

Frame prefix: SP97B

Telescope: 61"

Sheet #: 1

Date: March 2 UT

Focus: 3480

Iris: 299

Humidity: 76%

Tailpiece: +58°

Balance: 400

Temp: 16/22 F

Guidepoint: ~~397.8~~ (397.8, 396.6)

Observers: Fink, Hicks, Fent, Gmef

1997

Exp. #	Object	Exp. time	Filter (slit)	Counts: Peak/Phot	UT time Start	RA α	Dec δ	SecZ	Comments: seeing, moon, LHA, VME crashes, clouds, etc.
001	Wrttamer	600	0.50	Not 120 2920/1600/1120	02:28	01:27.30	07:34.51	2.15	152 per 7 pit 140 1200
002	"	"	"	Not 120 2750/1500/1495	02:38.43	"	"	2.22	+4.18 PA=57.8
003	"	"	"	2547/1531/1041	02:49	"	"	2.54	2.77 +4.24 = 58.1
004	"	"	0.85		03:24	" 39	33-29	3.02	4.19 5203 58.5 No good
005	BS 560	50	1.0	4000		01:56:46	01:50:47	4.25	
006	BS 560	50	1.0	4000	3:39			4.31	
007	"	"	"	4000	3:49				→4.41
008	BS 660	1.0	1.0	30K	3:46	02:16.53	39:12:48	1.92	
009	"	"	"	41K	3:47	"	"	1.93	
010	"	"	"	57K	3:48	"	"	1.94	
011	"	"	"	40K	3:49	"	"	1.96	PA=69.
012	"	"	"	30K		"	"	1.97	
013	"	"	"	40K	4:05	"	"	2.15	
014	"	"	"	35K		"	"	2.16	
015	"	"	"	36K	4:08	"	"	2.19	
016	"	"	"	37K	4:09	"	"	2.21	
017	"	"	"	30K	4:11	"	"	2.23	+05:11
018	"	"	"	31K	4:12	"	"	2.25	
019	BS 2141	3.0	"	40K	4:27	6:05:57	35:23:35	1.06	
020								1.06	
021								1.06	
022								1.00	
023								1.07	
024								1.07	
025								1.07	
026								1.07	

SP97A10

Phone not dead ~ 9:00 pm
 - Power went off ~ 3 pm; started Diesel and 5:30 pm
 ran on Diesel power all night long!

Frame prefix: SP97B

Telescope: 61"

Sheet #: 2

Frame prefix: SP97A

Date: MAR 01/02

Focus: 2480

Iris: 30

Humidity:

Tailpiece: 0°(210)

Balance: 4w

Temp:

Guidepoint: 397.8, 316.6

Observers: Hink, Hicks, Fung, Spring SAT

Exp. #	Object	Exp. time	Filter (slit)	Counts: Peak/Phot	UT time Start	RA α	Dec δ	SecZ	Comments: seeing, moon, LHA, VME crashes, clouds, etc.
027	BS 3314 (STD)	0.5	1.0	42K	4:41	00:25:30	-03:54:05	1.25	PA -13
028	"	"	"					1.25	
029	"	"	"	35K				1.25	
030	"	"	"					1.25	
031	"	"	"	Not saved					
31	1997 CU 26	1200	0.5	About 600 counts at col 300	5:40	8:27:23	15:40:40	1.05	
32	"	"	"	even fewer counts	6:01			1.07	PA = +32.8 LHA = 00:51
33	"	"	"	"	6:22			1.09	PA = +41.6 LHA = 1:12
34	WILD 2	"	"		6:49	7:46:47	+21:35:19	1.19	PA = +63.6 LHA = 2:20
35	"	"	"		7:11			1.26	PA = 64.7
36	"	"	"	10k peak	7:32	7:46:47	+21:35:26	1.34	65.3° LHA = 3:03
37	1991 VH	600	"	about 1000 pk (2 rows)	8:08	11:58:31	+25:36:47	1.01	-44.6 = 0:31
38	"	1200	"	about 1800 pk (2 rows)	8:20			1.01	-33.1 - 0:20
39	"	1200	"	2400 pk	8:41			1.01	+0.5 Transit 00:00
40	"	"	"		9:01			1.01	+33.4 LHA = +:20
41	1991 CS	"	"	Net ~ 5514/1539/1340	9:34	12:42:36	28:51:50	1.00	(Jumped in dec 25' bad ~3 min.) LHA = +:10 Moon rising
42	"	"	"	Net ~ 3500 5060/1570/1330	9:56	12: "	"	1.01	PA + 61.0
43	"	"	"	Net ~ 3000 5380/1570/1360	10:16:42	"	"	1.02 → 1.04	

Tail piece rotated 210° + 58° = 268°

Sky brighter moon up

Frame prefix: SP97R

Telescope: 6L⁴

Sheet #: 3

Evening labelled SP97A!

Date: March 01/02
Saturday night

Focus: 3480

Iris:

Tailpiece: 210

Balance:

Humidity: 60%

Temp: 24/27

Guidepoint:

Observers: Fink, Hicks, Fenz, Gray

[illegible]

Frame prefix: SP97R

Telescope: 61"

Date: 26 March 02/03

Focus: 3580

Iris: 22

Tailpiece:

Balance: 900

Sheet #: 4

Humidity: 60%

Temp: 30/36

Observers: Fink, Hicke, Fens, Grunz

Guidepoint: 3²9⁸0, 3⁸9⁰9

Exp. #	Object	Exp. time	Filter (slit)	Counts: Peak/Photo	UT time Start	RA α	Dec δ	SecZ	Comments: seeing, moon, LHA, VME crashes, clouds, etc.
062	Wirtanen	60	0.25	Not 700 2620/1930/1520	2:18:59	01:41:04.7	08 02 17	1.97	+03.16 PA=57° - sky still slightly
063	"	"	"	Not 700 2300/1530/1270	2:22			2.12	302. ^{Midnight} 700 Plot 26000
064	"	"	"	Not 800 2200/1430/1240	2:38	08.3	02 51	2.29	intake +60° turbine
065	"	"	"	2288/1340/1179	2:48			2.49	-2.79
066	RS 1855A	0.50	1.0	16300/1082	3:22	05:31 48	-07:18:03	1.37	
067	"	"	"	14300/1008	3:29			1.37	
068	"	"	"	15400/1070	3:25			1.38	
069	"	"	"	16500/1090	3:26			1.58	
070	RS 2141	2.5	1.0	32K/1100		06:05:58	35 23 33.5	1.02	
071	"	"	"	53K/1100	3:39	"	"	"	
072	"	"	"	28.0K	3:35	"	"	"	
073	"	"	"	50.5K	3:36	"	"	"	
074	"	"	"	30K	3:37	"	"	"	
075	"	"	"	31K	3:38	"	"	"	
076	"	"	"	31K	3:39	"	"	"	
077	"	"	"		3:39	"	"	1.02	
078	RS 660	1.0	1.0	52K/1400	3:46	02:16:53	34:12:46	1.97	PA=70°
079	"	"	"	56K/1030	3:48			1.98	
080	"	"	"	30K	3:50	"	"	2.11	
081	"	"	"	31.5K	3:59	"	"	2.12	
082	"	"	"	29.4	4:07	"	"	2.20	
083	"	"	"	29K	4:08	"	"	2.26	
084	"	"	"	31K	4:13	"	"	2.39	
085	"	"	"	32K	4:15	"	"	2.36	
086	"	"	"	31K	4:20	"	"	2.45	
087	"	"	"	28.4K	4:21	"	"	2.47	PA=65.7
088	"	"	"	32K	4:26	"	"	2.55	
089	"	"	"	35K	4:27	"	"	2.57	
090	"	"	"	33K	4:30	"	"	2.65	
091	"	"	"	34K	4:31	"	"	2.67	

Frame prefix: SP97B

Telescope: 61"

Date: Sun Nov 02/03

Focus: 3595

Iris: 30

Tailpiece: 20

Balance: 40

Sheet #: 5

Humidity:

Temp: 30/32

Observers: Ank, Hicks, Feny, Grog

Guidepoint: α & δ 517.0, 347.5

Exp. #	Object	Exp. time	Filter (slit)	Counts: Peak/Phot	UT time Start	RA α	Dec δ	SecZ	Comments: seeing, moon, LHA, VME crashes, clouds, etc.
092	M102	1200	0.25	7900/1460/1651	4:55	07:47:02	21:37:56	1.02	note tailpiece W-S again
93	"	"	"	7661/1670/1453	5:16	7:47:02	21:37:56	1.04	
94	"	"	"	7230/1633/1450	5:37	7:47:02	" 58	1.06	smear in dec slightly
95	"	"	"	6930/1620/1490	5:57	"	38:00	1.09	
96	"	"	"	7140/1635/1480	6:18:25		21:38:04	1.12	some cirrus, especially to SW
97	"	"	"	4650/1800/1482	6:40		21:38:06	1.17	clouds getting worse. Much worse.
98	1984 BC	2500	0.5	~ 350 above sky (cosmic ray at 300)	7:48	10:39:00	35:03:20	1.01	LHA = +:30 PA = 111° (Really faint)
99	"	"	"		8:09			1.02	
100	4954 Eric	"	"	3080/1600/1399	9:01	12:33:02	-2:40:40	1.22	LHA = -0:09 PA
101	"	"	"	3840/1020/1360	9:22			1.22	LHA = +:11
102	"	"	"	5970/1670/1400	9:43:30	12:32:59	-2:40:35	1.23	+132 moon rising
103	"	1200	0.20	4620/1600/1400	10:05	57	23	1.26	
104	5749 Acheta	1200	0.50	not 2800 3000/1770/1400	10:43	13:42:26	-20:12:06	1.65	α 225 PA = 6.3°
105	"	"	"	3100/1750/1400	11:04	"	"	1.68	α 44 = 11°
106	"	"	"		11:27	"	11	1.74-1.81	
107	Hale-Bopp	2.0	0.50	20.7K/1130	12:26			2.92	Ref to tailpiece -65° GP 398.0 396.0
108	"	3.0	"	26K	12:26			2.89	
109	"	3.0	"	30K	12:28			2.86	

x. ball.

Cautious
watch
930

Frame prefix: SP97B

Telescope: 61"

Sheet #: 6

Date: (UT March 3)
1997

Focus:

Iris:

Tailpiece:

Balance:

Humidity:

Temp:

Guidepoint: 298, 296

Observers: Fink, Hicks, Ferguson

[illegible]

Frame prefix:

SP97B

Telescope:

61"

Date: March 3/4 MST

Focus: 3540

Iris: 2.00

Tailpiece: 210 (near N-S)

Balance: 4.00

Humidity:

Temp:

Sheet #:

7

Observers:

Grundy, Fevig, Hicks (Fink) (or March 4)

Guidepoint: (397.5, 397.5)

Exp. #	Object	Exp. time	Filter (slit)	Counts: Peak/Phot	UT time Start	RA α	Dec δ	SecZ	Comments: seeing, moon, LHA, VME crashes, clouds, etc.
125	1997 CU 26	1200	0.5	1920/1600/1401	6:31:51	8:27:01	15:41:11	1.12	LHA = 1:31 (gusty wind)
126	"	"	"	1950/1564/1400	6:54	8:27:01	15:41:13	1.16	
127	"	"	"	1960/1520/1370	7:17		15:41:15	1.22	
128	"	"	"	1920/1580/1411	7:38	8:27:00	15:41:17	1.29	LHA = 2:37
129	"	"	"	1915/1640/1400	8:00			1.38	
130	"	"	"	1920/1610/1370	8:20	8:29:00	15:41:19	1.49	
131	"	"	"		8:41		15:41:20	1.63	
132	BS 4277	0.8	1.0	32k/1460	9:17	10:59:17	40:27:14	1.08	+1:44
133	"	"	"	29k/1420	9:19			1.08	
134	"	"	"	27k/1410	9:20			1.09	
135	"	"	"	33k/1440	9:22			1.09	← filling dewar
136	BS 6847	2.0	"	19k	9:29			2.07	
137	"	"	"	19.5k/1120	9:31	18:15:32	45:12:26	2.06	4-5:18
138	"	"	"	26k/1170	9:32			2.05	
139	"	"	"	25k/1180	9:33			2.03	
140	STD 5511	0.3	"	23k/1160	9:40			1.27	
141	"		"	25k/1190	9:42	14:46:09	1:54:16	1.27	-1:38
142	"		"	25k/1170	9:43			1.27	unusable

both

Frame prefix: SP97B

Telescope: 61"

Focus: 3530

Sheet #: 8

Date: March 3/4 1997

Iris:

Humidity: 55%

Observers: Ank, Hicks, Grundy, ^{for object.} (UT March 4)

Tailpiece: 210

Balance:

Temp: 30/35

Guidepoint: 397.5, 399.5

Exp. #	Object	Exp. time	Filter (slit)	Counts: Peak/Phot	UT time Start	RA α	Dec δ	SecZ	Comments: seeing, moon, LHA, VME crashes, clouds, etc.
143	1991 CS	1200s	0.5	5190/170/150	9:59	12:40:30	33:33:14	1.01	LHA = 0:44
144	"	"	"	4600/100/100	10:20	"	"	1.03	
144	"	"	"	2500/2700/1570	10:40	"	"	1.05	Heavy cloud may have just rly. No good.
145						cloud rolled in			
				Mund 04/05	Tuesday	deleted			01-060 545 min 49% per
145	4997 Ksana	1200	0.5	2130/1525/1333	3:57	3:51:25	57:44:50	1.39	GP 397.2, 396.4
				shut dark	slide at 357 sec remaining	∴ 843 sec = 14 min			
				Telescope	tracking error (and	approaching a bright star)			
146	BS 2141	2	1.0	27k	4:45	6:05:55	35:23:45	1.12	+2:08'
147	"	"	"	25k	4:46			1.12	
148	"	"	"	24k					
149	"	"	"	29k	4:47:45			1.13	
150	4997 Ksana	1200	0.5	2183/1958/1423	5:02	3:51:33	57:44:13	1.65	+4:39 (star in slit)
151	"	"	"	2164/1701/1399	5:24			1.77-1.89	
152	"	"	"	?/1328/1443	5:44:21	3:51:39	57:44:01	1.90-2.06	(stars in slit)
153	"	"	"		6:06			2.07	
154	Wild 2	"	"	25k/1871/1591	6:33:45	7:47:39	21:43:22	1.18	+2:15 ← Bad?
155	"	"	"	22k/1840/1364	6:54			1.24	WARNING → Bad?

Clock still good ± 1 sec

Star contaminating spectrum

Frame prefix: SP97B

Telescope: 61"

Focus: 3530

Sheet #: ~~8~~ 9

Date: March 5 UT

Iris:

Humidity:

Observers: GRUNDY, FEVIG
FINK, HICKS

(March 4/5 MST)

Tailpiece:

Balance:

Temp:

Guidepoint: 394.2, 396.4

Exp. #	Object	Exp. time	Filter (slit)	Counts: Peak/Phot	UT time Start	RA α	Dec δ	SecZ	Comments: seeing, moon, LHA, VME crashes, clouds, etc.
156	WILD 2	1200	0.5	10946/1853/1358	7:17	7:47:40	21:43:25	1.32	+2:59 GOOD
157	"	"	"	11071/1849/1355	7:39:30			1.43	
158	"	"	"	10600/1832/1382	8:01			1.57	
159	BS 4277	0.7s	1.0	32k/1322	8:28	10:59:175	40:28:15	1.03	
160	(comp)	"	"	29k/1333	8:29			"	
161	"	"	"	31k/1325	8:30			"	+1:00 LHA
162	"	"	"	27k/1291	8:31			"	
163	BS 4534	0.07	"	30k/1295	8:36	11:48:53	14:35:32	1.05	+0:16 LHA
164	(std)	"	"	29k/1255	8:37			1.05	
165	"	"	"	22k/1296	8:38			"	
166	"	"	"	27k/1319	8:48			2.60	bad tracking RA?
167	BS 6847	3s	"	21k/1350	8:51	18:15:32	45:12:33	2.55	-5:56 LHA
168	(comp)	"	"	27k/1361	8:53			2.52	
169	"	"	"	28k/1329	8:54			2.50	
170	"	"	"	2374/1347/1288	9:07	11:54:01	27:58:17	1.02	+1:43 LHA Approaching bright *
171	"	"	"	82250/1408/1279	9:18			1.02	Passing Through
172	"	"	"	2195/1390/1311	9:29			1.03	a bad neighborhood
173	"	1200	"	31820/150/1349	9:43:02			1.05	

Saved twice.
JW.

Frame prefix: SP97R

Telescope: 614

Sheet #: 11

Date: Mon 05/06
Wed night

Focus: 3580

Iris: 500

Humidity: 45%

Tailpiece: 210 + 58 = 268

Balance: 400

Temp: 33/37

Guidepoint:

Observers: Ank, Hicke, (Fevig)

Exp. #	Object	Exp. time	Filter (slit)	Counts: Peak/Phot	UT time Start	RA α	Dec δ	SecZ	Comments: seeing, moon, LHA, VME crashes, clouds, etc.
183	Wirtan	600	0.25	2930/190/1470	2:24	01:52:02	09:34:16	2.03	slit/tailpiece rotated G.P. 397, 396, 9
184	"	"	"	260/1643/1470	2:35			2.19	PA, 58.3
		"		take 2 5 min H ₂ O+ rings.					
185	"	"	"	2430/1500/1280	3:02			2.25	
186	"	"	"	2230/1580/1280	3:13			3.06	3.43
187	1997 C25	1200	0.5	3665/1882/1561	3:47	5:34:04	+9:45:05	1.20	PA=+43.7 LHA=+1:46
188	"	"	"	3227/1823/1577	4:08	"	"	1.25	PA=+48.0 LHA=+2:06
189	"	"	"	3429/1857/1525	4:29	"	"	1.33	PA=+51.2 LHA=+2:28
190	"	"	"	3295/1871/1469	4:50	"	"	1.42	PA=+53.6 LHA=+2:49
191	Comp BS1262	3	1.0	32K Peak	5:18	4:05:08	+22:00:05	2.25	PA=+63.8 LHA=+4:47
192	"	"	"	30K Peak	5:20	"	"	2.27	Half-widths grew, photometry went down
193	"	"	"	30K Peak	5:25	"	"	2.35	
194	"	"	"		5:26	"	"	2.37	
195	"	"	"	38K Peak	5:26	"	"	2.39	
196	Comp BS4528	5	"	31K	5:33	11:07:49	-30:09:42	2.75	
197	"	"	"	"	5:34	"	"	2.74	PA=-26.9 LHA=-1:59
198	"	"	"	"	5:35	"	"	2.73	
199	"	"	"	"	5:36	"	"	2.72	

4534

Frame prefix: SP97B

Telescope: 61"

Sheet #: 12

Date: March 05/06

Focus: 3540

Iris:

Humidity:

Tailpiece:

Balance:

Temp:

Guidepoint:

Observers: Hicks, Grundy, Fevig, Fink Wednesday

Exp. #	Object	Exp. time	Filter (slit)	Counts: Peak/Phot	UT time Start	RA α	Dec δ	SecZ	Comments: seeing, moon, LHA, VME crashes, clouds, etc.
200	Comp BS4328	5	1.0		5:37	11:07:49	-30:09:46	2.70	
201	"	"	"	31K	5:38	"	"	2.69	
202	Comp BS2251	2	"	34K	5:46	6:17:07	+5:06:05	1.57	
203	"	"	"	30K	5:47	"	"	1.58	
204	"	"	"	38K	5:49	"	"	1.59	
205	"	"	"		5:50	"	"	1.60	
206	"	"	"	33K	5:51	"	"	1.60	
207	"	"	"	36K	5:52	"	"	1.61	
208	"	"	"	40K	5:53	"	"	1.61	
209	Comp BS4027	3.5	"	36K	5:59	10:16:17	+28:42:07	1.02	
210	"	"	"	34K	6:00	"	"	1.01	
211	"	"	"	35K	6:01	"	"	1.01	
212	"	"	"	33K	6:02	"	"	1.01	
213	"	"	"	35K	6:03	"	"	1.01	211-211
214	"	"	"	37K	6:04	"	"	1.01	211-211
215	"	"	"		6:04	"	"	1.01	
216	BS 3314	0.4	"	34K	6:11	8:25:31	-3:53:49	1.32	Focus = 3540
217	"	"	"	34K	6:13	"	"	1.32	

211
261

Frame prefix: SP97B

Telescope: 61"

Sheet #: 13

Date: March 05/06

Focus: 3540

Iris:

Humidity:

Tailpiece:

Balance:

Temp:

Observers: Hicks, Grundy, Fevig Wednesday

Guidepoint: (397.2, 397.1)

Exp. #	Object	Exp. time	Filter (slit)	Counts: Peak/Phot	UT time Start	RA α	Dec δ	SecZ	Comments: seeing, moon, LHA, VME crashes, clouds, etc.
218	BS 3314	0.4	1.0	29K	6:14	8:25:31	-3:53:49	1.33	(STD)
219	"	"	"	24K	6:15	"	"	1.33	
220	"	"	"	31K	6:15	"	"	1.33	
221	1992 CC1	1200	0.5	2787/1567/1324	6:25	11:41:13	+00:13:45	1.30	
222	"	"	"	3049/1595/1404	6:46	"	"	1.26	
223	"	"	"	2316/1578/1416	7:07	11:41:07	+00:13:29	1.22	Jump in the East
224	"	"	"	2402/1725/1583	7:29	11:41:00	+00:14:41	1.19	COUNTS GOING DOWN! CC? 2/5 START ← dark slide last 63 sec.
X				(391.0, 361.5)					♀ Row = 405 → 406 (low → high column values)
X				(395.0, 427.3)					♀ Row = 364 → 365
225	4954 Eric	1200	0.5	4258/1571/134	9:11	12:28:38	-02:39:15	1.22	
226	"	"	"	4387/1589/1353	9:32	12:28:36	-02:39:09	1.24	
227	"	"	"	4480/1591/1348	9:53	12:28:35	-02:39:07	1.26	
228	"	"	"	5729/1500/1270	10:14	12:28:33	-02:39:04	1.30	HAD TO QUIT ARGOS, DELETE FILES SAVED, BUT HEADER MAY BE WRECKED
229	1685 TORO	1200	0.5	3967/2045/1155	10:49	12:49:44	-27:23:35	2.25	pressing clouds in guide eye. clouds to south
230	"	"	"	2919/1843/1291	11:10	12:49:43	-27:23:27	2.41	BIG CLOUD, NO COUNTS DARK SLIDE IN 11:19:52
231	4 ALE - B _{off}	2	0.5	27K	12:37	21:55:41	37:16:01	2.71	← TAILPIECE ROTATED
232	"	"	"	27K	12:38			2.64	Not photometric
233	"	"	"	32K	12:39			2.67	

234

"

"

"

29K

12:40

2.64

235

"

"

"

30K

2.60

SP97B

Telescope:

Mar 5/6

Iris:

Tailpiece:

Humidity:

Temp:

Guidepoint: 397.4, 399

HICKS GRUNDY (KEVIC) WED

[illegible]

Frame prefix: **SP97B**

Telescope: 61"

Sheet #: 15

Date: Mar 6/7

Focus:

Iris:

Humidity:

Tailpiece: 2/2

Balance:

Temp:

Guidepoint: 397.0, 393.0

Observers: *Hicks, Grundy, Fertig*

[illegible]

Frame prefix: FR97B

Telescope: 61"

Sheet #: 1

Date: Mar 1/2

Focus: 3480

Iris: 300

Humidity: 76%

Tailpiece: +53°

Balance:

Temp: 16°/22°

Guidepoint: 397.8, 396.6

Observers: Fink, Grundy, Hicks, Fevig Saturday

Exp. #	Object	Exp. time	Filter (slit)	Counts: Peak/Phot	UT time Start	RA α	Dec δ	SecZ	Comments: seeing, moon, LHA, VME crashes, clouds, etc.
X	P/WIRT	30	B/D ₂	3K Peak 30K Phot		TAILPIECE ROTATED			+53 ON TAIL
X	"	15	B/D ₂	1400 Peak 13K Phot					-53 IN SC
001	"	15	V+R	5K Peak	3:06	1:37:36	+07:31:28	2.97	Not sure if V+R
2	"	60	"	20K Peak	3:08			3.02	Filter is in.
3	"	60	"		3:10				
4	"	120	"		3:12				
5	"	120	"	38K Peak	3:15			3:28	
X	"	15	B/D ₂	1100 Peak 10K Phot					Back to spectra
X	BS 560	0.1	"			1:59:45	1:30:47		High AM (>4)
X	BS 660	0.05	"			2:16:53	+34:12:42		AM ~ 2
X	BS 2141	0.1	"			6:05:57	+35:23:35		AM ~ 1
X	BS 3314	0.03	"			8:25:31	-03:53:49		std. star
X	1997CU26	45	"	1200 Peak 4400 Phot					Guidept = (397.8, 391.0)
6	"	45	"			8:27:25	+15:40:27	1.06	512x512
7	"	"	"					1.06	128x128
8	"	"	"		5:55			"	"
9	"	"	"	900 Peak 1500 Phot	5:58			"	"
10	"	"	"		6:00			1.07	"

Frame prefix: *FR97B*Telescope: *61"*Sheet #: *2*Date: *Mar 1/2*

Focus:

Humidity:

Iris:

Tailpiece:

Balance:

Temp:

Observers: *Fink, Grundy, Hicks, Fevig**Saturday*Guidepoint: *397.8, 391*

Exp. #	Object	Exp. time	Filter (slit)	Counts: Peak/Phot	UT time Start	RA α	Dec δ	SecZ	Comments: seeing, moon, LHA, VME crashes, clouds, etc.
<i>010</i>	<i>1997 CU26</i>	<i>45</i>	<i>B/Di</i>	<i>900 Peak 1500 Phot</i>	<i>Times in header are correct</i>	<i>8:27:22</i>	<i>15:40:39</i>	<i>1.07</i>	<i>128x128</i>
<i>11</i>									
<i>12</i>									
<i>13</i>									
<i>14</i>									
<i>15</i>									
<i>16</i>								<i>1.08</i>	
<i>17</i>									
<i>18</i>									
<i>19</i>									
<i>20</i>									
<i>21</i>									
<i>22</i>								<i>1.09</i>	
<i>23</i>									
<i>24</i>									
<i>25</i>									
<i>26</i>								<i>1.10</i>	
<i>27</i>									
<i>28</i>									
<i>29</i>									
<i>30</i>									
<i>31</i>								<i>1.11</i>	
<i>32</i>								<i>"</i>	
<i>X</i>	<i>P/Wild 2</i>	<i>30</i>	<i>B/Di</i>	<i>73K Phot</i>		<i>7:46:52</i>	<i>+21:35:07</i>		
<i>X</i>	<i>1991 VH</i>	<i>30</i>	<i>B/Di</i>	<i>1300 Peak 9K Phot</i>					
<i>33</i>	<i>1991 VH</i>	<i>30</i>	<i>B/Di</i>		<i>8:12:20</i>	<i>11:58:31</i>	<i>+25:36:57</i>	<i>1.01</i>	
<i>34</i>	<i>"</i>	<i>"</i>	<i>"</i>		<i>8:15:20</i>			<i>"</i>	
<i>35</i>	<i>"</i>	<i>"</i>	<i>"</i>		<i>8:19:34</i>			<i>"</i>	
<i>36</i>	<i>1991 CS</i>	<i>"</i>	<i>"</i>	<i>2000 Peak 13K Phot</i>	<i>9:30</i>	<i>12:42:30</i>	<i>+28:51:40</i>	<i>1.00</i>	<i>Name wrong in header</i>
<i>37</i>	<i>"</i>	<i>"</i>	<i>"</i>		<i>9:32:13</i>			<i>"</i>	<i>"</i>
<i>38</i>	<i>"</i>	<i>"</i>	<i>"</i>		<i>9:34:06</i>			<i>"</i>	<i>"</i>

128.196.162.1
Telescope: 61"

Frame prefix: FR97B

Date: MAR 02/03
SUN

Focus: 3580

Iris:

Tailpiece:

Balance:

Humidity: 60%

Temp: 30/36

Sheet #: 4 97B

Observers: HKKs FWK (GRUNDY, FEVIC) NOT HERE AT START

Guidepoint: 398.0 390.9

Exp. #	Object	Exp. time	Filter (slit)	Counts: Peak/Phot	UT time Start	RA α	Dec δ	SecZ	Comments: seeing, moon, LHA, VME crashes, clouds, etc.
X	ROTATE	+58	FOR WIRTANEN			398.0	390.9	GP	
046	WIRTANEN	30	B/Di	27K PHOT	2:18	01:41:05.0	8:02:21	2.01	
047	"	"	"		2:28			2.14	
048	"	120	VIR		3:02	01:41:12	8:03:25	2.81	
049	"	360	"		3:05			2.90	-3.07
050	"	60	"		3:11			3.09	
X	WILDZ			79K IN 30 SEC					guidepoint (397.0 397.5) Shutter jam @ 6:05 UT
51	M67	10	VIR	Star 134 32K	7:16				
52	"	"	"	39K	7:20				
53	"	"	"	26K	7:21				thin Possible cloud
54	"	"	"	30K	7:24				"
55	1984 BC	45	B/Di	900 Peak 3K Phot	~7:48	10:38:59	+35:03:22	1.01	} Times in header jibe with UT!
56	"	"	"		7:50			"	
57	"	"	"		7:57			"	
X	1984 BC	"	"						Shutter jam @ 7:55
58	4954 Eric	30	B/Di	1200 Peak 10K	9:05	12:33:00	-2:40:43	1.22	} Times in header jibe w/ UT
59	"	"	"		9:15				
60	"	"	"		9:23				

Frame prefix: FR97B

Telescope: 61"

Sheet #: 5

Date: Mar 2/3
Sunday

Focus:

Iris:

Humidity:

Tailpiece:

Balance:

Temp:

Observers: Grundy, Fevig (Fonk, Hicks)

Guidepoint: 397.0, 397.5

Exp. #	Object	Exp. time	Filter (slit)	Counts: Peak/Phot	UT time Start	RA α	Dec δ	SecZ	Comments: seeing, moon, LHA, VME crashes, clouds, etc.
X	4954 Eric	30	B/Di	1200 Peak 10K Phot					Peak & phot (lightcurve?) varying, light clouds?
X	5144 Aclites	30	"						
X	ROTATE TAILPIECE			-65° (+65m SG) FOR		HALEBOPP	GP =	398.0, 396.0	
061	HALE-BOPP	0.15	VIR	41 K	12:11	21:36:24	+35:10.X	3.35	
062	"	"	"		12:16			3.18	
063	"	"	"		12:16			3.18	OFFSET DOWN TAN
064	"	0.90	"		12:18			3.16	
065	"	0.150	"					3.11	
066	"	0.05	"					3.09	
067	"	0.5	"					3.06	
068	"	0.05	"					3.02	
069	"	0.2	3/12						OFFSET SP97B114
070	"	"	"					2.50	SP97B115
071	"	"	"					2.46	116
072	"	"	"					2.44	117
073	"	0.5						2.35	OFFSET MORE 118
W 074	"	0.2						2.31	119
075	"	20						2.21	120

15.0 K_g.

Frame prefix: BR97B

Telescope: 61"

Date: MAR 3/4
MON

Focus: 3580

Iris:

Tailpiece:

Balance:

Sheet #: 6

Humidity: 52%

Temp: 33/37

Guidepoint: 371, 375

Observers: HICKS, FINK (GRUNDY, FEVIG)

FOR
IMAGING

Exp. #	Object	Exp. time	Filter (slit)	Counts: Peak/Phot	UT time Start	RA α	Dec δ	SecZ	Comments: seeing, moon, LHA, VME crashes, clouds, etc.
76	P/WIRT	300	CN		2:25	01:44:44	08:33:56	2.07-2.14	3540 focus
77	"	"	8600 CONT	600 PEAK 31K PHOT	2:31	1:44:46	8:34:08	2.16-2.24	
78	"	"	6250 CONT	300 PEAK 13K PHOT	2:37	1:44:48	8:34:21	2.27-2.37	3580 focus
79	"	"	C2	2100 PK 114K PHOT	2:44	1:44:50	8:34:32	2.38-2.47	
80	"	120	VIR	35K PK 880 K PHOT	2:52	1:44:52	8:34:48	2.55-2.60	
81	"	300	"	65K 6544 K	2:54	1:44:53	8:35:00	2.61-2.73	
82	"	120	"	33K PK 785 K PHOT	3:01	1:44:53	8:35:00	2.76-2.80	
83	"	300	H α	600 K 30 K PHOT	3:06	1:44:54	8:35:16	2.91-3.06	
84	"	300	NH $_2$		3:12	1:44:56	8:35:29	3.09-3.28	
85	BS 2141	1.5	8000 CONT		3:28	6:05:59	35:24:27	1.02	
86	"	"	"	34K PEAK 645 PHOT	3:29			"	
87	"	"	"					1.02	
88	"	0.5	6340 0.5 I-VH $_2$		3:33			1.02	
89	"	0.75	"	30 K PEAK 770 K PHOT				1.02	
90	"	1"	"					1.02	
91	"	"	6650 NH $_2$	374 PK 775 PHOT	3:38			1.02	
92	"	"	"					1.02	
93	"	"	"					1.02	

76

STAR
DUT
↓

Frame prefix: FR97B

Telescope: 61"

Sheet #: 7

Date: MAR 3/4

Focus:

Iris:

Humidity:

Tailpiece:

Balance:

Temp:

Guidepoint:

Observers: HICKS FUNK GRUNDY (Fevig)

Exp. #	Object	Exp. time	Filter (slit)	Counts: Peak/Phot	UT time Start	RA α	Dec δ	SecZ	Comments: seeing, moon, LHA, VME crashes, clouds, etc.
94	BS 660	5.0	C1	34K Peak 1089K	3:53	02:16:54	34:13:34	2.09	
95	"	"	"					2.11	
96	"	"	"					2.12	
97	"	1.0	0600 CONT		4:02			2.13	
98	"	"	"		4:03			2.23	
99	"	"	"	28K P 700K Phot	4:04			2.24	
100	"	2.0	6250 CONT		4:12			2.37	Focus 3580
101	"	2.0	"					2.38	
102	"	"	"					2.40	
103	"	0.5	C2	52K Pa	4:17			2.47	
104	"	0.25	"		4:19			2.50	
105	"	"	"		4:20			2.51	
106	"	"	"		4:21			2.53	
107	"	2.0	C0+		4:26			2.65	
108	"	2.0	"	713K Pmt	4:28			2.67	
109	"	"	"					2.69	
110	"	1.5	Hot		4:30			2.74	
111	"	1.0						2.77	
112	"	1.0						2.79	

OUR FILTERS
↓

Frame prefix: FR 97B

Telescope: 61"

Sheet #: 8

Date: MAR 31

Focus:

Iris:

Humidity:

Tailpiece:

Balance:

Temp:

Guidepoint:

Observers: HICKS FINK GRUDD (Fevig) Monday

Exp. #	Object	Exp. time	Filter (slit)	Counts: Peak/Phot	UT time Start	RA α	Dec δ	SecZ	Comments: seeing, moon, LHA, VME crashes, clouds, etc.
113	BS 660	1.5	NH ₂		4:36	2:16:54	34:13:34	2.86	
114	"	"	"					2.86	
115	"	"	"					2.90	
116	"	10	NAD		4:40			2.99	
117	"	"	"					3.02	
118	"	"	.1					3.04	
119	WILDZ	30	VIR-		5:16			1.04	focus = 3540
120	"	30	VIR-	22K 5624 Phot				1.04	
121	"	300	650 NH ₂	15K 470 K Phot	5:21			1.04	
122	"	300	6340 NH ₂ + 10	15K 423 K Phot	5:20			1.05	
123	"	300	5600 conv		5:35			1.06	
124	"	30	VIR FINK	22K 620 K Phot	5:43			1.07	
125	"	"	"					1.06	
126	"	120	"		5:48			1.06	
127	M6 7	10	VIR	134 is 50K	5:57	8:51:11	+11:46:55	1.08	
128	"	5	"	134 is 22K	6:01			1.08	
129	"	"	"	"	6:02			1.08	
130	"	10	VIR	134 is 47K	6:05			1.08	

STAR
DUST
↓Standard
Filter →

Telescope: 61"

Sheet #: 9

Frame prefix:

Date: Mar 3/4

Focus:

Humidity:

Iris:

Tailpiece:

Temp:

Balance:

Guidepoint: 397.5, 397.5

Observers: Grundy, Fevig (Hicks, Fink)

Read
12/22

Standard
Filter

[illegible]

Frame prefix: **FD97B**

Telescope: 61"

Sheet #: 10

Date: **March 09/05**Focus: **3530**Iris: **3.0**Tailpiece: **210 slit W-S**Humidity: **56%**Observers: **Frank, Fung, Hicks (Grundy)**Balance: **3.0**Temp: **40/40**

Guidepoint:

Exp. #	Object	Exp. time	Filter (slit)	Counts: Peak/Phot	UT time Start	RA α	Dec δ	SecZ	Comments: seeing, moon, LHA, VME crashes, clouds, etc.
132-135	Deneb E 1465	2	B ⁴⁸⁸	31K	] slide 1 (thet = 65° for star)	"	32°46	2-27	SL2+SL2 Varine 85.
136-139	"	.08	V+R	30K					"
142-142	"	5	C2	31K	5140/90	] slide 2	"	"	"
143-145	"	7	Cont	27K	6250/20		"	"	"
146-148	"	1	Cont	30K	8600/120		"	"	"
149-151	"	1	CN	29K	9290/120		"	"	"
152-154	"	30	CO ⁺	23K	4565/45	] slide 3	"	"	"
155-157	"	3	H ₂ O ⁺	28K	6185/50		"	"	"
158-160	"	6	NH ₂	27K	6340/20	] standard slide	"	"	"
161-163	"	40	NaD	26K	5890/5		"	"	"
164-166	"	4	Cont	29K	5800/40		"	"	"
167	"	1.0	OI ⁺	31K	6340/120		"	"	"
168/169	CYS	"	CI	21K	6110/120	] r+r	"	"	"
170-172	"	1.0	O ⁺ , O, NH ₂	31K	6650/150		"	"	"
173-175	"	.08	V+R	27K	Newburn		"	"	"

Note: OK

note again a 2nd time

↑ trouble with

↑

This type note OK.

173
93
154C

Frame prefix: FR97B

Telescope: 61"

Sheet #: 11

Date: MAR 04/05

Focus: 3530

Iris:

Humidity: 49%

Tailpiece:

Observers: FINK HICKS (FEUIG, GRUNDY)

Balance:

Temp: 30/35

Guidepoint: 371,375

Exp. #	Object	Exp. time	Filter (slit)	Counts: Peak/Phot	UT time Start	RA α	Dec δ	SecZ	Comments: seeing, moon, LHA, VME crashes, clouds, etc.
176	PIWIRY	CP	300	800 PK 36 K Phot	2:21	1:48:21	9:04:09	2.01 - 2.08	Focus 3500 BIAS 750.8
177	"	8600 CONT	300	800 PK 36 K Phot	2:27	1:48:22	9:04:20	2.09 - 2.17	K PID NOT BIAS 757 READOUT, HAD TO REDO
177	"	"	300	800 PK 36 K Phot	2:35	1:48:23	9:04:30	2.21 - 2.29	
178	"	6250 CONT	300	700 PK 14 K Phot	2:41	1:48:25	9:04:42	2.32 - 2.42	Focus 3530
179	"	C2	300	3000 PK 125 K Phot	2:48	1:48:26	9:04:50	2.44 - 2.55	BIAS 749.46
180	"	VH ₂	300	800 PK 26 K Phot	2:57	1:48:27	9:05:02	2.64 - 2.78	29:44 / start
181	"	H ₂ O ⁺	300	1800 PK 10 K Phot	3:03	1:48:28	9:05:10	2.79 - 2.95	29:59 30:09
182	"	U+R	126	42 K 84 K Phot	3:11	1:48:30	9:05:20	3.01 - 3.07	
183	"	"	300	SAT	3:14	1:48:30	9:05:21	3.11 - 3.30	
184	"	"	"		3:19	1:48:31	9:05:31	3.32 - 3.55	BIAS 751.1
									Guidept = (397.2, 396.4)
185	4997 KSANA	60	B/di	72 K Phot	3:55	3:51:25	57:45:50	1.39 + 3:35	Add 15 secs. to FITS header time to get UT.
186	"	45	"		5:08	"	"	1.69	
187	"	"	"		5:23	"	"	1.79	
X	BS 2141	Comp	Star					1.12	
X	4997 KSANA	45	B/di	5 K Phot					
X	Wild 2	30	B/di	120 K Phot		7:47:39	+21:43:22		
X	"	"	"	65 K Phot	← After having passed beyond star (see spec. log).				

Frame prefix: FR97 IS

Telescope:

Sheet #: 12

Date: 3/4-3/5

Focus:

Iris:

Humidity:

Tailpiece:

Temp:

Balance:

Guidepoint: 397.2, 396.4

Observers: Grundy, Ferig (Hicks, Fink) Tuesday

Exp. #	Object	Exp. time	Filter (slit)	Counts: Peak/Phot	UT time Start	RA α	Dec δ	SecZ	Comments: seeing, moon, LHA, VME crashes, clouds, etc.
X	Comp BS4277	0.1	B/Di	888K		10:59:18	+40:28:14	1.03	
X	Std. BS4534	0.02	"	2.2 meg		11:48:53	+14:35:16	1.05	
X	Comp BS6847	0.4	"	760K		18:15:32	+45:12:30	2.26	
X	1991 VH	30	"	8K		11:53:56	+27:58:07		
188	1991 VH	"	"	7500 phot	9:09	"	"	1.02	256x256 } Add 15 secs
189	"	45	"	12K Phot	9:28	"	"	1.04	512x512 } to FITS
190	"	"	"	10.5K Phot	9:50	"	"	1.06	512x512 } header to get UT time
X	1991 VH	30	"	7K Phot					
X	1991 CS	30	"	8.5K	11:07	12:34:15	35:44:20	1.10	
X					11:30				Phot has suddenly jump
191	HALE-BOPP	120	C1	SAT!	11:57	21:48:54	+36:40:01	3.91	3500 mmil focus 2470 Focus
192	"	12	C1					3.66	
193	SKY	30	C1			4 ^h RA Phot		4.06	
194	HA 4EB	4	C1	44K				3.49	FILTER WRONG IN HET
195	"	2	C1	34K	12:11			3.35	focus
196	HALE-BOPP	2	C2	27K				3.29	focus 3500
197	"	1	C2	41K	12:15			3.23	

Frame prefix: FR97B

Telescope: 61"

Sheet #: 13

Date: MKR 04/05

Focus:

Iris:

Tailpiece:

Balance:

Humidity:

Temp:

Observers: HICKS, FINK (GRUBB, FEUG) TUE

Guidepoint: 397.2 3964

[illegible]

Frame prefix: PR97B

Telescope: 61"

Sheet #: 14

Date: M2V 05/06

Focus: 3560

Iris: 300

Humidity: 45%

Tailpiece: 210+58

Balance: 400

Temp: 33/37

Guidepoint: 397.1, 396.9

Observers: (HICKS FINK) (GRUNDY FEVICK) (GRUNDY GUESTS)

Exp. #	Object	Exp. time	Filter (slit)	Counts: Peak/Phot	UT time Start	RA α	Dec δ	SecZ	Comments: seeing, moon, LHA, VME crashes, clouds, etc.
208	TAILPIECE			ROTATE +58° (-58° in SG)					
209	AFTER A BIT OF TROUBLE, (SG)			28K phot	30sec	B/DI	P/WIRT		
209	P/WIRT	300	H ₂ O+ OLD	800BK 35K phot	2:47	11:57:06	9:34:53	2.40	2.50
210	"	300	H ₂ O+ NO		2:53	11:52:07	9:35:01	2.53	
X	ROTATE BACK TO NORMAL			GP		397.2	397.1		
X	1997 C25			8.5K phot					
211	1997 C25	B/di	30		3:46	5:34:04	9:45:06	1.19	} UT times in FITS header are correct
212	"	"	"		3:54			1.21	
213	"	"	"		4:44	5:34:10	9:45:30	1.39	
214	1992 CC1	30	8/dich	5000 phot	6:26	11:41:13	0:13:45	1.31	Focus = 3540
215	"	"	"	4000 phot	6:55			1.24	← VME CRASH
216	"	"	"	1900 phot	7:47	11:40:59	0:13:18	1.18	Jump in East
← could not write to ima: or sys: (disk controller dead?)									
217	1992 CC1			deleted a bunch of stuff,	now it saves ok.				
	Triton	60	8/dich	Not found					
	Russel 4	"	"	3300 phot	8:16	12:24:48	08:49:21	1.10	maybe found (?)
	Hartley 1	"	"	Not found					

(del 214 on IMA)
keep 214 on SYS

Back on IMA

} UT times
in FITS
header
are correct
-1.49

Frame prefix: FR97B

Telescope:

61"

Focus: 3540

Sheet #: 15

Date: March 6 UT 1997

Iris:

Humidity: 45%

Tailpiece:

Observers: Hicks, Fevig, Grundy, Fink (5/6 MST)

Balance:

Temp:

Guidepoint: (397.2, 397.1)

Exp. #	Object	Exp. time	Filter (slit)	Counts: Peak/Phot	UT time Start	RA α	Dec δ	SecZ	Comments: seeing, moon, LHA, VME crashes, clouds etc.
/	4954 Eric	30	B/Di	10K Phot					clouds to south
/									VME CRASH (x 2)
/	1685 Toro	30	B/Di	5K Phot		12:49:45	-27:22:39		
218	1685 Toro	30	B/Di	6K Phot	10:55	"	"	2.30	UT correct in FITS header
/	Possible clouds	passed through over							~ 3min timespan btwn. these two exposures
219	1685 Toro	30	B/Di	7K Phot	11:08	12:49:43	-27:23:27	2.41	} UT correct in FITS header
220	"	"	"	"	11:24	12:49:42	-27:23:23	2.58	
/	Clouds passing through @	11:20.							We quit taking spectral images.
221	Hale	2	Hob+new		12:09	21:		3.50	} MEDIAN FILTER GOODER
222	"	"	"		12:09	21:55:25	37:25.	3.46	
223	"	"	"		12:11			3.40	
224	"	4	Hob+new		12:13			3.30	} MEDIAN FILTER GOODER
225	"	4	"					3.20	
226	"	4	"		12:18			3.17	
/	Hale Bopp	rot	tail	+60°		$\frac{1}{2}$ mm slit			G.P. = 397.4,
/	"			angle 150 from N					399.0
/	"	0.2	B/Di	30k peak 105k phot					PA = -66.7°

fw

Frame prefix: FR97B

Telescope: 61"

Focus: 3410
Iris: 3w
Tailpiece: 212
Balance: 4w

Sheet #: 16

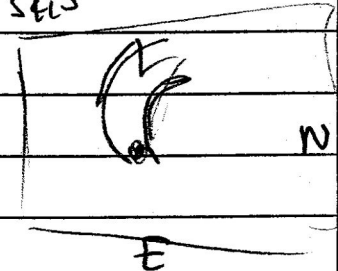
Date: March 7 UT

Humidity: 48

Observers: Hicks, Grundy, Fevig, Fink (6/7 MST)

Temp: 32/36

Guidepoint: (397.0, 393.0)

Exp. #	Object	Exp. time	Filter (slit)	Counts: Peak/Phot	UT time Start	RA α	Dec δ	SecZ	Comments: seeing, moon, LHA, VME crashes, clouds, etc.
/	1997 CZ5	30	B/DI	9K Phot					Intermittent clouds
/	Quit taking spectra after 2 nd exposure due to clouds.								
227	5587 (1990 SB)	60	B/DI	6500 Phot	4:52	9:29:33	-4:01:16	1.28	Add 3 seconds to header for UT time
/	5587 (1990 SB)	45	B/DI	4K					Jump in the East during exposure SP97B227
228	"	60	"	4400 Phot	6:33	9:29:24	-4:00:11.5	1.26	+1:40 Add 3 seconds to header for UT time
	Fink			From 3410		(FB = 112 ^c)			
224	Hale-Bopp	80	CN	35K	12:05	22:02:20	+38:08:52	3.64	From 3370 from 86w
230	"	25	"	sat	12:06	"	"	3.18	
231	"	4.0	86w	43K	12:11	"	"	3.44	
232	"	20	"	sat	12:12	"	"	3.27	
233	"	4.0	62w	20K	12:20	"	"	3.14	From 3410
234	"	20	"	sat	12:21			3.10	
235	"	2.0	C2	45K	12:25			2.94	
236	"	10w	C2	sat	12:27			2.96	
237	"	4.0	NH2	55K	12:32			2.89	
238	"	20.0	"	sat	12:34			2.80	
239	"	15	NH2	20K	12:37			2.73	T=57 F
240	"	1w	"	sat.	12:39			2.08	

227-237 - 546.

Frame prefix: F24B

Telescope: 61^A

Sheet #: 17

Date: Mar 06/17

Focus:

Iris:

Humidity: 48

Observers: Enk

Th. night

Tailpiece:

Balance:

Temp: 32 / 36

Guidepoint:

[illegible]