

KG
11366
v.1048



Plate	O-C	Screw Up R.A.	Dec.	O-C	Screw Down R.A.	Dec.
2017 18		+0.91	+2.3	+0.82	+1.6	
12027 28		+1.01	-0.1	+0.99	-0.7	
12093 99		+1.12	-6.1	+0.85	-3.6	
12068 69		+0.81	-4.3	+0.95	-4.6	
12075 76				+0.97	-7.8	
				+0.93	-2.9	
12266 67		+0.95	+0.7	+0.89	+6.0	
12280 81		+1.14	-1.9	+0.92	-0.6	
12296 97		+0.91	-1.1			
		+1.09	-1.1			
12300 01 19 20		+0.83	+5.5	+1.05	+5.7	
12323 27		+1.05	-4.7	+0.96	-4.3	
12469 70		+0.97	-3.9	+0.90	-3.9	
12477 75 76 77		+1.12	-6.7	+0.99	-7.5	
12507 08		+1.05	-5.7	+0.76	-2.7	
12625 26		+0.79	-4.3			
		+0.89	-0.1			
12723 29		+1.03	-3.6	+1.03	-3.6	
12740 41		+1.05	-4.1	+1.02	-6.3	
12779 7		+0.95	-6.8			

Plate	O-C	Screw Up R.A	Dec	O-C	Screw Down R.A	Dec
3018 19		+0.56	+2.0		+0.77	+1.3
13077 78		+1.17	-1.7			
13087 85		+0.77	+5.0		+0.78	+5.6
13109 10		+0.66	+2.6		+0.55	+7.8
13127 25		+0.81	+9.9		+0.57	+5.2
13170 72		+0.61	+2.2		+0.58	+1.8
73					+0.58	+0.9
75		+0.52	+0.1			
13277 76					+1.27	+0.5
					+1.19	-2.3
13287 85		+1.00	+7.7		+0.83	+3.7
13305 06		+0.75	+0.7		+0.79	+0.7
07		+0.79	+1.8			
08					+0.76	+1.9
13329 30		+0.86	-0.7		+0.71	+2.1
31		+0.85	-0.1			
32					+0.88	-0.7
13610 11		+1.09	+3.1		+1.07	+1.7
13621 22		+0.97	+7.6			
26		+0.99	+5.0			
27		+1.07	+6.2		+0.88	+5.0
13671 72		+0.89	+3.9		+0.91	+3.3
75		+0.89	+7.3			
76					+0.89	+3.7
13668 69		+0.97	+2.6		+0.89	+1.8
13716 17		+0.97	-2.5			

12075 } 3 stars used only.
 12076 } used 4 stars Standard Cor.
 13110 } used only 4 5 7 5
~~12266~~
 67 correction p. 16. + 22.

13609 } fine stars
 13610 } fine stars
 corr. on p 19.

13142 (3 stars 5 used.

13641. } four stars
 42. } 3 7 " used.

13621 } omitted. case 91.
 13622 }

	Obs. MAR	3d	1st	3-1	Acup 3	Δ
2	-8 +1.75	+1.98	-1	+1.75	+6	+1.5
3	-9 +.86	+2.6	-2	+6.5	+4	+0.9
4	-49 +.45	+1.05	-6	+6.5	+1	+0.5
5	-3 +.15	+1.15	-8	+3.5	-2	+0.1
6	-4 -47	-57	-1	+23	-9	-0.5

Table when known (19)

Run	measured	P.E	Plasma	Glacier	Heater	Heater
2	+1.35		8	-0.7	+6.65	+0.6
3	+0.86		41	-0.5	+0.36	+0.4
4	+0.45		35	-0.4	+0.05	+0.1
5	+0.15			on		-0.2
6	-0.47					-0.9

Correct extrapolations, making $\Delta =$

Run OR

2	+1.3
3	+0.9
4	+0.5
5	+0.1
6	-0.5

In case assumed values
of these amounts, or
otherwise all residuals by
these amounts.

$$\Delta T = \frac{\Delta \alpha}{\mu \alpha} = \frac{\Delta \delta}{\mu \delta}$$

$$\Delta T = \frac{\mu \delta}{\mu \alpha} = \frac{\Delta \delta}{\Delta \alpha}$$

$$\Delta \delta = \Delta T \Delta \alpha$$

- is down

Plate No	Date	$\Delta\delta$	$\mu\alpha$	$\mu\delta$	$\Delta T = \frac{\mu\alpha}{\mu\delta}$	$\Delta T = \frac{\mu\alpha}{\mu\delta}$	$\mu\alpha$	$\mu\delta$
12017	Jan. 2	17	+0.82	+1.6	+0.38	+3.4	+2.17	+8.89
18			+0.91	+2.3	+0.42	+3.7		
12027	"	6	+0.99	-0.7	+0.45	-1.4	+2.20	-3.17
12028	"	"	+1.01	-0.1	+0.46	-1.5		
12043	"	11	+0.85	-3.6	+0.47	-5.9	+1.81	-12.53
12044	"	"	+1.12	-6.1	+0.62	-7.8		
12068	Jan. 12	17	+0.81	-4.3	+0.75	-5.8	+1.80	-12.98
69	"	"	+0.95	-7.6	+0.53	-6.9		
12075	"	14	+0.97	-7.8	+0.51	-6.7	+1.91	-12.65
76	"	"	+0.93	-2.9	+0.49	-6.2		
12266	B. 30		+0.95	+0.7	+0.43	+2.8	+2.23	+6.52
67			+0.89	-16.0	+0.40	+2.6	{Reduced + numerical plate (S.F.)}	
12280	Feb. 1		+0.92	-0.6	+0.41	+1.4	+2.27	+0.37
81	"	"	+1.17	-1.4	+0.30	+1.7		
12296	"	3	+0.91	-1.1	+0.43	-2.2	+2.13	-5.21
97	"	"	+1.04	-1.1	+0.49	-2.6		
12300	"	5	+1.05	-1.7	+0.54	-5.4	+1.93	-10.06
01	"	"	+0.83	-2.0	+0.43	-4.3		
12319	"	20	+1.30	-5.8	+0.59	-7.8	+1.85	-11.26
12323	"	6	+1.05	-4.7	+0.56	-6.4	+1.87	-11.41
24	"	"	+0.96	-4.3	+0.51	-5.9		

Plate No	Date	$\Delta\alpha$	$\Delta\delta$	$\mu\alpha$	$\mu\delta$	$\Delta T = \frac{\Delta\alpha}{\mu\alpha}$	$\mu\delta \Delta T$	$\Delta\delta - \mu\delta \Delta T$	$\alpha - \alpha_0$	$\delta - \delta_0$
12469	Mar 6	+0.97	-3.9	+1.84	-12.03	+0.53	-6.4	+2.5	-0.07	-0.4
70	"	+0.90	-3.8			+0.49	-5.9	+2.1		
12474	" 8	+1.12	-6.7	+1.83	-13.04	+0.61	-8.0	+1.3	-0.13	-1.8
75	"	+0.99	-7.5			+0.54	-7.0	-0.5		
12507	" 12	+0.72	+2.7	+2.20	-8.70	+0.33	-2.8	+0.1	+0.3	-1.6
08	" 12	+1.05	-5.7			+0.48	-4.2	-1.5		
12525	" 13	+0.74	-4.2	+2.34	-6.12	+0.32	-1.9	-2.3	+0.15	+4.4
26	" 13	+0.89	-0.2			+0.38	-2.3	+2.1		
12723	" 30	+1.03	-3.6	+2.11	-6.27	+0.49	-3.1	-0.5	-0.0	+0.0
24	" 30	+1.03	-3.6			+0.49	-3.1	-0.5		
12740	Apr 3	+1.02	-6.3	+1.83	-12.36	+0.56	-6.9	+0.6	+0.03	+2.3
41	" 3	+1.05	-4.1			+0.57	-7.0	+2.9		
12774	Apr 4	+0.95	-6.8	+1.83	-12.91	+0.52	-6.7	-0.1	-0.10	+2.2
75	" 4	+0.85	-4.0			+0.47	-6.1	+2.1		
13018	July 7	+0.55	+2.5	+2.25	+15.03	+0.24	+3.7	+1.2	+0.22	-2.2
13019	" 7	+0.77	+1.7			+0.34	+5.1	-3.4		
13077	July 31	+1.14	-1.4	+2.62	+6.02	+0.44	+2.6	+4.0	-0.12	+0.1
13078	" 31	+1.02	-1.6			+0.39	+2.3	-3.9		
13084	Aug 3	+0.78	+5.4	+2.35	+15.02	+0.33	+5.0	+0.4	-0.04	-0.1
85	" 3	+0.74	+5.0			+0.32	+4.7	+0.3		

Plate No	Date	$\Delta\alpha$	$\Delta\delta$	$\mu\alpha$	$\mu\delta$	$\Delta T = \frac{\mu\alpha}{\mu\delta}$	O-C	P.A	Dec
13109	Aug 3	+0.66"	+2.6"	2.278"	+15.79"	+2.9"	+4.6"	-2.0"	+2.9"
10	"	+0.57"	+9.8"			+1.25"	+3.9"	+0.9"	
13127	Aug 5	+0.81"	+9.9"	2.24"	+15.86"	+3.6"	+5.6"	+4.3"	-2.8"
26	"	+0.58"	+5.2"			+1.24"	+3.7"	+1.5"	
13140	"	+0.60"	+2.2"	2.25"	+12.29"	+1.27"	+3.3"	-1.0"	-0.3"
42	"	+0.58"	+1.8"			+1.26"	+3.2"	-1.4"	
13183	Aug 7	+0.58"	+0.9"	2.25"	+12.12"	+1.26"	+3.2"	-2.3"	+0.4"
46	"	+0.52"	+0.1"			+1.23"	+2.8"	-2.7"	
13274	Aug 27	+1.24"	+0.3"	+2.54"	+3.73"	+4.9"	+1.8"	-1.5"	-2.6"
76	"	+1.19"	-2.3"			+4.8"	+1.8"	-4.1"	
13284	Aug 31	+0.83"	+3.4"	+2.34"	+15.50"	+3.5"	+5.5"	-2.1"	-0.1"
85	"	+1.00"	+4.4"			+4.3"	+6.6"	-2.2"	
13308	Sept 4	+0.79"	+0.4"	+2.35"	+12.67"	+3.3"	+3.5"	-3.1"	-0.0
13308	"	+0.78"	+0.4"			+3.3"	+3.5"	-3.1"	
13307	Sept 4	+0.79"	+1.8"	+2.35"	+10.64"	+3.4"	+3.6"	-1.8"	+0.3
8	"	+0.76"	+1.9"			+3.2"	+3.4"	-1.5"	
13329	Sept 6	+0.86"	+0.7"	+2.38"	+4.22"	+3.6"	+1.5"	-2.2"	+3.0"
30	"	+0.71"	+2.1"			+3.0"	+1.3"	+0.8"	
31	"	+0.56"	-0.1"	+2.38"	+4.20"	+3.6"	+1.5"	-1.6"	-0.6"
32	"	+0.84"	-0.7"			+3.5"	+1.5"	-2.2"	
13609	Sept 25	Poor plate	3rd star displaced						
11	Sept 25	+1.09"	+3.1"	+2.42"	+9.38"	+0.45"	+4.2"	-1.1"	-1.6"
13621	Sept 30	+0.97"	+4.6"	+2.34"	+14.34"	+0.47"	+4.1"	-2.7"	+0.3"
13622	"	+0.97"	+3.0"			+0.47"	+5.9"	-1.3"	
13626	Sept 30	+1.04"	+6.2"	+2.34"	+14.26"	+0.49"	+6.3"	-0.1"	-0.3"
27	"	+0.88"	+5.0"			38	+5.4"	+0.4"	
13671	Oct 1	+0.91"	+3.3"	+2.39"	+12.20"	+0.38"	+4.7"	-1.4"	+0.8"
28	"	+0.82"	+3.9"			0.37	+4.5"	-0.6"	

Plate No	Date	$\Delta\alpha$	$\Delta\delta$	$\mu\alpha$	$\mu\delta$	$\Delta T = \frac{\Delta\alpha}{\mu\alpha}$	$\Delta\mu\delta$	$\Delta S - \Delta\mu\delta$	O-C
13645	1917 Oct 1	+0.99	+4.3	+2.39	+12.10	+4.1	+5.0	-0.7	RA Dec
46		0.89	+3.7		+37		+4.5	-0.8	-10 -0.1
13668	Oct 2	+0.89	+1.8	+2.43	+9.01	+0.37	+3.3	-0.5	+0.5 +0.6
" 69		+0.94	+2.6			+0.39	+3.5	-0.9	
13716	Oct 6	+0.94	-2.5	+2.24	-4.46	+0.42	-1.9	-0.6	-0.3 +0.4
" 17		+0.97	-2.0			+0.41	-1.8	-0.2	
13914	" 28	+0.96	+5.9	+2.35	+12.95	+0.41	+5.3	+0.6	-0.4 -0.2
13915	" "	+0.92	+5.5			+0.39	+5.1	+0.4	
13935	" 30	+0.99	+1.9	+2.48	+7.09	+0.40	+2.8	-0.9	+1.1 +0.6
13936	" "	+1.10	+2.8			+0.44	+3.1	-0.3	
13958	" 31	+0.99	+0.1	+2.48	+3.44	+0.40	+1.4	-1.3	-0.2 -0.2
59	" "	+0.97	-0.2			+0.39	+1.3	-1.5	
14027	Nov 2	+0.98	-2.2	+2.33	-3.56	+0.42	-1.5	-0.7	-0.9 +0.4
28	" "	+0.89	-1.7			+0.38	-1.4	-0.3	
14045	" 3	+0.91	-2.9	+2.20	-6.16	+0.41	-2.5	-0.4	+0.6 +0.4
46		+0.97	-2.7			+0.44	-2.7	0.0	
14094	" 4	+0.87	-4.2	+2.06	-8.40	+0.42	-3.6	-0.6	+2.4 +2.7
95		+1.11	-2.4			+0.54	-4.5	+2.1	
14131	" 5	+0.85	-6.0	+1.96	-9.92	+0.43	-4.3	-1.7	-1.2 +2.5
32		+0.73	-2.9			+0.37	-3.7	+0.8	

Plate No	Date	$\Delta\alpha$	$\Delta\delta$	$h\alpha$	$h\delta$	ΔT <small>$\frac{\Delta\alpha}{\mu\alpha}$</small>	$\Delta T_{H\delta}$	$\Delta\delta - \Delta T_{H\delta}$	α	$\delta - \epsilon$
14399	Nov. 26	+0.90"	+3.4"	+2.40"	+9.16"	+0.37"	+3.4"	+0.0"	+1.0"	-0.2"
400	"	+1.00"	+3.6"			+0.42"	+3.8"	-0.2"		
14407	" 28	+1.05"	+1.6"	+2.47"	+2.01"	+0.42"	+0.8"	+0.8"	-0.6"	-0.5"
08	"	+0.99"	+1.1"			+0.40"	+0.8"	+0.3"		
14416	Dec 2	+1.05"	-3.9"	+2.01"	-9.66"	+0.52"	-5.0"	+1.1"	-1.4"	-0.3"
17	"	+0.91"	-3.5"			+0.45"	-4.3"	+0.8"		
14448	" 22	+0.73"	+4.8"	+2.25"	+11.76"	+0.32"	+3.8"	+1.0"	+1.6"	-2.0"
49	"	+0.89"	+3.6"			+0.40"	+4.6"	-1.0"		
14454	" 26	+1.05"	+3.7"	+2.41"	-0.37"	+0.44"	-0.2"	+3.9"	+0.8"	-2.3"
55	"	+1.13"	+1.4"			+0.47"	-0.2"	+1.6"		

#

ΔR for Densities 2-6.

2	3	4	5	6
(3)	(9)	(11)	(17)	(24)
+2.6	+0.8	-0.2	-0.2	+0.80
+0.15	+0.7	-0.4	-0.4	+0.7
+1.3	+0.7	-1.3	-1.3	+0.4
	+0.3	-0.7	-0.7	+2.5
	+2.2	-0.4	-0.4	+0.4
	+1.1	-0.9	-0.9	+0.5
	+0.6	-0.9	-0.9	+3.1
	+1.6	-0.2	-0.2	+1.4
	+0.65	-0.6	-0.6	+0.9
		-0.6	-0.6	+4.6
		-0.2	-0.2	+0.4
		-0.3	-0.3	+1.2
		-0.8	-0.8	+0.4
		-0.5	-0.5	+0.6
		-0.55	-0.55	+1.4
		-0.1	-0.1	+0.9
		-0.8	-0.8	+0.6
		-0.4	-0.4	+1.6
		+0.2	+0.2	+3.3
				+1.1
				+0.8
				+0.4
				+0.8
				+0.6
+4.05	+8.65	-0.2	-7.65	129.4
				-14.5
				+86
				-3.0
				+0.56
				+0.36
				+0.34
				+0.36
				+0.56

Mean ΔR +1.35

Formula used $\frac{\sum r}{n} = c$ ΔR in seconds per arc

Ind. 57.9 value.

Take 97 values.

Curv.

Plate No.	RA	Dec	ΔR	ΔD	α	ϵ	$f+d$	$a-c$
12017	+0.02	-0.1	-0.2	1	-5 0 4.4	-5 0 3.0	+0.9	-1.4
18	"	"	+0.8	5	-5 0 5.4	-5 0 3.9	-1.2	-1.6
12027	-0.01	+0.2	+0.8	3	-5 0 0.0	-5 0 3.4	-3.5	+3.4
28	"	"	+1.8	4	-5 0 2.9	-5 0 5.3	-0.3	+2.4
12043	-0.04	+0.4	+0.6	4	-5 0 0.6	-5 0 3.8	+0.8	+3.2
44	"	"	-0.9	4	-5 0 1.2	-5 0 4.2	+2.4	+3.0
12068	+0.01	+0.4	+2.5	5	-5 0 2.5	-5 0 4.1	-1.3	+1.6
69	"	"	+0.5	5	-5 0 3.1	-5 0 6.0	-2.2	+2.4
12075	-0.05	+0.7	+2.3	6	-5 0 3.5	-5 0 1.1	+1.4	-2.4
76	"	"	+0.1	6	-5 0 2.6	-5 0 4.5	-1.4	+1.9
Lunation								
12266	-0.02	+0.8	-0.2	5	-5 0 5.1	-5 0 2.5	-3.5	-2.6
67	"	"	+0.6	5	-5 0 3.8	-5 0 2.3	-4.1	+1.5
12280	-0.01	+1.0	-0.7	5	-5 0 4.0	-5 0 5.3	-1.5	+1.3
81	"	"	+0.4	5	-5 0 0.9	-5 0 3.3	-0.5	+2.4
12296	"	"	+0.7	3	-5 0 3.4	-5 0 3.4	+1.1	0.0
97	-0.03	+0.8	+0.1	4	-5 0 4.1	-5 0 1.1	-0.8	-3.0
12300	-0.02	+0.5	-0.6	5	-5 0 2.9	-5 0 3.9	-0.8	+1.0
01	"	"	-0.2	3	-5 0 4.1	-5 0 3.4	-2.6	-0.7
12319	-0.05	+0.3	+0.7	3	-5 0 3.6	-5 0 6.3	-0.4	+2.7
20	"	"	+0.3	3	-5 0 3.5	-5 0 6.2	+1.3	+2.7
12323	+0.01	+0.5	+0.2	4	-5 0 0.0	-5 0 4.3	-1.5	+4.3
24	"	"	-0.4	4	-5 0 0.5	-5 0 4.4	-1.4	+3.9

Constitution

Plate No.	R.A.	Dec	ΔR	D	a	c	$\frac{1}{1+q} \frac{a-c}{a}$
<i>Curvature</i>							
<i>Iteration</i>							
12469	-0.01"	+0.1"	+1.0"	4	-5 0 3.9	-5 0 4.2	-1.6 +0.2
70	"	"	+1.1"	4	-5 0 2.5	-5 0 3.1	+0.1 +2.6
12474	-0.13"	+1.6"	+1.9"	4	-5 0 4.6	-5 0 1.9	+1.0 -2.7
75	"	"	+0.4"	4	-5 0 1.5	-5 0 0.5	+3.5 -1.0
12507	-0.01"	+0.8"	-0.3"	5	-5 0 0.8	-5 0 2.0	+0.8 +1.2
08	"	"	+3.1"	5	-5 0 1.5	-5 0 2.2	-0.5 -0.7
12525	0.00"	+1.7"	+0.8"	5	-5 0 4.1	-5 0 6.0	+0.9 +1.4
26	"	"	+1.4"	5	-5 0 3.7	-5 0 5.9	+0.5 +2.2
<i>Iteration</i>							
12723	0.00"	+0.2"	-1.3"	4	-5 0 1.9	-5 0 1.5	+2.8 +0.4
24	"	"	-0.7"	4	-5 0 3.2	-5 0 1.2	+1.8 -2.0
12740	-0.01"	+0.4"	+0.4"	4	-5 0 2.8	-5 0 2.4	+4.6 -0.4
41	"	"	-0.4"	4	-5 0 0.7	-5 0 3.2	+3.2 +2.5
12774	-0.03"	+1.1"	+2.2"	3	-5 0 1.8	-5 0 2.5	-1.9 +0.7
75	"	"	+0.9"	5	-5 0 1.3	-5 0 4.1	+0.2 +2.9
<i>Iteration</i>							
13018	-0.03"	+0.4"	-0.3"	5	-5 0 6.3	-5 0 2.1	+1.9 -4.2
19	"	"	+4.6"	5	-5 0 6.4	-5 0 2.1	+1.7 -4.3
<i>Iteration</i>							
13077	-0.02"	-0.3"	-1.1"	5	-5 0 0.0	-5 0 1.6	+2.7 +1.6
78	"	"	-1.0"	6	-5 0 0.7	-5 0 2.2	+2.5 +1.5
13084	-0.04"	+0.3"	+0.4"	5	-5 0 5.5	-5 0 2.7	+1.3 -2.8
85	"	"	+1.2"	5	-5 0 4.6	-5 0 3.1	-0.8 -1.5
13109	-0.06"	+0.4"	+0.4"	5	-5 0 1.5	-5 0 2.6	-2.5 +1.1
10	"	"	-1.9"	5	-5 0 6.8	-5 0 7.8	+2.9 +0.2

curvature

Curvature

Plate No.	RA.	Dec.	ΔR	D	α	δ	$\Delta \alpha$	$\Delta \delta$
13124 ^B	-0.05	0.0	+0.6	5	-5 0 1.3	-5 0 2.8	+1.7	+1.5
25 ^B	-	+	-0.7	5	-5 0 1.4	-5 0 2.2	+0.5	+0.8
13140 ^B	-0.03	+1.3	+0.9	6	-5 0 1.4	-5 0 1.9	-1.2	+0.0
42	-0.01	+0.6	-1.2	6	-5 0 2.0	-5 0 3.5	+0.9	+1.5
13143 ^B	0.00	+1.8	+3.5	6	-5 0 1.9	-5 0 4.3	-0.6	+2.4
45 ^B	-	-	-0.9	6	-5 0 2.7	-5 0 5.1	-0.2	+2.4
13273 ^B	-0.12	+1.7	-0.9	4	-5 0 3.7	-5 0 3.4	+0.1	-0.3
74 ^B	-	-	-2.4	5	-5 0 1.0	-5 0 3.4	+0.2	+2.4
13284 ^B	-0.04	+0.2	-1.0	5	-5 0 0.7	-5 0 1.3	-0.3	+0.6
85 ^B	-	-	-1.9	5	-5 0 3.2	-5 0 1.2	+1.9	+2.0
13305 ^B	-0.10	+1.5	+2.4	4	-5 0 4.7	-5 0 4.6	-0.5	+0.1
06 ^B	-	-	-0.06	4	-5 0 6.4	-5 0 5.1	-1.7	-1.3
13307 ^B	-0.04	+0.0	-0.2	4	-5 0 3.6	-4 49.0	0.0	-4.6
08 ^B	-	-	+1.8	4	-5 0 3.8	-5 0 0.8	+1.4	-3.0
13329 ^B	-0.06	+0.9	+0.9	5	-5 0 2.8	-5 0 0.9	+1.9	-1.4
30 ^B	-	-	-0.8	5	-5 0 6.5	-5 0 6.6	+5.0	+0.1
13331 ^B	-0.08	+0.9	-0.6	4	-5 0 2.8	-5 0 3.5	+2.7	+0.7
32 ^B	+1.6	5	-5 0 2.9	-5 0 2.6	+2.5	+0.3	-	-
13609 ^B	-0.19	-2.3	-0.5	6	-5 0 2.8	-5 0 0.7	+2.2	-2.1
11 ^B	-	-	-0.4	6	-5 0 4.5	-5 0 3.4	+0.7	-1.1
13621 ^B	0.00	-0.1	+0.8	4	-5 0 3.0	-5 0 1.2	+1.4	-1.8
22 ^B	-	-	+1.1	3	-5 0 2.7	-5 0 0.3	+0.4	-2.4

Plate No	Curvature R.A. Dec	ΔR	D	α	ϵ	$\Delta + \alpha - \epsilon$
136 26 ^B	-0.01 ^B	-0.2 ^B	+1.0 ^B	-5 0 3.2	-5 0 0.8	+0.2 -2.4
27 ^B			+0.3 ^B	-5 0 4.8	-5 0 1.4	-0.3 -3.4
136 41 ^B	-0.02 ^B	+0.4 ^B	+3.3 ^B	-5 0 4.1	-5 0 1.2	-1.3 -2.4
42 ^B	"	"	+1.4 ^B	-5 0 2.5	-5 0 1.3	-2.7 -1.2
136 45 ^B	-0.06 ^B	-0.6 ^B	+1.8 ^B	-5 0 2.4	-5 0 0.9	+0.4 -1.5
46 ^B	"	"	+0.5 ^B	-5 0 2.8	(4 9 9.7)	-1.9 -2.4
136 68 ^B	-0.04 ^B	+0.1 ^B	+1.1 ^B	-5 0 1.1	-5 0 2.5	-0.2 +1.4
69 ^B	"	"	+0.8 ^B	-5 0 1.4	-5 0 4.4	-1.8 +3.0
137 16 ^B	-0.03 ^B	+0.3 ^B	-0.9 ^B	-5 0 1.9	-5 0 1.2	+0.6 +0.7
17 ^B	"	"	-0.3 ^B	-5 0 1.0	-5 0 3.2	-0.9 +2.2
139 14 ^B	-0.02 ^B	+0.1 ^B	-0.6 ^B	(4 9 9.9)	-5 0 0.1	+1.5 +0.2
15 ^B	"	"	-0.2 ^B	(4 9 8.7)	-5 0 0.0	+1.0 +1.3
139 35 ^B	+0.02 ^B	+0.4 ^B	+0.6 ^B	-5 0 3.3	-5 0 2.6	+3.6 -0.7
36 ^B	"	"	+1.6 ^B	-5 0 3.3	-5 0 1.1	+4.4 -2.2
139 58 ^B	-0.02 ^B	+0.8 ^B	+0.4 ^B	-5 0 1.3	-5 0 3.2	+0.9 +1.4
59 ^B	"	"	+1.5 ^B	-5 0 2.8	-5 0 3.8	+1.6 +1.0
140 27 ^B	-0.05 ^B	+0.4 ^B	-0.1 ^B	-5 0 0.2	(4 9 9.2)	+3.4 -1.0
28 ^B	"	"	+0.8 ^B	(4 9 9.9)	(4 9 9.3)	+3.3 -0.6
140 45 ^B	-0.02 ^B	+0.4 ^B	-0.9 ^B	-5 0 2.2	-5 0 3.1	+0.4 +0.4
46 ^B	"	"	-0.3 ^B	-5 0 2.2	-5 0 2.7	-1.6 +0.5
140 94 ^B	-0.03 ^B	+0.1 ^B	+1.2 ^B	-5 0 8.1	-5 1 0.0	-2.7 +1.9
95 ^B	"	"	+0.6 ^B	-5 0 9.8	-5 1 0.9	-2.0 +1.1

Invention

Photo No. 1
Concentration

Plate No

Curvature

RA Dec

AR D

a

u

L+d

a-c

141 31 +0.01" +1.2" +0.7" 3 -5" 0 4.4 -5" 0 3.2 +2.8 -1.2

143 99 -0.06" +0.6" -0.5" 4 -5" 0 0.9 -4 9 9.4 +0.1 -1.5

400 " " -0.05" 4 -5" 0 2.8 -5" 0 3.4 -1.4 +0.6

144 07 +0.02" +0.0" +2.6" 2 -5" 0 0.9 -5" 0 0.9 +1.5 0.0

08 " " +0.15" 2 -4 9 9.7 -5" 0 0.6 +2.3 +0.4

144 16 +0.01" +0.4" +1.3" 2 -5" 0 1.5 -5" 0 3.7 -0.9 +2.2

17 " " -0.2" 4 -5" 0 2.4 -5" 0 3.9 -0.7 +1.3

144 48 +0.04" -0.0" -0.1" 4 -5" 0 1.3 -5" 0 1.9 -2.6 +0.6

49 " " +0.8" 4 -5" 0 1.0 -5" 0 1.3 -1.3 +0.3

144 54 +0.01" +0.3" +0.6" 5 -5" 0 0.0 -5" 0 3.9 -0.8 +3.4

55 " " +0.4" 5 -5" 0 0.4 -5" 0 3.4 -1.6 +3.0

Mean value 0.0 35 0.58 -5" 0 2.68 -5" 0 2.91 +0.27 +0.28

RA Curvature 4 15

36 mag 4 165

51 Dec. Curvature 4 170

41 pm 4 mag 4 36

4 mag 4 234

4 mag 4 306

P.E. of Mean ΔR .

2

$$6 \overline{3.006} \\ 0.501$$

3

$$90 \overline{4.003} \\ 0.044$$

4

$$1240 \overline{29.808} \\ 0.024$$

5

$$1640 \overline{76.931} \\ 0.047$$

6

$$90 \overline{19.523} \\ 0.217$$

$$\sqrt{0.501} = \pm 0.71$$

$$\sqrt{0.044} = \pm 0.21$$

$$\sqrt{0.024} = \pm 0.153$$

$$\sqrt{0.047} = \pm 0.219$$

$$\sqrt{0.217} = \pm 0.466$$

$$P.E. = \pm 0.48$$

$$= \pm 0.14$$

$$= \pm 0.10$$

$$= \pm 0.15$$

$$= \pm 0.31$$

Density Mean ΔR

P.E.

No Plates

2

$$+ 1.35$$

$$\pm 0.48$$

$$\pm 0.48$$

3

$$+ 0.85$$

$$\pm 0.14$$

$$\pm 0.14$$

10

$$+ 0.34$$

$$\pm 0.10$$

$$\pm 0.10$$

36

$$+ 0.36$$

$$\pm 0.15$$

$$\pm 0.15$$

41

$$+ 0.56$$

$$\pm 0.31$$

$$\pm 0.31$$

10

$$+ 0.56$$

$$\pm 0.31$$

$$\pm 0.31$$

100

24 resid 424 of density 5 is discarded

$$1580 \overline{58.954} \\ 0.038$$

$$\sqrt{0.038} = \pm 0.195$$

$$P.E. = \pm 0.13$$

$$P.E. \text{ Single shots } \pm 0.90$$

Residuals

১৫

Residuals Squared

Density 2	Density 3	Density 4	Density 5	Density 6	2	3	4	5	6
+1.25	-0.05	+1.46	+0.44	-0.46	1.563	0.003	2.131	0.194	0.212
-1.20	-0.15	+0.26	+0.34	+0.34	1.440	0.022	0.067	0.115	0.115
-0.05	-0.15	-0.24	-0.04	+1.74	0.003	0.023	0.043	0.002	3.028
	-0.35	+0.66	+2.14	+2.94		0.302	0.518	4.579	8.643
	+1.35	+0.06	+0.04	+0.24		1.823	0.044	0.002	0.058
	+0.25	+1.46	+2.74	+0.44		0.062	2.132	7.508	0.193
	-0.25	+0.46	+1.04	-1.76		0.063	0.243	1.081	3.098
	+0.75	+0.66	+0.54	-1.46		0.562	0.002	0.292	2.131
	-0.20	+0.84	+0.04	-1.06		0.040	1.464	0.705	1.124
	-1.05	+0.21	+0.24	-0.96		1.103	0.740	0.002	0.921
		+0.56	+1.24				0.021	0.037	
		+0.46	+2.94				0.040	1.082	
		+0.06	+0.74				0.002	0.291	
		-0.14	+0.54				0.002	0.057	
		-0.59	+0.24				0.547	1.537	
		-0.74	+1.24				2.690	8.644	
		-1.64	+2.94				1.081	0.547	
		-1.04	+0.74				0.547	0.194	
		-0.74	+0.44				1.537	0.001	
		-1.24	+0.04				0.291	0.194	
		-0.54	+0.24				0.883	0.057	
		-0.94	+0.56				0.314	0.314	
		-0.94	-1.06				0.883	1.124	
		-0.54	-0.66				0.291	0.435	
		-0.64	-0.96				0.409	0.922	
		-0.84	-0.66				0.705	0.435	
		-0.39	-1.36				0.152	1.849	
		-0.54	-2.26				0.291	5.108	
		-0.44	-1.96				0.193	1.124	
		-0.40	-2.76				0.160	7.618	
			-1.36					1.849	
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			-2.76					7.618	
			-1.36					1.849	
			-2.26					5.108	
			-1.96					1.124	

3.0064.00329.80876.93119.523

Arc.

Arc.

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0.4

0.3

 β/α

0.2

0.1

0

132

142

142

162

172

182

192

202

212

	143	0.85	-3.0	Jan 11	+0.27	-0.6	{ 12044 is just might do over 3 good stars by hand.
	12044	<u>1.12</u>	-6.1				
no	12066 B	0.95	+0.7	Jan 30	-0.06	+5.5	{ Rechecked 67 entirely & revised Stars bracketed. not good bracket
	12067	0.89	+6.0				
no	12280 B	+0.92	-0.6	Feb 1	+0.22	-1.1	{ 3 stars used 1st plate good revised stars
	12281	+1.14	-1.4				
no	12300	+1.05	-1.7	Feb 5	-0.22	-1.4	
	12301	+0.83	-2.0				
others	12319	#1.30	-5.9		-0.19	-0.9	
	12320	#1.11	-5.6				
no	12507	+0.72	-2.7	Mar 12	+0.33	-1.6	{ Rechecked mass. - Revised better not inner stars more cut
	12508	+1.05	-5.7				
no	12525	+0.74	-4.2	Mar 13	+0.15	+4.4	x
	12526	+0.89	-0.2				
no	13018	+0.55	+2.5	July 7	+0.22	-2.2	rechecked
	13019	+0.77	+1.7				
?	13124	+0.81	+9.9	Aug 5	-2.7	-2.8	{ might do 13128 not same stars
	13125	+0.54	+5.2				
?	13329	+0.86	-0.7	Sept 6	-1.5	+3.0	x
	30	+0.71	+2.1				
?	14044	+0.87	-4.2	Nov 4	+2.4	+2.7	x
	14045	+1.11	-2.4				
?	14131	+0.85	-6.0	Nov 5	-0.8	+2.5	
	14132	+0.73	-2.9				
no	14454	+1.05	+3.7	Dec 21	+0.8	-2.3	
	14455	+1.10	+1.4				
no	13109	+0.66	+2.6	Aug 4	-0.9	+2.9	
	13110	+0.58	+4.8				

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36
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3

