

NIGHT 2

Telescope: MT BIGELOW
61"

T = 14°F! CLEAR!

Sp

Frame prefix #: SP90A

Day of Week: Fri

RA offset:

Focus:

Humdty:

Sheet #: 1

Observers: BUIE/MEEH

Date MST/UT: JAN 19/20

Dec offset:

Tailpiece:

Balance:

Temp O/I: 9/16°F

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set (1990)	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
011	Chiron Comp SAO 096173	25.0	0.5 dic	4980/	04:06:31	06:49:43.4	15:34:59		X=1.19
012	"	30.0	"	6970	04:14:17				dome
013	"	30.0	"		^{26:29} 04:20:03	06:49:43.4	15:34:59		Guide pt change
014 ✓	"	30.0	"	7269	04:38:45	"	"		"
015 ✓	"	30.0	"	7116	4:42:04	"	"		
016	"	"	"	7037	4:44:12	"	"		
017	CHIRON	1200	"		5:26:05 6:51:	06:51:46.04	15:35:41		X=1.07
018	"	"	"		5:48:53	"	"		
019	"	"	"		6:09:38	"	"		X=1.04
020	SAO 096173	30.0	"	6489	06:39:35	06:49:43	15:34:59	+	X ~ 1.05
021	"	30	"	7016	6:41:17	"	"		
022	"	30	"	6880	6:43:08	"	"		
023	"	30	"		6:45:08	"	"		
024	"	30	"	8100	6:46:47	"	"		
025	ENIGMA	120	"		07:02:34	07:05:50.7	15:24:34		

TAPE 3

best

NIGHT 2

Telescope: 61"

SP

Frame prefix #: SP9000

Day of Week: Fri/SAT

RA offset:

Focus: 3550

Humdty: 80% Sheet #: 2

Observers: MEECH/BWV

Date MST/UT: JAN 19/20, 1990

Dec offset:

Tailpiece:

Balance:

Temp O/I: 14F
9F

TAPE 3

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST UT	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
026	Enigmat	300 720	0.5	0110:57	7:10:57	07:05:50.6	15:24:34		
027	Enigma 2	"	"	2252	07:20:01	7:05:51.2	15:25:38		
028	Chiron	1200	0.5		7:36:07	06:51:40	15:36:10		Exposure started before chiron on slit - 5 min.
029	"	"	"	1800	7:57:56	"	"		
030	"	1200	"	1903	8:19:06	"	"		
031	"	"	"	1866	8:39:42	"	"		
032	SAD 096173	330	"	5427	9:10:30				
033	"	"	"	4788	9:12:26				
034	"	"	"	4748	9:13:56				
035	"	"	"		9:15:19				
036	"	"	"		9:16:57				
037	Chiron	1200	"		9:29:37				Telescope ran away during last minute
038	"	"	"		9:58:34				
039	"	"	"		10:20:19				
040	"	"	"		10:40:53				

NHT 2

Telescope: 61"

Frame prefix #: SP90A

Day of Week: FRI/SAT

RA offset:

Focus:

Humdty:

Sheet #: 3

Observers:

Date MST/UT:

Dec offset:

Tailpiece:

Balance:

Temp O/I:

TAPE3

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.)
041	SAD 096173	30 ^s	0.5mm	3432	11:13:33				
042	"	60 ^s	"	6168	11:16:00				
043	"	60 ^s	"	6312	11:18:00				
044	"	"	"	6176	11:20:02				
045	"	"	"	4965	11:22:01				
046	BS 5434	5	"	SAT	11:36:09	11:48:24	14:37:22		
047	"	0.1	"	6272	11:37:39	"	"		
048	"	0.1	"	3923	11:38:45	"	"		
049	"	0.1	"	7700		"	"		
050	"	0.1	"	8400	11:41:51	"	"		
051	"	0.1	"	BAD	11:42:56	"	"		BAD
052	"	0.1	"	7700	11:43:34	"	"		
053	BS 4030	2.5	"	7143	11:53:09				
054	"	"	"	5703	11:54:00				
055	"	"	"	9047	11:56:33				

TAPE4

NIG 2

Telescope: 61

SP
4

Frame prefix #: SP90A

Day of Week: FRI/SAT

RA offset:

Focus: 355

Humdty:

Sheet #:

Observers: PAUL/MEECH

Date MST/UT: JAN 19 2019

Dec offset:

Tailpiece:

Temp O/I:

TAPE 4
lost
not on
tape?

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.)
056	BS 4030	2.5	0.5um	5264	11:57:30				
057	"	"	"	2163	11:58:37				
058	"	"	"	8324	11:58:37				recenter in slit by eye
059	BS 5659					13:12:17.9	19:19:35		
059	BS 5534	1.87	"	4495	12:18:36	14:49:51.8	23:57:15		
060	"	2.5	"		12:19:41	"	"		BAD - WRONG EXPTIME
061	"	2.5	"	8110	12:20:40	"	"		
062	"	2.5	"	6253	12:21:35	"	"		
063	"	2.0	"	5792	12:24:06	"	"		Recenter in slit
064	"	0.01			12:53:23				
065	Bias								
066	"				12:55:22				
067	Dark Flat								
068	Dime Flat	4s	0.5um						
069	"		0.5						

chlorine in

NIGHT 3

Telescope: 61"

NOTE - SPEC CLEAR - slight cirrus near horiz.

SP

Frame prefix #: SP90A

Day of Week: SAT/SUN

RA offset:

Focus: 3503

Humdty:

Sheet #: 6

Observers: MEECH/POLIE

Date MST/UT: JAN 20/21

Dec offset:

Tailpiece:

Balance:

Temp O/I: 22/18°F H = 70%

TAPE 4

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	SAO 096173	20.0	0.5m.	peak 6992	03:00:14	6:49:40.06	15:35:10.3		Refocussed slit, then focus tel thru slit - much better than CCD focus
074	"	"	"	4256	03:02:30	"	"		Clouds?
075	"	"	"	7971	03:04:34	"	"	-03:06	$\chi = 1.43$
076	"	"	"	7468	03:08:16	"	"		$\chi = 1.42$
077	"	"	"	7376	03:08:49	"	"		$\chi = 1.41$
078	"	"	"	7180	03:10:29	"	"		$\chi = 1.40$
079	"	"	"	6976	03:11:39	"	"		$\chi = 1.39$. BAD COL 286-288
080	CHIRON	1200.0	"	level ~ 1400	03:26:38	6:51:28.75	15:36:15.1	-02:47	$\chi = 1.33$ May be getting some fixed pattern noise.
081	"	"	"		03:51:06	"	"	-02:21	$\chi = 1.24$ @ Time remain 880sec - noticed tel had jumped.
082	Enigma-1	60 ^s	"	1341	05:25:06	7:05:47.83	15:25:51.5	-01:00	$\chi = 1.08$
083	"	300 ^s	"	1648	05:29:14	"	"	-0:57	$\chi = 1.07$
084	Enigma-2	300 ^s	"	1536	05:38:16	7:05:46.46	15:25:01.5	-0:48	$\chi = 1.07$ picking up object 4
085	Enigma-3 Enigma-3	300 ^s	"	1203	05:47:25	7:05:47.81	15:24:56	-0:37	$\chi = 1.06$
086	SAO 096173	20 ^s	"	3248	06:05:54	6:49:35.33	15:34:33.6	-0:04	$\chi = 1.04$
087	"	40 ^s	"	2208	06:07:51	"	"		almost out of slit

Moved equipment to warm room for operation.

NIGHT 3

Telescope: 61"

Frame prefix #: SP90A

Day of Week: SAT/SUN

RA offset:

Focus:

Humdty:

Sheet #: 7

Observers: BUIE/MEECH

Date ~~4/27~~/UT: Jan 21, 1990

Dec offset:

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.)
TAPE 4 088	SAO 096173	20 ^s	0.5mm	1744	06:14:54				still out of slit.
089	"	"	"	6033	06:18:11				GOOD
090	"	"	"	3432	06:19:24				
091	"	"	"	6276	06:22:14				
092	Chiron	1200 ^s	"	1968	06:35:25	6:51:20.11	15:35:37.9	+0:23	$\bar{X} = 1.05$
093	"	"	"	1944	06:56:39	6:51:19.39	15:35:36.3	+0:45	$\bar{X} = 1.06$
094	"	"	"	1920	07:18:17	6:51:18.80	15:35:33.7	+1:06	$\bar{X} = 1.08$ trouble w/ guiding, the counts may be a little low
095	"	"	"	1819	07:39:52	6:51:18.10	15:35:34.1	+1:27	$\bar{X} = 1.12$
096	SAO 096173	20 ^s	"	6181	08:10:07	6:49:33.3	15:34:22.8	1:59	$\bar{X} = 1.18$
097	"	"	"	5216	08:11:51	"	"	2:01	$\bar{X} = 1.18$
098	"	"	"	4660	08:13:14	"	"	2:02	$\bar{X} = 1.19$
099	"	"	"	4310	08:14:24	"	"	2:03	$\bar{X} = 1.19$
TAPE 8 100	"	"	"	5023	08:15:27	"	"	2:04	$\bar{X} = 1.19$
101	Chiron	1200 ^s	"	1879	08:25:22	6:51:17.65	15:35:33.9	2:13	$\bar{X} = 1.21$
102	"	"	"	1824	08:46:50	6:51:17.47	15:35:35.8	2:34	$\bar{X} = 1.28$

NIGHT 3

Telescope: 61"

SP

Frame prefix #: SP90A

Day of Week: SAT/SUN

RA offset:

Focus:

Humdty:

Sheet #: 8

Observers: BUIE/MEECH

Date MST/UT: JAN 20/21, 1990

Dec offset:

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.)
- 103	Chiron	1200 ^s	0.5mm	1024	09:07:23	6:51:17.32	15:35:35.7	2:57	$\Sigma = 1.38$ clouds /
- 104	Dome Flat	3.6 ^s	0.5mm						
- 105	"								
- 106	"								
- 107	"								
- 108	"								
- 109	"								
- 110	"								
- 111	"								
- 112	"								
- 113	"								
- 114	"								
- 115	"								
- 116	"								
- 117	"								

delete Test

AP 57558 ?
59-63
57-63

NIGHT 3

Telescope: 61"

Sp

Frame prefix #: SP90A

Day of Week: SAT/SUN

RA offset:

Focus: 3503

Humdty: 35% Sheet #: 9

Observers: MEECH & POWIE

Date MST/UT: JAN 20/21 1990

Dec offset:

Tailpiece:

Balance:

Temp O/I: 26/28

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.)
✓ 118	Dome Flat								
✓ 119	"								
✓ 120	"								
- 121	"								
- 122	"								
- 123	"								
- 124	Helix-Polaris Area	200 ^s	0.5um	1184	12:11:00	17:41:52.4	57:20:42	-4:50	$\bar{X} = 1.70$ field star on comet quick look spectrum only.
✓ 125	"	600 ^s	0.5um	1230	12:31:05	17:41:49.42	57:20:57.0	-4:30	$\bar{X} = 1.60$
✓ 126	"	600 ^s	0.5um	1360	12:45:26	17:41:49.36	57:21:07.1	-4:16	$\bar{X} = 1.54$
✓ 127	sky	600 ^s	"	1201	12:58:30	17:42:47.67	57:06:17.5	-4:04	$\bar{X} = 1.49$ offset by +1 ^m α (S) -15' 8 (S)
- 128	Bias	0.0 ^s	-						
- 129	"								
✓ 130	"								
- 131	"								
- 132	"								

16?

HT 3

Telescope: 61^u

Sp

Frame prefix #: SP90A

Day of Week: SAT/SUN

RA offset:

Focus: 3503

Humdty:

Sheet #: 10

Observers: MEEU/BUE

Date MST/UT: JAN 20/21

Dec offset:

Tailpiece:

Temp O/I:

1990

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.)
✓ 133	Bias	0.01 ^s	✓						
✓ 134									
✓ 135									
✓ 136									
✓ 137									
✓ 138	Bias								
✓ 139	"								
✓ 140	"								
✓ 141	"								
✓ 142	"								
✓ 143-150	Bias								
✓ 151- 197 192	Bias								

PAGE 8

IMB9
151-180 ✓
171-190 ✓
191-197 ✓

NIGHTS 4

Telescope: 61"

-0.0092
-0.0034

Sp

Frame prefix #: SP90A

Day of Week: SUN/MON

RA offset:

Focus:

Humdty:

Sheet #: 11

Observers: BUITE/MEELT

Date MST/UT: JAN 21/22

Dec offset:

Tailpiece:

Balance:

Temp O/I:

1990

TABE9

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.)
✓ 198	SAO 096173	20 ^s	0.5um	2752	02:10:04	6:49:40.07	15:35:06.6	-3:57	$\bar{X} = 1.79$ seeing ~ 3.5 ^m
✓ 199	SAO 096173	"	"	5208	02:12:41	"	"	-3:55	$\bar{X} = 1.77$
✓ 200	"	"	"	2572	02:15:26	"	"	-3:51	$\bar{X} = 1.74$
201	"	"	"	4920	02:16:49	"	"		no active guiding
202	"	"	"	5892	02:18:06	"	"	-3:49	$\bar{X} = 1.72$ drifted across slit
203	"	"	"	5216	02:19:20	"	"	-3:48	$\bar{X} = 1.70$
204	"	"	"	3961	02:20:35	"	"	-3:46	$\bar{X} = 1.67$
205	"	"	"	5712	02:23:36	"	"		after re-centering
206	Chiron	1200 ^s	0.5um	1734	02:35:24	6:51:13.4	15:36:30	-3:33	$\bar{X} = 1.59$ minor guiding error
207	"	"	"	1792	02:56:21	6:51:13.5	15:36:29.8	Obj -3:11	$\bar{X} = 1.45$
208	"	"	"	1828	03:17:13	6:51:13.5	15:36:18.6	-2:51	$\bar{X} = 1.35$
209	SAO 096173	20^s	"	1828	03:57:48	6:51:13.2	15:36:15.3	-2:30	$\bar{X} = 1.27$ first 5min exposed last day stopped defocusing @ 3:49:30
209	SAO 096173	20 ^s	"	1828	4:20:47	6:49:37.70	15:34:36.3		no good
210		20 ^s	"	1811	4:0				
211		20 ^s	"	4976	4:09:45				

1200-1900

NIGHT 4

Telescope: 61"

-0.0092
-0.0034

Frame prefix #: SP90A

Day of Week: SUN/MON

RA offset:

Focus:

Humdty:

Sheet #: 12

Observers: MEECH/BUIE

Date MST/UT: JAN 21/22, 1990

Dec offset:

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.)
212	SAO 096173	20 ^s	0.5um	5532	4:07:18	6:49:37.5	15:34:36.2	-1:59	
213	"				4:08:37				
214	"			4004	4:13:57				reset guide point by "eye"
215	"			2624	4:15:00				$\bar{X} = 1.16$ clouds moving in
216	"			3488	4:16:16				}
217	"			2938	4:17:34				
218	"			2642	4:19:19				
219	Chiron	1200 ^s	0.5um	1664	4:30:35	6:51:08.6	15:36:08.0	-1:38	$\bar{X} = 1.13$
220	"	"	"	1740	4:51:10	6:51:08.11	15:36:04.0	-1:17	$\bar{X} = 1.10$
221	"	"	"	1715	05:11:45	6:51:07.53	15:36:00.7	-0:56	$\bar{X} = 1.07$
222	"	"	"	1682	5:33:19	6:51:06.83	15:35:57.9	-0:34	$\bar{X} = 1.06$
223	SAO 096173	20 ^s	0.5um	1728	5:57:57	6:49:35.73	15:34:16.7	-0:08	$\bar{X} = 1.05$
224	"	"	"	4144	5:59:06				
225	"	"	"	2738	6:00:16				
226	"	"	"	3378	6:01:27				

NIGHT 4

Telescope: 66"

Sp

Frame prefix #: SP90A

Day of Week: SUN/MON

RA offset:

Focus:

Humdty:

Sheet #: 13

Observers: BAILE/MEECH

Date MST/UT:

Dec offset:

Tailpiece:

Balance:

Temp O/I:

JAN 21/22, 1990

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.)
227	SAO 096173	20 ^s	0.5 _{in}	3624	6:02:47				
228	"	"	"	3224	6:04:04				
229	"	"	"	2784	6:09:57			0:02	
230	Chiron	1200 ^s	0.5 _{in}	1628/140	6:17:51	6:51:05.21	15:35:54.0	0:09	$\bar{X} = 1.05$
231	"	"	"	1760/1651	6:38:26	6:51:04.70	15:35:52.9	0:30	$\bar{X} = 1.05$ guidecounts are dropping → clouds
232	"	"	"	1664 1601	7:13:41	6:51:03.78	15:35:48.9	1:05	$\bar{X} = 1.08$ counts up but still fluctuating
233-250	Bias	0.01							
251-287		0.01							
288-300	Dome Flat	3 ^s	0.5 _{mm}						Jan 23, 1990 (UT)
301- 300 ³²⁰	Dome Flat	0.5 ^s	3 _{mm}						
321-350	"	"	"						

TAPE 10

TAPE 15

TAPE 16

NIGHT 2
 FR
 Frame prefix #: ~~AMDA~~
 Observers: ~~W. W. Moore~~

Telescope: 61"
 Day of Week: FRI/SAT
 Date MST/UT: JAN 19/20, 1990

RA offset: -0.0063
 -0.0093
 Dec offset:
 Focus: 3550
 Tailpiece:
 Balance:

Humdty:
 Sheet #: |
 Temp O/I:

TAPE 1

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start UT	RA set <i>of date</i>	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
1	SAD 096173	1.5s	B/D dr	63812/902 63020/904	4:19:41 4:19:41	6:49:43.39	15:34:59.4		$\frac{R}{2.18}, \frac{C}{2.25} \quad \Sigma = 1.19$
2				63020/904	4:21:26				2.32, 2.14
3				63293/100	4:23:24				
4				64502/896	4:34:46				new G.P. 377,428
5				65320/896	4:40:08				
6	chim open	5.2s	open	9006/1072	4:52:48	6:51:46.04	15:35:41.		$\frac{R}{2.34}, \frac{C}{2.57}$
7		5 ^s	open	9065/1064	5:03:12				
8		60 ^s	BD		5:07:44				Bad Exposure
9		60 ^s	BD		5:10:57				triple images
10		60 ^s		6897/1007	5:13:32				
11		60 ^s		6830/1007	5:20:08				
11		60 ^s		6668	5:25:48				
12		60 ^s		6915	5:29:34				
13		60 ^s		7032	5:32:46				
14				6896	5:35:57				

NIGHT 2

Telescope: 61"

FR

Frame prefix #: FR90A

Day of Week: Fri/SAT

RA offset:

Focus:

Humdty:

Sheet #: 2

Observers: MEECH/PUIE

Date MST/UT: JAN 19/20, 1990 Dec offset:

Tailpiece:

Balance:

Temp O/I:

TAPE 1

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.)
15	Chirn	60 ^s	BD	6567	5:40:14				DOME! S
16				6699/995	5:43:11				
17				8265					
18				7261	5:42:28				
19				7092	5:55:17				
20				7125/1003	5:58:04				
21				7125/1003 6487/1004	6:00:32				
22				6660/1005	6:00:58 6:02:58				
23				7000	6:04:00				
24				7237	6:04:00				
25									
26				7447/999	6:15:46				
27					6:18:55				
28				7148	6:21:54				
29				7159	6:25:03				

NIGHT 2

Telescope: 61"

Frame prefix #: FR90A

Day of Week: FRI/SAT

RA offset:

Focus:

Humdty:

Sheet #: 3

Observers: MEECH/BUIE

Date MST/UT: JAN 19/20, 1990

Dec offset:

Tailpiece:

Balance:

Temp O/I:

TOTAL

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST UT	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
30					6:27:27				
31	SAD 096173	1.5 ^s	BD		6:39:40				
32	L	1.5	BD		6:40:30				
33	L	1.5	BD		6:41:16				
34	Enigma	10 ^s			6:55:35				
35	"	"			7:00:56				
36	"	30 ^s			7:11:34				
37	Cherm	60 ^s		7380	7:28:56	6:51:40	15:36:10		
38	"	60 ^s		720 7/987	7:33:25				
39	"	60 ^s		7148	7:48:18				
40	"				7:49:15				
41	"				7:52:02				
42	"				7:54:49				
43	"			7036	7:58:19				
44	"	60	BD		8:01:15				

TAPE 1

HT 2.

Telescope: 61"

EAR + COLD

Frame prefix #: ^{FR} 1900a

Day of Week: FR/SAT

RA offset:

Focus: 3550

Humdty: ~80

Sheet #: 4

FR

Observers: MEECH / BUJE

Date MST/UT: JAN 19/20

Dec offset:

Tailpiece:

Balance:

Temp O/I: 8/14

TAPE 1

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.)
45	CHIRON	60s	B/D	7208	8:04:18	6:51:40	15:36:10		
46	"	"	"	6804	8:06:52	"	"		
47	"	"	"	6661	8:10:27	"	"		
48	"	"	"	6747	8:13:42	"	"		
49	CHIRON	"	"	6761	8:16:16	"	"		
50	"	"	"	6973	8:19:17	"	"		A little breezy
51	"	"	"	6987	8:21:48	"	"		
52	"	"	"	6785	8:24:44	"	"		
53	"	"	"	6946	8:29:46	"	"		
54	"	"	"	7071	8:31:19	"	"		
55	"	"	"	6795	8:33:42	"	"		
56	"	"	"	7167	8:37:00	"	"		
57	"	"	"	7097	8:39:51	"	"		
58	"	"	"	6995	8:43:10	"	"		
59	"	"	"	6928	8:45:42	"	"	2:30	X = 1.27

TAPE 2

NIGHT 2

Telescope: 61

Frame prefix #: FR90A

Day of Week: FRI/SAT

RA offset:

Focus: 3550

Humidity:

Sheet #: 5

Observers: MEECH/DUIE

Date MST/UT: JAN 9/20
1989

Dec offset:

Tailpiece:

Balance:

Temp O/I: 9/14

TAPE 2

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST UT	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
060	CHIRON	60 sec	BD	7296	8:48:19	06:51:40	15:36:10		
061	"	"	"	6917	8:51:01	"	"		
062	"	"	"	6762		"	"		
063	"	"	"	7110	8:56:12	"	"		
064	"	"	"		8:58:0	"	"		
065	CHIRON COMP. SAO 096173	1.5	"	32000	8:04:05	6:49:43.4	15:34:59.4		Comp star out of saved field.
066	"	1.5	"		8:07:51	"	"		
067	CHIRON	60	"		9:26:54	06:51:40	15:36:10		
068	CHIRON	"	"		9:26:54	"	"		
069	"	"	"		9:26:54 9:30:00	"	"		
070	"	"	"	6919	9:32:43 9:30:00	"	"	03:10	X = 1.4 Humid - 70%.
071	"	"	"	6926	9:35:25	"	"		T = 16/12 F.
072	"	"	"	6902	9:38:19	"	"		
073	"	"	"	7024	9:40:51	"	"		
074	"	"	"	6428	9:43:38	"	"		

NIGHT 2

Telescope: 61

Frame prefix #: FR90A

Day of Week: FRI/SAT

RA offset:

Focus: 3550

Humidity: 77%

Sheet #: 6

Observers: BUJE/MEECH

Date MST/UT: JAN 19/20

Dec offset:

Tailpiece:

Balance:

Temp O/I:

FR

6

TAPE 2

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set (1990)	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
075	CHIRON	60S	BD	BAD	09:46:11	06:57:40	15:36:10		TEL WENT BEZERRK
076	CHIRON	"	"		9:54:35	"	"		
077	"	"	"	6356	9:58:47	"	"		
078	"	"	"	6369 6356	10:02:00	"	"		
079	"	"	"	6077	10:04:45	"	"		
080	"	"	"	6077	10:08:46	"	"		
081	"	"	"	6166	10:11:23	"	"		
082	"	"	"	5633 6248	10:15:05	"	"		
083	"	"	"		10:21:38	"	"		
084	"	"	"	5654	10:21:38	"	"	04:	X=1.9 Clear, moon.
085	"	"	"	6155	10:24:50	"	"		
086	"	"	"	5788	10:27:31	"	"		
087	"	"	"	6262	10:30:21	"	"		
088	"	"	"	6526	10:32:59	"	"		
089	"	"	"	5160	10:35:32	"	"		

Frame prefix #: FR90A

Telescope: 61"

Day of Week: FRI/SAT

RA offset:

Focus: 3550

Humdty:

Sheet #: 7 FR

Observers: MEECH/BWIE

Date MST/UT: JAN 19/20

Dec offset:

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	Comments (P.A., seeing, Moon, clouds, etc.)
090	CHIRON	60	BD	5786	10:38:03	06:51:40	15:36:10		
091	"	"	"	5539	10:40:40	"	"		
092	"	"	"	4699	10:43:38	"	"		Dome Occult
093	"	"	"	5186	10:48:35	"	"		
094	"	"	"	5306	10:49:21	"	"		
095	"	"	"	5385	10:52:18	"	"		
096	"	"	"	5338	10:55:16	"	"		
097	"	"	"	5029	10:59:13	"	"		
098	SAO 096173	1.5	BD		11:06:47	6:49:43	15:34:59		Chiron comp
099	"	"	"		11:11:44	"	"		
100	"	"	"	45299	11:13:51	"	"		
101	"	"	"		11:15:38	"	"		
102	BG 4534					11:48:24	14:37:22		SPECTROPHOT. CALIB.
102	SA 105-815	2	"	2000 12:32:46		(1985) 13:39:18	00:02:23		
103	"	4		12:36:00	3865				

TAPE 2

TAPE 5

NIGHT 2

Telescope: 61"

Frame prefix #: FR90A

Day of Week: FRI/SAT

RA offset:

Focus:

Humdty:

Sheet #: 8FR

Observers: MEECH/BUIE

Date MST/UT: JAN 19/20, 1990

Dec offset:

Tailpiece:

Balance:

Temp O/I:

TAPES

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set (1985)	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
104	SA 105-815	4	BD	3092	12:37:22	13:39:18	00:02:23		
105	SA 106-834	1	BD	SAT	14:38:43	14:38:43	-00:11:0		
106	"	0.05	"	SAT	12:43:44	"	"		
107	106-1024	1.0	"			14:39:21	00:05:36		
108	"	3.0	"	~2300	12:48:44	"	"		
109	"	6.0	"	2416	12:50:59	"	"		
110	T GK	100			13:04:16				
111	"	100			13:10:50				Bras drift
112	DOME FLAT	0.5	BD		13:26:16				on al.
113	"	"	"		13:27:22				
114	"	"	"	4400	13:28:45				
115	"	"	"		13:29:42				odd! BADP
116	"	"	"		13:30:32				
117	"	"	"	4618	13:32:24				
118	"	"	"	4537	13:33:54				White screen

NIGHT 3

Telescope:

61"

SYS CLOCK 4 sec fast.

FR

Frame prefix #: FR90A

Day of Week: SAT/SUN

RA offset:

Focus: 3503

Humdty: 70% Sheet #: 10

Observers: BUIE/MEECH

Date MST/UT: JAN 20/21 1990

Dec offset:

Tailpiece:

Balance:

Temp O/I: 22/18F @ 19:00MST

TAPES

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.)
129	SAO 096173	1 ^s	B/D.1W	40298/827	03:01:09	06:49:40.06	15:35:10.3		376, 428 new G.P.
130	"	1 ^s		39395/879	3:04:43	"	"		guide star numbr. 0.19, 1.95
131	"	1 ^s		43354/873	3:07:04	"	"		0.02, -0.30
132	"	1 ^s		45232/879	3:10:16	"	"		0.16, -1.73
133	Chiron	60 ^s	"	6868/1001	3:23:34	6:51:28.8	15:36:15.4		0.02, 0.20 ignore
134	"	60 ^s	"	6770/1014	3:27:00	"	"		-0.02, -0.30 ignore
135	"	60 ^s	"	6966/1015	3:29:46	"	"		-0.02, -0.02, ignore
136	"	60 ^s	"	6744/1014	3:32:53	"	"		0.19, -0.08, ignore
137	"	"	"	6849/1007	3:36:16	"	"		0.16, 0.10, ignore
138	"	"	"	7520/1011	3:39:06	"	"		0.17, 0.50, ignore
139	"	"	"	7620/1011	3:43:16	"	"		-0.09, 1.24 ^{ignore} / field star $\mathcal{I} = 1.24$
140	"	"	"	—	3:51:31	"	"		bad image
141	CHIRON Enigma-1	60 ^s	B/D.		3:53:41	7:05:47.8	15:25:51.5		X=1.08
142	Enigma-1	"	"		5:29:12	7:05:47.8	15:25:51.5		$\mathcal{I} = 1.06$
143	"	"	"		5:32:23	"	"		

NIGHT 3

Telescope: 61"

FR

Frame prefix #: FR90A

Day of Week: SAT/SUN

RA offset:

Focus: 3503

Humdty: 70% Sheet #: 11

Observers: MEECH/PAULIE

Date MST/UT: JAN 20/21, 1990
Peak/TOT

Dec offset:

Tailpiece:

Balance:

Temp O/I:

TAPES

TAPES

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set (of Date)	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
144	SAO 096173 ENIGMA 2	1.5 6.5	B/Dicr		6:06:42	07:05:46.3	15:25:04	-00:04	$\chi = 1.04$ G Corr. -0.04 0.10 ^{ign}
145	"	"	"		6:08:02	"	"		-0.09 0.22
146	"	"	"		6:10:29	"	"		07:16:43.227 NB α (1958) = 08:10:05.84
147	"	"	"		6:12:52	"	"		$\delta = 15:02:31.06$ New GP 378.5, 428.9 Bias in $\alpha =$
148	CHIRON	60sec	"		6:32:19	06:51:20.24	15:35:37	+00:20	$\chi = 1.05$ G Corr = -0.02, 1.87
149	"	"	"		6:35:32	"	"		0.02 0.96
150	"	"	"	1618 8619	6:38:58	"	"		-0.05 0.04
151	"	"	"	1529 7763	6:41:53	"	"		-0.04 0.18
152	"	"	"	1519 7602	6:45:05	"	"		-0.05 0.75
153	"	"	"	1499 7487	6:48:36	"	"		-0.01 0.82
154	"	"	"	1452 7930	6:51:25	"	"		-0.01 0.22
155	"	"	"	1476 7818	6:54:27	"	"		-0.05 0.05
156	"	"	"	1501 7295	6:57:54	"	"		$\chi = 1.06$ -0.03 0.37
157	"	"	"	1456 7586	7:00:45	"	"		-0.01 1.06
158	"	"	"	1471 7529	7:04:21	"	"		$\chi = 1.07$ -0.02 0.73

NIGHT 3

Telescope: 61"

FR

Frame prefix #: FR90A

Day of Week: SAT/SUN

RA offset:

Focus: 3503

Humdty: 45% Sheet #: 12

Observers: BUITE / MEECH

Date MST/UT: JAN 20/21, 1990

Dec offset:

Tailpiece:

Balance:

Temp O/I: 23/25 F

TAPES

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.)
159	CHIRON	60 ^s	B/DICR	1480 7654	07:07:26	06:51:20.2	15:35:37		$\chi = 1.07$ Guide Cor. -0.02, -0.71
160	"	"	"	1535 7708	07:10:39	"	"		$\chi = 1.07$ -0.01, -0.16
161	"	"	"	1449 6605	23:40 07:11:50	"	"		$\chi = 1.08$ -0.08 1.23 ~ CRASH
162	"	"	"	1494 6183	7:29:07	"	"		$\chi = 1.10$ -0.01 2.14
163	"	"	"	1548 6641	07:32:04	"	"		$\chi = 1.10$ -0.03 0.52
164	"	"	"	1529 6272	07:35:00	"	"		$\chi = 1.10$ -0.01 0.18
165	"	"	"	1459 5976	07:38:37	"	"		$\chi = 1.11$ 0.01 0.28
166	"	"	"	1462 5493	07:41:29	"	"		$\chi = 1.12$ 0.04 0.38
167	"	"	"	1453 5180	07:44:52	"	"		$\chi = 1.12$ 0.01 0.90
168	"	"	"	1430 5203	7:48:49	"	"		$\chi = 1.13$ 0.11 0.80
169	"	"	"	1449 5265	7:52:33	"	"		$\chi = 1.14$ -0.03 0.38
170	"	"	"	1485 5324	7:55:43	"	"		$\chi = 1.14$ 0.04 0.44
171	"	"	"	1510 5715	7:58:55	"	"	01:46	$\chi = 1.15$ 0.00 0.57
172	SAO 096173	1.5	"	5216 5116	8:10:16	6:49:33.3	15:34:23		$\chi = 1.18$ } not on disk - full. 0.06 0.74
173	"	"	"	4400 50579	8:12:59	"	"		$\chi = 1.19$ } 0.06 0.69

LOST }

SWITCH TO

NIGHT 3

Telescope: 61"

ASTROMETRIC, CALM

FR

Frame prefix #: ER90A

Day of Week: SAT/SUN

RA offset:

Focus: 3503

Humdty:

Sheet #: 13

Observers: MEECH/BUIE

Date MST/UT: JAN 20/21, 1990

Dec offset:

Tailpiece:

Balance:

Temp O/I:

TAPES

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.)
174	CHIRON	60S	B/DICH	1408 4646	8:25:53	6:51:17.65	15:35:33.9	2:14	X=1.22 Guide Cov. 0.07 1.25
175	"	"	"	1416 4688	8:28:54	"	"		X=1.22 0.04 1.30
176	"	"	"	1403 4377	8:31:37	"	"		X=1.23 0.07 0.85
177	"	"	"	1420	8:34:19	"	"	2:24	X=1.25 0.00 0.06
178	"	"	"	1369 3716	8:37:09	"	"		X=1.25 0.06 0.01
179	"	"	"	1442 3876	8:40:08	"	"		X=1.26 -0.03 -0.08
180	"	"	"	1399 3387	8:43:03	"	"		X=1.27 0.04 -0.06
181	"	"	"	1403 3568	8:46:50	"	"		X=1.28 0.11 -0.01
182	"	"	"	1417 2880	8:48:48	"	"		X= 0.08 0.01
183	"	"	"	1362 3135	8:51:46	"	"		Bias - .0088 - .0034 X=1.30 -0.01 0.18
184	"	"	"	1368 2483	8:54:15	"	"		X=1.31 -0.03 0.70
185	"	"	"	1375 2638	08:57:10	"	"	02:44	X=1.32 -0.01 1.21
186	"	"	"	1323 2347	9:00:02	"	"		X=1.33 0.04 0.91
187	"	"	"	1356 2192	9:03:06	"	"		X=1.35 0.04 0.04
188	"	"	"	1352 1821	9:05:44	"	"		X=1.36 0.00 0.12

NIGHT 3

Telescope: 61"

CLOUDS.

Frame prefix #: FR90A

Day of Week: SAT/SUN

RA offset:

Focus: 3503

Humdty: 35% Sheet #: 14

FR

Observers: BUIE/MEECH

Date MST/UT: JAN 20/21
1990

Dec offset:

Tailpiece:

Balance:

Temp O/I: 24/27 F

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.)
189	CHIRON	60S	B/Diar	/	9:09:11	6:51:17.65	15:35:34		$\chi = 1.38$ 0.17 0.46
190	"	"	"	/	9:14:07	"	"	03:03	$\chi = 1.41$ CLOUDS!
191	CHIRON	150	"	/	9:23:29	"	"		
192	"	150	"	/	9:23:29	"	"	3:15	$\chi = 1.45$ CLOSE FOR CLOUDS.
193	"	150	"	/		"	"		
193	HELIN-ROMAN ALL	60	"	1391 9586	11:57:10	17:41:57.1	57:20:31	-1.55, 0.59 -5:04	11:30UT - SKY CLEARED $\chi = 1.78$ Bias = -0.0456, +0.0129 ON STAR
194	"	"	"	/	12:00:15	"	"	-5.02	$\chi = 1.77$ Guide Coy. -0.61 1.47
195	"	"	"	/	12:03:12	"	"	-4:58	$\chi = 1.75$ -0.20 +.53
196	"	"	"	1408 9368	/	"	"	-4:56	$\chi = 1.74$ -0.01 .73
197	"	"	"	1437 9855	12:09:45	"	"	-4:52	$\chi = 1.71$ 0.03 0.48
198	"	"	"	/	12:12:38	"	"	-4:49	$\chi = 1.70$ CRASH.
198	"	"	"	1405 9588	12:21:46	"	"		$\chi =$ 0.81 2.43
199	"	"	"	1416 10050	12:26:14	"	"	-4:35	$\chi = 1.62$ -0.20 3.84
200	"	"	"	1408 7227	12:30:33	"	"	-4:31	$\chi = 1.61$ 1.29 -0.4
201	"	"	"	1389 8757	12:34:10	"	"		$\chi =$ 0.12 0.95

TAPE 6

LOST -
DISK
FULL!LOST
TAPES

TAPE 7

NIGHT 3

Telescope: 61"

CLEAR

Frame prefix #: FR90A

Day of Week: SAT/SUN

RA offset:

Focus: 3503

Humdty: 35% Sheet #: 15

Observers: BUIE/MEECH

Date MST/UT: JAN 20/21, 1990

Dec offset:

Tailpiece:

Balance:

Temp O/I: 24/27 F

FR

TAPE 7

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.)	
202	Helm Roman Alt	60s	B/Dior	1399 8829	12:37:16	17:41:57.1	57:20:31	-4:24	X=1.57	0.06 -0.36
203	"	"	"	1440 9696	12:40:36	"	"	-4:21	X=1.56	0.46 0.57
204	"	"	"	1425 9693	12:43:31	"	"	-4:17	X=1.54	-0.30 0.49
205	"	"	"	1408 8750	12:46:29	"	"	-4:15	X=1.53	0.21 0.65
206	"	"	"	1456 10050	12:49:15	"	"	-4:22	X=1.52	0.13 1.11
207	"	"	"	1432 9876	12:53:50	"	"	-4:09	X=1.51	0.04 0.4
208	"	"	"		12:55:38	"	"	-4:61	X=1.50	
209	HRA Sky	"	"	12	12:59:41	"	"			
210	Bias	0.01	"		13:08:47	"	"			
210	Bias	"	"		13:10:15	"	"			
212	"	"	"		13:11:02	"	"			
213	"	"	"		13:11:58	"	"			
214	"	"	"		13:13:06	"	"			
215	"	"	"		13:14:02	"	"			
216	"	"	"		13:14:48	"	"			

NIGHT 3

Telescope: 61"

CLEAR

FR

Frame prefix #: FR90A

Day of Week: SAT/SUN

RA offset:

Focus: 3503

Humdty: 35% Sheet #: 16

Observers: MEECH/BUIE

Date MST/UT: JAN 20/21, 1990

Dec offset:

Tailpiece:

Balance:

Temp O/I: 28/26

TAPE7

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.)
217	Bias	0.01	B/dicr		13:15:34	17:41:57	59:20:31		
218	"	"	"		13:16:21	"	"		
219	"	"	"		13:17:27	Zenith	32:25:00		Tel move during readout.
220	"	"	"		13:19:24	"	"		
221	"	"	"		13:20:13	"	"		
222	"	"	"		13:21:03	"	"		
223	"	"	"		13:22:03	"	"		
224	"	"	"		13:22:49	"	"		
225	"	"	"		13:23:30	"	"		
226	"	"	"		13:24:12	"	"		
227	"	"	"		13:25:21	"	"		
228	"	"	"		13:26:03	"	"		
229	"	"	"		13:26:45	"	"		
230	Twisky Flat	0.5	"			"	"		Cnts ~ 900 (bias)
231	"	20.0	"		13:30:21	"	"		Cnts ~ 2040

NOTE - COORDS INCLUDE FLEXURE CORRECTION - WHICH IS INCORRECT - TEL SHOULD USE FLEX

NIGHT 3

Telescope: 61"

FR

Frame prefix #: FR90A

Day of Week: SAT/SUN

RA offset:

Focus:

Humdty:

Sheet #: 17

Observers: MEECH / BUIE

Date MST/UT:

Dec offset:

Tailpiece:

Balance:

Temp O/I:

JAN 20/21, 1990

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.)
TAPE 7 232	Twilight Flat	20.0	B/DICR		13:34:46	Zenith			Cnts ~ 2490
233	"	"	"		13:36:41	"			Cnts ~ 2670
234	"	"	"		13:37:54	"			Cnts ~ 3225
235	"	"	"		13:39:27	"			Cnts ~ 3474
236	"	15.0	"		13:40:44	"			Cnts ~ 3464
237	"	"	"		13:41:44	"			Cnts ~ 4280
238	"	10.0	"		13:42:55	"			Cnts ~ 4448
239	"	"	"		13:44:03	"			Cnts ~ 4518
240	"	"	"		13:45:06	"			Cnts ~ 5172
241	"	"	"		13:46:01	"			Cnts ~ 6144
242	"	5.0	"		13:46:57	"			Cnts ~ 4882
243	"	"	"		13:47:49	"			Cnts ~ 5632
244	"	2.0	"		13:48:49	"			Cnts ~ 4769
245	"	"	"		13:49:40	"			Cnts ~ 6035
246	"	0.5	"		13:51:11	"			Cnts ~ 6035

NOTE: @ END OF NIGHT — SCATTERED THIN CLOUDS (CIRRUS)

NIGHT 4

Telescope: 61"

SKY LOGICALLY CLEAR - ALTHOUGH A BIT MILKY -

FR

Frame prefix #: FR90A

Day of Week: SUN/MON

RA offset:

Focus: 3503 Humdty: 30% Sheet #: 10

Observers: BUIE/MEECH

Date MST/UT: JAN 21, 22
1990

Dec offset:

Tailpiece:
Balance: Temp O/I: 39/37 °F

TAPE 7

TAPE 11

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.)
247	Dome Flat.	0.5	B/Dscr.	4488	23:14:05	@ Zenith			Cnts 4488 Dome flats on AL - Lamp intensity 55v.
248	"	"	"	4599	23:15:				
249	"	"	"	4618	23:16:46				
250	"	"	"	4644	23:17:36				
251	"	"	"	4684	23:18:21				
252	"	"	"	4646	23:19:05				
253	"	"	"	4684	23:19:49				
254	"	"	"	4571	23:20:49				
255	"	"	"	4595	23:21:33				
256	"	"	"	4665	23:22:17				
257	"	"	"	4672	23:23:17				
258	"	"	"	4695	23:24:01				
259	"	0.9	"	4859	23:24:56				
260	"	"	"	4919	23:25:40				
261	"	"	"	4881	23:26:25				

NIGHT 4

Telescope: 61"

SK LOOKS POOR

FR

Frame prefix #: FR90A

Day of Week: SUN/MON

RA offset:

Focus:

Humdty: 38% Sheet #: 19

Observers: MEECH/BUIE

Date MST/UT: JAN 21, 22
1990

Dec offset:

Tailpiece:

Balance:

Temp O/I: 39/37°F

TAPE 11

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.)
262	DOME FLAT	0.7	B/Dicr	4066 23:29:49	23:29:49	Zenith			Flat on white wind screen.
263	"	0.7	"	4073	23:30:50	"			
264	"	0.7	"	3926	23:31:34	"			
265	"	1.0	"	4147	23:32:29	"			
266	"	"	"	4224	23:33:13	"			
267	"	"	"	4264	23:33:58	"			
268	"	"	"	4211	23:34:43	"			
269	"	"	"	3543	23:35:28	"			ODD LOOKING! SKIP
270	"	"	"	4128	23:36:13	"			
271	"	"	"	4192	23:36:50	"			
272	TWISKY FLAT	4.0	"	SA ↑	01:26:32 01:08:44	Zenith HA=0		07:34	DEP just filled dewar.
273	"	4.0	"	2688 2704	01:27:32	zenith	"		
274	"	4.0	"	2030	28:26 01: 28:28	"	"		
275	"	7.0	"	2820	01:29:17	"	"		
276	"	7.0	"	2120	01:30:36	"	"		

NIGHT 4

Telescope: 61"

Sky IMPROVING

FR

Frame prefix #: FR90A

Day of Week: SUN/MON

RA offset:

Focus:

Humdty: 43% Sheet #: 20

Observers: MEECH/BLUE

Date MST/UT: JAN 21/22, 1990

Dec offset:

Tailpiece:

Balance:

Temp O/I: 35/32

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.)
277	TWISKYFLAT	10	B/DICK	2120	01:31:38	Zenith			No tracking
278	"	15	"	2136	01:33:10	"			Redoot
279	"	15	"	1971	01: 34:19 ^{37:09}	"			
280	"	30	"	1453 1571	01:41:313	"			
281	"	?	"	1453	01:52:23	"			
282	SAO 096173	1.5	"	5100 59477	02:10:48	06:49:40.1	15:35:06.7	X=1.76 -03:56	New Guide Point - 376.08 max 3943 428.08
283	"	"	"		02:12:55	"	"		Seeing ~ 3.4" Guide 1.13 1.85
284	"	"	"	5296 62583	02:21:37 02:15:35	"	"		CRASH
285	"	"	"	6304 63167	02:23:53	"	"		0.07 0.62
286	CHIRON	60.0	"	1416 6227	02:32:13	06:51:13.35	15:36:32.4		Wind (10mph) CLEARER! NO HAZE
287	"	"	"	1427 6400	02:35:28	"	"	1.59 -3:33	Guide Corr 0.00 -0.33
288	"	"	"	1527 6436	02:38:25	"	"	1.57 -3:30	0.00 0.04 ignore
289	"	"	"	1463 6267	02:40:51	"	"	1.55 -3:28	0.19 0.36
290	"	"	"	1612 6308	02:43:26	"	"		-0.01 0.32
291	"	"	"		02:46:13	"	"	1.42 -3.32	-0.17 0.27

TAPE 11

LOST

GHT 4

Telescope: 61"

SK REALLY NICE! SOME STUFF

FR

Frame prefix #: FR90A

Day of Week: SUN/MON

RA offset:

Focus: 3500

Humdty: 47

Sheet #: 21

Observers: BUIE/MEEGT

Date MST/UT: JAN 21/22, 1990

Dec offset:

Tailpiece:

Balance:

Temp O/I:

TAPE 11

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.)
292	Chiron	60 ^s	B/Dichr	1472 6384	02:49:21	6:51:13.2	15:36:25	1.50 -3:19	0.33 0.78
293	"	"	"	1472 6012 6384	02:52:30	"	"	"	0.07 1.43 0.33 0.78
294	"	"	"	1427 6057	02:55:17	"	"	1.46 -3:13	0.01 0.93
295	"	"	"	1444 6254	02:58:14	"	"	1.45 -3:11	0.08 0.34
296	"	"	"	1433 6240	03:01:36	"	"	1.43 -3:07	0.00 0.95
297	"	"	"	1339 6262	03:04:14	"	"	1.42 -03:05	0.03 0.10
298	"	"	"	1426 6182	03:07:10	"	"	1.40 -03:01	0.13 0.33
299	"	"	"	1403 6485	03:09:50	"	"	1.39 -02:59	0.07 -0.10
300	"	"	"	1369 6446	03:12:25	"	"	1.38 -02:56	0.03 0.02
301	"	"	"	1465 6376	03:15:13	"	"	1.26 -02:53	-0.05 0.64
302	"	"	"	1499 6876	03:17:59	"	"	1.35 -02:50	0.13 1.60
303	"	"	"	1536 7665	03	"	"	"	0.00 0.79
304	"	"	"	1504 6802	03:25:01	"	"	1.32 -02:43	-0.20 0.31
305	"	"	"	1593 6943	03:28:00	"	"	1.31 -02:40	0.18 -0.21
306	"	"	"	1505 6846	03:31:37	"	"	1.30 -02:37	0.00 -0.20

TAPE 12

GHT 4

Telescope: 61"

FR

Frame prefix #: FR90A

Day of Week: SUN/MON

RA offset:

Focus:

Humdty:

Sheet #: 22

Observers: MEECH/BUIE

Date MST/UT:

Dec offset:

Tailpiece:

Temp O/I:

JAN 21/22, 1990

TAPE
12

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.)
307	CHIRON	60s	B/DICH	1459 6640	03:34:14	06:51:13.2	15:36:25	1.28 -02:34	Guide: -0.01 0.13
308	"	"	"	1531 6693	03:36:56	"	"	1.27 -02:32	.08 0.33
309	"	"	"	/	03:42:44	"	"	/	moved tel! (miscomm - during spectrum)
310	"	"	"	/	03:45:52	"	"	1.25 -02:23	-1:20 0.49
311	"	"	"	/	03:50:06	"	"	1.23 -02:17	
312	"	"	"	/	03:53:18	"	"	1.22 -02:15	JUNK
313	SAO 096173	1.5	"			06:49:33	15:34:23		
314	"	"	"		03:58:51	06:49:41.5	15:34:39		Clouds moving in from S.
315	"	"	"		04:00:42	06:49 37.9	15:34:36.4		Tel moved.
316	"	"	"		04:01:47	"	"		-0.15 0.42
317	"	"	"		04:03:25	"	"		0.15 -0.03 0.58
318	"	"	"	5226 35617	04:05:17	"	"	1.18 -02:01	-0.09 0.46
319	"	"	"	/	04:07:07	"	"	1.18 -02:00	0.16 0.02
320	"	"	"	/	04:08:32	"	"	/	0.07 -0.43
321	"	"	"	/	4:12:05	"	"	/	New GP 378.06, 427.85

NIGHT 4

Telescope: 61"

SEEING 3"

FR

Frame prefix #: FR90A

Day of Week: SUN/MON

RA offset:

Focus: 3550

Humdty:

Sheet #: 23

Observers: BUIE/MEECH

Date MST/UT:
JAN 21, 22, 1990

Dec offset:

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.)
322	CHIRON	60S	B/DICK		04:24:03	06:51:13.5	15:36:18	1.14 -1:44	Guide Cor. -4.65 -10.1
323	"	"	"	1316 3574	04:27:38	"	"	1.14 -1:41	-0.08 1.26
324	"	"	"	1376 3661	04:30:39	"	"	1.13 -1:37	0.16 1.78 Dome checks.
325	"	"	"	1383 3432	04:33:25	"	"	1.13 -1:35	-0.13 -0.87 Approaching clouds.
326	"	"	"	1408 3722	04:36:14	"	"	1.12 -1:32	.05 0.13
327	"	"	"	1335 273	04:38:56	"	"	1.12 -1:30	-0.15 -0.29
328	"	"	"	1481 4503	04:41:40	"	"	1.11 -1:27	-0.04 0.01
329	"	"	"	1289 2291	04:44:20	"	"	1.11 -1:24	0.04 0.22
330	"	"	"	1275 2644	04:47:19	"	"	1.10 1:21	0.04 -0.02
331	"	"	"	1327 3998	04:49:56	"	"	1.10 1:18	-0.00 0.34
332	"	"	"	1408 4602	04:52:39	"	"	1.10 1:16	-0.11 0.74
333	"	"	"	1359 3866	4:55:27	"	"	1.09 -1:13	0.02 1.46 Seeing ~ 3.5"
334	"	"	"	1279 3084	04:58:07	"	"	1.09 -1:10	0.05 0.21
335	"	"	"	1341 3661	05:01:04	"	"	1.08 -01:07	-0.07 -0.8 Dome adjust
336	"	"	"	1334 3996	05:04:06	"	"	1.08 -1:04	0.09 -0.10

TAPE
12T = 36/32 Wind Emph
H = 48%

GHT 4

Telescope: 61"

FR

Frame prefix #: FR90A

Day of Week: SUN/MON

RA offset:

Focus: 3550

Humdty: 48% Sheet #: 24

Observers: MEECH/BUTE

Date MST/UT:

Dec offset:

Tailpiece:

Balance:

Temp O/I: 36/32°F

JAN 21, 22, 1990

Airm

TAPE
12

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set (1990)	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
337	CIIRON	60s	B/Diche	1331 4158	5:07:10	06:51:13.5	15:36:18	1.08 -1:01	-0.08 -0.12
338	"	"	"	1344 4299	5:10:00	"	"	1.07 -00:58	0.02 0.32
339	"	"	"	1352 4314	5:12:44	"	"	1.07 -00:56	-0.11 0.50
340	"	"	"	1408 4757	5:15:24	"	"	1.07 -00:53	-0.01 0.66
341	"	"	"	1337 4140	5:18:36	"	"	1.07 -00:50	-0.13 1.10
342	"	"	"	1459 4369	5:21:19	"	"	1.06 -00:47	-0.05 0.61
343	"	"	"	1408 4351	5:24:00	"	"	1.06 -00:44	0.01 -0.10
344	"	"	"	1411 4349	5:27:06	"	"	1.06 -00:41	-0.07 -0.82 Move Dome
345	"	"	"	1379 3976	5:29:56	"	"	1.06 -00:38	0.01 -0.13
346	"	"	"	1324 3504	5:32:44	"	"	1.06 -00:35	-0.12 0.38
347	"	"	"	1376 3749	5:36:10	"	"	1.05 -00:32	0.08 0.87
348	"	"	"	1399 3422	5:29:20	"	"	1.05 -00:28	-0.05 0.63
349	"	"	"	1305 2669	5:42:12	"	"	1.05 -00:26	0.05 0.54
350	"	"	"	1325 3299	5:46:26	"	"	1.05 -00:22	-0.09 0.26
351	"	"	"	1439 4678	5:48:28	"	"	1.05 -00:20	0.03 -0.24

TAPE 13

NIGHT 4

Telescope: 61"

CLOUDS.

GP = 378.06, 7.85 FR

Frame prefix #: FR90A

Day of Week: SUN/MON

RA offset:

Focus: 3550

Humdty: 48% Sheet #: 25

Observers: BUIE/MEELH

Date MST/UT:

Dec offset:

Tailpiece:

Balance:

Temp O/I: 37/33

JAN 21/22, 1990

TAPE B

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.)
352	CHIRON	60s	B/DICHR	1426 5002	5:51:23	06:51:13.5	15:36:18'	1.05 -00:17	Guide -0.06 -0.29
353	SAO 0916173	1.53	"	3972 4744	5:59:14	6:49:37.9	15:34:36	1.05 -00:07	0.11 0.31
354	"	"	"	2898 31820	6:01:29	"	"	1.05 -00:06	-0.02 1.19
355	"	"	"	3844 41031	6:03:05	"	"	1.05 -00:4	-0.03 0.72
356	CHIRON	60.05	"	1363 3317	6:17:51	6:51:05.2	15:35:53.9	1.05 00:05	Check GP: 386.70, 428.08 .06 0.39
357	"	"	"	1344 3160	6:21:09	"	"	1.05 00:09	-0.11 0.01
358	"	"	"	1302 2912	6:24:05	"	"	1.05 00:15	0.08 -0.26
359	"	"	"	1312 2711	6:26:55	"	"	1.05 00:19	-0.09 0.07
360	"	"	"	1298 2633	6:29:45	"	"	1.05 00:21	0.09 0.64 CLOUDS in S.
361	"	"	"	1275 2732	6:32:52	"	"	1.05 00:24	-0.04 1.04
362	"	"	"	1248 2266	6:36:00	"	"	1.05 00:27	.01 0.86
363	"	"	"	1290 1806	6:38:45	"	"	1.05 00:30	-0.05 -0.03
364	"	"	"	1296 2006	6:42:14	"	"	1.05 00:34	-0.04 -.59 more drive
365	"	"	"	1264 1694	6:44:53	"	"	1.06 00:36	-0.06 .58
366	"	"	"	1271 1614	6:47:34	"	"	1.06 00:39	-0.00 1.42

SHT 4

Telescope: 61"

FR

Frame prefix #: FR90A

Day of Week: SUN/MON

RA offset:

Focus: 3550

Humdty: 48% Sheet #: 26

Observers: MEECH/BWIE

Date MST/UT: JAN 21/22, 1990

Dec offset:

Tailpiece:

Balance:

Temp O/I: 38/34

Breezy

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.)
367	CHIRON	60S	B/Dich	1240 1211	6:50:16	6:51:05.2	15:35:53.9	1.06 00:41	Guide Corr. -0.10 0.13
368	"	"	"	1216 1126	6:53:05	"	"	1.06 00:45	-0.02 0.33
369	"	"	"	1232 697	6:55:57	"	"	1.06 00:47	0.04 0.6 CLOUD.
370	"	"	"	2821 1113	7:06:55	"	"		-0.16 0.01
371	"	"	"	1430 3500	7:11:10	"	"		-0.05 1.73
372	"	"	"	1331 2626	7:15:22	"	"	1.08 1:07	0.00 1.67
373	"	"	"	1254 1768	7:18:24	"	"	1.09 1:10	0.05 1.45
374	"	"	"	1267 1489	7:21:35	"	"	1.09 +1:13	-0.13 -0.8
375	"	"	"	1225 880	7:24:45	"	"	1:10 +1:16	0.08 -0.54
376	"	"	"	1195 548	7:27:47	"	"	1.10 +1:19	-0.18 0.91
377	"	"	"	1209 840	7:31:01	"	"	1.11 +1:23	0.18 1.46
378	"	"	"	1196 592	7:34:12	"	"	1.11 +1:25	-0.01 -0.03
379	"	"	"	1208 297	7:36:42	"	"	1.11 +1:28	
380	Cloud Plat	300S	"		8:14:15	6:50:56.18	15:35:26.7		
381	"	"	"		8:23:13	6:50:58.43	15:34:56.7		

TAPE
B

