

Telescope: 61"

Frame prefix #: SP 92D Day of Week: Fri

RA offset:

Focus:

Humdty: 87 Sheet #: /

Observers: Grundy <sup>Helm</sup> <sub>Hicks</sub> Date MST/UT: 29/30

Dec offset:

Tailpiece:

Temp O/I:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
001	BS 6998	2.0	1.0	16K	Time 6 Date wrong	18:38:17	-21:04:28		1.69 NOTE: TIME AND DATE WRONG IN
002	"	"	"	16K	2:15	in header		-0:14	1.69 HEADER
003	"	"	"						1.68
004	"	"	"	13K					1.68
005	"	"	"						1.68
006	BS 7291	3.0	1.0	16K		19:15:01	-24:12:21	-0:40	1.86
007	"	"	"	19K					1.86
008	"	"	"						1.86
009	"	"	"						1.85
010	SAB 18797	2.0	1.0	21K		19:18:59	-21:12:51	-0:35	1.72
011	"	"	"	18K	2:34				1.71
012	"	"	"						1.71
013	SAB 188068	2.0	1.0			19:25:27	-21:46:56	-0:33	1.73
014	"	"	"	16K					1.73
015	"	"	"						1.73 Black rock crosshead

Telescope: 61

Frame prefix #: SP92D Day of Week: Fri

RA offset:

Focus: Tailpiece: Balance:

Humdty: 87 Sheet #: 2

Observers: Grandy Hollomy Date MST/UT: 29/30

Dec offset:

Temp O/I: 48/44

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
016	SAO 187991	40	1.0	23k	2:48	19:14:55	-21:17:20	-0:22	1.70 Cirrus in south west
017	"	"	"	27k					1.70
018	"	"	"	33k					1.70
019	BS 7994	2.0	1.0	13k		20:52:27	-11:37:03	-1:43	1.57
020	"	"	"						1.57
021	"	"	"	16k					1.57
022	"	"	"						1.57 ← NOISE
023	SAO 164338	15.9	1.0	25k	3:13	21:21:23	-16:19:03	-1:50	1.81 SHUTTER OPENS FOR DARKS
024	"	"	"	38k					1.80 CLOUDS IN FIELDS
025	"	"	"	27k					1.79
026	SAO 164374	30.	1.0	7k		21:20:25	-16:01:30		1.64 Possibly obscured → (Probably)
027	"	"	"	6k	3:51			-1:13	1.64 - more clouds
028	"	30.0	"	3.5k	3:59			-1:15	1.61 - obscured
029	"	"	"	3.3k					1.61
030	"	"	"	6.4k					1.61



Telescope: 61"

OCTAL

Sheet #: 4

Focus: 3670 Humdty:  
Tailpiece: 34  
Balance: 320 Temp 0/I:

RA offset:  
Dec offset:

Day of Week: M/Tu  
Date MST/UT: 1/2 June

Frame prefix #: SP 97D  
Observers: Fink, Grundy  
622

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
043	Titan	5.0	1.0	8K		21:24:33	-16:08:02	-2:10	1.81
044	T "	10.0	1.0	14K	10:02				1.81
045	"	10.0	"	2					1.80
046	"	20.0	"	27K					1.79
047	"	20.0	"	26K					1.78
048	SAD 164338	10.0	"	26K		21:21:28	-16:19:41	-1:47	1.75
049	"	15.0	"	44K				-1:46	1.74
050	"	"	"	42K				-1:45	1.74
051	"	"	"	51K				-1:43	1.73
052	"	"	"	3K				-1:41	1.72
053	Titan	20.0	"	29K	10:21	21:24:33	-16:08:05	-1:42	1.72 clouds to south
054	"	"	"	30K				-1:40	1.71
055	"	"	"	22K				-1:39	1.71
056	"	"	"	31K				-1:30	1.70
057	"	"	"	36K				-1:37	1.69

Telescope: 61"

Humidity: Sheet #: 5

Focus: Tailpiece: Balance:

RA offset: Dec offset:

Day of Week: M/Tu

Date MST/UT: 1/2 Jun

Observers: Fink, Grundy + 21

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
058	SAO 164339	10.0	1.0	27k	10:27			-1:31	1.68
059	"	"	"	40k		21:21:27	-16:19:47	-1:30	1.67
060	"	"	"	37k					1.67
061	"	"	"	37k				-1:28	1.67
062	"	"	"	34k					1.66
063	Titan	20.0	1.0	22k	10:35	21:24:33	-16:08:09	-1:27	1.66
064	"	"	"	22k				-1:26	1.65
065	"	"	"	33k				-1:25	1.65
066	"	"	"	34k				-1:23	1.64
067	"	"	"	31k				-1:22	1.64
068	SAO 164338	10.0	1.0	38k	10:41	21:21:27	-16:19:49	-1:17	1.63 Jump in east
069	"	"	"	41k				-1:13	1.62
070	"	"	"	35k				-1:12	1.62
071	"	"	"	31k				-1:11	1.61
072	"	"	"	35k				-1:10	1.61

Telescope: 61"

Sheet #: 6

Frame prefix #: SPZLD Day of Week: M/Tu

Humdty: Focus: Tailpiece: Balance:

Observers: F.n.K., Grundy Date MST/UT: 1/2 Jun

Temp O/I:

and others

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
073	SAD 164374	60.0	1.0	21K	10:54	21:24:33	-16:02:14	-1:07	1.59 Jun in east
074	"	"	"	21K				-1:05	1.54
075	BS 8283	2.0	1.0	82K	11:05	21:41:04	-14:06:22	-1:12	1.55 Jun in east
076	"	1.5	"	41K				-1:10	1.54 "
077	"	"	"	41K				-1:09	1.54
078	"	"	"	47K				-1:08	1.54
079	"	"	"	42K				-1:07	1.53
080	BS 8544	2.0	1.0	24K	11:16	22:26:10	-16:48:15	-1:47	1.77
081	"	"	"						1.76 Files ON 5 YS
082	"	"	"	22K				-1:44	1.75
083	"	"	"	24K					1.75
084	"	"	"	24K					1.75
085	SAD 164338	10.0	1.0	31K	11:24	21:21:23	-16:20:00		1.54
086	"	"	"	31K					1.54
087	T1T2N	20.0	1.0	32K	11:25	21:24:28	-16:08:17	-0:32	1.53



Telescope: 61"

Frame prefix #: SP92D Day of Week: Tu/Wed RA offset:

Focus: 3902 oct Humidity: 57 Sheet #: 8

Observers: Fink plus Date MST/UT: 2/3 June Dec offset:

Tailpiece: 3A2 Balance: Temp O/I: 56/52

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
096	SAO 140586	100x	10	15500				+1:21	1-30
97	"	200	"	3260/1000	7:28	15:31:22	-2:31:10	1:23	1-31
98	"	"	"	3320/1038				1:24	"
99	"	"	"	2498/1049	7:31:32			1:26	1-32
100	"	"	"	2451/1049	7:32:51			1:28	" ST: 1083 0-14
101	Pluto	600	"	6184 / 1500 <sup>8</sup> / 1029	7:53	15:29:59	-3:19:29	1:49	1-40 30s RT Dickman; 90ms Put: 500ms
102	"	"	"	6899/1057	8:04	"	"	2:00	1-43
103	"	"	"	7285/1040	8:14:18	"	"	2:11	1-48
104	B55853	200	1-0	3082		15:43:34	-2:30:51	2:12	1-37
105	"	200	"	3712		"	"	2:14	1-38
106	"	"	"	2460	8:38			2:15	"
107	"	"	"	28175				"	"
108	B55968	"	"	50688		16:04:3.8	3:18:40	+ 2:05	1-11
109	"	100	"	26900	8:40			2:05	1-11
110	"	"	"	23900				2:06	1-12



Telescope: 61"

Frame prefix #: SP92D Day of Week: Tuesday RA offset: Dec offset:

Humdty: Sheet #: 9  
Tailpiece: Balance: Temp O/I:

Observers: TKK/Kandy/Kyle Date MST/UT: June 2/3

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
111	BS 6948	2.0	0.50	14855	8:49	18 58 29	-21 04 44	-0:20	1.69
112	"	"	"	21000	8:51:10	"	"	-0:20	"
113	"	"	"	27000	8:51:10	"	"	-0:19	"
114	"	3.0	"	36611	8:55	"	"	-0:18	"
115	Triton	6.00	0.50	9500/1002	9:02	19 19 30	-21 26 14	-0:10	1.75 Phot. Blue patch 5000 15sec Patch 49000 shiny compared to 2 min
116	"	"	"	7133/1036				-0:39	1.73
117	"	"	"	9179/1069	9:24	"	"	-0:29	1.71
118	"	"	"	9372/	9:35:23			-0:17	1.70
119	"	"	"	8039/1002	9:47			-0:00	1.70
120	"	"	"	7205/1008	9:57	19:29	20:25	+0:04	1.70 see cloud margin?
121	BS 6948	3.0	"	3190		18 38 40	-21 04 39	+1:01	1.76 yes but very kind of spotty some of the stars will darken a bit
122	"	"	"	1750		"	"		1.77
123	"	"	"	40000	10:16	"	"	1:04	1.77
124	"	"	"	30500	10:17	"	"	1:05	1.77
125	Triton	6.00	"	7023	10:23	19 19 28.4	-21 26 20	+0:30	1.71



Telescope: 61  
 Frame prefix #: 5792D Day of Week: Th  
 Observers: Fink t Date MST/UT: June 4/5  
 Focus: 3842 Humidity: 52% Sheet #: 11  
 Tailpiece: 54.2 Temp O/I: 55/57  
 Balance: 335

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments
136	BS 6998	1.0	1.0	2000					Free Run. outd
137	"	1.0	1.0	2100		18 38 24	-21 04 58	-0:26	3842 3907 - 3742
138	"	"	"	"	8:39			-0:25	6PI 378.5 395
139	"	2.0	"	40800				-0:24	394
140	"	"	"	31750	8:40:58			-0:23	" bad exposure lighted?
141	Trifid	600	"	1300/1081	8:51	19 19 21	-21 27 06	-0:53	1.76 u=1133 s=27
142	"	"	"	10480/1071		"	"	-0:42	1.74 6 1111 1121 s=22
143	"	"	"	10950/1052	9:14	"	"	-0:30	1.22 1103 s=20
144	"	"	"	11700/1058	9:25			-0:19	1.70 DIS 110-300 1091 s=21
145	"	"	"	12564/1015	9:3605			-0:08	" 1081 s=17
146	BS 6997	2.0	"	32948/110		18 38 23	-21 05 03	-0:51	1.74
147	"	"	"	"				-0:52	1.74
148	"	"	"	28250/977				0:55	1.74 1051 s=15
149	"	"	"	30414				1:15	1.74 1050 s=13
150	"	"	"	"					1.74 1052 s=14

5982 ?

Telescope: 6"

Frame prefix #: SP120 Day of Week: Thursday RA offset:

Focus: 3842 Humdty: 53% Sheet #: 12

Tailpiece: 343

Observers: F. J. A. Date MST/UT: Jun 4/5 Dec offset:

Balance: 330 Temp O/I:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
151	BS698	2.0	1.0	36501				0:58	1.76 v=1024 $\sigma=14$
152	BS7291	"	"	17472	10:07	19:1503	-29 12R	10:27	1.84
153	"	3.0	"	34503	10:09			"	"
154	"	"	"	32166	10:10:40			0:50	1.84
155	"	"	"	37122				"	"
156	"	"	"	35112				0:32	"
157	BS7235	0.2	"	36052				10:48	1.07 Std - 1024 $\sigma=12$
158	"	"	"	30855				0:48	1.08 "
159	"	0.1	"	17059				0:49	1.08 "
160	"	0.1	"	19138				10:10	1.08 "
161	Triton	6.0	"	11344/100		19:1420	-21:2709	0:41	1.73 v=1047 $\sigma=16$
162	"	"	"	9376/				0:52	1.76 v=1058 $\sigma=20$
163	"	"	"	7535/100				1:03	1.79 v=1054 $\sigma=18$
164	"	"	"	9891/1024	1:5905			1:14	1.82 v=1048 $\sigma=15$
165	SAD16458	10.05	"	42240					1.53

Telescope: 61"

Frame prefix #: SP12D

Day of Week: Thursday

RA offset:

Focus: Tailpiece:  
Balance:

Humdty: STX Sheet #: 13

Observers: Ed, da

Date MST/UT: Jan 04/5

Dec offset:

Temp O/I: 53/57

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
166	SAO	10.0	1.00	32928	11:15	21 21 22	-16 19 23	-0:23	1.53
167	"	"	"	41257				-0:24	"
168	"	"	"	3608				-0:28	"
169	R14	"	"	57 K <sup>2</sup>		21 20 33	-16 08 45	-0:28	1.13
170	"	20.0	"	~30 K <sup>2</sup>		"	"	-0:26	1.12
171	"	"	"	~30 K		"	"	-0:25	"
172	"	"	"	~30 K					"
173	"	"	"	"				-0:25	"
174	"	"	"	~30 K				-0:21	1.12
175	SAO 16438	"	"	42 m		21 21 22	-16 19 25	-0:16	1.12
176	"	"	"	29043		"	"	-0:14	"
177	"	"	"	41862				-0:15	"
178	"	"	"	34827				-0:16	"
179	"	"	"	37064				-0:10	1.12
180	BS 7406	0-2	"	16351		20:59 19	15 51 07	70:35	1.05

U = 1030 G = 1/4

2906 0.8 m





Telescope:

Frame prefix #: SP220  
Day of Week: Sat  
Date MST/UT: 6/17

RA offset:  
Dec offset:

Focus:  
Tailpiece:  
Balance:

Humdty:  
Temp O/I:  
Sheet #: 16

Observers:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
193	BS 7672	3.0	0.5			20 03 45	17 01 38		1.14 GP = 382.5
194	"	"	"	63000				-1:49	1.14 395
195	"	2.0	"	28600	8:34			-1:48	1.14
196	"	"	"	38000				-1:46	1.14
197	"	"	"	32591					1.14
198	Sk-Low 910	300	0.5	NET 600 1975		21:13:37	43:05:33	-2:40	1.19 1122 20
199	"	600	"	Net 1700 3144	9:00			-2:32	1.18 E 396
200	"	600	"	Net 2000 3376				-2:21	1.15 1178 19 E 396
201	"	600	"	Net 2000 3281				-2:11	1.13 E 396 stars moving into comct
202	"	600	"	Net 2100 3479				-2:00	1.11 -1.09 end PH 28K
203	BS 6998	2.0	0.5	27690		18:38:21	-21:04:29	+ 0:50	1.74
204	"	"	"	26459				+ 0:51	1.74
205	"	"	"	36205				+ 0:52	1.74
206	"	"	"	33445				0:57	1.74
207	"	"	"	30308				0:54	1.75



Telescope: 61"

Frame prefix #: SP92D

Day of Week: Sat

RA offset:

Humdty: 17

Sheet #: 17

Observers: Frank +

Date MST/UT: Jun 6/7

Dec offset:

Temp O/I:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
208	S-L 91A1	300	0.5	1154 2535 14300	10:02	1:44:01	+58:20:42	-6:00	2.20 not perfect guide
209	"	600	"	4204/1031	10:08			-5:54	2.14
210	"	600	"	Net 2600 2945/1029	10:19			-5:43	2.05 E 395 faint star slightly north
211	"	600	"	Net 3100 4474/1024				-5:32	1.96 R. side 302 Net 2000 Net 5200
212	"	600	"	Net 2300 3571/1052	10:40	2:12:27		-5:21	1.89 - 1.82
213	SAO 164338	10.0	1.0	32452		2:12:27	-16:19:45	-0:40	1.55
214	"	"	"	37185				-0:39	1.54
215	"	"	"	30872				-0:38	1.54
216	"	"	"	30661				-0:37	1.54
217	"	"	"	31744				-0:36	1.54
218	Titan	20.0	1.0	35531		2:24:32	-16:19:47	-0:33	1.53
219	"	"	"	34291				-0:32	1.53
220	"	"	"	31560				-0:31	1.53
221	"	"	"	36426				-0:30	1.53
222	"	"	"	34176				-0:29	1.53

Telescope: 61"

Frame prefix #: SP92P

Day of Week: Sat

Focus: Tailpiece:

Humdty: Sheet #: 18

Observers: Finkt

Date MST/UT: June 6/7

Balance: Temp O/I:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
223	SAO 164336	10.0	1.0	30631				-0:24	1.53
224	"	"	"	26569				-0:23	1.53
225	"	"	"	38016				-0:22	1.53
226	"	"	"	34184				-0:21	1.52
227	"	"	"	38472				-0:20	1.52
228	Titan	20.0	1.0	35609				-0:20	1.52
229	"	"	"	31459				-0:19	1.52
230	"	"	"	29872				-0:18	1.52
231	"	"	"	28942				-0:17	1.52
232	"	"	"	28972				-0:16	1.52
233	SAO 164336	10.0	1.0	32896				-0:12	1.52
234	"	"	"	35695				-0:10	1.52
235	"	"	"	36669				-0:09	1.52
236	"	"	"	36357				-0:08	1.52
237	"	"	"	37489				-0:07	1.52





Telescope: 61"

iris = 310  
3670 (central) (see back of page)  
Humdty: 63 Sheet #: 2

Frame prefix #: FR92D Day of Week: MON/TUES RA offset:

Observers: Hoffmann, Gandy Date MST/UT: 1/2  
Hicks, Fink Peak/plate

Focus: Tailpiece: 34.3  
Balance: back all the way Temp O/I: 56/54

Exp #	Object	Exp time	Filter slit	Counts	Exp start	RA set	Dec set	Hour-angle exp-start	Comments New Moon (P.A., seeing, Moon, clouds, etc.)
4	4484 87DD	20s	V+R	5k / 23k	4:47	15:38:43	2:26:44	-1:30	Setfile: "DD"
5	(AKA "D1")	"	"		4:52			-1:25	
6	"	"	"		5:00	15:39:46.1	2:52:5	-1:18	Setfile: "COMP27"
7	COMP 27	0.1s	"	36k / 131k	5:01				
8	(SAD-121116)	"	"		5:11			-1:38	secZ = 1.22 VA"
9	1573	20s	"	9k / 41k	5:15	16:10:55.8	6:19:6	-1:34	1.21
10	Vaisala	"	"		5:16				1.21
11	"	"	"		5:20			-1:34	1.20 "COMP9"
12	COMP 10	0.1s	"	49k / 215k	5:23	16:16:40.8	7:9:8	-1:32	1.19
13	(SAD-121471)	"	"	50k /					1.18
14	87DD	20s	"			15:38:43	2:26:44		
15	"	"	"		5:28			-1:49	1.18
16	"	"	"		5:29			-1:48	1.18
17	COMP 27	0.1	"		5:31	15:39:46.2	2:52:5	-1:47	1.17
18	"	"	"		5:32			-1:46	1.17

512<sup>2</sup>  
400<sup>2</sup>  
400<sup>2</sup>  
456<sup>2</sup>

Telescope: 61"

Frame prefix #: FR92D Day of Week: MON/TUES

RA offset:

3670 actual

Humdty: Sheet #: 3

Observers: Hoffmann et al. Date MST/UT: 1/2

Dec offset:

Focus: Tailpiece: Balance: Temp O/I:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start (P.A., seeing, seeing, etc.)	sec Z	Comments
19	VÄ	20	V+R	sky=500	5:34	16:10:59	6:19:6	-1:15	1.17	VÄ
20	"	"	/		5:36			-1:13	1.17	
21	"	"	/		5:37			-1:12	1.17	
22	COMP 10	.1	/	48k/peak	5:38	16:16:40.9	7:9:8	-1:16	1.17	
23	"	"	/	49k	5:40			-1:15	1.16	
24	'87DD	20	/		5:47	15:38:43	2:26:44	-1:30	1.16	DD computer died
25	"	"	/		5:49			-1:28	1.16	
26	"	"	/		5:50	15:38:43.1	2:26:44	-1:27	1.16	
27	COMP 27	0.1	/	38k	5:51			-1:27	1.16	
28	"	"	/		5:52	15:39:46.1	2:52:5	-1:26	1.16	
29	VÄ	20s	/		5:54	16:10:55.9	6:19:6	-1:55	1.14	VÄ
30	"	"	/		5:55			-1:54	1.14	
31	"	"	/		5:56			-1:53	1.14	
32	COMP 10	0.05	/	35k	6:00	16:16:40.9	7:9:8	-1:55	1.14	
33	"	"	/		6:01			-1:54	1.13	
34	"	"	/		6:01			-1:53	1.13	
35	"	"	/		6:0					

Telescope: 61

3670 actual

4

Frame prefix #: FR92D Day of Week: MON/TUES RA offset:

Focus: Humdty: Sheet #:

Tailpiece:

Observers: Hoffman et al. Date MST/UT: 1/2 Dec offset:

Balance: Temp O/I:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments
36	DD	20	V+R		6:04	15:38:43	2:26:44	-:13	SEC 1,16
37	"	"			6:05			-:11	1,16
38	"	"			6:06			-:10	1,16
39	COMP 27	0.1			6:08	15:39:46.2	2:52:5	-:10	1,15
40	"	0.1			6:09			-:9	1,15
41	VÄ	20			6:10	16:10:58.9	6:19:6	-:39	1,13
42	"	"			6:12			-:37	1,13
43	"	"			6:13			-:36	1,13 ← System crashed was re-booted
44	COMP 10	0.05			6:16				1,12
45	"	"			6:17	16:16:40.9	7:9:8	-:37	1,12
46	"	"			6:18			-:37	1,12
47	"	"			6:19			-:36	1,12
48	DD	20		4x/19k	6:20	15:38:43	2:26:44	+:3	1,15 ← Guided
49	"	"			6:23	15:38:36.1	2:25:48	+:6	1,15
50	"	"	∨		6:24			+:7	1,16

Telescope: 61"

7670 (octal)

Frame prefix #: FR92D

Day of Week: MON/TUES

Humidity: 5

Sheet #: 5

Observers: Hoffmann etc.

Date MST/UT: 1/2

RA offset:

Tailpiece:

Temp O/I:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
51	COMP 27	0.1	V+R		6:25	15:39:46	2:52:5	+18	1.15
52	"	"			6:				1.15
53	VÄ	20			6:28			-121	1.12 VÄ
54	"	"			6:30	16:10:56	6:19:6	-119	1.12
55	"	"			6:31			-118	1.12
56	COMP 10	0.05			6:33	16:16:41	7:19:8	-121	1.11
57	"	"			6:34			-121	1.11
58	"	"			6:35			-120	1.11
59	"	"			6:36			-119	1.11
60	DD	20			6:39	15:38:36	2:25:48	+122	1.16 DD
61	"	"			6:40			+124	1.16
62	"	"			6:41			+125	1.16
63	COMP 27	.1			6:43			+125	1.16
64	"	"			6:43	15:39:46	2:52:5	+126	1.16
65	VÄ	20	V	38k phot	6:45	16:10:56	6:19:6	-14	1.11 VÄ

← guide



Telescope: 61"

Frame prefix #: FR92D Day of Week: M/TH

Octal 3670 Humdty: Sheet #: 6

Observers: Hoffman et al. Date MST/UT: 1/2 (June) Dec offset:

Focus: Tailpiece: Balance: Temp O/I:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
66	VÄ	20	V+R		6:47	16:10:50.4	6:19:18	-1	1.11
67	"	"			6:48			-10	1.11 Transit
68	COMP 10	0.05			6:51	16:16:41	7:19:8	-14	1.11 ← Argas died
69	"	"			6:52			-13	1.11
70	"	"			6:52			-12	1.11
71	"	"			6:53			-11	1.11
72	DD	20			6:55			+139	1.17
73	"	"			6:57	15:38:36	2:25:48	+140	1.17
74	"	"			6:58			+	1.17
75	COMP 27	0.1			6:59			+142	1.17
76	"	"			7:00	15:39:46	2:52:5	+143	1.17
77	VÄ	20			7:02	16:10:50	6:19:18	+113	1.12
78	"	20			7:03			+114	1.12
79	"	20			7:04			+115	1.12
80	COMP 16	0.05	V		7:05	16:16:41	7:19:8	+111	1.11

Telescope: 61"

3670 actual

7

Frame prefix #: FR92D

RA offset:

Humdty: Sheet #:

Observers: Hoffmann, et al.

Dec offset:

Temp O/I:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start <del>MST</del> UT	RA set	Dec set	Hour-angle exp-start	Sec z	Comments
81	COMP 10	.05	V+R		7:06			+1:12	1.11	
82	"	"			7:07	16:16:41	7:19:8	+1:12	1.11	
83	"	"			7:08			+1:13	1.11	
84	DD	20			7:10	15:38:36	2:25:48	+1:54	1.19	DD
85	"	"			7:11			+1:55	1.19	
86	"	"			7:13			+1:56	1.19	
87	COMP 27	.1			7:14	15:39:46	2:52:5	+1:56	1.18	
88	"	"			7:15			+1:57	1.18	
89	VA	20			7:17	16:10:50.5	6:19:18	+1:28	1.12	VA
90	"	"			7:18			+1:29	1.12	
91	"	"			7:			+1:32	1.12	
92	COMP 10	0.05			7:21	16:16:41	7:9:8	+1:26	1.11	
93	"	"			7:21			+1:27	1.11	
94	"	"			7:22			+1:28	1.11	
95	"	"	V		7:23			+1:	1.11	

Telescope: 61"

8

Frame prefix #: FR92D

Day of Week: M/Wu

Focus: Tailpiece: Humdty: Sheet #: Balance: Temp O/I:

Observers: Hoffmann +

RA offset: Dec offset:

Date MST/UT: 1/2

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start <del>UT</del>	RA set	Dec set	Hour-angle exp-start	Sec $\Sigma$ Comments (P.A., seeing, <del>Moed</del> , clouds, etc.)
96	DD	20	V+R		7:25	15:28:36.2	2:25:48	+1:09	1.21
97	"	"			7:26			+1:10	1.21
98	"	"			7:27			+1:11	1.21
99	COMP 27	0.1			7:30	15:29:46	2:52:5	+1:12	1.21 ← Argos died
100	"	"			7:30			+1:13	1.21
101	VÄ	20			7:32	16:10:50.4	6:19:18	+1:44	1.13
102	"	"			7:34			+1:45	1.13
103	"	"			7:35			+1:46	1.14
104	COMP 10	0.05			7:36	16:16:41	7:19:8	+1:42	1.12
105	"	"			7:37			+1:43	1.12
106	"	"			7:38			+1:43	1.12
107	"	"			7:39			+1:44	1.12
108	DD	20			7:41			+1:25	1.24
109	"	"			7:42	15:38:36	2:25:48	+1:26	1.24
110	"	"	∇		7:44			+1:28	1.24

Telescope: 61"

3670 actual

9

Frame prefix #: FR92D

Day of Week: M/Tu

RA offset:

Humdty:

Sheet #:

Observers: Hoffman + ...

Date MST/UT: 1/2

Dec offset:

Balance:

Temp O/I:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST UT	RA set	Dec set	Hour-angle exp-start	Sec Z	Comments
111	COMP 27	.1	V+R		7:45	15:39:46.1	2:52:5	+1:28	1.24	
112	"	"			7:46			+1:29	1.24	
113	VÄ	20			7:48	16:10:50.4	6:19:18	+ :60	1.15	
114	"	"			7:50			+ 1:01	1.15	
115	"	"			7:51			+ 1:02	1.15	
116	COMP 10	0.05			7:52	16:16:41	7:9:8	+ :58	1.14	
117	"	"			7:53			+ :59	1.14	
118	"	"			7:54			+ :59	1.14	
119	"	"			7:55			+ 1:00	1.14	
120	DD	20			7:56	15:38:36.2	2:25:48	+ 1:40	1.27	
121	"	"			7:58			+ 1:42	1.27	
122	"	"			7:59			+ 1:43	1.28	
123	COMP 27	0.1			8:00	15:39:46	2:52:5	+ 1:43	1.27	
124	"	"			8:01			+ 1:44	1.27	
125	VÄ	20	V		8:03	16:10:50.4	6:19:18	+ 1:14	1.17	

Telescope: 61"

10

Frame prefix #: FR92D

Day of Week: M/Tu

RA offset:

Focus: 3670

Humdty:

Sheet #:

Observers: Hoffmann etc

Date MST/UT: 1/2 June

Dec offset:

Tailpiece:

Temp O/I:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
126	VÄ	20s	V+R		8:04	16:10:50.5	6:19:18	+1:16	1.17
127	"	"			8:05			+1:17	1.17
128	COMP 10	0.05			8:07	16:16:41	7:19:18	+1:12	1.16
129	"	"			8:08			+1:13	1.16
130	"	"			8:08			+1:14	1.16
131	"	"			8:09			+1:15	1.16
132	DD	20 <sup>sec</sup>			8:10	15:38:36.2	2:25:48	+1:54	1.31
133	"	"			8:12			+1:56	1.31
134	"	"			8:13			+1:57	1.32
135	COMP 27	0.1s			8:14	15:39:46.1	2:52:15	+1:57	1.31
136	"	"			8:15			+1:58	1.31
137	SA 61225	0.5s		24k peak	8:18	17:02:00.0	29:45:19	+1:39	1.01
138	"	"			8:20			+1:40	1.01
139	"	"			8:21			+1:41	1.01
140	WIESLAW	120			8:24	17:43:28	3:51:15	+1:03	1.24

650<sup>2</sup>

"

"

400<sup>2</sup>

400+325 667

Telescope: 61"

Frame prefix #: FR92D

Day of Week: m/Tu

Focus: 3670

Humdty: Sheet #:

Observers: Hoffman +

Date MST/UT: 1/2 June

Balance:

Temp O/I:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
141	WIESLAW	120	VTR		8:29			+1:08	1.24
142	FLAT	.2	"	24k	8:40				Variac = 60
143	"	.2	"		8:41				"
144	"	.2	"	245k	8:42				"
145	"	.3	"	36.5k	8:44				"
146	"	.3	"		8:45				"
147	Heliu-Hu	60	"	62k	8:55	19:23:09.5	+15:53:54	-1:04	1.09
148	Star... 9th	20	"	157k	9:07	21:15:59.3	+43:13:15	-2:46	1.20 peak 10k

400<sup>2</sup>  
650<sup>2</sup>

Telescope: 61"

Frame prefix #: FR92D Day of Week: Tu/Wed RA offset:

Observers: Fink, Hoffmann, Grundy, Hicks Date MST/UT: June 2/3 1992 Dec offset:

Focus: 3670 Humdty: 57% Sheet #: 12  
Tailpiece: 34.3  
Balance: Temp O/I: 57/60 °F

Spectrograph on

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
149	Kowal 1	60 <sup>sec</sup>	V+R	2400 peak sky = 5800	4:03	13:23:33.0	-9:10:30	+ :06	1.34 dis 4100 - 4900
150	shoemaker- Levy 8	60 <sup>sec</sup>	"	3000 peak 55k	4:25	14:41:36	-12:27:59	- :50	1.45* dis 3700 - 4400 comet is at: (481, 361)
151	Kowal 1	60	V+R	360 peak 10k peak	4:34				maybe? at (387, 450)
152	GRIEVE	20		5500pk 35k phot	4:53	13:27:12.1	-8:8:13	+ :52	1.35 "Grieve" ← Guide
153	# 4451	"			4:58	13:27:16	-8:8:5	+ :56	1.36
154	"	"			4:59			+ :58	1.36
155	COMP 25 SAO-139345	0.1		24k 84k	5:02	13:27:00	-9:10:33	+ 1:01	1.39 ← Guide
156	"	"			5:04	13:27:05	-9:10:43	1:03	1.39
157	#2044 WIRT	20 <sup>s</sup>		1000 10k phot	5:12			-0:24	1.64(?) "WIRT" ← Guide
158	"	40 <sup>s</sup>		3000 25k phot	5:14	15:2:0.3	-19:35:45	- :22	1.63
159	"	"			5:16			- :20	1.63
160	COMP 11 SAO-152976	0.1		18k peak 113k phot	5:20	15:2:19.6	-18:26:12	- :16	1.59 disk IMA: full
161	"	"			5:21			- :16	1.59 ← on SYS: (deleted old star)
162	GRIEVE	20	↘		5:29	13:27:16	-8:8:5	+ 1:27	1.43 ← on IMA:

512<sup>2</sup>

256<sup>2</sup>

512<sup>2</sup>  
256<sup>2</sup>

ON  
SYS: →

Telescope:

Frame prefix #: *DIARD* Day of Week: *5-2/sun* RA offset:

Humdty: Sheet #: *8*

Focus: Tailpiece: Balance:

Observers: *Fink +* Date MST/UT: *6/7* Dec offset:

Temp O/I:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
086	<i>SAO 141191</i>	5.0	IJ	264	6:30	44 ← SAO collect			1.33 <i>HT HT 1</i>
087	"	"	"	204	6:35				1.33 <i>HT HT 1</i>
088	<i>Mercury</i>	5.0	IJ	264	6:45	16:27:25	-4:45:36	0:01	1.26 <i>HT HT 1</i>
089	"	"	"	274	6:50	45		+0:03	1.26 <i>HT HT 1</i>
090	"	"	"	274	6:57	57H	47/51 Temp	+0:10	1.26 <i>HT HT 1</i>
091	"	"	"		7:02			+0:16	1.26 <i>HT HT 1</i>
092	<i>SAO 141191</i>	5.0	IJ	254	7:10			0:23	1.33 <i>HT HT 1</i>
093	"	"	"	244	7:16			0:29	1.34 <i>HT HT 1</i>
094	"	"	"		7:23			0:34	1.34 <i>HT HT 1</i>
095	<i>Mercury</i>	5.0	IJ	204	7:29			0:42	1.28 <i>HT HT 1</i>
096	"	"	"	184	7:35			0:49	1.29 <i>HT HT 1</i>
097	"	"	"		7:42			0:54	1.29 <i>HT HT 1</i>
098	<i>SAO 141191</i>	5.0	IJ		7:47			+1:01	1.30 <i>HT HT 1</i>
099	"	"	"		7:56				1.39 <i>HT HT 1</i>



Telescope: 61"

Day of Week: Ea/Sun

RA offset:

Focus: Tailpiece: Balance:

Humdty: 48 Sheet #: 7

Frame prefix #: D192D

Date MST/UT: 6/7

Dec offset:

Temp O/I: 53/57

Observers: Fink +

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments
071	F1et	3.0	IJ	44k	2:30UT	650x	650		V260 Focus 3742 reads 7742
072	"	3.0	"	49k					
073	F1st	10.0	R	31k	2:40UT				
074	"	10.0	R						
075	F1st	20.0	V	30k					
076	"	20.0	V						
077	F1st	3.0	IJ	43k			STEW		
078	"	3.0	"						
079	"	3.0	"						
080	"	3.0	"						New GP for Stewart R=450 C=130
081	"	3.0	"						-2nd pass
082	SAO 100547	1.0		Focus test		3702-4000	6410		OIF 53/57
083	SAO 141191	6.0	IJ	at 6:08	Focus test	3700-4000	6410		best focus 3730
084	SAO 141191	5.0	IJ	15600		16:28:05	-8:41:38	-0:29	134 H H H 1 H 53 48/52
085	"	"	"		6:24			-0:22	1.31 H H H H H



Telescope: 61"

14

Frame prefix #: FR92D Day of Week: Tu/W RA offset:

Focus: D=3670 Humdty: Sheet #: Tailpiece: Balance: Temp O/I:

Observers: Hoffmann + Date MST/UT: 2/3 June Dec offset:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST UT	RA set	Dec set	Hour-angle exp-start	Sec Z	Comments
177	WIRT	40	V+R		5:53	15:21:0	-19:35:45	+1:17	1.63	Some clouds
178	"	"			5:55			+1:19	1.63	
179	"	"			5:56			+1:20	1.63	
180	COMP 11	0.1			5:58	15:21:9.6	-18:26:12	+1:21	1.59	
181	"	"			5:59			+1:22	1.59	
182	GRIEVE	20			6:01	13:27:16	-8:8:15	+1:59	1.54	
183	"	"			6:02			+2:01	1.55	
184	"	"			6:03			+2:02	1.55	
185	COMP 25	0.1			6:05	13:27:14	-9:10:43	+2:04	1.59	
186	"	"			6:05			+2:04	1.59	
187	WIRT	40			6:07	15:21:0.3	-19:35:15	+1:31	1.64	
188	"	"			6:09			+1:33	1.65	
189	"	"			6:10			+1:34	1.65	
190	OMP 11	0.1			6:12	15:21:9.6	-18:26:12	+1:36	1.61	
191	"	"	∇		6:12			+1:36	1.61	

Telescope: 61"

Frame prefix #: FR92D

Day of Week: Tu/W

Humdty: 61% Sheet #: 15

Observers: Hoffmann +

Date MST/UT: June 2/3

RA offset:

Temp O/I: 57/58°F

Balance:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
192	GRIEVE	20	V+R		6:16	13:27:16	-8:8:5	+2:14	1.61
193	"	"			6:17			+2:16	1.62
194	"	"			6:18			+2:17	1.62
195	COMP 25	0.1			6:19	13:27:4.4	-9:10:43	2:18	1.66
196	"	"			6:20			2:19	1.67
197	WIRT	40			6:22	15:2:03	-19:35:45	+1:46	1.67
198	"	"			6:24			+1:48	1.67
199	"	"			6:26			+1:50	1.68
200	COMP 11	0.1			6:27	15:2:19.7	-18:26:12	+1:51	1.64
201	"	"			6:28			+1:52	1.64
202	GRIEVE	20			6:30	13:27:16	-8:8:5	2:29	1.70
203	"	"			6:32			2:30	1.71
204	"	"			6:49			2:33	1.82
205	WIRT	40			6:52	15:2:10	-19:35:45	1:16	1.75
206	"	"			6:53			1:19	1.75

LONG CAMERA

DIED → zero bias

Telescope: 61"

16

Frame prefix #: FR92D Day of Week: Tu/W

Humidity: Focus: Tailpiece: Balance:

RA offset: Dec offset:

Observers: Hoffmann + Date MST/UT: June 2/3

Temp O/I:

Exp #	Object	Exp time	Filter sit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments
207	WIRT	40	V+R		6:55			1:19	1.76
208	CAMP 11	0.1	↓		6:57	15:2:20	-18:26:11	1:20	1.72
209	"	"	↓					1:21	1.72
210	SA 61-225	0.5s			7:00	17:2:11	29:45:28	-1:36	1.01
211	"	"			7:01			-1:34	1.01 ← not saved
212	PLUTO	60	SB:cl		7:17	15:29:48	-3:19:17	+1:13	1.30 ← focus → 3702 oct ← vrt saved total
213	"	30	"	4000 pk 50k Phot	8:07	15:29:53.9	-3:19:27	+2:00	1.45
214									
215									
216									
217									
218									
219									
220									
221									

250<sup>2</sup>

650<sup>2</sup>

512<sup>2</sup>



Telescope: 61"

Frame prefix #: FRAZP

Day of Week: F/52

RA offset:

Gusts to 25 MPH

Focus: 3670 Humdty: 76 Sheet #: 18

Tailpiece: 34,3

Balance: Temp O/I: 54/59

Observers: Hammann + Date MST/UT: 8/6 Dec offset:

Exp #	Object	Exp time each	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments
215	SAO 139345	50.2s	V+R	Focus test	3:58	13:26:35	-7:36:13	10:04	focus series we choose 3670
216	GRIEVE	20s	V+R		4:02			+0:08	1.31 "GRIEVE" (340, 340)
217	"				4:03			+0:13	1.31 ← Topped dewar off
218	"				4:05			+0:15	1.34
219	COMP 25	0.1s		25k peak 89k	4:06	13:27:04	-9:10:43		1.34
220	SAO 139345	"			4:13			+1:16	1.34
221	2745 San Martin	30s		4k peak 14k phot	4:18			~1:35	1.04 "MARTIN"
222	"	60		8k peak 25k phot	4:21	14:26:8.3	+18:58:42	-1:31	1.04 ← guide
223	"	60s			4:21	14:26:8.0	+18:59:12	-1:29	1.03
224	COMP 19	0.1s		20k peak 97k phot	4:24	14:27:7.7	+20:37:57	1:26	1.03 guide not saved
224	SAO 083363	"			4:26	14:27:18.9		-1:25	1.03
225					4:26		+20:38:24	-1:24	1.03 ← Argos died, then
226	GRIEVE	20s		4k Peak 29k Phot	4:41	13:26:35.5	-7:36:13	+1:51	1.34 ← CCD died (bias → zero)
227	"	"			4:43	13:26:33.8	-7:35:07	1:53	1.34 Guided
228	"	"			4:44			1:54	1.35

Telescope: 61" Wind max 15 MPH

Frame prefix #: FR92D Humidity: 79

Day of Week: Fri/sat Sheet #: 19

Date MST/UT: June 5/6 Temp 0/I:

Observers: Hoffman +

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	SEC Z	Comments
229	COMP 25	0.1	V+R	15k peak 86k phot	4:47	13:27:45	-9:10:43	+1:56	1.38	Guide
230	"	"			4:48	13:26:59.8	-9:10:14	+1:58	1.39	← collect position
231	SAN MARTIN	60			4:50	14:26:7.4	+18:58:23	+1:01	1.03	← Transit
232	"	"			4:53			+1:04	1.03	
233	"	"			4:55			+1:06	1.03	
234	COMP 19	0.1			4:57	14:27:09	20:38:24	+1:07	1.02	
235	"	"			4:58			+1:07	1.02	
236	GRIEVE	20			5:00	13:26:33.9	-7:35:07	+1:10	1.37	
237	"	"			5:01			+1:11	1.38	
238	"	"			5:05			+1:15	1.39	← Argos died again
239	COMP 25	0.1			5:06	13:26:60	-9:10:14	+1:16	1.40	
240	"	"			5:07			+1:17	1.42	
241	SAN MARTIN	60			5:09	14:26:08	+18:58:23	+1:19	1.03	
242	"	"			5:11			+1:21	1.03	
243	"	"	✓		5:12			+1:23	1.03	



Telescope: 61

Humidity: OCTAL 3670

Sheet #: 20

Frame prefix #: FR92D Day of Week: Fri/Sat RA offset:

Focus: Tailpiece: Balance:

Observers: Hoffmann + Date MST/UT: June 5/6 Dec offset:

Temp O/I:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST VT	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
244	COMP 19	0.1s	V+R		5:15	14:27:08.9	+20:38:24	+1:24	1.03
245	"	"			5:16			+1:25	1.03
246	GRIEVE 20	20			5:19	13:26:33.9	-7:35:06	+1:29	1.42
247	"	"			5:20			+1:31	1.43
248	"	"			5:22			1:32	1.43
249	COMP 25	.1			5:24	13:26:60	-9:10:14	1:33	1.47 "bins is steady"
250	"	"			5:24			1:34	1.47
251	SAN MARTIN 60s	60s		2.5 <sup>x</sup> peak 25k phot	5:26	14:26:7.5	+18:58:23	+1:37	1.04
252	"	"			5:29	14:26:5.5	+18:59:7	+1:40	1.04 ← guide, re-collect
253	"	"			5:31			+1:42	1.04
254	COMP 19	0.1			5:34	14:27:8.9	+20:38:24	+1:43	1.04
255	"	"			5:34			+1:44	1.04
256	GRIEVE 20s	20s			5:37	13:26:33.9	-7:35:6	+1:47	1.48
257	"	"			5:38			+1:49	1.48
258	"	"			5:40			+1:50	1.49

Telescope: 61"

Frame prefix #: FR92D

Day of Week: Fri/Sat

RA offset:

Oct = 3670

Humdty: Sheet #: 21

Observers: Hoffmann +

Date MST/UT: June 5/6

Dec offset:

Balance: Temp O/I:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST UT	RA set	Dec set	Hour-angle exp-start	SEC Z	Comments
259	COMP 25	0.1	V+R		5:41	13:26:60	-9:10:14	1:51	1.53	
260	"	"			5:42			1:52	1.54	
261	SAN MARTIN	20.5		this is the exposure	5:44	14:26:6	+18:59:7	0:55	1.05	MOON is
262	(miss-labeled "GRIEVE"	"		we used for SAN	5:46			0:57	1.05	MOVING down
263	in headers)	"		MARTIN by accident	5:48			0:58	1.06	
264	COMP 19	0.1			5:50	14:27:8.9	20:38:24	0:59	1.05	
265	"	"			5:51			1:00	1.05	
266	GRIEVE	20			5:53	13:26:33.9	-7:35:6	2:03	1.54	
267	"	"			5:54			2:04	1.55	
268	"	"			5:55			2:06	1.55	
269	COMP 25	0.1			5:57	13:26:59.8	-9:10:14	2:07	1.60	
270	"	"			5:57			2:07	1.61	
271	SAN MARTIN	60			5:59	14:26:5.6	+18:59:7	1:10	1.07	
272	"	"			6:01			1:12	1.07	
273	"	"	V		6:03			1:14	1.07	

Telescope: 61"

Frame prefix #: FR92D Day of Week: FRI/SAT

Observers: Hoffman + Date MST/UT: JUNE 5/6

Focus: 3670 Humdty: Octal  
Tailpiece:  
Balance: Temp 0/I:  
Spectrograph is on

Sheet #: 22

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST UT	RA set	Dec set	Hour-angle exp-start	SE(Z) (P.A., seeing, Moon, clouds, etc.)	Comments
274	COMP 19	0.1	V+R		6:05			1:15	1.07	facing into SW
275	"	"			6:06	14:27:9	20:38:24	1:16	1.07	SW wind ~ 10 MPH
276	GRIEVE 20	20		35k peak 57k phot	6:08	13:26:33.9	-7:35:7	+2:18	1.62	← Guide
277	"	"			6:10			+2:21	1.63	
278	"	"			6:12	13:26:33	-7:34:14	+2:22	1.64	
279	COMP 25	0.1			6:13	13:26:60	-9:10:14	+2:23	1.69	← bias = 820
280	"	"			6:14				1.70	"lower than before" dropped 100 counts
281	SAN MARTIN	60			6:16	14:26:5.6	+18:59:7	+1:27	1.09	
282	"	"			6:18			+1:29	1.10	Gusts to 22 MPH
283	"	"			6:20			+1:31	1.10	
284	COMP 19	0.1			6:23	14:27:8.9	20:38:24	+1:33	1.09	← shutter failed to open
285	"	"			6:24			+1:33	1.09	← "bias is back up"
286	GRIEVE 20	20			6:26	13:26:33.1	-7:34:14	+2:36	1.72	"pretty dark upstairs"
287	"	"			6:27			+2:37	1.73	"moon has set,
288	"	"			6:28			+2:39	1.74	just about"

Telescope: 61"

Oct 3670

Sheet #: 23

Frame prefix #: FR92D Day of Week: FRI/SAT  
Observers: Hoffmann plus Date MST/UT: JUNE 5/6

Humidity: Focus: Tailpiece: Balance: Temp O/I:

RA offset: Dec offset:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST UT	RA set	Dec set	Hour-angle exp-start	Sec Z (P.A., seeing, Moon, clouds, etc.)	Comments
289	COMP 25	0.1	V+R		6:30	13:26:60	-9:10:14	2:40	1.81	set
290	"	"			6:31			2:41	1.81	
291	SAN MARTIN	60			6:33	14:26:5.6	+18:59:7	1:43	1.12	
292	"	"			6:35			1:46	1.12	
293	"	"			6:37			1:47	1.13	
294	COMP 19	0.1			6:39	14:27:9	20:38:24	1:48	1.12	
295	"	"			6:39			1:49	1.12	
296	GRIEVE	20			6:41	13:26:33.1	-7:34:14	2:52	1.84	
297	"	"			6:42			2:53	1.85	
298	"	"			6:44			2:54	1.86	→ 1.87
299	COMP 25	0.1			6:45	13:26:59.8	-9:10:14	2:55	1.94	
300	"	"			6:46			2:56	1.94	
301	SAN MARTIN	60			6:48	14:26:5.6	+18:59:7	1:58	1.15	
302	"	"			6:50			2:01	1.16	
303	"	"			6:52			2:03	1.16	← Argos crashed
303	"	"			6:54			2:04	1.17	

Telescope: 61"

3670 actual

24

Frame prefix #: FR92D Day of Week: FRI/SAT  
Observers: Hoffmann plus Date MST/UT: JUNE 5/6

RA offset: Humdty: Sheet #:  
Tailpiece: Balance: Temp O/I:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST UT	RA set	Dec set	Hour-angle exp-start	Sec Z	Comments
304	COMP 19	0.1	V+R		6:56	14:27:8.9	20:38:24	2:05	1.17	(probably 1.16)
305	"	"			6:57			2:06	1.16	
306	GRIEVE 20				6:58	13:26:33.1	-7:34:14	3:09	2.01	
307	"	"			7:00			3:10	2.02	
308	"	"			7:01			3:11	2.03	
309	COMP 25	0.1			7:02	13:26:59.8	-9:10:14	3:12	2.12	
310	"	"			7:03			3:13	2.13	
311	SAN MARTIN 60				7:05	14:26:5.6	18:59:7	2:16	1.20	
312	"	"			7:07			2:18	1.20	"wind has died down"
313	"	"			7:09			2:20	1.21	
314	COMP 19	0.1			7:11	14:27:8.9	20:38:24	2:21	1.20	
315	"	"			7:12			2:22	1.20	
316	GRIEVE 20				7:13	13:26:33.1	-7:34:14	3:24	2.19	
317	"	"			7:15			3:25	2.21	
318	"	"	V		7:16			3:26	2.22	

Telescope: 61" octal 3670  
 Frame prefix #: FR92D Humdty: Sheet #: 25  
 Day of Week: F/Sa Tailpiece:  
 Observers: Hoffman + Date MST/UT: June 5/6 Balance: Temp O/I:  
 RA offset: Dec offset:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
319	COMP 25	0.1	VHR		7:17	13:26:59.8	-9:10:14	3:27	2.33
320	"	"			7:18			3:28	2.34
321	SAN MARTIN	60			7:20	14:26:5.6	18:59:7	2:31	1.24
322	"	"			7:23			2:34	1.25
323	"	"			7:25			2:35	1.26
324	COMP 19	0.1			7:27	14:27:9.0	20:38:24	2:36	1.25
325	"	"			7:27			2:37	1.25
326	SA 61-225	0.5			7:30	17:2:1.0	29:45:28	0:05	1.00
327	"	"			7:31			0:06	1.00
328	"	"			7:32			0:07	1.00
329	SAN MARTIN	60			7:34	14:26:5.6	18:59:6.7	2:45	1.29
330	"	"			7:36			2:47	1.30
331	"	"			7:38			2:49	1.31
332	COMP 19	0.1			7:40	14:27:9	20:38:24	2:50	1.30
333	"	"			7:41			2:51	1.30

400"  
 "  
 "







Telescope: 6"

OCTAL

Frame prefix #: FR92D Day of Week: 62/July RA offset: Humdty: 48 Sheet #: 28  
 Observers: <sup>Hickman &</sup> Hicks, Gandy Date MST/UT: 6/7 JUNE Dec offset: Balance: 0.21 Temp 01:52/57 °F  
 Focus: 2690 Tailpiece: 34,3  
 Iris: 3.0

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
354	SKIP	20	V+R		3:43				"SKIP" setfile: "Scattered clouds"
351	"	30	"	5K/31K	3:48	11:01:20	-3:40:35	+2:27	1.56 1/2 moon still up
352	"	30			3:52			+2:31	1.58 scattered clouds are around
353	COMP 29	0.1		12K peak 74K phot	3:55	10:52:30	-3:6:42	+2:43	1.64 Guide & collect
354	(SAO 137860)"	0.2			3:57	10:52:33.3	-3:6:20	2:45	1.65
355	1987 DD	20			4:03	15:33:47.8	1:48:30	-1:50	1.31 setfile: "DD"
356	COMP 27 (SAO 121116)	0.1			4:07	15:39:46.2	2:52:15	-1:52	1.30
357	"	"			4:08			-1:51	1.29 Jumped in east
358	SKIP	30			4:11	11:1:20.2	-3:40:35	+2:50	1.70
359	"	"			4:13			+2:52	1.72
360	"	"			4:14			+2:53	1.73
361	COMP 29	0.2			4:16	10:52:33.3	-3:6:20	+3:04	1.79
362	"	"			4:16			+3:04	1.80
363	VÄISÄLÄ	20			4:22	16:6:12	6:51:52	-2:03	← Example of JUMP
364	"	"		5K peak 39K phot	4:26	16:6:16	6:52:11	-1:59	← 1.26 guide, collect

650  
256

Telescope: 61"

RA offset:

Dec offset:

Day of Week: Sa/Sun

Date MST/UT: June 6/7

Frame prefix #: FR92D

Observers: Hoffmann +

Focus: 3670  
Tailpiece:  
Balance:

Humidity:  
Temp O/I:

Sheet #: 29

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST UT	RA set	Dec set	Hour-angle exp-start	Sec Z	Comments
365	VÄISÄLÄ	20	V+R		4:28	16:6:15.6	6:52:11	-1:58	1.26	
366	"	"			4:29			-1:57	1.26	
367	(SAO 121471)	0.05			4:30			-2:06	1.28	
368	COMP 10	"			4:31	16:16:40.9	7:9:8	-2:05	1.28	
369	"	"			4:32?			-2:03?	1.2?	← Jump in East
370	"	"			4:32			-2:04	1.27	←
371	SKIP	30			4:36	11:1:20.2	-3:40:35	+3:15	1.92	fewer, if any
372	"	"			4:39			+3:18	1.95	Clouds now.
373	"	"			4:40			+3:19	1.96	
374	COMP 29	0.2			4:42	10:52:33.3	-3:6:19	+3:30	2.07	
375	"	"			4:43			+3:31	2.08	
376	SAN MARTIN	60			4:51	14:25:42	+18:50:57	+1:06	1.03	← Transit
377	"	"			4:54			+1:09	1.03	
378	"	"			4:56			+1:11	1.03	
379	COMP 19	0.1			4:56	14:27:8.9	20:38:24	+1:11	1.02	

Telescope: 61"

Frame prefix #: FR92D Day of Week: Sat/Sun RA offset:  
Observers: Hoff Date MST/UT: JUNE 6/7 Dec offset:

OCTAL-3670 Humdty: Sheet #: 30  
Tailpiece: Balance: Temp O/I:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST/UT	RA set	Dec set	Hour-angle exp-start	Sec $\tau$	Comments
380	COMP 19	0.1	V+R		4:59			+1:12	1.02	
381	SKIP	30		2500 peak 13k phot	5:01	11:1:20.2	-3:40:35	+3:41	2.24	← guide, collect
382	"	"			5:04	11:1:25.3	-3:41:6	+3:43	2.28	
383	"	"			5:05			+3:45	2.30	
384	COMP 29	0.2			5:07	10:52:33.4	-3:6:19	+3:55	2.44	
385	"	"			5:08			3:56	2.46	
386	<sup>201</sup> WIRT	40			5:15	14:57:59.7	-19:45:47	-1:02	1.63	
387	"	"			5:18			TRANSIT	1.63	
388	"	"			5:19			+1:02	1.63	
389	COMP 11	0.1			5:21	15:2:19.6	-18:26:12	TRANSIT	1.58	
390	SAO 158978	"			5:22			7:00	1.58	
391	SKIP	30			5:25	11:1:26	-3:41:5	+4:04	2.66	
392	"	"			5:26			+4:05	2.70	→ 2.71
393	"	"			5:28			+4:07	2.74	
394	COMP 29	0.2	✓	8500 peak 108k Phot	5:31	10:52:38	-3:5:53	4:19	2.03	← Guide, collect

Telescope: 61"

Day of Week: Sat/Sun

Date MST/UT: JUNE 6/7

OCTAL: 3670

Humidity: 52

Temp O/I: 70

Frame prefix #: FR92D

RA offset:

Dec offset:

Focus:

Balance:

Observers: Hoffmann +

Comments

no spectrograph, weights all the way back

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start UT	RA set	Dec set	Hour-angle exp-start	Comments
395	COMP 29	0.2	V+R		5:32			4:20	3.05
396	SA 61-225	0.5			5:35	17:21.1	29:45:28		1.08
397	"	"			5:37			-1:44	1.08 ← shutter failed to open
398	"	"			5:38			-1:43	1.08
399	SKIP	30			5:41	11:1:25.5	3:41:5	+4:21	3.13 → 3.14
400	"	"			5:43			+4:23	3.19 → 3.21
401	"	"			5:45			+4:24	3.24 → 3.26
402	COMP 29	0.2			5:48	10:52:41	3:5:52	4:36	3.67 ← guide # in
403	"	"			5:49			4:37	3.70 wind 10-20 MPH from S.W.
<del>404</del>									NO clouds
<del>405</del>					AT	UT = 6:20		→	T = 52/48 = 1/0 °F
<del>406</del>									Humidity = 55%
<del>407</del>									
<del>408</del>									
<del>409</del>									

512<sup>2</sup>

1111 111

Telescope: 61"      Focus: 3840      Humidity: 85%      Sheet #: 1  
 Frame prefix #: DI92D      Day of Week: Sat      RA offset:      Tailpiece: 34.3  
 Observers: Hoffman      Date MST/UT: 3/1/1      Dec offset:      Balance:      Temp O/I: ~55°F  
 Gandy, Lemmon, Hicks

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start UT	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
001	MJ	5 sec	IJ	900	10:30	13:41:44	428:24:17	1:01	1.03
002	"	60	"	11000					1.03      v2 r1 b1 k
003	"	120	"						1.03      Cloudy
004	"	5	R	1600	10:41				1.001      ↑
005	"	60	"	3000					
006	"	120	"						Clouds roll in we stop
07	DARK	5 sec	IJ						Mirror covers closed
8	"	"	"						"
9	Flat	3 sec	IJ	35k	<del>9:30</del>				Variac = 55
10	"	"	"	35k	~9:30 UT				"
11	"	"	"	35k					"
12	"	15 sec	R	35k					"
13	"	"	"	35k					"
14	"	"	"	35k					"

Telescope: 61"

2720 Oct 21

Humidity: 75 Sheet #: 2

RA offset:

Frame prefix #: D192D Day of Week: SUN

Focus:

Observers: Hoffman, Grandy, Leamon, Hick

Tailpiece:

Dec offset:

Temp O/I: 52/50

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments
<del>015</del>	w/ d. thro		(374, 426)	GP					
<del>016</del>	"	Guidstar 19		52 arcsec	Expst and 134 arcsec			South	Thin haze overhead (3.5 sec 134")
<del>017</del>	We find pluto			but clouds do not allow us to					take date, we move to 537
018	Hercules	10	IU/D <sub>1</sub>		11 PM	16:30:04	-21:14:30	-1:17	1,33
019	"	1.0	IU	5K					1,31
020	"	3.0	"	15K					1,31
021	"	8.0	"	35K					1,31
022	"	8.0	"	32K 1.5K					
<del>023</del>	"	"	"						
024	"	"	"						Duplicate of 20
025	"	"	"						
026	"	"	"						1,29

MISSING ↑

Telescope: 61"

Frame prefix #: DI12D

Day of Week: Sun

RA offset:

Humdty: Focus: Tailpiece: Balance:

Sheet #: 3

Date MST/UT: 1/2

Dec offset:

Temp O/I:

Observers: Hoffmann  
Gundry, Lemmon, Hicks

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
027	Herc	7.0	IJ		-0:41	16:35:01	-4:16:45	111	1.29 w/ dichro 1.27 Multiple Exp
028	Herc	5.0	IJ	1:20				111	1.31
029	"	"	"					111	
030	SAD 141262	5.0	IJ			16:35:14	-5:15:27	111	1.30
031	"	"	"					111	1.36 Asteroid
032	Herc	5.0	IJ					111	1.36 Bess in always
033	"	1	"					111	1.37
034	SAD 141262	5.0	IJ					111	
035	"	"	"					111	
36 D027	Dark	1.0	"		9:08				
37 D028	"	1.0	"						
38 D029	Flat	3.5	"	38k					Variac-55
39 D030	"	"	"	"					
40 D031	"	"	"	"	9:17				
41 D032	"	1	open	20k					

all named DI92C

36 D027  
37 D028  
38 D029  
39 D030  
40 D031  
41 D032

R should be numbered like this

Telescope: 61'

Frame prefix #: D92D Day of Week: Thu/Fri RA offset:

Focus: 3742 Humdty: 72 Sheet #: 4

Tailpiece: 34 1/3 Balance: 310 Temp O/I: 59/62 040PM

Observers: Finkx Date MST/UT: June 4/5 Dec offset:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
042	FK4 1331	0.5	IJ	Focus series	3702, 3720, 3740	3740			GP for steurt
	with June 3/4								GP 520 1.00 we resume after hour prust
									- We retire for the night
	June 4/5		Thr/Fri	New GP	for steurt	(R=475 C=130)			GP 7.20 L Hops = -1.167 sec 4.11 tot 5 Hops = -0.7 sec
043	SAO 099146	0.5	IJ	Focus series	3700-4011	by 10			Focus 3742
044	SAO 099146	"	"						
045	M3	5.0	IJ		13:29:43	3:18:45			1.00 misset
046	"	60	"		4:18			+0:10	1.00
047	M3	5.0	R	2000	4:24			+0:15	1.00
048	"	60.0	R	9617	4:26			+0:18	1.00
049	M3	5.0	V	1569	4:31			0:23	1.01
050	"	60.0	V		4:43			0:35	1.01
051	Pluto	10.0	IJ		5:28			-0:10	1.24
052	"	11	"					-0:10	1.21

Wind up to 11.8 mph  
WTT  
WTT  
WTT



Telescope: 61"      -0.7

Frame prefix #: D192P      Day of Week: Th/Fr      RA offset:      Humdty:      Sheet #: 5

Observers: Fink +      Date MST/UT: June 4/5      Dec offset:      Focus:      Tailpiece:      Balance:      Temp O/I:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
053	Pinto	10.0	IJ		5:45			+10	1.22 <del>HT HT</del> 1
054	"	"	"		5:52			-03	1.23 <del>HT HT</del> 1
055	"	"	"		6:01			+04	1.23 <del>HT HT</del> 1
056	SAG 140586	0.15	IJ		Focus 3700-4000				
057	"	1.0	IJ		Focus 273742			+0.25	1.23 <del>HT HT</del> 1
058	PL471	10.0	IJ	6:32	6:32			+0.36	1.25 <del>HT HT</del> 1
059	"	"	"		15:20:44	-3:14:18		+0:44	1.26 <del>HT HT</del> 1
060	"	"	"	6:48	6:48			0.52	1.27 <del>HT HT</del> 1
061	Here	8.0	IJ		7:17	16:12:11.9	-4:36:20	0:11.6	1.26 <del>HT</del> 1
062	"	"	"					+0.21	1.26 <del>HT</del> 1
063	"	8.0	IJ					0:27.0	1.26 <del>HT</del> 1
064	SAG 141216	3.0	IJ	2400					1.23 <del>HT</del> 1
065	"	"	"						1.24 <del>HT</del> 1
066	"	"	"						1.24 <del>HT</del> 1
067	Here	10.0	IJ			16:12:11.9	-4:36:10.7		1.28 <del>HT</del> 1

