

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>5900</u>	
Observer: <u>PBerlind</u>			Grating: <u>300R</u>		Date: <u>1/1/98</u>	
PI: <u>All</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-7	DARK				20m	bin by 2
8-12	DARK				15m	by 4
13-22	BIAS				0s	
23-32	FLAT				6s	
33-42	BIAS				0s	
43-52	FLAT				12s	
53-57	sky	zenith		57	2s	
58	COMP			↑		
59-61	Zand	23:37	+48:49	12	1-15s	big pulse of clouds moving through
62	COMP			↑		⊙ sunset
63-64	HD217086	23	+66	56	5s	
65	COMP			↑		
66-67	AXPer	01:33	+54:45	12	4s, 9s	
68	COMP			↑		
69-70	Fozell	23:17	-05:26	56	2m	
71	COMP			↑		clouds
72	N71469	23:03	+08:52	6	2m	
73	COMP			↑		
74	M32	00:34	+10:35	57	30s	
75	COMP			↑		
76	225m280	00:11	+46:05	57	5m	
77	COMP			↑		
78	MRK335	00:07	+19:55	6	3m	
79	COMP			↑		
80	Sagat 312	00:01	+13:06	60	11m	gal to W
81	COMP			↑		
82	Sagat 003	00:06	+17:25	60	6m	S
83	Sagat 007	00:06	+17:26	60	6m	N
84	COMP			↑		

60 inch Telescope Log

Observer: PB

PI: Barton

Spectrograph: FAST

Grating: 300g

Date: 1/1/98

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
85	Socp L-016	00:20	+10:49	60	10m	clearing nicely
86	017	00:20	+10:50	60	5m	
87	COMP			↑		
88	027	00:29	+102:51	60	6m	
89	COMP			↑		
90	037	00:39	+10:51	60	3m	2
91	039	00:39	+10:53	60	10m	8
92	COMP			↑		
93	040	00:39	+108:57	60	7m	5 wk
94	041	00:39	+109:10	60	8m	5
95	COMP			↑		
96	070	01:19	+103:24	60	5m	
97	COMP			↑		
98	072	00:31	+108:28	60	15m	
99	COMP			↑		
100	008	00:13	+118:09	60	8m	
101	COMP			↑		
102	020	00:21	+10:28	60	4m	8
103	021	00:21	+10:30	60	10m	9
104	COMP			↑		
105	019	00:20	+122:35	60	20m	
106	COMP			↑		
107	018	00:20	+122:34	60	15m	
108	COMP			↑		
109	068	01:19	+12:26	60	15m	
110	COMP			↑		
111	085	01:25	+14:52	60	20m	
112	COMP			↑		
113	086	01:25	+14:50	60	8m	8 39
114	087	01:25	+14:51	60	7m	6 10

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>5902</u>	
Observer: <u>PB</u>		Grating: <u>300R</u>		Date: <u>1/1/98</u>			
PI: <u>Huchra &amp; Kingen</u>							
Number	Object	R.A.	Dec.	L/R	Exp	Comments	
115	COMP			↑			
116	ZM02012	02:40	+14:41	68	10m		
117	COMP			↑			
118	ZM24049	02:40	+17:59	68	15m		
119	COMP			↑			
120	ZM2405	02:40	+17:52	68	15m		
121	COMP			↑			
122	ZM24052	02:40	+12:02	68	15m		
123	COMP			↑			
124	ZM032556.7	03:25	+25:51	68	15m		
125	COMP			↑			
126	ZM032556.8	03:25	+26:27	68	15m		
127	COMP			↑			
128-29	DG Tau	04:27	+26	12	10, 90s		
130	COMP			↑			
131-32	DL Tau	04:33	+25	12	300, 4m		
133	COMP			↑			
134-135	DR Tau	04:47	+16	12	10, 75s		
136	COMP			↑			
137-138	RWAur	05:07	+30:21	12	5s, 30s	good	
139	COMP			↑			
140-141	Hiltner 60	06:42	+02:11	56	30s		
142	COMP			↑			
143	ZM042149	04:21	+18:01	68	15m		
144	COMP			↑			
145	ZM042144	04:21	+18:59	68	15m	em	
146	COMP			↑			
147	ZM042147	04:21	+18:59	68	15m		
148	COMP			↑			

60 inch Telescope Log

Observer: PS

PI: Huchra

Spectrograph: FAST

Grating: 3002

Date: 1/1/98

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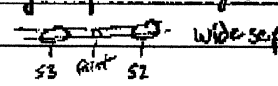
Number	Object	R.A.	Dec.	L/R	Exp	Comments
149	2M082207	08:22	+18:15	68	15m	
150	COMP			↑		
151	2M084817	08:48	+11:27	68	12m	em
152	COMP			↑		
153	2M084848	08:48	+09:02	68	15m	
154	COMP			↑		
155	2M084849	08:48	+11:04	68	15m	
156	COMP			↑		
157	2M084857	08:48	+09:26	68	15m	
158	COMP			↑		
159	2M084859	08:48	+09:01	68	12m	
160	COMP			↑		
161	2M084910	08:49	+08:52	68	15m	
162	COMP			↑		
163	2M084913	08:49	+11:49	68	12m	
164	COMP			↑		
165	2M084912	08:49	+08:12	68	17m	em
166	COMP			↑		
167	2M084913	08:49	+06:54	68	15m	em
168	COMP			↑		
169	2M084914	08:49	+08:51	68	10m	bright & to E
170	COMP			↑		
171	029.29, 29	11:10	+28:26	59	15m	em
172	COMP			↑		seeing worse
173	029.30	11:10	+28:41	59	9m	em clouds moving in from W
174	COMP			↑		
175	029.31	11:10	+28:47	59	10m	
176	COMP			↑		
177	029.34	11:10	+28:43	59	4m	
178	COMP			↑		



60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>5904</u>		
Observer: <u>PB</u>		Grating: <u>300L</u>		Date: <u>1/1/98</u>		
PI: <u>Kircher &amp; Andi</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
179	SN1997eg	13:11	+22:55	2	15m	nice.
180	COMP			↑		
181	rg1029.35	11:10	+29:03	S9	10m	
182	COMP			↑		
183	029.36M	11:10	+28:46	S9	4m	middle part
184	029.36N	11:10	+28:46	S9	3m	NE part
185	COMP			↑		
186	029.38	11:10	+28:41	S9	3m	
187	COMP			↑		
188	029.39	11:10	+28:16	S9	3m	
189	COMP			↑		
190	029.40	11:10	+28:53	S9	15m	Scorpius has emerged from behind the sun!!
191	COMP			↑		
192	029.43	11:10	+28:39	S9	3m	Bright zodiacal light scattered clouds
193	COMP			↑		
194	029.47	11:10	+28:32	S9	3m	
195	COMP			↑		
196	029.48	11:10	+29:19	S9	10m	
197	COMP			↑		
198	SBS425p66	14:25	+10:39	6	5m	stopped short
199	COMP			↑		
200	V5548	14:15	+25:22	6	3m	clouds moving in fast skunked out @ dawn
201	COMP			↑		
202-211	BIAS			0	0s	
212-221	FLAT			0	6s	
222-231	BIAS			0	0s	bumby 2
232-241	FLAT			0	12s	"
242-251	DARK				15m	bumby 4

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>5905</u>	
Observer: <u>A. Ber Lind</u>				Grating: <u>3002</u>			
PI: <u>Ad</u>				Date: <u>1/2/98</u>			
Number	Object	R. A.	Dec.	L/R	Exp	Comments	
1-8	DARK				15m		
9-16	DARK				20m	bin by 2	
17-26	BDS				05		
27-36	FLAT				6s		
37-46	BDS				05		
47-56	FLAT				12s		
57-61	sky	zenith		S7	2s		
62	COMP			↑		scattered clouds all over	
63-64	ZAND	2333	+48:49	12	08, 30s		
65	COMP			↑			
66-68	HID 2700A	22:54	+67:27	S6	5s		
69	COMP			↑			
70-71	ARPer	01:73	+51:45	12	4s, 80s		
72	COMP			↑			
73	Fozzello				2m	bright sky	
74	COMP						
75	M7465	23:03	+08:52	6	2m	bright sky	
76	COMP			↑			
77	MRK 375	00:03	+19:55	6	3m		
78	COMP			↑			
79	M32	00:39	+40	S7	30s		
80	COMP			↑			
81	158m 213	60:40	+40:50	S7	5m		
82	COMP			↑			
83	50gal-0%	00:38	+78:26	73	6m		
84	035	00:78	+79:28	73	8m	7-8	
85	COMP			↑			
86	034	00:56	+23:59	73	5m	4	
87	COMP			↑			

60 inch Telescope Log  
 Observer: PB  
 PI: Barthel Geller  
 Spectrograph: FAST  
 Grating: 3002  
 Date: 1/2/98  
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
88	50gal-025	00:26	+25:43	73	10m	
89	COMP			↑		
90	042	00:46	+32:40	73	8m	
91	043	00:47	+32:41	73	8m	
92	COMP			↑		
93	046	01:01	+30:09	73	8m	
94	047	01:01	+30:09	73	7m	
95	COMP			↑		
96	050	01:03	+44:02	73	9m	
97	051	01:03	+44:01	73	9m	
98	COMP			↑		
99	052+53	01:07	+13:57	73	20m	52=Wgal ; 53=E gal
100	COMP			↑		
101	059	01:08	+33:07	73	8m	
102	COMP			↑		
103	063	01:16	+46:43	73	6m	
104	066	01:16	+46:44	73	6m	
105	COMP			↑		
106	065	01:16	+46:44	73	15m	
107	COMP			↑		seeing 2" +
108	527.058872	01:21	+07:01	55	5m	em
109	COMP			↑		
110	527.046096	01:21	+07:43	55	5m	em
111	COMP			↑		
112	527.046886	01:23	+07:47	55	8m	WK em
113	COMP			↑		
114	527.063588	01:23	+09:25	55	5m	
115	COMP			↑		
116	528.001963	01:49	+03:40	55	7m	
117	COMP			↑		

chipgan calculation slightly lower than used even for catalogue files - used calculated values (~ 8.1 + 1.1)

60 inch Telescope Log  
 Observer: PB  
 FI: Geller/Huchra/Kishner

Spectrograph: FAST  
 Grating: 302  
 Date: 1/2/98

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
118	528.008979	01:42	+04:11	SS	6m	em
119	COMP			↑		
120	528.010200	01:43	+04:16	SS	6m	humidity going way up
121	COMP			↑		
122	528.008979	01:46	+04:15	SS	5m	em
123	COMP			↑		MMT in cloud
124	2M024050	02:40	+14:50	68	20m	H+K @ 5000 Å!
125	COMP			↑		
126	2M024053.3	02:40	+14:42	68	15m	em
127	COMP			↑		
128	2M024053.5	02:40	+14:39	68	15m	
129	COMP			↑		
130	SN1999ef	07:57	+19:33	2	20m	get this before we get fog
131	COMP			↑		ok; fogged out @ 11:30
132-141	BIAS			0	0s	
142-151	FLAT			0	6s	
152-161	BIAS			0	0s	bm by 2
162-171	FLAT			0	12s	"
172-181	DARK			0	15m	bm by 4

## 60 inch Telescope Log

 Observer: P Berlin & P Bairnby  
 PI: Scott
Spectrograph: FASTGrating: 3002Page: 5908Date: 11/3/98

Number	Object	R. A.	Dec.	L/R	Exp	Comments
1-6	DARK				15m	bin by 4
6-12	DARK				20m	bin by 2
13-22	BIAS				0s	
23-32	FLAT				6s	
33-42	BIAS				0s	
43-52	FLAT				12s	
53-57	sky	zenith		S7	2s	clear spot
58	COMP			T		clouds forming fast
59-60	ZAnd	23:33	+48:49	12	6s	MMT in fog
61	COMP			T		
62-63	AXPer	01:36	+54:15	12	3s, 7s	open @ 8:pm
64	COMP			T		
65,66	DGTau	04:27	+76:06	12	10s, 21m	clouds all over
67	COMP			T		
68-69	DLTau	04:33	+25:20	12	40s, 5m	
70	COMP			T		
71-72	DRTau	04:47	+16:56	12	15s, 2m	
73	COMP			T		
74-75	RWAur	05:07	+70:24	12	2s, 40s	S 70
76	COMP			T		
77	MRK335	00:03	+20	6	5m	
78	COMP			T		lots of clouds
79	M32	00:39	+40:35	S7	1m	gee-z-fogged out
80	COMP			T		
81-90	BIAS			0	0s	
91-100	FLAT			0	6s	

FAX to  
Susan Takaraz  
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60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>5909</u>
Observer: <u>P Barnby</u>				Grating: <u>3002</u>		Date: <u>1/4/98</u>
PI: <u>Kenyon/wilkes</u>						
Number	Object	R. A.	Dec.	L/R	Exp	Comments
1-10	BIAS				0s	bin by 4
11-13	DARK				15m	"
14-16	DARK				12m	" (changed exp by accident couldn't fix)
17-21	DARK				20m	bin by 2
22-31	BIAS				0s	"
32-41	FLAT				12s	"
42-51	FLAT				6s	bin by 4
52-56	sky	zenith			2s	some clouds
57	COMP			↑		
58-59	ZAnd	23:33	+48:49	12	0.8, 15s	
60	COMP			↑		
61-62	AXPer	01:36	+54:14	12	3, 75s	
63	COMP			↑		
64	MRK335	00:06	+20:12	6	3m	
65	COMP			↑		
						6:45 close, no reopen

60 inch Telescope Log

Observer: P. Barnby

PI: Kenyon/Wilkes/Huehwa

Spectrograph: FAST

Grating: 300 Å

Page: S910

Date: 1998/01/05

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-6	DARK				15m	bin by 4
7-12	DARK				20m	bin by 2
13-22	BIAS				0s	"
23-32	FLAT				12s	"
33-42	BIAS				0s	bin by 4
43-52	FLAT				6s	"
53-54	AX Per	01:36	54:15	12	3,75s	open at 9 pm
55	COMP			↑		
56-57	DG Tau	04:27	26:05	12	10,90s	
58	COMP			↑		
59-60	DL Tau	04:33	25:20	12	30s, 240s	
61	COMP			↑		
62-63	DR Tau	04:47	16:58	12	10,75s	
64	COMP			↑		
65-66	RW Aur	05:07	30:23	12	5,30s	
67	COMP			↑		
68	Akn120	05:13	-00:12	2	180s	
69	COMP			↑		
70	Hiltner 600	06:45	+02:08	57	30s	
71	COMP			↑		
72	Hiltner 600	"	"	57	60s	bin by 2
73	COMP			↑		
74	HZ14	04:38	10:53	57	180s	bin by 4
75	COMP			↑		
76	2M043121.2p200516	04:21	20:07	68	15m	NOTHING ON SLIT
77	COMP			↑		
78	2M042147.24p185957	04:21	18:59	68	15m	
79	COMP			↑		
80	2M042148.5p190009	04:21	19:00	68	15m	badly underexposed
81	COMP			↑		

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>5911</u>
Observer: <u>P. Barmby</u>				Grating: <u>300l</u>		Date: <u>1998/01/05</u>
PI: <u>Kirshner / Huchra / Mandavi</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
82	SN98	07:46	19:42	2	20m	anon. possible SN; bin by 2
83	COMP			↑		
84	SN97ef	07:57	49:33	2	20m	
85	COMP			↑		
86	SN97ef	07:57	49:33	2	20m	
87	COMP			↑		
88	2M084926.3p095613	08:49	09:56	68	16m	bin by 4
89	COMP			↑		
90	2M084935.2p093513	08:49	09:35	68	16m	
91	COMP			↑		
92	2M084941.9p11135	08:49	11:11	68	15m	
93	COMP			↑		
94	2M084921.9p09162	08:49	07:40	68	15m	
95	COMP			↑		
96	2M084925.3p091547	08:49	09:15	68	16m	
97	COMP			↑		
98	2M084931.9p095651	08:49	09:57	68	20m	underexposed
99	COMP			↑		
100	rg1029.51	11:16	28:44	59	6m	
101	COMP			↑		
102	rg1029.52	11:11	29:20	59	6m	
103	COMP			↑		
104	rg1029.56	11:11	28:41	59	5m	em
105	COMP			↑		
106	rg1029.58	11:11	28:56	59	10m	
107	COMP			↑		
108	rg1029.59	11:11	29:01	59	11m	
109	COMP			↑		
110	rg1029.60	11:11	28:15	59	5m	
111	COMP			↑		



60 inch Telescope Log  
 Observer: P. Barby  
 PI: Mahdavi/Wilkes

Spectrograph: FAST  
 Grating: 300L  
 Date: 1998/01/05

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
112	rg h029.61	11:11	28:43	59	5m	
113	COMP			↑		
114	rg h029.64	11:11	28:45	59	10m	
115	COMP			↑		
116	rg h029.65	11:11	28:48	59	12m	
117	COMP			↑		
118	rg h029.66	11:11	28:44	59	8m	
119	COMP			↑		
120	rg h029.69	11:11	28:15	59	6m	
121	COMP			↑		
122	rg h029.67	11:11	28:49	59	12m	
123	COMP			↑		
124	Feige66	12:37	25:03	56	60s	
125	COMP			↑		
126	Mrk 421	11:04	38:12	6	5m	
127	COMP			↑		
128	N4051	12:03	44:31	6	3m	
129	COMP			↑		
130	N4151	12:10	39:24	6	30s	
131	COMP			↑		
132	N4258	12:18	47:18	6	2m	
133	COMP			↑		
134	N4486B	12:30	12:29	57	5m	(no chart - hope this is correct gal!)
135	COMP			↑		
136	N4853	12:58	27:35	57	5m	
137	COMP			↑		
138	Mrk 279	13:53	69:17	6	3m	
139	COMP			↑		
140	N5548	14:17	25:07	6	3m	
141	COMP			↑		



FAX to Susan Tokarz  
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★ Start of FAST run ★

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>5956</u>		
Observer: <u>P Berlin / Ed Bennett</u>		Grating: <u>3002</u>		Date: <u>1/19/98</u>		
PI: <u>Kenyon</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-3	test					
4-9	DARK				15m	
10-19	BIAS				0s	
20-29	FLAT				6s	clearing @ sunset
30-39	BIAS				0s	
40-49	FLAT				12s	
50-54	sky	zenith		57	2s	
55	COMP			↑		
56	Feige 25	02:36	+06:15	56	150s	
57	COMP			↑		
58-61	M32	00:39	+40:35	57	30s	
62	COMP			↑		
61	225m 280	00:41	+41:05	57	5m	
62	COMP			↑		
63-64	ZAD	23:33	+42:49		0.5s, 1.5s	
65	COMP					
66-67	AK Per	01:36	+54:15		3s, 60s	
68	COMP					
69-70	DL Tau	04:27	+26:06		11, 95	
71	COMP					
72-73	DL Tau	04:33	+26:20		35, 760	clouds
74	COMP					
75-76	DR Tau	04:47	+16:54		11, 90	
77	COMP					
78-79	RW Aur	05:07	+30:24	12		
80	COMP			↑		
81-83	Cstar 1	03:07	-25	32	20s	special for Paul Green
84	COMP			↑		
85	ZMO240 SS A	02:40	+17:10	68	15m	
86	COMP			↑		

0004. DARK has usual structure on red end  
but other dashes do not.

DID NOT DARK SUBTRACT

60 inch Telescope Log		Spectrograph: <u>FAST</u>				Page: <u>5957</u>
Observer: <u>PB4EB</u>		Grating: <u>300R</u>		Date: <u>1/19/98</u>		
PI: <u>Huchra</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
87	2M021059.6	02:40	+12:05	68	15m	
88	COMP			r		
89	2M024101.1	02:41:01.1	16:42:41.8	68	15m	
90	COMP					
91	2M024110.1	02:41:10.2	12:04:54.8	68	15m	
92	COMP					
93	2M024109	02:49:09.4	17:10:00.8	68	15m	
94	COMP					
95	2M024110.8	02:41:10.8	15:55:11.8	68	15m	
96	COMP					increasing clouds
97	2M024112.3	02:41:12.3	12:10:02.8	68	15m	
98	COMP					
99	2M024113.7	02:41:13.7	12:47:02.8	68	15m	
100	COMP					
101	2M024118.3	02:41:18.3	15:21:33.1	68	15m	
102	COMP			r		
103, 105, 107	SN 1997cF	07:57	+49:33	2	20m	
104, 106, 108	COMP			r		
109, 111	Hiltner 600	06	+2	56	90s	
110	COMP			r		
111	Hiltner 600	06	+2	56	90s	
112	COMP			r		
113-115	Cotar 2	06:31	+16:06	32	20s	For Paul Green
116	COMP			r		
117-118	HDS 985	01:19	-05:57	32	20s	For Paul Green
119	COMP			r		
120	A00276	04:03	+30:47	75	5m	
121				r		
122	Z00993	+04:03	+26:31	75	5m	
123				r		

60 inch Telescope Log

Observer: PBS/EB

PI: Carter

Spectrograph: FAST

Grating: 300L

Date: 1/19/98

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
124	A000746	08:01	+30:10	75	6m	
125				f		cleaning again!
126	Z013679	08:05	+30:13	75	10m	
127				f		
128	Z017680	08:06	+26:53	75	5m	
129				f		
130	A000599	08:09	+28:00	75	15m	
131	COMP			f		
132	Z002998	08:12	+26:21	75	6m	
133	COMP			f		
134	N000499	08:16	+27:01	75	6m	
135	COMP			f		
136	Z003489	08:16	+28:37	75	6m	
137	COMP			f		
138	Z006229	08:18	+26:38	75	7m	
139	COMP			f		
140	N002253	08:20	+27:34	75	7m	
141	COMP			f		
142	Z006230	8:20:09	+27:05	75	4m	
143	COMP			f		
144	N002943	10:17	+32:03	75	5m	
145	COMP			f		
146	Z003995	10:47	+26:17	75	5m	
147	COMP			f		
148	Z011657	10:47	+26:15	75	5m	
149	COMP			f		
150	Z007362	10:48	+28:14	75	5m	
151	COMP			f		
152	Z003002	10:48	+26:35	75	5m	
153	COMP			f		

60 inch Telescope Log  
 Observer: PB/EB  
 PI: Carten

Spectrograph: FAST  
 Grating: 300 L  
 Date: 1/19/98

Page: 5757

Number	Object	R. A.	Dec.	L/R	Exp	Comments
154	ZOO 3002	10:48	+26:35	75	5m	
155	COMP			↑		
156	B000125	10:50	+26:44	75	10m	
157	COMP			↑		
158	ZOO 2333	10:50	+28:28	75	2m	
159				↑		
160	SN1997c	07:57	+49:33	2	20m	
161	COMP			↑		
162	a1367.1015	11:40	+23:01	64	5m	
163	COMP			↑		
164	a1367.1063	11:44	+23:06	64	5m	
165	COMP			↑		
166	.1064	11:44	+23:05	64	5m	
167	COMP			↑		
168	.1062	11:53	+23:07	64	4m	
169	COMP			↑		
170	.1154	11:52	+22:37	64	5m	
171	COMP			↑		
172	.1165	11:40	+22:26	64	3m	
173	COMP			↑		
174	.1244	11:53	+22	64	3m	
175	COMP			↑		
176	.1249	11:49	+22:11	64	5m	
177	COMP			↑		
178	.1273	11:57	+21:56	64	4m	
179	COMP			↑		
180	.1283	11:45	+22:01	64	8m	
181	COMP			↑		
182	.1287	11:45	+22:09	64	10m	H <sub>2</sub> o pix 2232
183	COMP			↑		

64 - cluster clusters Miller  
 75 - spectral types Carten

60 inch Telescope Log

Observer: PBS/EBPI: GellerSpectrograph: FASTGrating: 300RPage: 5960Date: 11/19/98

Number	Object	R.A.	Dec.	L/R	Exp	Comments
184	a1367.1305	11:50	+21:58	64	9m	a few clouds remain
185	COMP			f		
186	.1309	11:51	+22:03	64	4m	
187	COMP			f		
188	.1323	11:56	+22:03	64	4m	
189	COMP			f		
190	.1329	11:57	+21:47	64	4m	
191	COMP			f		
192	.1330	11:38	+21:50	64	4m	
193	COMP			f		
194	.1359	11:51	+21:47	64	4m	
195	COMP			f		
196	.1379	11:37	+21:33	64	4m	
197	COMP			f		
198	.1387	11:42	+21:35	64	4m	
199	COMP			f		
200	1389	11:43	+21:42	64	4m	
201	COMP			f		
202	1390	11:43	+21:39	64	6"	
203	COMP			f		
204	.1367	11:44	+21:34	64	4m	
205	COMP			f		
206	.1451	11:45	+21:24	64	3m	
207	COMP			f		
208	.1465	11:50	+21:23	64	3	
209	COMP			f		
210	.1484	11:56	+21:23	64	4m	
211	COMP			f		
212	.1522	11:48	+21:09	64	4m	
213	COMP			f		

60 inch Telescope Log

Observer: PB/EB

PI: Grogan & Wilkes

Spectrograph: FAST

Grating: 3002

Date: 11/15/98

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
214	14549 p 3145	+14:54	+31:45	42	20m	
215	COMP			†		
216	MRK421	11:01	+38:28	6	4m	
217	COMP			†		
218	N4051	12:00	+44:58	6	2m	
219	COMP			†		
220	N4151	12:04	+39:41	6	30s	
221	COMP			†		
222	N4758	12:16	+47:34	6	25m	
223	COMP			†		
224	MRK209	13:51	+69:33	6	3m	
225	COMP			†		
226	N5508	14:15	+75:22	6	3m	
227	COMP			†		
228-229	H244	13:21	+36:23	56	90s	
230	COMP			†		
231-240	BIAS	bwbby4			0s	
241-250	FLAT				6s	
251-260	BIAS	bwbby2			0s	
261-270	FLAT				12s	
271-275	DARK				20m	bwbby 2







5 PAGES

60 Inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>5463</u>	
Observer: <u>BENNETT</u>			Grating: <u>300L</u>		Date: <u>1-21-98</u>	
PI: _____						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-5	DARK				15m	binby 1
6-15	BIAS				0s	"
16-25	FLAT				6s	
26-35	BIAS				0s	binby 2
36-45	FLAT				12s	
46-50	SKY	ZENITH			2s	→ NOT SHOTS
51	COMP			↑		
52	ZAND	23:33	48:49	12	.8s	
53	COMP			↑		
54	Ax Per	01:36	54:15	12	3s	
55	Ax Per	01:36	54:15	12	75s	
56	COMP			↑		
57	ZAND	23:33	48:49	12	15s	
58	COMP			↑		
59	DGTau	04:27	26:06	12	10s	
60	DGTau	04:27	26:06	12	90s	
61	COMP			↑		
62	DL Tau	04:33	25:20	12	30s	
63	DL Tau	04:33	25:20	12	210s	
64	COMP			↑		
65	DL Tau	04:47	16:58	12	16s	
66	DL Tau	04:47	16:58	12	75s	
67	COMP			↑		
68	RW Aur	05:07	30:24	12	5s	
69	RW Aur	05:07	30:24	12	30s	
70	COMP			↑		
71	Feige 25	02:36	05:15	56	120s	
72	COMP	00:02:33	+00:16:40	↑		
73	ZMO24105	02:41	17:46	68	15m	
74	COMP			↑		

Comp bad

have  
contaminated  
used in comp  
from rest of  
night with  
closest

All objects here  
are double peaked  
NOTE TO SCOTT

used this comp for 71

PROGRAM 12 OBJECTS DOUBLE PEAKED - also comps  
no good - used other comps; extracted by hand

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>59/61</u>		
Observer: <u>BENNETT</u>		Grating: <u>3002</u>		Date: <u>1-21-98</u>		
PI: _____						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
75	2M024105	02:41:05.1	16:58:15.8	68	15 <sup>m</sup>	
76	COMP			↑		
77	2M024158	02:41:58	15:07:01	68	15 <sup>m</sup>	
78	COMP			↑		
79	2M024223	2:42	13:13	68	15 <sup>m</sup>	
80	COMP			↑		
81	2M024202	2:42	+12:55	68	20 <sup>m</sup>	
82	COMP			↑		
83	2M024203	02:42	+12:54	68	20 <sup>m</sup>	
84	COMP			↑		
85	2M032606	03:26	+25:49	68	20 <sup>m</sup>	
86	COMP			↑		
87	Hiltner 600	06:42	+02:11	56	455	
88	COMP			↑		
89	2M032608	03:26	+23:50	68	20 <sup>m</sup>	
90	COMP			↑		
91	2M084914	08:49	+09:12	68	20 <sup>m</sup>	
92	COMP			↑		
93	2M084915	08:49	+08:48	68	20 <sup>m</sup>	
94	COMP			↑		
95	2M084919	08:49	+11:20	68	15 <sup>m</sup>	
96	COMP			↑		
97	2M084924	08:49	07:40	68	15 <sup>m</sup>	
98	COMP			↑		
99	2013082	08:20	27:05	75	6 <sup>m</sup>	
100	COMP			↑		
101	000077	08:23	27:08	75	5 <sup>m</sup>	
102	COMP			↑		
104	2005380	08:25	27:52	75	5 <sup>m</sup>	
105	COMP			↑		
						NO. 103

60 inch Telescope Log  
 Observer: BENNETT  
 PI: \_\_\_\_\_

Spectrograph: FAST  
 Grating: 3002  
 Date: 1-21-98

Page: 5965

Number	Object	R.A.	Dec.	L/R	Exp	Comments
106	N002925	08:25	28:07	75	10m	
107	COMP			↑		
108	N00498	08:26	27:50	75	4m	
109	COMP			↑		
110	N001353	08:28	28:03	75	5m	
111	COMP			↑		
112	N002926	08:28	30:26	75	6m	
113	COMP			↑		
114	N002927	08:28	30:24	75	5m	
115	COMP			↑		
116	Z009994	08:28	30:25	75	5m	
117	COMP			↑		
118	Z005381	08:29	31:40	75	5m	
119	COMP			↑		
120	N001743	08:31	29:34	75	10m	
121	COMP			↑		
122	N001744	08:31	28:32	75	4m	
123	COMP			↑		
124	N002254	08:32	30:31	75	5m	
125	COMP			↑		
126	N002928	08:32	30:21	75	7m	
127	COMP			↑		
128	.1537	11:50	21:11	64	5m	got velocity only because <sup>underexposed</sup> of H $\alpha$
129	COMP			↑		
130	.1552	11:56	21:19	64	5m	
131	COMP			↑		
132	.1554	11:56	21:44	64	5m	
133	COMP			↑		
134	.1580	11:45	20:57	64	10m	
135	COMP			↑		

60 Inch Telescope Log

Observer: BENNETT

PI: \_\_\_\_\_

Spectrograph: FAST

Grating: 300L

Date: 1-21-98

Page: 5966

Number	Object	R.A.	Dec.	L/R	Exp	Comments
136	.1588	11:46	20:58	64	5m	
137	COMP			↑		
138	.1596	11:49	20:57	64	5m	
139	COMP			↑		
140	.1634	11:37	20:46	64	7m	
141	COMP			↑		
142	SN1997eg	13:11	22:55	2	15m	
143	"	"	"	2	15m	
144	COMP			↑		
145	.1649	11:47	20:54	64	10m	
146	COMP			↑		
147	.1661	11:47	20:47	64	5m	
148	COMP			↑		
149	.1672	11:53	20:44	64	8m	
150	COMP			↑		
151	.1684	11:59	20:53	64	10m	
152	COMP			↑		
153	N4486B	12:30	+12:29	57	5m	
154	COMP			↑		
155	H244	13:21	36:23	56	90s	
156	COMP			↑		
157	N4258	13:51	69:33	6	2m	
158	COMP			↑		
159	N5548	14:15	25:22	6	3m	
160	COMP			↑		
161	N4051	12:00	44:48	6	2m	
162	COMP			↑		
163	N4151	12:08	39:41	6	30s	
164	COMP			↑		
165	N4258	12:16	47:34	6	2m	

60 inch Telescope Log

Observer: BENNETT

PI: \_\_\_\_\_

Spectrograph: FAST

Grating: 300<sup>2</sup>

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Date: 1-21-98

Number	Object	R.A.	Dec.	L/R	Exp	Comments
166	COMP			↑		
167	MRK421	11:01	38:28	6	5m	
168	COMP			↑		
169	MRK501	16:53	31:45	6	5m	
170	COMP			↑		
171-180	BIAS				0 <sup>s</sup>	binby4
181-190	FLAT				6 <sup>s</sup>	binby4
191-200	BIAS				0 <sup>s</sup>	binby2
201-210	FLAT				12 <sup>s</sup>	binby2
211-215	DARK				15 <sup>m</sup>	"

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>5968</u>	
Observer: <u>RENWETT</u>			Grating: <u>300 L</u>		Date: <u>1-22-98</u>	
PI: _____						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-5	DARK				15m	binby 4 binby 2
6-10	DARK				15m	binby 2
11-20	BIAS				10s	binby 4
21-30	FLAT				6s	binby 4
31-40	BIAS				0s	binby 2
41-50	FLAT				12s	binby 2
51-55	SKY	ZENITH			2s	binby 4, LAMP OFF
56	Comp			↑		
57	ZAnd	23:33	48:49	12	.8s	
58	ZAnd	23:33	48:49	12	15s	
59	Comp			↑		
60	AXPer	01:36	54:15	12	3s	
61	AXPer	01:36	54:15	12	75s	
62	Comp			↑		
63	DGTau	04:27	26:06	12	10s	
64	DGTau	04:27	26:06	12	90s	
65	Comp			↑		
66	DLTau	04:33	25:20	12	30s	
67	DLTau	04:33	25:20	12	240s	
68	Comp			↑		
69	DRTau	04:47	16:58	12	10s	
70	DRTau	04:47	16:58	12	75s	
71	Comp			↑		
72	RWAur	05:07	30:24	12	5s	
73	RWAur	05:07	30:24	12	30s	
74	Comp			↑		
75	FEI6E 25	02:36	05:15	56	2m	
76	Comp			↑		
77	2M002958	00:29:58	17:29	68	20m	FAINT
78	Comp			↑		

IMAGETIVE for Skys should have been OBJECT (not FLAT)

60 Inch Telescope Log

Observer: BENNETT

PI: \_\_\_\_\_

Spectrograph: FAST

Grating: 300e

Date: 1-22-98

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
79	ZM002958	00:29	+12:12	L8	20m	FAINT
80	Comp			↑		
81	ZM024207	02:42	+13:11	L8	20m	
82	Comp			↑		
83	Z08.0p133921	02:42	+13:39	L8	15m	
84	Comp			↑		
85	608.7p254811	03:26	+25:48	L8	20m	
86	Comp			↑		
87	ZM024120.5p1	02:41	+13:17	L8	20m	
88	Comp			↑		
89	ZM024122.7p162	02:41	+13:27	L8	20m	
90	Comp			↑		
91	ZM024137.5p142	02:41	+14:23	L8	20m	
92	Comp			↑		
93	Z007351	08:33	+27:42	75	6m	
94	Comp			↑		
95	N000693	08:37	+26:58	75	5m	
96	Comp			↑		
97	N002929	08:34	+29:54	75	10m	
98	Comp			↑		
99	Z000675	08:35	+28:28	75	4m	
100	Comp			↑		
101	N000869	8:35	+30:32	75	6m	
102	Comp			↑		
103	Z009995	08:35	+28:45	75	5m	
104	Comp			↑		
105	Z007352	08:36	+30:15	75	4m	
106	Comp			↑		
107	Z005382	08:36	+28:03	75	7m	
108	Comp			↑		



60 inch Telescope Log  
 Observer: BENNETT  
 PI: \_\_\_\_\_

Spectrograph: FAST  
 Grating: 3002  
 Date: 1-22-98

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
109	7001069	08:37	+28:42	75	5m	
110	Comp			↑		
111	N002930	08:38	+28:22	75	20m	
112	Comp			↑		
113	7013684	08:38	+31:49	75	20m	
114	Comp			↑		
115	7004588	08:38	+30:47	75	15m	
116	Comp			↑		
117	7013685	08:42	+30:49	75	15m	
118	Comp			↑		
119	7011637	08:42	+27:16	75	15m	
120	Comp			↑		
121	7009997	08:43	+26:48	75	15m	
122	Comp			↑		
123	7003990	08:44	+30:07	75	5m	
124	Comp			↑		
125	7013505	08:45	+26:19	75	10m	
126	Comp			↑		
127	7007354	08:46	+27:20	75	10m	
128	Comp			↑		
129	7003460	08:46	+28:10	75	5m	
130	Comp			↑		
131	A000470	08:47	+28:14	75	10m	
132	Comp			↑		
133	7013687	08:47	+31:47	75	7m	
134	Comp			↑		
135	7002331	08:51	+30:51	75	5m	
136	Comp			↑		
137	7013690	08:53	+29:57	75	15m	
138	Comp			↑		

60 inch Telescope Log

Observer: BENNETT

PI: \_\_\_\_\_

Spectrograph: FAST

Grating: 300L

Date: 1-22-98

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
139	FEIGE	10:36	43:21	56	2m	
140	comp			↑		
141	.1696	11:40	20:41	64	5m	
142	comp			↑		
143	.1701	11:43	20:33	64	5m	
144	comp			↑		
145	.1722	11:52	20:39	64	15m	
146	comp			↑		
147	.1727	11:53	20:41	64	20m	
148	comp			↑		
149	.1760	11:39	20:25	64	15m	
150	comp			↑		
151	.1768	11:41	20:30	64	20m	
152	comp			↑		
153	.1799	11:51	20:27	64	20m	
154	comp			↑		
155	FEIGE 98	14:30	27:42	56	2m	
156	comp			↑		
157	N5548	14:15	25:22	6	3m	
158	comp			↑		
159	MCK279	13:51	69:33	6	2m	
160	comp			↑		
161-170	BIAS				0s	binby 4
171-180	FLAT				6s	binby 4
181-190	BIAS				0s	binby 2
191-200	FLAT				12s	binby 2

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>5972</u>
Observer: <u>P Berlin</u>				Grating: <u>300R</u>		
PI: <u>AI</u>				Date: <u>1/23/98</u>		
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BDAS			0	0s	
11-20	FLAT			0	6s	
21-30	BDAS			0	0s	bin by 2
31-40	FLAT			0	12s	bin by 2
41	DARK			0	15m	bin by 2
42-46	sky			57	2s	
47	WMP			r		
48-50	HD 6200	01:04	+51W	57	2s	
51				r		
52-54	HD 6130	01:03	+61W	57	2s	
55				r		
56-61	HD 5005	00:52	+56.57	57	5s	
62				r		
63-66	HD 6327	00:55	160:25	57	20s	
67				r		
68-69	ZAW	23		12	1,15	
70				r		
71-72	AXPer	01		12	3,80	
73				r		
74-75	DGTan	04		12	10s, 90s	clouds
76	WMP			r		
77-78	DLTan	04		12m	30s, 4m	
79	WMP			r		
80-81	DRTan	04		12m	10, 50	
82	WMP			r		
83-84	RWAu	05		12	5, 30	
85	WMP			r		
86	MRK335	00:03	+19:55	6	3m	
87	WMP			r		

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>5973</u>	
Observer: <u>PB</u>			Grating: <u>3002</u>			
PI: <u>Huchra</u>			Date: <u>1/23/98</u>			
Number	Object	R. A.	Dec.	L/R	Exp	Comments
88	2340701007	23:40	+10:06	42	6m	C2 redo for Norm em
89	WMP			↑		thin clouds all over
90	2M024125.1	2:41	+17:20	68	12m	high z
91	WMP			↑		
92	2M024122.8	02:41	+13:56	68	15m	
93	WMP			↑		
94	2M024122.2	02:41	+13:23	68	15m	em
95	WMP			↑		
96	2M024125.0	02:41	+13:20	68	20m	cosmic ray on top of H $\alpha$
97	WMP			↑		@ p2 2372
98	2M024118.2	02:41	+14:16	68	20m	em
99	WMP			↑		
100	2M024126.5	02:41	+15:24	68	15m	
101	WMP			↑		
102	2M024134.5	02:41	+16:55	68	15m	tz to E
103	WMP			↑		
104	2M024119.7	02:41	+15:18	68	12m	em pix 2310
105	WMP	02:41	+15:01	↑		moving comp <sup>JPH</sup> sample
106	2M024129.4	02:41	+14:24	68	15m	still thin clouds all over
107	WMP			↑		but great seeing!
108	2M024179.1	02:41	+13:49	68	17m	tz to W
109	WMP			↑		
110	2M024128.2	02:41	+13:19	68	18m	
111	WMP			↑		
112	2M0325532	03:25	+29:10	68	15m	em
113	WMP			↑		
114	2M032606.7	03:26	+28:25	68	15m	
115	WMP			↑		
116	2M032606.1	03:26	+28:28	68	17m	em
117	WMP			↑		

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>5974</u>	
Observer: <u>PB</u>			Grating: <u>300L</u>			
PI: <u>Kirshner &amp; Kwanji</u>			Date: <u>1/23/98</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
118	AKn120	05:13	-07:12	6	3m	
119	COMP			↑		
120-1	Hiltner 60	06:42	-10:2	56	45s	bimby 2
122	COMP			↑		
123, 124, 127	SN1997ef	07:57	+49:33	2	20m	*3 " ok
124, 126, 128	COMP			↑	12s	pulse of clouds moving in
129	mKw1-001	10:00	-02:58	35	90s	
130	COMP			↑		
131	mKw1-002	09:59	-02:52	35	2m	
132	COMP			↑		thick clouds in N
133	003	10:00	-02:00	35	4m	
134	COMP			↑		
135	004	10:00	-02:58	35	4m	
136	COMP			↑		clouds, clouds, clouds
137	005	10:03	-02:24	35	4m	wk; em
138	COMP			↑		
139	006	10:01	-02:59	35	4m	
140	COMP			↑		
141	007	10:02	-03:02	35	12m	em
142	COMP			↑		more clouds
143	008	09:58	-03:01	35	15m	bimby 2; * to E (close) <sup>map</sup>
144	COMP			↑		gal has em
145	009	10:00	-02:58	35	2m	* late night radio pings off;
146	COMP			↑		w/ free t-shirt *
147	010	09:58	-02:49	35	6m	
148	COMP			↑		
149	011	09:58	-03:33	35	7m	
150	COMP			↑		clearing
151	012	09:59	-03:10	35	4m	
152	COMP			↑		

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>5975</u>		
Observer: <u>FB</u>		Grating: <u>3002</u>				
PI: <u>Huchra/Koranyi/Cviller</u>		Date: <u>1/23/98</u>				
Number	Object	R.A.	Dec.	L/R	Exp	Comments
153	2M084939.4	08:49	+11:03	68	15m	
154	COMP			↑		clean-up
155	NG02252	08:08	+28:01	75	11m	em
156	COMP			↑		
157	B000124	08:15	+28:44	75	15m	em
158	COMP			↑		
159	980112.105.3093	09:18	+21:17	68	15m	b.l. em gal → S <sub>2</sub> 1
160	COMP			↑		
161	980112.94.371	09:16	+21:06	68	15m	QSO!
162	COMP			↑		
163	mKw1-013	10:00	-07:02	35	4m	
164	COMP			↑		
165	014	10:00	-02:57	35	3m	
166	COMP			↑		
167	015	10:00	-02:56	35	2m	
168	COMP			↑		
169	016	10:02	-03:15	35	12m	em
170	COMP			↑		
171	017	10:01	-03:06	35	12m	nearby to W of gal ; em
172	COMP			↑		
173	018	10:02	-02:15	35	15m	em
174	COMP			↑		
175	a1367.1818	11:37	+20:09	64	4m	
176	COMP			↑		
177	.1828	11:42	+20:05	64	5m	
178	.1831	11:42	+20:07	64	4m	em
179	COMP			↑		
180	.1845N	11:44	+20:13	64	4m	N
181	.1815S	11:44	+20:13	64	2m	S
182	COMP			↑		

60 inch Telescope Log			Spectrograph: <u>FAST</u>			Page: <u>5976</u>
Observer: <u>PB</u>			Grating: <u>300L</u>			
PI: <u>Geller</u>			Date: <u>1/23/98</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
183	a1367.1869SE	11:52	+70:08	64	2m	
184	.1869NW	11:52	+70:08	64	3m	-wk.
185	COMP			f		
186	.1870	11:52	+70:14	64	8m	
187	COMP			f		ugh - more clouds
188	.2149	11:30	+18:26	64	5m	
189	COMP			f		
190	.2538	11:37	+70:09	64	5m	
191	COMP			f		
192	.2540	11:35	+70:01	64	5m	
193	COMP			f		
194	.2595	11:36	+70:00	64	2m	
195	COMP			f		
196	.2614	11:42	+70:01	64	5m	
197	COMP			f		
198	.2625	11:43	+70:02	64	4m	
199	COMP			f		
200	.2627	11:43	+19:59	64	3m	
201	.2630	11:44	+19:59	64	2m	
202	COMP			f		
203	a1367.2631	11:44	+19:36	64	3m	central cD !! - beauty
204	.2633	11:44	+19:59	64	2m	
205	COMP			f		
206	.2676	11:44	+70:04	64	90s	
207	COMP			f		
208	.2638N	11:45	+70:01	64	5m	
209	.2638S	11:45	+70:01	64	6m	
210	COMP			f		
211	.2651	11:50	+70:02	64	5m	
212	COMP			f		

60 Inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>5977</u>
Observer: <u>PS</u>				Grating: <u>300R</u>		
PI: <u>Geller &amp; Wilkes</u>				Date: <u>1/23/98</u>		
Number	Object	R.A.	Dec.	L/R	Exp	Comments
213	a1367.2675	11:39	+19:48	64	10m	big clouds
214	COMP			↑		
215	.2684	11:43	+19:44	64	4m	
216	.2686	11:43	+19:44	64	3m	
217	COMP			↑		
218	.2688	11:44	+19:50	64	2m	
219	.2699	11:44	+19:49	64	2m	
220	COMP			↑		
221	.2701	11:44	+19:49	64	2m	
222	COMP			↑		
223	NSS8	11:45	+19:52	6	3m	
224	COMP			↑		
225	MRK279	13:51	+16:33	6	2m	
226	COMP			↑		
227	NRS8	12:16	+17:34	6	2m	
228	COMP			↑		scattered clouds
229	NH151	12:00	+44:48	6	2m	- clearing
230	COMP			↑		⊙ Dawn
231	NH151	12:08	+39:41	6	30s	
232	COMP			↑		
233-34	H244	13:21	+36:23	56	90s	
235	COMP			↑		
236-27	Feyo98	14:36	+27:12	56	90s	
238	COMP			↑		
239-248	BIAS				0s	
249-258	FLAT				6s	
259-268	BIAS				0s	bm by 2
269-278	FLAT				12s	bm by 2
279-288	DARK				15m	bm by 4



60 inch Telescope Log  
 Observer: P. Berlind  
 PI: \_\_\_\_\_  
 Spectrograph: FAST  
 Grating: 300R  
 Date: 1/24/98  
 Page: 5978

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	DARK				15m	bin by 4
11-20	BIAS				0s	
21-30	FLAT				6s	
31-40	BIAS				0s	bin by 2
41-50	FLAT				12s	bin by 2
51-55	sky			57	2s	6:05
56	COMP			↑		
57-59	HD 7927	01:20	+58	57	1s	clear skies!!
60	COMP			↑		
61-63	HD 7252	01:14	+60	57	3s	
64	COMP			↑		
65-67	HD 5689	00:59	+63	57	7s	
68	COMP			↑		
69-71	HD 5810	01:10	+56:36	57	8s	
72	COMP			↑		
73-74	ZAW	23:33	+08:49	12	1s, 30s	
75				↑		prob @ 48"
76-77	AXR	01:36	+54	12	4s, 85s	
78	COMP			↑		
79-80	DLTan	04	26	12	12s, 100s	
81	COMP			↑		
82-83	DLTan	04	16	12	12s, 80s	
84				↑		bright zodiacal light
85-86	DLTan	04	26	12		
87				↑		
88-89	RWAhr	05:07	+32:01	12	5s, 30s	
90	COMP			↑		
91	MRK335	01:03	+19:55	6	3m	
92	COMP			↑		

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>5979</u>	
Observer: <u>AB</u>			Grating: <u>3002</u>			
PI: <u>Huchra</u>			Date: <u>1/24/98</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
93	225m280	00:41	+41:05	57	4m	
94	COMP			↑		
95	970904.80.4217	00:49	+15:32	68	15m	9.50!
96	COMP			↑		
97	971029.50.6873	00:50	+29:33	68	20m	
98	COMP			↑		
99	970904.73.7054	00:45	+16:39	68	20m	oh boy low cz gal?
100	COMP			↑		
101	2M024108.1	02:41	+16:27	68	20m	Faint; Hk @ 4220 Å
102	COMP			↑		
103	2M024127.6	02:41	+17:07	68	20m	low-strength Mg! + MgH
104	COMP			↑		
105	2M024135.3	02:41	+17:05	68	20m	Windy
106	COMP			↑		Seemg worse
107	2M024136.1	02:41	+16:03	68	17m	
108	COMP			↑		
109	2M024137.0	02:41	+16:53	68	15m	em +
110	COMP			↑		
111	2M024138.9	02:41	+17:12	68	15m	
112	COMP			↑		
113	2M032620.5	03:26	+29:46	68	15m	red but ok!
114	COMP			↑		
115	2M032626.4	03:26	+29:05	68	20m	em
116	COMP			↑		
117	2M032630.0	03:26	+26:10	68	15m	ok
118	COMP			↑		
119	2M032711.4	03:27	+27:03	68	12m	* to W
120	COMP			↑		
121	2M042016.3	04:22	+22:38	68	17m	* to W
122	COMP			↑		

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>5980</u>	
Observer: <u>PB</u>			Grating: <u>300L</u>			
PI: <u>Dankoranyi</u>			Date: <u>1/24/98</u>			
Number	Object	R. A.	Dec.	L/R	Exp	Comments
123124	Hiltner 60	06:42	-02:11	56	45s	
125	COMP			↑		
126	MKW1-019	10:00	-02:59	35	7m	
127	COMP			↑		
128	.020	09:59	-02:33	35	9m	
129	COMP			↑		
130	.021	09:58	-03:05	35	15m	em
131	COMP			↑		
132	.022	10:01	-02:31	35	10m	
133	COMP			↑		
134	.023	09:59	-02:53	35	10m	em
135	COMP			↑		
136	.024	10:02	-02:34	35	15m	em * to W
137	COMP			↑		
138	.025	10:02	-03:21	35	11m	
139	COMP			↑		
140	.026	10:00	-02:53	35	10m	
141	COMP			↑		variable scamy
142	.027	10:02	-03:02	35	15m	ok mostly ok.
143	COMP			↑		
144	.028	09:59	-03:10	35	10m	
145	COMP			↑		
146	.029	09:59	-03:06	35	10m	
147	COMP			↑		
148	.030	10:01	-02:37	35	12m	
149	COMP			↑		
150	.031	09:58	-02:30	35	12m	
151	COMP			↑		
152	.032	10:02	-03:08	35	12m	
153	COMP			↑		

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>598/</u>	
Observer: <u>PB</u>			Grating: <u>300L</u>			
PI: <u>Geller</u>			Date: <u>1/24/98</u>			
Number	Object	R. A.	Dec.	L/R	Exp	Comments
154	a/367.2667	11:33	+19:48	64	7m	em
155	COMP			↑		
156	.2692W	11:43	+19:46	64	3m	
157	.2692E	11:43	+19:46	64	6m	em
158	COMP			↑		
159	.2697	11:44	+19:44	64	4m	
160	COMP			↑		
161	.2709	11:44	+19:46	64	4m	
162	COMP			↑		
163	.2719E	11:45	+19:46	64	3m	extra
164	.2719W	11:45	+19:46	64	2m	D <sub>2</sub> extra
165	COMP			↑		
166	.2727	11:46	+19:44	64	4m	
167	COMP			↑		
168	.2765	11:43	+19:36	64	4m	
169	COMP			↑		
170	.2770	11:44	+19:41	64	4m	
171	COMP			↑		
172	.2775N	11:45	+19:37	64	3m	N
173	.2775S	11:45	+19:37	64	90s	S
174	COMP			↑		
175	.2787	11:46	+19:38	64	5m	
176	COMP			↑		
177	.2809	11:39	+19:21	64	3m	
178	COMP			↑		
179	.2814	11:40	+19:28	64	4m	
180	COMP			↑		
181	.2829	11:45	+19:26	64	3m	
182	COMP			↑		

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>5982</u>	
Observer: <u>PB</u>			Grating: <u>3002</u>			
PI: <u>Geller</u>			Date: <u>1/24/98</u>			
Number	Object	R. A.	Dec.	L/R	Exp	Comments
183	a1367.2834	11:46	+19:26	64	4m	
184	COMP			↑		
185	.2838	11:48	+19:26	64	4m	
186	COMP			↑		
187	.2910	11:48	+18:56	64	3m	
188	COMP			↑		
189	.2889	11:34	+19:02	64	4m	
190	COMP			↑		
191	.2924	11:32	+18:41	64	4m	
192	COMP			↑		
193	.2925	11:32	+18:50	64	3m	
194	COMP			↑		
195	.2961	11:30	+18:26	64	4m	
196	COMP			↑		
197	.2991	11:45	+18:39	64	3m	
198	COMP			↑		
199	.2955	11:48	+18:38	64	3m	
200	COMP			↑		
201	.3012	11:34	+18:23	64	4m	
202	COMP			↑		
203	.3065	11:36	+18:14	64	4m	
204	COMP			↑		
205	.3118	11:39	+17:52	64	6m	
206	COMP			↑		
207	.3134	11:50	+17:51	64	3m	
208	COMP			↑		
209	.3295	11:39	+17:03	64	4m	
210	COMP			↑		
211	.330	11:33	+22:32	64	4m	a1367.330
212	COMP			↑		

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>5983</u>	
Observer: <u>AB</u>				Grating: <u>3000</u>			
PI: <u>Geller</u>				Date: <u>1/24/98</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments	
213	a1367.3312	11:47	+17:11	64	4m		
214	COMP			↑			
215	.3357	11:50	+16:49	64	3m		
216	COMP			↑			
217	.3380	11:36	+16:42	64	3m	wk but ok lines	
218	COMP			↑			
219	.3440	11:42	+16:29	64	3m		
220	COMP			↑			
221	.3442	11:44	+16:33	64	3m		
222	COMP			↑			
223	.3446	11:44	+16:34	64	4m		
224	COMP			↑			
225	.3461	11:36	+16:23	64	3m		
226	COMP			↑			
227	.3497	11:47	+16:14	64	4m		
228	COMP			↑			
229	.3566	11:41	+15:58	64	5m	em +	
230	COMP			↑			
231	.4009	11:58	+19:08	64	4m	wind picking up	
232	COMP			↑			
233	.4013	12:00	+19:13	64	12m	em	
234	COMP			↑			
236	SB51425p606	14:25	+60:25	6	10m	Wow.	
236	COMP			↑			
237	MRK279	13:51	+69:33	6	3m	7	
238	COMP			↑			
239	N5548	14:15	+25:22	6	3m	6	
240	COMP			↑			
241.2	H244	13:21	+76:23	56	90s	zo	
243	COMP			↑			

60 inch Telescope Log  
 Observer: PB  
 PI: Dan  
 Spectrograph: FAST  
 Grating: 300R  
 Date: 1/24/98  
 Page: 984

Number	Object	R.A.	Dec.	L/R	Exp	Comments
244	mkw4-1	12:02	+01:58	35	90s	
245	COMP			↑		
246	mkw4-2	12:04	+01:53	35	90s	
247	COMP			↑		
248	mkw4-4	12:04	+01:47	35	100s	
249	COMP			↑		
250	mkw4-5	12:04	+02:04	35	100s	
251	COMP			↑		
252	mkw4-8	12:04	+01:50	35	100s	
253	COMP			↑		clear @ dawn
254	mkw4-7	12:03	+01:41	35	100s	
255	COMP			↑		
256	mkw4-10	12:03	+01:57	35	100s	
257	COMP			↑		
258-267	BIDS			0	0s	
268-277	FLAT			0	6s	

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>5985</u>	
Observer: <u>P. Berthel</u>			Grating: <u>3002</u>			
PI: <u>All</u>			Date: <u>1/25/98</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-5	DARK				15m	
6-10	DARK				20m	bin by 2
11-20	BETAS				0s	
21-30	FLAT				6s	
31-40	BETAS				0s	bin by 2
41-50	FLAT				12s	"
51-55	SKY	Zenith		S7	2s	
56	COMP			↑	6s	clear skies!!
57-58	ZAD	23:53	+48:49	12	1s, 20s	windy
59	COMP			↑		
60-61	AXPer	01:36	+54:15	12	4s, 80s	
62	COMP			↑		
63-64	DLTan	04:27	+26:06	12	12s, 90s	
65				↑		
66-67	DRTan	04:47	+16:58	12	12s, 80s	
68				↑		
69-70	RWPer	05:07	+30:24	12	6s, 30s	
71				↑		
72-73	DLTan	04:33	+25:26	12	30s, 3m	25s, 3m
74	COMP			↑		
75	H214	04:41	+10:59	56	4m	
76	COMP			↑		
77	MRK335	00:03	+19:55	6	3m	
78	COMP			↑		
79	158m213	00:40	+10:50	56	4m	* to E
80	COMP			↑		
81	N7469	23:03	+08:52	6	2+ m	
82	COMP			↑		
83	971119.25.7029	23:32	+29:14	68	20m	blue eye; JPA; HB @ C500A
84	COMP			↑		



60 inch Telescope Log  
 Observer: PB  
 PI: Huchra & Kirshner  
 Spectrograph: FAST  
 Grating: 300R  
 Date: 1/25/98  
 Page: 5986

Number	Object	R.A.	Dec.	L/R	Exp	Comments
85	2M024146.9	02:29	+12:04	68	12m	disc one
86	COMP			↑		
87	2M024143.4	02:41	+11:56	68	15m	
88	COMP			↑		
89	2M024140.3	02:41	+13:53	68	17m	bin by 2; E+W comps; close
90	COMP			↑		
91	2M024141.9	02:41	+13:51	68	15m	
92	COMP			↑		
93	2M024139.8	02:41	+17:03	68	20m	
94	COMP			↑		
95	2M024138.4	02:41	+15:32	68	20m	* to E
96	COMP			↑		
97	2M024137.8	02:41	+13:59	68	20m	Faint... <sup>the</sup> em @ pk 2703!
98	COMP			↑		
99	2M024137.1	02:41	+12:29	68	20m	em North part * to E
100	COMP			↑		
101	2M024143.6	02:41	+17:15	68	15m	
102	COMP			↑		
103	2M024145.5	02:41	+14:22	68	15m	still very windy.
104	COMP			↑		
105	2M032546.8	03:25	+25:31	68	20m	em - good. * to E
106	COMP			↑		
107	2M032632.1	03:26	+23:56	68	20m	gap in a - but big in this band <sup>near</sup> ch. bay - wk. Na @ 7000 R/10
108	COMP			↑		
109	2M042210.0	04:22	+18:45	68	20m	* to W
110	COMP			↑		
111-112	Hiltner 600	06:12	+02:11	56	45s	bin by 2
113	COMP			↑		
114, 116, 118	SN1997ef	07:57	+49:33	2	20m	x3
115, 117, 119	COMP			↑		

<p>60 inch Telescope log</p> <p>Observer: <u>PB</u></p> <p>PI: <u>Koranyi &amp; Geller</u></p>	<p>Spectrograph: <u>FAST</u></p> <p>Grating: <u>3002</u></p> <p>Date: <u>1/25/98</u></p> <p style="text-align: right;">Page: <u>5987</u></p>
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
120	mkwl-033	10:01	-02:24	35	10m	wk but ok
121	COMP			↑		
122	.034	09:57	-02:51	35	15m	North part
123	COMP			↑		
124	.035	09:58	-03:20	35	15m	windy; seeing good.
125	COMP			↑		
126	.036	09:58	-02:55	35	12m	em
127	COMP			↑		
128	.037	10:00	-02:59	35	15m	em
129	COMP			↑		
130	a/367.4268	11:55	+7:20	64	4m	
131	COMP			↑		
132	.447	11:35	+21:43	64	3m	
133	COMP			↑		
134	.517	11:34	+21:16	64	3m	
135	COMP			↑		
136	.551	11:28	+21:05	64	8m	em +
137	COMP			↑		
138	.602	11:28	+20:44	64	2m	
139	COMP			↑		
140	.634	11:30	+20:25	64	8m	+ to E em
141	COMP			↑		
142	.643	11:31	+20:29	64	5m	em
143	COMP			↑		
144	.936	11:47	+23:37	64	2m	
145	COMP			↑		
146	.963	11:34	+23:31	64	2m	
147	COMP			↑		
148	.965	11:40	+23:31	64	2m	
149	COMP			↑		

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<p><b>60 inch Telescope Log</b></p> <p>Observer: <u>PP</u></p> <p>PI: <u>Geller</u></p>	<p>Spectrograph: <u>FAST</u></p> <p>Grating: <u>300R</u></p> <p>Date: <u>1/25/98</u></p> <p style="text-align: right;">Page: <u>5988</u></p>
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Number	Object	R. A.	Dec.	L/R	Exp	Comments
150	a1367.1009	11:38	+23:19	64	3m	
151	COMP			↑		
152	.1013	11:40	+23:20	64	3m	
153	COMP			↑		
154	.1054	11:41	+23:10	64	5m	em
155	COMP			↑		
156	.1062	11:44	+23:06	64	4m	
157	COMP			↑		
158	.1068	11:47	+23:06	64	5m	em
159	COMP			↑		
160	.1083	11:51	+23:05	64	4m	
161	COMP			↑		
162	.1097	11:58	+22:56	64	5m	
163	COMP			↑		
164	.1101	11:40	+22:51	64	4m	
165	COMP			↑		
166	.1153	11:52	22:45	64	7m	em
167	COMP			↑		
168	.1159	11:55	22:43	64	4m	
169	COMP			↑		
170	.1180	11:39	22:29	64	6m	em
171	COMP			↑		
172	.1196	11:45	22:07	64	7m	em
173	COMP			↑		
174	.1252	11:56	+22:21	64	5m	
175	COMP			↑		
176	.1270	11:37	+22:01	64	4m	
177	COMP			↑		
178	.1289	11:47	+22:03	64	6m	
179	COMP			↑		

60 inch Telescope Log  
 Observer: RB  
 PI: Geller & Kuranyi

Spectrograph: FAST  
 Grating: 300L  
 Date: 1/25/98

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
180	a1367.1294	11:48	+22:10	64	6m	em +
181	COMP			↑		
182	.1300	11:50	+22:10	64	6m	em
183	COMP			↑		
184	.1313	11:51	+22:08	64	4m	
185	COMP			↑		
186	.1318	11:56	+22:07	64	4m	
187	COMP			↑		
188	.1401	11:45	+22:38	64	6m	to E em +
189	COMP			↑		
190	.1409	11:52	+22:35	64	4m	North part
191	COMP			↑		wk but lines look ok
192	.1454	11:45	+22:26	64	6m	
193	COMP			↑		
194	.1458	11:48	+22:31	64	12m	wk; Ho em ptr 2055
195	COMP			↑		
196	.1463	11:49	+22:24	64	5m	
197	COMP			↑		
198	.1473	11:52	+22:31	64	5m	
199	COMP			↑		
200	.1480	11:54	+22:26	64	4m	
201	COMP			↑		
202	mK44-03	12:04	+01:34	35	2m	
203	COMP			↑		
204	-6	12:05	+02:29	35	2m	
205	COMP			↑		
206	-9	12:04	+01:48	35	2m	
207	COMP			↑		
208	-11	12:05	+01:49	35	2m	
209	COMP			↑		

60 inch Telescope Log

Observer: PB

Spectrograph: FAST

Grating: 3002

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PI: Koranyi

Date: 1/25/98

Number	Object	R.A.	Dec.	L/R	Exp	Comments
210	mkw4-12	12:03	+02:02	35	90s	still windy - all night
211	COMP			↑		
212	.13	12:05	+01:34	35	2m	
213	COMP			↑		
214	.14	12:02	+01:57	35	2m	wk
215	COMP			↑		
216	.15	12:03	+01:53	35	10m	em
217	COMP			↑		
218	.16	12:04	+01:50	35	2m	
219	COMP			↑		
220	N5548	14:15	+25:22	6	3m	
221	COMP			↑		
222	MRK271	13:51	+09:33	6	3m	
223	COMP			↑		
224	N4258	12:16	+17:34	6	2m	
225	COMP			↑		
226	N4051	12:00	+44:48	6	2m	
227	COMP			↑		clear @ dawn
228	N4151	12:06	+39:41	6	30s	
229	COMP			↑		
230-234	F07g66	12:34	+25:20	56	1m	
232	COMP			↑		
235-237	H244	13:21	+26:23	56	90s	
235	COMP			↑		
236-245	BDAS			0	0s	
246-255	FLAT			0	6s	
256-265	BDAS			0	0s	bmbz 2
266-275	FLAT			0	12s	"

256-265  
266-275

60 inch Telescope Log

Observer: P. Berlind

PI: All

Spectrograph: F15T

Grating: 300R

Date: 1/26/98

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
1-5	DARK				15m	bin by 4
6-15	BIAS				0s	
16-25	FLAT				6s	
26-35	BIAS				0s	bin by 2
36-45	FLAT				12s	"
46-50	6ky	zenith		57	2s	
51	COMP			↑	6s	much cirrus to W IN
52-53	ZAD	usual	suspects	12	1s, 20s	
54	COMP					
55-56	ARPer			12	4s, 80s	
57	COMP			↑		
58-59	DETan			12	12s, 90s	
60	COMP			↑		
61-62	DETA-			12	12s, 80s	
63	COMP			↑		
64-65	RWAH			12	5s, 30s	
66	COMP			↑		dome run away
67-68	DETan			12	30s, 3m	
69	COMP			↑		
70	H214			56	4m	
71	COMP			↑		
72	MARK335			6	3m	
73	COMP			↑		
74	225m270	0221	+1105	57	4m	
75	COMP			↑		
76	971119.9340	2322	+7618	68	20m	blue geo!
77	COMP			↑		
78	24024053.6	0240	+1533	68	20m	wk but ok
79	COMP			↑		

60 inch Telescope Log

Observer: PB

PI: Huchra

Spectrograph: FAST

Grating: 30R

Date: 1/26/88

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
80	2M024055.7	02:40	+17:08	68	20m	wk... wken? did not get it redo
81	COMP			↑		
82	2M024146.4	02:41	+17:18	68	17m	
83	COMP			↑		
84	2M024147.3	02:41	+17:19	68	20m	high ex
85	COMP			↑		
86	2M024149.1	02:41	+17:12	68	20m	ok ok - clouds ↑↑
87	COMP			↑		
88	2M024149.2	02:41	+17:54	68	20m	
89	COMP			↑		
90	2M024151.7	02:41	+16:48	68	20m	
91	COMP			↑		
92	2M024152.2	02:41	+15:29	68	20m	
93	COMP			↑		
94	2M024315.8	02:43	+12:40	68	20m	em++
95	COMP			↑		
96	2M032557.3	03:25	+76:34	68	20m	wk high ex redo
97	COMP			↑		
98	2M032632.8	03:26	+79:10	68	20m	redo
99	COMP			↑		
100	Akatzo	05:13	-00:12	6	3m	
101	COMP			↑		
102	Hiltner 60	06:42	+02:11	56	45s	
104	COMP			↑		
105	NGC 15	08:23	+21:10	73	12m	
106	COMP			↑		
107	MKW1-039	10:10	-02:36	35	15m	
108	COMP			↑		
109	-038	10:10	-02:17	35	15m	wk.
110	COMP			↑		

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>5993</u>	
Observer: <u>PB</u>				Grating: <u>202</u>			
PI: <u>Gretter</u>				Date: <u>1/26/58</u>			
Number	Object	R. A.	Dec.	L/R	Exp	Comments	
111	mkw1-040	09:58	-02:25	35	20m	clouds.	
112	COMP			↑			
113	a1367.1505	11:41	+21:09	64	15m		
114	COMP			↑			
115	.1515	11:45	+21:20	64	15m	em	
116	COMP			↑			
117	.1518	11:45	+21:19	64	15m	em	
118	COMP			↑			
119	.1524	11:48	+21:11	64	15m	em	
120	COMP			↑			
121	.1532	11:50	+21:16	64	10m		
122	COMP			↑			
123	.1535	11:50	+21:11	64	12m		
124	COMP			↑			
125	.1539	11:51	+21:18	64	12m		
126	COMP			↑			
127	.1540	11:52	+21:18	64	10m		
128	COMP			↑		clearing sun	
129	.1542	11:53	+21:13	64	8m	em +	
130	COMP			↑			
131	.1565	11:59	+21:17	64	10m	em	
132	COMP			↑			
133	.1571	11:58	+21:53	64	9m		
134	COMP			↑			
135	.1591	11:49	+21:06	64	12m	em	
136	COMP			↑			
137	.1601	11:50	+21:06	64	15m	em	
138	COMP			↑			
139	.1603	11:51	+21:07	64	5m		
140	COMP			↑			



60 inch Telescope Log  
 Observer: BB  
 PI: Greller & And.

Spectrograph: FAST  
 Grating: 300  
 Date: 1/26/98

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
141	α1367.1534	11:50	+21:19	64	15m	em - figures
142	COMP			↑		
143	.1620	11:59	+21:10	64	4m	
144	COMP			↑		
145	.1637	11:41	+20:49	64	5m	em
146	COMP			↑		
147	.1638	11:42	+20:52	64	5m	
148	COMP			↑		
149	.1643	11:43	+20:48	64	4m	
150	COMP			↑		
151	.1663	11:49	+20:51	64	5m	
152	COMP			↑		
153	.1674	11:54	+20:47	64	10m	em
154	COMP			↑		
155	.1678	11:56	+20:44	64	10m	em
156	COMP			↑		
157	.1681	11:57	+20:43	64	9m	
158	COMP			↑		more clouds
159	.1700	11:42	+20:42	64	9m	
160	COMP			↑		
161	rough 029.73	11:41	+29:28	59	8m	em +
162	COMP			↑		
163	029.84	11:44	+29:33	59	4m	
164	COMP			↑		
165	rough 034.01	11:49	+34:07	59	4m	
166	COMP			↑		
167	.02	11:20	+31:05	59	4m	
168	COMP			↑		
169	.03	11:21	+34:20	59	2m	
170	COMP			↑		

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>5995</u>
Observer: <u>PB</u>				Grating: <u>WDR</u>		
PI: <u>Andi</u>				Date: <u>1/26/98</u>		
Number	Object	R.A.	Dec.	L/R	Exp	Comments
171	cgk034.04	11:21	+34:21	S9	3m	± to W
172	COMP			↑		
173	.05	11:21	+34:20	S9	3m	
174	COMP			↑		
175	.06	11:21	+34:21	S9	3m	
176	COMP			↑		
177	.07	11:22	+34:18	S9	3m	
178	COMP			↑		
179	.08	11:22	+34:21	S9	3m	
180	COMP			↑		
181	.09	11:22	+34:20	S9	3m	
182	COMP			↑		
183	.11 SE	11:24	+34:31	S9	4m	em+
184	.11 NW	11:24	+34:31	S9	5m	em
185	COMP			↑		
186	.10	11:23	+33:49	S9	2m	
187	COMP			↑		
188	cgk 044.08	11:44	+33:30	S9	2m	
189	COMP			↑		
190	MRK279	13:51	+69	6	3m	
191	COMP			↑		
192	N15548	14:25	+25	6	3m	9
193	COMP			↑		
194-5	H241	13:21	+76:23	S6	90s	
196	COMP			↑		
197	N4151	12:08	+39:41	6	30s	
198	COMP			↑		
199-200	Feyzab	12:34	+25:20	S6	30s	
201	COMP			↑		
202-211	BIAS			0	0s	
212-221	FLAT			0	6s	6832.8

60 inch Telescope Log

Observer: BENNETT

PI: \_\_\_\_\_

Spectrograph: FAST

Grating: 300R

Date: 27 JAN 98

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-5	DARK				15m	BINBY 4
6-15	BIAS				05	BINBY 4
16-25	FLAT				65	BINBY 4
26-35	BIAS				05	BINBY 2
36-45	FLAT				125	BINBY 2
46-50	SKY	ZENITH			25	BINBY 4
51	COMP			↑		CLOUD COVER
52	ZAnd	23:33	+48:49		15	
53	ZAnd	23:33	+48:49		205	
54	COMP			↑		
55	AXPer	01:36	54:15		45	
56	AXPer	01:36	54:15		805	
57	COMP			↑		
58	DGTau	04:27	26:06		125	
59	DGTau	04:27	26:06		905	
60	COMP			↑		
61	DTau	04:33	25:20		305	
62	DTau	04:33	25:20		2405	
63	COMP			↑		
64	DTau	04:47	16:58		125	
65	DTau	04:47	16:58		805	
66	COMP			↑		
67	RWAur	05:07	30:24		55	
68	RWAur	05:07	30:24		305	
69	COMP			↑		
70	H214	04:41	10:59		2405	
71	COMP			↑		
72	MCK335	00:03	19:55		905	
73	COMP			↑		
74	ZM024153.8pk	02:41	+16:19		20m	

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6:07

60 inch Telescope Log  
 Observer: BENNETT  
 PI: \_\_\_\_\_

Spectrograph: FAST  
 Grating: 3002  
 Date: 27 JAN 98

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
75	Comp			↑		
76	2m024155.9pl54	02:41	+15:40	↑	20m	
77	Comp			↑		
78	2m024157.6pl20	02:41	+12:00	↑	20m	
79	Comp			↑		
80	2m024159.6pl161	02:41	16:15	↑	18m	
81	Comp			↑		
82	2m024159.7pl3	02:41	13:40	↑	20m	
83	Comp			↑		
84	2m024216.9pl2	02:42	12:05	↑	20m	
85	Comp			↑		
86	7013691	8:55	26:40	↑	20m	
87	Comp			↑		
88	7003461	8:58	+22:16	↑	3m	
89	Comp			↑		
90	7008545	09:00	+31:59	↑	10m	
91	Comp			↑		
92	7011639	09:02	+31:16	↑	10m	
93	Comp			↑		
94	HILTNER 600	06:42	02:11		455	
95	HILTNER 600	06:42	02:11		455	
96	Comp			↑		
97	7003591	09:03	+30:35	↑	15m	
98	Comp			↑		
99	70011641	09:04	+25:48	↑	20m	
100	Comp			↑		
101	7000187	10:51	+27:58	↑	3m	
102	Comp			↑		
103	7003003	10:51	+28:06	↑	10m	
104	Comp			↑		

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>5978</u>		
Observer: <u>BENNETT</u>		Grating: <u>300L</u>		Date: <u>27 JAN 98</u>		
PI: _____		Date: _____		Date: _____		
Number	Object	R.A.	Dec.	L/R	Exp	Comments
105	7003468	10:52	30:03		20m	
106	COMP			↑		
107	7007363	10:53	26:53		10m	
108	COMP			↑		
109	N002944	10:53	31:49		15m	
110	COMP			↑		
111	7000937	10:54	+27:14		15m	
112	COMP			↑		
113	rgl 049.04	11:55	25:53		20m	
114	COMP			↑		
115	rgl 049.03	11:54	+26:12		20m	
116	COMP			↑		
117	rgl 049.06	11:57	+30:23		10m	
118	COMP			↑		
119	rgl 049.07	11:57	+27:52		10m	
120	COMP			↑		
121	rgl 049.09	11:58	+28:11		2m	
122	COMP			↑		
123	rgl 049.08	11:58	+27:52		15m	
124	COMP			↑		
125	NOGAL 273	13:14	+41:45		18m	
126	COMP			↑		
127	NOGAL 272	13:16	+41:30		15m	
128	COMP			↑		
129	NOGAL 295	13:44	+44:06		20m	
130	COMP			↑		
131	NOGAL 319	13:56	+23:07		17m	
132	COMP			↑		
133	NOGAL 420	15:04	+13:02		20m	
134	COMP			↑		

60 inch Telescope Log

Observer: BENNETT

PI: \_\_\_\_\_

Spectrograph: FAST

Grating: 300L

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Date: 27 JAN 98

Number	Object	R.A.	Dec.	L/R	Exp	Comments
135	NOGAL 478	16:03	+20:56		20 <sup>m</sup>	
136	COMP			↑		
137	N4253	12:58	+27:35		5 <sup>m</sup>	
138	COMP			↑		
139	N4151	12:08	+39:41		30 <sup>s</sup>	
140	COMP			↑		
141	N4258	12:16	+47:34		2 <sup>m</sup>	
142	COMP			↑		
143	MRK 279	13:51	+6:33		3 <sup>m</sup>	
144	COMP			↑		
145	NS548	14:15	25:22		3 <sup>m</sup>	
146	COMP			↑		
147	H244	13:21	36:23		90 <sup>s</sup>	
148	COMP			↑		
149-158	BIAS				0 <sup>s</sup>	BINBY 4
159-168	FLAT				6 <sup>s</sup>	BINBY 4

4 PAGES  
ATTN: SUSAN

60 inch Telescope Log

Observer: BENNETT

PI: \_\_\_\_\_

Spectrograph: FAST

Grating: 300 R

Date: 28 JAN 98

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1:00

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-5	DARK				15m	BINBY 4
6-15	BIAS				05	BINBY 4
16-25	FLAT				6 <sup>s</sup>	BINBY 4
26-35	BIAS				0 <sup>s</sup>	BINBY 2
36-45	FLAT				12 <sup>s</sup>	BINBY 2
46-50	SKY	ZENITH		56	2 <sup>s</sup>	BINBY 4
51	COMP			↑		
52	Ax per	01:36	54:15	12	80 <sup>s</sup>	
53	Ax per	01:36	54:15	12	4 <sup>s</sup>	
54	COMP			↑		
55	DGTau	04:27	26:06	12	90 <sup>s</sup>	
56	DGTau	04:27	26:06	12	12 <sup>s</sup>	
57	COMP			↑		
58	DLTau	04:33	25:20	12	240 <sup>s</sup>	
59	DLTau	04:33	25:20	12	30 <sup>s</sup>	
60	COMP			↑		
61	DLTau	04:47	16:58	12	80 <sup>s</sup>	
62	DLTau	04:47	16:58	12	12 <sup>s</sup>	
63	COMP			↑		
64	RNAur	05:07	20:24	12	30 <sup>s</sup>	
65	RNAur	05:07	20:24	12	5 <sup>s</sup>	
66	COMP			↑		
67	ZAnd	23:33	48:49	12	20 <sup>s</sup>	
68	ZAnd	23:33	48:49	12	1 <sup>s</sup>	
69	COMP			↑		
70	HZ11	04:41	10:59	56	4m	
71	COMP			↑		
72	MCK 335	00:03	19:55	6	3m	
73	COMP			↑		
74	AKN 120	05:13	-00:12	6	3m	

7:19

Program 12 objects are double peaked - extracted by hand

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>6001</u> <u>5961</u>		
Observer: <u>BENNETT</u>		Grating: <u>300L</u>		Date: <u>28 JAN 98</u>		
PI: _____						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
75	COMP			↑		
76	ZM002954.Zp12	00:29	12:51	68	20m	
77	COMP			↑		
78	ZM002955.9p16	00:29	16:30	68	20m	
79	COMP			↑		
80	ZM003008.1p1	00:30	12:12	68	20m	
81	COMP			↑		
82	ZM003011.5p15	00:30	13:27	68	20m	
83	COMP			↑		
84	ZM021209.1p14	02:42	14:26	68	20m	
85	COMP			↑		
86	ZM021215.4p	02:42	13:16	68	20m	
87	COMP			↑		
88	ZM032700.9p	03:27	25:05	68	20m	
89	COMP			↑		
90	Z002670	09:04	27:57	#75	15m	
91	COMP			↑		
92	Z005998	09:04	28:23	75	15m	
93	COMP			↑		
94	Z0013693	09:05	28:15	75	15m	
95	COMP			↑		
96	SN1997do	07:26	42:50	Patn	20m	binby 2
97	COMP			↑		binby 2
98	Z005999	09:08	27:4	75	15m	
99	COMP			↑		
100	Z003462	09:08	29:51	75	7m	
101	COMP			↑		
102	Z00478	11:20	26:57	75	20m	
103				↑		
104	Z006214	11:21	29:15	75	15m	



60 inch Telescope Log

Observer: BENNETT

PI: \_\_\_\_\_

Spectrograph: FAST

Grating: 3002

Date: 28 JAN 98

Page: 6002

12:50

Number	Object	R.A.	Dec.	L/R	Exp	Comments
105	COMP			↑		
106	A000471	11:22	27:35	75	10m	
107	COMP			↑		
108	Z008561	11:23	30:28	75	15m	
109	COMP			↑		
110	Z008562	11:24	27:38	75	20m	
111	COMP			↑		
112	Z013727	11:26	+26:45	75	20m	
113	COMP			↑		
114	Z002009	11:26	+27:52	75	15m	
115	COMP			↑		
116	NOGAL 239	12:39	+26:21	73	17m	
117	COMP			↑		
118	NOGAL 241	12:39	+26:20	73	17m	
119	COMP			↑		
120	NOGAL 190	11:51	+32:37	73	15m	
121	COMP			↑		
122	NOGAL 304	13:49	+14:21	73	20m	
123	COMP			↑		
124	NOGAL 320	13:56	+23:10	73	20m	
125	COMP			↑		
126	NOGAL 326	13:57	+38:25	73	16m	
127	COMP			↑		
128	NOGAL 322	13:56	+29:05	73	17m	
129	COMP			↑		
130	NOGAL 321	13:56	+29:06	73	17m	
131	COMP			↑		
132	NOGAL 479	16:03	+20:55	73	20m	
133	COMP			↑		
134	N4853	12:58	+27:35	57	5m	

60 inch Telescope Log

Observer: BENNETT

PI: \_\_\_\_\_

Spectrograph: FAST

Grating: 3002

Date: 28 JAN 98

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0552

Number	Object	R.A.	Dec.	L/R	Exp	Comments
135	COMP			↑		
136	N4480B	12:30	+12:29	57	5m	
137	COMP			↑		
138	AG Dra	16:01	06:48	#12	5s	
139	AG Dra	16:01	06:48	12	30s	
140	COMP			↑		
141	N4051	12:00	44:48	6	2m	
142	COMP			↑		
143	MCK 279	13:51	69:33	6	3m	
144	COMP			↑		
145	N5548	14:15	25:22	6	3m	
146	COMP			↑		
147	FEIGE 98	14:36	27:4	56	2m	
148	COMP			↑		
149-158	BIAS				0s	BINBY 4
159-168	FLAT				6s	BINBY 4
169-178	BIAS				0s	BINBY 2
179-188	FLAT				12s	BINBY 2
189-193	DARK				15m	BINBY 2

54 SAND  
4 PAGES

60 inch Telescope Log

Observer: BENNETT

PI: \_\_\_\_\_

Spectrograph: FAST

Grating: 300R

Date: 29 JAN 98

Page: 6004

Number	Object	R. A.	Dec.	L/R	Exp	Comments
1-5	DARK				15m	binby 4
6-15	BIAS				0	binby 4
16-25	FLAT				6 <sup>s</sup>	binby 4
26-35	BIAS				0	binby 2
36-45	FLAT				12 <sup>s</sup>	binby 2
46-50	SKY	ZENITH		56	2 <sup>s</sup>	binby 4
51	COMP			↑		
52	ZAnd	23:33	48:49	12	20 <sup>s</sup>	
53	ZAnd	23:33	48:49	12	15	
54	COMP			↑		
55	Ar per	01:36	54:15	12	80 <sup>s</sup>	
56	Ar per	01:36	54:15	12	45	
57	COMP			↑		
58	DGTau	04:27	26:06	12	90 <sup>s</sup>	
59	DGTau	04:27	26:06	12	12 <sup>s</sup>	
60	COMP			↑		
61	DLTau	04:33	25:20	12	240 <sup>s</sup>	
62	DLTau	04:33	25:20	12	30 <sup>s</sup>	
63	COMP			↑		
64	DRTau	04:47	16:58	12	80 <sup>s</sup>	
65	DRTau	04:47	16:58	12	12 <sup>s</sup>	
66	COMP			↑		
67	RWAur	05:07	30:24	12	30 <sup>s</sup>	
68	RWAur	05:07	30:24	12	5 <sup>s</sup>	
69	COMP			↑		
70	MER 335	00:03	19:55	6	3 <sup>m</sup>	
71	COMP			↑		
72	HZ14	04:41	10:59	#56	5 <sup>m</sup>	
73	COMP			↑		
74	4227.6pl	02:42	17:08	68	20m	

5:11

7:29

~~PROBLEM IS ~~that~~ are double peaks = extracted  
by hand, Joyce, Targis etc~~

60 inch Telescope Log

Observer: BENNETT

PI: \_\_\_\_\_

Spectrograph: FAST

Grating: 300R

Page: 6005

Date: 29 JAN 98

Number	Object	R.A.	Dec.	L/R	Exp	Comments
75	Comp			↑		
76	231.1pl50476	02:42	15:04	68	20 <sup>m</sup>	
77	Comp			↑		
78	231.0p135251	02:42	13:52	68	20 <sup>m</sup>	
79	Comp			↑		
80	.7p173525	02:42	17:35	68	20 <sup>m</sup>	
81	Comp			↑		
82	.0p1411515	02:42	14:15	68	20 <sup>m</sup>	
83	Comp			↑		
84	203695	09:11	+32:06	75	20 <sup>m</sup>	
85	Comp			↑		
86	2011612	09:11	+30:04	75	15 <sup>m</sup>	
87	Comp			↑		
88	2007355	09:12	+32:12	75	10 <sup>m</sup>	
89	Comp			↑		
90	2008547	09:13	+31:48	75	20 <sup>m</sup>	
91	Comp			↑		
92	N002932	09:13	+31:21	75	20 <sup>m</sup>	
93	Comp			↑		
94	2008540	09:13	+29:59	75	20 <sup>m</sup>	
95	Comp			↑		
96	2001470	09:13	+29:59	75	10 <sup>m</sup>	
97	Comp			↑		
98	2002999	09:14	+30:08	75	5 <sup>m</sup>	
99	Comp			↑		
100	2006233	09:15	+31:48	75	10 <sup>m</sup>	
101	Comp			↑		
102	2003463	09:16	+30:54	75	10 <sup>m</sup>	
103	Comp			↑		
104	2010089	10:57	+28:32	75	15 <sup>m</sup>	

60 inch Telescope Log

Observer: BENNETT

PI: \_\_\_\_\_

Spectrograph: FAST

Grating: 300R

Date: 29 JAN 98

Page: 6006

Number	Object	R.A.	Dec.	L/R	Exp	Comments
105	COMP			↑	↑	
106	Z010010	11:01	+27:43	75	20m	
107	COMP			↑		
108	Z008553	11:03	+31:58	75	15m	
109	COMP			↑		
110	Z000079	11:03	+11:21	75	3m	
111	COMP			↑		
112	Z000477	11:04	+28:02	75	5m	
113	COMP			↑		
114	Z0004593	11:04	+28:13	75	10m	
115	COMP			↑		
116	Z003996	11:04	+30:01	75	20m	
117	COMP			↑		
118	NOGAL 191	11:55	+32:33	73	15m	
119	COMP			↑		
120	NOGAL 240	12:39	+26:18	73	12m	
121	COMP			↑		
122	NOGAL 148	11:37	+32:11	73	8m	
123	COMP			↑		
124	NOGAL 189	11:54	+32:36	73	10m	
125	COMP			↑		
126	NOGAL 244	12:43	+31:0	73	11m	
127	COMP			↑		
128	NOGAL 245	12:43	+30:59	73	8m	
129	COMP			↑		
130	NOGAL 227	13:26	+12:03	73	11m	
131	COMP			↑		
132-141	BIAS	b1/b1/4			0s	-SHUT DOWN
142-151	FLAT	b1/b1/4			6s	HIGH RH + CLOUDS
152-161	BIAS	b1/b1/2			0s	4:20 AM



JISAN  
5 PAGES

60 inch Telescope Log

Observer: BENNETT

PI: \_\_\_\_\_

Spectrograph: FAST

Grating: 3002

Date: 30 JAN 98

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3:35

1:44

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-5	DARK				15	BIBBY 4
6-15	BIAS				0	BIBBY 4
16-25	FLAT				6 <sup>s</sup>	BIBBY 4
26-35	BIAS				0	BIBBY 2
36-45	FLAT				12 <sup>s</sup>	BIBBY 2
46-49	DARK				15	BIBBY 2
50-54	SKY	ZENITH		56	2 <sup>s</sup>	BIBBY 4
55	COMP			↑		
56	ZAnd	23:33	48:49	12	15	
57	ZAnd	23:33	48:49	12	30 <sup>s</sup>	
58	COMP			↑		
59	Axper	01:36	54:15	12	4 <sup>s</sup>	
60	Axper	01:36	54:15	12	80 <sup>s</sup>	
61	COMP			↑		
62	DGT au	04:27	26:06	12	12 <sup>s</sup>	
63	DGT au	04:27	26:06	12	90 <sup>s</sup>	
64	COMP			↑		
65	DLT au	04:33	25:20	12	30 <sup>s</sup>	
66	DLT au	04:33	25:20	12	240 <sup>s</sup>	
67	COMP			↑		
68	DLT au	04:47	16:58	12	12 <sup>s</sup>	
69	DLT au	04:47	16:58	12	80 <sup>s</sup>	
70	COMP			↑		
71	RWAur	05:07	30:24	12	5 <sup>s</sup>	
72	RWAur	05:07	30:24	12	30	
73	COMP			↑		
74	MER 335	00:03	19:55	6	3 <sup>m</sup>	
75	COMP			↑		
76	3P120302	00:29	12:03	68	20 <sup>m</sup>	
77	COMP			↑		

60 inch Telescope Log  
 Observer: BENNETT  
 PI: \_\_\_\_\_

Spectrograph: FRIST  
 Grating: 300L  
 Date: 30 JAN 98

Page: 6009

Number	Object	R.A.	Dec.	L/R	Exp	Comments
78	7p164001	00:29	16:40	68	20m	
79	Comp			↑	↑	
80	7p115077	00:29	11:56	68	20m	
81	Comp			↑	↑	
82	3p145747	00:29	14:57	68	20m	cosmic on top of weak H $\alpha$
83	Comp			↑		vel obs on base of H+K only
84	7p133604	00:29	13:36	68	20m	
85	Comp			↑		
86	5p164658	02:42	16:46	68	20m	
87	Comp			↑		
88	6p163537	02:42	16:35	68	20m	wk H $\alpha$
89	Comp			↑		
90	Hiltner 600	06:42	02:11	56	453	
91	Hiltner 600	06:42	02:11	56	455	
92	Comp.			↑		
93	2005381	9:16	27:29	75	10m	
94	Comp.			↑		
95	N002933	9:17	26:45	75	10m	
96	Comp			↑		
97	2010000	9:17	27:44	75	8m	
98	Comp			↑		
99	N002934	9:18	31:51	75	10m	
100	Comp			↑		
101	2011643	9:19	26:54	75	15m	
102	Comp			↑		
103	2004589	09:19	+27:27	75	10m	
104	Comp			↑		
105	2010001	09:19	+26:44	75	20m	
106	Comp			↑		
107	N002255	09:20	+28:09	75	20m	



60 inch Telescope Log  
 Observer: BENNETT  
 PI: \_\_\_\_\_

Spectrograph: FAST  
 Grating: 300L  
 Date: 30 JAN 98

Page: 6010

Number	Object	R.A.	Dec.	I/R	Exp	Comments
108	COMP			↑		
<del>109</del>	<del>ZOO4590</del>	<del>09:24</del>	<del>+28:17</del>	<del>75</del>	<del>20m</del>	
<del>110</del>	<del>COMP</del>			<del>↑</del>		
110	ZOO1330	09:24	+26:46	75	1m	
111	COMP			↑		
112	ZOO464	09:27	+20:26	75	5m	
113	COMP			↑		
114	ZOO13696	9:28	29:59	75	15m	
115	COMP			↑		
116	ZOO4590	09:24	+28:17	75	15m	used comp 119
117	COMP	09:28	+26:23	↑		moving telescope
118	ZOO13697	09:28	+26:23	75	10m	
119	COMP			↑		
120	ZOO8555	11:15	+27:24	75	10m	
121	COMP			↑		
122	ZOO11662	11:16	+26:32	75	5m	
123	COMP			↑		
* 124	SUPRA NOVA ?	11:06:40	+72:34	SANDERS	10m	BINBY 2 *
125	COMP			↑		BINBY 2 NGC 3516 ?
126	FEIGE 98	14:36	+27:42	56	2m	BINBY 2 dm
127	COMP			↑		BINBY 2
128	NOGAL 401	14:48	+42:58	73	20m	
129	COMP			↑		
130	NOGAL 306	13:51	+40:31	73	7m	
131	COMP	13:55:28	+40:17:00	↓		
132	NOGAL 307	13:51	+40:32	73	7m	used 131 13:53:23 + 40:17:02
133	COMP	13:53:36	+40:18	*		
134	NOGAL 305	13:51	+40:36	73	10m	
135	COMP			↑		
136	NOGAL 303	13:49	+14:20	73	10m	

\* NEGLECTED TO CHANGE COMMENT FIELD; SORRY

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>6011</u>		
Observer: <u>BENNETT</u>		Grating: <u>300R</u>		Date: <u>30 JAN 98</u>		
PI: _____						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
137	COMP			↑		
138	NOGAL 297	13:44	+44:07	73	8m	
139	COMP			↑		
140	NOGAL 327	13:57	+38:26	73	10m	
141	COMP			↑		
142	NOGAL 353	14:11	15:51	73	8m	
143	COMP			↑		
144	NOGAL 354	14:12	15:50	73	12m	
145	COMP			↑		
146	NOGAL 440	15:26	+43:6	73	15m	
147	COMP			↑		
148	N4486B	12:30	12:29	57	5m	DID NOT EXTRACT
149	COMP	moved	telescope	↑		12 58 33 +27:36:03
150	N4853	12:58	27:35	57	5m	
151	COMP			↑		
152	AG Dra	16:01	66:48	12	55	
153	AG Dra	16:01	66:48	12	305	
154	COMP			↑		
155	N4151	12:08	39:41	6	305	
156	COMP			↑		
157	N4258	12:16	47:34	6	1205	
158	COMP			↑		
159	MRK 279	13:51	69:33	6	1805	
160	COMP			↑		
161	N5548	14:15	25:22	6	1805	
162	COMP			↑		
163	H244	13:21	36:23	56	905	
164	COMP			↑		
165-174	BIFS				0	BINBY 4
175-184	FLAT				6	BINBY 4

60 inch Telescope Log  
 Observer: BENNETT  
 PI: \_\_\_\_\_

Spectrograph: FAST  
 Grating: 300R  
 Date: \_\_\_\_\_

Page: 6012

Number	Object	R.A.	Dec.	L/R	Exp	Comments
<u>185-74</u>	<u>BIAS</u>				<u>0</u>	<u>BINBY 2</u>
<u>195-704</u>	<u>FLAT</u>				<u>12<sup>s</sup></u>	<u>BINBY 2</u>
<u>205-709</u>	<u>DARK</u>				<u>15</u>	<u>BINBY 2</u>

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>6013</u>		
Observer: <u>PBerlin</u>		Grating: <u>300R</u>		Date: <u>1/31/98</u>		
PI: <u>All</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BDAS			0	0s	
11-20	FLAT			0	6s	
21-30	BDAS			0	0s	mostly cloudy.
31-40	FLAT			0	12s	
41-50	sky			57	2s	
46	WMP			↑	6s	
47-48	ZAD	23	48	12	1,20	
49	WMP			↑		
50-51	AKPer	01	54	12	4,80	
52	WMP			↑		
53-54	DRTan	04	26	12	12,90	
55				↑		
56-57	DRTan	04	25	12	12,90	
58				↑		
59-60	RWhar	65	30	12	5,30	
61				↑		
62-63	DLTan	04	16	12	30,240	
64	WMP			↑		
65	H24	04	14	56	240	04:40:57 +10:59:38
66	WMP	04:26:46	+13:52:30	↑		USED ANYWAY
67	MRK335	00:07	+19:55	6	180	
68	WMP			↑		
69-70	M32	00	40	57	30s	lots of clouds
71	WMP			↑		bright moon
72	Z15-170	00:44	+11:05	57	5m	
73	WMP			↑		
74	ZM003027.3	00:31	+17:22	68	6m	em bright sky
75	WMP			↑		
76	ZM003027.7	00:30	+14:48	68	6m	redo - clouds
77	WMP			↑		

NO DARKS!

60 inch Telescope Log

Observer: PB

PI: Huchra

Spectrograph: FAST

Grating: 300L

Page: 6014

Date: 1/31/98

Number	Object	R.A.	Dec.	L/R	Exp	Comments
78	ZM024258.8	02:42	+15:59	68	12m	ugh - wk redo?
79	COMP			↑		
80	ZM032648.2	03:26	+24:40	68	15m	em!
81	COMP			↑		
82	AK1120	05:13	-10:42	6	4m	
83	COMP			↑		
84	NGC 1700	04:54	-04:56	57	3m	
85	COMP			↑		
86	04002p4635	04:00	+46:35	43	6m	highly reddened
87	COMP			↑		
88	06567p2738N	06:56	+27:38	43	12m	* to E in slit
89	COMP			↑		
90	06567p2738S	06:56	+27:38	43	20m	LLSB * to E no aperture
91	COMP			↑		no continuum; em @ pix 2112
92	07117p5508	07:17	+55:08	43	10m	extended em; beware sky sub
93	COMP			↑		don't see it; nothing extrod
94	07180p5635	07:18	+56:35	43	9m	
95	COMP			↑		
96	07232p5302N	07:23	+53:02	43	10m	6m by 2; E+W camps
97	COMP			↑		both "N"
98	07391p5505S	07:39	+55:05	43	10m	redo - clouds
99	COMP			↑		
100-101	c11m1042	04:58	+10:27	76	5s	300 &; test Torres
102				76		
103-104	c11m1053	05:06	-03:40	76	5s	300L; test
105				↑		
106-108	c12m1798	04:43	-09:37	76	5s, 15s	300L; test * in slit to E
109	COMP			↑		
110-112	HD 52971	06:57	+27:13	57	5s	trailed along slit
113	COMP			↑		stopped by clouds

60 inch Telescope Log  
 Observer: PB  
 PI: Carter  
 Spectrograph: FAST  
 Grating: 3002  
 Date: 1/31/98  
 Page: 6015

Number	Object	R.A.	Dec.	L/R	Exp	Comments
114	Z001071	09:35	+31:42	75	6m	ok got one!
115	COMP			f		lots of clouds
116	Z006231	09:35	+29:48	75	10m	em
117	COMP			f		
118	Z006236	09:34	+32:01	75	6m	em
119	COMP			f		
120	Z003992	09:33	+29:55	75	7m	
121	COMP			f		
122	Z006235	09:32	+27:30	75	7m	
123	COMP			f		
124	Z013703	09:33	+27:35	75	8m	em ; more clouds
125	COMP			f		
126	Z013704	09:33	+30:24	75	8m	
127	COMP			f		
128	Z000093	10:27	+28:30	75	90s	nice one
129	COMP			f		
130	Z011684	10:28	+26:20	75	8m	em+
131	COMP			f		
132	Z000765	10:32	+27:40	75	5m	extended em - strong
133	COMP			f		
134	N000059	10:32	+28:30	75	3m	
135	COMP			f		
136	N000298	10:35	+28:33	75	8m	em+
137	COMP			f		
138	A020207	10:36	+26:57	75	10m	
139	COMP			f		stop + go
140	Z007167	10:25	+26:74	75	5m	
141	COMP			f		stop stop stop
142	Z006234	09:31	+29:47	75	10m	
143	COMP			f		

60 inch Telescope Log

Observer: PB

PI: Carter

Spectrograph: FAST

Grating: 30R

Date: 11/31/98

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
144	Z203010	09:31	+30:01	75	10m	
145	WMP			T		
146	Z012705	09:36	+31:18	75	10m	wk em NOT a beam in
147	WMP			T		
148	Z011645	09:36	+31:04	75	8m	
149	WMP			T		
150	Z008551	10:16	+37:05	75	8m	ok. clouded out forged
151	WMP			T		attempt @ SN 98D
152-161	BIAS			0	0s	pin by 2
162-171	BIAS			0	0s	
172-181	FLAT			0	6s	