

Telescope: 61"

Frame prefix #: SP92.F

Day of Week: Mon

RA offset:

Focus: Tailpiece:

Humdty: 70 Sheet #: 1

Observers: Finck + al

Date MST/UT: 23/24 Dec offset:

Balance:

Temp O/I: 18/22

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	SWIFT 15	15	0.5			18:33:52	+12:10:14	4:14	Jec 2 2.08
002	"	120	"	9000	2:01	18:37:10	+12:10:06	4:17	2.18
003	"	120	0.5	8300	2:06	18:37:50	+12:10:02	4:20	2:18 - part cut out
004	"	300	0.5	49000	2:11	18:37:59	+12:09:50	4:26	2:26 recentered
005	"	200	0.5	21000	2:17	18:38:00	+12:09:30	4:31	2:36
006	"	"	0.5	27000	2:23	18:38:02	+12:09:16	4:38	2:49 recentered
007	"	"	0.5	31000	2:27	18:38:03	+12:09:02	4:42	2:58
008	"	"	0.5	27000	2:31	18:38:04	+12:08:52	4:46	2:67
009	"	"	0.5	26000	2:37	18:38:05	+12:08:36	4:51	2:81 recentered
010	"	"	0.5	23000	2:41	18:38:06	+12:08:27	4:57	2:93 - 3.04 at end
011	058314=	3	0.5	33000	3:49	18:44:07	+14:44:28	2:58	1.39
012	sat con-1 75	3	0.5	29000	3:51	"	"	2:59	1.40
013	"	3	0.5	29000	3:52	"	"	3:00	1.40
014	"	3	0.5	24000	3:55	"	"	3:03	1.42
015	"	3	0.5	23000	3:57	"	"	3:05	1.43

Telescope: 61

Frame prefix #: SP92 F

Day of Week: Mon

RA offset:

Focus:

Humdty: 67 Sheet #: 2

Tailpiece: 343

Balance: 234 Temp O/I: 15/23

Observers: Funk et al. Date MST/UT: 92 Nov 23/24 Dec offset:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start UT MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
016	BS 7914	3	0.5		4:05	20:40:25	19:24:53	4:18	see 1.91
017	= Sd Cen 70	10	"	35000	4:07	"	"	4:20	1.92
018	"	10	"	39000	4:08	"	"	4:21	1.94
019	"	10	"	40000	4:10	"	"	4:22	1.96
020	"	10	"	40000	4:11	"	"	4:23	1.97 clear WPA
021	"	10	"	29000	4:37	"	"	4:50	2.37
022	"	10	"	44000	4:39	"	"	4:51	2.40
023	"	10	"	42000	4:40	"	"	4:52	2.42
024	"	10	"	50000	4:41	"	"	4:53	2.44
025	"	10	"	46000	4:42	"	"	4:54	2.46
026	"	10	"	29000	4:58	"	"	5:11	2.84
027	"	10	"	39000	4:59	"	"	5:12	2.88
028	"	10	"	32000	5:00	"	"	5:13	2.91
029	"	10	"	36000	5:02	"	"	5:14	2.94
030	"	10	"	35000	5:15	"	"	5:03	2.97

Telescope: 61"

Frame prefix #: SP2F

Day of Week: Wed

RA offset:

Focus: SS20

Humidity:

Sheet #:

Observers: F. H. A. L.

Date MST/UT: Nov. 25/26

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.)
031	Swift-Tide	60s	0.50	5500	1:24	18:44:50	9:42:57	2:40	1.76
040	"	200	"	18400	1:27	" 12		3:42	1.79
041	"	200	"	2000		02.2	42.2	3:47	1.83 ²⁰⁰ - SW 1 = #1
042	48	200	"	~800		18:52:52	9:41:59	3:45	1.81 $2^{\circ}(8^m) E$
043	Swift-Tide	300	"	26000	~1:46	18:44:54	9:41:37	4:00	1.89 ^{Star just through slit}
044	48	200	"	~900	~1:52	18:52:55	9:41:21	3:59	1.86 ^{Star #10}
045	Swift-Tide	300	"	24000	1:58	18:44:46.5	9:41:05.4	4:13	2.15 ^{N.B. 46.2.47 sec exposure within time: $v = 7.74$ $\delta = 22$}
047	48	200	"	✓	2:04	52:58	4:22.8	4:12	2.12 ^{cut at top of slit g^m}
048	Swift-Tide	300	"	19700	2:12	18:44:56.1	9:39:04	4:26	2.38
049	48	200	"		2:19	18:53:08	9:38:44	4:25	2.55 ^{Dark $v = 7.74$ $\delta = 14$}
050	BS 7914	300	"	15500	3:57	20:40:24	19:53:10	4:17	1.90
051	"	600	"	25200				4:19	1.92
052	"	600	"	28600				4:20	1.93
053	"	"	"	21500				4:21	1.95
054	"	"	"	19900	4:05			4:23	1.97

48
040

Telescope: 61"

Frame prefix #: SP92F

Day of Week: Wed

RA offset:

Focus: Tailpiece:

Humdty: Sheet #:

Observers: F. J. J. d. d.

Date MST/UT: Wed 25/26

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.)
055	BS7914	6	0.50	2900	4:05			4:25	2.60
056	"	6	"	25500	4:13	2090254	195316	4:33	2.11
057	"	6	"	3510		"	"		2.12
058	"	6	"	3300	4:21	"	"	4:41	2.22
059	"	"	"	3200				4:42	2.24
060	"	"	"	3350				4:44	2.27
061	"	"	"	2780				4:45	2.29 <i>rather windy</i>
062	"	"	"	3020	4:26			4:46	2.31
063	"	"	"	23830				4:49	2.35
064	"	"	"	30800				4:50	2.37
065	"	"	"	17900	4:31			4:51	2.40
066	"	"	"	33500				4:52	2.42
067	^{BS} BS718	0.35	1.0	10800		2:2746	8:24238	-0:32	1.41
068	"	0.6	"	20200	4:55	"	"	-0:30	1.10
069	"	"	"	22419					<i>or pushed further</i>
070	"	"	"	26029				-0:29	1.10

Telescope: 6"

Frame prefix #: SP92F

Day of Week: Wed

RA offset:

Focus:

Humdty: 60% Sheet #:

Observers: Fish & L

Date MST/UT: Nov. 25/26

Dec offset:

Balance:

Temp O/I: 13/14

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.)
071	B5875	0.5	1.00	830	5:10	2:58:15	-03:45:57	-0:45	1.27
072	"	1.00	"	1820				-0:44	1.26
073	"	"	"	2040				-0:43	1.26 ✓
074	Phaethon	1200	0.5	1280	5:36	1:31:00	31:16:05	1:03	1.03
075	"	"	"	1421	5:52			1:24	1.05
076	"	"	"	1200				1:47	1.08
077	"	"	"	1321				2:08	1.12
078	"	"	"					2:31	1.17
079	"	"	"						1.23
080	Dark	1.0			8:50				7:00-8:00 the field returned
081	"	"			9:55				7:00-8:00 the field returned
082	SS		0.25						7:00-8:00 the field returned

Telescope: 61"

Inis: 300

Frame prefix #: SP92F

Day of Week: Th (Thursday)

RA offset:

Humdty: 53

Sheet #: 7

Observers: Fink et al

Date MST/UT: Nov 26/27

Dec offset:

Temp O/I:

20/30

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.)
082	SS	5.0	0.25	1670	00:33				1.00 Starred
083	"	10.0	"	25470	00:34				1.00 "
084	"	10.0	0.50	22375	00:37				1.00 "
085	"	"	"	1680	00:39				1.00 "
086	Swift-Tuttle	2.0	0.50	57287	1:15	18:48:10.5	8:30:08	3:30	1.71-
087	"	1.0	"	48580	1:20	10:7	29:16	2:35	1.75
088	"	1.2	"	40150	1:24	12.0	29:44	3:39	1.79
089	SS	1.2	"						1.76
090	S-T	1.2	"	3690		48:13.2	29:27	3:46	1.86
091	"	4.2	"	2500	1:34	48:13.8	29:28.5	3:50	1.89 but not 60 sec. may be 45 sec.
092	SS	"		970		18:50:14	8:29:08.5	3:45	1.85
093	Swift-Tuttle	1.2	"	57300	1:44	48:16	28:51.5	3:59	2.01
094	"	1.5	"	5820	1:47	48:16	28:40.7	4:03	2.05
095	SS	"				56:16	28:32.7	3:12	1.99

Telescope: 6"

Frame prefix #: SP92F

Day of Week: Th

RA offset:

Focus: 320

Humidity: 55% Sheet #: 8

Observers: Fix Hubs
Hydman

Date MST/UT: Nov. 26/27

Dec offset:

Balance:

Temp O/I: 25/29

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	BS7914	6m	0.5	3800	3:31			3:55	1.68
097	"	"	"	4010	3:34	20:40:255	19 53 16.3	3:57	1.70
098	"	"	"			"	"	3:18	1.78 - Bad readout Example!
099	"	"	"	4300					1.73
100	"	"	"	4180					1.75
101	"	"	"	3720	3:42	"	"	4:05	1.78
102	"	"	"	25184	3:45		.	4:08	1.81
103	"	"	"	3600	3:51				1.86
104	"	"	"					4:15	1.88
105	"	"	"	3570	3:55			4:19	1.92
106	"	"	"	19680	4:03			4:27	2.02
107	"	"	"	34000				4:29	2.04
108	"	"	"	34900				4:30	2.06
109	"	"	"	42900	4:08			4:32	2.09
110	BS 8314	5	0.5	31800	4:18	21:44:08	14 42 57.3	3:38	1.64

9

Dec offset:

[illegible]

Telescope: 61⁴

Frame prefix #: SP927

Day of Week: Fri

RA offset:

Focus: 3600 Humdty: 36% Sheet #: 10

Tailpiece: 242

Dec offset:

Temp O/I: 30/36

Observers: Fx, Hads, Hym Date MST/UT: Nov-27/28

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.)
117	Swift-Tadpole	60	0.5um	18500					1.74 very quiet good
118	"	2000	"	56000	1:16	18:51:27.3	7 19 16.2	3:33	1.76 quiet good
119	"	1800	"	48000		28.0	19 4.3	3:37	1.80 quiet. Norm up
120	"	"	"	45900	1:25	51:28.8	18:52.4	3:41	1.84 best
120	88	600	"	1113		18:49:21.5	7 18 33.9	3:38	1.80 8 ^m E (20)
121	Swift-Tadpole	180	"	41800	1:33	18:51:30.5	7 18 33.9	3:49	1.92
122	88	100	"	10200	1:37	59:31	18 20.5	3:46	1.88
123	Swift-Tadpole	200	"	41000		51:52	18:12.0	3:58	2.05
124	88	100	"	✓		59:33	17:58	3:55	1.99
125	Swift-Tadpole	200	"	45700	1:51	18:51:34	7 17 48	4:07	2.15 well guided
126	88	100	"			19 07:35	7 17 34	5:16	2.60
127	BS7914	600	0.5	47500	3:26	20:40:23.6	19 53 14.2	4:16	1.89 best handle with camera visible.
128	"	500	"	40600	3:49			4:17	1.90
129	"	"	"	31800				4:18	1.91
130	"	"	"	34500	5:52			4:20	1.93

[illegible]

205E 1-2' N + push Telescope: 61"

Iris:

Frame prefix #: SP12F Day of Week: Sat.

Focus: 3600 Humdty:

Sheet #: (12)

Observers: Rick, kids, Hollman Date MST/UT: Nov 28/29

Tailpiece:

Temp O/I: 27/36

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.)
140	Swift-Tulle	60	0.5-	5500	1:08	18 59 26.9	6 10 32	3:22.5	1.72
141	"	120	"	11300	1:11			3:28	1.74
142	"	300	"	28470	1:15	38.1	10 13.0	5:22	1.78
143	"	"	"	26910	1:25	39.8	09 47.2	3:42	1.82
144	88	100	"	-		81E		3:40	1.86
145	Swift-Tulle	300	"	23980	1:35	41.8	09 22	3:52	2.10 <i>aperture 50 microns</i>
146	88	100	"	-		81E		3:57	1.98
147	Swift-Tulle	300	"	21780	1:45	54 43.8	08 55.5	4:02	2.13 <i>Tina Land at Schmidt</i>
148	88	100	"			19 02 45	6 08 37.8	4:40	2.10
149	BS 7914	5	"	32110	3:25	20 42 23.5	19 53 16.6	5:57	1.70
150	"	"	"	35540					1.71
151	"	"	"	29900	3:29	"	"	4:01	1.74
152	"	"	"	29170					1.75
153	"	"	"	1800 - burst					1.77
154	"	11		26200					1.79

*Perfectly photometric
Crescent Moon*

Telescope: 61"

Iris:

Frame prefix #: SP92F

Day of Week: Sat

Focus: 1600

Humidity: 48

Sheet #: 13

Tailpiece:

Observers: F. A. Richards, Hoffman

Date MST/UT: Nov. 28, 29

Temp O/I:

22/27

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.)
155	BS 7914	5	0.5	28600		20:40:24		4:10	1.82
156	"	"	"	28950				4:14	1.86
157	"	"	"	30800					1.91
158	"	"	"	34100				4:20	1.93
159	"	"	"		3:54			4:25	2.00
160	"	"	"	35200				4:29	2.05
161	"	"	"	31000	4:01			4:33	2.11
162	"	"	"	30800				4:39	2.12
163	"	"	"	36100	4:06			4:57	2.17
164	"	"	"	30500	4:07			4:58	2.18
165	^{HR 23} BS 718	0.6	1.0	23280	4:16	2:27:46	8 25 48.7	-1.0	1.13
166	"	"	"	22500	4:17	"	"	-0:18	1.13
167	"	"	"	23111	4:18	"	"	-0:57	1.13
168	Scheumene	600	0.5	³⁰⁰ 1220/400				-1:59	1.19
169	"	1200		⁶⁰⁰				-1:48	1.16

White Hydrogen completely gone!
 $U = 7.43 \text{ } \sigma = 1.9$

his:

Frame prefix #: SP92F Day of Week: Sat

Focus:
Tailpiece:
Balance:

Sheet #: 14

Observers: Fink, Hicks,
Hoffman

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.)
170	Scheurme	1200	0-50	~600 ✓	5:28	4:18:01	13 59 35	1:27	1.12
171	"	"	"	~600 1023/900	6:00	4:18:00	13 59 36.1	1:05	1.09
172	"	"	"	~600 1023/900	6:21	17:58	59:39	-0:45	1.07
173	"	"	"	~900 1764/751	6:42	17:57	59:45	-0:23	1.06
174	"	"	"		7:09			-0:01	1.05
175	"	"	"	1910/669				0:19	1.06
176	B51662	300	0-10	58500				0:01	Indy find: 5:07:13.8 / 9:27:32.8 1.09 _{finder}
177	"	"	"	33600					1.09
178	"	"	"	55460				+0:03	1.09
179	1979 VA	"	"		8:28	807:54	20 14 28.2	-2:31	1.23
180	"	"	"		8:50	528	06.	-2:04	1.16 100 April 2000 at PMA _{in box}
181	"	"	"		9:11			-1:44	1.11
182	"	"	"		9:31			-1:23	1.08 large wing in

Telescope: 61"

Frame prefix #: FR92 F

Day of Week: Mon

RA offset:

Focus: 3520

Humidity: 70

Sheet #: 1

Observers: Fink + pl.

Date MST/UT: Nov 23/24

Tailpiece:

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.)
001	C. Swift	10s	H ₂ O ⁺	1600	2:53	18:38:09	+12:08:00	5:08	3.36 ^{6P} Array 341, 401 saved.
001	"	120s	"		2:55	18:38:10	+12:08:56	5:09	3:41
002	"	120s	contin.		2:58	18:38:11	+12:07:49	5:12	3:55
003	"	120s	NH ₂		3:01	18:38:11	+12:07:43	5:16	3:69 16" fat 21" in
004	"	120s	NH ₂		3:04	18:38:12	+12:07:36	5:19	3:84 some clouds, seeing
005	"	120s	cont		3:07	18:38:13	+12:07:30	5:22	4:04 - 4.17 not
006	Set	Guide	389.1	404.0			Dec +14	HA. 2:51	
006	Phxethon	120s	B/di	6710	6:06	1:37:25	3-1:55:42	1:23	1.05
007	"	"	"						1.05
008	"	300	V+R	6052		1:37:16	3-1:54:15		1.27 600x600
009	"	300	"						1.30
010	5145 Pholus	60	"		8:08	9:35:26	+21:01:51	-4:32	2.06 512x512
011	"	"	"		8:12	"	"	-4:29	2.02
012	"	"	"		8:16	"	"	-4:26	1.97
013	"	"	"		8:19	"	"	-4:23	1.93

~~014~~

Telescope: 61⁶

Frame prefix #: FR92F

Day of Week: Mon

RA offset:

Focus:

Humdty: 71% Sheet #: 2

Observers: Rrk & d.

Date MST/UT: 92 Nov 23/24

Dec offset:

Tailpiece:

Temp O/I: 17/18

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start UT MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
014	524592	60s	V+R	129000	8:22	9:35:27	+21:08:47	-4:20	Sec 2 1.89
015	"	"	"	"	8:28	9:35:33	+21:07:05	-4:15	1.83
015	"	60s	V+R	"	8:32	9:35:38	+21:09:31	-4:10	1.80
016	"	"	"	"	8:35	9:35:38	+21:09:30	-4:08	1.76 400x400
017	SAO 80977	0.2	"	"	8:40	9:41:48	+21:46:29	-4:07	1.76
018	=COMP3	0.2	"	110K	8:42	9:41:58	+21:46:53	-4:05	1.74
019	"	0.2	"	"	8:44	9:41:58	+21:46:53	-4:03	1.73
019	5145	60s	"	"	8:48	9:35:38	+21:09:30	-3:53	1.65
020	"	"	"	"	8:50	"	"	-3:51	1.64
021	"	"	"	"	8:53	"	"	-3:48	1.61
022	"	"	"	"	8:55	"	"	-3:46	1.60
023	SAO 79933	0.2	"	"	9:00	8:05:24	+20:49:24	-2:11	1.17
024	=COMP1	0.2	"	"	9:03	8:05:32	+20:50:14	-2:08	1.17
025	5145	60s	"	"	9:08	9:35:38	+21:09:30	-3:33	1.51
026	"	"	"	"	9:10	"	"	-3:31	1.50

Telescope: 61"

Frame prefix #: FR02F

Day of Week: Mon

RA offset:

Focus:

Humdty: 71% Sheet #: 3

Tailpiece:

Dec offset:

Temp O/I: 13/18

Observers: Fink & al. Date MST/UT: 92 Nov 23/24

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start UT MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
027	5145	60s	V+R		9:13	9:35:39	+21:09:30	-3:29	1.48
028	"	"	"		9:15	"	"	-3:27	1.47
029	Comp 3	0.2s	"		9:18	9:41:58	+21:46:52	-3:29	1.48
030	"	"	"		9:19	"	"	-3:28	1.47
031	5145	60s	"		9:22	9:35:38	+21:09:30	-3:19	1.43
032	"	"	"		9:24	"	"	-3:17	1.42
033	"	"	"		9:27	"	"	-3:15	1.40
034	"	"	"		9:28	"	"	-3:13	1.40
035	JA76	2s	"		9:39	8:30:30	+14:08:00	-1:58	1.18
036	"	"	"		9:40	"	"	-1:56	1.18
037	5145	60s	"		9:43	9:35:38	+21:09:30	-2:58	1.33
038	"	"	"		9:46	"	"	-2:55	1.32
039	"	"	"		9:48	"	"	-2:53	1.31
040	"	"	"		9:50	"	"	-2:51	1.30
041	Comp 3	0.2s	"		9:52	9:41:58	+21:46:52	-2:55	1.31

Telescope:

Frame prefix #: FR92F

Day of Week: Mon

RA offset:

Focus:

Humdty: 71% Sheet #: 4

Observers: Fickel J.

Date MST/UT: 92 Nov 23/24

Dec offset:

Tailpiece:

Temp O/I: 13/18

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.)
042	Comp 3	0.2	VAR		9:54	9:41:38	+21:48:52	-2:53	see 2 1.30
043	5145	60	"		9:56	9:35:38	+21:09:30	-2:45	1.28
044	"	"	"		9:59	"	"	-2:42	1.26
045	"	"	"		10:01	"	"	-2:40	1.26
046	"	"	"		10:03	"	"	-2:38	1.25
047	SA 52	25	"		10:10	8:30:29	+29:16:04	1.28	1.06
048	"	"	"		10:12	"	"	-1:24	1.05
049	5145	60	"		10:14	9:35:38	+21:09:31	-2:26	1.24
050	"	"	"		10:18	"	"	-2:24	1.20
051	"	"	"		10:18	"	"	-2:22	1.20
052	"	"	"		10:21	"	"	-2:20	1.20
053	Comp 3	0.2	"		10:23	9:41:58	+21:48:52	-2:23	1.20
054	"	"	"		10:24	"	"	-2:23	1.20
055	5145	60s	"		10:26	9:35:38	+21:09:31	-2:15	1.18
056	"	"	"		10:28	"	"	-2:13	1.18

Telescope: 61"

Frame prefix #: FR92 F

Day of Week: Mon

RA offset:

Focus:

Humdty: 71% Sheet #: 5

Observers: Fink et al.

Date MST/UT: 92 Nov 23/24

Dec offset:

Tailpiece:

Temp O/I: 13/18

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.)
057	5745	60s	VR		10:30	9:35:38	+21:09:30	2:11	see 1.17
058	"	"	"		10:32	"	"	2:09	1.17
059	comp 3	0.2s	"		10:34	9:41:58	+21:46:52	2:13	1.17
060	"	"	"		10:36	"	"	2:12	1.17
061	5745	60s	"		10:41	9:35:38	+21:09:30	2:00	1.14
062	"	"	"		10:43	"	"	1:58	1.14
063	"	"	"		10:45	"	"	1:56	1.14
064	"	"	"		10:47	"	"	1:53	1.13
065	comp 3	0.2s	"		10:52	9:41:58	+21:46:52	1:56	1.13
066	"	0.2s	"		10:53	"	"	1:53	1.13
067	5745	60s	"		10:55	9:35:38	+21:09:30	1:46	1.11
068	"	"	"		10:58	"	"	1:43	1.11
069	"	"	"		10:59	"	"	1:41	1.11
070	"	"	"		11:02	"	"	1:39	1.10
071	comp 3	0.2s	"		11:04	9:41:58	+21:46:52	1:43	1.11

Telescope: 61"

Frame prefix #: FR92F

Day of Week: Mon

RA offset:

Focus:

Humdty: 71% Sheet #: 6

Observers: Fink et al.

Date MST/UT: 92 Nov

Dec offset:

Tailpiece:

Temp O/I: 13/18

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.)
072	comp3	0.5s	V+R		11:06	9:41:58	+21:46:52	-1:41	see 1.10
073	5145	60s	"		11:07	9:35:38	+21:09:31	-1:33	1.09
074	"	"	"		11:10	"	"	-1:29	1.09
075	"	"	"		11:14	"	"	-1:27	1.08
076	"	"	"		11:16	"	"	-1:25	1.08
077	comp1	0.5s	V+R		11:20	9:05:32	+20:50:11	+0:09	1.02
078	"	"	"		11:21	"	"	+0:09	1.02
079	5145	60s	"		11:24	9:35:38	+21:09:31	-1:17	1.07
080	"	"	"		11:26	"	"	-1:15	1.06
081	"	"	"		11:28	"	"	-1:12	1.06
082	"	"	"		11:31	"	"	-1:10	1.06
083	comp3	0.5s	"		11:33	9:41:58	+21:46:52	-1:14	1.06
084	"	"	"		11:34	"	"	-1:13	1.06
085	5145	60s	"		11:36	9:35:38	+21:09:31	-1:05	1.05
086	"	"	"		11:38	"	"	-1:03	1.05

Telescope: 61

Frame prefix #: FR92F
 Observers: Fish et al.

Day of Week: Mon
 Date MST/UT: 92 Nov 23/24

RA offset:
 Dec offset:

Focus:
 Tailpiece:
 Balance:

Humdty: 71% Sheet #: 7
 Temp O/I: 13/18

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.)
087	5145	60s	V+R		11:40	9:35:38	+21:09:31	1:01	see 2 1.05
088	"	"	"		11:42	"	"	0:59	1.05
089	comp3	0.5s	"		11:44	9:41:58	+21:46:52	1:03	1.05
090	comp3	"	"		11:45	"	"	1:02	1.05
091	5145	60s	"		11:48	9:35:38	+21:09:31	0:53	1.04
092	"	"	"		11:50	"	"	0:51	1.04
093	"	"	"		11:52	"	"	0:49	1.04
094	"	"	"		11:53	"	"	0:47	1.04
095	comp3	0.5s	"		11:56	9:41:58	+21:46:52	0:51	1.04
096	"	"	"		11:57	"	"	0:50	1.04
097	5145	60s	"		11:59	9:35:38	+21:09:31	0:41	1.03
098	"	"	"		12:01	"	"	0:39	1.03
099	"	"	"		12:03	"	"	0:37	1.03
100	"	"	"		12:05	"	"	0:35	1.03
101	comp3	0.5s	"		12:07	9:41:58	+21:46:52	0:40	1.03

Telescope:

61"

Frame prefix #: FR92F

Day of Week: Mon

RA offset:

Focus:

Humidity: 70% Sheet #: 8

Observers: Fink et al.

Date MST/UT: 92 Nov 23/24

Dec offset:

Tailpiece:

Temp O/I: 12/18

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.)
102	comp3	0.5s	U4R		12:108	9:41:58	+21:46:52	-0:30	see c. 1.03
103	5745	60s	"		12:110	9:35:38	+21:09:31	-0:20	1.03
104	"	"	"		12:112	"	"	-0:28	1.03
105	"	"	"		12:114	"	"	-0:26	1.03
106	"	"	"		12:116	"	"	-0:24	1.02
107	comp3	0.5s	"		12:119	9:41:58	+21:46:52	-0:28	1.02
108	"	"	"		12:119	"	"	-0:28	1.02
109	5745	60s	"		12:122	9:35:38	+21:09:31	-0:19	1.02
110	"	"	"		12:123	"	"	-0:17	1.02
111	"	"	"		12:126	"	"	-0:15	1.02
112	"	"	"		12:127	"	"	-0:13	1.02
113	comp3	0.5s	"		12:129	9:41:58	+21:46:52	-0:18	1.02
114	"	"	"		12:131	"	"	-0:16	1.02
115	5745	60s	"		12:134	9:35:38	+21:09:31	-0:07	1.02
116	"	"	"		12:136	"	"	-0:05	1.02

Telescope: 61"

Frame prefix #: FR92F

Day of Week: Mon

RA offset:

Focus:

Humidity: 70% Sheet #: 9

Observers: Fink et al

Date MST/UT: 92 Nov 23/24

Dec offset:

Tailpiece:

Temp O/I: 12/18

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.)
117	5145	60s	uR		12:38	9:35:38	+21:09:31	-0:03	PC 2 1.02
118	"	"	"		12:40	"	"	-0:01	1.02
119	Comp 3	0.5s	"		12:42	9:41:58	+21:46:52	-0:05	1.02
120	"	"	"		12:43	"	"	-0:04	1.02
121	5145	60s	"		12:48	9:35:38	+21:09:31	+0:06	1.02
122	"	"	"		12:49	"	"	+0:07	1.02
123	"	"	"		12:51	"	"	+0:09	1.02
124	"	"	"		12:53	"	"	+0:11	1.02
125	Comp 3	0.5s	"		12:57	9:41:58	+21:46:12	+0:10	1.02
126	"	"	"		12:58	"	"	+0:11	1.02
127	Flat	0.8	"		13:				Varia: 0.8 60
128	"	1.0	"	18k	13:				Perhaps 0.8sec in set file
129	"	0.8	"	15k	13:				"
130	"	0.8	"		13:				"
131	"	0.8	"		13:				"

Telescope: 61"

Frame prefix #: FR92F

Day of Week: Tue

RA offset:

Focus:

Humidity: 57% Sheet #: 14

Tailpiece:

Temp O/I: 12/18

Dec offset:

Observers: Fink et al. Date MST/UT: Nov 25

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.)
192	3200 Phaelus	300	VR		7:35	1:35:38	+34:35:08	+2:57	see 2 / Readout: 1.25
193	"	"	"		7:46	"	+34:35:00	+3:08	1.29
194	"	"	"		7:53	"	+34:34:57	+3:14	1.31
195	5145 Phaelus	60s	"		8:05	9:35:33	+21:10:20	-4:32	2.05
196	"	"	"		8:10	"	"	-4:27	2.00
197	"	"	"		8:12	"	"	-4:25	1.97
198	"	"	"		8:14	"	+21:10:17	-4:23	1.94
199	"	60	"		8:24	"	"	-4:13	1.84
200	"	"	"		8:26	"	"	-4:12	1.82
201	"	"	"		8:31	"	"	-4:06	1.76
202	5145 Phaelus	0.55	"	35000	8:35	9:41:58	+21:46:52	-4:08	1.77
203	"	"	"		8:37	"	"	-4:07	1.76
204	5145 Phaelus	60s	"		8:43	9:35:45	+21:10:51	-3:54	1.66
205	"	"	"	6600	8:45	"	"	-3:52	1.64
206	"	120s	"		8:49	"	"	-3:48	1.62

Camera wrapped up
very bad row

Telescope: 61"

Frame prefix #: FR92F

Day of Week: Tue

RA offset:

Focus:

Tailpiece:

Humdty: 53% Sheet #: 15

Observers: Fink et al.

Date MST/UT: Nov. 24/25

Dec offset:

Balance:

Temp O/I: 10/17

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.)
207	5145 Phobos	120s	UTR		8:52	9:35:45	+21:10:50	-3:45	sec 2 1.59 blue line
208	Comp?	0.5	"		8:56	9:41:58	+21:46:52	-3:48	1.60
209	"	"	"		8:57	"	"	-3:47	1.59
210	5145	120s	"		8:58	9:35:45	+21:10:51	-3:38	1.55
211	"	"	"		9:01	"	"	-3:36	1.53
212	"	"	"		9:04	"	"	-3:33	1.51
213	"	"	"		9:08	"	"	-3:29	1.48
214	5145 Comp 1	0.25	"	34000	9:13	8:05:32	+20:50:11	-1:53	1.13
215	"	"	"		9:15	"	"	-1:52	1.13
216	5145	120s	"	14600	9:18	9:35:45	+21:10:51	-3:19	1.43
217	"	"	"		9:23	"	"	-3:14	1.41
218	"	"	"		9:25	"	"	-3:13	1.39
219	"	"	"		9:28	"	"	-3:10	1.38
220	Comp?	0.5s	"	53000	9:32	9:41:58	+21:46:52	-3:11	1.38
221	"	0.3s	"	20000	9:33	"	"	-3:10	1.37

Telescope: 61"

Frame prefix #: FR92F

Day of Week: Tue

RA offset:

Focus:

Humidity: 55%

Sheet #: 16

Observers: Finkelstein

Date MST/UT: Nov 24/25

Dec offset:

Tailpiece:

Temp O/I: 11/17

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.)
222	5145	120s	V+R	10000	9:36	9:35:45	+21:10:51	-3:01	1.34
223	"	"	"		9:39	"	"	-2:58	1.33
224	"	"	"		9:44	"	"	-2:53	1.31
225	"	"	"		9:47	"	"	-2:50	1.29 wide for lines at bottom
226	comp 3	0:35	"	29000	9:51	9:41:58	+21:46:2	-2:53	1.30
227	"	0:35	"		9:52			-2:54	1.30
228	5145	120s	"	13000	9:54	9:35:45	+21:40:51	-2:43	1.27
229	"	"	"		9:57	"	"	-2:40	1.26 { Mount piece empty
230	"	"	"	10000	10:38	"	"	-1:59	1.14 few small lines
231	"	"	"		10:40	"	"	-1:57	1.13
232	comp 3	3s	"	23000	10:47	9:41:58	+21:45:37	-1:56	1.13
233	"	"	"		10:48	"	"	-1:55	1.13
234	5145	120s	"	14000	10:54	9:35:45	+21:10:51	-1:42	1.11 Argos completed
235	"	"	"		10:59	"	"	-1:38	1.10
236	"	"	"		11:02	"	"	-1:35	1.09

Telescope: 6" 11

Frame prefix #: FR92F

Day of Week: Tue

RA offset:

Focus:

Humidity: 55% Sheet #: 17

Observers: Flykett et al.

Date MST/UT: Nov 24/25

Dec offset:

Tailpiece:

Temp O/I: 11/17

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.)
237	5145	1205	V+R		11:05	9:35:45	+21:10:51	-1:32	See 1.09
238	SA52	35	"		11:12	8:20:25	+29:15:9	-0:15	1.00
239	"	55	"		11:14	"	"	-0:17	1.00
240	5145	1205	"		11:19	9:35:45	+21:10:51	-1:18	1.07
241	"	"	"		11:22	"	"	-1:15	1.07
242	"	"	"		11:26	"	"	-1:11	1.06
243	"	"	"		11:29	"	"	-1:08	1.06
244	comp 3	0.31	"	20000	11:32	9:41:58	+21:45:37	-1:11	1.06 Guide
245	"	"	"		11:34	"	"	-1:09	1.06
246	5145	1205	"	11000	11:39	9:35:45	+21:10:51	-0:57	1.05
247	"	"	"		11:43	"	"	-0:53	1.04 Started did not open
248	"	"	"		11:48	"	"	-0:48	1.04
249	"	"	"		11:51	"	"	-0:45	1.04
250	SA76	35	"	16000	11:57	8:20:36	+14:48:24	+0:34	1.06
251	"	"	"		11:59	"	16	+0:36	1.06

Telescope: 61"

Frame prefix #: FR92F

Day of Week: Tue

RA offset:

Focus:

Humidity: 31% Sheet #: 18

Observers: Frank et al.

Date MST/UT: Nov 24/25

Dec offset:

Tailpiece:

Temp O/I: 12/18

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.)
252	SA 76	35	✓R		12:00	8:20:36	14:46:24	+0:37	1.06
253	5145	1205	"	9800	12:07	9:35:45	21:10:51	+0:30	1.03
254	"	"	"		12:10	"	"	+0:27	1.03
255	"	"	"		12:13	"	"	+0:24	1.02
256	"	"	"		12:16	"	"	+0:21	1.02
257	comp 3	0:35	"	24000	12:21	9:41:51	21:45:30	+0:22	1.02
258	"	"	"		12:21	"	"	+0:22	1.02
259	5145	1205	"	10600	12:23	9:35:45	21:10:51	+0:14	1.02
260	"	"	"		12:29	"	"	+0:08	1.02
261	"	"	"		12:32	"	"	+0:04	1.02
262	"	"	"		12:35	"	"	+0:02	1.02
263	comp 1	0:25	"	24000	12:42	8:05:21	20:48:53	+1:35	1.10
264	"	"	"		12:43	"	"	+1:36	1.10
265	5145	1205	"	12000	12:45	9:35:45	21:10:51	+0:07	1.02
266	"	"	"		12:48	"	"	+0:10	1.02

! check parameters

Telescope: 61^u

Frame prefix #: FR92F

Day of Week: Wed

RA offset:

Focus:

Humidity: 59 Sheet #: 21

Observers: Fink H. & Hoffman

Date MST/UT: Nov 25/26

Dec offset:

Tailpiece:
Balance:

Temp O/I: 12/17

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.)
295	30977 Comp 3	0.3s	✓+R	14 000	8:13	9:41:58	+21:46:52	4:27	Dec 2 1.97
296	"	"	"	11 000	8:15	9:41:56	+21:45:06	4:25	1.95
297	5145	120s	"	7 500	8:20	9:35:48	+21:10:51	4:13	1.84
298	"	"	"	"	8:23	"	"	4:10	1.81
299	"	"	"	"	8:26	"	"	4:07	1.76
300	"	"	"	"	8:29	"	"	4:05	1.75
301	comp 3	0.5s	"	18 000	8:33	9:41:56	+21:45:06	4:07	1.76
302	"	"	"	"	8:34	"	"	4:06	1.75
303	5145	120s	"	8 800	8:40	9:35:48	+21:10:51	3:54	1.66
304	"	"	"	"	8:44	"	"	3:50	1.62
305	"	"	"	"	8:52	"	"	3:41	1.56
306	"	"	"	"	8:56	"	"	3:37	1.54
307	comp 1	0.2s	"	17 000	9:01	8:05:32	+20:50:11	2:02	1.15
308	"	"	"	"	9:03	8:05:30	+20:48:16	2:00	1.15
309	5145	120s	"	8600	9:06	9:35:48	+21:10:51	3:28	1.48

System Crashed

Telescope: 61^u

Frame prefix #: FR92F

Day of Week: Wed

RA offset:

Focus:

Humdty: 57% Sheet #: 22

Observers: F. K. & W. K.

Date MST/UT: Nov 25/26

Dec offset:

Balance:

Temp O/I: 13/19

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.)
310	5145	120s	U+R		9:09	9:35:48	+21:10:51	-3:24	sec 2 1.46
311	"	"	"		9:12	"	"	-3:21	1.44
312	"	"	"		9:15	"	"	-3:18	1.43
313	comp 1	0.2s	"	13700	9:20	8:05:30	+20:48:16	-1:44	1.11
314	"	"	"		9:20	"	"	-1:43	1.11
315	5145	120s	"		9:22	9:35:48	+21:10:51	-3:11	1.39
316	"	"	"		9:26	"	"	-3:08	1.37
317	"	"	"	10000	9:28	"	"	-3:05	1.36
318	"	"	"	10000	9:31	"	"	-3:02	1.35
319	SA76	3s	"		9:36	8:20:36	+14:46:41	-1:42	1.15 600x600
320	"	"	"		9:38	"	"	-1:40	1.14
321	5145	120s	"	8500	9:41	9:35:48	+21:10:51	-2:52	1.30
322	"	"	"		9:44	"	"	-2:50	1.29
323	"	"	"		9:47	"	"	-2:47	1.28
324	"	"	"		9:50	"	"	-2:43	1.26

Telescope: 61"

Frame prefix #: FR92F

Day of Week: Wed

RA offset:

Focus:

Humidity: 57% Sheet #: 23

Tailpiece:

Temp O/I: 12/18

Date MST/UT: Nov 25/26

Balance:

Dec offset:

Observers: P. H. H. H.

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.)
325	comp1	0.25	V+R	12600	9:54	8:05:30	+20:48:16	-1:09	sec 1.06
326	"	"	"		9:56	"	"	-1:07	1.06
327	5745	120s	"		10:00	9:35:48	+21:10:51	-2:34	1.24
328	"	"	"		10:02	"	"	-2:31	1.23 Black line
329	"	"	"		10:05	"	"	-2:28	1.22
330	"	"	"		10:08	"	"	-2:25	1.21
331	comp1	0.25	"	10800	10:13	8:05:25	+20:48:08	-0:49	1.04
332	"	"	"		10:14	"	"	-0:48	1.04
333	5745	120s	"	8900	10:17	9:35:48	+21:10:51	-2:16	1.18
334	"	"	"		10:20	"	"	-2:13	1.17
335	"	"	"		10:23	"	"	-2:10	1.17
336	"	"	"		10:26	"	"	-2:07	1.16
337	SA76	35	"		10:31	8:20:36	+14:46:41	-0:47	1.07
338	"	"	"		10:32	"	"	-0:46	1.07
339	5745	120s	"		10:36	9:35:48	+21:10:51	-1:57	1.14

Telescope: 61"

Frame prefix #: FR92F

Day of Week: Wed

RA offset:

Focus:
Tailpiece:

Humdty: 53% Sheet #: 24

Observers: Fickel, Nov 25/26

Date MST/UT: 25/26

Dec offset:

Temp O/I: 14/19

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.)
340	545	1205	V+R	7300	10:39	9:35:48	+21:10:51	1:54	1.13
341	"	"	"	"	10:41	"	"	1:52	1.13
342	"	"	"	"	10:44	"	"	1:49	1.12
343	comp 1	0:2	"	7700	10:49	8:05:25	+20:48:08	0:14	1.02
344	"	"	"	"	10:50	"	"	0:13	1.02
345	545	1:00	"	6800	10:52	9:35:48	+21:10:51	1:41	1.11
346	"	"	"	"	10:55	"	"	1:38	1.10
347	"	"	"	"	10:58	"	"	1:35	1.09
348	"	"	"	"	11:02	"	"	1:31	1.09
349	comp 1	0:2	"	9000	11:07	8:05:25	+20:48:08	0:03	1.02
350	"	"	"	"	11:07	"	"	0:03	1.02
351	545	1:20	"	"	11:14	9:35:48	+21:10:51	1:19	1.07
352	"	"	"	"	11:17	"	"	1:16	1.07
353	"	"	"	"	11:19	"	"	1:14	1.06
354	"	"	"	"	11:22	"	"	1:11	1.06

Jump in east

Telescope: 61"

Frame prefix #: FR92F

Day of Week: Thu

RA offset:

Focus:

Humidity: 50% Sheet #: 29

Observers: R. K. Jones
Hofmann

Date MST/UT: Nov 26/27

Dec offset:

Tailpiece:
Balance:

Temp O/I: 27/32

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.)
413	1289	20s	V+R		6:23	4:37:01	+20:02:50	-1:08	1.06
414	"	"	"		6:24	"	"		
415	"	"	"		6:25	"	"		
416	"	"	"		6:26	"	"		
417	"	"	"		6:27	"	"		
418	"	"	"		6:29	"	"		
419	SA076724	0.2s	"	15000	6:33	4:42:30	+20:03:53	-1:04	1.05
420	"	"	"		6:35	"	"	-1:05	1.05
421	1289	20s	"		6:38	4:37:01	+20:02:50	-0:53	1.05
422	"	"	"	20000	6:39	"	"	-0:52	1.05
423	"	"	"		6:40	"	"	-0:51	1.05
424	"	"	"		6:41	"	"	-0:50	1.04
425	"	"	"		6:42	"	"	-0:49	1.04
426	SA076724	0.2s	"	13000	6:43	"	"	-0:53	1.04
427	"	"	"		6:44	"	"	-0:52	1.04

Telescope: 61"

Frame prefix #: FR92F

Day of Week: Thu

RA offset:

Focus:

Humdty: 50% Sheet #: 30

Observers: F. K. Hick²

Date MST/UT: Nov 26/27

Dec offset:

Tailpiece:

Temp O/I: 27/32

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start UT MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
428	1289	20s	U+R	19800	6:48	4:37:01	20:02:50	-0:43	1.04
429	"	"	"		6:49	"	"	-0:42	1.04
430	"	"	"			"	"		
431	"	"	"		6:50	"	"	-0:41	1.04
432	"	"	"		6:51	"	"	-0:40	1.04
433	Comp 5	0.2	"	20100	6:55	4:42:30	20:35:53	-0:41	1.04
434	"	"	"		6:56		"	-0:40	1.03
435	1289	20s	"	22600	6:58			-0:33	1.03
436	"	"	"		6:59			-0:32	1.03
437	"	"	"		7:00			-0:31	1.03
438	"	"	"		7:01			-0:30	1.03
439	"	"	"		7:02			-0:29	1.03
440	Comp 5	0.2	"		7:05			-0:32	1.03
441	"	"	"		7:05			-0:31	1.03
442	1289	20s	"		7:07			-0:23	1.03

Telescope: 61"

Frame prefix #: FR92F

Day of Week: Thu

RA offset:

Focus:

Humidity: 50% Sheet #: 31

Observers: Fick Hilde²
Duffman

Date MST/UT: Nov 26/27

Dec offset:

Tailpiece:

Temp O/I: 27/32

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.)
443-446	1289	20s	V+R			4:36:57	+20:02:35	+0:23	Exposure 708 7:09 7:10 7:12
447-448	comp 5	0.2s	"			4:42:30	+20:35:53	+0:22	7:14 7:15
449-453	1289	20s	V+R					+0:13	7:17 7:18 7:19 7:20 7:21
454-455	comp 1	0.2s	"			8:05:30	+20:48:15	-3:35	7:25 7:26 seeing 1.52
456-460	1289	20s	"					+0:03	7:28 7:30 7:31 7:32 7:33
461-462	comp 5	0.2s	"					+0:02	7:35 7:35
463-467	1289	20s	"					+0:05	7:37 7:38 7:39 7:40 7:41
468-469	comp 1	0.2s	"					-3:16	7:44 7:46 *done to object sec 2 1.41
470-474	1289	20s	"					+0:18	7:49 7:50 7:52 7:53 7:54
475-476	comp 5	0.2s	"					+0:18	7:56 7:56
477-479	5145	120s	"					-4:30	8:04 8:08 8:11 sec 2 1.97
480-481	comp 1	0.2s	"					-2:43	8:16 8:18
482-486	1289	20s	"	23 000				+0:49	8:21 8: 8:24 8:26 8:27
487-488	comp 5	0.2s	"					+0:51	8:28 8:29
489-491	5145	120s	"			9:35:48	+21:10:51	-3:58	8:33 8:39 8:41 not well placed

check w/ers. →
←

Telescope: 61"

Frame prefix #: FR92F Day of Week: Thu

RA offset:

Focus:

Humidity: 48% Sheet #: 32

Tailpiece:

Dec offset:

Balance:

Temp O/I: 27/32

Observers: Frank H. H. 2

Date MST/UT: Nov 26/27

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.)
492-493	comp 1	0.25	V+R						8:48 8:49
494-498	1289	20s	"			4:36:58	+20:02:35	+1:26	8:59 9:00 9:03 9:07 9:06
499-500	comp 5	0.25	"			4:42:30	+20:35:53	+1:31	9:09 9:09
501-504	5145	120s	"			9:35:50	+21:12:22	-3:18	9:12 9:16 9:19 9:23
505-506	comp 1	0.25	"			8:05:30	+20:48:16	-1:32	9:27 9:28
507-511	1289	20s	"					+2:01	9:33 9:35 9:36 9:37 9:38
512-513	comp 5	0.25	"					+2:00	9:39 9:40
514-518	5145	120s	"					-2:45	9:44 9:47 9:50
519-528	5A76	35	"	14900		8:20:36	+14:46:36	-1:19	9:55 9:56
529-533	1289	20s	"					+2:30	10:02 10:04 10:04 10:06 10:08
534-535	comp 5	0.25	"					+2:35	10:12 10:13
536-538	5145	120s	"					-2:13	10:17 10:20 10:24
539-540	comp 1	0.25	"					-0:29	10:30 10:32
541-545	1289	20s	"					+3:03	10:34 10:35 10:37 10:38 10:39
546-547	comp 5	0.2	"					+3:04	10:41 10:41

Telescope: 6" C

Frame prefix #: FR92F

Day of Week: Fri

RA offset:

Focus:

Humidity: 34% Sheet #: 40

Observers: Fink Hodes
H.H.

Date MST/UT: Nov 27/28

Dec offset:

Tailpiece:

Temp O/I: 32/36

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Exp Hrs-Comments (P.A., seeing, Moon, clouds, etc.)
666- 667	comp 1	0.2	V+R		1.10	8:05:30	20:48:40	1:39	9.16 / 9.18
668	A	300	open		1.35	8:32:28	20:08:29	2:59	9.23
669	B	"	"		1.37	8:32:28	20:14:24	3:06	9.29
670	C	"	"		1.40	"	20:20:24	3:13	9.36
671- 674	5145	120	V+R		1.25	9:36:00	21:14:14	2:39	9:47/9:50 / 9.53 / 9.56
675- 676	comp 1	0.25	"		1.054	8:05:30	20:48:40	0:55	10.02 / 10.03
677- 680	5145	120s	"		1.20	9:36:00	21:14:14	2:20	10.05 / 10.08 / 10.11 / 10.14
681- 682	SA76	35	"		1.07	8:20:36	21:46:41	0:52	10.18 / 10.20
683- 686	5145	120s	"		1.15	9:36:00	21:14:14	2:01	10.23 / 10.25 / 10.28 / 10.32
687- 688	comp 1	0.2	"		1.02	8:05:29	20:48:12	0:17	10.38 / 10.39
689- 692	5145	120s	"		1.11	9:36:00	21:14:14	1:44	10.41 / 10.44 / 10.46 / 10.49
693- 694	comp 1	0.2	"		1.02	8:05:29	20:48:11	0:00	10.55 / 10.56
695- 698	5145	120s	"		1.08	9:36:00	21:14:14	1:27	10.59 / 11.02 / 11.04 / 11.07
699- 700	comp 1	0.2	"		1.02	8:05:29	20:48:17	0:16	11.12 / 11.13
701- 704	5745	120	"		1.06	9:36:00	21:14:14	1:03	11.28 / 11.28 / 11.31

19

his:

Frame prefix #: ~~FR92F~~

Day of Week:

FR

Observers: Fink, Hilde,

Date MST/UT: Nov 27/28

Balance:

Temp 0/I: 22/22

Temp 0/I: 22/22

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments
705-706	comp 1	0.2	V+R	-	1.03	8:05:24	+20:48:17	+0:40	11:36 11:37
707-710	5145	120s	"		1.04	9:35:55	+21:13:50	-0:45	11:41 11:43 11:46 11:49
711-712	comp 1	0.2	"		1.05	8:05:24	+20:48:17	+0:58	11:53 11:54
713-716	5145	120s	"		1.03	9:35:55	+21:13:50	-0:27	11:58 12:00 12:03 12:06
717-718	comp 1	0.2	"		1.07	8:05:24	+20:48:17	+1:15	12:10 12:11
719-722	5145	120s	"		1.02	9:35:55	+21:13:50	-0:12	12:13 12:16 12:19 12:22
723-724	comp 1	0.2	-		1.09	8:05:24	+20:48:17	+1:32	12:27 12:28
725-728	5145	120s	"		1.02	9:35:55	+21:13:50	+0:04	12:30 12:33 12:36 12:39
729-730	comp 1	0.2s	"		1.12	8:05:24	+20:48:17	+1:48	12:44 12:49
731-733	Flat	0.15	open	27k					Varies 85
734-736	comp 1	30s	Q50	23k, 30k					
737	"	600s	C8	12900					

61"

Telescope:

Frame prefix #: FR92F

Day of Week: Tue

RA offset:

Focus: 3490

Humidity: 62% Sheet #: 10

Tailpiece:

Temp O/I:

Dec offset:

Date MST/UT: 24/25

Observers: Finkelstein

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.)
132	Swift-July	300	cont			18:41:48	10:56:25	4:18	filter is wrong in header
133	Swift-July	300	H ₂ O ⁺					4:24	contin upper left
134	"	300	"						"
135	"	"	"		UT 2:26	18:41:30	10:55:18	4:41	"
136	"	"	"		2:52			4:46	2-75
137	"	"	CONT	44K					3.11 (END)
138	"	"	NH ₂						3.41 clouds improving
139	"		N ₂ D					5:13	3.72-4.00
140	BS7914	35	H ₂ O ⁺		4:22	20:40:28	+19:54:46	4:39	2.19 it's a binary
141	"	"	"		4:24	"	"	4:40	2.21
142	"	"	N ₂ D	7	4:27	"	"	4:44	2.27
143	"	"	"		4:28	"	+19:54:48	4:45	2.29
144	"	"	62500 Cont		4:31	"	"	4:47	2.32
145	"	"	"	Peak 22000	4:31	"	"	4:48	2.34
146	"	"	NH ₂	25000	4:34	"	"	4:51	2.39

through clouds

Telescope: 61"

Frame prefix #: FR92F

Day of Week: Tue

RA offset:

Focus:

Humidity:

Sheet #: 11

Observers: Rk, JJ

Date MST/UT: 92 Nov 24/25

Dec offset:

Tailpiece:

Temp O/I:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start UT MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
147	BS 7914	3s	NH ₂		4:35	20:40:28	19:54:51	4:51	dec 2 2.41
148	"	"	CN	^{peak} 7700	4:41	20:40:29	+19:54:55	4:58	2.54
149	"	"	"	"	4:43	"	"	4:59	2.56
150	"	"	8600	^{peak} 17000	4:44	"	"	5:00	2.59
151	"	"	"	12000	4:45	"	"	5:01	2.61
152	"	0.5s	C2	24000	4:48	"	+19:54:57	5:04	2.68
153	"	"	"	"	4:49	"	"	5:05	2.71
154	BS 7914	3s	NH ₂	20000	4:54	20:40:30	+19:55:02	5:10	2.84
155	"	"	"	21000	4:55	"	"	5:11	2.87
156	"	"	^{cont} 6250	"	4:56	"	"	5:13	2.90
157	"	"	"	22000	4:57	"	"	5:14	2.94
158	"	"	H ₂ +	13000	4:58	"	"	5:14	2.96
159	"	"	"	19000	4:59	"	+19:55:06	5:15	2.98
160	"	6s	NaD	"	5:01	"	"	5:17	3.03
161	"	"	"	"	5:03	"	"	5:19	3.10

Telescope: 61"

Frame prefix #: FR92F

Day of Week: Tue

RA offset:

Focus:
Tailpiece:

Humidity:

Sheet #: 12

Observers: Rick and Al

Date MST/UT: 92 Nov 24/25

Dec offset:

Temp O/I:

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.)
162	B58314	35	NH ₂	34000	5:08	21:49:12	+14:44:33	+4:20	sec 2.08
163	"	"	"	29000	5:09	"	"	+4:21	2.10
164	"	"	cont 6250	"	5:10	"	"	+4:22	2.12
165	"	"	"	21000	5:11	"	"	+4:23	2.13
166	"	"	H ₂ O+	32000	5:12	"	"	+4:24	2.14
167	"	"	"	"	5:13	"	"	+4:25	2.16
168	"	65	NaD	13000	5:14	"	"	+4:26	2.17
169	"	"	"	"	5:15	"	+14:44:35	+4:27	2.19
170	"	35	CN	9500	5:19	"	"	+4:31	2.26
171	"	"	"	8200	5:20	"	"	+4:33	2.28
172	"	"	cont 8600	"	5:21	"	+14:44:39	+4:34	2.31
173	"	"	"	17000	5:22	"	"	+4:35	2.32
174	"	0.55	C ₂	"	5:23	"	"	+4:36	2.34
175	"	"	"	19000	5:24	"	"	+4:37	2.36
176	B5719	0.5	CN	6500	5:30	21:27:45.3	+08:25:36	-0:01	1.09

Telescope: 614

Frame prefix #: FR 92 F

Day of Week: Tue

RA offset:

Focus:

Humidity: 51% Sheet #: 13

Tailpiece:

Temp O/I: 12/18

Dec offset:

Date MST/UT: 92 Nov 24/25

Observers: Frank & J.

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.)
177	B3718	1.05	CN	6500	5:32	2:27:45.3	+8:25:36	+0:01	sec 2 1.09
178	"	1.0	cut 3600	23000	5:33	"	"	+0:02	1.09
179	"	"	"	"	5:33	"	"	+0:02	1.09
180	"	0.055	62	35000	5:35	"	"	+0:04	1.09
181	"	"	"	"	5:37	"	"	+0:06	1.09
182	"	0.35	HH ₂	15000	5:42	"	"	+0:12	1.10
183	"	"	"	23000	5:43	"	"	+0:12	1.10
184	"	"	cut 250	25000	5:45	"	"	+0:15	1.10
185	"	"	"	20000	5:45	"	"	+0:15	1.10
186	"	"	H ₂ O ⁺	"	5:47	"	"	+0:16	1.10
187	"	"	"	27000	5:47	"	"	+0:16	1.10
188	"	"	NaD	5000	5:49	"	"	+0:18	1.10
189	"	1.0	"	"	5:49	"	"	+0:18	1.10
190	3200 Phae	300	V+R	"	7:23	1:35:39	+34:35:16	+2:44	1.28 Bias induced
191	"	"	"	"	7:29	"	+34:35:11	+2:50	1.23

19

Frame prefix #: FR92F

Day of Week:

73

RA offset:

Focus:
Tailpiece:

Humdy:

Sheet #:

91

Observers: Fink et al.

Date MST/UT: Nov 24/25

Dec offset:

Temp 0/I:

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.)
267	5145	120s	V+R		12:51	9:35:45	+21:10:51	+0:13	sec 2 1.02
268	"	"	"		12:54	"	"	+0:16	1.02
269	comp 3	0.3s	"	38000	12:57	9:41:50	+21:45:38	+0:13	1.02
270	"	"	"		12:59	"	"	+0:15	1.02
271	Flat	1.0	V+R	18000					Var'ac: 60
272	"	1.2	"	22000					
273	"	1.2	"						
274	"	120s	H&R	25000					
275	"	11s	"						
276	"	"	"						
277	"	30s	G250 cut	23000					Var'ac 85
278	"	"	"						
279	"	"	"						

Telescope: 61"

Frame prefix #: FR92F

Day of Week: Wed

RA offset:

Focus:

Humdty: 59

Sheet #: 20

Observers: Fred, R. J., H. J.

Date MST/UT: Nov 25/26

Dec offset:

Tailpiece:

Temp O/I: 16/23 start

GP = 389.2 404

Balance: 290: 12/17

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start UT MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
280	Swift-Tuttle	300	CN	39600	2:28	18:45:03.9	+9:40:01	+4:43	See 2 2.76-2.88
281	"	"	8000 cont.	32000	2:35	18:45:05.4	+9:39:44	+4:49	2.93-3.10
282	Sky	150	8600 cont.	1500	2:40	18:53:06	+9:39:32	+4:48	288-2.95
283	"	"	CN	~1200	2:44	18:53:07	+9:39:23	+4:51	2.99-3.06
284	"	"	C2	900	2:47	18:53:08	+9:39:15	+4:54	3.09-3.18
285	V/5-14 Tuttle	"	C2	57000	2:51	18:45:06	+9:39:31	+5:05	3.53-3.65
286	"	300	6200 cont.	5700	2:57	18:45:08	+9:39:20	+5:12	3.84-4.11
287	Sky	150	6100 cont.		3:03	18:53:10	+9:39:10	+5:11	3.75-3.87
288	P/Swift-Tuttle	300	H20+	8800	3:10	18:45:23	+9:40:12	+5:25	461-5.03 GP 279/297
289	"	300	CN		3:19	18:45:19	+9:38:21	+5:34	5.41-5.99
290	5145 P/1999	120	VTR		7:53	9:35:38	+21:11:59	+4:40	2.18 saved as 2694
291	= 1092 AD	"	"		7:59	9:35:40	+21:10:51	+4:35	2.09
292	"	"	"	7700	8:03	9:35:48	+21:10:52	+4:30	2.04
293	"	"	"	7800	8:06	"	"	+4:27	1.99
294	"	"	"		8:09	"	"	+4:27	1.96

Sky very clear

Telescope:

Frame prefix #: FR92F

Day of Week: Wed

RA offset:

Focus:

Humidity: 55% Sheet #: 25

Observers: Fickel

Date MST/UT: M25726

Dec offset:

Tailpiece:

Temp O/I: 15/20

Balance:

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.)
355	Comp1	0.25	V+R	7 100	11:27	8:05:25	+20:48:08	+0:24	1.03
356	"	"	"		11:28	"	"	+0:25	1.03
357	5145	120s	"	6 500	11:31	9:35:48	+21:10:51	+1:02	1.05
358	"	"	"		11:34	"	"	+0:59	1.05
359	"	"	"		11:37	"	"	+0:56	1.05
360	"	"	"		11:40	"	"	+0:53	1.04
361	Comp1	0.25	"	8 300	11:44	8:05:25	+20:48:08	+0:40	1.03
362	"	"	"		11:45	"	"	+0:41	1.04
363	5145	120s	"	6 200	11:48	9:35:48	+21:10:51	+0:45	1.04
364	"	"	"		11:51	"	"	+0:42	1.03
365	"	"	"		11:53	"	"	+0:39	1.03
366	"	"	"		11:56	"	"	+0:37	1.03
367	Flat	150s	CN						Variance 85
368	"	10s	"						
369	"	10s	"						

Frame prefix #: FR92F

Day of Week: Wed

RA offset:

Focus:
Tailpiece:
Balance:

Humdty:

Sheet #: 26

Observers:

Date MST/UT:

Dec offset:

Temp 0/I:

[illegible]

Telescope: 61

Frame prefix #: FR92F Day of Week: Thu

RA offset:

Focus:

Humidity: 57% Sheet #: 27

Tailpiece:

Observers: Fink H: K3 Date MST/UT: Nov 26/27

Balance:

Temp O/I: 26/30

Hoffman

GP 389.2 404.0

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.)
383	SWIFT	50	B/D		1:24	18:48:12	8:28:44	3:34	see 2 1.78
384	"	"	"		1:34			3:50	1.90
385	"	"	"	23K	1:49			3:57	2.07
386	"	120	CN	35000	2:00	18:48:18	8:28:09	4:16	2.25 - 2.29
387	"	"	800 cont	39000	2:04	18:48:19	8:28:01	4:19	2.31 - 2.35
388	"	60	C2	65000	2:08			4:23	2.37 - 2.38
389	Skyl	60	C2		2:09	18:56:20	+8:27:44	4:18	2.27
390	"	60	800 cont		2:11	18:56:20	+8:27:42	4:19	2.30
391	"	60	CN		2:13	18:56:21	+8:27:37	4:21	2.33
392	8/5-11/12	40	C2	59000	2:15	18:48:20	+8:27:49	4:31	2.53 - 2.55
393	"	120	6250 cont	32000	2:19	18:48:21	+8:27:37	4:35	2.63 - 2.68
394	Skyl	60	"		2:22	18:56:21	+8:27:31	4:30	2.52
395	8/5-11/12	120	6250 cont		2:27	18:48:26	+8:27:14	4:42	2.82 - 2.87
396	"	35	C2	43000	2:31	18:48:27	+8:27:04	4:47	2.95 - 2.99
397	"	120	800 cont	38000	2:33	18:48:27	+8:26:58	4:49	3.00 - 3.07

Estimated while ready

Telescope: 61"

Frame prefix #: FR92F Day of Week: Thu

RA offset:

Focus: Tailpiece: Balance:

Humdty: 50 Sheet #: 28

Date MST/UT: Nov 26/27

Dec offset:

Temp O/I: 27/32

Observers: Fick, Hubs, Hoffmann

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start UT MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
398	PSWIFT-Tail	120	CN	29000	2:36	18:48:28	+8:26:51	4:52	Dec 2 3.09 - 3.17
399	Sky	60	CN		2:39	18:56:28	+8:26:46	4:47	2.95
400	"	60	B600 Cont		2:41	18:56:29	+8:26:41	4:49	3.01
401	"	60	CN		2:45	18:58:30	+8:26:35	4:51	Header: "8600"
402	"	60	C2		2:46	18:56:30	+8:26:30	4:54	3.15
403	PSWIFT-Tail	300	H20t	52000	2:53	18:48:40	+8:27:55	5:09	3.81-4.11 GP: 27/29/297
404	"	"	"	52000	2:59	18:48:41	+8:27:46	5:15	4.14 - 4.48 " gm
405	"	300	NaD		3:05	18:48:36	+8:25:52	5:21	4.56 - 4.97 GP: back to normal
406	12896 km/s	10	V4R		6:11	4:37:01	+20:02:50	-1:19	1.08
407	"	10	"	8600	6:13	"	"	-1:17	1.07
408	"	20	"	25000	6:15	"	"	-1:17	1.07
409	"	"	"		6:16	"	"	-1:14	1.07
410	"	"	"		6:17	"	"	-1:14	1.07
411	"	"	"		6:18	"	"		1.07
412	"	"	"		6:22	"	"	-1:09	1.06

61"

Telescope:

Frame prefix #: FR92F

Day of Week: Thu

RA offset:

Focus:

Humidity: 47

Sheet #: 33

Observers: Frank Hicks
W. Hoffmann

Date MST/UT: Nov 26/27

Dec offset:

Tailpiece:

Temp O/I: 27/32

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.)
538-540	5745	120s	VLR			9:35:50	+24:12:22	-1:45	10:44 10:47 10:51 sec 111
541-542	Comp 1	0.2s	"			9:05:30	+20:48:12	-0:08	10:56 10:57
543-547	1289	20s	"			4:36:49	+20:02:09	+3:30	11:01 11:02 11:03 11:04 11:05 sec 152
548-549	comp 5	0.2s	"			4:42:26	+20:35:53	+3:31	11:07 11:08
550-552	5145	120s	"					-1:14	11:15 11:18 11:20 jump 153
553-554	comp 1	0.2s	"					+0:27	11:27 11:28
555-559	1289	20s	"					+4:00	Clouds in the area sec 154
560-561	comp 5	0.2s	"					+4:01	11:31 11:32 11:33 11:34 11:35
562-564	5745	120s	"					-0:47	11:37 11:38 possible by 564 11:40
565-566	comp 1	0.2s	"					+0:54	11:43 11:45 11:48
567-569	5745	120s	"					-0:33	11:53 11:54 scattered
568	flat	10s	CN	53000					11:57 clouds moving in all over
569	"	7s	"	36000					Varia 85
570	"	7s	800	40000					
571	"	20s	C2	22000					

DDK full

Vol 545

Telescope: 61"

Frame prefix #: FR92F Day of Week: Thu
Date MST/UT: Nov 26/27

RA offset:
Dec offset:

Focus:
Tailpiece:
Balance:

Humdty: 44% Sheet #: 24
Temp O/I: 27/32

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.)
570	Rat	20s	C2	2000					Varice 85
571	"	40s	8250	29000					
574	"	40s	H20+	30000					
575	"	"	"	2000					
576	"	"	8250	"					
577	"	7s	8250	8600					
578	"	"	"	"					
579	"	"	"	"					
580	"	"	"	"					
581	"	"	"	"					
582	"	"	"	"					
583	"	"	"	"					
584	"	"	"	"					
585	"	"	"	"					
586	"	"	"	"					
587	"	"	"	"					
588	"	"	"	"					
589	"	"	"	"					
590	"	"	"	"					
591	"	"	"	"					
592	"	"	"	"					
593	"	"	"	"					
594	"	"	"	"					
595	"	"	"	"					
596	"	"	"	"					
597	"	"	"	"					
598	"	"	"	"					
599	"	"	"	"					
600	"	"	"	"					

Telescope: 61"

Frame prefix #: FR92F

Day of Week: FRI

RA offset:

Focus:

Tailpiece:

Humidity: 43% Sheet #: 35

Observers: Pink +

Date MST/UT: Nov 27/28

Dec offset:

Balance:

Temp O/I: 29/37

G-A 389.2/404

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.)
578	Sun, 4	5.0	B/DI	22K		18:51:27	7:11:14	3:34	1.76 Vol 58
579	"	"	"		1:37				1.97
580	"	"	"	20K	1:44				2.08
581	"	"	"		1:51				2.50
582	Kn-H-T-Her	120s	CN	31600	2:01	18:57:35	7:17:24	4:18	2:33-2.38
583	"	120s	8600 cont.	75000	2:05	"	7:17:18	4:21	2:40-2.44
584	"	120s	6250 cont.	20600	2:08	"	7:17:11	4:25	2:47-2.51
585	"	40s	C2	37000	2:11	18:54:36	7:17:02	4:27	2:53-2.58
586	Sky	20s	"		2:14	18:59:37	7:16:53	4:22	2:41-2.43
587	"	60s	6250 ct.		2:15	"	7:16:51	4:24	2:44-2.47
588	"	"	8600 ct.		2:17		7:16:48	4:26	2:48-2.51
589	"	"	CN		2:18		7:16:44	4:27	2:51-2.54
590	P/S-H-T-Her	120	CN	23800	2:22	18:51:41	7:16:41	4:39	2:80-2.85
591	"	120	8600 ct.		2:25	7:16:42	7:16:34	4:42	2:88-2.96 Vol 1MA
592	"	120	6250 ct.		2:29		7:16:35	4:46	2:99-3.06

Telescope: 61^u

Frame prefix #: FR92F

Day of Week: Fri

RA offset:

Focus: Tailpiece:

Humidity:

Sheet #: 36

Observers: Frank Hilde? ^{W. Hoffman}

Date MST/UT: Nov 27/28

Dec offset:

Balance:

Temp O/I: 30/37

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.)
593	9/504-T.M.	40s	C2	32000	2:32	18:51:43	7:16:19	4:48	3.09 3.09-3.13
594	very	20s	C2		2:34	18:59:44	7:16:15	4:43	2.91
595	"	60s	6250 C2		2:35		16:12	4:44	2.94
596	"	60s	C2		2:37		16:8	4:46	3.00
597	"	60s	C2		2:41	145	15:59	4:48	3.12
598	"	60s	CN		2:43		15:57	4:51	3.18
599	"	60s	8600 C2		2:45	146	15:52	4:54	3.26
600	9/504-T.M.	300s	H ₂ O ⁺	28000	2:51	18	7:17:15	5:07	3.86-4.20 GP277297
601	"	"	C3	4000	2:57	150	7:17:08	5:13	4.23-4.60
602	"	"	NaD	6000	3:03		7:17:00	5:19	4.65-5.10
603	BS 7914	5s	CN	9000	4:18	20:40:27	19:53:39	4:46	2.31
604	"	"	"		4:19	"	"	4:47	2.33
605	"	"	8600 C2	17000	4:21	"	"	4:49	2.36
606	"	"	"		4:22			4:50	2.38
607	"	"	6250 C2	15000	4:24			4:52	2.40

817914

Telescope: 61"

Frame prefix #: FR92F

Day of Week: Fri

RA offset:

Focus:

Humidity:

Sheet #: 37

Observers: Fick kids

Date MST/UT: Nov 27/28

Dec offset:

Tailpiece:

Temp O/I:

30/36

Hoffman

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.)
608	BSS 7914	55	G250 C2		4:25	20:40:27	+19:13:42	4:53	2.43
609	"	15	C2	14000	4:26	"		4:54	2.46
610	"	"	"		4:27	"		4:55	2.48
611	"	55	CN		4:42	128	146	5:10	2.82
612	"	"	"		4:42	129	157	5:10	2.84
613	"	"	G600 C2		4:43			5:11	2.87
614	"	"	"		4:44			5:12	2.90
615	"	"	G250 C2		4:45		153	5:13	2.93
616	"	"	"		4:46			5:14	2.95
617	"	15	C2		4:47			5:15	2.98
618	"	"	"		4:48			5:16	3.02
619	"	55	NH2	14000	5:07			5:35	3.72
620	"	"	"		5:08			5:36	3.76
621	"	205	C3	14600	5:09			5:37	3.82
622	"	405	"	8100	5:11			5:39	3.92

65542 m.b
W. 92F 53.47

Telescope: 61"

Iris:

Frame prefix #: FR92F

Day of Week: FN

Humidity: Sheet #: 38

Observers: F-K Hidi?

Date MST/UT: Nov 27/28

Focus:

Tailpiece:

Balance:

Temp O/I: 30/36

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.)
623	BS 7914	55	H ₂ O ⁺		5:12	20:40:33	+19:54:19	5:41	sec 7 4.01
624	"	"	N ₂ D		5:14	"	"	5:43	4.06
625	"	205	H ₂		5:15	"	"	5:44	4.18
626	"	55	6250		5:19	"	"	5:47	4.39
627	"	"	"		5:19	"	"	5:47	4.45
628	BS 718	1.0:	CN	10000	5:35	2:27:46	+8:24:39	+0:16	1.10
629	"	"	"		5:36	"	"	+0:17	1.10
630	"	"	8600	13000	5:38	"	"	+0:18	1.10
631	"	"	"		5:39	"	"	+0:20	1.10
632	"	"	6250	26000	5:39	"	"	+0:20	1.10
633	"	"	"		5:40	"	"	+0:21	1.10
634	"	0.05	C2	12000	5:41	"	"	+0:22	1.10
635	"	"	"		5:42	"	"	+0:23	1.10
636	"	15	N ₂ H ₂	32000	5:47	"	"	+0:28	1.10
637	"	"	"	"	5:48	"	"	+0:29	1.10

Telescope: 61"

Iris:

Frame prefix #: FR92F

Day of Week: Fri

Humidity: 34% Sheet #: 39

Observers: Fick, M. J. H.

Date MST/UT: Nov 27/28

Focus: Tailpiece: Balance:

Temp O/I: 32/36

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.)
638	135718	13	C3	38000	5:51	21:27:46	8:24:39	+0:32	sec 2 1.10
639	~	13	"	"	5:52	"	"	+0:33	1.11
640	~	0.55	H ₂ O	14000	5:54	"	"	+0:34	1.11
641	~	"	"	"	5:55	"	"	+0:35	1.11
642	~	15	NaD	6000	5:56	"	"	+0:37	1.11
643	~	25	"	14000	5:56	"	"	+0:37	1.11
644	A = (1950) 3 ^h 20 ^m 20 ^s	300s	Open	(B = 25000)	6:51	3:32:28	20:8:24	+0:28	1.03
645	B = A + 6'(dec)	300s	"	"	7:00	3:32:28	20:14:24	+0:37	1.03
646	C = B + 6'(dec)	300s	"	"	7:06	3:32:28	20:20:24	+0:42	1.03
647	NGC 2044	15	Open	"	"	5:51:57	32:32:30	"	1.01 sample frame with 1.11
648-652	5145	120s	V+R	"	sec: 1.79	9:35:50	21:14:59	-4:08	8:17/8:24/8:31/8:30/8:34
653-654	comp 1	0.2	"	"	1.19	8:51:30	20:14:16	-2:16	8:59/8:40
655-658	5145	120s	"	"	1.55	9:36:00	21:14:13	-3:40	8:43/8:46/8:49/8:52
659-660	comp 1	0.2	"	"	1.14	8:05:50	20:48:40	-1:59	8:57/8:58
661-665	5145	120s	"	"	1.46	9:36:00	21:14:14	-3:25	9:01/9:04/9:07/9:10/9:12

Telescope: 61"

Frame prefix #: FR92F Day of Week: Sat

RA offset:

Focus: 3600
Tailpiece:

Humdty:

Sheet #: 42

Observers: Frank Hoffmann
Hicks

Dec offset: 50 389.1 404

Balance:

Temp O/I: 27/36

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.)
738	Swift-Tuttle	55	Bdide		1:17	18:54:38	6:10:05	+3:35	sec 2 1.80
739	"	"	"		1:39				2.06
740	"	200s	CN	32000	1:59	18:54:46	6:8:29	+4:16	2.36 focus 3560
741	"	200s	B600	29000	2:03	18:54:47	6:8:17	+4:22	2.44 11
742	"	200s	B650	14700	2:08	18:54:48	6:8:4	+4:25	2.53 focus 3600
743	"	60s	C2	41500	2:12	18:54:49	6:7:57	+4:29	2.62
744	Skyl	30	C2		2:15	18:02:50	6:7:51	+4:24	2.52
745	"	100	B650		2:16	19:02:50	6:7:49	+4:25	2.54
746	"	100	B600		2:18	19:02:50	6:7:42	+4:28	2.60 focus 3580
747	"	100	CN		2:21	19:02:51	6:7:36	+4:30	2.65 focus 3580
748	P/Swift-Tuttle	200	CN	31000	2:24	18:54:51	6:7:29	+4:42	2.96 focus 3580
749	"	200	B600	25500	2:29	18:54:52	6:7:20	+4:46	3.10 focus 3580
750	"	200	B650	10000	2:33	18:54:52	6:7:10	+4:51	3.26 focus 3600
751	"	60	C2	23000	2:37	18:54:54	6:7:02	+4:55	3.42
752	Skyl	30	C2		2:40	19:02:	6:6:59	+4:49	3.20

Telescope: 6"

Frame prefix #: FR92F

Day of Week: Sat

RA offset:

Focus: 48% Humdty: 3600 Sheet #: 43

Tailpiece:

Balance: Temp O/I: 22/27

Dec offset:

Date MST/UT: Nov 28/29

Observers: Eric & Chris

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.)
753	5k ₂	60s	6250		2:41	19:02:55	+6:06:55	+4:50	3:25
754	"	60s	8600		2:43	19:02:50	+6:06:51	+4:52	3:32
755	"	60s	CN		2:45	19:2:50	+6:06:48	+4:54	3:39
756	0/5m 1/2k ₂	300	C3	4900	2:50	18:54:57	+6:06:40	+4:59	4:01
757	"	300	H ₂ O ⁺	14500	2:56	18:55:09	+6:08:12	+5:13	4:43 GP279 297
758	"	300	NH ₂	18700	3:03	18:55:02	+6:06:24	+5:20	4:95 - 5:41 ^{seared in} 11/16 D ₂
759	P/Schwarzschild	60s	open	14000	4:47	4:18:08	+14:00:15	-2:18	1:23
760	4015 =	60s	"	8600	8:12	8:07:55	+20:14:28	-2:33	1:24 Thin H ₂ c
761	4015 VA	"	B/D1		9:12				1:11 in sky
762	"	45s	open		9:55	8:07:44	+20:13:57	-0:58	1:05
763	"	60s	"		9:57	"	"	-0:52	1:05
764	"	60s	"		9:59	"	"	-0:54	1:05
765	"	60s	"		10:01	"	"	-0:52	1:04
766	"	60s	"		10:03	"	"	-0:50	1:04 Cloud moving in
767	"	60s	"		10:05	"	"	-0:49	1:04 ↓
768	"	"	"		10:07	"	"		1:04
769	"	"	"		10:09	"	"		1:04

611

iris:

Frame prefix #: FRQZF

Day of Week: Sat

Day of Week:

Observers: Funkhouser

Date MST/UT:

28/29

Focus:
Tailpiece:
Balance:

Humdty: 50% Sheet #: 44

Temp O/I: 25/27

[illegible]