	.324	17.297	2.318	.404	17.297	2.318	.404	.404
6	15.660	.686	28.966	.951	15.710	28.958	.024	15.710	28.958	.024	.024
7	20.134	.088	25.418	.426	20.112	25.422	.514	20.112	25.422	.514	.514
8	26.760	.696	20.026	.992	26.728	20.008	.110	26.728	20.008	.110	.110
WCKm	14.650	.594	14.644	.642	14.622	14.642	.710	14.622	14.642	.710	.710

Algiers +0° 1^h 28^m Cliche 589 Nov 17, 1893
 also " 1924 Nov 1, 1908 +1° 1^h 24^m . P8.

Cliche 589 ✓ 1900.0

	88	89	m	x	y	
1	+0° 245	7	10.9	-32.4465	+48.7962	
2	—	not on				
3	—	9	11.0	-24.7978	+36.3485	
4	+0° 250	not on				
5	+0° 251	15	8.3	-13.4291	+64.4038	27 ^m 10.4 +1° 3 27.8
6	+0° 252	16	11.0	-9.6955	+27.5365	
7	+0° 253	18	9.0	-2.8207	+31.0583	
8	—	not on				
RR	+0° 249	• 13	9.2	-15.9345	+50.4700	

For reduction see P168

Cliche 1924

	88	89	m	x	y	
1	88	-9.8	+28.7310	-12.0603	—	21.6013
2	90	11.5	+35.5035	-2.4649	6.7725	31.1967
3	91	9.9	+36.1966	-24.6250	7.4656	9.0366
4	41	9.2	+44.9896	+8.6069	16.2586	42.2685
5	42	7.7	+47.9514	+3.2653	19.2204	36.9269
6	98	10.1	+51.1751	-33.6616	22.4441	—
7	101	8.9	+58.1164	-30.2242	29.3854	3.4374
8	104	11.0	+64.6354	-4.4546	35.9044	29.2070
RR	96	8.5	+45.2602	-10.6266	16.5292	23.0250

Cliche 589

	88	89	m	x	y
1	7.6487	17.1379	21.2597	—	—
3	5.2902	8.8120	—	—	—
5	19.0074	33.3445	36.8673	—	—
6	22.7510	4.4782	—	—	—
7	29.6258	—	3.5217	—	—
RR	16.5120	19.4117	22.9335	—	—

RR

RR Ceti

Red. p. 169, same book

MC 23895 Dec. 18-19, 1928

	RR	D	RR	h	h	h	D	h	h	
<u>Cont Survey</u>	1	0.100	0.638	.056	.515	12.551	12.532	.358	.376	N
C.D.B.	2	3.944	4.483	.209	.667	18.076	18.055	.832	.856	
film down	3	4.420	4.954	.745	.204	5.374	5.355	.542	.560	fe -8
	4	9.349	9.893	.791	.255	24.467	24.453	.448	.460	fe -8
	5	11.055	11.606	.076	.538	21.422	21.407	.501	.511	fe -8
	6	13.043	13.577	.124	.585	0.252	0.232	.669	.685	fe -8
	7	17.026	17.562	.137	.599	2.271	2.252	.652	.672	fe -8
	8	20.675	21.214	.468	.930	17.049	17.062	.865	.875	fe -8
RR Ceti	9.579	10.119	.578	.038	13.429	13.413	.493	.506		fe -8

Differences

1	—	—	—	—	12.299	12.299	.311	.309
2	3.844	3.845	.847	.848	17.824	17.822	.837	.829
3	4.320	4.316	.311	.311	5.122	5.122	.127	.125
4	9.249	9.255	.265	.260	24.215	24.220	.221	.225
5	10.955	10.968	.980	.977	21.170	21.174	.168	.174
6	12.943	12.939	.932	.930	—	—	—	—
7	16.926	16.924	.919	.916	2.019	2.019	.017	.013
8	20.575	20.576	.588	.585	16.797	16.829	.804	.810
RR Ceti	9.479	9.481	.478	.477	13.177	13.180	.176	.179

D	h	h	D	h	h	h	h	h	h
1	—	—	12.2989	.310	—	12.304	—	—	—
2	3.844	848	17.822 ³	.832 ³	3.842	17.828	3.832	17.833	—
3	4.318	317	5.122	.126	4.318	5.124	4.313	5.124	—
4	9.252	247	24.218	.222 ³	9.250	24.220	9.250	24.221	—
5	10.962	966	21.172	.171 ¹	10.964	21.172 ²	10.965	21.172	—
6	12.948	942	—	—	12.948	—	12.948	—	—
7	16.926	928	2.018 ⁹	.018 ⁵	16.926	2.018 ⁷	16.923	2.018	—
8	20.576	578	16.812 ³	.806 ⁷	20.576 ⁷	16.808 ¹⁰	20.573	16.805	—
RR Ceti	9.480	476	13.178	.178	9.478	13.178	9.472	13.177	—

M.C. 23997 reduced to M.C. 23895

	Σx	Σy	$\Sigma \Delta x$	$\Sigma \Delta y$	x	y
1-4	17.4	59.4	-.045	-.050	—	12.3
5-8	61.4	40.0	-.009	+.004	3.8	17.8
all	78.8	99.4	-.054	-.046	4.3	6.1
1+2+3+5	19.1	56.4	-.039	-.049	9.3	24.2
4+6+7+8	59.7	43.0	-.015	+.003	11.0	21.2
					12.9	—

$$I \quad 44.0a - 19.4b = +.036 + .054 \quad 16.9 \quad 2.0$$

$$II \quad 40.6a - 13.4b = +.024 + .052 \quad \underline{20.6} \quad \underline{16.8}$$

$$40.6I \quad () () a - 787.6b = + 1.4616 + 2.1924 \quad 9.5 \quad 13.2$$

$$-44.0II \quad - () () a + 589.6b = -1.0560 - 2.2880$$

$$- 198.0b = + .4056 - .0956$$

$$b = -.00205, a = +.0005$$

$$13.4I \quad 589.6a - () () b = +.4824 + .7236$$

$$-19.4II \quad - 787.6a + () () b = -.4656 - 1.0088$$

$$-198.0a = +.0168 - .2852$$

$$a = +.0001 \quad d = .0014 \quad \checkmark$$

	$-\Sigma x \Delta x$	$-\Sigma y \Delta y$	$-\Sigma x \Delta y$	$-\Sigma y \Delta x$	$-\Sigma x^2$	$-\Sigma y^2$	$-\Sigma xy$
$-\Sigma x \Delta x + .008$	-.054	-.046	—	+.0252	+.005	—	+.000
$-\Sigma y \Delta y + .204$	-.050	-.009	+.0004	.0365	-.006	+.002	.0089
$\Sigma x = \Sigma +.158$	-.209	-.050	.0004	.0104	+.003	—	26
$\Sigma y = \Sigma +.0198$	-.0261	-.050	9	.0496	+.009	-.006	121
			11	435	+.009	-.006	106
			13	—	-.002	+.008	—
			17	41	-.009	+.006	10
			21	343	+.002	-.008	84
			10	271	-.004	-.006	66

RR CTE

MC 23997 Jan 1920.29

	prec.	D	fil.	prec.	R	fil.	prec.	D	fil.	prec.	R	fil.
1	0.570	2	.099	21.115	20.590	.738	.750	12.711	12.694			
2	.399		.920	17.274	16.746	.263	.280	7.182	7.160			
3	.892		.424	16.812	16.280	.561	.582	19.897	19.880			
4	.804		.331	11.845	11.326	.664	.686	0.806	0.786			
5	.519		.046	10.137	9.609	.625	.640	3.860	3.842			
6	.529		.063	8.181	7.645	0.450	0.474	25.033	25.005			
7	.504		.034	4.200	3.675	.475	.494	23.018	22.997			
8	.135		.660	0.523	0.010	.265	.270	8.222	8.207			
RR CTE	.046		.565	11.640	11.114	.627	.641	11.850	11.831			

Difference

1	—	—	—	—	.288	.276	12.322	12.311				
2	.829	.821	3.841	3.844	.813	.806	17.854	17.845				
3	.322	.325	4.303	4.310	.111	.108	5.136	5.125				
4	.234	.232	9.270	9.264	.214	.212	24.227	24.219				
5	.949	.947	10.978	10.986	.175	.166	21.173	21.163				
6	.959	.964	12.934	12.945	—	—	—	—				
7	.934	.935	16.915	16.915	.025	.020	2.015	2.008				
8	.565	.561	20.592	20.580	.815	.796	16.811	16.798				
RR CTE	.476	.466	9.475	9.476	.177	.167	13.183	13.174				

MC 23997 - MC 23895

	D	R	mean	D	R	Final	D	R	Δx	Δy
1	—	1006	.282	12.316	283	—	12.282	—	—	-.020
2	.829	821	.810	17.248	824	3.822	17.816	—	-.022	-.010
3	.324	316	.110	5.130	107	4.320	5.108	—	-.001	-.014
4	.234	230	.212	24.222	210	9.232	24.210	—	-.022	-.006
5	.948	953	.170	21.168	161	10.950	21.163	—	-.016	-.005
6	.962	962	—	—	—	12.982	—	—	+.017	—
7	.934	934	.022	2.022	219	16.934	2.022	—	+.005	+.005
8	.562	567	.806	16.804	819	20.564	16.812	—	-.015	+.004
RR CTE	.478	466	.172	13.178	167	9.468	13.172	—	-.012	-.007

MC 23911 reduced to MC23933		Means of 23911 and 23933	
$\frac{x}{y}$	$\frac{x}{y}$	$\frac{x}{y}$	$\frac{x}{y}$
1 26.571	10.715	26.566	10.712
2 20.682	3.495	20.682	3.488
3 19.585	17.377	19.586	17.370
4 19.565	12.572	19.562	12.564
5 14.854	10.270	14.842	10.262
6 11.158	17.216	11.160	17.208
7 5.328	9.821	5.320	9.824
8 -.007	-.012	-.004	-.006
RXEni 17.702	12.522	17.702	12.514

See also P. 176

Astrophotographic Tacubaya - 150 Plate No 1507 $4^h 44^m - 15^\circ$ Jan 9, 1904									
Coordenadas medidas $\frac{x}{y}$ $\frac{x}{y}$ $\frac{x}{y}$ $\frac{x}{y}$ $\frac{x}{y}$ $\frac{x}{y}$ $\frac{x}{y}$ $\frac{x}{y}$ $\frac{x}{y}$ $\frac{x}{y}$									
-15° 868	1 86	+2.0110	-10.5546	+2.0645	-10.7107	8.5			
-15° 871	2 91	+2.9438	-9.8497	+2.9947	-9.5028	8.5			
-16° 960	3 95	+3.1734	-11.6085	+3.2303	-11.7629	8.0			
	4 93	+3.1549	-10.8302	+3.2097	-10.9840	9.1			
-15° 873	5 100	+3.9203	-10.4444	+3.9746	-10.5964	9.7			
-16° 963	6 109	+4.5414	-11.5641	+4.5989	-11.6974	7.6			
	7 115	+5.4716	-10.3394	+5.5263	-10.4880	11.5			
-15° 874	8 118	+6.2993	-8.7043	+6.3502	-8.8498	8.2			
-15° 872	RX 97	+3.4614	-10.8179	+3.5163	-10.9711	8.9	$4^h 45^m$	13.42	-15 54 50.27
	$\frac{x}{y}$	$\frac{x}{y}$	$\frac{x}{y}$	$\frac{x}{y}$	$\frac{x}{y}$	$\frac{x}{y}$	Astrophotographic	$\frac{x}{y}$	$\frac{x}{y}$
1	4.2857	1.8609	26.571	11.538	+1	-822	26.6	10.7	
2	3.3555	0.6530	20.804	4.049	+120	-559	20.9	3.5	
3	3.1199	2.9131	19.347	18.061	+247	-688	19.6	17.4	
4	3.1405	2.1342	19.471	13.232	+91	-667	19.6	12.6	
5	2.2756	1.7466	14.729	10.829	+106	-561	14.8	10.3	
6	1.7513	2.8476	10.858	17.655	+306	-437	11.2	17.2	
7	0.8239	1.6382	5.108	10.157	+210	-329	5.3	9.8	
8	—	—	—	—	—	—	—	—	—
RXEni	2.8339	2.1213	17.570	13.152	+131	-634	17.7	12.5	

Reduction Conf. b. 157, This book

RX Eridani

MC 23993	h	m	s	h	m	s	h	m	s	h	m	s
1	0.571	2.057	.824	.322	11.105	11.183	.696	.628				
2	6.462	7.940	.934	.432	3.882	3.948	.928	.860				
3	7.531	9.046	.860	.354	17.765	17.821	.038	0.980				
4	7.571	9.077	.822	.325	12.964	13.030	.861	.781				
5	12.303	13.815	.088	.594	10.661	10.731	.460	.089				
6	15.960	17.462	.422	.930	17.606	17.670	.207	.139				
7	21.821	23.310	.554	.082	10.242	10.297	.580	.536				
8	27.130	28.631	.246	.742	0.401	0.470	.410	.342				
RX Eri	9.429	10.927	.960	.473	12.909	12.963	.885	.832				

Differences

1	26.559	26.564	.578	.580	10.704	10.713	.714	.714
2	20.668	20.691	.688	.690	3.481	3.478	.482	.482
3	19.599	19.585	.614	.612	17.364	17.351	.372	.362
4	19.559	19.554	.576	.583	12.563	12.560	.549	.561
5	14.827	14.816	.842	.852	10.260	10.261	.250	.253
6	11.170	11.169	.176	.188	17.205	17.200	.203	.203
7	5.309	5.321	.308	.340	9.841	9.827	.830	.806
8	—	—	—	—	—	—	—	—
RX Eri	17.701	17.704	.714	.731	12.508	12.493	.525	.510

	h	m	s	h	m	s	h	m	s	h	m	s
1	26.562	562	578	10.708	714	714	26.562	10.710	714	26.572	10.716	
2	20.680	683	688	3.480	482	482	20.682	3.480	482	20.684	3.490	
3	19.592	596	612	17.358	362	362	19.586	17.362	362	19.591	17.373	
4	19.556	561	586	12.562	554	554	19.558	12.558	554	19.562	12.565	
5	14.822	831	846	10.260	252	252	14.826	10.256	252	14.835	10.268	
6	11.170	182	182	17.202	202	202	11.162	17.202	202	11.164	17.218	
7	5.316	310	324	9.834	818	818	5.312	9.826	818	5.318	9.829	
8	—	—	—	—	—	—	—	—	—	—	—	
RX Eri	17.702	703	722	12.500	518	518	17.702	12.508	518	17.701	12.518	

Reduced to 14632
B 17851
difference between plates
 ΔX ΔY

1	+1.146	-.348
2	+0.051	-.264
3	+0.234	-.245
4	+1.178	-.298
5	+1.138	-.234
6	+0.221	-.128
7	+1.130	-.120
8	—	—
RXEn	+1.166	-.240

B 20884
 ΔX ΔY

1	+1.110	-.288
2	+0.037	-.218
3	+1.165	-.206
4	+1.114	-.243
5	+1.086	-.187
6	+1.149	-.110
7	+1.088	-.106
8	—	—
RXEn	+1.110	-.205

B 17851
Reduced by graph to B 14362
X Y

1	14.304	6.317
2	10.199	2.238
3	10.388	9.806
4	10.478	7.192
5	7.932	5.879
6	5.829	9.620
7	2.736	5.501
8	—	—
RXEn	9.450	7.188

B 20924 reduced by graph
to B 14632
X Y

1	14.314	6.300
2	11.201	2.260
3	10.395	9.795
4	10.477	7.199
5	7.921	5.894
6	5.821	9.612
7	2.736	5.498
8	—	—
RXEn	9.455	7.161

B 24148 reduced by graph
to B 14632
X Y

1	14.318	6.322
2	11.208	2.243
3	10.392	9.787
4	10.476	7.192
5	7.918	5.895
6	5.823	9.601
7	2.734	5.496
8	—	—
RXEn	9.450	7.152

Remainder of direct

reverse

1	.467	.959	.818	.915
2	.1494	.986	.772	.961
3	.071	.563	.0225	.508
4	.449	.941	.830	.903
5	.208	.700	.083	.650
6	.005	.497	.287	.446
7	.949	.441	.323	.410
8	.0508	—	.733	—
RXEn	.450	.942	.831	.902

Means of 4 plates

	X	Y	X	Y
1	14.310	6.299	23.850	10.498
2	11.202	2.242	18.888	3.737
3	10.391	9.792	17.318	16.320
4	10.477	7.201	17.462	12.002
5	7.926	5.894	13.210	9.823
6	5.826	9.608	9.710	16.013
7	2.736	5.510	4.560	9.183
8	—	—	—	—
RXEn	9.451	7.166	15.752	11.943
			15.752	
			15.752	
			15.752	

B 24148

	ΔX	ΔY
1	+0.440	-.048
2	+0.019	-.045
3	+0.444	-.037
4	+0.028	-.072
5	+0.010	-.049
6	+0.033	-.024
7	+0.020	-.062
8	—	—
RXEn	+0.030	-.050

RX Eridani

D 14632 Sept. 13, 1895	Σ	ΣR	ΣD	ΣR	ΣD	ΣR	ΣD	ΣR	ΣD	ΣR	ΣD
1	0.982	.733	7.175	.651	14.296	.313	6.291	.272	14.304	6.282	
2	4.880	.620	3.129	.691	10.498	.200	2.245	.232	11.198	2.238	
3	4.894	.812	10.677	0.154	10.384	.392	9.793	.769	10.388	9.786	
4	4.800	.911	8.113	.712	10.466	.491	7.229	.211	10.478	7.220	
5	7.361	.368	6.803	.024	7.917	.947	5.919	.899	7.932	5.908	
6	9.460	.260	10.501	.340	5.818	.840	9.617	.583	5.828	9.600	
7	12.555	.171	6.441	.389	2.723	.751	5.557	.534	2.736	5.546	
8	15.278	0.420	0.884	.923	—	—	—	—	—	—	
RXEn	5.838	.880	8.061	.775	9.440	.466	7.177	.148	9.450	7.162	

317851 Nov. 11, 1896

	Σ	ΣR	ΣD	ΣR	ΣD	ΣR	ΣD	ΣR	ΣD	ΣR	ΣD
1	0.781	.721	.820	.100	14.452	.449	5.958	.907	14.450	5.936	
2	.982	.521	.858	.071	10.251	.249	1.996	.990	10.250	1.974	
3	.610	.893	.430	0.490	10.623	.621	9.568	.571	10.622	9.536	
4	.578	.928	.809	.121	10.655	.656	6.947	.940	10.656	6.922	
5	.176	.355	.563	.360	8.057	.083	5.701	.701	8.070	5.678	
6	.182	.318	.380	.542	6.051	.046	9.518	.519	6.048	9.472	
7	.370	.140	.322	.591	2.863	.868	5.460	.468	2.866	5.426	
8	.233	0.272	0.862	.009	—	—	—	—	—	—	
RXEn	.614	.884	.812	.120	9.619	.612	6.950	.889	9.616	6.922	

I should better re-measure the 4's direct, I think they are 50 off, reverse checks

C.D.B.

had trouble finding
scale of B plates read
← MCs - perhaps this
accounts for diff. differences
in the final results.

* found after reduction

Means of MCs		B plates		B & MCs		X		(4)
x	y	$\frac{x+y}{2}$	$\frac{y}{2}$	x	y	x	y	
1 26.572	10.716	26.559	11.691	+13	-975	26.6	10.7	
2 20.684	3.490	20.791	4.161	-107	-671	20.7	3.5	
3 19.591	17.373	19.286	18.174	+305	-801	19.6	17.4	
4 19.562	12.565	19.445	13.365	+117	-800	19.6	12.6	
5 14.835	10.268	14.710	10.939	+124	-671	14.8	10.3	
6 11.164	17.218	10.819	17.832	* +345	-614	11.2	17.2	
7 5.318	9.828	5.078	10.227	+240	-399	5.3	9.8	
8 —	—	—	—	—	—	—	—	
RXEni	17.701	12.518	17.541	13.300	+160	-782	17.7	12.5
x	y	Δy	Δx	x	y	Δy	Δx	
86.5	44.2	+328	-3247	86.5	44.2	+328	-3247	
31.3	37.3	+709	-1684	31.3	37.3	+709	-1684	
all 117.8	81.5	+1037	-4931	117.8	81.5	+1037	-4931	
40.8	23.6	+257	-1741	40.8	23.6	+257	-1741	
77.0	57.9	+780	-3190	77.0	57.9	+780	-3190	

a = -0.119		-55.2a - 6.9b = +381		ax + by + c		Σ	dx + ay + f		Σ
b = +0.283	I x 5	+37.8a + 34.3b = +523	-1449	1 -317 +303 +017	+3	-710	-109	-119	-958
c = +0.166		-276.0a - 34.5b = +1905	+7.815	2 247 .099	-131	553	36		-718
d = -0.0267		-238.2a = +2428	+6366	3 .233 .483	+277	523	178		-820
e = -0.0102				4 .233 .357	+141	523	129		-771
f = -0.1194		a = -0.119		5 .176 .282	+123	395	105		-619
		a = -0.267		6 .133 +487	+371	299	176		-594
		34.3b = +523 + (+447)		7 .063 +277	+231	141	100		-360
		34.3b = 970		8 — —	+17	—	—	-119	-721
		b = +0.283							-779
		34.3c = -1449 + (+1.009)		RXEni 251 +.354	+150	47.4	128		
		34.3c = -440							
		c = -0.0102							
		117.8a + 81.5b + 8c = +1.037							
		8c = +1.037 + (1402) + (-2306)							
		8c = +.133							
		c = +0.166							
		117.8a + 81.5b + 8f = -4.931							
		8f = -4.931 + (+3.145) + (+8.31)							
		8f = -.955							
		f = -.1194							

RX Endeavor

B20924 Dec 20, 1897

	D	R	D	R	D	R	D	R	D	R
					<u>Take means</u>					
1	0.450	.006	6.350	.442	14.415	.413	5.992	996 028	14.414	5.994
2	3.630	.830	2.380	.428	11.235	.237	2.022	018 242	11.236	2.020
3	4.308	.142	9.935	0.873	10.557	.549	9.577	573 597	10.552 ³	9.578 ⁵
4	4.276	.188	7.337	.471	10.589	.595	6.979	975 999	10.592	6.978
5	6.845	.608	6.080	.731	8.020	.015	5.722	722 739	8.018	5.722
6	8.877	.562	9.852	.972	5.988	.969	9.494	486 498	5.978	9.490
7	12.041	.417	5.795	.021	2.824	.824	5.437	443 449	2.824	5.440
8	14.865	0.593	0.358	^h .470	—	—	—	—	—	—
RXEn	5.301	.150	7.315	.493	9.564	.557	6.957	957 977	9.560	6.958

D24148 Sept. 15, 1899

	D	R	D	R	<u>Take means</u>		<u>Take means</u>		D	R
1	0.568	.187	.342	.524	340	.347	6.219	.248	14.344	6.234
2	.690	.057	.308	.571	.218	.217	2.185	.201	11.218	2.19 ³
3	.472	.269	.860	0.022	.436	.429	9.737	.750	10.432	9.744
4	.410	.353	.268	.620	.498	.813	7.145	.152	10.506	7.148
5	.965	.781	.988	.917	.943	.941	⁸⁶⁵ 5.822	.855	7.942	⁶⁰ 5.844
6	.036	.692	.702	.199	.872	.852	9.579	.573	5.862	9.576
7	.158	.602	.609	.290	.750	.762	5.486	.482	2.756	5.484
8	^h .908	0.840	0.123	^h .772	—	—	—	—	—	—
RXEn	.430	.322	.231	.655	.478	.482	7.108	.117	9.480	7.112

MC 23911 reduced to MC 23993

	Σx	Σy	Σax	Σay	x	y
1-4	86.5	44.2	+ .036	+ .064	26.6	10.7
5-8	31.3	37.3	.032	.060	20.7	3.5
all	117.8	81.5	.068	.124	19.6	17.4
1+2+3+5	81.7	41.9	.046	.074	19.6	12.6
4+6+7+8	36.1	39.6	.022	.050	14.8	10.3
					11.2	17.2

$$I - 55.2 a \pm 16.9 b = -.004 - .004$$

$$5.3 \quad 9.8$$

$$II - 45.6 a - 12.3 b = -.024 - .024$$

$$45.6 I - (x) a - 314.64 = -.1824 - .1824$$

$$17.7 \quad 12.5$$

$$55.2 II + (y) a + 126.96 b = +1.3248 + 1.3248$$

$$-187.68 b = +1.1424 + 1.1424$$

$$b = -.0061 \quad a = -.0061$$

$$2.3 I - 126.96 a - (x) b = -.0092 - .0092$$

$$-6.9 II + 314.64 + (x) b = +.1656 + .1656$$

$$+187.68 a = +.1564 + .1564$$

$$a = +.0008 \quad d = .0008$$

	$+ .068$	$+ .124$	$- ax$	$- by$	μx	μy	$- f$	$- ay$	$- dx$
$-\Sigma pa, a$	$-.094$	$-.094$	$-.0213$	$+ .0653$			$-.0659$		
$-\Sigma yb, a$	$+ .497$	$+ .497$	$.0166$	$.214$					
$8c = \Sigma$	$+ .471$	$+ .527$	$.157$	$.1061$					
c, f	$+ .0589$	$+ .0659$	$.157$	$.769$					
			$.118$	$.628$					
			$.90$	$.1049$					
			$.42$	$.598$					
			$-$	$-$					
			$.142$	$.762$					

MC 23911 Dec 19-20, '28				RX Endam							
prec.	D	for.	R	prec.	R	for.	prec.	D	for.	R	for.
e.d.B.	1	0.322	1.730	.731	.341	11.494	11.585	.488	.410		
	2	6.221	7.628	.839	.447	4.288	4.357	.714	.643		
	3	7.312	8.726	.743	.358	18.165	18.256	0.835	0.752		
	4	7.391	8.765	.737	.326	13.362	13.447	.654	.570		
	5	12.085	13.477	.010	.619	11.083	11.153	.946	.875		
	6	15.755	17.154	.328	.933	18.014	18.110	.992	.902		
poor image	7	21.608	22.990	.478	.107	10.620	10.711	.394	.320		
	8	26.902	28.311	.156	0.750	0.792	0.873	.226	.144		
RX En	9.237	10.617	.868	.476	13.317	13.396	.698	.609			
Differences											
	1	26.580	26.581	.575	.591	10.702	10.712	.738	.734		
	2	20.681	20.683	.683	.697	3.496	3.484	.512	.501		
	3	19.584 ⁹⁰	19.585	.587	.608	17.373	17.377	.391	.392		
	4	19.561	19.546	.581	.576	12.570	12.574	.572	.574		
	5	14.817	14.834	.854	.869	10.291	10.280	.280	.269		
	6	11.147	11.157	.172	.183	17.222	17.237	.234	.242		
	7	5.294	5.321	.322	.357	9.828	9.838	.832	.824		
	8	—	—	—	—	—	—	—	—		
RX En	17.665	17.694	.712	.726	12.525	12.523	.528	.535			
MC 23911 - MC 23993											
	D	R	Means	S	R	Means	S	R	Means	S	R
	1	26.580	.583 ³	10.706 ⁷	.736	26.588 ²	10.728 ²		+ .020	+ .011	
	2	20.682	.690	3.498 ¹	.506	20.686	3.498		+ .004	+ .017	
	3	19.584 ⁸⁸	.598	17.374 ⁶	.392	19.592 ³	17.382 ⁴		+ .004	+ .022	
	4	19.554	.578	12.572	.572	19.566	12.572		+ .008	+ .014	
	5	14.826	.862	10.286	.274	14.844	10.280		+ .018	+ .024	
	6	11.152	.178	17.230	.233	11.164 ⁵	17.234		+ .002	+ .032	
	7	5.308	.340	9.832 ³	.828	5.324	9.830		+ .012	+ .004	
	8	—	—	—	—	—	—		—	—	
RX En	17.680	.722 ¹⁹	12.524	.532	17.700	12.528			+ .002	+ .019	

SU Aur $+30^{\circ} 74.3$ (B.D.) $41^h 50^m +30.4$

Oxford Plate 2189 4 48 $+30^{\circ}$ 1903 Mar 16

see P 74

						X.6.41	4 6.41	Ads to Mes	X	Y
1	8363	12	15.248	15.544	—	—	—	+2 +5	0	0
2	8406	9	15.785	20.121	0.537	4.577	3.442	29.339	-276	+1335 37 28.0
3	8380	11	16.040	17.962	0.792	2.418	5.077	15.499	0	+769 5.1 14.7
4	8364	11	16.460	15.696	1.212	0.152	7.769	0.974	+313	+158 7.5 0.8
5	8407	10	17.514	20.699	2.266	5.155	14.525	33.044	+162	+1642 14.4 31.4
6	8390	11	18.165	18.038	2.917	2.494	18.698	15.987	+586	+929 18.1 15.1
7	8373	15	19.530	16.544	4.282	1.000	27.448	6.410	+1100	+639 26.3 5.8
8	8392	10	19.620	18.991	4.372	3.447	28.025	22.736	+909	+1958 27.1 20.8
SU	8382	22	17.070	17.849	1.822	2.305	11.679	14.775	+292	+813 11.4 14.0

$$a = +0.548$$

$$b = -0.185$$

$$c = -0.081$$

$$d = +0.238$$

$$e = +0.502$$

$$f = -1.06$$

$$1-4 \quad 16.3 \quad 43.5 \quad +39 \quad +2267 \quad I \quad +59.6a + 295b = +2718 \quad +2901$$

$$5-8 \quad 85.9 \quad 73.1 \quad +2757 \quad +5168 \quad II \quad +24.4a + 74.0b = -34 \quad +4293$$

$$102.2 \quad 116.6 \quad +2796 \quad +7435 \quad III \quad +24.43 + 59.6a + 180.8b = -81 \quad +10488$$

$$38.9 \quad 21.3 \quad +1415 \quad +1571 \quad III \quad -151.26 + 2799 = -7587$$

$$63.3 \quad 95.3 \quad +1381 \quad +5864$$

$$b = -0.185$$

$$e = +0.502 \quad +59.6a = +3264$$

$$+59.6d = \begin{cases} +2901 \\ -1481 \end{cases}$$

$$+59.6d = +1420$$

$$d = +0.238$$

$$a = +0.548$$

$$8c = \begin{cases} +2796 \\ -5601 \\ +2157 \end{cases}$$

$$8c = -648$$

$$c = -0.081$$

$$8f = \begin{cases} +7435 \\ +2432 \\ +5853 \end{cases}$$

$$8f = -850$$

$$f = -1.06$$

Mean M.C.s

$$1 \quad -0.002 \quad -0.11$$

$$2 \quad 3.718 \quad 28.004$$

$$3 \quad 5.077 \quad 14.730$$

$$4 \quad 7.456 \quad 0.816$$

$$5 \quad 14.363 \quad 31.402$$

$$6 \quad 18.112 \quad 15.058$$

$$26.348 \quad 5.771$$

$$7 \quad 27.116 \quad 20.778$$

$$8 \quad 11.387 \quad 13.962$$

SU Aurigae

MC23842 Nov. 22-25 '28	me. D	fe. \boxtimes	me. R	fe.	me. D	fe. \odot	me. R	fe.		
1	0.982	2.396	.577	.174	31.690	31.717	.911	0.882		N
2	4.717	6.098	.794	.487	3.680	3.719	.931	.892	.8	.2
3	6.064	7.489	.495	.065	16.952	16.990	.652	.620	fe.	16.0 ⁰ 6.3 me
4	8.439	9.854	.131	.711	30.862	30.897	.727	.694	.7	.4 .1
5	15.349	16.752	.160	.750	0.298	0.325	.314	.272		5
6	19.100	20.513	.462	.045	16.639	16.670	.936	.898		
7	27.331	28.748	.247	.821	25.911	25.935	.621	.597		
8	28.117	29.520	.430	0.037	10.925	10.939	.620	.603		
SU Aur	12.382	13.782	.171	.776	17.723	17.760	.865	.831		

Differences

Mean of MC plate

1	—	—	—	—	—	—	—	—	—	—
2	3.735	3.702	.783	.767	28.010	27.998	.020	.010	27.98	28.004
3	5.082	5.093	.082	.109	14.738	14.728 ²⁷	.741	.738	5.077	14.730
4	7.457	7.458	.446	.463	0.828	0.826	.816	.812	7.456	0.816
5	14.3 ⁶ 57	14.356	.417	.424	31.392	31.392	.403	.390	14.363	31.402
6	18.118	18.117	.115	.129	15.051	15.047	.025	.016	18.112	15.058
7	26.349	26.352	.330	.353	5.779	5.782	.710	.715	26.348	5.771
8	27.135	27.124	.147	.137	20.765	20.778	.709	.721	27.116	20.778
SU Aur	11.400	11.386	.406	.404	13.967	13.957	.954	.949	11.387	13.962

Means

Finals \odot

Me. 23795 and by plate 5 MC23842

D	\boxtimes	R	D	\odot	R	\boxtimes	Finals \odot		
1	—	1008	—	—	1003	—	1002	—	Me. 23795 and by plate 5 MC23842
2	3.718	733	28.004	.003	732	3.72 ²	28.004	3.715	28.004
3	5.08 ⁸	079	14.732	.732	746	5.08 ⁰	14.732	5.074	14.729
4	7.458	460	0.824	.814	814	7.45 ⁵	.081 ⁹	7.458	0.814
5	14.362	379	31.392	.379	418	14.36 ³	31.404	14.363	31.401
6	18.118	604	15.048	.053	020	18.11 ⁰⁷	15.058	18.117	15.065
7	26.350	343	5.786	.770	772	26.34 ²	5.77 ⁵	26.354	5.767
8	27.130	013	20.772	.774	774	27.1 ¹⁸	20.77 ³	27.114	20.782
SU Aur	11.39 ³	889	13.962	.964	952	11.39 ⁸⁷	13.96 ²	11.387	13.961

Reduced to I 5368
I 7766

	Δx	Δy	$\frac{x}{6}$	$\frac{y}{6}$	I	II	Δx	Δy
1	—	—	1 +.002	+010	+4	+15	0	0
2	+.097	-.028	2 3.603	28.067	-115	+63	3.7	28.0
3	+.022	-.010	3 5.013	14.787	-64	+57	5.0	14.7
4	+.008	-.001	4 7.435	0.863	-21	+47	7.5	0.8
5	+.078	-.018	5 14.217	31.488	-146	+86	14.4	31.4
6	+.018	-.016	6 18.047	15.143	-65	+85	18.1	15.1
7	+.021	-.010	7 26.295	5.892	-53	+121	26.3	5.8
8	+.049	-.013	8 27.012	20.887	-104	+109	27.1	20.8
SU Cont. 0.43	-.010		SU Ave 11.323	14.050	-64	+88	11.4	14.0

$163 \quad 435 \quad -196 \quad +182$
 $85.9 \quad 73.1 \quad -368 \quad +401$
 $102.7 \quad 116.6 \quad -564 \quad +583$
 $38.9 \quad 21.3 \quad -104 \quad +240$
 $63.3 \quad 95.3 \quad -430 \quad +343$

$+59.6a + 29.6b = -172 \quad +219$
 $+24.4a + 74.0b = -296 \quad +140$

I 24204

	Δx	Δy
1	—	—
2	+.122	-.052
3	+.047	-.039
4	+.013	-.032
5	+.132	-.094
6	+.42	-.093
7	+.026	-.120
8	+.076	-.128
SU Cont. 0.59	-.074	

$$\begin{aligned}
 a &= -.0011 \\
 b &= -.0036 \\
 c &= -.009 \\
 d &= +.0033 \\
 e &= +.0008 \\
 f &= +.018
 \end{aligned}$$

$$II + 59.6a + 180.8b = -723 \quad +342$$

$$I-II \quad -151.2b = +551 \quad -123$$

$$b = -.0036 \quad e = +.00081$$

$$59.6a = \begin{cases} -172 \\ +107 \end{cases} \quad 59.6d = \begin{cases} +219 \\ -24 \end{cases}$$

$$59.6a = -.065 \quad 59.6d = .195$$

$$a = -.0011 \quad d = +.0033$$

$$8C = \begin{cases} -564 \\ +112 \\ +420 \end{cases} \quad 8F = \begin{cases} +583 \\ -337 \\ -93 \end{cases}$$

$$8C = -32$$

$$8F = +143$$

$$C = -4$$

$$F = +018$$

I 25044

	Δx	Δy
1	—	-.002
2	-.012	-.032
3	-.032	-.014
4	+.006	-.008
5	-.025	-.022
6	-.34	-.002
7	+.001	-.009
8	-.010	+.011
SU Ave	-.008	-.026

$ax + by + c$	Σ	$dx + ey + f$	Σ	mx	my
1 - - -4	-4	- - - +.018	+18	-8	+3
2 -4 -101	-109	+12 +22	+52	+6	-9
3 -6 -53	-63	+17 +12	+47	+1	-10
4 -8 -3	-15	+25 +1	+44	+6	-3
5 -16 -113	-133	+46 +25	+89	+13	+3
6 -20 -54	-78	+69 +12	+90	-13	+5
7 -29 -21	-54	+87 +5	+110	-1	-11
8 -31 -75	-110	+90 +17	+125	-6	+16
SU Ave 13 -50	-67	+38 +11	+67	-3	-21

SV Aurigae

I5368 Jan. 8, 1892

182

101

83

240

343

219

140

+342

-123

81

219

24

8

0033

	S	R	D	R	D	R	D	R	Finals	
	D	R	D	R	D	R	D	R	X	Y
1	0.517	.167	19.637	0.230	2.153	.155	16.854	.850	2.154	16.852
2	2.670	.012	2.783	.080	3.033	.005	8.865	.883	3.032	8.974
3	3.550	.162	10.772	.113	4.456	.453	0.511	.518	4.454	0.514
4	4.973	.714	19.426	.748	8.539	.527	18.894	.910	8.532	18.902
5	9.055	.640	6.743	.140	10.864	.824	9.065	.110	10.844	9.088
6	11.381	.393	10.572	.340	15.784	.766	3.527	.540	15.778	3.534
7	16.301	.401	16.110	.770	16.213	.207	12.525	.541	16.210	12.532
8	16.730	.960	7.112	.771	6.802	.780	8.424	.447	6.798	8.436
SV Aur	7.319	.387	11.213	.677						

I7766 Dec. 28, 1892

D R D R

Finals

	D	R	D	R	D	R	D	R	X	Y
1	0.319	.787	.431	0.932	2.235	—	16.831	.818	2.240	16.824
2	.554	.578	.600	.750	3.041	2.209	8.864	.863	3.041	8.864
3	.360	.774	.567	.795	4.461	3.043	0.518	.508	4.462	0.512
4	.780	.325	.913	.440	5.612	4.462	18.887	.880	8.610	18.884
5	.931	.245	0.544	.812	6.863	8.542	9.063	.082	10.862	9.072
6	.182	.956	.368	.014	7.792	10.831	3.521	.527	15.796	3.524
7	.111	.000	.910	.459	8.289	15.787	12.513	.528	16.258	12.520
8	.578	0.570	.918	.460	SV 8.289	16.217	8.422	.429	6.834	8.426
SV Aur	.145	.972	.009	.361						

I7766 only graph SF5368

I24204 only graph SF5368

I25044 only SF5368

	mean	mean	mean	mean	mean	mean	mean	mean	mean	mean
1	+0.006	0.000	0.000	+0.025	0.000	-0.001	-0.002	+0.001	+0.006	
2	2.169	16.834	2.163	16.838	2.164	16.836	16.820	2.162	16.834	
3	3.003	8.869	3.007	8.878	2.998	8.867	8.860	3.007	8.862	
4	4.466	0.5514	4.463	0.534	4.462	0.510	0.506	4.461	0.517	
5	8.520	18.893	8.537	18.886	8.531	18.891	18.880	8.530	18.888	
6	10.832	9.080	10.826	9.088	10.820	9.087	9.086	10.828	9.084	
7	15.786	3.529	15.777	3.538	15.771	3.538	3.543	15.777	3.535	
8	16.201	12.526	16.202	12.533	16.216	12.538	12.544	16.207	12.532	
SV Aur	6.798	8.431	8.305	8.429	6.793	8.423	8.410	6.794	8.425	

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	Remainder y direct	Remainder x reverse	$\frac{y}{x}$ Dir.
1	2.107		—
2	.1310		.797
3	.273		.834
4	.623		.484
5	0.310		.797
6	.127		.980
7	.700		.407
8	.709		.398
SU Ann	.739		.368

	<u>see p. 62</u> 6.1 act $\frac{y}{x}$		y	$\frac{y}{x}$	$\frac{y}{x}$	$\frac{y}{x}$	$\frac{y}{x}$	$\frac{y}{x}$
1	—	—	—	—	—	—	—	—
2	3.276	27.920	+442	+084	3.7	28.0		
3	4.831	14.750	+246	-020	5.1	14.7		
4	7.393	0.927	+063	-111	7.5	0.8		
5	13.823	31.446	+540	-044	14.4	31.4		
6	17.794	15.213	+318	-155	18.1	15.1		
7	26.120	6.100	+228	-329	26.3	5.8		
8	26.669	21.027	+447	-249	27.1	20.8		
SU	11.114	14.061	+273	-099	31.4	14.0		

	Σx	Σy	Σax	Σay
1-4	16.3	43.5	+749	-.058
5-8	85.9	73.1	+1.533	-.777
all	102.2	116.6	+2.282	-.835
1+4+6+7	51.9	21.7	+607	-.606
2+3+5+8	50.3	94.9	+1.675	-.229

$$\begin{aligned}
 +69.6a + 29.6b &= +.784 \quad -.719 \\
 +1.6a - 73.2b &= -1.068 \quad -.377 \\
 43.5a + 69.6a - 3184.2b &= -46.458 \quad -16.400 \\
 +3213.8b &= +47.242 \quad +15.681 \\
 b &= +.0147 \quad e = +.0049 \\
 a &= +.0050 \quad d = -.0124 \\
 c &= +.007 \quad f = -.017
 \end{aligned}$$

	ax	by	c	Σ	μx	μy	Σ	f	dy	dx
1	—	—	+007	+007	-9	+6	-017	-017	—	—
2	+018 ⁵	+412		+438	+4	+10	+74	+137	-046	
3	+025 ⁵	+216 ⁵		+249	-3	-12	-8	+072	-063 ⁵	
4	+037 ⁵	+011 ⁵		+056	+7	-5	-106	+504	-093	
5	+072	+432		+541	-1	-2	-42	+154	-179	
6	+090 ⁵	+222		+320	-2	+12	-167	+074	-224	
7	+131 ⁵	+085 ⁵		+224	+4	-14	-315	+028	-326	
8	+135 ⁵	+306		+448	-1	+2	-251	+102	-336	
SU	+057	+206		+270	+3	-9	-090	+068 ⁵	-141 ⁵	

SU Aurigae

I 24204 Dec. 9, 1899	D	X	R	D	(u)	R	D	X	R	D	(u)	R	X	Final	(u)
smaller plate	1	0.444	^h .169	19.119	0.170										
	2	2.720	.892	2.322	^{chuck} .974										
	3	3.519	.113	10.281	.006										
	4	4.906	.697	18.632	.651										
	5	9.110	.508	0.311	.988										
	6	11.539	.293	10.120	.180										
	7	16.246	.369	15.683	.590										
	8	16.734	0.888	6.692	.582										
SU Aur	7.302	.327	10.760	.525	6.858	.842	.8359	8.355	6.850	8.362					

I 25044 April 6, 1900

lower plate	1	0.375	^h .435	^h .692	0.945										
	2	.522	.338	.870	.762	2.147	¹³⁶ .047	16.822	⁸¹⁵ .847	2.142	16.820				
	3	.370	.472	.832	.804	2.997	⁹⁷⁹ .957	8.860	⁸⁶¹ .859	2.997	8.860				
	4	.827	.969	.189	.450	4.452	⁴⁶⁸ .466	0.503	⁵⁰⁹ .505	4.460	0.506				
	5	.873	.960	0.808	.810	8.498	⁵¹⁵ .475	18.884	⁸⁷⁷ .865	8.507	18.880				
	6	.183	.642	.610	.018	11.808	⁸¹³ .793	9.082	⁰⁹¹ .072	10.810	9.086				
	7	.143	.678	.148	.462	15.768	⁷⁶⁵ .757	3.544	⁵⁴⁴ .547	15.766	3.548				
	8	.503	0.271	.148	.462	16.208	¹⁹² .164	12.944	⁵⁴³ .547	16.200	12.544				
SU Aur	.158	.671	.283	.347	6.783	⁷⁸³ .764	8.409	⁹¹¹ .402	⁴⁰² .402	6.788	8.410				

Mean 2 in Cas

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MC 23793 reduced to MC 23842.

	Σx	Σy	$\Sigma \Delta x$	$\Sigma \Delta y$	x	y
1-4	16.3	43.5	+0.258	-.063	—	—
5-8	85.9	73.0	+0.446	-.494	3.7	28.0
all	102.2	116.5	+ .704	-.557	6.1	14.7
1+2+3+4	23.2	74.1	+ .402	-.103	7.5	0.8
4+6+7+8	79.0	42.4	+ .302	-.454	14.4	31.4
					18.1	15.0
					26.3	5.8
					27.1	20.8
					11.4	14.0

$$I \ 69.6a + 29.5b = +1.188 - 4.31$$

$$II \ 55.8a - 31.7b = -.100 - 3.51$$

$$55.8I - (I)(I)a + 1646.1b = +10.49 - 24.050$$

$$-69.6II - (I)(I)a + 2206.3b = +6.96 + 24.430$$

$$3852.4b = +17.45 + .380$$

$$b = .0046 \quad c = .000099$$

$$+31.7I \ 2206.3a + (I)(I)b = 5.960 - 13.663$$

$$+29.5II \ 1646.1a - (I)(I)b = -2.950 - 10.355$$

$$3852.4a = +3.21 - 24.018$$

$$a = +.00078 \quad d = -.0065$$

	+ .704	-.557	-ax	-by	4x	xy	-f	-xy	-dx
-Exad	-.0818	+ .664	—	—	-.012	-.000	-.0119	-.0028	—
Σyb	+.524	-.012	-.0029	-.1260	+ .006	+ .001	.0015	+.0240	
8c = Σ	+.098	+ .095	40	.0662	+ .002	-.004		+.0332	
c, f	+ .0122	+ .0119	59	.0036	+ .005	-.006		+.0488	
			112	.1413	+ .006	-.004		+.0940	
			141	.0675	+ .007	+ .012		+.1176	
			205	.0161	+ .009	-.006		+.1710	
			211	.0936	-.011	+ .008		+.1762	
			89	.0630	+ .003	-.003		+.0741	

SV Aurigae

MC 23793 Nov 7-28	prec. D	alt. \odot	prec. R.	alt. \odot	prec. D	alt. \odot	prec. R.	alt. \odot
1	0.653	2.678	h. 552	.537	31.671	31.635	h. 249	e. 288
2	4.533	6.537	.756	.738	3.669	3.647	.262	.291
3	5.830	7.839	.442	.430	16.966	16.936	.974	.017
4	8.138	16.156	.107	.096	30.896	30.870	.048	.080
5	15.181	17.208	.090	.072	0.344	0.313	.606	.635
6	18.865	20.890	.402	.382	16.712	16.680	.258	.290
7	27.053	29.082	.198	.171	26.054	26.016	.918	.955
8	27.902	29.908	.372	.368	11.051	11.001	.920	.970
SV Aur	12.131	14.152	.058 ^{1.38}	.050 ^{1.40}	17.775	17.740	.178	.216

Differences

1	—	—	—	—	—	—	—	—
2	3.880	3.859	.802	.799	28.002	27.988	.013	.003
3	5.177	5.161	.110	.107	14.705	14.699	.725	.729
4	7.485	7.478	.445	.447	0.791	0.765	.799	.792
5	14.528	14.530	.462	.465	31.327	31.322	.357	.347
6	18.212	18.212	.150	.155	14.959	14.955	.009	.002
7	26.460	26.464	.354	.366	5.617	5.615	.669	.667
8	27.249	27.230	.180	.169	20.620	20.634	.671	.682
SV Aur	11.478	11.474	.4 ⁴ 14	.5 ⁴ 27	13.896	13.895	.9 ² 39	.928

	D	\odot means	D	\odot R	x Final	y	MC 23793-MC 23872	Δx	Δy
*	—	+ .033	—	—	+ .016	—		+16	+ .012
2	3.870	868 ⁹	27.994 ⁵	28.008 ^{27.999}	3.868	27.996	+ .147	- .008	
3	5.168	160 ⁹	14.702	713 ⁷⁷⁸	5.164	14.708	+ .084	- .024	
4	7.482	481 ⁹	0.772	778 ⁷⁷⁸	7.482	0.776 ⁶	+ .027	- .043	
5	14.528 ⁹	839 ⁹	31.324	327 ³⁵²	14.534	31.328 ¹	+ .171	- .083	
6	18.212	204 ⁹	14.958 ⁷	961 ¹⁰⁰⁶	18.208	14.958 ⁹	+ .101	- .090	
7	26.462	400 ⁹	5.616	603 ⁶⁶⁸	26.460	5.610	+ .058	- .165	
8	27.240 ²⁴⁰	230 ²⁴⁰	20.628 ⁷	611 ⁶⁷⁶	27.234	20.618 ⁹	+ .116	- .154	
SU Aur	11.476	487 ⁴⁸⁷	13.896	922 ⁹²²	11.474	13.899 ⁸⁹⁹	+ .087	- .064	

* I have remeasured & divided, but peculiarly persists, the zero point seems to be off

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see p 198

U Sep. 4^h 52^m - 21.04Hyderabad Astrographic - 21° RA 4^h 52^m Plate 1780 Jan 2, 1921

	RA	Dec	x	y	algiers	x	y
1	-21° 10' 16"	8918	32	10.806	18.636	—	—
1551	x2 -21° 10' 16"	8919	34	11.030	18.835	1551	0.224
3	not in	8904	28	12.690	16.242	1.884	2.396
4	" "	8891	30	13.684	16.725	2.878	2.911
algiers 1557	x5 -21° 10' 22"	8921	42	14.414	18.272	1557	3.808
6	-21° 10' 23"	8922	39	14.576	18.182	3.770	0.454
7	-21° 10' 25"	8906	28	15.460	16.900	4.654	1.736
8	-21° 10' 28"	8893	35	15.839	15.462	5.033	3.174
U	-21° 10' 19"	8905	32	12.916	16.808	2.160	1.828

See p 94
2178
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	X.644	Y.644	Aster. to Mus	X	Y				
1	—	—	—	1.5	—	32.2	34.0	+92	-1245
2	1.443	1.938	+11 -111	12.2	1.8	107.4	32.5	-1856	-4355
3	12.133	15.430	+87 -864	18.5	14.6	139.6	66.5	-1764	-5600
4	18.534	18.747	-6 -1157	22.6	17.6	47.7	5.5	-698	-684
5	22.592	23.42	-18 -740	—	1.6	91.9	61.0	-1066	-3956
6	24.279	2.924	-691 -793	23.6	2.1				
7	29.972	11.180	-724 -1226	29.2	10.0	+75.2a	-1.5b	= -1948	-3110
8	32.413	20.441	-423 -1596	32.0	18.8	+44.2a	+5.55b	= -368	-2312
U hep	13.524	11.772	-10 -789	13.5	11.0	+17 -75.1a	-9.44b	= +626	+3930

Δx	Δy	c	$\Sigma \Delta x + \Delta y + c$	$\Sigma \Delta x + \Delta y + c$	$\Sigma \Delta x + \Delta y + c$	$\Sigma \Delta x + \Delta y + c$	$\Sigma \Delta x + \Delta y + c$	$\Sigma \Delta x + \Delta y + c$	$\Sigma \Delta x + \Delta y + c$
1	—	—	11045	+104	—	-15	+0974	+097	a = -0.0252
2	-038	+24.8	+91	-62	-125	—	20	20	b = +0.138
3	-308	+202	-2	-508	-151	—	536	536	c = +0.045
4	-467	+243	-120	-770	-14	—	824	824	d = -0.0416
5	-730	+22	-444	-941	-18	—	862	862	e = -0.0086
6	-536	+21	-453	-984	-86	—	999	999	f = +0.0974
7	-736	+138	-594	-1212	-162	—	1201	1201	
8	-806	+260	-442	-1330	—	—	1395	1395	
U hep	-340	+152	-84	-562	-95	—	560	560	

$$a = -0.0252$$

$$b = +0.138$$

$$c = +0.045$$

$$d = -0.0416$$

$$e = -0.0086$$

$$f = +0.0974$$

$$8C = \begin{cases} -1764 \\ +3518 \\ -918 \end{cases}$$

$$8C = +.836$$

$$C = +.1045$$

$$8F = \begin{cases} -5600 \\ +5807 \\ +772 \end{cases}$$

$$8F = +.774$$

$$F = +0.0974$$

U Leporis

24043 Jan 28-29, 29
MC 23840 Nov 21-22, 29

	prec.	D	for	X	prec.	R	for	prec.	D	for	U	prec.	R	for	
C.D.B.	1	0.862	2.087		1.520	1.510	19.499	19.533	0.830	0.795		8	.4		
	2	2.324	3.553		.075	.863	17.669	17.710	.653	.620		7	.3	0.0	help
plate units good	3	13.072	14.310		.345	.121	4.932	4.990	.445	.400		6	.5	.2	pl.
	4	19.399	20.592		.023	.827	1.910	1.958	.492	.463		5			
	5	23.447	24.653		.936	.742	17.883	17.945	.519	.469					
	6	24.457	25.668		.938	.731	17.387	17.413	.051	.010					
	7	30.123	31.438		.210	.981	9.533	9.582	.880	.843					
	8	32.854	34.064		.570	.0377	0.620	0.653	.770	.719					
U Lep.		14.7391	15.595		.028	.835	8.508	8.561	.874	.829					
Differences															
1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2	1.462	1.466	.445	.447	1.839	1.823	.823	.825							
3	12.218	12.223	.175	.189	14.567	14.543	.615	.605							
4	18.537	18.505	.497	.483	17.589	17.575	.662	.668							
5	22.585	22.566	.584	.568	1.616	1.588	.689	.674							
6	23.595	23.581	.582	.579	2.112	2.126	.221	.215							
7	29.367	29.351	.310	.329	9.966	9.951	.050	.048							
8	31.992	31.977	.950	.933	18.879	18.880	.940	.924							
U Lep.	13.529	13.508	.492	.475	10.991	10.972	.044	.029							
Means															
	D	X	R		D	U	R								
1	—	—	—	—	—	—	—	—							
2	1.464	.453	.446	1.838	.820	.824			1.458	1.828	1.449	+1.828			
3	12.216	.223	.182	14.558	.567	.540			12.220	14.568	12.221	14.571			
4	18.528	.540	.490	17.582	.598	.664			18.530	17.590	18.527	17.595			
5	22.576	.582	.576	1.662	.602	.682			22.578	1.602	22.568	1.601			
6	23.588	.587	.586	2.116	.134	.218			23.588	2.124	23.587	2.137			
7	29.358	.348	.310	9.958	.943	.949			29.352	9.950	29.343	9.957			
8	31.984	.938	.942	18.880	.820	.732			31.976	18.850	31.991	18.840			
U Lep.	13.518	.513	.489	10.982	.906	.836			13.516	10.984	13.523	10.982			

MC 23840 red by graph 5 MC 2403

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MC. 23840 reduced to MC 24073

	Σx	Σy	$\Sigma \Delta x$	$\Sigma \Delta y$	\bar{x}	\bar{y}
1-4	32.2	34.0	+ .403	+ .347	—	—
5-8	107.6	32.6	- .401	+1.123	1.5	1.8
all	139.8	66.6	- .804	+1.470	12.2	14.6
1+2+3+5	36.3	18.0	-.230	+ .385	18.5	17.6
4+6+7+8	103.5	48.6	-.574	+1.085	22.6	1.6
					23.6	2.1

$$I \quad 75.4a - 1.4b = +.002 + .776$$

$$II \quad 67.2a + 30.6b = -.344 + .700$$

$$67.2I(11)a - 94.08b = .1344 + .52147$$

$$-75.4II(11)a - 2307.2b = 25.938 - 52.78$$

$$-2461.28b = 26.0924 - .633$$

$$b = \frac{-0.109}{-0.0105} = +.00026$$

$$30.6I \quad 2307.2a - (11)b = .0612 + 23.746$$

$$1.4II \quad 94.08a + (11)b = -.4816 + .98$$

$$2401.28a = -4204 + 24.726$$

$$a = -.00018 \quad d = .0103$$

	$-\Sigma \Delta x$	$+\Sigma \Delta y$	$-\Delta x$	$-\Delta y$	μx	μy	$-f$	$-\Delta y$	$-\Delta x$
$-\Sigma \Delta x, d + 0.252$	-1.4399		—	—	-.007	-.002	-.0016	—	—
$-\Sigma \Delta y, d + 1.7259$	-.0173		+0003	+0.0196	-.006	-.004		-.0008	-.0154
$8c = \Sigma - .053$	+ .0128		22	.1591	+0.003	+0.006		38	.1257
c, f	-.0066	+ .0016	33	.1918	-.004	-.001		46	.1906
			41	.0174	-.005	-.001		4	.2328
			42	.229	+0.003	+0.012		5	.2431
			53	.1090	-.006	+0.005		26	.3028
			58	.2060	+0.007	-.016		49	.3296
			24	.1199	+0.010	-.006		29	.1390

23840
MC 24043Jan 28-29, 1929
Nov. 22-23, 1929

	prec	D	for	prec	R	for	prec	D	for	prec	R	for
1	0.920		2.468	0.034		.510	20.124		20.037	0.518		0.598
2	2.371		3.878	.607		.092	18.280		18.194	.380		.444
3	12.990		14.519	.984		.459	5.422		5.359	.219		.311
4	19.254		20.788	.721		.180	2.345		2.262	.323		.387
5	23.484		25.006	.500		.959	18.278		18.201	.353		.432
6	24.503		26.011	.482		.960	17.712		17.653	.890		.963
7	30.169		31.702	.827		.290	9.840		9.751	.754		.846
8	32.720		34.251	.277		0.725	0.931		0.849	.670		.748
U Lp.	14.336		15.876	.648		.128	9.001		8.914	.643		.723

Differences

Means of 2 MCs

1	—	—	—	—	—	—	—	—	—	—
2	1.451	1.410	.427 247	.418	1.844	1.838	.842	.846	1.454	1.827
3	12.070	12.051	.050	.051	14.702	14.673	.701	.713	12.220	14.566
4	18.334	18.320	.313	.330	17.779	17.770	.805	.789	18.528	17.590
5	22.564	22.538	.534	.551	1.846	1.831	.835	.834	22.574	1.602
6	23.583	23.543	.552	.550	2.412	2.379	.372	.365	23.588	2.131
7	29.249	29.234	.207	.220	10.284	10.281	.236	.248	29.248	9.954
8	31.800	31.783	.757	.785	19.193	19.183	.152	.150	31.990	18.845
U Lp	13.416	13.408	.386	.382	11.023	11.118	.125	.125	13.520	10.983

MC23840-MC24043

MC 23840 - MC 24043

	prec	D	for	prec	R	for	prec	D	for	prec	R	for
1	—	—	—	—	—	—	—	—	—	—	—	—
2	1.430		.422	1.848		1.844	1.426		1.842			-.032 + .014
3	12.060		.056	14.888		.708	12.054		14.698			-.165 + .137
4	18.326		.322	17.784		.796	18.324		17.789			-.206 + .196
5	22.556		.542	1.838		.834	22.546		1.836			-.033 + .234
6	23.562		.550	2.396		.368	23.558		2.382			-.031 + .257
7	29.242		.214	10.282		.242	29.228		10.262			-.126 + .312
8	31.792		.766	19.188		.150	31.778		19.164			-.211 + .320
U Lp.	13.412		.384	11.120		.124	13.398		11.122			-.118 + .138

Reduce to B₁₂₄₈₀
B₁₄₇₉₈

	Δx	Δy
1		
2	+0.007	-0.001
3	+0.028	-0.053
4	+0.029	-0.072
5	+0.006	-0.063
6	+0.012	-0.077
7	+0.017	-0.136
8	+0.043	-0.122
U Lp	+0.024	-0.046

B₁₇₆₇₀

	Δx	Δy
1		
2	+0.002	+0.003
3	-0.002	-0.013
4	+0.002	-0.034
5	-0.001	-0.034
6	+0.004	-0.028
7	+0.006	-0.054
8	-0.004	-0.052
U Lp	+0.004	-0.016

B₂₄₀₃₆

	Δx	Δy
1		
2	+0.012	-0.001
3	+0.006	-0.013
4	+0.005	-0.025
5	+0.007	-0.016
6	+0.008	-0.019
7	-0.001	-0.043
8	+0.006	-0.028
U Lp	+0.010	-0.010

Signs correct? c & d

	μx	μy	μx
1	-40	-1	-003
2	+15	0	+002
3	+19	-5	-012
4	-19	+2	+012
5	+5	+7	+006
6	+1	-8	-004
7	-72	0	+012
8	+15	+9	-010
U Lp	+12	-43	+021

See p112

X-1.856 | Y-1.856

maniples

B's & U's

		+0.04			0	+4	0		
1	1.429	1.876	1.454	1.827	-35	+49	1.5	1.8	
2	12.114	14.974	12.220	14.566	-106	+408	12.2	14.6	
3	18.425	18.142	18.528	17.590	-103	+552	18.5	17.6	
4	22.807	2.021	22.574	1.602	+233	+419	22.6	1.6	
5	23.833	2.589	23.588	2.131	+245	+458	23.6	2.1	
6	29.507	10.605	29.248	9.954	+259	+651	29.2	10.0	
7	32.053	19.648	31.990	18.845	+63	+803	32.0	18.8	
8	13.460	11.407	13.514	10.983	-54	+424	13.5	11.0	

$$32.2 \quad 34.0 \quad -244 + 1013 \quad I \quad +75.2a - 1.5b = +1044 \quad | +1318$$

$$107.4 \quad 32.5 \quad +800 + 2331 \quad II \quad +44.2a + 55.5b = -330 \quad | +1484$$

$$139.6 \quad 66.5 \quad +556 + 3344 \quad III \quad -75.1a - 94.4b = +561 \quad | -2.523$$

$$47.7 \quad 5.5 \quad +443 + 930 \quad -95.9b = +1605 \quad | -1205$$

$$91.9 \quad 61.0 \quad +113 + 2414 \quad b = -0.0167$$

$$a = +0.0135 \quad 8c = \begin{cases} +556 \\ -1.885 \\ +1011 \end{cases} \quad e = +0.0126$$

$$b = -0.0167 \quad 8c = -318 \quad 44.2a = \begin{cases} -330 \\ +927 \end{cases}$$

$$c = -0.03975 \quad 8c = -0.03975 \quad 44.2a = +597$$

$$d = +0.0180 \quad c = -0.03975 \quad a = +0.0135$$

$$e = +0.0126 \quad 8f = \begin{cases} +3344 \\ -2513 \\ -838 \end{cases} \quad 44.2d = \begin{cases} +1484 \\ -699 \end{cases}$$

$$f = -0.001 \quad 8f = -0.007 \quad 44.2d = +785$$

$$f = -0.001 \quad d = +0.018$$

	$ax + by + c$	Σ	$dx + ey + f$	Σ
1		+40		-1
2	+20 -30	+50	+27 +23	+49
3	+165 -244	-125	+220 +184	+403
4	+250 -294	-84	+333 +222	+554
5	+305 -27	+238	+407 +20	+428
6	+319 -35	+244	+425 +26	+450
7	+394 -167	+187	+526 +126	+651
8	+432 -314	+78	+576 +237	+812
U Lp	+182 -184	-42	+243 +139	+381

B12485	D	X	R	D	Y	R	D	X	R	D	Y	R	X	Y	X	Y
May 10, 1894	1	0.721	1.967	11.570	0.438											
	2	1.491	.206	10.559	.449	0.770	.761	1.011	0.766	.081	0.766	1.011				
	3	7.262	.453	3.498	.508	6.551	.514	8.072	6.532	.070	6.532	8.072				
	4	10.658	.046	1.795	.224	10.937	.921	9.775	10.928	.786	9.928	9.780				
	5	13.012	.685	10.481	.512	12.291	.282	1.089	12.286	.084	12.286	1.088				
50th checked	6	13.562	.131	10.180	.826	12.791	.836	1.390	12.838	.388	12.838	1.388				
	7	16.630	.079	5.841	.181	15.909	.888	6.729	15.898	.723	15.898	6.726				
	8	17.992	.702	0.982	.012	17.271	.265	10.598	17.268	.574	17.268	10.586				
V. help	9	7.978	.725	5.423	.577	7.259	.242	6.147	7.250	.139	7.250	6.142				

						<u>Take means</u>		<u>Take means</u>							
B14798	1	0.850	4.424	4.651	0.893	2	.773								
	2	.623	.651	.648	.910	3	.561	.008	.017			0.772	1.019		
	3	.411	.873	.640	.917	4	.971	.551	.011	.024		6.556	8.018		
	4	.821	.480	.941	.600	5	.290	.944	.710	.707		9.958	9.708		
	5	.140	.131	.630	.910	6	.847	.293	.021	.017		12.292	1.018		
	6	.697	.571	.352	.218	7	.920	.853	.299	.325		12.850	1.312		
	7	.770	.514	.068	.492	8	.318	.910	.583	.599		15.915	5.596		
	8	.168	.120	.190	.860			.304	.461	.467		17.312	10.464		
U Lep	127	.154	.564	.000	.277		.270	.087	.107			7.274	6.096		

	B 14798 red by graph to B 12485		3 17670 red by graph to B 12485		B 24036 red by graph to B 12485		mean of 4 B plates	
			mean	+5 -10	mean		000	+002
1	—	—	—	—	—	—	—	—
2	0.769	1.014	0.778	0.1009	0.778	1.011	0.770	1.011
3	6.527	8.066	6.526	8.072	6.534	8.068	6.527	8.068
4	9.922	9.777	9.931	9.773	9.924	9.770	9.927	9.775
5	12.288	1.104	12.285	1.085	12.293	1.085	12.288	1.089
6	12.844	1.469	12.841	1.400	12.846	1.390	12.841	1.395
7	15.895	5.700	15.904	5.722	15.897	5.708	15.898	5.714
8	17.273	10.584	17.264	10.590	17.274	10.585	17.270	10.586
9	7.252	6.146	7.254	6.146	7.260	6.144	7.252	6.146

used because large residuals when 6.0 was used

not	$6X$	$6.25Y$	MC-act. ΔX	ΔY		ΣX	ΣY	$\Sigma \Delta X$	$\Sigma \Delta Y$
1	1.244	—	—	—					
2	1.244	1.881	+1.10	-0.54	1-4	32.2	34.0	+2.286	-1.065
3	11.304	14.975	+9.16	-4.09	5-8	107.5	32.5	+5.110	-3.268
4	17.268	18.194	+1.260	-6.02	all	139.7	66.5	+7.386	-4.333
5	21.698	2.275	+0.926	-6.73	1+2+5+6	47.7	5.5	+2.004	-1.433
6	22.620	2.837	+9.68	-7.06	3+4+7+8	92.0	61.0	+5.392	-2.900
7	27.924	10.850	+1.424	-8.96					
8	30.198	19.838	+1.792	-9.93					
U	12.660	11.425	+0.860	-4.42					
						+75.32	-1.56	+2.824	-2.203
						+44.32	+55.56	+3.388	-1.467

$$+75.3a - 1.5b = +2.824 \quad -2.203$$

$$+44.3a + 55.5b = +3.388 \quad -1.467$$

$$37I) 2786.1 - 55.5b = +104.488 \quad -81.500$$

$$+2830.4a = 107.876 \quad -82.967$$

$$a = +0.381 \quad d = -0.293$$

$$1.7II) +75.3a + 94.3b = +5.760 \quad -2.495$$

$$+95.8b = 2.936 \quad -0.242$$

$$b = +0.0306 \quad -0.00305$$

$$c = +0.05 \quad f = -0.045$$

	ax	by	c	Σ	μ_x	μ_y	Σ	f	ey	dx
1	—	—	+0.05	+0.05	-5	+4	-0.04	-0.045	—	—
2	+0.057	+0.055		+1.17	-7	—	-0.54	-0.055	-0.44	
3	+4.65	+4.47		+9.17	-1	-2	-4.07	-0.445	-3.58	
4	+7.05	+5.39		+1.249	+11	+2	-6.07	-0.537	-5.425	
5	+8.61	+0.49		+9.15	+11	-1	-6.72	-0.05	-6.625	
6	+8.98	+0.64		+9.67	+1	-2	-7.04	-0.065	-6.925	
7	+1.113	+3.06		+1.424	—	-2	-8.94	-0.305	-8.59	
8	+1.218	+5.76		+1.799	-7	+9	-1.002	-0.575	-9.40	
U	+5.145	+3.37		+8.56	+4	-8	-4.34	-0.335	-3.96	

B17670 Oct. 13, 1996

	D	(X) R	B	(U) R	<u>V. Lepans</u> D	(X) R	D	(U) R	(X) <u>Final</u>	(U)
1	0.491	h.504	11.476	0.890	—	—	—	—	—	—
2	1.269	.725	10.468	.910	0.778	.779	1.008	.020	0.778	1.014
3	7.009	.969	3.424	(636)	6.518	.535	8.032	(746)	6.526	8.058
4	10.416	.587	1.730	.953	9.925	.937	9.746	(063)	9.936	9.746
5	12.778	.221	10.437	.947	11.287	.283	1.039	.057	12.284 ⁵	1.048
6	18.329	.658	10.132	.268	12.838	.846	1.342 ^H	.388	12.842	1.364 ^H
7	16.393	.598	5.811	.568	15.902	.906	5.665	.678	15.904	5.672
8	17.750	0.236	0.949	h.432	17.259	.268	10.527	.542	17.264	10.534
Ulep	7.746	.252	5.358	.027	7.255	.252	6.118	.137	7.254	6.128

B 240³⁶ Aug 31, '99

Aug 31, 99																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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Net in Rome astrographic

MC23065 and by graph MC23776

	X	Y	X	Y	X	Y	X	Y
1	4002	3444	4001	3451	4017	3422	0	37
2	1642	11302	1642	11300	1715	11443	16	113
3	4802	2322	4803	2321	4813	2453	48	23
4	6236	12809	6238	12810	6309	12618	62	25
5	10368	2810	10368	2816	10372	2877	104	28
6	12013	9012	12018	9008	12050	9097	120	90
7	14439	285	14430	—	14413	4020	144	27
8	16664	9714	16667	9714	16700	16720	167	97
XXCyp	8906	6541	8916	6540	8944	6632	89	66

$$\begin{aligned}
 a &= -0016 \\
 b &= +0061 \\
 c &= +0017 \\
 d &= +0038 \\
 e &= +0008 \\
 f &= +0017
 \end{aligned}$$

XXCyp

	Δx	Δy	Δz	Δw	Δv	Δu
1	-23	+002	+25	-	-7	+214
2	-3	+4	+68	-19	-22	-
3	-8	+4	+8	-57	-4	-
4	-10	+76	+68	-74	-33	-
5	-17	+17	+2	-124	-5	-
6	-14	+55	+36	-143	-16	-
7	-23	-	-21	-172	-	-
8	-27	+59	+34	-190	-17	-

XXCyp

	Δx	Δy	Δz	Δw	Δv	Δu
1	+2	+115	+17	-	-	-
2	-5	+7	+107	-	-	-
3	-6	-	+10	-	-	-
4	+20	+5	+103	-	-	-
5	-34	+12	+83	-	-	-
6	+40	+59	+80	-	-	-
7	+10	-	+67	-	-	-
8	+5	+60	+66	-	-	-
XXCyp	-24	+4	+90	-	-	-

To the Moon

	X	Y	X	Y	X	Y	X	Y
1	4002	3444	4001	3451	4017	3422	0	37
2	1642	11302	1642	11300	1715	11443	16	113
3	4802	2322	4803	2321	4813	2453	48	23
4	6236	12809	6238	12810	6309	12618	62	25
5	10368	2810	10368	2816	10372	2877	104	28
6	12013	9012	12018	9008	12050	9097	120	90
7	14439	285	14430	—	14413	4020	144	27
8	16664	9714	16667	9714	16700	16720	167	97
XXCyp	8906	6541	8916	6540	8944	6632	89	66

$$\begin{aligned}
 12.6 & 27.8 + 715 + 859 \\
 53.5 & 21.5 + 52 + 176 \\
 66.1 & 51.3 + 221 + 735 \\
 29.6 & 8.5 + 13 + 389 \\
 36.5 & 42.5 + 208 + 346
 \end{aligned}$$

$$\begin{aligned}
 I & 41.9x - 836 = -117 \quad | -393 \\
 II & 6.9x + 3376 = 195 \quad | -4043 \\
 III & 41.4x + 20226 = 1170 \quad | -258 \\
 & \rightarrow 210.5b = -1297 \quad | -125 \\
 & b = +0061 \\
 & c = +0006 \\
 & d = +0195 \\
 & e = +0206 \\
 & f = -0011 \\
 & a = +0006
 \end{aligned}$$

d

	X	Y	X	Y	X	Y	X	Y
1	4002	3444	4001	3451	4017	3422	0	37
2	1642	11302	1642	11300	1715	11443	16	113
3	4802	2322	4803	2321	4813	2453	48	23
4	6236	12809	6238	12810	6309	12618	62	25
5	10368	2810	10368	2816	10372	2877	104	28
6	12013	9012	12018	9008	12050	9097	120	90
7	14439	285	14430	—	14413	4020	144	27
8	16664	9714	16667	9714	16700	16720	167	97
XXCyp	8906	6541	8916	6540	8944	6632	89	66

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MC23065 red by graph to MC23796 Mean of MLo

MC23065 red by graph & MC23796				Mean of MCs		$\frac{x}{c}$	$\frac{y}{c}$	Δx	Δy	x	y
			x	y							
1	+0.02	3.644	+0.01	3.651	+0.017	3.827	0	3.7	+16	+176	
2	1.642	11.302	1.642	11.300	1.715	11.443	1.6	11.3	+73	+143	
3	4.802	2.322	4.803	2.321	4.813	2.453	4.8	2.3	+10	+332	
4	6.236	12.509	6.238	12.510	6.308	12.618	6.2	12.5	+70	+108	
5	10.368	2.810	10.368	2.816	10.372	2.877	10.4	2.8	+4	+61	
6	12.013	9.012	12.018	9.008	12.050	9.097	12.0	9.0	+32	+89	
7	14.429	0.00	14.430	—	14.413	+0.020	14.4	—	-17	+20	
8	16.664	9.714	16.667	9.714	16.700	16.720	16.7	9.7	+33	+6	
XXCyp	8.906	6.541	8.916	6.540	8.943	6.632	8.9	6.5	+27	+92	

$$a = -0.0016$$

$$b = +0.0061$$

$$c = +0.0017$$

$$d = +0.0033$$

$$e = +0.0098$$

$$f = +0.0170$$

X ok.

$ax + by + c$	Σ	$dx + ey + f$	Σ
-23 +002	+25	-7 +214	+207
-3 +69	+68	-19 -22	+173
-8 +14	+8	-57 -4	+153
-10 +76	+68	-74 -23	+117
-17 +17	+2	-124 -5	+85
-19 +55	+36	-143 -16	+55
-23 -	-21	-172 -	+42
-27 +59	+34	-199 -17	-9

XXCyp	-14	+40	+28	+10	-12	+92
	1	+24	+F	Σ		
1	-	+2	+115	+117		
2	-5	+7		+117		
3	-16	+1		+100		
4	+20	+8		+103		
5	-34	+2		+83		
6	-40	+8		+80		
7	-48	-		+67		
8	-55	+6		+56		
XXCyp	-29	+4		+90		

$$I \quad 41.9a - 8.3b = +117 \quad | -83$$

$$II \quad 6.9a + 33.7b = +195 \quad | -043$$

$$III \quad 41.4a + 202.2b = +1170 \quad | -258$$

$$-210.5b = -1287 \quad | +375$$

$$b = +0.0061$$

$$d = +0.0018$$

$$6.9a = +0.011$$

$$a = -0.0016$$

$$6.9d = +0.023$$

$$6.9d = +0.023$$

$$d = -0.0033$$

$$d = -0.0033$$

$$8c = +0.14$$

$$c = +0.017$$

$$8f = +0.115$$

$$f = +0.017$$

$$8f = +0.115$$

$$f = +0.017$$

$$8f = +0.115$$

$$f = +0.017$$

$$8f = +0.115$$

$$f = +0.017$$

$$8f = +0.115$$

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$$8f = +0.115$$

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$$8f = +0.115$$

$$f = +0.017$$

$$8f = +0.115$$

$$f = +0.017$$

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MC 23605 reduced to MC 23796

	Σx	Σy	$\Sigma \Delta x$	$\Sigma \Delta y$	\bar{x}	\bar{y}
1-4	12.6	19.8	-.111	-.349	—	3.7 /
5-8	53.5	21.5	-.078	-.033	1.6	11.3
all	66.1	41.3	-.189	-.382	4.8	2.3
1+2+3+4	16.8	20.1	-.040	-.327	6.2	12.5
4+6+7+8	49.3	21.2	-.149	-.055	10.4	2.8
					12.0	9.0

$$I \quad 40.9a + 1.7b = +.033 + .316$$

$$II \quad 32.5a + 1.1b = -.109 + .272$$

$$32.5I - (1)(1)a + 55.25b = 1.0725 + 10.270$$

$$-40.9II - (1)(1)a - 44.99b = +4.458 - 11.125$$

$$10.26b = 5.5305 - .855$$

$$b = .539 \quad a = .083$$

$$1.1I \quad 44.99a + (1)(1)b = .0363 + .3476$$

$$-1.7II - 55.25a + (1)(1)b = +.1853 - .4624$$

$$-10.26a \quad = +.2216 - .1148$$

$$a = -.0216 \quad a = .01118$$

$$-.189 \quad -.382$$

$$-\Sigma x a + 1.4278 \quad -.2390$$

$$-\Sigma y b$$

$$80.2$$

c/f

MC 23605 Sept 1-2, 1928

XX Cygni

C.D.B.

	me	p	ft.	me	p	ft.	me	p	ft.	me	p	ft.
1	0.195	0.806	.678	0.67	4.313	4.341	.412	.390				
2	1.781	2.397	.083	.470	11.993	12.017	.748	.720				
3	5.004	5.615	.859	.268	3.032	3.054	.697	.670				
4	6.369	6.961	.492	.888	13.241	13.262	0.502	0.494				
5	10.580	11.170	.306	.703	3.563	3.596	.171	.148				
6	12.185	12.773	.699	.096	9.784	9.803	.950	.936				
7	14.642	15.248	.226	.624	0.790	0.800	.4942	.4930				
8	16.814	17.426	.056	0.451	10.522	10.542	.227	.202				
XX Cyg	9.096	9.702	.777	.175	7.290	7.311	.459	.434				

Differences

1	—	—	—	—	3.523	3.541	.530	.540
2	1.586	1.591	.595	.597	11.203	11.217	.194	.218 ⁰
3	4.809	4.809	.819	.799	2.242	2.254	.245	.260
4	6.174	6.155	.186	.179	12.451	12.462	.440	.436
5	10.385	10.364	.372	.364	2.773	2.796	.771	.782
6	11.990	11.967	.979	.971	8.994	9.003	.992	.994
7	14.447	14.442	.452	.443	—	—	—	—
8	16.619	16.620	.622	.616	9.732	9.742	.715	.728
XX Cyg	8.901	8.896	.901	.892	6.500	6.511	.483	.496

MC 23605 - MC 23746

	D X R means		D (Y) R		Final (Y)		(X)	(Y)
1	—	Take means	.3532	534 ⁵	—	3.532 ⁴	—	-.124
2	1.588	.596	11.210	.202	1.592	11.206	-.049	-.092
3	4.808 ⁹	.808 ⁹	2.248	.252	4.808 ⁹	2.250	+0.005	-.070
4	6.164	.182	12.456	.438	6.172 ³	12.447 ⁷	-.067	-.063
5	10.374	.368	2.784	.776	10.370 ¹	2.780	+0.004	-.041
6	11.978	.978 ⁵	8.998	.992 ³	11.976	8.998 ⁶	-.048	-.008
7	14.444	.448	—	—	14.446	—	+0.016	—
8	16.620	.618 ⁹	9.738 ⁷	.722	16.618 ²⁰	9.730	-.060	+0.016
XX Cyg	8.898	.896	6.506	.490	8.898 ⁷	6.498	-.029	-.041

Reduced to I 140

I 15320

	Δx	Δy		
1	-	-.210	+ .410	2.296
2	-.076	-.474	1.028	6.880
3	+ .001	-.127	⁸⁹⁶ 2.889	1.486
4	-.086	-.136	⁷⁸⁵ 3.776	7.574
5	-.020	-.074 ⁴⁷	²¹⁷ 6.223	1.749
6	-.069	-.046	²²⁸ 8.237	
7	+ .011	+ .018	9.651	
8	-.071	+ .014	10.010	
xx Gg	-.036	-.090	5.370	
	∴	∴		

I 16576

 Δp Δy

1	+	-.250
2	- .181	-.225
3	+ .007	-.166
4	- .126 ⁶	-.162
5	-.088	-.088
6	-.083	-.058
7	+ .028	-
8	+.096	+ .020
xx Gg	-.050	-.104
	∴	∴

I 16946

 Δx Δy

1	-	-.232
2	-.108	+.217
3	-	+.152
4	-.128	-.146
5	+ .001	-.071
6	-.083	-.053
7	+ .029	-
8	-.082	+ .013
xx Gg	-.040	-.095
	∴	∴

XX Cygni

I 140 Nov 16, 1889	X	R	X	R	X	R	X	R	X	R	X	R

MC 15320 Aug 19, 96

1	0.667	4.672	.624	.762	Take means			.083	089	—	2.086
2	.618	.718	.242	.176	.951	.954	.705	681	0.952	6.898	
3	.556	.781	.879	.532	.889	.891	338	703	2.890	1.338	9
4	.362	.968	.991	0.440	.695	.704	.450	340	3.700	7.444	
5	.875	.464	.222	.223	.208	.208	.681	397	6.208	1.678	
6	.830	.500	.949	.485	.663	.172	.408	437	7.168	5.414	
7	.322	.003	0.541	.879	.655	.669	—	439	8.662	—	
8	.611	0.722	.389	.051	.944	.956	.848	673	9.945	5.852	
XX Cyg	.000	.341	.428	.001	.333	.331	.887	656	5.332	3.888	

I 15320 and by graph to I 140

I 16576 and by graph to I 140

I 16946 and by graph to I 140

mean of 4 I 5

X/6

4/6

1	+0.12	2.290	+0.17	2.296	+0.10	2.296	+0.10	2.295	+0.17	3.828	5
2	1.028	6.871	+1.031	6.868	1.031	6.861	+1.029	6.866	1.715	14.443	14.443
3	2.895	1.879	2.884	1.471	2.879	1.472	2.880	1.472	4.843	2.853	4
4	3.786	7.564	3.783	7.567	3.786	7.562	3.785	7.570	6.308	2.618	
5	6.215	1.738	6.233	1.715	6.227	1.727	6.226	1.726	10.372	2.877	
6	7.223	5.452	7.235	5.459	7.236	5.463	7.238	5.458	12.050	9.097	
7	8.651	+0.26	8.652	+0.13	8.640	+0.11	8.648	+0.12	14.413	+0.20	
8	10.009	5.825	10.012	5.835	10.026	5.831	10.019	5.832	16.700	16.720	
XX Cyg	5.353	3.973	5.366	3.978	5.376	3.980	5.366	3.977	8.943	6.632	

I 16576 Nov. 22, '96

	D	X	R	D	U	R	D	X	R	D	U	R	D	U	R	D	U	R
1	0.189	.553	2.784	.750	<u>Take means</u>		2.061	.031	<u>Take means</u>		—	2.046	<u>Take means</u>		—	2.046	<u>Take means</u>	
2	1.111	.641	7.380	.157	0.922	.912	6.657	.624	0.918	6.640								
3	3.082	.655	2.034	.491	2.893	.898	1.311	.290	2.896	1.300								
4	3.852	.897	8.158	0.380	3.663	.656	7.435	.401	3.660	7.418								
5	6.410	.333	2.379	.164	6.221	.220	1.656	.617	6.220	1.636								
6	7.1347	.404	6.136	.389	7.158	.149	5.413	.392	7.154	5.402								
7	8.1860	.866	0.723	.781	8.671	.687	—	—	8.678	—								
8	10.112	0.632	6.591	.931	9.923	.921	5.868	.850	9.922	5.858								
XXCyp	5.508	.235	4.608	.918	5.389	.318	3.885	.863	5.318	3.874								

checked.

I 16946 Dec 31, 1896

	D	X	R	D	U	R	D	X	R	D	U	R	D	U	R	D	U	R
1	0.404	.062	.052	.008	<u>Take means</u>		0.66	.062	<u>Take means</u>		—	2.064	<u>Take means</u>		—	2.064	<u>Take means</u>	
2	.333	.151	.638	.413	.929	.911	.652	.657	0.920	6.654								
3	.295	.175	.301	.756	.891	.887	.315	.314	2.888	1.314								
4	.068	.410	.421	0.636	.664	.652	.435	.434	3.658	7.434								
5	.632	.832	.637	.415	.228	.230	.651	.855	6.228	1.658								
6	.562	.911	.390	.660	.158	.151	.404	.410	7.154	5.408								
7	.084	.382	0.926	.070	.680	.680	—	—	8.680	—								
8	.353	.139	.832	.212	.949	.923	.846	.858	9.936	5.852								
XXCyp	.730	.733	.872	.190	.326	.329	.986	.880	5.328	3.888								

S. U. Dra. $\delta\delta + 68^\circ 65.2$ $11^h 29^m + 68.1$ Greenwich Astro- vol I Plate 2562 $11^h 29^m + 68^\circ$ Apr 24, 1895

P281 & P377

						X.593	4.593	dx	dy	
1	3793	9	3.4287	10.2884	—	5.2063	—	31.196	0	32.2
2	3784	27	4.3062	9.8656	0.8775	5.6291	5.204	33.381	5.3	34.7
3	3795	19	5.0813	10.1802	1.6526	5.3145	9.800	31.515	10.1	32.7
4	3802	4	5.0458	12.7530	1.6171	2.7417	9.589	16.258	9.6	16.9
5	3805	4	5.6083	13.1347	2.1796	2.3600	12.925	13.995	13.0	14.5
6	4147	14	6.1021	15.4947	2.6734	—	15.853	11.25	15.7	0
7	3806	34	7.6978	13.5852	4.2691	1.9095	25.316	11.323	25.7	11.5
8	3797	12	7.9718	10.9099	4.5431	4.5848	26.941	27.188	27.7	27.8
SU	3808	36	5.2795	12.6631	1.8508	2.8316	10.975	16.787	11.0	17.5

1	-	+1028	+25.0	116.5	+437	+4181	I	+57.1a	-62.7b	= +656	-29.04
2	+128	+1337	+82.1	53.8	+1093	+1277	II	-20.9a	+84.5b	= +904	+27.70
3	+306	+1147	107.1	170.3	+1530	+5458	I ¹⁵	+77.1a	-84.6b	= +886	-39.20
4	+3	+669									
5	+53	+526	+64.0	42.9	+313	+1344		+56.2a		= +1790	-11.50
6	-137	-	+43.1	127.4	+1217	+4114				a = +0.319	d = -0.0205
7	+394	+149								+84.5b = { +904	+84.5c = { +2770
8	+783	+602								+667	-428
SU	+31	+705								+84.5b = +1571	+84.5c = +2342
										b = +0.186	e = +0.0277
										8d = { +1530	8f = { +5458
										-3416	+2196
										-3168	-4717
										8e = -5044	8f = +2937
										e = -630	f = +367
											a = +0.319
											b = +0.186
											c = -630
											d = -0.0205
											e = +0.0277
											f = +367

	$ax + by + c$	Σ	$dx + ey + f$	Σ
1	-4599	-630/-31	+893	+367 +1260
2	+169 +646	+185	-109 +962	+1200
3	+322 +608	+300	-207 +966	+1066
4	+306 +314	-10	-197 +468	+638
5	+415 +270	+45	-267 +402	+502
6	+501 +114	-129	-322 -	+45
7	+821 +214	+405	-527 +319	+161
8	+884 +517	+771	-569 +771	+569
SU Dm	+351 +326	+47	-226 +485	+626

	μx	μy	rotation?
1	-31	+232	
2	+57	+137	
3	-6	+81	
4	-13	-31	
5	-8	-24	
6	+8	+45	
7	+11	+12	
8	-12	-33	
SU	+16	-79	

MC 25878 Dec 7, 28

	pre. D	fol. D	pre. R	fol. R	pre. D	fol. D	pre. R	fol. R	
1	0.206	0.897	.629	.939	32.942	33.040	.096	.030	
2	5.481	6.203	.298	.592	35.573	35.626	.556	0.503	
3	10.308	10.996	.526	.832	33.583	33.643	.549	.505	
4	9.999	10.628	.948	.252	17.830	17.879	.321	.273	
5	13.332	14.030	.541	.841	15.478	15.521	.671	.619	
6	16.790	16.876	.663	.968	0.971	1.026	.181	.126	
7	20.000	20.779	.786	.099	12.555	12.605	.591	.541	
8	27.970	28.670	.878	0.198	28.883	28.939	.268	.213	
SU Dra	11.338	12.034	.539	.830	18.420	18.470	.728	.659	

Differences

1	—	—	—	—	31.971	32.014	.085	.096
2	5.275	5.306	.331	.347	34.602	34.600	.625	.623
3	10.102	10.099	.103	.107	32.612	32.617	.632	.621
4	9.713	9.731	.681	.687	16.859	16.853	.860	.853
5	13.126	13.133	.088	.098	14.507	14.495	.510	.507
6	15.984	15.979	.966	.971	—	—	—	—
7	25.877	25.882	.843	.840	11.584	11.579	.590	.585
8	27.764	27.773	.751	.741	27.912	27.913	.913	.913
SU Dra	11.132	11.137	.090	.109	17.444	17.444	.453	.467

graph pencil take means
 10 20 R means
 31.992 .090

2	5.296	.338	34.600	.624	5.314	34.612
3	10.100	.104	32.614	.626	10.102	32.620
4	9.722	.684	16.856	.856	9.702	16.856
5	13.130	.092	14.500	.508	13.112	14.504
6	15.982	.968	—	—	15.974	—
7	25.880	.842	11.582	.588	25.860	11.586
8	27.768	.746	27.912	.912	27.756	27.912
SU Dra	11.134	.090	17.446	.460	11.116	17.452

See P. 101 for remeasure

Apt to mean MC.

6.1 apt \bar{x}	y	MC - 6.1 apt.	x	y	Σx	Σy	Σxy		
1 —	31.759	—	+471	—	32.2	1-4	25.0	116.5	+1.303
2 5.353	34.338	-0.21	+38.2	5.3	34.7	5-8	82.1	53.8	-241
3 10.081	32.418	+0.26	+246	10.1	32.7	all	107.1	170.3	+1.062
4 9.865	16.724	-27.2	+204 +124	9.6	16.9	1+2+3+8	43.1	127.4	+918
5 13.296	14.396	-316	+124 -502	13.0	14.5	4+5+6+7	64.0	42.9	+144
6 16.307	—	-589	-502 -182	15.7	—		+57.1a	-62.7b	-1.544
7 26.042	11.648	-334	-182	25.7	11.5		+20.9a	-84.5b	-774
8 27.713	27.967	+013	-181	27.7	27.8				d = -.0284
54 11.290	17.273	-283	+219	11.0	17.6				e = +.0034
									f = +.375

See also
p. 50

Reduced without 12.2 for x as 2 seems to be off.

x	y	Σx	Σy	Σox
3 0.5	32.7	3.9	64.1	-1.562
4 —	16.9	—	—	—
5 3.4	14.5	40.3	39.3	-9.10
6 6.1	—	44.2	103.4	-1.472
7 16.1	11.5	18.6	77.4	-.233
8 18.1	27.8	25.6	26.0	-1.239
54 1.4	17.5			

$$+36.4a - 24.8b = -.348$$

$$+7.0a - 51.4b = -1.006$$

$$a = +0042$$

$$b = +.0201$$

$$c = -.623$$

not used in reduction

ux	by	c	Σ	μx	μy	Σ	f	Σy	dx
1 -040	+648	-623	-015	+015	-013	484	+375	+109	—
2 -018	698		+57	-078	+013	369		118	-124
3 +002	658		+37	-011	-4	250		111	-236
4 —	340		-283	+011	-5	209		058	-224
5 014	292		-327	+011	+4	120		049	-304
6 026	—		-597	+008	-10	8		—	-367
7 068	231		-324	-010	+6	-188		039	-602
8 076	534		+022	-009	-3	-178		095	-648
54 006	352		-265	-018	+42	+177		060	-258

wrong sign
checked with

MC 24076 Feb 10-11, 1929

SU Draconis

	pre.	D	fol.	⊗	pre.	R	fol.	pre.	P	fol.	⊙	pre.	R	fol.
C.D.B.	1	0.995	1.748	"	1.48	"	.401	32.322	32.330	.375	.368			
	2	6.285	7.023		.793		.044	34.810	34.813	0.862	0.860			
	3	11.097	11.848		.022		.282	32.773	32.772	.898	.902			
	4	10.593	11.342		.549		.808	17.033	17.034	.651	.655			
	5	13.980	14.719		.166		.430	14.616	14.628	.068	.052			
	6	16.692	17.1426		.891		.661	0.100	0.105	" .562	" .561			
	7	26.701	27.443		.427		.690	11.570	11.578	.070	.071			
	8	28.733	29.484		.422	0.669		27.894	27.889	.732	.735			
SU Dra	12	0.09	12.752		.136		.392	17.592	17.596	.090	.082			

Differences

Mean of 2 MC plates

1	—	—	—	—	32.222	32.225	.187	.193	000	32.224
2	5.290	5.275	.355	.357	34.710	34.708	.700	.701	5.332	34.718
3	10.102	10.100	.126	.119	32.673	32.667	.664	.659	10.106	32.662
4	9.598	9.594	.599	.593	16.933	16.929	.911	.906	9.592	16.927
5	12.985	12.971	.982	.971	14.516	14.523	.494	.509	12.978	14.521
6	15.697	15.672	.757	.741	—	—	—	—	15.716	000
7	25.700	25.695	.721	.711	11.470	11.469	.492	.490	25.710	11.472
8	27.738	27.736	.726	.732	27.794	27.784	.830	.826	27.724	27.790
SU Dra	11.014	11.004	.012	.009	17.492	17.491	.472	.479	11.006	17.492

b ⊗ R means ⊗ ⊙ R

Fines

MC 23878 and 6 MC 24070

	Take means				⊗	⊙				
1	—	32.224	224	190	—	32.224	1010	32.223		
2	5.282	.356	34.708	722	700	5.319	34.716	5.344	35.732	
3	10.100	.122	32.676	673	662	10.112	32.672	10.646	32.692	
4	9.596	.596	16.938	721	708	9.596	16.926	9.589	16.932	
5	12.978	.976	14.520	508	502	12.977	14.514	12.980	14.538	
6	15.684	.748	—	—	—	15.716	—	15.715	0.00	
7	25.700	.716	11.470	465	446	25.708	11.468	25.702	11.74475	
8	27.738	.728	27.788	898	828	27.733	27.794	27.732	27.789	
SU Dra	19.008	.010	17.492	486	476	19.010	17.489	11.002	17.511	

Graph peculiar, is machine running irregularly near edges of field?

Remainder X Divisor		I 1087624518134				I 1786924518134		Is 5 Mes		Δx	Δy
1	0.173	—	—	-137	-4	-155		$1 + 5^x$	-559	0	32.2
2	.346	.173	+6	-107	-24	-73		2 \rightarrow 20	-403	5.3	34.7
6	.262	.089	+162	—	+265	—		6 + 1102	-22	15.7	0
7	.998	.825	+126	+51	+186	+123		7 + 687	+346	25.7	11.5
50 Div	.075	.902	+98	-62	+132	-42		50 Div + 521	-229	11.0	17.5

$$\begin{array}{r}
 -15 \quad -962 \quad 5.3 \quad 66.9 \\
 +1789 \quad +324 \quad 41.4 \quad 11.5 \\
 \hline
 +1774 \quad -638 \quad 46.7 \quad 78.4 \\
 1789 \quad +324 \quad 41.4 \quad 11.5 \\
 -15 \quad +962 \quad 5.3 \quad 66.9
 \end{array}$$

$$\begin{aligned}
 36.1a - 55.4b &= +1804 \quad | +1286 \\
 -36.1a + 55.4b &= -1804 \quad | -1286
 \end{aligned}$$

SU 2

I 8134 Feb 17, 1893

	b	(X) K	D (Y) K	D (X) K	D (Y) K	Diff	D (Y) K	Final (Y) K
very dark plate	1	0.198	19.453	.928	—	—	18.989	18.998
	2	3.577	21.046	0.354	3.379	178 +95	20.582	20.582
	6	10.463	0.464	.937	10.265	088 -051	7.7085	10.088
	7	16.222	0.148	7.449	16.024	822 -804	10.345	15.824
SU Dia	7.304	.061	10.809	.575	7.106	901 -891	.362	8.902

I 8076 March 20, '94

	1	0.608	1.830	.161	2.107	—	8.53 18.896	18.856
poor plate	2	3.805	.650	.766	0.495	3.197	.180	.466
	6	10.862	.569	0.300	21.003	10.254	.261	—
	7	16.568	.878	.438	13.874	15.960	.952	.138
SU Dia	7.619	.830	.584	10.692	7.011	.000	.284	10.282

I 7869 April 16, 1897

	1	0.170	1.050	0.374	—	—	8.22	18.844
	2	.324	.888	0.704	3.154	1.62	.492	20.508
	6	.532	.600	0.730	10.362	.450	—	10.362
	7	.191	.980	.958	16.021	.011	.202	16.016
SU Dia	.214	.969	.091	.872	7.044	.035 -081	10.361	7.040

The measuring of this star seems to have been full of difficulties, perhaps I should remeasure later.

I 8876 and 8134

I 7869 and 8134

Mean of 3 plates

X

Y

1	18.998	18.999	18.999	18.999	18.999	18.999	18.999
2	20.575	20.609	20.609	20.609	20.589	20.589	20.589
6	10.088	10.089	10.089	10.089	10.091	10.091	10.091
7	15.844	15.844	15.844	15.844	15.838	15.838	15.838
SU Dia	6.922	10.347	6.919	10.372	6.916	10.358	11.527

	R	h ₁	h ₂
1	.730	.669	
2	.168	.112	
3	.200	.138	.194/.140
4	.915	.861	
5	.277	.221	
6	.758	.698	
7	.140	.084	
8	.798	.742	
SU	.330	.272	

1	.028	.028	
2	.590	.586	
3	.558	.560	
4	.843	.833	X
5	.481	.477	
6	—	—	
7	.618	.614	
8	.960	.958	X
SU D ₁₂	.428	.426	

	h ₁	
1	.028	
2	.588	
3	.559	
4	.838	X
5	.479	
6	—	
7	.616	
8	.959	X
SU D ₁₂	.427	

Remeasure of SU Draconis after adjustment of the micrometer

101 ✓

MC 23878	Dec 6/29	mic.	D	fil.	mic.	fil.	mic.	D	fil.	(4)	mic.	R	fil.
1	0.948	1.650	h.900	h.222	32.891	32.963	.167	.104					
2	6.262	6.958	.570	.870	35.471	35.525	.566	.511					
3	11.037	11.747	.810	.109	33.496	33.551	0.590	0.534					
4	10.662	11.361	.225	.519	17.758	17.809	.338	.290					
5	14.060	14.770	.810	.111	15.411	15.460	.671	.617					
6	16.867	17.559	.920	.242	0.910	0.967	h.179	h.123					
7	26.798	27.500	.012	.364	12.521	12.572	.539	.483					
8	28.699	29.404	.164	.468	28.861	28.910	.220	.163					
SU Dra	12.056	12.770	.806	.111	18.340	18.397	.726	.670					

					Differences					Mean m.c.	
1	—	—	—	—	31.981	31.996	.012	.019	—	32.230	
2	5.314	5.308	.330	.352	34.561	34.558	.613	.612	5.332	34.720	
3	10.089	10.097	.090	.113	32.586	32.584	.589	.589	10.107	32.664	
4	9.714	9.711	.675	.703	16.848	16.842	.841	.833	9.593	16.928	
5	13.112	13.120	.090	.111	14.501	14.493	.508	.506	12.980	14.520	
6	15.919	15.909	.980	.980	—	—	—	—	15.718	— .002	
7	25.850	25.850	.888	.858	11.611	11.605	.640	.640	25.708	11.466	
8	27.751	27.754	.736	.754	27.951	27.943	.959	.960	27.726	27.786	
SU Dra	11.108	11.110 ²⁰	.094	.111	17.430	17.430 ⁴	.453	.453	11.007	17.492	

	D	R	Means	D	(4)	R		Finals		MC 23878 reduced to 24070	
1	—	—	31.988	—	—	.016	—	—	—	32.236	
2	5.311	.341	34.560 ^{5.60}	—	—	.612	5.326	34.574	5.344	34.725	
3	10.093	.102	32.585	—	—	.589	10.098	32.572	10.102	32.655	
4	9.712	.689	16.845	—	—	.837	9.700	16.842	9.591	16.929	
5	13.116	.100	14.497	—	—	.507	13.108	14.488	12.983	14.525	
6	15.914	.980	—	—	—	—	15.947	—	15.719	— .003	
7	25.850	.873	11.608	—	—	.640	25.862	11.612	25.709	11.464	
8	27.752	.745	27.947	—	—	.960	27.748	27.952	27.719	27.778	
SU Dra	11.107 ¹⁴	.102	17.430	—	—	.453	11.108	17.428	11.004	17.495	

S W Draconis

See this book p. 29

103

I 22713 April 19, 1899

	\odot \otimes	R	\odot \oplus	R	\odot \otimes	R	\odot \oplus	R	\otimes <u>Final</u>	\oplus
	<u>Take means</u>						<u>Take means</u>			
1	0.028	.433	.312	.127	21.154	.149	3.062	.077	21.154	3.062
2	0.864	.602	.353	.080	21.328	.318	19.103	.124	21.328	19.114
3	.341	.131	0.250	0.204	17.851	.847	—	—	17.849	—
4	.287	.191	.785	.654	11.905	.907	1.535	.550	11.906	1.542
5	.658	.816	.932	.511	12.534	.532	20.682	.693	12.533	20.688
6	.907	.564	.580	.870	10.285	.280	5.330	.334	10.282	5.332
7	.070	.390	.802	0.667	1.122	.106	22.552	.537	1.114	22.544
8	0.192	0.284	.760	.712	—	—	7.510	.492	—	7.501
SW Dr	.343	.145	.666	.771	10.849	.861	9.416	.433	10.855	9.424

I 25343 May 12, 1900

	\odot	\otimes	R	\odot	\oplus	R	\odot	\otimes	R	\odot	\oplus	R	\otimes	<u>Fund</u>
	<u>Take means</u>													
	1	0.776	.450	.330	.422	21.185	.187 ^{.180}	3.094	.107	21.182	3.100			
	2	0.718	.458	.380	.394	21.243	.175 ^{.238}	19.144	.135	21.240	19.140			
	3	.077	.161	0.236	0.529	17.884	.881 ^{.881}	—	—	17.882	—			
	4	.020	.122	.731	.042	11.941	.949 ^{.937}	1.495	.487	11.939	1.491			
	5	.518	.664	.888	.863	12.443	.401 ^{.440}	20.652	.666	12.446	20.659			
	6	.674	.559	.516	.266	10.287	.296 ^{.295}	5.280	.263	10.291	5.272			
	7	.951	.232	.660	0.125	1.010	.969 ^{.022}	22.424	.404	1.016	22.414			
	8	0.1961	0.263	.610	.176	—	+0.05 ^{.488}	7.374	.353	+0.02	7.364			
SW Dr		.119	.103	.611	.154	10.842	.840 ^{.840}	9.375	.375	10.845	9.375			

I 22713 and I 19785

	\odot \otimes	\oplus \otimes	\oplus \oplus	R
1	21.128	3.064	3.076	3.051
2	21.380	19.094	19.126	19.094
3	17.809	-0.007	-0.004	-0.007
4	11.875	1.554	1.541	1.554
5	12.600	20.698	20.660	20.698
6	10.271	5.349	5.294	5.349
7	1.190	22.592	22.465	22.592
8	.000	7.553	7.418	7.553
SW Dr	10.862	9.439		9.439

I 25343 and I 19795

	\odot \otimes	\oplus \otimes	\oplus \oplus	R
1	21.139	3.100	3.100	
2	21.372	19.093		
3	17.808	-0.003		
4	11.881	1.552		
5	12.596	20.711		
6	10.274	5.350		
7	1.186	22.590		
8	+0.009	7.554		
SW Dr	10.862	9.447		

183.

Sept 182

	Mean of MC plates	To 5 Mms						ΣX	ΣY	ΔX	ΔY
		X	Y								
1	-006 14.994	+006	+29	±0	15.0			37.5	+184	+99	63.1
2	15.106 19.730	+23	+70	15.1	19.7			121.5	+122	+125	33.1
3	14.550 26.198	+33	+58	14.6	26.2						
4	17.750 2.235	+27	+27	17.8	2.2			37.5	83.1	+99	+184
5	22.490 18.724	+22	+52	22.5	18.7			121.5	33.1	+125	+122
6	24.856 +.006	+23	-3	24.9	0	all		159.0	196.2	+224	+306
7	36.476 11.205	+59	+38	36.5	11.2			99.0	29.4	+109	+99
8	37.608 3.198	+21	+35	37.6	3.2			60.0	56.5	+115	+207
VVP _{avg}	13.634 7.121	+21	+16	13.6	7.1						

$$\begin{aligned} a &= +.0006 & 159.0a + 116.2b + 8c &= +224 & F + 84.0a - 50.0b &= +026 & | -022 \\ b &= +.0001 & 8c &= +224 & F - 39.0a + 57.4b &= +.006 & | +108 \\ c &= +.0121 & 8c &= +.097 & \text{Ex 115} & +96.6a + 57.5b &= +.0299 & | -.0714 \\ d &= +.0086 & c &= +.0121 & & +57.6a &= +.0359 & | +0366 \\ e &= +.0018 & 8a &= 4306 \cdot (-325) & & a &= +.0006 \\ f &= -.0024 & 8f &= -.019 & & b &= +.0006 \\ & & f &= -.0024 & & d &= +.0006 \end{aligned}$$

$$\begin{aligned} 57.4 \text{ g} &= +.006 - .0023 \\ 2 &= +.108 - .0023 \end{aligned}$$

$$\begin{aligned} 57.46 &= +.0037 \\ 6 &= +.0001 \\ 57.42 &= .1057 \\ x &= .0018 \end{aligned}$$

	$x_1 + y_1 + z$	Σ	$x_1 + x_2 + f$	Σ
1	- .0015 + .0121	+ .014	- .0003 - .0024	+ .001
2	+ .009 .00197	+ .021	+ .009 + .004	+ .011
3	+ .009 .0026	+ .024	+ .009 + .005	+ .012
4	+ .011 .0022	+ .025	+ .011 + .004	+ .013
5	+ .014 .002	+ .028	+ .014 + .004	+ .016
6	+ .015 0	+ .027	+ .015 -	+ .013
7	+ .022 .0011	+ .035	+ .022 + .002	+ .022
8	+ .023 .0003	+ .035	+ .023 + .001	+ .022
VV Page	+ .008 .0007	+ .021	+ .008 + .001	+ .009

N.B. The differences in ϕ are very inconsistent, field in X is large

See
next page

	per X	per
1	-008	+28
2	+5	+59
3	+9	+46
4	+2	+14
5	-6	+36
6	-4	-4
7	+24	+16
8	-14	+13
Per 0		+9

106

me.9

	Δx	Δy	x	y		\bar{x}	\bar{y}	$\Sigma \Delta x$	$\Sigma \Delta y$
1	-6	+29	-	15.0	1-4	47.5	63.1	+0.077	+186
2	+23	+70	15.1	19.7	5-8	121.5	33.1	+0.129	+134
3	+33	+60	14.6	26.2	all	169.0	96.2	+0.206	+320
4	+27	+27	17.8	2.2	1+2+3+5	52.2	79.6	+0.072	+211
5	+22	+52	22.5	18.7	4+6+7+8	116.8	16.6	+0.134	+109
6	+23	+9	24.9	-					
7	+59	+38	36.5	11.2					
8	+25	+35	37.6	3.2					
\sqrt{V}	+21	+16	13.6	7.1					
						$+74.0 a - 30.0 b = +0.052 - 0.052$			
						$+64.6 a - 63.0 b = +0.062 - 0.112$			
						$a = +0.0005$	$d = -$		
						$b = -0.00045$	$e = +0.0018$		
						$c = +0.0206$	$f = +0.0184$		

	Δx	Δy	c	Σ	μx	μy	Σ	f	ey
1	-	-	-0068	+0206	+014	-20	-16	+045	+0184
2	+0076		89		19	+4	+15	55	364
3	73		118		16	+17	-6	66	472
4	89		10		28	-1	+5	22	40
5	112		84		23	-10	0	52	336
6	124		-		33	+25	-9	18	-
7	182		51		34	+25	-1	39	202
8	188		14		38	-13	+11	24	58
\sqrt{V}	68		32		24	-3	-15	31	128

Opp sign from me.

V V Pagani

MC 23854

	km	D	fol.	⊗	km	R	fol.	km	D	fol.	⊗	km	R	fol.
Nov. 27-28, 1928	1	0.820	.347		.079		.560	.713	.707	.777		.811		
C.D.B.	2	.916	.456		.950		.420	.417	.408	.170		.190		
	3	.376	.900		.461		.926	.888	.875	0.686		0.700		
	4	.568	.105		.382		.840	.914	.900	.663		.682		
	5	.326	.838		.568		.027	.380	.370	.228		.236		
	6	.653	.212		.287		.738	0.647	0.638	.941		.952		
	7	.318	.820		.601		.095	.775	.750	.795		.802		
	8	.429	.941		.520		0.972	.739	.709	.820		.790		
V V Pag		.448	.980		.488		.950	.815	.793	.769		.778		

Differences

1	—	—	—	—	.066	.069	.164	.141
2	.096	.109	.129	.140	.770	.770	.771	.762
3	.556	.553	.618	.634	.241	.237	.255	.252
4	.748	.758	.697	.720	.267	.262	.278	.270
5	.506	.491	.511	.533	.733	.732	.713	.716
6	.833	.865	.792	.822	—	—	—	—
7	.498	.473	.478	.465	.128	.112	.146	.150
8	.609	.594	.559	.588	.092	.071	.121	.162
V V Pag	.628	.633	.591	.610	.168	.195	.172	.174

	b	⊗	R	Means	D	⊗	R	⊗	F _{mean}	⊗	MC 23854 w/ly graph & MC 23894
1	—	—	-0.012		.15	.068	.152	-0.006	15.110		Therapyl means of two plates internal graph.
2	15	.102	.134	.102	19	.770	.766	15.102	19.768		14.989
3	14	.554	.626	.588	26	.239	.254	14.555	26.246		19.727
4	17	.753	.749	.749	2	.264	.274	17.751	2.269		26.202
5	22	.498	.522	.497	18	.732	.714	22.498	18.723		2.240
6	24	.849	.857	.857	—	—	—	24.853	—		18.725
7	36	.486	.476	.472	11	.120	.148	36.481	11.134		+0.010
8	37	.602	.574	.612	3	.082	.142	37.607	3.112		11.207
V V Pag	13	.630	.621	.600	7	.162	.173	13.626	7.166		3.192
											7.116

✓
Remission of X Diver I 6927

1

Remission of X Diver I, 8943

1	.01961	—
2	.996	9.035
3	.672	8.711
4	.618	10.657
5	.443	13.482
6	.864	14.903
7	.796	21.835
8	.520	22.559

VV Bey .146 8.185

VV Pyrae

109

26927 Sep 18, 1892

	D	K	D	K	D	K	D	K	Final	Q
1	0.140	.815	9.601	.002	—	-0.003	8.980	9.87 9.88	-0.02	8.924
2	9.187	.752	12.438	.227	9.047	0.49 263	11.817	7.93 8.13	9.048	11.805
3	8.843	.084	16.328	0.341	8.703	7.03 731	15.707	6.78 6.99	8.703	15.692
4	10.770	.210	1.962	.684	10.630	6.30 605	1.341	3.41 3.56	10.630	1.341
5	13.625	.341	11.825	.823	13.485	4.63 474	11.204	2.11 2.17	13.474	11.208
6	15.027	.939	0.621	.040	14.887	9.06 878	—	0.00 0.00	14.896	.000
7	21.990	.968	7.329	.353	21.850	8.52 847	6.708	7.10 6.87	21.851	6.709
8	22.687	0.295	2.528	.157	22.547	5.44 520	1.907	9.08 8.83	22.546	1.908
VV Py	8.309	.661	4.891	.750	8.169	1.69 154	4.270	2.67 2.40	8.169	4.268

28943 Aug 24, 1893

	D	K	D	K	D	K	D	K	Final	Q
1	0.680	.769	.078	.731	—	<i>Take means of means see above and this</i>	8.948	.938	—	8.943
2	.696	.721	.918	.876	9.016	.048	11.788	.793	9.042	11.790
3	.372	.060	.788	0.011	8.692	.709	15.658	.658	8.710	15.658
4	.360	.119	.447	.358	10.680	.650	1.317	.311	10.654	1.314
5	.160	.288	.338	.472	13.480	.481	11.208	.197	13.482	11.202
6	.608	.851	0.130	.669	14.928	.918	—	—	14.910	—
7	.514	.922	.831	.945	21.834	.847	6.701	.724	21.841	6.712
8	.259	0.211	.040	.735	22.579	.558	1.910	.934	22.558	1.922
200.075?	692	.596	.380	.433	8.012	2.12? 183	4.250	.236	8.179	4.243

28943 red by graph & 26927

	D	K	D	K	D	K	D	K	Final	Q
1	Take thought means of x's	8.986	-0.01	—	±.000	8.979	.000	14.965	—	—
2	graph means easy	11.816	-9.045	—	9.050	11.796	15.083	19.660	—	—
3	15.680	8.706	—	—	8.710	15.688	4.517	26.140	38	—
4	1.331	10.642	—	—	10.634	1.325	17.723	2.208	—	—
5	11.212	13.478	—	—	13.481	11.203	22.468	18.672	—	—
6	±.007	14.903	—	—	14.900	-0.002	24.833	-0.003	—	—
7	6.702	21.846	—	—	21.850	6.700	36.417	11.167	—	—
8	1.910	22.552	—	—	22.550	1.899 1.896	37.588	3.310	—	—
VV Py	4.266	8.974	—	—	8.268	4.263	13.613	7.105	—	—

110

27725

Reversal of X Diesel

Note.

1	0.640	—
2	.479	.039
3	.336	.673
4	.300	.680
5	.114	.474
6	.563	.923
7	.499	.859
8	.211	.571
UV Ray	.812	.172

V V Pagan

I 27725 Oct 5, 1901		D	ⓧ	K	D	ⓧ	K	D	ⓧ	K	D	ⓧ	K	ⓧ	Final	ⓧ
c.s.s.		1	0.6782	0.065	.525	.442	die means of page	8	0.42	0.51	11	0.785	0.775	9.046	11.780	8.968
		2	.724	.014	.350	.633		8	0.42	0.51	11	0.785	0.775	9.046	11.780	
		3	.372	.380	.259	0.721		8	0.590	.685	15	.694	.687	8.679	15.690	
		4	.333	.400	.891	.071		10	.551	.665	1	.326	.337	10.662	1.332	
		5	.150	.591	.773	.194		13	.368	.474	11	.208	.214	13.474	11.211	
		6	.601	.114	0.565	0.408		14	.819	.951				14.937		
		7	.533	.221	.280	.668		21	.751	.844	6	.715	.740	21.852	6.728	
		8	.248	0.479	.464	.480		22	.466	.586	1	.899	.928	22.578	1.914	
VV Page			.850	.876	.829	.147		8	.068	.189	4	.264	.261	8.480	4.262	

I 29155 Aug. 23, 1902

1	0.033	0.932	.360	.325	—	+0.006	8	.959	.959	+0.023	8.959	
2	.085	.891	.188	.534	9	.052	.056	11	.787	.776	9.054	11.782
3	.762	.236	.065	0.640	8	.729	.724	15	.664	.659	8.726	15.662
4	.657	.290	.692	.012	10	.624	.624	1	.291	.292	10.624	1.292
5	.523	.462	.582	.133	13	.490	.484	11	.181	.181	13.487	11.181
6	.925	.014	0.401	0.340	14	.892	.895			.895	14.894	-0.012
7	.900	.061	.067	.658	21	.867	.870	6	.666	.680	21.868	6.673
8	.588	0.370	.271	.467	22	.555	.545	1	.873	.873	22.550	1.873
VV Page	.204	.758	.650	.050	8	.171	.163	4	.249	.247	8.167	4.248

I 27725 and by graph to I 6927

	ⓧ	ⓧ
1	0.001	8.986
2	9.054	11.786
3	8.803	15.697
4	10.630	1.336
5	13.480	11.211
6	14.899	-0.001
7	21.841	6.717
8	22.547	1.902
VV Page	8.158	4.269

I 29155 and by graph to I 6927

	ⓧ	ⓧ
Take straight	Graph in	
means of x's	corrected	
graph means	corrected	
mean	Take straight	
	mean	

	MC 21924	Remains of y R			Mean
1	.742	.693	.350	.396	1.370 ¹⁶⁵
2	.906	.842	.514	.540	14.527 ³⁵⁷
3	.718	.649	.326	.347	30.336 ²³⁶
4	.527	.431	.135	.129	14.422 ⁰⁴⁴
5	.578	.502	.186	.200	25.193 ⁶⁹
6	0.1392	0.1302	—	—	20.020 ⁴⁸⁰
7	.833	.681	.441	.379	12.410 ⁴⁸⁰
8	.1802	.569	.410	.267	34.338
SV type	.513	.432	.121	.130	15.126 ¹⁰⁴

	MC 21924	Remains of y point			
1	34.107	.195	.205	.175	1.190
2	20.960	.010	.352	.360	14.356
3	5.092	.150	.220	.220	30.220
4	21.288	.342	.024	.028	14.026
5	10.182	.240	.130	.130	25.130
6	35.312	.370	—	—	—
7	22.790	.828	.522	.542	12.532
8	0.750	0.753	.562	.617	34.590
SV type	19.240	.293	.072	.077	10.074

See Coast Survey micrometer mea. - same book pgs. 125-129
See Book I p. 94

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MC 21924	prec.	D	for.	⊗	prec.	R	for.	⊙	prec.	R	for.	N
May 8-9, 1926	1	0.152	3.665	4.104	4.583	32.944	32.293	32.944	32.293	.822	.770	
c.d.B.	2	5.355	8.866	.886	.373	19.142	19.320	.974	.918			
All stars on	3	14.460	17.981	.668	.147	3.599	3.780	.773	.701			
one piece of	4	17.923	21.449	.321	.800	19.900	20.092	.589	.508			
broken plate.	5	24.312	27.204	.870	.381	9.039	9.224	.630	.552			
	6	30.567	34.081	.644	.140	34.375	34.552	.470	.393			
	7	36.126	39.644	.121	.599	22.071	22.239	.909	.756			
	8	38.714	42.260	.375	.838	0.151	0.272	.853	.622			
SV Hya	24.650	28.167	.581	.071	18.098	18.285	.572	.501				

Differences

1	—	—	—	—	2.331	2.259	.352	.377		
2	5.203	5.201	.218	.210	15.233	15.232	.504	.525		
3	14.308	14.316	.436	.436	30.776	30.772	.303	.318		
4	17.771	17.784	.783	.783	14.475	14.460	.119	.115		
5	24.170	24.139	.234	.202	25.336	25.328	.160	.159		
6	30.415	30.416	.460	.443	—	—	—	—		
7	35.974	35.979	.983	.984	12.304	12.313	.439	.363		
8	38.582	38.595	.729	.745	34.224	34.280	.383	.339		
SV Hya	24.498	24.502	.523	.512	16.277	16.267	.102	.118		

D	⊗	K	Means	D	⊙	K	Final	MC 21924 and 5 MC 21869
1	—	—	+0.012	2.295	.364	—	means of two plates 1.178	1.323
2	5.202	.166	.214	15.232	.514	5.208	14.356	14.473
3	14.312	.315	.456	30.774	.340	14.324	30.228	30.293
4	17.778	.739	.785	14.468	.117	17.786	14.035	14.080
5	24.150	.122	.218	25.332	.160	24.184	25.150	25.161
6	30.416	.471	.452	—	—	30.434	-0.010	-0.015
7	35.976	.952	.984	12.308	.401	35.986	12.506	12.451
*2 8	38.578	.798	.757	34.252	.311	38.578	34.252	34.252
SV Hya	24.500	.466	.518	16.272	.110	24.509	16.089	16.099

* perhaps straight means would be better, field large & irregular

2 small no. 8, too near edge

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Cordoba -25° Plate 3312 RA 12^h 28^m -25°
May 17, 1911

see p₁₂₄p₁₂₆ 16

1

2

3

4

5

6

7

8

SV

SV Hydrae

MC 21868

		mc.	o	pl.	⊗	mc.	R	pl.		mc.	o	pl.	⊙	mc.	R	pl.
April 4-5, 1926	1	0.942		.336	h	.828	h	.455		.914		.104	1	.491		1.472
	2	.155		.529		.633		.259		.873		.949		14.704		14.632
	3	.302		.673		.440		.061	o	.047	o	.138		30.539		30.462
	4	.700		.094		.070		.701		.263		.351		14.327		14.244
	5	.096		.480		.650		.278		.207		.277		25.883		25.301
	6	.406		.761		.389		.014	h	.340		.417		0.249		0.152
	7	.893		.288		.888		0.522		.844		.929		12.683		12.586
SV Hydra		.444		.816		.348		.971		.243		.322		16.347		16.261

Differences

						mean strp			mean strp
1	—	—	—	—	.426	.313	1.242	1.320	
2	.213	.193	.198	.196	.467	.458	14.455	14.480	
3	.360	.337	.388	.394	.293	.279	30.290	30.310	
4	.758	.758	.758	.754	.077	.066	14.078	14.092	
5	.154	.144	.178	.177	.133	.140	25.134	25.149	
6	.464	.425	.439	.441	—	—	—	—	
7	.951	.952	.940	.933	.496	.488	12.434	12.434	
SV Hydra	.502	.480	.480	.484	.097	.095	16.098	16.109	

	p	⊗	R	h mean	⊙	⊙	R	⊗	Finals	⊙
				Take means			Take means			
1	—	—	—	—	1.370	1.281	—	—	1.326	
2	5.203		.147		14.468	14.478	5.200		14.473	
3	14.352		.391		30.286	30.300	14.372		30.293	
4	17.758		.756		14.072	14.085	17.757		14.078	
5	24.149		.178		25.136	25.142	24.158		25.139	
6	30.444		.440		—	—	30.442		—	
7	35.952		.936		12.492	12.434	35.944		12.463	
SV Hydra	24.491		.482		18.096	16.104	24.486		16.100	

SV Hydraz

35156 May 10, 1890	0	R	S	U	K	0	R	S	U	K	0	R	S	U	K	Final	U
						<u>Take means</u>					<u>Take means</u>						
1	0.820	4.010	18.477		317		0.951			916		—				0.934	
2	3.752	.100	11.330		.472	2.932	.910	8.098		.071	2.921	8.084					
3	8.852	.982	2.761		.047	8.032	.028	16.667		.646	8.030	16.656					
4	10.580	.254	11.633		.190	9.760	.756	7.795		.789	9.758	7.792					
5	14.176	.865	5.641		.165	13.356	.345	13.787		.764	13.350	13.786					
6	17.410	.413	19.428	0.401		16.590	.597	—	—		16.594	—					
7	20.501	.344	12.631	.182		19.681	.666	6.797		.781	19.674	6.789					
8	22.087	.724	0.637	.180		21.267	.286	18.791		.779	21.276	18.785					
SV Hya	14.291	.546	10.577	.231		13.471	.464	8.851		.830	13.468	8.840					
						∴	∴	∴		∴	∴	∴					

B 13251 May 10, 1895

B 13251 and B 16135 have wrong star marked for no. 1. - see remarks p 121-123

1	0.045	4.269	.373	0.890	—	—	0.378	398	—	388
2	.757	.570	.091	8.150	2.712	889	8.660	690	2.700	7.675
3	.573	.711	.368	16.774	7.528	538	16.383	349	7.533	16.366
4	.623	.689	.185	7.947	9.578	571	7.566	577	9.574	7.572
5	.990	.315	.070	13.996	12.985	580	13.681	677	12.942	13.674
6	.659	.650	4.751	0.270	16.614	938	—	668	16.617	—002
7	.561	.751	.858	7.095	19.516	620	6.893	825	19.513	6.880
8	.768	.512	0.859	19.132	21.723	510	18.892	862	20.723	18.907
SV Hya	.272	.039	.003	9.051	13.227	733	8.748	922	13.224	8.740
						757		731		
						220		230		

I 13521 with graph B 13251

1	0.000	0.903
2	2.921	8.100
3	8.029	16.636
4	9.786	7.792
5	13.342	13.785
6	16.595	4.005
7	19.693	6.793
8	21.284	18.767
SV Hya	13.466	8.841

B 5156 with B 13251

1	0.000	0.404
2	2.691	7.649
3	7.522	16.364
4	9.531	7.568
5	12.934	13.658
6	16.609	0.000
7	19.474	6.881
8	20.698	18.923
SV Hya	13.203	8.733

SV Hydne

B 18718 km 30, 1897

	D	R	D	R	D	R	D	R	D	R
1	0.510		.375		—	—				
2	.244		.131							
3	.124		.434							
4	.107		.290							
5	.508		.198							
6	.130		.885							
7	.049		.049							
8	.340		0.010							
SV Hya	.768		.150							

B 16135 km 5, 1896

	D	R	D	R	Take means		D	R	D	R
1	0.492	22.218	.860	3.772	—	—	0.360	3.40	—	0.350
2	.064	19.252	.290	8.393	2.572	.566	7.930	7.879	2.569	7.940
3	.078	14.243	.633	17.042	7.586	.575	16.587	16.548	7.580	16.583
4	.920	12.404	.514	8.180	9.428	.414	7.706	7.696	9.421	7.712
5	.430	8.894	.468	14.253	12.938	.924	13.752	13.757	12.931	13.760
6	.844	5.407	.220	0.494	16.352	.351	—	-0.004	16.352	-0.002
7	.842	2.452	.410	7.311	19.350	.366	6.810	6.817	19.358	6.805
8	.322	0.970	.378	19.351	20.830	.848	18.842	18.857	20.839	18.840
SV Hya	.614	8.704	.424	9.282	13.122	.114	8.796	8.788	13.118	8.796

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	X.86	y.86	Bo & Mcs.	Bo & Mcs	17.1	27.3	-78	+63	
1	—	0.326	-1 +78	-1 +78	60.4	34.2	-453	-250	
2	2.317	6.579	-3 -45	-3 +45	77.5	61.5	-531	-187	
3	6.474	14.083	-14 +57	-14 -57	39.6	12.7	-333	+23	
4	8.210	6.508	+60 +3	-60 -3	37.9	48.8	-198	-210	
5	11.115	11.763	+67	-67 -67	+43.3a + 6.9b = -375 -313				a = -0.0092
6	14.288	008	+135	-135 008	+71.7a + 36.1b = +135 -233				b = +0.0033
7	16.757	5.920	+137	-137 -52	+5.23 + 22.5a + 36.1b = -1961 -1637				c = -0.003
8	17.814	16.283	+114	-114 -131	+22.82a = -2096 -1404				d = -0.0062
SV Hya	11.355	7.512	+85	-85 -40	a = -0.0092 + 36.1b = +135 -16				e = -0.0068
					d = -0.0062 + 36.1b = +119				f = +0.0089

	ax + by + c	Σ	dx + ey + f	Σ
1	-1 +1 -3 -2		-1 -1 +89 +88	
2	-21 +21 -3		-14 -44 +31	
3	-60 +46 -17		-40 -96 -47	
4	-76 +21 -58		-51 -44 -6	
5	-103 +39 -67		-70 -80 -61	
6	-132 0 -135		-89 - 0	
7	-155 +20 -138		-105 -41 -57	
8	-165 +54 -114		-111 -111 -133	
SV Hya	-105 +25 -83		-71 -52 -34	

	μx	μy
1	-1	+10
2	0	-14
3	-3	+10
4	+2	-3
5	0	+6
6	0	0
7	-1	+5 -5
8	0	-2
SV Hya	+2	+6

$$\begin{aligned}
 8c &= \begin{cases} -531 \\ +713 \\ -203 \end{cases} & 8f &= \begin{cases} -187 \\ +480 \\ +418 \end{cases} & b &= +0.0033 \\
 8c &= -21 & 8f &= +711 & +36.1e &= \begin{cases} -233 \\ -11 \end{cases} \\
 c &= -3 & f &= +89 & +36.1e &= -244 \\
 & & & & e &= -0.0068
 \end{aligned}$$

SV Hydraz

B 13251 May 10, 95	ϕ	\odot K	D	\odot K	D	\odot K	D	\odot K	D	\odot K	\odot Final	\odot
1	0.730	4.489	.223	.608	—	—	0.361	.380	—	0.370		
2	.425	.768	.930	.900	2.695	7.21 6.84	7.654	.692	2.690	7.663		
3	.252	.880	.220	.612	7.522	6.09 5.21	16.364	.384	7.522	16.374		
4	.296	.889	.019	.817	9.566	6.00 5.62	7.565	.589	9.564	7.577		
5	.650	.495	.888	.915	12.920	9.21 8.91	13.694	.687	12.920	13.692		
6	.340	.881	4.584	0.228	16.610	6.08 6.10	—	—	16.610	—		
7	.231	.964	.690	.107	19.501	5.25 9.91	6.894	.879	19.496	6.886		
8	.422	0.671	0.642	.161	20.692	8.48 7.17	18.942	.933	20.704	18.938		
SV Hyd	.934	.241	.839	.970	13.204	5.48 2.02	8.745	.742	13.203	8.744		
					∴	∴	∴	∴	∴	∴		

B 16135 June 5, 896

1	0.334	4.780	18.918	.555	—	—	0.712	6.45 6.96	—	0.704		
2	3.152	.972	11.708	.801	2.818	.808	7.922	8.41 9.28	2.813	7.925		
3	8.158	.978	3.086	.452	7.824	.802	16.544	5.42 5.62	7.813	16.553		
4	10.002	.140	11.946	.605	9.668	.640	7.684	6.45 7.07	9.654	7.696		
5	13.503	.640	5.892	.652	13.169	.140	13.738	7.42 7.43	13.154	13.740		
6	16.929	.186	19.630	0.910	16.595	.594	—	0.011 7.85	16.594	-0.006		
7	19.922	.200	12.830	.717	19.578	.580	6.800	8.07 7.85	19.579	6.792		
8	21.397	0.734	0.802	.759	21.057	.046	18.828	8.49 8.23	21.052	18.824		
SV Hyd	13.692	.447	10.850	.688	13.358	.333	8.780	7.79 7.79	13.346	8.779		
					∴	∴	∴	∴	∴	∴		

Mean of 4 B plates

B 16135 and by graph B 13251	\odot	1	+005	0.379
1	0.00 0.364	2	2.67 2.69	7.650
2	2.20 7.645	3	7.524 7.524	16.376
3	7.535 16.375	4	9.544 9.544	7.567
4	9.534 7.570	5	12.924 12.924	13.678
5	12.924 13.680	6	16.614 16.614	+0.11
6	16.609 16.609	7	19.485 19.485	6.884
7	19.474 6.884	8	20.714 20.714	18.934
8	20.732 18.939	SV Hyd	13.204 13.204	8.735
SV Hyd	13.207 13.207			
	729			

S V Hydraz

B18718		D	R	D	R	D	R	D	R	D	R	D	R
March 30, 1897	1	0.510	4.610	.375	.815	—	+.25	0.510	4.93	4.0012	0.502		
	2	.249	.880	.131	.073	2.734	7.16	7.754	.751	2.725	7.752		
	3	.124	.954	.434	.768	7.614	6.15	16.451	.446	7.614	16.448		
	4	.105	.012	.290	.914	9.595	5.94	7.595	.592	9.594	7.594		
	5	.508	.578	.198	.021	12.998	0.03	13.687	.699	13.000	13.693		
	6	.130	.008	4.885	0.322	16.620	6.29	—	—	16.624	—		
	7	.049	.078	.049	.168	19.539	5.31	6.836	.846	19.535	6.841		
	8	.340	.729	0.010	.210	20.830	8.31	18.875	8.885	20.830	18.882		
SV Hyd		.768	.353	.150	.070	13.258	2.49	8.735	.748	13.254	8.742		
B18718 reduced to B13251													
	1	+.12	0.378										
	2	2.683	7.651										
	3	7.517	16.391										
	4	9.548	7.553										
	5	12.920	13.682										
	6	16.626	40.020										
	7	19.495	6.886										
	8	20.720	18.938										
SV Hyd		13.202	8.734										

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Mean of 2 MC plates		p. 127 Mean of 2 MC plates		x astis y		Cond. Astis -25 Plate 3312 (p. 126) x-286	
1	0.02	+1	0.248	-	0.100	-	0.286
2	2.330	2.320	6.534	0.811	2.298	2.319	6.572
3	6.512	6.488	14.140	2.272	4.944	6.498	14.140
4	8.277	8.270	6.511	2.886	2.280	8.254	6.521
5	11.200	11.182	11.830	3.906	4.132	11.171	11.818
6	14.420	14.423	0.008	5.025	-	14.372	-
7	16.896	16.894	5.972	5.890	2.080	16.845	5.949
8		17.928	16.414	6.256	5.723	17.892	16.368
SV Hypo		11.430	7.552	3.987	2.638	11.403	7.545

1	0	0.2	-1	+38	17.1	27.3	-8	+86	+36.1b = $\begin{cases} +79 \\ -5 \end{cases}$
2	2.3	6.5	-1	+38	60.4	34.2	-147	-81	36.1b = $\begin{cases} +79 \\ -5 \end{cases}$
3	6.5	14.1	+10	0	77.5	61.5	-159	+5	b = +0.020
4	8.3	6.5	-16	+10	39.6	12.7	-117	+25	+31.1d = $\begin{cases} -45 \\ -6 \end{cases}$
5	11.2	11.8	-11	-12	37.9	48.8	-38	-20	+31.1d = -51
6	14.4	0	-51	0	I	+43.9a	+6.9b	= -139	-167
7	16.9	6.0	-49	-23	II	-1.7a	+36.1b	= -79	-45
8	17.9	16.4	-36	-46	I-5.23	+226.5a	+36.1b	= -727	-873
SV Hypo	11.4	7.6	-27	-7	I-II	+228.2a	= -806	-828	
						a = -0.0025			
						d = -0.0036			

ax	by	c	Σ	ax	by	c	Σ	dx	ay	f	Σ
-5	+13	+4	-7	-5	0	+25	+25	-	0	+48	+48
+23	+28	+5	+4	-6	+25		+4	-8	-10		+30
+29	13	-18	+5	-18	-82		+25	-23	-26		-1
+39	24	-16	-18	-23	-15		-13	-30	-10		+8
+50	-	-51	-51	-31	-27		-33	-40	-19		-11
-59	12	-48	-48	-40	0		-15	-52	0		-4
-63	33	-31	-31	-47	-4		-36	-61	-10		+3
-40	15	-26	-26	-50	-38		-63	-64	-26		-42
SV Hypo				-32	-17		-24	-41	-12		-5

mx	my	mx
+26	+10	-1
+5	-8	-5
-35	-1	+5
+3	+2	-1
-22	+1	-5
+36	-4	-
+13	0	+1
-27	+4	+5
+3	-2	+1

See also p. 120

SV Hydraz

MC 21828	prec.	D	fol.	<input checked="" type="checkbox"/> whole new net	prec.	R	fol.	prec.	D	fol.	<input checked="" type="checkbox"/>	prec.	R	fol.
April 4-5, 1926	1	0.290	1.880	24.496	22.915	0.613	0.615	16.741	16.735					
C.D.B.	2	2.624	4.224	22.182	20.585	6.892	6.891	10.460	10.450					
	3	6.820	8.414	18.006	16.412	14.491	14.490	2.848	2.846					
Coast survey	4	8.574	10.168	16.239	14.634	6.850	6.848	10.475	10.475					
micrometer	5	11.503	13.102	13.324	11.719	12.158	12.155	5.160	5.157					
plate, glass up	6	14.707	16.298	10.032	8.488	0.326	0.319	16.979	16.978					
	7	17.194	18.785	3.611	2.018	6.292	6.285	11.012	11.012					
	8	18.259	19.855	2.579	0.984	16.722	16.722	0.580	0.571					
SV Hya	11.739	13.333	13.068	11.477	7.885	7.879	9.437	9.435						

Differences

1	—	—	—	—	0.287	0.296	0.238	0.243
2	2.334	2.344	2.314	2.320	6.566	6.572	6.519	6.528
3	6.530	6.534	6.490	6.493	14.165	14.171	14.131	14.132
4	8.284	8.288	8.257	8.271	6.524	6.529	6.504	6.503
5	11.213	11.222	11.172	11.186	11.832	11.836	11.819	11.821
6	14.417	14.418	14.414	14.417	—	—	—	—
7	16.904	16.905	20.885	20.887	5.966	5.966	5.967	5.966
8	17.969	17.975	21.917	21.921	16.396	16.403	16.399	16.407
SV Hya	11.449	11.453	11.428	11.428	7.559	7.560	7.542	7.543

D	<input checked="" type="checkbox"/> K means	D	<input checked="" type="checkbox"/> R	<input checked="" type="checkbox"/> Fine	<input checked="" type="checkbox"/> R	MC 2168 red 6 MC 21924	MC 21924
1	—	0.292	0.292	0.000	0.292	-0.003	0.290
2	2.339	6.569	6.569	2.340	6.569	2.321	6.534
3	6.532	14.168	14.168	6.534	14.162	6.491	14.140
4	8.286	6.526	6.526	8.286	6.528	8.268	6.511
5	11.218	11.834	11.834	11.218	11.835	11.183	11.828
6	14.418	—	—	14.416	10.002	14.421	10.002
7	16.904	5.966	5.966	16.904	5.964	16.888	5.973
8	17.972	16.400	16.400	17.972	16.398	17.921	16.413
SV Hya	11.451	7.560	7.560	11.452	7.558	11.433	7.555

-26° Plate 3325 RA 12^h 24^m May 29, 1911

No	d	<u>x</u>	y			2.86	
49612	24	13.420	17.598	—	0.141	—	0.403
19	16	14.260	19.786	0.830	2.329	2.371	6.654
41	20	15.738	22.420	2.308	4.963	6.594	14.180

not on

34	12	17.362	21.595	3.932	4.138	14.34	
14	14	18.450	17.457	5.020	—	14.343	—
20	20	19.330	19.528	5.900	2.070	16.857	5.917
52	16	19.730	23.168	6.300	5.711	18.000	16.317
27	30	17.434	20.101	4.004	2.644	11.420	7.554

only 425
MC-ast

		x	y	Σx	Σy	Σax	Σay	
1	—	-155	0	0.2				
2	-051	-120	2.3	6.5	8.8	20.8	-157	-315
3	-106	-040	6.5	14.1	49.2	22.4	+045	+152
6	+080	—	14.4	—	58.0	43.2	-112	-163
7	+37	+055	16.9	6.0	31.3	6.2	+117	-100
8	-72	+097	17.9	16.4	26.7	37.0	-229	-63

$$a = +0054d = +01145$$

$$b = -0105e = +0029$$

$$c = +005f = -159$$

SV -10 -2 11.4 7.6

	ax	by	c	Σ	μ_x	μ_y	Σ	f	μ_y	dx
1	—	-2	+5	+3	-3	+3	-158	-159	5	—
2	+12	68	—	-51	0	-6	-114	—	19	2.6
3	35	148	—	-108	+2	+3	-43	—	41	74
6	77	—	—	+82	-2	-6	+6	—	—	165
7	91	63	—	+33	+4	+3	+52	—	17	194
8	97	172	—	-70	-2	+4	-93	—	47	205
SV	62	80	—	-13	+3	+2	-4	—	25	130

SV Hydrat									
MC 21924	huc.	D	fol.	⊗	huc.	R	fol.	huc.	⊗
May 8-9, 1926 (1)	.319		.980	h	.016	h	.355	.216	.231
C.D.B.	2	.629	.302		.701		.033	.509	.518
Coast Survey	3	.804	.474		.535		.864	.110	.118
	4	.592	.250		.740		.084	.482	.491
	5	.506	.153		.831		.175	.801	.810
	6	.743	.404		.591		.925	.0.972	.0.980
	7	.215	.880		.119		.454	.943	.952
	8	.249	.920		.097		.0.421	.392	.392
SV Hydr		.748	.415		.589		.924	.523	.533

Differences

1	—	—	—	—	.244	.251	.229	.238
2	.310	.322	.315	.322	.532	.538	.520	.524
3	.485	.494	.481	.481	.138	.138	.132	.134
4	.293	.270	.276	.271	.500	.511	.506	.504
5	.187	.173	.185	.180	.829	.830	.826	.831
6	.424	.424	.425	.430	—	—	—	—
7	.896	.900	.897	.901	.971	.972	.972	.973
8	.930	.940	.919	.934	.420	.412	.422	.421
SV Hydr	.429	.435	.427	.431	.557	.553	.539	.541

D	⊗	R	Means	D	⊗	R	⊗	Final	⊗	huc. 21928 and 21924
1	—	—	0.248	248	234	—	0.248	—	—	+002 0.249
2	2.316	.318	6.535	534	522	2.317	6.534	2.323	6.534	
3	6.490	.481	14.138	140	133	6.486	14.139	6.494	14.144	
4	8.272	.274	6.510	510	505	8.273	6.510	8.268	6.512	
5	11.180	.182	11.830	830	828	11.181	11.830	11.184	11.829	
6	14.424	.428	—	001	—	14.426	000	14.428	000	
7	16.898	.899	5.972	968	972	16.898	5.970	16.889	5.974	
8	17.935	.926	16.416	418	421	17.930	16.417	17.928	16.411	
SV Hydr	11.432	.429	7.552	542	540	11.430	7.547	11.431	7.552	
∴	∴	∴	∴	∴	∴	∴	∴	∴	∴	

No actus

See Bk I p. 98

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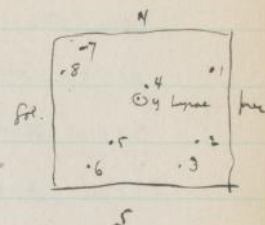
Y lines

MC 24320

June 30 - July 1, 1929

C.B.

	June	D	July	ⓧ	June	R	July	June	D	July	ⓐ	June	July
1	0.492	1.480	2.288	2.299	3.435	3.502	.496	.440					
2	1.732	2.715	.050	.071	15.705	15.775	.251	.190					
3	5.225	6.218	.558	.570	19.421	19.490	.587	.525					
4	9.822	10.806	.952	.972	9.021	9.084	.053	.002					
5	16.921	17.904	.852	.864	17.392	17.460	.763	.715					
6	22.524	23.521	.250	.262	19.627	19.681	0.585	0.544					
7	24.091	25.062	.678	.711	0.450	0.502	h.788	h.740					
8	27.414	28.398	.376	0.400	5.337	5.392	.933	.883					
Y line	10.971	11.956	.801	.810	11.033	11.098	.055	.004					

Differences

1	—	—	—	—	2.985	3.000	.292	.300
2	1.240	1.235	.238	.228	15.255	15.273	.537	.550
3	4.733	4.738	.730	.729	18.971	18.988	.201	.215
4	9.330	9.326	.336	.327	8.571	8.582	.735	.738
5	16.429	16.424	.436	.435	16.948	16.958	.025	.025
6	22.032	22.041	.038	.037	19.177	19.179	.203	.196
7	23.599	23.582	.610	.588	—	—	—	—
8	26.922	26.918	.912	.899	4.887	4.890	.855	.857
Y line	10.479	10.476	.487	.489	10.583	10.596	.733	.736

	D	ⓧ	K means	D	ⓐ	R	ⓧ	Final	ⓐ	MC 24344 and by graph	MC 24320
1	—	—	Take means	2.992	.015	.246	—	3.004	.000	.000	3.000
2	1.238	.233		15.264	.277	.544	1.236	15.270	1.251	15.272	
3	4.736	.730		18.980	.982	.208	4.733	18.981	4.733	18.977	
4	9.328	.332		8.576	.564	.236	9.330	8.570	9.321	8.574	
5	16.426	.436		16.953	.935	.025	16.431	16.944	16.419	16.944	
6	22.036	.038		19.178	.175	.200	22.037	19.176	22.049	19.184	
7	23.590	.599	—	—	.007	—	23.594	.004	23.584	.000	
8	26.920	.906	4.888	—	.888	.256	26.913	4.888	26.913	4.882	
Y line	10.478	.489	10.590	—	.576	.735	10.483	10.583	10.468	10.588	
	∴	∴	∴	∴	∴	∴	∴	∴	∴	∴	

Y Lyrae

I 16107 Oct. 9, 1996	0	⊗	R	D	⊙	R	3	⊗	R	D	⊙	R	⊗	Final ⊙
C.B.	1	0.333	2.653	2.110	.571			<u>Take means</u>		1.930		931 896	—	1.930
	2	1.050	.940	9.470	.220	0.717	.713		9.290		280 247	0.715	9.285	
	3	3.134	.265	11.658	.005	2.801	.788		11.478		489 462	2.794	11.484	
	4	5.901	.079	5.406	.271	5.568	.574		5.226		216 146	5.571	5.221	
	5	10.144	.860	10.378	.289	9.811	.793		10.198		188 178	9.802	10.193	
	6	13.520	.480	11.682	0.955	13.187	.173		11.502		513 512	13.180	11.508	
	7	14.470	.506	0.180	4.467	14.137	.147		—		000	14.142	—	
	8	16.467	0.525	3.088	.547	16.134	.128		2.908		714 720	16.131	2.911	
Y Lyr	6.590	.407	6.601	.070	6.257	.246	6.421				416 397	6.252	6.418	
					∴	∴								

I 18538, Aug. 13, 1997

	1	0.094	4.939	2.129	.856	—	000		1.929		932 920	—	1.930
	2	0.815	.200	9.487	.503	0.721	719 739		9.287		286 305	0.720	9.286
	3	2.902	.104	11.690	.298	2.808	809 834		11.490		493 508	2.808	11.492
	4	5.677	.361	5.425	.572	5.583	568 579		5.225		222 234	5.576	5.224
	5	9.904	.102	10.394	.604	9.810	815 837		10.194		894 205	9.812	10.194
	6	13.291	.714	11.714	0.290	13.197	197200 225		11.514		512 516	13.199	11.513
	7	14.222	.806	0.200	2.806	14.128	137 133		—		003	14.132	0.002
	8	16.236	0.794	3.098	.900	16.142	142 145		2.898		905 906	16.142	2.902
Y Lyr	6.374	.658	6.624	.378	6.280	.267 201	6.424				411 422	6.274	6.418
					∴	∴					∴	∴	∴

I 18538 and Lyrae to I 16107

	⊗	⊙
1	000	Take means 1930
2	0.710	9.286
3	2.794	11.488
4	5.571	5.222
5	9.806	10.194
6	13.185	11.510
7	14.135	1.001
8	16.141	2.906
Y Lyr	6.268	6.418

Y lymae

I 21341	Oct. 6, 1898	D	⊗	R	S	⊙	R	S	⊙	R	⊗	Final	⊙
C.B.B.	1	0.109		4.459	2.801		.176	—	Take means	—	1.971	.974	1.972
	2	0.850		.713	10.160		.801	0.741	.746	9.380	.349	0.744	9.340
	3	2.943		.615	12.351		.614	2.834	.844	11.521	.536	2.839	11.528
	4	5.700		.865	6.083		.284	5.591	.594	5.253	.266	5.592	5.260
	5	9.954		.611	11.048		.930	9.845	.848	10.218	.220	9.846	10.219
	6	13.330		.247	12.357	0.620		13.221	.212	11.527	.530	13.216	11.528
	7	14.256		.328	0.830	4.150		14.147	.131	—	—	14.139	—
	8	16.245	0.333		3.719	.259		16.136	.126	2.889	.891	16.131	2.890
Y lymae	6.397		.182		7.276	.699		6.288	.277	6.446	.451	6.282	6.448

I 27432 Sept 6, 1901

C	1	0.743	16.264	.074	10.782	—	5.008	1.274	1.318	5.004	1.296
	2	.128	15.845	.470	3.404	0.385	0.419 385	8.670	8.696	0.385	8.683
poor images	3	.111	13.854	.757	1.130	2.368	1.410 368	10.957	10.970	2.368	10.964
	4	.186	10.811	.630	7.262	5.443	5.453 433	4.830	4.838	5.443 433	4.834
	5	.167	6.812	.800	2.111	9.424	9.452 412	10.000	9.989	9.418	9.994
	6	.484	3.461	.283	0.618	12.741	12.205 758	11.483	11.482	12.750	11.482
	7	.984	2.010	0.800	12.100	14.241	14.254 250	—	—	14.246	—
	8	.808	0.172	.798	9.104	16.065	16.092 37	2.998	2.996	16.071	2.997
Y lymae	.815	10.181	.858	6.010	6.072	6.085 058	6.058	6.090	6.065	6.094	

I 21341 with graph 8 I 16107

1	0.711	19.16
2	0.711	9.289
3	2.798	11.485
4	5.574	5.227
5	9.811	10.203
6	13.774	11.524
7	14.142	0.008
8	16.123	2.898
Y lymae	6.260	6.418

I 27432 with graph 8 I 16107

1	0.711	19.16
2	0.711	9.289
3	2.798	11.485
4	5.574	5.227
5	9.811	10.203
6	13.774	11.524
7	14.142	0.008
8	16.123	2.898
Y lymae	6.260	6.418

Y hyrae

135

MC 24344

		me. D	for	me. R	for	me. D	for	me. R	for
July 11-12, 1929	1	0.321	1.206	1.859	2.965	3.596	3.541	.332	.392
Oct.	2	1.589	2.490	.598	.700	15.845	15.800	.080	.130
	3	5.081	5.970	.106	.221	19.506	19.451	0.424	0.481
	4	9.660	10.546	.536	.651	9.036	8.970	.890	.949
	5	16.771	17.652	.425	.537	17.306	17.244	.640	.690
	6	22.398	23.297	.800	.901	19.450	19.389	0.471	0.530
	7	23.901	24.781	.275	.387	0.241	0.174	2.669	2.739
	8	27.240	28.123	.937	.065	5.070	5.000	.840	.890
Y hyr		10.812	11.687	.383	.502	11.034	10.968	.897	.968

Differences

1	—	—	—	—	3.355	3.367	.337	.347
2	1.268	1.284	.261	.265	15.604	15.626	.589	.609
3	4.760	4.764	.753	.744	19.265	19.277	.245	.258
4	9.339	9.340	.323	.314	8.795	8.796	.779	.790
5	16.450	16.446	.434	.428	17.065	17.070	.029	.049
6	22.077	22.091	.059	.064	19.209	19.215	.198	.209
7	23.880	23.575	.584	.578	—	—	—	—
8	26.919	26.917	.922	.900	4.829	4.826	.829	.849
Y hyr	10.491	10.481	.476	.463	10.793	10.794	.772	.771

	D	R	me. D	R	D	R
1	—	—	3.361	.342	—	3.364
2	1.276	.280	15.615	.622	1.278	15.618
3	4.762	.770	19.271	.271	4.766	19.271
4	9.340	.326	8.796	.799	9.333	8.798
5	16.448	.450	17.068	.047	16.449	17.058
6	22.084	.084	19.212	.206	22.084	19.209
7	23.578	.578	—	.008	23.578	.006
8	26.918	.914	4.828	.836	26.916	4.832
Y hyr	10.486	.481	10.794	.786	10.484	10.790
	∴	∴	∴	∴	∴	∴

Conf. from b. 141 Me's to I's		x	y	x	y	Δx	Δy
1	Δ_1 +1	Δ_2 -2	0	0	IΣ 1-4	26.3	34.7
2	+77	+5	3.3	21.7	IIΣ 4-8	102.9	61.9
3	-3	-35	10.7	5.1	all	129.2	96.6
4	+23	-17	12.3	7.9	IIΣ ₃₊₅	59.9	16.8
5	+48	-56	13.9	7.6	IIΣ ₄₊₆	69.3	79.8
6	+86	-29	21.7	20.3			
7	+115	-47	32.0	29.9			
8	+21	-56	35.3	4.1			
VZ Hu	+13	-53	15.4	8.0			

$a = +.0008$
 $b = +.0006$
 $c = -.0104$
 $d = +.0039$
 $e = -.0004$
 $f = -.0975$

$a = +.0008$
 $b = +.0719$
 $c =$
 $d = -.0478$
 $e = +.0081$
 $f =$

$9.4a + 63(.0004) = +.234$
 $9.4a = +.234 + (-.2268)$
 $a = +.0008$

$-243.8b = 870 \quad | \quad -121b = -870 \quad | \quad .098$
 $-243.8a = -.098$
 $b = +.0036$
 $c = +.0004$

$9.4d + 63(.0004) = +.234$
 $+ .061 + (-.02427)$
 $9.4d = +.234 + (-.02427)$
 $+ .0368$
 $9.4d = +.2098$
 $+ .0039$
 $d = +.2137$
 $+ 8c$
 $129.2a + 96.6b = +368$
 $8c = +.368 + (-.10336) + (-.34776)$
 $8c = -.083$
 $c = -.0104$

$9.4a - 6.6297 = +.172$
 $9.4a = +6.802$
 $a = +.7236$
 $9.4d = -.5103 = +.061$
 $9.4d = +.671$
 $d = +.0714$

$9.4a + 6.6297 = +234$
 $9.4a = 6.864$
 $a = +.7302$
 $9.4a + 4.5297 = +.172$
 $9.4a = -.4435$
 $a = -.4636$

$9.4d + 63(+.0081) = +.061$
 $9.4d = +.061 + (-.5103)$
 $9.4d = -.4493$
 $d = -.0478$

$129.2a + 96.6b + 8f = -237$
 $8f = -.237 + (-543)$
 $8f = -.780$
 $f = -.0975$

$8f = -237 - 890$

No astro

See Book I p. 46

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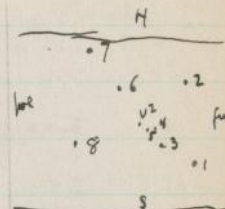
V 2 Hercules

MC 24367

July 22-23, 1929 (1)

C.D.B.

	km. D	fol.	⊗	pic. K	fol.	km. D	fol. ⊙	pic. K	fol.
1	0.253	1.150		2.628	2.738	2.241	2.271	0.380	0.350
2	.570	.473		.286	.385	.547	.592	.060	.012
3	.953	.845		.934	.048	.158	.191	.461	.422
4	.508	.412		.389	.485	.392	.434	.221	.180
5	.120	.991		.762	.890	.610	.641	.989	.951
6	.940	.832		.902	.022	.918	.957	.650	.621
7	.218	.090		.600	.723	0.305	0.334	.251	.215
8	.527	.437		.378	0.460	.100	.122	.428	.398
VZ Her	.628	.520		.260	.364	.183	.223	.420	.380



Differences

	—	—	—	—	—	—	—	—	—
1	—	—	—	—	—	—	—	—	—
2	.017	.323	.342	.353	.694	.679	.680	.662	
3	.700	.695	.694	.690	.083	.080	.081	.072	
4	.255	.262	.239	.253	.849	.837	.841	.830	
5	.867	.841	.866	.848	.631	.630	.609	.601	
6	.689	.682	.726	.716	.323	.314	.270	.271	
7	.965	.940	.028	.015	.936	.937	.871	.865	
8	.274	.287	.250	.278	.141	.149	.048	.048	
VZ Her	.375	.370	.368	.374	.058	.048	.040	.030	

	D	⊗	K	Means	D	⊙	K	Means	1/2 MC	plots	⊙
1	—		+0.025	—	—		+0.012	—	+0.006	0.000	
2	3.310		311	21.686	678		3.316	21.682	3.324	21.677	
3	10.698		703	5.082	099		10.700	5.090	10.702	5.090	
4	12.258		249	7.843	861		12.254	7.852	12.258	7.853	
5	13.854		860	7.630	634		13.857	7.632	13.860	7.634	
6	21.684		684	20.318	317		21.685	20.318	21.690	20.318	
7	31.952		960	29.936	937		31.956	29.936	31.960	29.940	
8	35.280		278	4.145	125		35.279	4.135	35.274	4.134	
VZ Her	15.372		373	8.053	088		15.372	8.060	15.373	8.062	

I, & Mrs

$$\begin{aligned} a &= +0.0007 \\ b &= +0.0038 \\ c &= +0.0088 \\ d &= -0.0022 \\ e &= +0.0013 \\ f &= -0.010 \end{aligned}$$

$$\begin{array}{r} 129.22 + 96.66 + 80 = +.368 \\ 80 = +.368 \\ -.090 \\ \hline -.348 \\ 80 = -.070 \\ \hline C = -.0088 \end{array}$$

$$\begin{array}{r} 8f = -237 \\ \quad -237 \\ \hline 8f = +824 \\ \quad +824 \\ \hline f = +103 \end{array}$$

	a	b	c	Σ	d	e	f	Σ	Ans	perf
1	—	—	-0.09	-9	—	—	-10			
2	+0.023	+0.078	+71		+0.028	+0.028	+11			
3	+0.075	+0.018	+17		+0.007	+0.007	-27			
4	+0.009	+0.028	+28		+0.000	+0.000	-27			
5	+0.010	+0.027	+29		+0.010	+0.010	-31			
6	+0.016	+0.073	+80		+0.026	+0.026	-36			
7	+0.022	+0.008	+121		+0.030	+0.030	-50			
8	+0.025	+0.015	+31		+0.005	+0.005	-83			
VZ here	+0.011	+0.029	+31		+0.010	+0.010	-33			

18949	1	0	2	18.545	0.900	1	0	2	18.545	0.900	1	0	2	18.545	0.900	1	0	2	18.545	0.900			
July 27, 1893	2	1.972	.267	5.541	.902	1.941	2	1.972	.267	5.541	.902	1.941	2	1.972	.267	5.541	.902	1.941	2	1.972	.267	5.541	.902
Oct. 3	3	6.450	.825	15.470	.971	6.429	3	6.450	.825	15.470	.971	6.429	3	6.450	.825	15.470	.971	6.429	3	6.450	.825	15.470	.971
	4	7.382	.891	13.822	.612	7.351	4	7.382	.891	13.822	.612	7.351	4	7.382	.891	13.822	.612	7.351	4	7.382	.891	13.822	.612
	5	8.329	.950	13.929	.500	8.299	5	8.329	.950	13.929	.500	8.299	5	8.329	.950	13.929	.500	8.299	5	8.329	.950	13.929	.500
	6	13.002	.238	6.312	.102	12.971	6	13.002	.238	6.312	.102	12.971	6	13.002	.238	6.312	.102	12.971	6	13.002	.238	6.312	.102
	7	19.131	.087	0.529	.841	19.100	7	19.131	.087	0.529	.841	19.100	7	19.131	.087	0.529	.841	19.100	7	19.131	.087	0.529	.841
	8	21.200	0.084	16.003	.378	21.169	8	21.200	0.084	16.003	.378	21.169	8	21.200	0.084	16.003	.378	21.169	8	21.200	0.084	16.003	.378
VZK	9	2.236	.030	13.669	.752	9.205	9	2.236	.030	13.669	.752	9.205	9	2.236	.030	13.669	.752	9.205	9	2.236	.030	13.669	.752

					Take means			7.010		
I 9134	1	0.745	h.337	h.437	0.800					10.005
Aug 9, 1893	2	.842	.229	.458	.774	2.097	.108	12.979	974 974	2.102 12.976
	3	.194	.887	.455	.800	6.449	.450	2.982	780 000	6.450 2.981
	4	.140	.943	.828	.455	7.395	.394	6.617	632 655	7.394 6.624
	5	.087	.008	.930	.340	8.342	.329	4.507	510 540	8.336 5.508
	6	.861	.228	.411	.884	12.115	.117	12.026	032 084	13.116 12.029
	7	.054	.000	0.700	.597	19.309	.337	17.737	717 797	19.323 17.727
	8	.910	0.168	.222	.106	21.165	.169	2.215	216 306	21.167 2.216
VZ Hurdle		.017	.063	.688	.574	9.272	.274	4.749	740 774	9.273 4.744

8 4

2 1.941 13.007

2 1.941 13.007

100

3	6	428	3.076
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11

4	7.352	4.721
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11. 113

5 8 299 9.612

6	12.972	12.219
---	--------	--------

11-12-13

7 19.100 17.985

[illegible]

8	2.169	2.113
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1/2 Apr 9 3:10 P. H. 868

1.210

I 9134 red by graph 5I11128

(X) (4)

1 - 0002 000

1. 271 1. 272

2	2.951	13.002
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6.420 3.068

3	6	4	20
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4	7.344	9.722
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5	8.286	4.620
---	-------	-------

6	12.973	12.209
---	--------	--------

7	19.106	17.982
---	--------	--------

7	1-10	1	14
			4

8	21-144	2.5
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VZ Her	9.222	4.870
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V2 Herculis											
III/28 May 19, 1894	D	R	D	R	D	R	D	R	D	R	Final
1	0.637	2.006	0.690	0.354	—	+0.10	—	0.00	+0.05	0.00	0.00
2	.590	.980	.682	.358	1.953	9.55 2.6	13.008	0.07 0.04	1.954	13.008	13.008
3	.054	.585	.619	.418	6.417	4.13 4.21	3.071	0.76 0.64	6.415	3.074	3.074
4	.980	.654	.970	.072	7.343	3.34 3.52	4.720	7.32 7.18	7.338	7.726	7.726
5	.924	.705	.080	.951	8.282	2.78 3.01	5.610	6.13 5.97	8.280	4.612	4.612
6	.617	.968	.482	.538	12.980	9.73 0.38	12.208	2.08 1.84	12.976	12.208	12.208
7	.736	.793	0.690	.308	19.099	1.10 2.15	18.000	9.91 9.54	19.104	17.996	17.996
8	.790	.842	.176	.825	21.153	1.62 1.64	22.514	5.72 4.71	21.158	2.513	2.513
V2 Her	.843	.779	.824	.220	9.206	2.09 2.27	4.866	8.84 8.66	9.208	4.875	4.875
						∴	∴	∴	∴	∴	∴

I 15391 June 29, 1896

1	0.644	21.578	0.880	0.690	—	+0.05	—	0.00	+0.02	0.00
2	1.860	19.280	.948	13.611	2.216	2.212 2.29	12.932	9.81 12.921	2.214	12.932
3	.112	15.098	.004	3.545	6.468	4.68 6.480	2.876	8.80 2.855	6.468	2.878
4	.073	14.121	.387	5.183	7.429	4.31 7.457	4.493	5.27 4.493	7.430	4.508
5	.013	13.182	.513	5.030	8.369	3.70 8.346	4.367	3.74 4.340	8.370	4.370
6	.866	8.277	.057	12.470	13.222	2.22 13.301	11.823	8.30 11.780	13.222	11.826
7	.141	1.956	0.443	18.030	19.497	5.02 19.622	17.437	4.18 17.340	19.500	17.428
8	.812	0.405	.950	2.513	21.168	1.67 21.173	1.930	9.10 1.823	21.168	1.920
V2 Her	.955	12.253	.301	5.261	9.311	2.99 9.325	4.579	6.08 5.571	9.305	4.594

I 15391 with graphs to I 11128

Means of 4 plates

	①	②	③	④	⑤	⑥	⑦	⑧	⑨
1	0.029	+0.012	-0.004	+0.001	-0.007	+0.002	+0.001	-0.002	-0.002
2	1.944	13.001 12.995	1.948	13.003	3.247	21.672	+77	+5	
3	6.424	3.069	6.423	3.075	10.705	5.125	-3	-35	
4	7.350	4.724	7.341	4.722	12.285	7.870	+23	-17	
5	8.287	4.612	8.287	4.614	13.812	7.690	+48	-56	
6	12.969	12.206	12.962	12.208	21.603	20.347	+86	-29	
7	19.114	17.980	19.107	17.992	31.845	29.987	+115	-47	
8	21.138	2.528	21.152	2.514	35.253	4.190	+21	-56	
V2 Her	9.223	4.864	9.216	4.869	15.360	8.115	+13	-53	

V2 Hercules

See Table I p. 46

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MC 24199	prec. D	fol. X	prec. R	fol.	prec. D	fol. Q	prec. R	fol.
April 26-27, 1926	0.781	1.656	2.687	1.822	30.665	30.726	0.595	0.557
C.O.B.	2 4.113	4.980	.452	.574	9.009	9.060	.291	.251
	3 11.489	12.369	.011	.144	25.582	25.640	.739	.689
	4 13.051	13.924	.473	.596	22.828	22.877	.514	.455
	5 14.655	15.530	.868	1.000	23.059	23.104	.300	.264
	6 22.484	23.348	.084	.220	10.360	10.414	.009	.953
	7 32.732	33.591	.832	.970	0.721	0.763	.639	.597
	8 36.050	36.936	.451	0.560	26.522	26.541	.830	.774
V2 H _{av}	16.169	17.030	.363	.488	22.612	22.661	.726	.670

Differences

1	—	—	—	—	—	—	—	—
2	3.332	3.324	.235	.248	21.656	21.666	.696	.694
3	10.708	10.713	.676	.678	5.083	5.086	.144	.132
4	12.270	12.268	.214	.226	7.837	7.849	.919	.898
5	13.874	13.874	.819	.822	7.606	7.622	.705	.707
6	21.703	21.692	.603	.602	20.305	20.312	.414	.396
7	31.951	31.935	.855	.852	29.944	29.963	.044	.040
8	35.269	35.280	.236	.262	4.143	4.188	.235	.217
V2 H _{av}	15.388	15.374	.324	.338	8.053	8.065	.131	.113

	X	R	Means	D	Q	R	Finals	Q	
1	<u>Total reductions</u>								MC 241795 MC 24367
2	3.328	336 242	21.661	.695			3.332	21.678	Total means 0.06
3	10.710	699 677	5.084	.138			10.704	5.111	of 1's of 28.672
4	12.269	254 220	7.843	.908			12.262	7.876	both plates 5.091
5	13.874	853 820	7.614	.706			13.864	7.660	for final 7.854
6	21.698	691 602	20.308	.405			21.694	20.356	reduction 7.636
7	31.943	984 854	29.954	.042			31.964	29.998	
8	35.270	268 249	4.164	.226			35.269	4.195	
V2 H _{av}	15.381	567 331	8.059	.122			15.374	8.090	

See remeasure with closer comparison.

R V Capricorni

See Book I p. 16

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MC 24350

	prec. D	fol. X	prec. R	fol. Q	prec. D	fol. Q	prec. R	fol.
July 12-13, 1929	0.703	1.770	.948	.879	7.055	7.135	.808	.792
633.	2 4.379	5.441	.285	.213	3.408	3.470	.482	.417
	3 5.038	6.102	.609	.539	30.561	30.611	.329	.271
	4 13.018	14.104	.614	.540	32.290	32.356	.582	.521
	5 19.072	20.144	.562	.500	34.752	34.816	0.112	0.025
	6 23.639	24.707	.965	.900	0.210	0.264	.644	.589
	7 23.678	24.740	.983	.922	9.619	9.680	.239	.171
	8 29.324	30.392	.331	0.272	33.949	34.022	.869	.800
RVCap	18.704	19.762	.969	.896	25.148	25.220	.721	.661

Differences

1	—	—	—	—	27.697	27.681	.696	.717
2	3.676	3.671	.663	.666	31.344	31.346	.380	.392
3	4.335	4.332	.339	.340	4.191	4.205	.217	.246
4	12.315	12.334	.334	.339	2.462	2.460	.470	.496
5	18.369	18.374	.386	.379	—	—	—	—
6	22.936	22.937	.983	.979	34.542	34.552	.532	.564
7	22.975	22.970	.965	.957	25.133	25.136	.127	.146
8	28.621	28.622	.617	.607	0.803	0.794	.757	.775
RVCap	18.001	17.992	.979	.983	9.604	9.596	.609	.636

	D	X	R	Means	D	Q	R	Means	D	Q	R	Means
1	—	—	—	Take means	27.689	—	—	Take means	—	—	—	Take means
2	3.674	—	.664	31.345	.386	3.669	31.366	—	—	—	—	—
3	4.334	—	.340	4.198	.232	4.337	4.215	—	—	—	—	—
4	12.324	—	.338	2.461	.483	12.330	2.472	—	—	—	—	—
5	18.372	—	.382	—	—	18.377	—	—	—	—	—	—
6	22.936	—	.981	34.547	.548	22.958	34.548	—	—	—	—	—
7	22.972	—	.961	25.134	.136	22.966	25.135	—	—	—	—	—
8	28.622	—	.612	0.798	.766	28.617	0.782	—	—	—	—	—
RVCap	17.996	—	.981	9.600	.622	17.988	9.611	—	—	—	—	—

See remeasure with nearer comp. stars

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MCL4345

		huc. D	for. \odot	huc. R	for. \odot	huc. D	for. \odot	huc. R	for. \odot
July 11-12, 1929	1	0.819	.638	2.813	h.980	.042	.545	.106	.590
Aug. 10	2	.493	.328	.162	.334	.394	.900	.762	.272
	3	.112	.930	.410	.580	.546	.076	.625	.123
	4	.100	.918	.403	.586	.300	.512	.899	.393
	5	.143	.952	.350	.533	h.771	h.302	0.442	0.921
	6	.759	.595	.811	.950	0.226	0.741	.002	.474
	7	.777	.612	.838	.015	.631	.173	.587	.074
	8	.389	.218	.114	0.293	.981	.502	.254	.713
RV Cap		.771	.600	.781	.949	.112	.680	.071	.546

Differences

1	—	—	—	—	.729	.757	.664	.669
2	.674	.690	.651	.646	.377	.402	.320	.351
3	.293	.292	.403	.400	.225	.226	.183	.202
4	.281	.280	.400	.394	.471	.490	.467	.472
5	.324	.314	.463	.447	—	—	—	—
6	.940	.957	.002	.030	.945	.561	.560	.553
7	.958	.974	.975	.965	.140	.129	.145	.153
8	.570	.580	.699	.687	.790	.800	.812	.792
RV Cap	.952	.962	.032	.031	.509	.622	.629	.625

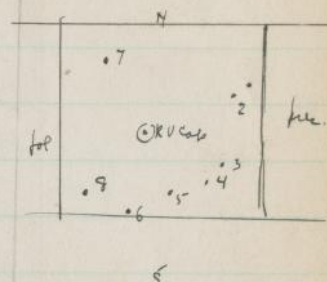
	D	\odot R	huc. D	\odot R	D	\odot R	huc. D	\odot R
1	—	000	27.743	.732	000	27.738	—	—
2	3.682	.666	31.390	.390	3.674	31.390	—	—
3	4.292	.292	4.226	.243	4.292	4.234	—	—
4	12.280	.287	2.480	.497	12.282	2.488	—	—
5	18.319	.326	—	.000	18.322	—	—	—
6	22.948	.048	34.553	.553	22.948	34.553	—	—
7	22.966	.960	25.134	.136	22.963	25.135	—	—
8	28.575	.567	0.795	.767	28.571	0.781	—	—
RV Cap	17.957	.948	9.616	.630	17.952	9.623	—	—

* near edge

RV Capricorni

MC 24350

	me. D	fol.	me. K	fol.	me. D	fol.	me. K	fol.
July 12+13, 1929	10.896	1.963	.448	.389	10.587	10.661	.365	.292
C.D.B.	22.868	3.923	.487	.432	11.576	11.636	.396	.338
3	2.981	4.059	.372	.297	21.557	21.616	.415	.352
4	4.572	5.424	.982	.912	23.030	23.108	.940	.880
5	10.960	12.054	.378	.303	23.324	23.396	.649	.581
6	17.012	18.085	.338	.273	23.814	23.887	0.150	0.067
7	21.692	22.754	.663	.593	0.698	0.779	.265	.204
8	27.272	28.332	.093	0.022	25.073	25.151	.880	.809
RV Cap	16.668	17.736	.702	.630	16.213	16.283	.768	.693

Differences

1	—	—	—	—	15.227	15.226	.215	.215
2	1.972	1.960	.961	.957	14.238	14.251	.246	.271
3	2.085	2.096	.076	.092	4.257	4.271	.265	.285
4	3.476	3.461	.466	.477	2.784	2.779	.790	.813
5	10.064	10.091	.070	.086	2.490	2.491	.499	.514
6	16.116	16.122	.110	.116	—	—	—	—
7	20.796	20.791	.785	.796	25.116	25.117	.115	.137
8	26.376	26.369	.355	.367	0.741	0.736	.730	.742
RV Cap	15.772	15.773	.746	.759	9.601	9.604	.618	.626

	me. D	me. K	me. D	me. K	me. D	me. K	me. D	me. K
1	—	—	15.226	.215	—	15.220	.006	15.232
2	1.966	.959	14.244	.258	1.962	14.251	1.959	14.262
3	2.090	.084	4.264	.275	2.087	4.270	2.088	4.272
4	3.468	.472	2.782	.802	3.470	2.792	3.464	2.796
5	10.078	.078	2.490	.506	10.078	2.498	10.076	2.501
6	16.119	.113	—	—	16.116	—	16.115	—
7	20.794	.790	25.116	.126	20.792	25.121	20.794	25.121
8	26.372	.361	0.738	.736	26.366	0.737	26.361	0.746
RV Cap	15.772	.752	9.602	.622	15.762	9.612	15.758	9.617

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RV Capricorni

ME 24345		line. D	for. Ⓚ	line. Ⓚ	for. Ⓚ	line. Ⓚ	for. Ⓚ	line. Ⓚ	for. Ⓚ
July 11-12, 1929	1	.370	.210	.853	.029	.466	.012	.084	.553
C.S.B.	2	.339	.159	.897	.071	.461	.971	.120	.592
	3	.469	.297	.743	.911	.448	.979	.120	.599
	4	.837	.660	.366	.530	.929	.453	.640	.138
	5	.449	.279	.738	.930	.228	.742	.368	.242
	6	.490	.320	.700	.878	.716	.260	.0873	.351
	7	.168	.995	.074	.248	.597	.143	.007	.482
	8	.729	.560	.458	.634	.962	.497	.648	.123
RV Cap		.135	.965	.090	.262	.111	.631	.500	.971

Differences

1	—	—	—	—	.250	.248	.211	.202
2	.969	.949	.956	.958	.255	.289	.247	.241
3	.099	.087	.110	.118	.268	.281	.247	.248
4	.467	.450	.487	.499	.787	.807	.767	.787
5	.079	.069	.115	.099	.488	.518	.495	.491
6	.120	.110	.153	.151	—	—	—	—
7	.798	.785	.779	.791	.119	.117	.134	.131
8	.359	.350	.395	.395	.754	.763	.775	.772
RV Cap	.765	.755	.763	.767	.605	.629	.627	.620

	D	Ⓚ	Means	D	Ⓚ	Ⓚ	Finals
1	—	—	—	15	.249	.239 206	15.244
2	1.959	.952 457	14.272	14	.272 244	272 244	14.272
3	2.093	.084 444	4.274	4	.274 248	275 248	4.274
4	3.458	.460 443	2.797	2	.797 777	802 777	2.800
5	10.074	.74 447	2.503	2	.503 443	506 443	2.504
6	16.115	.113 442	—	—	—	—	16.114
7	20.792	.802 780	25.118	25	.118 124	132 124	25.124
8	26.354	.357 344	0.758	0	.758 774	754 774	0.756
RV Cap	15.760	.748 765	9.618	9	.618 624	625 624	9.622

1930phae

MC24351

SX Aquarii

	June D	fol.	Ⓚ	June R	fol.	June D	fol.	④	June R	fol.
July 12-13, 1929	1	.634	.633	.033	.040	.067	.130	.155	.091	
2	.432	.441	.233	.256	.550	.615	.662	.597		
3	.416	.406	.174	.180	.245	.304	.2950	.892		
4	.740	.732	.915	.927	.054	.109	.163	.108		
5	.990	.984	.683	.693	.769	.820	.414	.360		
6	.407	.397	.196	.200	.813	.872	.01373	.01318		
7	.271	.258	.323	.394	.022	.092	.140	.070		
8	.151	.138	.528	.539	.591	.634	.528	.448		
SX Apr	.327	.323	.342	.354	.358	.409	.833	.775		

Differences

1	—	—	—	—	.822	.826	.795	.801		
2	.798	.778	.800	.784	.305	.311	.288	.295		
3	.782	.773	.859	.860	—	—	—	—		
4	.106	.089	.118	.113	.809	.805	.787	.784		
5	.356	.351	.350	.347	.524	.516	.536	.532		
6	.773	.764	.837	.840	.568	.568	.577	.574		
7	.637	.625	.650	.646	.777	.788	.810	.822		
8	.517	.505	.505	.501	.346	.330	.422	.448		
SX Apr	.693	.690	.685	.686	.113	.105	.117	.117		

	D	DK	Means	D	④	R	⑤	Finals	④	MC 24351 and by graph	MC 24346 (Arch)
1	—	Take means	23.824	—	—	828 798	—	23.826	—	.003	23.706
2	9.788	.792	13.308	—	—	305 292	9.790	13.306	9.842	13.260	
* 3	18.778	.860	—	—	—	-003	18.819	.002	18.941	+030	
4	19.102	.116	12.807	—	—	792 796	19.109	12.794	19.181	12.829	
5	24.354	.348	30.520	—	—	520 534	24.351	30.520	24.312	30.594	
* 6	22.768	.838	37.568	—	—	566 576	22.803	37.567	22.725	37.629	
7	32.631	.648	7.782	—	—	786 816	32.640	7.784	32.721	7.926	
8	36.511	.503	* 16.338	—	—	396 433	36.507	16.367	36.542	16.541	
SX Apr	22.692	.686	15.109	—	—	107 147	22.689	15.108	22.731	15.170	

* near edge

near edge

R X Eridani

Reduction of astrophotometric from M.Cs, continued from p. 58, same book.

X	Y	Δx	Δy	
86.7	44.2	+459	-2736	$z = -55.4 a - 6.9 b = +1.63 \mid +1409$
31.3	37.3	+622	-1327	$z = +360a + 34.3b = +209 \mid -1165$
all 118.0	81.5	+1081	-4063	$I_{xs} = 277.0 - 34.5b = +815 \mid +7045$
41.0				
23.0	23.6	+436	-1449	$-241.0 = +1.024 \mid +5880$
77.0	57.9	+645	-2614	

$$\begin{aligned} a &= -.0042 \\ b &= +.0101 \\ c &= +.0942 \\ d &= -.0244 \\ e &= -.0044 - .0068 \\ f &= -.0788 \end{aligned}$$

$$\begin{aligned} 118.0d + 81.5e + 8f &= -4.063 \\ 8f &= -4.063 + (-34.33) \\ 8f &= -.630 \\ f &= -.07875 \\ -6.9b &= +.163 + (-233) \\ -6.9b &= +.070 \\ b &= +.0101 \\ -6.9e &= +1.409 + (-13628) \\ -6.9e &= +1.68 \\ e &= -.0244 \\ -6.9e &= +.047 \\ e &= -.0068 \end{aligned}$$

$$36(118(-.0042) + 81.5(+.0101) + 8c = +1081$$

$$-4.96 + +823 + 8c = +1081$$

	ax	$+by$	z	c	Σ	dx	$+ay$	$+f$	Σ	μx	μy	
1	-.088	+108	+0947		+90	-.650	-.02	-.079	-795	-89	-27	$8c = +1.081 - 327$
2	-.088	+35			+41	-.510	-.024		-613	+79	+54	$8c = +754$
3	-.082	176			+188	-.479	+.118		-676	+59	-12	$c = +.0942$
4	-.082	127			+139	-.479	-.078		-636	-48	-31	
5	-.062	104			+136	-.361	-.064		-504	-30	-57	
6	-.0047	174			+263	-.273	-.117		-469	+43	+32	
7	-.022	99			+171	-.239	-.067		-385	+39	+56	
8	—	—			—	—	—		—	—	—	
RX Eri	-.074	126			+146	-.305	-.077		-588	-15	-46	

I 1778 red to MCo		Ia to MCo		x	y				
1	4.023	14.977	+23	+255	20	15.2	7.5	36.5	+886
2	1.922	14.013	+37	+249	20	14.3	73.4	28.3	-519
3	2.285	4.066	-197	+206	21	4.3	81.0	64.9	+687
4	3.740	2.620	-276	+176	3.5	2.8	56.1	6.0	-99.6
5	10.290	2.413	-214	+88	10.1	2.5	24.9	58.9	+617
6	16.350	-0.003	-235	+3	16.1	-			
7	20.593	25.213	+201	-93	20.8	25.1	+65.8a	-8.3b	-1085
8	26.633	0.943	-271	-197	26.4	0.9	-31.2a	+52.9b	+547
RVCap	15.823	9.715	-65	-98	15.8	9.6	-65.5a	+111.1b	+1149

$$\begin{aligned}
 a &= +0.026 + 0.0036 \\
 b &= +0.0213 \\
 c &= -0.3315 \\
 d &= -0.0165 \\
 e &= +0.0006 \\
 f &= +0.248
 \end{aligned}$$

$$+102.8b = +2.189 + 0.64$$

$$b = +0.0208$$

$$c = +0.006$$

$$\begin{aligned}
 -31.2a &= +1.137 \\
 -31.2a &= +10.14 \\
 -31.2a &= -0.82 \\
 a &= +0.026
 \end{aligned}$$

$$-31.2d = +5.47$$

$$-31.2d = +5.15$$

$$d = -0.165$$

$$8c = \begin{cases} -292 \\ -978 \end{cases} \quad 8f = \begin{cases} +2336 \\ +687 \end{cases}$$

$$8c = -320 \quad 8f = +1.984$$

$$8c = 2.652$$

$$c = 0.3315$$

$$\begin{aligned}
 a &= +0.010 \\
 b &= +0.0206 \\
 c &= -0.294
 \end{aligned}$$

$$ax + by + c \quad \Sigma \quad dx + ey + f \quad \Sigma$$

$$1 \quad - \quad +0.316 \quad -1.52$$

$$2 \quad +0.005 \quad +2.68$$

$$3 \quad +0.005 \quad +0.89$$

$$4 \quad +0.009 \quad +0.58$$

$$5 \quad +0.027$$

$$6 \quad +0.42$$

$$7 \quad +0.54$$

$$8 \quad +0.69$$

$$RVCap \quad +0.41$$

$$ax + by + c \quad \Sigma$$

$$1 \quad - \quad +324 \quad -332 \quad -008$$

$$2 \quad +0.007 \quad +3.04 \quad -0.21$$

$$3 \quad +0.008 \quad +0.92 \quad -0.232$$

$$4 \quad +0.013 \quad +0.60 \quad -0.259$$

$$5 \quad +0.036 \quad +0.53 \quad -0.243$$

$$6 \quad +0.58 \quad - \quad -0.274$$

$$7 \quad +0.75 \quad +0.43 \quad +0.278$$

$$8 \quad +0.95 \quad +0.15 \quad -0.222$$

$$RVCap \quad +0.57 \quad +0.204 \quad -0.71$$

$$dx + ey + f \quad \Sigma$$

$$1 \quad - \quad +0.009 \quad +2.48 \quad +2.57$$

$$2 \quad +0.007 \quad +3.04 \quad -0.21$$

$$3 \quad +0.008 \quad +0.92 \quad -0.232$$

$$4 \quad +0.013 \quad +0.60 \quad -0.259$$

$$5 \quad +0.036 \quad +0.53 \quad -0.243$$

$$6 \quad +0.58 \quad - \quad -0.274$$

$$7 \quad +0.75 \quad +0.43 \quad +0.278$$

$$8 \quad +0.95 \quad +0.15 \quad -0.222$$

$$RVCap \quad +0.57 \quad +0.204 \quad -0.71$$

$$dx + ey + f \quad \Sigma$$

$$1 \quad - \quad +0.009 \quad +2.48 \quad +2.57$$

$$2 \quad +0.007 \quad +3.04 \quad -0.21$$

$$3 \quad +0.008 \quad +0.92 \quad -0.232$$

$$4 \quad +0.013 \quad +0.60 \quad -0.259$$

$$5 \quad +0.036 \quad +0.53 \quad -0.243$$

$$6 \quad +0.58 \quad - \quad -0.274$$

$$7 \quad +0.75 \quad +0.43 \quad +0.278$$

$$8 \quad +0.95 \quad +0.15 \quad -0.222$$

$$RVCap \quad +0.57 \quad +0.204 \quad -0.71$$

RV Capricorn

the same book as 149-151

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I 1778 Sept 2, 1890	D	(X) R	D	(U) R	D	(X) K	D	(U) R	(X) Time	(U)
c.b.	1	0.275	2.940	6.241	.079	0.28	8.982	991 978	0.14	8.986
rather poor images	2	1.427	.761	6.809	.492	1.152 1.14	8.414	403 591	1.153	8.408
	3	1.644	.572	12.781	.529	1.369 3.73 3.68	2.442	439 428	1.371	2.440
	4	2.505	.692	13.659	.662	2.230 2.57 2.48	1.573	571 561	2.244	1.572
	5	6.453	.780	13.768	.539	6.178 1.70 1.60	1.455	441 438	6.174	1.448
	6	10.088	.149	15.223	0.101	9.813 8.07 7.71	—	0.04 138	9.810	0.002
	7	12.630	.525	0.105	.248	12.355 3.56 3.45	15.118	147 566	12.356	15.128
	8	16.240	0.959	14.656	.682	15.965 9.95 9.81	0.567	581 566	15.980	0.566
RV Cap	9	1.779	.445	9.401	.941	9.504 4.83 4.75	5.822	836 840	9.494	5.829

B 9951 Nov. 18, 1893

Take means

c.b.	1	0.471	14.911	5.478	.283	—	8.312	302 333	0.00	8.307
	2	.553	13.828	6.043	.742	1.082 1.083	7.747	763 772	1.082	7.755
	3	.617	13.757	11.461	.311	1.146 1.154	2.329	332 361	1.150	2.330
	4	.368	13.010	12.296	.481	1.397 1.901	1.494	504 521	371 1.079	1.499
	5	.974	9.394	12.421	.332	5.503 5.517	1.369	362 382	5.510	1.366
	6	.242	6.115	13.790	0.950	8.777 8.796	—	0.013	8.786	0.006
	7	.831	3.533	0.077	.678	11.360 11.379	13.713	721 728	11.369	13.717
	8	.855	0.509	13.372	.370	14.384 14.402	0.418	419 420	14.393	0.418
RV Cap		.060	6.321	8.494	.269	8.589 8.590	5.296	306 311	8.590	5.301

2 1778 ~~14.911~~ 5.478 9951

	(X)	(U)
1	1.013	8.087
2	1.038	7.567
3	1.234	2.196
4	2.016	1.415
5	5.557	1.303
6	8.929	0.002
7	11.120	13.615
8	14.382	0.509
RV Cap	8.545	5.245

RV Capinami

B13316 May 11, 1895

	D	X	R	D	U	R	S	X	R	S	U	R	D	Final	U
L.O.B.	1	6.398	.957	6.174	.304	—	8.338	351	351	—	—	351	—	8.344	—
	2	1.479	.870	6.705	.742	1.081	7.807	783	783	1.081	—	783	1.081	7.795	—
	3	1.560	.769	12.161	.312	1.162	2.351	351	351	1.165	—	351	1.165	2.351	—
	4	2.322	.016	12.988	.490	1.924	1.524	525	525	1.922	—	525	1.922	1.524	—
	5	5.941	.397	13.147	.361	5.543	1.365	375	375	5.540	—	375	5.540	1.370	—
	6	9.238	.084	14.512	0.000	8.840	—	846	846	8.843	—	846	8.843	—	—
	7	11.727	.632	0.784	.741	11.329	13.728	334	334	11.332	—	334	11.332	13.724	—
	8	14.836	.491	14.117	.453	14.438	0.395	441	441	14.440	—	441	14.440	0.404	—
RV Cap	9.003	.334	9.214	.322	8.605	—	5.298	610	610	8.608	—	610	8.608	5.307	—

B17621 Oct 12, 1896

L.O.B.	1	0.593	.601	.690	.491	—	8.459	461	461	—	—	461	—	8.460	—
	2	.657	.552	.251	.925	1.064	7.898	898	898	1.056	—	898	1.056	7.898	—
from incomp	3	.658	.541	.695	.485	1.065	2.454	458	458	1.062	—	458	1.062	2.456	—
	4	.390	.821	.509	.669	1.797	2.640	643	643	1.788	—	643	1.788	1.642	—
	5	.024	.194	.707	.450	5.431	1.442	433	433	5.419	—	433	5.419	1.438	—
	6	.279	.929	1.149	0.030	8.686	—	420	420	8.679	—	420	8.679	4.010	—
	7	.034	.181	0.429	.721	11.441	13.720	317	317	11.430	—	317	11.430	13.718	—
	8	.879	.324	.771	.372	14.286	0.378	376	376	14.282	—	376	14.282	0.377	—
RV Cap	.162	.053	.834	.331	8.569	—	5.315	321	321	8.558	—	321	8.558	5.318	—

B17621 with B13316

B17621 with B13316

mean of 13 B plate

	1	4.002	8.345	—	0.007	8.338	—	0.004	8.342	—	0.007	15.483	—
	2	1.081	7.795	—	1.080	7.784	—	1.080	7.791	—	2.005	14.460	—
	3	1.182	2.354	—	1.179	2.357	—	1.175	2.354	—	2.181	4.369	—
	4	1.925	1.547	—	1.930	1.526	—	1.928	1.532	—	3.578	2.843	—
	5	5.549	1.380	—	5.543	1.380	—	5.547	1.377	—	10.295	2.555	—
	6	8.843	6.026	—	8.826	6.003	—	8.834	6.008	—	16.396	4.015	—
	7	11.322	13.716	—	11.333	13.712	—	11.329	13.719	—	21.027	25.462	—
	8	14.440	0.407	—	14.432	0.404	—	14.437	0.405	—	26.795	2.752	—
RV Cap	8.618	5.290	—	8.600	5.304	—	8.609	5.300	—	15.978	9.834	—	—

Reduction of				RV Capricorn				
B's to Mars	x	y						
1 +7 -251	0	15.2		+7.6	36.6	-246	-643	$a = -0.133$ $a = -0.133$
2 -46 -198	2.0	14.3		73.4	28.3	-1166	-418	$b = +0.0539 + 0.0050$
3 -93 -97	2.1	4.3		81.0	64.9	-1412	-1111	$c = -0.0824$ $d = +0.0028$
4 -114 -147	3.5	2.8		56.1	6.0	-1047	-223	$e = -0.0107$ $f = -0.0805$
5 -219 -55	10.1	2.5		24.9	58.9	-385	-888	
6 -281 -15	16.1	-	(I)	$+65.8a - 8.3b = -920 \quad +275$				$81.1a + 64.9b + 8c = -1412$
7 -233 -342	20.8	25.1	(II)	$-31.2a + 52.9b = +682 \quad -655$				$8c = \begin{cases} -1412 \\ -324 \\ +1077 \end{cases}$
8 -433 -5	26.4	0.7	(I+II)	$I \times 2.1 - 65.8a + 111.6b = +1439 \quad -1382$				$8c = +65 - 659$
RVCap -220 -217	15.8	9.6		$+103.3b = +519 \quad -1107$				$c = -0.0824$
				$b = +0.050$ $b = +0.0539$ $e = -0.0107$				$8f = \begin{cases} -1111 \\ -227 \\ +694 \end{cases}$
				$65.8a = \begin{cases} -920 \\ +0.425 \end{cases}$				$8f = -0.644$ $f = -0.0805$
				$65.8a = -878$ $a = -0.133$				
				$65.8d = \begin{cases} +275 \\ -0.099 \end{cases}$				
				$65.8d = +186$				
				$d = +0.0028$				

$ax + by + c$	Σ	$dx + ey + f$	Σ	μx	μy
1 -0.27 +0.076 -0.082 -0.006	-	-1.63 -0.080	-243	+1	-8
2 -0.27 +0.072 -0.37	+0.06 -0.153	-227	-9	+29	
3 -0.28 +0.022 -0.88	+0.06 -0.046	-120	-5	-18	
4 -0.47 +0.014 -1.15	+0.10 -0.030	-100	+1	+9	
5 -1.34 +0.012 -2.04	+0.28 -0.027	-79	-15	-12	
6 -2.14 - -2.96	+0.45 -	-35	+15	+14	
7 -2.77 +0.126 -2.33	+0.58 -0.269	-291	0	+9	
8 -3.52 +0.004 -4.30	+0.74 -0.008	-14	-3	-11	
RVCap -210 +0.048 ⁴⁸ -2.44	+0.44 -0.103	-139	+24	-78	
			\therefore	\therefore	

reduction of astrophotographs to MC's on following page

Dr. Hufner said that this star should have a fairly large pm.

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Reduction of astrophotric to M.S.				RV Cap				astr. to hrs			
X	Y		X.62					X	Y		
1	—	2.4525	—	15.206	0	+26	15.2	0	+26	0	15.2
2	0.3290	2.2945	2.009	14.226	-50	+36	14.3	-50	+36	2.0	14.3
3	0.3645	0.6700	2.261	4.154	-173	+118	4.3	-173	+118	2.1	4.3
4	0.5875	0.4315	3.642	2.675	-178	+121	2.8	-178	+121	3.5	2.8
5	1.6685	0.3955	10.345	2.452	-269	+49	2.5	-269	+49	10.1	2.5
6	2.6580	—	16.480	—	-365	—	—	-365	—	16.1	—
7	3.3770	4.1090	20.937	25.476	-143	-356	25.1	-143	-356	20.8	25.1
8	4.3275	0.1940	26.830	0.893 0.878	-468	-147 -132	0.7	-468	-147 -132	26.4	0.7
RV Cap	2.5810	1.5795	16.002	9.793	-244	-176	9.6	-244	-176	15.8	9.6

+7.6 36.6 -401 +401				ax + by + c				ax + by + f			
73.4	28.3	-1245	-454	1	-	+160	-0.174 -14	-	-157	+222	+65
81.0	64.9	-1646	-53	2	-23 -50	+150	-47	-29	-147		+46
56.1	6.0	-1288	+23	3	-24	+45	-153	-30	-44		+148
24.9	58.9	-366	-76	4	-40	+29	-185	-50	-29		+143
				5	-116	+26	-264	-144	-26		+52
				6	-185	-	-359	-230	-		-8
				7	-239	+264	-149	-298	-259		-335
				8	-304	+7	-471	-378	-7		-363
				RV Cap	-182	+101	-255	-226	-98		-106

$$I \quad +65.8a - 83b = -844 \quad | \quad -855$$

$$II \quad -312a + 529b + 914 = -99$$

$$III \quad -65.8a + 111.6b = +1.929 \quad | \quad -209$$

$$+103.3b = +1.081 \quad | \quad -1.064$$

$$b = +0.105$$

$$c = -0.103$$

$$65.8a = \begin{cases} -844 \\ +0.87 \end{cases} \quad 65.8d = \begin{cases} -855 \\ -0.85 \end{cases}$$

$$65.8a = -757 \quad 65.8d = -940$$

$$a = -0.115 \quad d = -0.143$$

$$8c = \begin{cases} -1646 \\ +0.931 \\ -681 \end{cases} \quad 8f = \begin{cases} -53 \\ +1.158 \\ +668 \end{cases}$$

$$8c = -1396 \quad 8f = +1.773$$

$$c = -0.1745 \quad f = +221$$

	$\mu\alpha$	$\mu\eta$	$\mu\alpha$	$\mu\eta$
1	+13	-27	+13	-31
2	-24	0	-3	+20
3	-20	-28	-20	-30
4	+7	-35	+7	-35
5	-5	+8	-5	+8
6	+6		-6	+4
7	+6		+6	-2
8	+3		+3	+3
RV Cap	+11		+11	-70

* found after reduction

the same took p.25

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MC 23884

Dec. 10-11, 1928

O.D.B.

SW Dec

	Dec. 10	Dec. 11	Dec. 10	Dec. 11	Dec. 10	Dec. 11	Dec. 10	Dec. 11
1	0.602	1.436	.487	.655	5.379	5.430	.329	.294
2	1.304	2.142	.791	.950	32.123	32.173	.597	.559
3	5.948	6.785	.123	.295	0.086	0.157	.652	.602
4	15.927	16.760	.145	.317	2.310	2.354	.465	.421
5	16.036	16.880	.054	.213	34.202	34.258	.569	.512
6	18.865	19.704	.237	.408	8.561	8.615	.219	.160
7	35.178	36.002	.881	.052	36.711	36.745	.048	.0992
8	36.150	36.968	.958	.150	11.551	11.580	.220	.183
SW Dec	18.155	18.984	.961	.130	15.415	15.461	.367	.326

Differences

1	35.548	35.532	.529	.505	5.293 5.069 32.038 29.8	5.273	.323	.308
2	34.846	34.826	.833	.800	32.016	.055	.043	
3	30.202	30.283	.165	.145	—	—	—	—
4	20.223	30.208	.187	.167	2.224	2.197	.187	.181
5	20.114	20.088	.096	.063	34.116	34.101	.083	.090
6	17.285	17.264	.279	.258	8.475	8.458	.433	.442
7	0.972	0.966	.923	.902	36.625	36.588	.604	.610
8	—	—	—	—	11.465	11.423	.432	.419
SW Dec	17.995	17.984	.003	.980	15.329	15.304	.285	.276

MC 23884 + 24071

Δx Δy

	Dec. 10	Dec. 11	Dec. 10	Dec. 11	Dec. 10	Dec. 11	Dec. 10	Dec. 11
1	35.540	.517	5.283	.315	35.528	5.299	+0.023	+0.040
2	34.836	.816	32.026	.049	34.826	32.038	-.130	+0.047
3	30.292	.155	—	—	30.174	—	+0.115 +0.064	—
4	20.216	.177	2.210	.184	20.196	2.197	+0.058	-.057
5	20.101	.080	34.108	.086	20.090	34.097	+0.138	-.031
6	17.275	.268	8.466	.438	17.272	8.452	+0.015	-.068
7	0.969	.912	36.606	.607	0.940	36.606	-.263	-.123
8	—	—	11.444	.426	—	11.435	—	-.169
SW Dec	17.990	.992	15.326	.280	17.991	15.298	-.025	-.061

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RR Ceti

Reduction of existing plate 1924 to mcs.

ite 9

Mean M Cs		<u>As to</u> x.6		m c - act		x	y
+002	12.304	—	12.961	+002	-657	—	12.3
2 3.540	17.829	4.064	18.718	-224	-889	3.8	17.8
3 4.313	5.126	4.479	5.422	-166	-296	4.3	5.1
4 9.254	24.288	9.755	25.361	-501	-1.143	9.3	24.2
5 10.970	21.170	11.532	22.156	-562	-.986	11.0	21.2
6 12.941	4.004	13.466	—	-525	+004	12.9	—
7 16.922	2.020	17.631	2.062	-709	-.042	16.9	2.0
8 20.578	16.806	21.543	17.524	-965	-718	20.6	16.8
RR 9.476	13.176	9.918	13.815	-442	-637	9.5	13.2

	Σx	Σy	$\Sigma \Delta x$	$\Sigma \Delta y$	
1-4	17.4	59.4	-.889	-2.985	+44.0a -19.4b = -1.872 +1.243
5-8	61.4	40.0	-2.761	-1.742	+10.6a +60.6b = -.854 -2.745
all	78.8	99.4	-3.650	-4.727	41.50) +44.0a +252.0b = -3.542 -11.470
1+3+6+7	34.1	19.4	-1.398	-.991	+271.4b = -1.670 -12.643
2+4+5+8	44.7	80.4	-2.252	-3.736	b = -.00615 -.0765

c	f	
-3.650	-4.727	3.123) +137.2a -60.6b = -5.650 +3.882
+3.575	-.607	+147.8a -6.704b = +1.137
+1.611	+4.620	a = -.0454 +.0077
+036	-.714	
+067	-.089	

	Δx	Δy	c	Σ	μx	μy	Σ	f	Δy	Δx
1	—	-.076	+067	-.009	+011	+004	-.661	+.089	-.572	—
2	-173	-.109		-216	-.008	+001	-.890		-.820	+029
3	-195	-.031		-159	-.007	-.007	-.289		-.233	+033
4	-423	-.179		-.505	+004	-.006	-1.137		-1.120	+072
5	-.500	-.130		-.563	+001	+004	-.990		-.986	+085
6	-.585	—		-.518	-.007	-.007	+011		—	+100
7	-.768	-.012		-.713	-.004	+010	-.052		-.093	+130
8	-.935	-.103		-.971	+006	-.007	-.711		-.781	+159
RR	-.431	-.081		-.445	+003	-.007	-.630		-.614	+073

R R Ceti

Reduction of Astor. to Mss. from p. 4. same book

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plate 589

Means of Mss.		Astor.	
X	y	X	y
1 -0.02	12.304	-	12.267
2 3.837	17.830		
3 4.316	5.124	4.413	5.085
4 9.250	24.220		
5 10.964	21.172	10.967	21.272
6 12.945	+0.01	13.127	-
7 16.924	2.018	17.094	2.032
8 20.575	16.808		
RR Ceti 9.475	13.177	9.527	13.233

Astor & Mss		X		y	
X	y	X	y	X	y
1 +2	-37	0	12.3	1.3	15.3a 38.6 +102 +24
3 +97	-39	4.3	5.1		29.8a 2.0 +352 +13
5 +43	+100	11.0	21.2		45.1 48.6 +454 +37
6 +182	-1	12.9	0		29.8a 2.0 +352 +13
7 +170	+14	16.9	2.0		15.3 36.6 +102 +24
RR +52	+56	9.5	13.2		

11.0	33.5	+5	+63		
29.8	2.0	+385	+13		
40.8	35.5	+390	+76		
29.8	2.0	+385	+13		
11.0	33.5	+5	+63		
18.8a	-31.5b	+380	-50		
-18.8a	+31.5b	-380	+50		
a = +0.060					
b = -0.083					
c = +0.09					
d = +0.077					
e = +0.053					
f = -0.050					

ax + by + c		dx + ey + f		Σ	
1	-102 +109 +7	-	+65	-35	-35
3	+26 -42 +93	+46 +27	-47	-40	-40
5	+066 -1768 -1	+17 +112	+107	+98	+98
6	+77 -	+186	+137	-	-
RR Ceti	+57 -109 +57	+101 +70	+51	+44	+44

dx	dy
1 +5	+8 +2
3 -4	+8 -1
5 -4	+7 -2
6 +4	+7 +1
RR Ceti +5	+5 +12

4c = +284			
4c = -208			
c = -0.052			
4f = +23			
4f = -267			
4f = -205			
4f = -199			
f = -0.050			
19.6a = +86			
a = +0.06			
4c = +284			
4c = -208			
c = -0.052			

I 2376 Nov. 28, 1890

90	+	D	R	S	R	D	R	D	R	Fuel	R	I 237 rad by graph at 700
1	0.849	h.490	7.793	.161	—	+4	7.282	7.305	+2	7.282	+001	7.302
3	3.488	.868	3.528	.381	2.639	635 -622	3.017	3.015	2.637	3.015	2.624	3026
5	7.385	.946	13.196	.725	6.536	536 -544	12.685	12.685	6.536	12.685	6.551	12.882
6	8.698	.662	0.511	h.406	7.849	848 -825	—	+8	7.848	+4	7.825	-2
RRW	6.534	.809	8.403	.516	5.685	689 -686	7892	890 -890	5.687	7.891	5.689	7.893

	mean of 4 plates ④		$\frac{x}{6}$	$\frac{y}{6}$	mean of Mrs.		To B Mrs.			
1	+001	7.302	+002	12.170	-002	12.304	-4	-134	0	12.3
3	2.628	3.025	4.380	5.042	4.316	5.124	+64	-82	4.3	5.1
5	6.548	12.677	10913	21.128	10.964	21.172	+51	-44	10.9	21.2
6	7.823	-000	13.038	-000	12.945	+001	+93	-3	12.9	0
RRG	5.687	7.887	9.478	13.145	9.475	13.177	+3	-35	9.5	13.2

$$\begin{array}{rcl}
 4.3 & 17.4 & +60 \\
 23.9 & 21.2 & +42 \\
 28.2 & 38.6 & +102 \\
 \hline
 17.2 & 51 & +157 \\
 11.0 & 33.5 & -55
 \end{array}
 \begin{array}{l}
 -246 \\
 -47 \\
 -263 \\
 \hline
 -85 \\
 -178
 \end{array}
 \begin{array}{l}
 I \\
 II \\
 III \\
 \hline
 IV
 \end{array}
 \begin{array}{rcl}
 +19.6a & +3.8b & = -18 \\
 -62a & +28.4b & = -212 \\
 -19.6a & +89.7b & = -670 \\
 \hline
 +935b & = -688
 \end{array}
 \begin{array}{l}
 +169 \\
 -93 \\
 -294 \\
 \hline
 +125
 \end{array}
 \begin{array}{l}
 +19.6a \\
 19.6a = +0.0 \\
 a = +0.005 \\
 19.6a = \begin{cases} -18 \\ +169 \end{cases} \\
 19.6a = +164 \\
 d = +0.084
 \end{array}
 \begin{array}{l}
 b = -0.074 \\
 e = -0.0013
 \end{array}
 \begin{array}{l}
 4c = \begin{cases} +102 \\ -14 \\ +285 \end{cases} \\
 4c = +373 \\
 c = +0.93
 \end{array}
 \begin{array}{l}
 4f = \begin{cases} -263 \\ -237 \\ +050 \end{cases} \\
 4f = -450 \\
 f = -112
 \end{array}$$

	$a_4 + b_4 + c$	Σ	$dx + ey + f$	Σ
1	-91 -98	+93 +2	-16	-112 -128
3	+2 -38	+57	+36 -7	-83
5	+5 -157	-59	+92 -28	-48
6	+6 -	+99	+108 -	-4
RRCEL	+5 +98	0	+80 -17	-49

	max	min
1	+6	+6
3	-7	-1
5	-9	-4
6	+6	-1
R Row	-3	+14

But signs should
be opposite

R R Cete

I 1429 Jan 4, 1896

D R

D R

D R

Trials

100	1	0.577	8.637	7.860	7.303	—	—	7.331	7.320		
	3	3.196	6.018	3.576	4.586	2.619	2.619	3.047	3.037		
wing *	5	6.112	3.112	15.040	6.114	5.535	5.525	14.511	14.509		
	6	8.378	0.836	0.529	14.623	7.801	7.801	—	—		
RRG	6.267	2.959	8.430	6.737	5.690	5.678	7.901	7.885			

I 19081 Sep 29, 1911	1	0.730	4.168	8.065	.936	—	—	7.295	2.83		
	3	3.366	.524	3.789	.205	2.636	.644	3.019	.014		
wing *	5	6.223	.682	15.260	.728	5.493	.486	14.490	.491		
	6	8.555	.330	0.770	4.219	7.825	.838	—	—		
RRG	6.410	.486	8.652	.340	5.680	.682	7.882	.879			

I 1956 Oct 2, 193	1	0.904	4.596	8.115	.762	—	4.006	7.283	284 266	+0.03	7.284	I 1956 only graph to I 19081 — 7.302
	3	3.544	.945	3.844	.030	2.640	.632 441	3.012	3012 948	2.636	3.012	2.624 3.025
	5	7.434	.091	13.509	.364	6.530	530 505	12.677	671 664	6.530	12.674	6.547 12.676
	6	8.755	.725	0.832	.028	7.851	851 871	—	+0.004	7.851	+0.002	7.830 0
RRG	6.599	.918	8.716	.151	5.698	686 678	7.884	885 877	5.690	7.884	5.692	7.887

I 1423 Jan 4, 1896	1	0.904	4.125	7.890	.219	—	+2	7.344	.318	+1	7.331	I 1423 only graph to I 19081 +1 7.302
	3	3.021	.499	3.097	.500	2.617	615 626	3.051	.037	2.616	3.044	2.634 3.024
	5	6.977	.570	12.740	.870	6.573	573 555	12.694	.667	6.573	12.680	6.548 12.675
	6	8.191	0.322	0.046	.537	7.787	787 803	—	—	7.787	—	7.818 000
RRG	6.094	.441	7.951	.655	5.690	688 684	7.905	.882	5.689	7.894	5.686	7.885

I 19081 Sep 29, 1911	1	0.670	4.677	7.842	.537	—	+0.06	7.302	302 284	+0.03	7.302	
	3	3.302	.039	3.565	.807	2.632	631 638	3.025	.026 044	2.632	3.026	
	5	7.217	.151	13.215	.151	6.547	547 526	12.675	673 670	6.547	12.674	
	6	8.490	.845	0.540	4.821	7.820	817 832	—	880	7818	000	
RRG	6.355	.004	8.423	.942	5.685	680 675	7.883	.884 879	5.682	7.884		

U Saponis See P82 Reduction of BS to MCs

	Mean B_x	B_y	$\frac{x}{.6} + \frac{y}{.06}$				Δx	Δy
1	—	—	—	—	—	—	—	—
2	0.773	1.011	1.288	1.685	1.417	1.853	+037	-026
3	6.529	8.069	10.882	13.448	11.970	14.793	+250	227
4	9.927	9.775	16.545	16.292	18.199	17.921	+329	329
5	12.288	1.089	20.480	1.815	22.528	1.997	+046	395
6	12.842	1.395	21.403	2.325	23.543	2.557	+045	426
7	15.898	5.714	26.497	9.523	29.147	10.475	+201	521
8	17.270	10.586	28.783	17.643	31.661	19.407	+329	522
U	7.254	6.145	12.090	10.242	13.299	11.266	+221	283

See P84

	$\Sigma \Delta x$	$\Sigma \Delta y$	
1-4	+616	-582	$+75.3a - 1.5b = +.005 - 1.322$
5-8	+621	-1.904	$+44.3a + 55.5b = +.981 - 0.792$
all	+1.237	-2.486	$a = +.0004 \quad d = -.0176$
1+2+5+6	+.128	-.847	$b = +.0174 \quad e = -.00025$
3+4+7+8	+1.109	-1.639	$c = +.003 \quad f = -.0014$

	Δx	Δy	c	\bar{z}	μx	μy	\bar{z}	f	μy	Δx
1	—	—	+003	+003	-3	+1	-.001	-.0014	—	—
2	+0006	+.0313		.035	+2	+2	-.28		24	-.0264
3	49	.254		.262	-12	-8	-.219		36	2146
4	74	.3066		.317	+12	+4	.333		44	3275
5	90	.0278		.040	+6	+5	.400		51	3980
6	94	.0366		.049	-4	-9	.417		45	4155
7	118	.174		.189	+12	-1	.620		25	5157
8	128	.329		.339	-10	+7	.569		47	5632
U	54	.1915		.200	+21	-41	.242		28	2375

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SX Aquarii

See also P. 16

Algiers Astrophysic Plate 2562 +3° 21' 32" m
Oct 19, 1910

			X	Y	X	Y
1	188	9.4	-32.3848	-20.0309	—	19.7949
2	196	10.7	-24.3698	-11.2848	8.0150	11.0488
3	201	10.7	-17.0115	-0.2360	15.3733	—
4	202	10.2	-16.6938	-10.8064	15.6910	10.5704
5	209	10.8	-12.2450	-25.3885	20.1398	25.1525
6	208	10.2	-13.4484	-31.2160	18.9364	30.9800
		10.8	-5.5541	-6.5724	26.8307	6.3364
7	217 215	11.3 11.3	-5.7661	-8.2525	26.6187	8.0165 ←
8	220	10.6	-2.3199	-13.6256	30.0649	13.3896
SX	207	10.6	-13.7085	-12.6734	18.6763	12.4374

	1.2X	1.2Y	Mean Mcs	ΔX	ΔY
1	—	23.754	<u>-0.02</u>	-0.002	-0.046
2	9.618	13.259	9.843	+1.225	+0.005
3	18.448	—	18.944	+0.015	+0.015
4	18.829	12.684	19.158	+0.329	+0.145
5	24.168	30.183	24.312	+0.144	+0.008
6	22.724	37.176	22.730	+0.006	+0.454
7	32.197	7.604	32.720	+0.523	+0.318
8	36.078	16.068	36.535	+0.457	+0.484
SX	22.412	14.924	22.730	+0.318	+0.238

	ΣX	ΣY	$\Sigma \Delta X$	$\Sigma \Delta Y$	
See P. 16 1-4	47.9	49.7	+1.048	+1.109	+68.3a + 43.0b = +0.82 + 1.555
5-8	116.2	92.7	+1.130	+1.664	+2.9a + 74.6b = -0.968 + 0.827
all	164.1	142.4	+2.178	+1.773	a = +0.096 d = +0.162
2+3+4+7	80.6	33.9	+1.573	+0.473	b = -0.134 e = +0.105
1+5+6+8	83.5	108.5	+0.605	+1.300	c = +0.314 f = -0.298

	ax	by	c	Σ	μx	μy	Σ	f	ey	dx
1	—	-318	+314	-4	+2	+4	-50	-298	+248	+159
2	+094	177		+231	-6	-5	0		139	306
3	182	—		496	0	+7	-8 +147		—	311
4	184	172		326	+3	-2	417		134	↗
5	234	410		138	+6	-9	465		321	394
6	218	504		28	-22	-11	315		395	368
7	314	104		524	-1	+3	↗		83	530
8	351	222		443	+14	+18	466		173	591
SX	218	204		328	-10	+8	230		160	368

See p. 16.

↓
opp sign from p.m.
Star 3 farthest north.

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RX Eridani

See P 58

Tacubaya Plate 1482 4^h 4^m -16° Dec 19, 1903

	X	y	z	u		B _D
1	13	-9.4676	+1.4473	-9.4816	+1.2724	8.3 15.868
2	15	8.5448	2.6613	8.5540	2.4844	8.5 15.871
3	18	8.2927	0.4044	8.3020	0.2247	8.5 16.960
4	17	8.3195	1.1815	8.3335	1.0027	10.5
5	21	7.5575	1.5775	7.5695	1.3965	9.5 15.873
6	25	6.9264	0.4631	6.9415	0.2791	7.5 16.963
7	31	6.0100	1.6987	6.0203	1.5128	11.5
8	43	5.1987	3.3401	5.2030	3.1530	8.5 15.874
RX	19	8.0144	1.1985	8.0281	1.0187	9.0 15.872

	z	u	6.23	6.22	mean mC	
1	+4.2786	1.8806	26.527	11.660	26.572	10.716
2	3.3 ⁵¹⁰ 59	0.6686	20.776	4.145	20.684	3.490
3	3.1060	2.9283	19.257	18.155	19.591	17.373
4	3.1305	2.1503	19.409	13.332	19.562	12.565
5	2.3665	1.7565	14.672	10.890	14.835	10.268
6	1.7385	2.8739	10.779	17.818	11.164	17.218
7	0.8173	1.6402	5.067	10.169	5.318	9.828
8	—	—	—	—	—	—
RX	2.8251	2.1343	17.516	13.233	17.701	12.518

	Δx	Δy	Δz + .03x
1	+0.045	-9.944	-1.147
2	+0.092	+6.55	+0.34
3	+0.234	+7.82	+1.94
4	+1.153	+7.67	+1.80
5	+1.163	+6.22	+1.77
6	+1.38 ⁵¹ 86	+6.00	+2.65
7	+2.51	+3.41	+1.81
8	—	—	—
RX	+1.85	+7.15	+1.84

Reduction of astrophot. 1482 to 1507

Use x and y rather than 3 & 4 as I believe star 6 is 0.200 wrong in y on plate 1507

Plate 1482		Plate 1507		Δx	Δy
x	y	x	y		
1 4.2689	1.8928	4.2882	1.8503	+0.0194	-425
2 3.3461	0.6788	3.3555	0.6454	094	334
3 3.0940	2.9357	3.1259	2.9042	319	315
4 3.1208	2.1586	3.1444	2.1259	236	327
5 2.3588	1.7626	2.3790	1.7401	202	225
6 1.7277	2.8770	1.7579	2.8598	302	172
7 0.8113	1.6414	0.8277	1.6351	164	.63
8 —	—	—	—	—	—
RX 2.8157	2.1416	2.8379	2.1136	222	280

x	y	Σx	Σy	$\Sigma \Delta x$	$\Sigma \Delta y$
4.29	1.85✓	1.4	13.92	7.53	+0.843 -1.401
3.36	0.65✓	5.8	4.97	6.24	.0668 460
3.13	2.90	all	18.89	13.77	+1.511 -1.861
3.14	2.13	14.2+7.8	8.48	4.14	.0452 822
2.38	1.74	+10.41	9.63	10.59	10.39
1.76	2.86		+8.95	a	+1.29 b = +.0175 -.0941
0.83	1.64✓		+1.93	a	+5.49 b = +0.607 +0.217
—	—✓				a = +0.004 d = -.0105

2.84 2.11

b = +0.0109 d = +0.0002

Plate ~~1482~~ ¹⁵⁰⁷ red to 1482Mean astrog. $c = -0.0009$ $f = +0.0012$ Mean MC
x sec 1776

y mean and mean P. 612 187

1	4.2673	1.8938	4.2681	1.8933	10.720	cont P186
2	3.3480	0.6794	3.3470	0.6791	3.494	
3	3.0940	2.9352 3.456	3.0940	2.9354	17.374	
4	3.1208	2.1573	3.1208	2.1570	12.568	
5	2.3599	1.7635	2.3594	1.7630	10.270	
6	1.7269	2.8765	1.7272	2.8768	17.217	
7	0.8104	1.6423	0.8108	1.6418	9.821	
8	+	9	+	4	- 6	
RX	2.8146	2.1418	2.8152	2.1417	12.519	

U Sep

Hyderabad. Plate 1515 - 22° 44' 48" N

1920 Jan 13

p 78

	No	x	y			6.25 x	6.25 y	mc-act	
1	8976	28 34	21.866 16.890	6.745	—	—	—	—	—
2	8977	35	22.092	6.446	0.226	0.299	1.412	1.869	+052 -042
3	8957	32	23.758	4.356	1.892	2.389	11.825	14.931	+395 -365
4	8946	36	24.754	3.844	2.888	2.901	18.050	18.131	+478 -539
5	8980	44	25.480	6.392	3.614	0.353	22.588	2.206	+014 -604
6	8981	39	25.641	6.303	3.775	0.442	23.594	2.762	-006 -631
7									
8									
U	8958	41	23.984	4.922	2.118	1.823	13.238	11.394	+282 -411

	x	y	Σx	Σy	Σox	Σoy	
1	—	—	1-3	13.6	16.4	+444	-407
2	1.4	1.8	4-6	64.7	21.3	458	1.774
3	12.2	14.6	all	78.3	27.7	905	2.181
4	18.5	17.6	1+2+6	25.0	3.9	846	673
5	22.6	1.6	3+4+5	53.3	33.8	859	1508
6	23.6	2.1					

$a = -0026$ $d = -0265$
 $b = +0297$ $e = -0029$
 $c = -002$ $f = 000$

	ax	by	c	Σ	μx	μy	Σ	f	ey	dx
1	29.3	10.0	—	—	—	—	—	—	—	—
8	32.0	18.8	1	—	-2	-2	+2	0	—	—
U	13.5	11.0	2	-35	+53	+48	+4	0	-42	-5
			3	32	+434	400	-5	+1	-366	42
			4	48	523	+473	+5	+2	541	51
			5	59	475	-14	0	+1	605	5
			6	615	625	-1	-5	0	631	6
			U	35	327	+290	-8	-21	320	32

Sep 81 Hyderabad Plate 2118 - 22° 45' 56" N 1923 Dec 9
Mean MC

1.454	1.8272	} off				add. 750	subtract from 7.000 -2.200	6.25x	6.25y				
12.220	14.5263	9295	26	1.132	4.604	1.882	2.396	11.762	14.975	+458	-409		
15.528	17.5921	9296	27	2.140	4.066	2.890	2.934	18.062	18.338	+466	-746		
22.574	1.6025	9310	49	2.902	6.650	3.652	0.350	22.825	2.188	-251	-586		
23.588	2.1314	9311	46	3.068	6.560	3.818	0.440	23.862	2.750	-274	-619		
29.348	9.9547	9305	27	3.954	5.244	4.704	1.756	29.400	10.975	-052	-1.021		
31.990	18.946	9280	44	4.330	3.777	5.080	3.223	31.750	20.144	+240	-1.299		
13.520	10.9832	9304	31	1.366	5.175	2.116	1.825	13.225	11.404	+295	-423		

	Σx	Σy	$\Sigma \Delta x$	$\Sigma \Delta y$		
B-5	53.3	33.8	+673	-1.741	$+31.6a - 2.9b =$	$-759 - 1.198$
6-8	84.9	30.9	-086	-2.939	$+12.8a - 37.3b =$	$-1.741 + 0.228$
all	138.2	64.7	+587	-4.680	$a =$	$-0.0203 \quad d = -0.0397$
5+6+7	75.5	13.7	-577	-2.226	$b =$	$+0.0397 \quad e = -0.198$
3+4+8	62.7	51.0	+1164	-2.454	$c =$	$+137^5 \quad f = +.348$

	a_x	b_y	c	Σ	μ_x	μ_y	Σ	f	e_y	d_x
3	-248	+580	+137 ⁵	+470	-12	+17	-426	+348	-289	-485
4	376	698		460	+6	-10	736		349	735
5	459	63 ⁵		-258	+7	-6	580		032	896
6	479	83 ⁵		-258	-16	+11	630		042	936
7	595	397		-60	+8	-15	1106		198	1156
8	650	746		+234	+6	-5	1294		372	1270
u	274	437		+301	-6	-17	406		218	536

SU Draconis

Greenwich astrophot. Plate 2549

11^h30^m +67°
1895 April 23

				Subtract from 27.5—	6.1 X	6.1 y
1	14.8155	22.0948	—	5.4052	—	32.972
2	15.7076	21.7095	0.8921	5.7905	10.102 5.442	35.322
3	16.4716	22.0551	1.6561	5.4449	10.102	33.214
4	16.3292	24.6225	1.5137	2.8775	9.234	17.553
5	16.8729	25.0295	2.0574	2.4705	12.550	15.070
6	not on					
7	18.9422	25.6669	4.1267	1.9331	25.173	11.792
8	19.3279	22.9047	4.5124	4.5953	27.526	28.031
Su	16.5657	24.5444	1.7502	2.9556	10.676	18.029

MC-6.1 ast

Point 226 in reduction

			ΣX	ΣY	ΣOX	ΣOY
1	0	-742				
2	+510	-604	19.7	81.8	+364	-1.917
3	359 +5	550	66.4	53.8	1165	1.141
4	359	625	all 86.1	135.6	+1529	-3.058
5	430	550	48.3	42.9	+1324	-1.521
6			37.8	92.7	.205	-1.537
7	535	346			+46.7a - 28.0b =	+801 +.776
8	200	245			+10.5a - 49.8b =	+1.119 +0.16
Su	331	537			a = +00425	+0.188
					b = -0215	+0036
					c = +6805	-861

	ax	by	c	Σ	ux	uy	Σ	f	ey	dx
1	—	-693	+680 ⁵	-12	+12	+3	-745	-861	+116	+10
2	+22	746		-44	-66	+32	636		125	100
3	43	704		+20	-15	-3	553		118	190
4	41	364		358	+1	-4	621		60	180
5	55	312		124	+6	+15	565		52	244
6										
7	109	248		542	-7	-9	337		41	483
8	116	598		198	+2	-4	241		100	520
8u	47	376		342	-11	+54	591		63	207

Reduction of D_0 to mcs.

	$mc - \frac{x}{.6} - \frac{y}{.6}$	x	y	Σx	Σy	$\Sigma \Delta x$	$\Sigma \Delta y$
1	+005	+565	—	32.23	1+2 5.33	66.95	+025 +.970
2	+020	+405	5.33	34.73	6+7 41.43	11.47	-1.789 -.347
6	-1.100	+005	15.72	—			
7	-0.689	-.352	25.71	11.47	all 46.76	78.42	-1.764 +.623
8u	-0.520	+229	11.01	17.49	1+7 25.71	43.70	-0.684 +313
					2+6 21.05	34.72	-1.080 +4100

$$+36.10a - 55.48b = -1.814 \quad -1.317$$

$$+4.66a + 8.98b = +0.396 \quad -.097$$

$$a = +0.099 \quad d = -.0295 \quad a = d = 0$$

$$b = +0.0372 \quad e = +0.045 \quad b = +0.0336 \quad d = -.0350$$

$$c = -1.100 \quad f = +.565$$

	ax	by	c	Σ	ux	uy	Σ	f	ey	dx
1		+1.082	-1.100		+022	000		+565	—	
2		1.166			-046	+026			-186	
3		—			000	-010			550	
7		0.385			+026	-017			900	
8u		0.588			-008	+049			385	

See P104

V.V. Pegasi Bordeaux Astriographic zone +17°
 Plate 539 Oct 25, 1900 Center +17° 22' 12"

	No.	Mag			x	y
1	1	8.5	-64.3730	+51.2466	—	12.6726
2	9	7.0	-51.9208	+47.6109	12.4522	16.3083
3	7	9.0	-52.2986	+42.2765	12.0744	21.6427
4	11	9.0	-50.0003	+61.9901	14.3727	1.9291
5	17	10.0	-45.8841	+48.5310	18.4889	15.3882
6	22	9.5	-44.1922	+63.9192	20.1808	—
7	42	10.5	-34.5339	+54.9033	²⁹ 30 .8391	9.0159
8	43	9.0	-33.6860	+61.5051	30.6870	2.4141
VV	6	9.5	-53.3073	+57.8955	11.0657	6.0237

	1.2x	1.2y	mc - ast			$\Sigma \Delta x$	Σy
1	—	15.207	-006	-213			
2	14.942	19.570	+164	+160	1-4	+7.22	+094
3	14.489	25.971	061	+227	5-8	2.395	+1.957
4	17.247	2.315	503	-080	all	+3.117	+1.048
5	22.187	18.466	303	+258	¹⁺² +3+5	+1.522	+432
6	24.217	—	639	+6	⁴⁺⁶⁺⁶ 7+8	+2.595	+613
7	35.807	10.819	669	+386			
8	36.824	2.897	784	+801			
VV	13.279	7.228	355	-107			

$$+74.0a - 30.0 b = +1.673 + .857$$

$$+64.6a - 63.0 b = +2.073 + .181$$

$$a = +.0159 + .0178$$

$$b = -.0166 \quad c = +.0154$$

$$c = +.254 \quad f = -.430$$

	ax	by	c	Σ	μ_x	μ_y	Σ	f	ay	bx
1	—	-249	+254	+5	-11	-14	-199	-430 ⁵	+231	—
2	+239 ⁵	-327 ⁵		166	-2	+18	+142		303 ⁵	268 ⁵
3	231 ⁵	435		50	+11	-7	234		404	260
4	282	36		500	+3	0	-80		34	316 ⁵
5	366 ⁵	310 ⁵		300	+3	0	258		288	400 ⁵
6	395	—		649	-10	-7	13		—	443
7	578	186		646	+25	-6	392		172 ⁵	650
8	596	053		797	-13	+13	288		49	669
VV	215 ⁵	118		352	+3	-28	-79		109 ⁵	242

↳ ok sign from p.m.

SU aurigae

see p 68

Plate 2152 + 310 4^h 5^m 2^s 1903 Feb 28

1	9341	4.975	3.637	—	—	6.1ast	
2	not on (just left)						1 — —
3	9374	5.800	6.044	0.825	2.407	9.032	14.683
4	9342	6.189	3.773	1.214	0.136	7.405	0.830
5	9398	7.304	8.764	2.329	5.127	14.207	31.275
6	9375	7.923	6.098	2.948	2.461	17.983	15.012
7	9358	9.270	4.585	4.295	0.948	26.200	5.783
8	9388	9.389	7.080	4.414	3.393	26.925	20.697
Su	9365	6.827	5.920	1.852	2.283	11.297	13.926

omit 226 in red

MC. 6.1 out		x	y	Σx	Σy	Σox	Σoy
1	-.002 -011	—	—	143+4	12.6 15.5	+094	+022
3	+045 +047	5.1	14.7	5+748	67.8 58.0	+495	+196
4	+051 -014	7.5	0.8	all	80.4 73.5	+589	+218
5	+156 +127	14.4	31.4	1+447	33.8 6.6	+197	-.037
7	+148 -012 +129 +036	28.3	5.8	3+548	46.6 66.9	+392	+255
8	+191 -081 -042 +036	27.1	20.8				
54	+90 +081 +081	11.4	14.0				
6.	+129 +046	18.1	15.1				

$$+ 55.2a + 42.5b = +.401 +.174$$

$$+ 12.8a + 60.3b = +.195 +.292$$

$$(4.3II) + 55.2a + 260.5b = +.842 + 1.260$$

$$+ 218.0b = +.441 + 1.086$$

$$b = +.0020 +.0050$$

Check

$$+.315 +.073 -.0386 -.009$$

$$+.085 +.121 +.2125 +.301$$

$$+.400 +.194 +.194 +.292$$

$$(1.42I) + 78.4a + 60.3b = +.570 +.247$$

$$+ 65.6a$$

$$+ .395 a - .045$$

$$a = +.0057 -.0007$$

c	f
+589	+218
-458	+056
-177	-368
-16	+006 -094
-3	+2 -016

	ax	by	c	Σ	μ_x	μ_y	Σf	Σy	Σx
1	—	—	-3	-3	+1	+1	-016	—	—
3	+029	+029		55	-10	-8	+55	+074	-004
4	43	+002		42	+9	+2	-16	4	-15
5	82	63		142	+14	-5	+132	157	-10
6	103	30		130	-1	-2	+48	76	-13
7	150	12		159	-11	-8	-4	29	18
8	154	42		193	-2	+11	+70	104	19
54	65	28		90	0	-11	47	70	-8

<u>est</u> $x + .2y + .1x$		$by - .2x + .1y$	Δx	Δy	x	y	BS $MC - 2x - \frac{x}{\alpha}$		$\sum x$	$\sum y$	$\sum \Delta x$	$\sum \Delta y$
1	26.414	10.695	+158	+021	26.6	10.7	+343	-814	86.5	44.2	+514	+1385
2	20.553	3.473	+131	17	20.7	3.5	+151	628	31.3	37.3	185	1093
3	19.460	17.288	+131	85	19.6	17.4	541	572	117.8	81.5	699	2478
4	19.468	12.534	+94	+31	19.6	12.6	350	629	52.6	24.0	331	798
5	14.745	10.282	90	-14	14.8	10.3	302	532	65.2	57.5	368	1680
6	11.111	17.203	53	+15	11.2	17.2	487	398	produced without 328			
7	5.274	9.853	44	-25	5.3	9.8	304	276				
8	+2	-4	-2	+4	0.0	0.0	-	-	66.9	26.8	+069	
RX	17.602	12.501	+99	+17	17.7	12.5	383	598	31.3	37.3	-024	

<u>BS</u>	<u>est</u>	<u>est</u>	<u>BS</u>
$a = +0021$	$a = +0061$	$cl = +0032^5$	$d = -0244$
$b = +0256$	$b = -0012$	$e = +0021$	$e = -$
$c = +021$	$c = +010$	$f = -068$	$f = -146$

<u>est.</u>		<u>BS</u>	
μx	μy	μx	μy
1 -005	-020	-005	-019
2 -001	+010	000	+023
3 +022	(+053)	+034	(+052)
4 -021	+009	-031	-005
5 +002	-016	-011	-025
6 -005	+011	+005	+021
7 +014	+005	+024	-001
8 -012	(+072)	-018	(+146)
RX -004	+001	+008	-020

I don't see why 328 should have such large residuals. Remeasurement of MC plates makes no difference.

μy should be of opposite sign since 8 is farthest north not south

				measure of γ 's μ es.			
MC 23993	prec.	D	pt.	prec.	R	pt.	
Jan. 16-17, 1929	1	10.779	10.861	.754	.691		
	2	3.569	3.630	.990	.923		
	3	17.455	17.509	0.121	0.060		
	4	12.642	12.712	.928	.850		
	5	10.368	10.421	.250	.174		
	6	17.297	17.361	.290	.228		
no 7 for	7	9.900	9.952	.681	.625		
	8	0.060	0.142	.494	.423		
RX Eri		12.590	12.642	.970	.908		

Differences

1	10.719	10.719	.740	.732	1	.765	.773	.788	.777
2	3.509	3.488	.504	.500	2	.542	.548	.549	.544
3	17.395	17.367	.373	.363	3	.424	.444	.418	.420
4	12.582	12.570	.566	.573	4	.622	.630	.606	.604
5	10.308	10.279	.244	.249	5	.326	.324	.312	.300
6	17.237	17.219	.204	.195	6	.242	.263	.258	.252
7	9.840	9.810	.813	.798	7	.855	.858	.837	.820
8	—	—	—	—	8	—	—	—	—
RX Eri	12.530	12.500	.524	.515	RX Eri	.572	.578	.554	.556

Means		Means		Means		Means		Means		Means	
Take means	Finals	Mean MCs	Finals	Take means	Finals	Take means	Finals	Take means	Finals	Take means	Finals
1	10.719	.736	10.728	10.724	1	.769	.782	10.776	+048	+56	10.720
2	3.498	.502	3.500	3.499	2	.545	.546	3.546	+046	.48	3.498
3	17.381	.368	17.374	17.376	3	.434	.419	17.426	+052	.47	17.379
4	12.576	.570	12.573	12.571	4	.626	.605	12.616	+043	.47	12.569
5	10.294	.246	10.270	10.272	5	.325	.306	10.316	+046	.41	10.275
6	17.228	.200	17.214	17.216	6	.252	.254	17.253	+039	.36	17.217
7	9.825	.806	9.816	9.814	7	.856	.828	9.842	+026	.30	9.812
8	—	—	—	.012	8	—	—	—	—	.23	-.023
RX Eri	12.515	.520	12.518	12.520	RX Eri	.575	.555	12.565	+047	.44	12.521

Rennance, check of γ of R V UMa for 1941, same book

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MC 21929	pre- γ	pl	pre-R	pl	MC ²³⁵²¹ 21929					
May 8-9, 1926	1	1.82	1.84	.17	.15	July 21-25, 1928	.97	.90	.46	.52
cont.	2	17.64	17.65	.35	.34		.81	.76	.62	.68
	3	31.18	31.19	0.80	0.79		.34	.29	0.10	0.17
	4	1.46	1.47	.52	.52		.73	.67	.74	.79
	5	16.14	16.14	.84	.84		.63	.57	.88	.93
	6	23.94	23.92	.02	.02		.49	.43	.02	.10
	7	0.79	0.78	.17	.17		0.40	0.33	.14	.20
	8	10.52	10.51	.43	.43		.15	.09	.38	.44
RV UMa		11.71	11.70	.27	.28		.16	.010	.34	.41

Differences

1	1.03	1.06	.00	.02	.57	.57	.68	.68
2	16.85	16.87	.82	.83	.41	.43	.52	.52
3	30.39	30.41	.37	.38	.94	.96	.04	.03
4	0.67	0.69	.65	.65	.34	.34	.40	.41
5	15.35	15.36	.33	.34	.23	.24	.26	.27
6	23.15	23.14	.15	.15	.09	.10	.12	.10
7	—	—	—	—	—	—	—	—
8	9.73	9.73	.74	.74	.75	.76	.76	.76
RV UMa	10.92	10.92	.90	.89	.76	.77	.80	.79

Means

Finals

Mean of UMa.

Means

Final

1	1.04	.058 0.04	57 and 68 104 25321	0.58	57	.68 58	0.58
2	16.86	.85 82	42 16.86	16.42	.42	.42 52	.42
3	30.40	.41 38	94 30.40	30.94	.95	.94 04	.94
4	0.68	.67 65	34 0.68	0.34	.34	.33 40	.34
5	15.36	.34 34	26 15.35	15.25	.24	.24 26	.24
6	23.14	.15 0.1	10 23.14	23.10	.10	.10 4	.10
7	—	—	000	000	—	—	—
8	9.73	.73 74	77 9.73	9.76	.76	.76 76	.76
RV UMa	10.92	.91 90	74 10.90	10.75	.76	.76 80	.76

Algiers Plate 1293 - 1° 21' 8" Aug 26, 1896

SW. Aquini

See P 2

1	58	9.5	+17.6595	+45.8325.	33.0452	13.6444
2	61	10.2	+20.3880	+34.8881.	30.3167	2.6500
3	73	10.3	+33.0201	+42.4246.	17.6846	10.2365
4	76	10.6	+34.5514	+36.7268.	16.1533	4.5387
5	77	11.1	+34.7613	+39.4068.	15.9434	7.2187
6	89	10.7	+47.9113	+49.8891.	2.7934	17.7010
7	90	9.0	+49.8479	+32.4725.	0.8568	0.2844
8	91	10.4	+50.7047	+32.1881.	—	—
SW	74	10.3	+33.2597	+39.5462.	17.4450	7.3581

1.2 X	1.2 y	mc - 1.2as†	Σx	Σy	Σax	Σay
39.654	16.373	-072 +1.287	1-4	116.8	40.9	+110 +3.674
36.380	3.180	+279 1.064	5-8	22.9	31.2	-632 +.969
21.222	12.284	-133 0.725	all	139.7	72.1	-522 +4.643
19.384	5.446	+036 .598	2+4+ 7+8	57.1	10.6	+315 +1.698
19.132	8.662	-042 .630	1+3+ 5+6	82.6	61.5	-887 +2.945
3.352	21.241	-590 -303		a = +.0108 d = +0.278		
1.028	0.341	+002 036		b = -.0281 e = +0.106		
—	—	-002 —		c = -.0005 f = 000		
20.934	8.530	-006 +648		+93.9 a + 9.7 b = +.742 + 2.705		
				+25.5 a + 50.9 b = -1.152 + 1.247		

	ax	by	c	Σ	mx	my	Σ	fx	dy
1	+421	-497	-5	-70	-2	-17	+1.288	-	+1.100
2	396	-118		+279	+1	0	1.064	+1.100	+1.020
3	228	-366		-138	+5	+1	724	138	586
4	209	-168		+41	-5	-5	603	064	529
5	206	-261		-55	+13	0	630	099	531
6	030	-604		-575	-15	-6	309	228	81
7	010	-011		-1	+3	+4	32	4	28
8	—	—		0	0	0	—	—	—
SW	+226	-267	-42	+36	-34		682	101	581

opp
ref. for
pm

20 pm

1920pbae proj 2642

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see p. 6

San Fernando Plate 2064 -40° 20' 32" Oct 5, 1894

AA Aquilae

						1.25x	1.25y
1	349	10.5 ^{9.5}	+41.822	-44.187	—	2.749	—
2	363	10.0	9.005	-49.044	4.183	9.606	5.229
3	364	10.0	9.063	-51.703	4.241	10.265	5.301
4	379	10.4	12.186	-54.441	7.364	13.003	9.205
5	412	10.1	17.251	-41.438	12.429	—	15.536
6	438	10.6	20.824	-48.875	16.002	7.437	20.002
7	452	10.2	23.380	-46.047	18.558	4.609	23.198
	478	9.8	28.233	-43.289	23.411	1.851	5.761
8	475	10.6	27.626	-42.046	22.804	0.608	29.264
AA	400	10.1	15.310	-45.680	10.488	4.242	13.110

	plate 2065		2064		x	y	Σx	Σy	$\Sigma \Delta x$	$\Sigma \Delta y$	$\Sigma \Delta x$	$\Sigma \Delta y$
	Mean Δx	MC- Δy										
1	—	+124	—	+100	—	3.5	14	19.7	41.7	-033	-242	-265
2	-036	-47	-39	-50	5.2	9.5	5.8	86.4	16.8	-1.658	-642	-1688
3	+012	-107	+9	-133	5.3	12.7	all	106.1	58.5	-1.691	-884	-1753
4	-9	-212	-35	-208	9.2	16.0	¹⁺⁵ +17.6	66.7	11.2	-1.352	-299	-1364
5	-338	—	-346	—	15.2	—	²⁺³ +44.6	39.4	47.3	-339	-585	-389
6	-306	-219	-324	-216	19.7	9.1						
7	-412	-213	-410	-203	22.8	5.6						
8	-602	-210	-608	-202	28.7	2.1						
AA	-231	-58	-244	-74	12.9	5.2						

$$a = -0193 - 0124; -0201, -0112$$

$$b = +0135 - 0174; +0119 - 0169$$

$$c = -054 + 182; -039 + 158$$

Plate 2065

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	α	δ	c	\bar{z}	μ_x	μ_y	\bar{z}	f	μ_y	Δx
1	—	+047	-054	-7	+7	+3	+121	+152	-061	—
2	-101	+128		-27	-9	+1	-48		-165	-065
3	-103	+171		+14	-2	-2	-105		-221	66
4	-178	+216		-15	+6	-2	-210		-278	114
5	-293	—		-347	+9	+7	-7		—	189
6	-380	+123		-311	+5	+1	-220		-158	244
7	-440	+076		-418	+6	-14	-199		-098	283
8	-554	+028		-580	-22	0	-210		-036	356
AA	-249	+070		-233	+2	+10	-68		-090	160

	α	δ	c	\bar{z}	μ_x	μ_y	\bar{z}	f	μ_y	Δx
1	—	+042	-039	+3	-3	+1	+99	+158	-059	—
2	-104	+113		-30	-9	+11	-61		-161	-058
3	-106	+151		+6	+3	-18	-115		-214	59
4	-185	+190		-34	-1	+7	-215		-270	103
5	-304	—		-345	-1	+12	-12		—	170
6	-396	+108		-327	+3	0	-216		-154	220
7	-459	+067		-431	+21	-10	-193		-095	256
8	-576	+025		-590	-18	-4	-198		-035	321
AA	-259	+062		-236	-8	0	-74		-088	144

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see P149

7 faintest 11
preceding

RV Cap

A 5674 20^h 49^m -18° Sep 30, 1901 18^mnear edge
rather poor
images

	RV	X^2	Y_d	X_d	Y_d
		97.91086	65		
		97.776	175		
1		109.314	69.496	—	11.846
2		107.764	68.750	1.550	11.100
3		107.700	59.978	1.614	2.328
4		106.660	60.820	2.654	3.170
5		101.502	59.591	7.812	1.941
6		96.834	57.650	12.480	—
7		93.124	72.189	16.190	19.539
8		88.864	62.208	20.450	4.558
RV		97.088	65.167	12.227	7.517

A 14971 21 05 -15.5 Sep 29, 1931

rather poor
images

	RV	X_d	Y_d	X_d	Y_d
		77.042	61.401	.	
1		64.654	57.038	—	11.439
2		66.203	57.750	1.549	10.727
3		66.557	65.523	1.903	2.954
4		67.688	66.624	3.034	1.853
5		72.828	66.686	8.174	1.791
6		77.585	68.477	12.931	—
7		80.546	48.830	15.892	19.647
8		85.521	67.610	20.867	0.867
RV		77.052	60.995	12.393	7.474

A 9027		20 47	-17.5	Aug 21, 1908	60m
RV	$\overset{x}{\cancel{78.605}}$	$\overset{y}{63.788}$	$\overset{x_d}{\cancel{11.642}}$	$\overset{y_d}{\cancel{10.915}}$	
1	90.931	67.902	—	11.642	
2	89.390	67.175	1.541	10.915	
3	88.059	58.268	4 2.872	2.008	
4	89.160	59.415	3 1.771	3.155	
5	82.912	58.135	8.019	1.875	
6	78.211	56.260	12.720	—	
7	74.840	75.874	16.091	19.614	
8	70.236	56.982	20.701	0.722	
RV	78.597	63.777	12.330	7.522	

A 14921 - A 5674		A 9027 - A 5674			
Δx	Δy	Δx	Δy	Δx	Δy
1 —	-.407	—	-.203	—	-.204
2 -.001	-.383	+008	-.188	-.009	-.185
3 +.289	-.374	+168	-.201	+157.	-.162
4 +.380	-.217	+162	-.155	+218	-.173
5 +.362	-.150	+155	-.84	+207	-.066
6 +.451	—	+211	—	+240	—
7 -.298	+108	-199	+33	-.099	+076
8 +.417	+309	+166	+145	+251	+164
RV +166	-.037	+063	-.48	+103	+011

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A 5674

	x	y			
RV	78.088	52.772			
u. Jt 1	90.360	56.987	—	7.828	11.761
" 2	88.640	56.240	1.720	8.575	11.014
3	88.653	48.462	1.707	16.353	3.236
4	87.586	47.314	2.774	17.501	2.088
5	82.432	47.132	7.928	17.683	1.906
6	77.740	45.226	12.620	19.589	—
7	74.241	64.815	16.119	—	19.589
8	69.772	45.881	20.588	18.934	0.655
RV	78.080	52.263	12.286	12.048	7.542

A 14971

	x	y			14971 - 5674	
RV	66.903	61.172			Δx	Δy
1	61.575	57.015	—	11.647	—	-.114
2	63.110	57.750	1.535	10.912	-.185	-102
3	63.344	65.520	1.769	3.142	+062	-094
4	64.452	66.641	2.877	2.021	+103	-067
5	69.592	66.785	8.017	1.877	+089	-029
6	74.215	68.662	12.740	—	+120	—
7	77.608	49.047	16.033	19.615	-086	+026
8	82.277	67.945	20.702	0.747	+114	+092
RV	73.912	61.166	12.333	7.493	+057	+049

Two measures of A 14971

P. 194 reduced & P 196

ΔX	Δy	$a-d=0$	$c = -0.001$	
1 —	+208	$b = +0.06$	2 1.539	11.652
2 -014	+185	$e = -0.06$	$f = +0.213$ 3 1.769	10.916
3 -134	+188		4 2.882	3.138
4 -57	+168		5 8.020	2.020
5 -157	+086		6 12.747	1.876
6 -191	—		7 16.022	+0.010
7 +141	-032		8 20.694	19.604
8 -165	-120			0.749
RV -060	+019		RV 12.329	7.490

Mean A 14971

1 —	11.644
2 1.537	10.909
3 1.769	3.135
4 2.880	2.016
5 8.018	1.872
6 12.744	—
7 16.028	19.604
8 20.698	0.742
RV 12.331	7.486

(2x should be 1.520?)

mean A 5674 Two means of 5674 Mean 5674

118	—	-85	+004
118	+170	-30	-86
	+93	-92	
	+120	-82	
	+116	-35	
	+140	—	
	-71	+50	
	+138	+97	
	+49	+31	

see P 204

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See P 78

U Sep 4^h 52^m - 21.4A 7050 4^h 50^m - 22.7 3 Nov 14, 1904 10^m

	x_1	y_1		
U	69.481	77.339		
1	79.737	86.167	—	—
2	78.646	84.720	1.091	1.447
3	70.531	74.610	9.206	11.557
4	65.708	72.140	14.029	14.027
5	62.252	84.482	17.485	1.685
6	61.470	84.046	18.267	2.121
7	57.164	77.855	22.573	8.312
8	55.253	70.905	24.484	15.262
U	69.475	77.334	10.259	8.830

	x_1	y_1				
A	14530	4450 ^m	-22.5	3+	Feb 3-4, 1930	62 ^m
U	83.245	65.817			Δx	Δy
	79.434	70.975				
1	93.673	57.173	—	—	—	—
2	92.552	58.597	1.121	1.424	+0.30	-.023
3	84.306	56.8568	9.367	11.395	+161	-.162
4	79.431	70.965	14.242	13.792	+213	-.235
5	76.138	58.575	17.535	1.402	+050	-283
6	75.362	58.983	18.311	2.810	+044	-311
7	70.962	65.102	22.714	7.929	+138	-383
8	68.971	72.038	24.702	14.865	+218	-397
U	83.254	65.809	10.421	8.640	+162	-.190
	248	13	42.5			

	x	y		Σx	Σy	$\Sigma \Delta x$	$\Sigma \Delta y$
1	—	—					
2	1.1	1.4	1-4	24.3	27.0	+404	-720
3	9.2	11.6	5-8	82.9	27.4	+450	-1374
4	14.0	14.0	all	107.2	54.4	+854	-1794
5	17.6	1.7	1+2+ 5+6	36.9	5.2	+124	-.617
6	18.3	2.1	3+4 7+8	70.3	49.2	+730	-1.177
7	22.6	8.3					
8	24.6	15.3					
				+58.6a	+0.4b	+0.046	-.954
u	10.3	8.8					
				+33.4a	+44.0b	+1.606	-.560

$$\begin{array}{rcl}
 c & f & a = +0007 \quad d = -.0163 \\
 +854 & -1.794 & b = +0.132 \quad e = -.0003 \\
 -.075 & +1.747 & \\
 -7.17 & +.076 & \\
 \hline
 +062 & -.031 & \\
 +.008 & -.004 &
 \end{array}$$

	ax	by	c	Σ	μx	μy	Σ	f	ey	dx
1	—	—	+008	+8	-8	+4	-4	-4	—	—
2	+1	+0.018		+27	+3	-1	-22	—	—	-018
3	+6	+1.53		+167	-6	-5	-157	-3	-150	
4	+10	+1.85		+203	+10	+1	-236	-4	-228	
5	+12	+0.022		+42	+8	+6	-289	—	—	-285
6	+13	+0.028		+49	-5	-8	-303	-1	-298	
7	+16	+1.10		+134	+4	-8	-375	-3	-368	
8	+17	+2.02		227	-9	+11	-408	-5	-399	
u	+7	+1.16		131	+35	-15	-175	-3	-168	

200

see p 4

S W Dna.

Reducing MC 23884 to MC 24071
 using χ_d only of *3 \int MC 24071
 χ_1 " " *7

	$\Delta \chi$	$\Sigma \chi$	Σy	Σax	Σay	
1	+23	1-4	120.7	39.5	-10	+036
2	-130	5-8	38.6	90.9	-279	-391
3	+44	all	159.3	130.4	-289	-361
4	+53	$\begin{smallmatrix} 1+3 \\ 4+6 \\ 2+5+ \end{smallmatrix}$	103.0	16.0	+135	-085
5	-138	7+8	56.3	114.4	-424	-276
6	+15					
7	-156					
8	0					
SW	-25					

$+82.1a - 51.4b = +269 + 421$
 $+46.7a - 98.4b = +559 + 191$
 $a = -0004 \quad cl = +0055$
 $b = -0059 \quad e = +0007$
 $c = +068 \quad f = -166$

	ax	by	c	Σ	ux	uy	Σ	f	ey	dx
1	-14	-031	+68	+23	0	+7	+23	-166	+4	+195
2	14	-189		-135	+5	-1	+48		+22	+192
3	12	—		+56	-12	+1	-1		—	+165
4	8	-13		+47	+6	-2	-55		+1	+112
5	8	-201		-141	+3	-1	-20		+24	+95
6	7	-50		+11	+4	-3	-65		+6	+6
7	—	-216		-148	-8	+12	-135		+25	—
8	—	-68		0	0	-11	-158		+8	—
SW	7	-91		-20	+5	-5	-56		+11	+99

MC23884 red to 24071

1	35.505	5.266
2	34.961	31.990
3	30.118	- .001
4	20.149	2.252 34.127
5	20.231	8.517
6	17.261	36.741
7	1.088	11.595
8	—	15.354
SW	18.021	2

Mean MC taking 1x7 as zero

35 —	31.473
0.547	4.745
5.381	36.735
15.359	34.482
15.275	2.607
18.246	28.217
34.413	—
35.505	25.135
17.487	21.379

6 ast.

		Δx	Δy	x	y
—	31.225	—	+248	—	31.5
.178	5.020	+ .369	-275	0.5	4.7
5.350	36.340	+0.1	+395	5.4	36.7
15.101	34.017	+258	+465	15.4	34.5
14.575	2.695	+700	-088	15.3	2.6
17.847	27.865	+399	+352	18.2	28.2
33.265	—	+1.148	—	34.4	—
34.682	24.618	+ .823	+517	35.5	25.1
16.984	21.143	+ .503	+236	17.5	21.4

Dist 425 from 5 as 5 has large motion.

	Σx	Σy	$\Sigma \Delta x$	$\Sigma \Delta y$	Σx	Σy
1+2+3+5	21.2	75.5	+1.100	+1.368	5.9	72.9
4+6+7+8	103.5	87.8	+2.628	+869	88.1	5-3.3
all	124.7	163.3	+3.728	+1.237	94.0	126.2
1+3+4+8	57.3	127.8	+1.112	+1.160	40.9	92.2
2+5+6+7	68.4	35.5	+2.616	+77	53.1	32.9

$$a = +0.206$$

$$b = -0.136$$

$$c = +4.23$$

$$d = +0.109$$

$$e = +0.204$$

$$f = -2.366$$

MC - ast

	μx	μy
1	+6	-2
2	0	+18
3	-5	-20
4	-13	-14
5	-3	+84
6	-14	-27
7	+16	+19
8	+10	+12
SW	+10	+3

	Mean JS,		MC-J.		without 485	
					$\Sigma \Delta x$	$\Sigma \Delta y$
1	—	32.555	—	-1.082		
2	-1.398	5.803	+943	-1.085	+777	-3.085
3	5.549	37.653	-168	-918	+1.585	-432
4	15.437	35.060	-78	-578	+2.362	-3.517
5	14.234	3.147	+1041	-540	+112	-1.920
6	18.114	28.729	+142	-512	+2.250	-1.597
7	33.250	—	+1.163	—		
8	35.225	25.055	+280	+080		
SW.	17.124	21.909	+363	-530		

$$+82.2a - 19.6b = +888 +2653$$

$$+12.2a - 60.4b = +2.133 +0.323$$

$$a = +00145 \quad d = +0326$$

$$b = -0351 \quad e = +0013$$

$$c = +1.109 \quad f = -1.124$$

MC-a Is

203

	μ_x	μ_y
1	-6	+1
2	+1	+13
3	+2	-18
4	+1	-2
5	+1	+81
6	-3	-19
7	-4	+4
8	0	+14
SW	-19	-5

204

RV Cap
A plate
ser P194

Mean 14971 & mean 5674

	Δx	Δy	x	y		Σx	Σy	$\Sigma \Delta x$	$\Sigma \Delta y$
1	-004	-110	~	11.6	1-4	6.2	27.6	+165	-401
2	-006	-107	1.5	10.9	5-8	57.4	22.2	+237	-1
3	+057	-106	1.8	3.1	all	63.6	49.8	+392	-402
4	+108	-078	2.9	2.0	¹⁺²⁺³ 57	19.3	45.2	-041	-323
5	+089	-043	8.0	1.9	⁴⁺⁵⁺⁶ 18	44.3	4.6	+433	-079
6	+124	-020	12.7	~					
7	-088	~	16.0	19.6		+51.2a	-5.4b	+082	+400
8	+112	+062	20.7	0.7		+25.0a	-40.6b	+474	+244
RV	+051	-062	12.3	7.5				a = +0004	d = +0077

$$b = -0114^6 \quad e = -0013$$

$$c = +117 \quad f = -103$$

	Δx	Δy	c	Σ	μx	μy	Σ	f	Σy	Δx
1	-	-133	+117	-16	-12	+8	-118	-103	-15	-
2	+1	-125		8	+2	-2	-105		14	+12
3	1	36		+82	-25	-3	-103		4	14
4	1	23		+95	+13	+6	-84		3	22
5	3	22		+98	-9	0	-43		2	62
6	5	~		+112	+12	-17	-3		-	10
7	6	-224		-111	+23	+6	-6		26	123
8	8	-8		+117	-5	+5	+57		1	159
RV	5	-86		+26	+25	-44	-18		10	95

$$\frac{+025}{30} \times 60 = +050$$

$$\frac{-044}{30} \times 60 = -088$$

Maam 14971

9027 2

	Δx	Δy	$\Sigma \Delta x$	$\Sigma \Delta y$	
1	—	+2	+3	-16	$+51.2a - 5.4b = -046 + 023$
2	-3	-6	-43	+7	$+25.0a - 40.6b = +096 + 059$
3	-2	-20	-40	-9	
4	+8	+8	-68	-34	$a = -0012 + 0003$
5	-1	-3	+28	+25	$b = -0030 - 0013$
6	+24	—			$c = +023 + 005$
7	-63	-10			
8	-3	+20			
RV	+1	-36			

	a_x	b_y	c	Σ	μ_x	μ_y	Σ	f	e_y	dx
1	—	-34	+23	-11	+11	+12	-10	+5	-15	—
2	-2	33		-12	+9	+3	-9		-14	—
3	2	9		+12	-14	-21	+1		-4	—
4	3	6		+14	-6	+5	+3		-3	+1
5	10	6		+7	-8	-8	+5		-2	2
6	15	—		+8	+16	-9	+9		—	4
7	19	59		-55	-8	+5	-15		-25	5
8	24	2		-3	0	+10	+10		-1	6
RV	14	24		-15	+16	-35	-1		-10	4

$$\frac{+016}{23} \times 60 = +042$$

$$\frac{-035}{30} \times 60 = -070$$

Astrophot. & β s.

u Sep

see p 78

Oct 1780

	x	y	bx	by	$.25x$	$.25y$
1	—	—	—	—	—	—
2	0.224	0.301	1.344	1.806	.056	0.75
3	1.884	2.396	11.304	14.376	.471	5.99
4	2.878	2.911	17.268	17.466	.720	7.28
5	3.608	0.364	21.648	2.184	.902	0.91
6	3.770	0.454	22.620	2.724	.942	1.13
7	4.654	1.736	27.924	10.416	1.163	4.34
8	5.033	3.174	30.198	19.044	1.258	7.94
u	2.110	1.831	12.660	10.986	.528	4.58

 β s - Oct

	bx	by	Δx	Δy	$\Sigma \Delta x$	$\Sigma \Delta y$
1	—	—	-17	—	-4.23	+4.83
2	1.4	1.881	-19.5	+28	-2.24	+1.364
3	11.775	14.975	-211	+182	-6.47	+1.847
4	17.988	18.194		+273	+2.4	+0.586
5	22.550	2.275	+22	+278	-6.71	+1.261
6	23.562	2.837	+19	+280		
7	29.087	10.850	-60	+375	+75.2a	-0.1b = +1.994881
8	31.456	19.838	-205	+431	+43.6a	+56.1b = -6.95 + 6.75
u	13.188	11.444	-111	+178		a = +0.026 ; +0.117

	ax	by	c	Σ	ux	uy	Σ	f	ay	dx	b	c	f
1	—	—	-1	-1	+1	-3	+3	+3	+6	—			
2	+4	-27		-24	+7	+3	+25		+3	+16			
3	31	-213		-183	+12	+4	+186		52	+140			
4	47	258		-212	+1	+5	+268		6	+213			
5	58	29		+30	+8	+5	+273		8	264			
6	61	38		+22	-3	-6	+286		30	275			
7	76	151		-76	+16	+2	+323		56	320			
8	82	219		-198	-7	+1	+430			311			
u	35	164		-130	+19	-14	192		33	156			

Oct 1515 6 comp stars

			\bar{x}	\bar{y}		Σx	Σy	$\Sigma \Delta x$	$\Sigma \Delta y$
1	-	-							
2	-5	+16	1.4	1.9	1-3	13.4	16.7	-150	+154
3	-145	+138	12.0	14.8	4-6	64.2	22.5	-38	+624
4	-149	+210	18.2	17.9	all	77.6	39.2	-188	+778
5	+60	+209	22.5	2.0	1+2 +5	23.9	3.9	+55	+225
6	+51	+205	23.5	2.6	3+4 +6	53.7	35.3	-243	+553
u	-61	+128	13.3	11.3					

$$+50.8a + 5.8b = +.112 + 470$$

$$+29.8a + 31.4b = -298 + 328$$

$$b = -0.130, +0.019$$

$$a = +0.037, +0.090$$

$$c = +6, f = +1$$

	ax	by	c	Σ	fx	fy	Σf	fy	Σx
1	-	-	+6	+6	-6	-1	+1	+1	-
2	+5	-25		-14	+9	-1	+17	+3 ⁵	+12 ⁵
3	+44 ⁵	192 ⁵		-142	-3	+1	137	28	108
4	+67 ⁵	232 ⁵		-159	+10	+11	199	34	164
5	83	26		+63	-3	+2	207	4	202
6	87	34		+69	-8	-13	218	5	212
u	49	147		-92	+31	-14	142	21 ⁵	119 ⁵

Act 2118 = β_s

				Σx	Σy	$\Sigma \Delta x$	$\Sigma \Delta y$
3	-208	+182					
4	-137	+417	$\frac{3+4}{2}$	52.7	34.7	-48	+790
5	+297	+191	$\frac{6+7}{2}$	84.3	32.5	+661	+1730
6	+319	+193	all	137.0	67.2	+613	+2220
7	+253	+500	$\frac{5+6+7}{3}$	75.1	15.1	+869	+884
8	+89	+737	$\frac{3+4+8}{3}$	61.9	52.1	-256	+1336
u	-74	+140					

$$+31.6a - 2.2b = +.709 + 640$$

$$+13.2a - 37.0b = +1.125 - 452$$

$$a = +0208 + 0216$$

$$b = -.0230 + 0200$$

$$c = -114^5 - 347$$

	ax	by	c	Σ	μx	μy	Σ	f	μx	μy	Δx
3	+250	-340	-114	-204	-4	-26	+208	2347	+296	+259	
4	378	-412		-148	+11	+13	+404		358	+393	
5	468	-46		+308	-11	+12	+179		40	486	
6	488	-60		+314	+5	-19	+212		52	507	
7	685	-242		+249	+4	+9	+491		210	628	
8	660	-446		+100	-11	+11	+726		388	685	
u	277	-260		-97	+23	-26	+166		226	287	

ast 2/30			ΔX	Δy	Int	μx	
1780	1921.0	8	+19	-14	24.4	+039	-028
1515	1920.0	6	+31	-14	23.4	+065	-029
2118	1923.9	6	+23	-26	27.3	+042	-047

Direct mean +049 -041

Decimals of a yr

- .1 Feb 5
- .2 Mar 14
- .3 Apr 18
- .4 May 26
- .5 Jul 1
- .6 Aug 7
- .7 Sep 12
- .8 Oct 19
- .9 Nov 29

e. o. p.

At home

Aug 4. 3:35

Aug 7. 4:00

Sept 1. 3:15

Date Name
~~April 5 - 2~~
~~April 10 - 1 1/3~~
~~April 15 - 2 2/3~~
~~April 17 - 1~~

~~April 15 - 2 3/4~~
~~April 16 - 2 1/2~~
~~April 17 - 1~~

~~May 6 - 2~~
~~May 10 - 1~~
~~May 11 - 2~~
~~May 20 - 1~~

May 20 - 2
 May 22 - 2

