

60 inch Telescope Log  
 Observer: Grogan  
 PI: Venon/Geller  
 Spectrograph: FAST  
 Grating: 300  
 Date: 3/21/96  
 Page: 4479

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1	Comp			0		Very cloudy. Even some
2-11	BIAS			0	0	rain during afternoon.
12-31	FLAT			0	6s.	
32-40	Sky			0	1-6s.	opened for sky, then shut
41	Comp			↑		
42-3	HDS2971	6:57:51	27:13:42	0	2m, 3m	vel std.
44	Comp			↑		
45-8	Hiltner 600	6:42:37.2	2:11:25	0	3-30s, 1x60	sp std
49	Comp			↑		
50	AGK2+14783	7:17:47	14:58:38	0	3m.	vel std.
51	Comp			↑		
52	HBC522	6:28:22.2	10:28:11	32	5m.	Can't do glx...
53	Comp			↑		
54	HBC205	6:29:19.4	10:27:31	32	5m.	
55	Comp			↑		
56	HBC534	6:37:52.2	9:57:48	32	5m.	
57	Comp			↑		
58	HBC535	6:38:11.2	9:57:02	32	5m.	too much sky - why?
59	Comp			↑		
60	HBC543	6:38:53.2	10:12:29	32	7m.	
61	Comp			↑		
62	HBC240	6:38:54.1	9:43:23	32	6m.	
63	Comp			↑		
64	HBC240	"	"	32	8m.	Try for better sky
65	Comp			↑		
66	313.071044	9:8:27.72	30:26:38.4	3	20m.	Hole in the clouds
67	Comp			↑		skipping down for 3 hrs.
68	N4486B	12:30:2	12:24:25	0	5m.	vel std.; clear in patches
69	Comp			↑		
70	319.049301	11:44:14.65	30:46:14.1	3	10m.	

1.19 sun  
 8.93 moon

36 196 427 bytes compressed  
 - 107 00 8

## 60 inch Telescope Log

Observer: GroganPI: Geller/GroganSpectrograph: FASTGrating: 3009Page: 4480Date: 3/21/96

Number	Object	R. A.	Dec.	L/R	Exp	Comments
71	Comp			↑		(319.049301)
72	319.050103	11:50:55.28	30:51:1	3	6m.	
73	Comp			↑		
74	319.050378	11:44:30.49	30:52:58.8	3	6m.	
75	Comp.			↑		
76	319.050641	11:44:16.19	30:54:24.8	3	5m.	
77	Comp.			↑		
78	13482 + 2824	13:48:18.5	28:23:47	42	5m.	Exp. too short
79	Comp.			↑		
80	14023 + 2926	14:02:22.2	29:26:19	42	20m.	#2 in catalog → too faint
81	Comp.			↑		
82	14099 + 3825	14:9:48.3	38:25:43	42	6m.	
83	Comp.			↑		
84	14110 + 2715	14:11:1.1	27:14:30	42	7m.	
85	Comp			↑		
86	14293 + 3327	14:29:18.4	33:27:4	42	7m.	
87	Comp.			↑		
88	14384 + 3135	14:38:29.8	31:35:17	42	6m.	
89	Comp			↑		
90	N5771	14:50:6.7	30:2:58	42	7m.	
91	Comp			↑		
92	N5773	14:50:23.2	30:0:40	42	8m.	
93	Comp			↑		
94	N5780	14:52	29:8	42	7m.	
95	Comp.			↑		
96	14573 + 2719	14:57	27:18	42	10m.	Cloudier
97	Comp			↑		
98	N5827	14:59	26:9	42	7m.	Too cloudy for glx
99	Comp			↑		
100	CIC y	14:50	35:41	?	5m	Intrud of clouds



60 inch Telescope Log  
 Observer: Grogia  
 PI: Kenyon/Pantoja  
 Spectrograph: FAST  
 Grating: 300L  
 Date: 3/22/96  
 Page: 4482

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS			0	0	Clouds here or west of it.
11-30	FLAT			0	6	Rather windy.
31-38	Sky			0	2-6	
39	Comp			↑		
40	HD 52971	6:57	27:13	0	30	vel. std.
41	Comp			↑		
42-4	Hiltner 600	6:42	2:11	0	30, 60, 150	sp. std.
45	Comp			↑		
46	FV Tau	4:23:49.9	26:00:13	30	7m.	
47	Comp			↑		
48	DN Tau	4:32:25.7	24:08:52	30	10m.	
49	Comp			↑		
50	LkCa14	4:33:15.4	25:36:55	30	5m.	
51	Comp			↑		
52	LkCa19	4:52:25.9	30:13:11	30	3m.	Very bright: trailed along slit
53	Comp.			↑		
54	St 34	4:51:30	17:05	30	6m.	
55	Comp			↑		
56	V386 Tau	5:00	25:19	30	5m.	
57	Comp.			↑		
58	CIDA 8	5:01	25:05	30	10m.	
59	Comp			↑		
60	CIDA 11	5:03	24:28	30	8m.	
61	Comp			↑		
62	RW Aur	5:04	30:20	30	5m.	
63	Comp			↑		
64	W125	5:22	32:58	43	20m.	Guide possible. lost → 3 images
65	Comp			↑		
66	W201	6:30	9:56	43	20m.	Bright star to right
67	Comp			↑		

→ can only see bright stars to east that

8.99 min  
1.2 gain

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4483</u>
Observer: <u>Grogin</u>				Grating: <u>300l</u>		
PI: <u>Geller/Koranyi/Barton/Kirshner</u>				Date: <u>01/21/96</u>		
Number	Object	R.A.	Dec.	L/R	Exp	Comments
68	313.075411	9:9	30:42	3	20m.	Last on plate 313
69	Comp			↑		
70	319.050694	11:59	30:53	3	8m.	
71	Comp			↑		
72	319.050843	11:35	30:53	3	8m.	
73	Comp			↑		
74	319.052153	12:1	31:1	3	15m.	
75	Comp			↑		
76	319.052352	11:46	31:5	3	5m.	
77	Comp			↑		
78	319.052610	11:41	31:6	3	3m.	bright, but exp. too short?
79	Comp			↑		
80	mkw10-25	11:41	10:25	35	20m.	
81	Comp			↑		
82	mkw10-31	11:41	10:20	35	20m.	
83	Comp			↑		
84	mkw10-44	11:42	10:08	35	20m.	
85	Comp			↑		
86	awm2-02	12:12	25:28	35	20m.	
87	Comp			↑		
88	gr1712-gal07	13:26	36:47	33	15m.	
89	Comp			↑		
90	sn1251-1301	12:51	-13:01	2	20m.	SN candidate for Peter G. ↑ bit by 2
91	Comp			↑		Comment info batched
92	gr1712-gal08	13:22	37:15	33	15m.	
93	Comp			↑		
94	gr1712-gal09	13:22	37:15	33	10m.	
95	Comp			↑		
96	gr1712-gal10	13:26	36:54	33	15m.	
97	Comp			↑		

60 inch Telescope Log

Observer: Grogan

PI: Grogan/Wilkos

Spectrograph: FAST

Grating: 300l

Date: 3/22/96

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
98	14025 + 3059	14:02	30:58	42	7m.	
99	Comp			↑		
100	14194 + 3820	14:19	38:20	42	10m.	
101	Comp			↑		
102	14400 + 2543	14:40	25:43	42	15m.	
103	Comp			↑		
104	14468 + 2224	14:46	22:24	42	15m.	
105	Comp			↑		
106	NS827	14:59	26:9	42	15m.	reshoot from 3/24
107	Comp			↑		
108	NS829	15:0	23:31	42	15m.	
109	Comp			↑		
110	15039 + 2558	15:03	25:58	42	15m.	
111	Comp			↑		
112-3	NS866	15:05	55:57	0	1m, 5m	vel. std.
114	Comp			↑		
115	N4151	12:08	39:41	6	31.16s	quoted on the exp time
116	Comp			↑		
117	Mrk 279	13:51	69:33	6	90s.	
118	Comp			↑		
119	PG 1708 + 602	17:08	60:13	0	5m.	sp. std.
120	Comp			↑		
121	15043 + 2154	15:04	21:54	42	15m.	
122	Comp			↑		
123	16046 + 3014	16:04	30:14	42	15m.	sky brightening
124	Comp			↑		
125	16006 + 4302	16:00	43:02	42	15m.	sky too bright for glx.
126	Comp			↑		
127	NS548	14:15	25:02	6	2m.	
128	Comp			↑		



60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4486</u>
Observer: <u>Grogin</u>				Grating: <u>3008</u>		Date: <u>3/23/96</u>
PI: <u>Huebra/Goller/Grogin</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS			0	0	Low clouds. Extremely
11-20	FLAT			0	6s.	windy - couldn't open to
21	Comp			↑		to sky flats. Try in moon.
22	AGK2+43928			0	3m.	vel std - working east
23	Comp			↑		to stay out of wind
24-5	PG1934+554			0	1m, 5m	sp. std.
26	Comp			↑		
27	11121+6835			1	12m.	In/out of clouds
28	Comp			↑		
29	11144+7520			1	8m.	Heavy clouds rolled in.
30	Comp			↑		Shut for 1 hr.
31	319.052794			3	10m.	wind down to 10-20; clearer
32	Comp			↑		thick clouds in again!
33	319.052831			3	8m.	
34	Comp			↑		Humidity coming up. Closing.
35	15524+4145			42	11m.	Humidity spiked. frost on
36	Comp			↑		cars! opening again - 4:15
37	N6016			42	15m.	low cts on previous exp.
38	Comp			↑		
39	16155+3119			42	20m.	
40	Comp			↑		
41-42	11244			0	1m.	sp std NO COMPS!
	4:45 am: <b>POWER OUT!!</b>					NO GENERATOR! x
43-50	BIAS			0	0	
						UPC TURNED OFF.
						NO TAPE ARCHIVE MADE.
						SPARKY BROUGHT DOWN GRACEFULLY.

Please FAX this to S. Tokarz.

-N. Grogin

9.4 Noise  
1.2 Gain



60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>4487</u>	
Observer: <u>PBerland</u>			Grating: <u>3002</u>			
PI: <u>Keayon</u>			Date: <u>5/24/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
7-10	BIAS			0	0s	circus
11-20	FLAT			0	6s	
21-26	sky	zenith		0	2s	
27	COMP			↑	5s	
28-32	HDS2971	06:57	+27:13	0	5s	def +tr1
33	COMP			↑		
34-36	Hiltner 600	06:42	+02:11	0	1m	
37	COMP			↑		
38-40	G191/B2B	05:01	+52:45	0	2m	lots of cirrus
41	COMP			↑		
42-43	HBC 28	06:29	+10:11	32	5m	extended nebulosity
44	COMP			↑		
45-47	HBC 29	06:30	+10:21	32	2s, 10s	
48	COMP			↑		Li emission??
49-51	HBC 207	06:36	+08:46	32	4m	variable clouds
50-52	COMP			↑		
53	HBC 203	06:28	+10:28	32	6m	
54	COMP			↑		
55	HBC 204	06:28	+10:34	32	10m	clouds
56	COMP			↑		
57	HBC 205	06:36	+09:01	32	7m	
58	COMP			↑		
59	HBC 31	06:36	+09:37	32	7m	
60	COMP			↑		seeing ~2"
61	HBC 215	06:37	+09:57	32	4m	
62	COMP			↑		
63	HBC 213	06:37	+09:37	32	9m	
64	COMP			↑		
65-66	HBC 207	06:37	+09:36	32	1m, 2m	
67	COMP			↑		

8.32 Noise  
1.09 Gain

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>4488</u>		
Observer: <u>AB</u>		Grating: <u>300</u>		Date: <u>3/21/96</u>		
PI: <u>Kenyon</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
68	HBC219	06:37	+09:50	32	2m	clouds + moon
69	COMP			↑		
70	HBC220	06:38	+09:52	32	6m	
71	COMP			↑		
72	HBC222	06:38	+09:47	32	3m	
73	COMP			↑		
74	HBC226	06:38	+09:33	32	6m	
75	COMP			↑		
76	HBC536	06:38	+09:58	32	3m	
77	COMP			↑		
78	HBC227	06:38	+09:55	32	5m	
79	COMP			↑		
80	HBC538	06:38	+09:34	32	5m	
81	COMP			↑		
82	HBC230	06:38	+09:39	32	5m	
83	COMP			↑		
84	HBC231	06:38	+09:30	32	6m	a visit to the Cone nebula
85	COMP			↑		
86, 88	HBC232	06:38	+09:30	32	6m, 1m	
87				↑		
89, 90	HBC235	06:38	+09:29	32	5m, 2m	NW *
91	COMP			↑		
92	HBC236	06:38	+09:25	32	5m	SE *
93	COMP			↑		
94	HBC541	06:38	+09:30	32	3m	• •
95	COMP			↑		
96	HBC238	06:38	+09:29	32	6m	
97	COMP			↑		
98	HBC241	06:42	+09:41	32	6m	
99	COMP			↑		

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>4489</u>		
Observer: <u>PB</u>		Grating: <u>300L</u>		Date: <u>3/24/96</u>		
PI: <u>Wilkes, Huchra, Geller</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
102-101	Fer34	10:36	+43:21	0m	2m	circus ?
102	COMP			↑		
103	Mrk421	11:01	+38:28	6	5m	
104	COMP			↑		
105	N4051	12:00	+44:48	6	3m	
106	COMP			↑		
107	N4151	12:08	+39:41	6	30s	
108	COMP			↑		
109	11440p6201	11:46	+61:45	1	5m	
110	COMP			↑		
111	11444p5723	11:47	+57:06	1	7m	em+
112	COMP			↑		
113	11460p5920	11:48	+59:01	1	6m	
114	COMP			↑		
115	11470p6038	11:49	+60:22	1	6m	em
116	COMP			↑		
117	319.054096	11:40	+31:16	3	12m	weak; H $\alpha$ em
118	COMP			↑		
119	319.054679	11:47	+31:20	3	12m	em+ pec
120	COMP			↑		
121	319.055625	11:45	+31:27	3	5m	
122	COMP			↑		increasing cloud
123	319.056120	11:39	+31:29	3	12m	em
124	COMP			↑		
125	319.056286	11:56	+31:30	3	10m	redo
126	COMP			↑		man set
127	319.061735	12:03	+32:04	3	10m	weak
128				↑		
129	319.063499	11:57	+32:16	3	9m	em
130						

60 inch Telescope Log

Observer: PBPI: Geller & HuchraSpectrograph: FASTGrating: 300RDate: 3/24/96Page: 4490

Number	Object	R. A.	Dec.	L/R	Exp	Comments
131	319.063908N	11:57	+32:20	3	10m	Northern Knot emtt
132	COMP			↑		- file 131 *burst
133	319.063908S	11:57	+32:20	3	12m	- file 133 em
134	COMP			↑		as per the charts
135	11488p5343	11:51	+53:27	↓	10m	all cloud
136	COMP			↑		
137	11550p5750	11:57	+57:34	1	7m	
138	COMP			↑		
139	12150p4705	12:17	+46:50	1	10m	
140	COMP			↑		
141	320.036744	12:21	+28:32	3	6m	
142	COMP			↑		
143	320.035327	12:20	+28:26	3	7m	
144	COMP			n		
145	320.034664	12:19	+28:24	3	12m	
146	COMP			↑		
147	320.034349	12:20	+28:23	3	10m	
148	COMP			↑		
149	320.034274	12:11	+28:22	3	15m	
150	COMP			↑		
151	320.034015	12:07	+28:21	3	8m	
152	COMP			↑		
153	320.036827	12:18	+28:32	3	12m	
154	COMP			↑		
155	320.066601	12:20	+30:31	3	6	
156	COMP			↑		
157	320.073716	12:20	+31:00	3	5m	
158	COMP			↑		
159	320.073923	12:25	+31:01	3	5m	
160	COMP			↑		

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>4491</u>	
Observer: <u>PB</u>			Grating: <u>3002</u>		Date: <u>3/24/96</u>	
PI: <u>Grogan</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
161	320.074345	12:01	+3:01	3	10m	more clouds; weak
162	COMP			↑		
163/164	Comet 1996B2	14:28	+61:41	25	30s	nucleus
165	Comet 1996B2	"	"	25	30s	jet behind nucleus
166/167	sky	14:21	+61:41	25	30s	South of comet (coma?)
168	COMP			↑		
169-171	HR5531	14:50	+23:57	25	2s	G1V
172	COMP			↑		
173	HR5548	14:15	+25:04	6	5m	heavy cloud
174	COMP			↑		
175	MRK9279	13:51	+69:33	6	5m	
176	COMP			↑		
177-179	HD26911	14:28	+24:31	25	2-5s	G2V
180	COMP			↑		
181	14295p3975	14:29	+49:24	42	10m	extra high S/N for
182	COMP			↑		spectral analysis
183	14332p2257	14:33	+22:57	42	12m	clearing some!
184	COMP			↑		
185	143417p4010	14:34	+40:09	42	10m	Comet Hyakutake's tail
186	COMP			↑		spans a full 30-40°+
187	14330p2311	14:33	+23:10	42	12m	of sky! Awesome
188	COMP			↑		
189	14523p2413	14:52	+24:13	42	10m	
190	COMP			↑		
191	15062p2204	15:06	+22:08	42	10m	
192	COMP			↑		
193/194	BDp332642	15:50	+33:05	0	1m	
195	COMP			↑		
196	MRser-	15:52	+18:56	0	3m	
197	COMP			↑		



60 inch Telescope Log			Spectrograph: <u>FAST</u>			
Observer: <u>P Berlin</u>			Grating: <u>300L, 3" slit; bin by 4</u>		Page: <u>4493</u>	
PI: <u>Huchra-Shapiro/Kenyon</u>			Date: <u>3/25/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS	zenith		0	0s	clear skies!
11-20	FLAT	"		0	6s	
21-40	FLAT red	"		99	10s	For Huchra/Shapiro
41	COMP			99	5s	filt = 8600 $\lambda_c$ $\approx$ 9000 Å ↓
42-46	sky red	zenith		99	5s	
47	COMP			↑	5s	
48-49	HR1099A B red	03:36	+00:35	99	2s, 5s	bin by 4 ↑
50	COMP			↑		
51-56	HR1099A B red	"	"	99	2s, 5s, 10s	bin by 2! close pair!!
57	COMP			↑	8s	
58-59	Hiltner 600 red	06:42	+02:11	99	2m	HR1099 - A B - companion
60	COMP			↑	8s	
61-62	G191 B2B red	05:01	+52:45	99	2m	
63	COMP			↑		
64-71	HR1099A B	03:36	+00:35	99	2.5, 10, 2	normal filt @ 607 ↓
72	COMP			↑	8s	
73, 74	Hiltner 600	06:42	+02:11	0	2m	
75	COMP			↑		
76, 77	G191 B2B	05:01	+52:45	0	2m	
78	COMP			↑		Bin by 2 ↑
79-81	UUAur	05:21	+32:30	12	5s, 20	Bin by 4 ↓
82	COMP			↑		
83-87	BX Mon	07:25	-03:35	12	10s, 20s	
88	COMP			↑		
86	11160 p 7305	11:19	+72:49	1	5m	
87	COMP			↑		
88	11166 p 7309	11:19	+72:53	1	4m	
89	COMP			↑		
90	11440 p 7057	11:46	+70:44	1	7m	Hf
91	COMP			↑		

1.18 gain  
8.9 noise

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>4494</u>		
Observer: <u>PB</u>		Grating: <u>3002</u>		Date: <u>2/25/86</u>		
PI: <u>Huchra &amp; Geller</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
92	11472 p7101	11:50	+70:45	1	10m	H $\alpha$
93	COMP			↑		
94	11478 p7210	11:52	+69:53	1	6m	
95	COMP			↑		
96	11466 p7617	11:49	+76:20	1	4m	H $\alpha$ also obs 2/13/86
97	COMP			↑		
98	11470 p7807	11:49	+77:51	1	5m	
99	COMP			↑		
100	11488 p5343	11:51	+53:27	1	7m	
101	COMP			↑		
102	e99mCD	11:15	+29:45	3	8m	
103	COMP			↑		
104	e99mDC	11:17	+29:13	3	12m	
105	COMP			↑		
106	e99mFT	11:24	+29:20	3	12m	em
107	COMP			↑		
108	e99mGN	11:32	+29:20	3	12m	
109	COMP			↑		
110,112	e99mGO	11:32	+29:15	3	12m	15m x 2 weak
111,113	COMP			↑		Southern Comp
114	e99mGV	11:33	+29:29	3	15m	
115	COMP			↑		
116	319.055777	11:45	+31:27	3	6m	
117	COMP			↑		
118	319.056100	12:02	+31:27	3	7m	nice
119	COMP			↑		
120	319.056219	11:37	+31:29	3	6m	
121	COMP			↑		
122	319.056286	11:56	+31:30	3	6m	also observed 2/24/86
123	COMP			↑		



60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>4495</u>	
Observer: <u>PB</u>			Grating: <u>300L</u>			
PI: <u>Greller &amp; Barton</u>			Date: <u>3/25/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
124	319.058850	11:42	+71:48	3	10m	em pec
125	COMP			↑		
126	319.060709	11:50	+72:01	3	8m	seeing ~2"
127	COMP			↑		
128	319.060819	11:55	+72:01	3	8m	em
129	COMP			↑		
130	319.061354	11:55	+72:01	3	8m	em
131	COMP			↑		
132	319.062419	11:38	+72:09	3	8m	
133	COMP			↑		
134	319.062961	11:39	+72:13	3	3m	
135	COMP			↑		
136	319.062849	12:01	+72:11	3	5m	strong metals
137	COMP			↑		
138	319.063018	12:01	+72:32	3	4m	poor seeing
139	COMP			↑		
140	319.063864	11:50	+72:21	3	6m	
141	COMP			↑		finishes the plate!
142	319.063650	11:59	+72:17	3	5m	check chart; this is
143	COMP			↑		an interacting pair
144	gr 4081 gal 3	11:37	+72:23	33	6m	aka a la Antennae
145	COMP			↑		em throughout
146	gr 4081 gal 5	11:38	+72:50	33	4m	
147	COMP			↑		
148	gr 4081 gal 6	11:37	+72:33	33	4m	
149	COMP			↑		
150	gr 4081 gal 7	11:39	+72:29	33	7m	Moon Set
151	COMP			↑		
152	gr 4081 gal 8	11:36	+72:42	33	12m	em
153	COMP			↑		

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>4496</u>	
Observer: <u>PB</u>			Grating: <u>300R</u>			
PI: <u>Bartosz Falck &amp; Gregory</u>			Date: <u>3/25/86</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
154	gr 4061 gal 19	11:38	+21:22	33	20m	em - weak
155	COMP			↑		
156	gr 4061 gal 21	11:39	+22:22	33	20m	em
157	COMP			↑		
158	gr 4061 gal 22	11:38	+22:21	33	10m	em
159	COMP			↑		
160	gr 4061 gal 22	11:40	+21:49	33	10m	em
161	COMP			↑		
162	1200 p 608 N	12:03	+60:31	41	4m	NE Comp; weak features
163	COMP			↑		
164	1200 p 608 S	"	"	41	3m	SW Comp
165	COMP			↑		
166	gr 406 gal 11	12:41	+26:29	33	12m	em
167	COMP			↑		
168	gr 406 gal 12	12:40	+26:40	33	12m	weak em
169	COMP			↑		
170, 171	TXC Un	12:44	+36:45	12	10s, 20s	
172	COMP			↑		
173, 175	RW Hup	13:34	-25:22	12	2s, 10s, 30s	
176	COMP			↑		
177-179	150m 21 x 3873	14:16	-21:45	12	2s, 10s, 30s	
180	COMP			↑		seeing better
181-182	H 244	13:21	+36:25	0	1m	
183	COMP			↑		
184	14061 p 3707	14:06	+37:07	42	9m	high S/N for spec an. ↓
185	COMP			↑		
186	14032 p 3100	14:03	+32:58	42	12m	
187	COMP			↑		
188	14117 p 3729	14:11	+37:30	42	8m	
189	COMP			↑		

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PR SEX DGRIX

60 inch Telescope Log

Observer: PBPI: Grogan & Wilkesy KenyonSpectrograph: FASTGrating: 300RPage: 4477Date: 3/25/96

Number	Object	R.A.	Dec.	L/R	Exp	Comments
190	NS572	14:19	+76:08	42	10m	
191	COMP			↑		
192	14228p5828	14:22	+78:28	42	10m	
192	COMP			↑		
194	14275p3853	14:27	+78:53	42	20m	
195	COMP			↑		
196	14379p3143	14:37	+73:42	42	10m	Balmer
197	COMP			↑		
198	15316p2111	15:31	+21:10	42	4m	
199	COMP			↑		
200	15368p3707	15:36	+37:07	42	5m	
201	COMP			↑		
202	NS578	14:15	+75:22	6	2m	
203	COMP			↑		
204	MRK279	13:51	+69:33	6	90s	
205	COMP			↑		
206-213	HR510	13:34	+77:10	99	2s, 1, 0.5s	
214	COMP			↑		
215-216	H244	13:21	+76:23	0	1m	
217	COMP			↑		
218-219	BDp 332642	15:50	+33:05	0	1m	
220	COMP			↑		
221-223	TLB	15:59	+25:55	12	1.5, 20s	
224	COMP			↑		
225-227	AGDrc	16:01	+66:48	12	1-30s	
228				↑		
229, 230	Hen 1341	17:04	-17:26	12	30s, 10s	
231	COMP			↑		
232-233	RSoph	17:50	-06:42	12	0.5, 60s	
234	COMP			↑		

## 60 inch Telescope Log

Observer: PBSpectrograph: FASTGrating: 300LPage: 4498PI: Kenyon & HutchraDate: 3/25/86

Number	Object	R. A.	Dec.	L/R	Exp	Comments
235-236	CICygy	19:50	+35:41	12	20s, 1m	
237	COMP			↑		
238-245	HRS110red	13:34	+77:10	99	1s-10s	grating tilt = 860 ↓
246	COMP			↑		
247-248	H244red	13:21	+36:23	0	1m	
249	COMP			↑		
250-252	BDP 332642red	15:50	+33:05	0	1m, 2m	
253				↑		
254-256	HRS633	15:07	+18:27	0	2.5s	UBV SW
257	COMP			↑		
258-261	HRS936	15:55	+57:57	0	2.5s	
262	COMP			↑		
263-272	BIAS	zenith ↓		0	0s	
273-292	FLATred			99	10s	
293-302	BIAS			99	0s	bin by 2 ↓
303-322	FLATred			99	20s	
323-332	FLAT			0	12s	bin by 2 regular tilt = 60°
333-342	FLAT			0	6s	bin by 4
343	COMP					a few scattered clouds

60 inch Telescope Log

Observer: Pler IndPI: Keryon & BriceoSpectrograph: FASTGrating: 300L, 3" slit, bin by 4Page: 4499Date: 3/26/96

Number	Object	R. A.	Dec.	L/R	Exp	Comments
1-10	BIAS	Z		0	0s	snowstorm today
11-20	FLAT			0	6s	clearing
21-25	SKY			0	2s	
26	COMP			↑		bright moon
27-31	AGK2p 14783	07:17	+14:59	0	7s	
32	COMP			↑		
33-35	FUORi	05:45	+09:01	0	10s	
36				↑		
37-40	Y Tau	05:45	+20:41	0	5, 2s	
41	COMP			↑		
42-46	UU Aur	06:36	+28:26	0	1, 0.5s	
47	COMP			↑		clear skies!
48-49	SUUMi	06:32	+62:37	0	30, 2m	
50	COMP			↑		
51, 52	CA 191 B2B	05:01	+52:45	0	1m	
53	COMP			↑		
54	FF Tau	04:32	+22:48	30	3m	
55	COMP			↑		charts checked ...
56	HPTau	04:32	+22:48	30	2m	NW Comp of triple
57	HPTau/G3	04:32	+22:48	30	3m	S Comp "
58	HPTau/G2	04:32	+22:48	30	1m	E Comp
59	COMP			↑		
60	Har 628	04:32	+22:48	30	10m	NE of above triple
61	COMP			↑		extended nebulosity
62	J H 223	04:37	+07:45	30	8m	
63	COMP			↑		
64	HBL 2 EW	04:27	+18:07	38	2m	EW pair bin by 2
65	COMP			↑		E = HBL 43
66, 67	H 167	04:35	+26:01	38	4m, 2s	bin by 4
68	COMP			↑		

Mar 6:30 +17

8.6

1.2

60 inch Telescope Log  
 Observer: PB  
 PI: Brice and Barton

Spectrograph: FAST  
 Grating: 300R  
 Date: 3/26/96

Page: 4500

Number	Object	R.A.	Dec.	L/R	Exp	Comments
69	HBC418	04:35	+26:04	38	4m	
70	COMP			↑		
71	HBC412	04:32	+17:45	38	1m	check chart!
72	COMP			↑		this obj observed 11' E of cross hairs
73	HBC421	04:34	+29:34	38	5m	
74	COMP			↑		
75	HBC422	04:39	+25:17	38	6m	Westernmost comp of triple
76	HBC423	04:39	+25:17	38	6m	Middle Comp of triple
77	HBC69	04:39	+25:17	38	8m	NE Comp of triple
78	COMP			↑		jump la luna
79,80	Feige 34	10:36	+43	0	1m	
81	COMP			↑		
82	9r2284 gal 1	11:38	+20:31	33	4m	
83	COMP			↑		
84	9r2284 gal 2	11:36	+19:48	33	4m	
85	COMP			↑		
86	9r2284 gal 4	11:34	+20:29	33	15m	em
87	COMP			↑		
88	9r2284 gal 5	11:39	+19:32	33	7m	em
89	COMP			↑		
90	9r2284 gal 6	11:36	+20:11	33	4m	
91	COMP			↑		
92	9r2287 gal 7	11:31	+20:22	33	4m	
93	COMP			↑		
94	9r2284 gal 8	11:39	+20:25	33	4m	
95	COMP			↑		
96	9r2284 gal 9	11:36	+20:10	33	4m	
97	COMP			↑		
98	9r2284 gal 10	11:33	+20:01	33	6m	
99	COMP			↑		

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## 60 inch Telescope Log

Observer: PBPI: Barton & KovanyiSpectrograph: FASTGrating: 300LDate: 3/16/96Page: 4501

Number	Object	R.A.	Dec.	L/R	Exp	Comments
100	gr 2284 gal 11	11:37	+20:46	33	4m	
101	COMP			↑		
102	gr 2284 gal 12	11:38	+20:31	33	5m	
103	COMP			↑		
104	gr 2284 gal 13	11:33	+19:48	33	10m	H <sub>2</sub>
105	COMP			↑		
106	gr 2284 gal 14	11:35	+20:40	33	8m	em
107	COMP			↑		
108	gr 2284 gal 15	11:39	+20:23	33	9m	em
109	COMP			↑		
110	gr 2284 gal 16	11:39	+19:48	33	5m	
111	COMP			↑		hazy but clear
112	STLM1	11:08	+24:50	39	5m	seeing better
113	COMP			↑		
114	CBS96	09:26	+33:56	39	4m	
115	COMP			↑		
116	mkw10 50	11:42	+10:41	35	10m	
117	COMP			↑		
118	mkw10 52	11:42	+10:26	35	12m	em
119	COMP			↑		
120	mkw10 54	11:42	+10:40	35	10m	
121	COMP			↑		
122	mkw10 55	11:42	+10:28	35	10m	
123	COMP			↑		
124	mkw10 56	11:43	+09:49	35	10m	weak
125	COMP			↑		
126	mkw10 64	11:43	+09:55	35	12m	* on slit + w em
127	COMP			↑		
128	mkw10 67	11:44	+10:40	35	15m	em
129	COMP			↑		

DECL

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>4502</u>	
Observer: <u>PB</u>			Grating: <u>3002</u>			
PI: <u>Berlin &amp; Bertan &amp; Gelber &amp; Falco</u>			Date: <u>3/26/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
130	PK Leo 1	11:06	+01:54	39	5m	
131	COMP			↑		
132	510932	12:39	+21:08	39	5m	
133	COMP			↑		
134	gr 1406 gal 13	12:40	+25:15	33	10m	
135	COMP			↑		
136	gr 1406 gal 15	12:40	+25:25	33	10m	
137	COMP			↑		
138	gr 1406 gal 14	12:42	+25:52	33	15m	em Balmer
139	COMP			↑		
140	gr 1406 gal 16	12:39	+26:18	33	12m	em++
141	COMP			↑		
142	N451	12:08	+79:41	6	30s	
143	COMP			↑		
144	320.06680	12:07	+28:31	3	10m	em Mon Set
145	COMP			↑		
146	320.037041	12:19	+28:33	3	4m	em
147	COMP			↑		
148	Feig 66	12:34	+25:20	0	1m	
150	COMP			↑		
151	320.037544	12:15	+28:35	3	5m	
152	COMP			↑		
153	320.037562	12:15	+28:35	3	4m	
154	COMP			↑		
155	1557pSGS	15:58	+56:25	41	20m	FALCO faint
156	COMP			↑		
157	320.057570	12:13	+29:56	3	6m	
158	COMP			↑		
159	320.056772	12:24	+29:31	3	5m	
160	COMP			↑		



60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4503</u>	
Observer: <u>PB</u>				Grating: <u>30R</u>			
PI: <u>Gretchen Grogan</u>				Date: <u>3/26/95</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments	
161	320.056310	12:24	+29:49	3	4m	Variable seeing	
162	COMP			↑			
163	320.038072	12:22	+28:36	3	12m	em	
164	COMP			↑			
165	320.051652	12:24	+28:34	3	5m		
166	COMP			↑			
167	320.058172	12:25	+29:57	3	6m	em	
168	COMP			↑			
169	320.058192	12:24	+29:57	3	5m	RTS system crashed	
170	COMP			↑			
171	A1444p2923	14:44	+29:23	42	20m	em * on slit	
172	COMP			↑		high S/N for spec on ↓	
173	N5886	15:10	+41:25	42	10m		
174	COMP			↑			
175	N5886	15:11	+41:27	42	10m		
176	COMP			↑			
177	15116p4231	15:11	+42:30	42	15m		
178	COMP			↑			
179	1546p499	16:47	+49:50	41	12m	FALCO interesting	
180	COMP			↑			
181-182	R 50Vn	13:10	+35:36	39	20, 5s		
183	COMP			↑			
184-185	H211	13:21	+36:23	0	1m		
186	COMP			↑			
187-188	UXUM19	13:36	+51:54	39	2m, 1m		
189	COMP			↑			
190	MRK299	13:51	+68:33	6	2m		
191	COMP			↑			
192-194	TT30	14:57	+40:43	39	2m, 1m	A,B,C	
195	COMP			↑			

60 inch Telescope Log

Observer: PB  
 PI: Keayon

Spectrograph: FAST  
 Grating: 3000  
 Date: 3/26/96

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
196	N5548	14:15	+25:22	6	2m	
197	COMP			↑		
198-200	RX Boo	14:24	+25:42	0	2s	
201	COMP			↑		
202-3	BDP 3864Z	15:50	+33:05	0	1m	
207	COMP			↑		
205-208	V1016 Cyg	19:57	+39:49	12	0.5x10s	
209	COMP			↑		
210, 212	G5 Cyg	19:50	+35:41	12	60s, 6s	
211	COMP			↑		
213-214	A5360	19:45	+19:36	12	20s, 40s	
215	COMP			↑		
216-218	HMS Ge	19:41	+16:44	12	1s-30s	
221	COMP			↑		
222-25	CH Cyg	19:21	+50:14	12	1s, 10s	
226	COMP			↑		
227-230	B3 Cyg	19:23	+29:40	12	2s-20s	
231	COMP			↑		
232-233	A5338	19:03	+16:26	12	20s, 60s	
234	COMP			↑		
235	S5473	19:11	+04:58	0	2m	clear & down photometric all night
236	COMP			↑		
237-239	V443 Her	18:22	+23:27	12	2s, 30s	
240	COMP			↑		
241-243	V Her	18:14	+20:59	12	2s	
244	COMP			↑		
245-249	HD 192281	20:22	+10:16	0	5s	
250	COMP			↑		
251-260	BIAS			0	0s	
261-270	FLAT			0	6s	

271-280      BIAS      0      0  
 281-290      FLAT      0      12s      } bin by 2 (For file # 64)

Number	Object	R. A.	Dec.	L/R	Exp	Comments
1-10	BIAS			0	0s	
11-20	FLAT			0	6s	lots of cirrus
21-25	sky	Z		0	2s	
26	COMP			↑	5s	
31-33	SOR:	05:30	-04	0	2-10s	
34	COMP			↑		
35-39	HDS6925	07:18	+13:13	0	10-20s	
40	COMP			↑		
41-43	Hiltner 600	06:12	+02:11	0	1m	RT system crash
44	COMP			↑		
45-46	NGC 1700	04:54	-04:36	0	2m	
47	COMP			↑		
48-51	ADAr	04:52	+30:28	30	3-0.5s	
52	COMP			↑		
53-54	JH108B	04:31	+22:45	30	10, 90s	id? or mis-id
55	COMP			↑		renamed JH108B
56-57	HBC 407	04:31	+18:23	30	1m	
58	COMP			↑		
59, 60	JH108	04:31	+22:45	30	2m, 3m	correct id!
61	COMP			↑		
62-63	AA Tan	04:31	+24:22	30	2m	
64	COMP			↑		
65	HOTan	04:32	+22:26	30	5m, 2m	correct id
66	COMP			↑		
67	LKHa 332/G2	04:39	+25:17	30	4m	West camp of triple
68	LKHa 322/G1	04:39	+25:17	30	4m	Middle camp of triple
69	V955 Tan	04:39	+25:17	30	4m	NE camp of triple
70	COMP			↑		
71, 72	DPTan	04:39	+25:10	30	6m, 1m	
73-	COMP			↑		

Spectrograph: FAST

Grating: 3000, 3"SH; binby4

Page: 4505

Date: 3/27/96

60 inch Telescope Log

Observer: P. Berline

PI: Kenyon

rd wire 8.64  
 Jan 1.14

60 inch Telescope Log

Observer: PBPI: Brizeno/Kenya/HuchaSpectrograph: FASTGrating: 300#Date: 3/27/96Page: 4506

Number	Object	R.A.	Dec.	L/R	Exp	Comments
74	G0Tan	04:39	+25:14	30	6m	a few cirrus patches
75	COMP			↑		bright moon ↓
76-77	HBC70	04:39	+25:09	38	5m	
78	COMP			↑		
79-80	HBC71	04:39	+25:14	38	5m	
81	COMP			↑		
82-85	RWAur	05:04	+30:20	30	1m/10s	Wow
86	COMP			↑		
87-88	Fape 3Y	10:36	+43:21	0	2m	
89	COMP			↑		
90	11486 p5641E	11:51	+56:35	1	10m	em
91	COMP			↑		
92	11486 p5640W	11:51	+56:35	1	7m	
93	COMP			↑		
94	11472 p6150	11:51	+61:34	1	6m	
95	COMP			↑		
96	11494 p4709	11:52	+46:53	1	7m	clouds...
97	COMP			↑		
98	11531 p453Y	11:55	+49:18	1	9m	em
99	COMP			↑		
100	11543 p6036	11:57	+60:19	1	10m	em
101	COMP			↑		
102	11596 p5639	12:02	+56:23	1	6m	H <sub>2</sub>
103	COMP			↑		
104	510932	12:39	+21:08	39	5m	cool
105	COMP			↑		
106	320.060425	12:04	+30:25	3	8m	
107	COMP			↑		
108	320.060845	12:22	+30:08	3	8m	
109	COMP			↑		

Moon 7:25 +16

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4507</u>	
Observer: <u>PB</u>				Grating: <u>300L</u>			
FI: <u>Geller</u>				Date: <u>3/27/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments	
110	320.062476	12:26	+30:14	3	8m	em	
111	COMP			↑			
112	320.062638	12:02	+30:14	3	10m	em increasing clouds	
113	COMP			↑			
114-118	N44486B	12:30	+12:29	0	3m		
119	COMP			↑		48" delay	
120-123	N3359	10:45	+12:30	0	3m		
124	COMP			↑			
125	S10932	12:39	+21:08	39	6m		
126	COMP			↑			
127	320.063052	12:01	+30:15	3	7m		
128	COMP			↑		clearing some	
129	320.063752	12:19	+30:20	3	7m		
130	COMP			↑			
131	320.065069	12:03	+30:23	3	6m		
132	COMP			↑			
133	320.068210	12:13	+30:38	3	6m		
134	COMP			↑			
135	320.066579	12:28	+30:29	3	7m	em	
136	COMP			↑			
137	320.070472	12:04	+30:45	3	7m		
138	COMP			↑			
139	320.070559	12:11	+30:47	3	6m	COMP to W	
140	COMP			↑			
141	320.070819	12:11	+30:49	3	5m		
142	COMP			↑			
143	S10932	12:39	+21:08	39	5m		
144	COMP			↑			
145	G060m	12:36	+26:36	39	5m		
146	COMP			↑			

## 60 inch Telescope Log

Observer: PBPI: Wilkes/BoilerSpectrograph: FASTGrating: 300RDate: 7/27/96Page: 4508

Number	Object	R.A.	Dec.	L/R	Exp	Comments
147	N4051	12:00	+44:48	6	2m	
148	COMP			↑		
149	N4151	12:08	+39:41	6	30s	nice
150	COMP			↑		
151,152	Ferge 66	12:34	+25:20	0	1m	
153	COMP			↑		
154	320.07174	12:29	+30:50	3	5m	em pec
155	COMP			↑		
156	320.071748	12:10	+30:52	3	5m	
157	COMP			↑		
158	320.072450	12:22	+30:55	3	5m	* on slit
159	COMP			↑		
160	320.073181	12:23	+30:59	3	5m	em
161	COMP			↑		
162	320.074127	12:27	+31:01	3	5m	SE weak
163	320.074127NW	12:27	+31:01	3	4m	NW of #162
164	COMP			↑		
165	320.074168	12:23	+31:03	3	5m	more clouds
166	COMP			↑		
167	320.074198	12:11	+31:03	3	6m	
168	COMP			↑		
169	320.074127	12:27	+31:01	3	8m	redo from above (#162)
170	COMP			↑		
171	320.074789 N	12:05	+31:04	3	6m	North interconnecting
172	320.074789 S	12:05	+31:04	3	6m	South - em + bridge
173	COMP			↑		
174	320.074880	12:29	+31:04	3	9m	weak em
175	COMP			↑		
176	320.075904	12:06	+31:10	3	6m	
177	COMP			↑		

MRKX1

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>4509</u>		
Observer: <u>PB</u>		Grating: <u>3002</u>		Date: <u>3/07/96</u>		
PI: <u>Geller/Huchra</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
178	320.078909	12:22	+31:10	3	6m	
179	COMP			↑		
180	320.076279	12:05	+31:11	3	6m	em
181	COMP			↑		
182	320.076272	12:07	+31:11	3	6m	
183	COMP			↑		increasing cloud again
184	320.075014	12:26	+31:05	3	10m	
185	COMP			↑		
186	320.075202	12:22	+31:07	3	10m	em
187	COMP			↑		
188	S10932	12:39	+26:36	39	6m	
189	COMP			↑		
190	N4834	12:56	+52:19	1	4m	
191	COMP			↑		
192	12573p5917	12:59	59:02	1	7m	
193	COMP			↑		
194	12574p6045	12:58	+60:30	1	5m	
195	COMP			↑		
196	13034p6125	13:05	+61:10	1	5m	CD? a halo of other galaxies
197	COMP			↑		
198	1336Sp5647	13:36	+56:33	1	10m	em
199	COMP			↑		
200	13370p5715	13:38	+57:01	1	4m	
201	COMP			↑		
202	13459p5653	13:47	+56:39	1	4m	
203	COMP			↑		
204	1400p4606	14:01	+48:53	1	5m	galaxy w/ * em
205	COMP			↑		
206	MRK279	13:51	+65:33	6	2m	
207	COMP			↑		

## 60 inch Telescope Log

Observer: PBPI: Kenyon/WilkesSpectrograph: FASTGrating: 300LDate: 3/27/96Page: 4510

Number	Object	R. A.	Dec.	L/R	Exp	Comments
208	N5548	14:25	+25:22	6	2m	Cirrus
209	COMP			↑		
210-211	BDP332642	15:50	+37:23	0	1m	
212	COMP			↑		
213	MRSer	15:52	+18:56	39	3m	
214	COMP			↑		
215-216	AS210	16:51	-26:00	12	2m, 20s	"Comp" to W
219	COMP			↑		
220-221	RTSer	17:39	-15:56	12	30, 3m	
222	COMP			↑		
223-224	M1m21	17:34	-19:09	12	30s, 3m	Faint comp to SE
225	COMP			↑		next time: 2x2m, 2x20s
226	MRK501	16:53	+39	6	2m	
227	COMP			↑		
228	ZE740.3	18:45	+79:43	6	3m	5min next time
229	COMP			↑		
230-231	CTCyg	19:50	+35:41	12	20s, 60s	
232	COMP			↑		
233-237	H1D197251	20:10	+40:07	0	5s	
238	COMP			↑		
239-248	BTAS			0	0s	
249-258	FLAT			0	6s	
						Cirrus all over
						→ dawn

End of FAST run.

TOTAL P.07