

★ Start of FAST Run ★

60 inch Telescope Log  
 Observer: P Berlin  
 PI: Mahdavi  
 Spectrograph: FAST  
 Grating: 300L, 3" slit  
 Date: 9/3/99  
 Page: 7498

Number	Object	R. A.	Dec.	L/R	Exp	Comments
110	DARK				15m	a few clouds
1120	DARK				20m	fast foc = 1020
21-25	sky	zenith			2s	
26	WMP				5s	good ccd flow
27-36	BIDS				0s	negligible dark current
37-46	FLAT				7s	
47-56	BIDS				0s	
57-66	FLAT				14s	
67	N 5866	15:05	+55:57	57	4m	
68	COMP			↑		
69	NGC 5382-118	16:10	+29:07	59	5m	
70	WMP			↑		fr. tr.
71	.120	16:10	+29:56	59	4m	
72	COMP			↑		
73	.123	16:11	+29:31	59	3m	
74	COMP			↑		
75	.124	16:11	+29:53	59	3m	
76	COMP			↑		
77	.125	16:11	+29:52	59	10m	em gal to W also w/cm
78	COMP			↑		
79	.128	16:11	+29:21	59	3m	
80	WMP			↑		
81	.129	16:11	+29:47	59	7m	* to E
82	WMP			↑		
83	130	16:11	+29:26	59	4m	
84	COMP			↑		
85	137	16:11	+29:43	59	5m	
86	COMP			↑		clearing nicely!
87	140	16:11	+29:51	59	10m	
88	WMP			↑		

60 inch Telescope Log

Observer: PB

PI: Mahdavih Bayer

Spectrograph: FAST

Grating: 300R

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Date: 9/3/99

Number	Object	R. A.	Dec.	L/R	Exp	Comments
89	NGC 5382-136	16:11	+29:44	S9	4m	SE gal
90	COMP			↑		
91	.135	16:11	+29:44	S9	4m	NW gal
92	COMP			↑		
93	.133	16:11	+29:36	S9	4m	
94	COMP			↑		
95	.141	16:11	+29:10	S9	3m	
96	COMP			↑		
97	.142	16:11	+29:49	S9	3m	
98	COMP			↑		
99	.146	16:11	+29:50	S9	2m	
100	COMP			↑		
101	.144	16:11	+29:27	S9	5m	
102	COMP			↑		
103	.145	16:11	+29:09	S9	7m	
104	COMP			↑		
105	.148	16:12	+29:33	S9	5m	
106	COMP			↑		
107	.149	16:12	+29:53	S9	5m	
108	COMP			↑		
109	.150	16:12	+29:58	S9	4m	
110	COMP			↑		
111	.151	16:12	+29:51	S9	4m	
112	COMP			↑		
113-115	HD192281	20:10	+40	S6	S5	PA=90
116	COMP			↑		
117-8	Cygn OB2n-9	20:31	+41:01	S6	20,40s	
119	COMP			↑		
120-1	NO 0025	22:07	+31:21	111	30,5m	
122	COMP			↑		

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>7500</u>
Observer: <u>PB</u>				Grating: <u>300L</u>		
PI: <u>Bouger</u>				Date: <u>9/3/99</u>		
Number	Object	R. A.	Dec.	L/R	Exp	Comments
123	Z012453	21:58	+07:22	111	10m	
124	COMP			↑		delay to fix dec drive
125	Z009093	22:32	+08:12	111	12m	
126	COMP			↑		
127	Z000023	23:04	+12:19	111	15m	
129	COMP			↑		
130	Z009050	23:09	+10:45	111	15m	
131	COMP			↑		
132	Z005674	23:18	-01:03	111	2m, 10m	
134	COMP			↑		
135	Z012624B	23:38	+21:01	111	6m	'B' is brighter southern gal
136	COMP			↑		
137	Z012624A	23:38	+27:02	111	10m	'A' is fainter N gal
138	COMP			↑		extra gal in slit to E
139	Z012624C	23:38	+21:01	111	10m	
140	COMP			↑		
141	Z014509	23:43	+02:44	111	10m	
142	COMP			↑		
143	Z014656	23:51	+08:49	111	10m	
144	COMP			↑		
145	Z004965	01:31	+17:33	111	5m	
146	COMP			↑		
147	Z004965B	01:31	+17:34	111	10m	'Fainter comp to NW'
148	COMP			↑		
149	Z004966	01:32	+21:24	111	12m	
150	COMP			↑		
151	Z009210	01:44	+21:52	111	12m	
152	COMP			↑		
153	Z014604	01:57	+02:17	111	10m	
154	COMP			↑		

60 inch Telescope Log

Observer: PB

PI: Rines

Spectrograph: FAST

Grating: 3002

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Date: 9/3/99

Number	Object	R. A.	Dec.	L/R	Exp	Comments
155	all9_011	01:01	-01:51	69	4m	
156	WMP			↑		
159	003	00:48	-01:33	69	90s	
160	WMP			↑		
161	006	00:40	-01:38	64	8m	
162	WMP			↑		
163	008	00:53	-03:27	64	8m	
164	WMP			↑		
165	005	00:51	+01:22	64	4m	
166	WMP			↑		
167	002	01:09	-01:41	64	2m	
168	WMP			↑		
169	004	01:07	+10:55	69	90s	
170	WMP			↑		
171	007	01:00	-01:56	64	6m	
172	WMP			↑		
173	010	01:04	-01:36	64	3m	
174	WMP			↑		
175	009	00:53	+00:58	64	4m	
176	WMP			↑		
177	012	00:41	-01:44	64	3m	
178	WMP			↑		
179	014	00:45	-03:41	69	11m	
180	WMP			↑		
181	013	01:03	-02:15	64	6m	
182	WMP			↑		
183	015	00:57	-02:46	64	9m	
184	WMP			↑		

179 - double nucleus - could not separate well (emission)

60 inch Telescope Log

Observer: PBPI: SNyangSpectrograph: FASTGrating: 3002Date: 9/3/99Page: 7502

Number	Object	R.A.	Dec.	L/R	Exp	Comments
185	2006083	02:55	+09:18	111	7m	
186	OMP			↑		
187	2004120	03:03	-01:06	111	7m	
188	OMP			↑		
189, 191	SN1999 dg	02:33	+20:58	2	20m	early type IA! PA=10
190, 192	OMP			↑		
193	SN1999 dg	04:29	+19:32	2	20m	Faint!; poor seeing here
194	OMP			↑		PA=25
195, 196	G191B2B	05:00	+52:45	56	2m	PA=50
197	OMP			↑		
198-200	H122623	01:02	+62:58	57	25	
201	OMP			↑		
202-211	BIAS				05	
212-221	FLAT				75	
222-231	BIAS				05	* clear @ dawn!
232-241	FLAT				145	

60 inch Telescope Log

Observer: PBernd

PI: Andi

Spectrograph: FAST

Grating: 3002

Date: 9/4/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	DARK				20m	
11-20	BIBS				0s	clear skies!
21-30	FLAT				7s	
31-40	BIBS				0s	
41-50	FLAT				14s	
51-55	sky	zenith		57	3s	
56	COMP			↑	5s	
57	N 5866			57	2m	
58	COMP			↑		
59	NG 5382.152	16:12	+29:39	59	4m	
60	COMP			↑		
61	.154	16:12	+29:32	59	4m	
62	COMP			↑		
63	.152	16:12	+29:34	59	5m	
64	COMP			↑		
65	.155	16:12	+29:09	59	2m	
66	COMP			↑		
67	.116	16:09	+29:42	59	6m	
68	COMP			↑		
69	.117	16:09	+29:59	59	5m	
70	COMP			↑		
71	.119	16:10	+29:30	59	6m	
72	COMP			↑		
73	.121	16:10	+30:02	59	6m	
74	COMP			↑		
75	.127	16:11	+29:51	59	6m	
76	COMP			↑		
77	.131	16:11	+29:22	59	8m	
78	COMP			↑		

60 inch Telescope Log

Observer: PB

PI: Andi

Spectrograph: FAST

Grating: 300L 3' slit

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Date: 9/4/99

Number	Object	R. A.	Dec.	L/R	Exp	Comments
79	NGC 382.132	16:11	+29:29	S9	5m	
80	COMP			↑		
81	.139	16:11	+29:30	S9	10m	
82	COMP			↑		
83	.156	16:12	+29:32	S9	5m	
84	COMP			↑		
85	.157	16:12	+29:52	S9	5m	
86	COMP			↑		
87	.158	16:12	+29:21	S9	2m	
88	COMP			↑		
89	.159	16:12	+29:30	S9	5m	* to E
90	COMP			↑		
91	.160	16:12	+29:38	S9	2m	
92	COMP			↑		
93	.161	16:12	+29:54	S9	4m	
94	COMP			↑		
95	.162	16:12	+29:25	S9	4m	
96	COMP			↑		
97	.163	16:12	+29:19	S9	5m	
98	COMP			↑		
99	.168	16:13	+28:51	S9	5m	
100	COMP			↑		
101	.169	16:13	+28:45	S9	5m	
102	COMP			↑		
103	.170	16:13	+29:55	S9	4m	
104	COMP			↑		
105	.184	16:14	+29:21	S9	8m	
106	COMP			↑		48"
107	.171	16:13	+29:23	S9	8m	wk, etc
108	COMP			↑		

60 inch Telescope Log  
 Observer: PB  
 PI: Falco  
 Spectrograph: FAST  
 Grating: 30R  
 Date: 9/4/99  
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
109-111	HD192781	20:10	+40:07	56	5s	
112	COMP			↑		
113	17567p5427	17:57	+51:26	84	6m	Double?? - unresolved
114	COMP			↑		
115	17588p7040	17:58	+70:39	84	4m	N gal only
116	COMP			↑		
117	17577p2852	17:59	+78:52	84	2m	bm by 2, star close to W!
118	COMP			↑		
119	18016p2915	18:03	+79:05	84	4m	Double?? <sup>IF SO</sup> NOT RESOLVED
120	COMP			↑		
121	17560p1158	17:58	+14:58	84	4'	bm by 2 * to E
122	COMP			↑		
123	18120p6119	18:12	+61:20	84	2m	check coords!
124	COMP			↑		
125	19576p5041	19:59	+50:48	84	4m	* to E
126	COMP			↑		clumpy gal w/ emission
127	20340p1901	20:36	+19:11	84	4m	bright star out of slit to SE - lots of scattered light PA=90 - best.
128	COMP			↑		
129	19548p0429	19:57	+04:35	84	4m	
130	COMP			↑		
131	20393p0525	20:41	+05:35	84	20s	sup star - (all *, bm by 4)
132	20393p0525	"	"	84	10m	bm by 2 - fuzzy get it!
133	COMP			↑		
134	20578p0922	21:10	+09:33	84	5m	→ faint * to W
135	COMP			↑		
136	21081p1835	21:10	+18:47	84	3m	
137	COMP			↑		
138	21004p3630	21:02	+36:41	84	30s	sup star all star
139	21004p3630	"	"	84	5m	Fuzzy to N
140	COMP			↑		reflection nebulae

127 - extracted 3 objects

131 - did not keep; star only - not galaxy



60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>7506</u>	
Observer: <u>PB</u>			Grating: <u>300L</u>			
PI: <u>Calvert.</u>			Date: <u>9/4/99</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
141-142	DDp284211	21:48	+28:37	86	30s	PA=90
143	COMP			↑		
144	21092p3742	21:11	+57:53	84	6m	
145	COMP			↑		
146	21143p1450	21:16	+15:03	84	6m	
147	COMP			↑		
148	21215p1721	21:23	+17:31	84	3m	
149	COMP			↑		
150,152,154	PVCep	20:45	+67:46	89	20m	He all over
151,153,155	COMP			↑		*3 extended cm
156-157	BHCep	22:00	+69:30	89	2m	+ nebulae
158	COMP			↑		
159-160	BoxCep	22:15	+69:48	89	3m	
161	COMP			↑		
162-164	SVCep	22:20	+73:25	89	45, 40s	
165	COMP			↑		
166,167	LKHalp4233	22:32	+40:24	89	5m, 10m	
168	COMP			↑		
169-171	LKHalp4350	22:47	+61:55	89	5m, 10m, 2m	
172	COMP			↑		
173-176	MWC1050	23:15	+60:34	89	8-2m	bin by 2; * to E
177	COMP			↑		
178,179	MacCH1	23:50	+68:09	89	5m, 1.5m	
180	COMP			↑		
						delay to adjust collimation
181	BIAS					
182	SN1999.dg	02:33	+70:8	Z	20m	PA=-45; normal tilt
183	COMP			↑		
184	SN1999.dg. blue	"	"	Z	20m	PA=-35; tilt=585
185	COMP			↑		

60 inch Telescope Log  
 Observer: PB  
 PI: Kushner  
 Spectrograph: EAST  
 Grating: 300R  
 Date: 9/4/99  
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
186	SN1999dq. red	02:33	+20:58	Z	20m	PA=15; tilt=725
187	COMP			J	um	w/ (tilt=495; PA=62) Clouds!
195	COMP			↑		
196	G191B2B - blue	"	"	SG	3m	tilt=585; no more filter.
197	COMP			↑		
198	G191B2B	"	"	SG	3m	normal tilt (610)
199	COMP			↑		Stopped.
200-209	FLAT. blue	tilt=585			16s	clouds moved in fast!
210-219	FLAT				14s	
220-229	BIAS				0s	
230-239	FLAT				7s	
240-249	BIAS				0s	
250-259	DARK				15m	solid clouds.

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60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>7508</u>		
Observer: <u>PBerlino</u>		Grating: <u>3000; 3" slit</u>				
PI: <u>Calvet</u>		Date: <u>9/5/99</u>				
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-2	DARK				20m	bin by 2
3-7	sky	zenith		S	2s	
8	COMP			T	5s	mostly clear!
9-20	BIAS				0s	(close)
21-30	FLAT				7s	
31-40	BIAS				0s	
41-50	FLAT				14s	
51-53	HD 173370			89	2s	V stars for #89
54	COMP			↑		→ twilight ←
55-56	HD 173467			89	2s	
57	COMP			↑		
58-60	HD 178849			89	2s	
61	COMP			↑		
62-63	HD 183862			89	2s	
64	COMP			↑		
65-66	HD 185051			89	2s	
67	COMP			↑		
68-69	HD 170073			89	2s	
70	COMP			↑		
71-72	HD 170153			89	2s	
73	COMP			↑		
74-75	HD 193006			89	2s	
76	COMP			↑		
77-78	HD 193702			89	2s	
79	COMP			↑		
80-81	HD 194839			89	2s	
82	COMP			↑		
83-84	HD 193009			89	2s	
85	COMP			↑		

60 inch Telescope Log

Observer: RB

PI: Calvin Kenyon Andri

Spectrograph: FAST

Grating: 300R

Date: 9/5/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
86-87	HD 192044			89	2s	
88	COMP			↑		
89-90	HD 187961			89	2s	
91	COMP			↑		
92-93	HD 191263			89	2s	
94	COMP			↑		
95-97	HD 183656			89	2s	
98	COMP			↑		
99-101	UKSCE1	16:15	-22:12	12	20s, 5m	10m
102	COMP			↑		
103-105	Hen 1341	17:08	+17:26	12	15s, 30s, 2m	
106	COMP			↑		
107-109	M1m21	17:34	-19:09	12	1m, 10s, 10m	bm by 2
110	COMP			↑		
111	ngcs 382.165	16:12	+29:33	59	5m	
112	COMP			↑		
113	.164	16:12	+29:59	59	10m	
114	COMP			↑		
115	.166	16:13	+29:04	59	7m	
116	COMP			↑		
117	.167	16:13	+29:57	59	4m	
118	COMP			↑		
119	.177	16:13	+29:08	59	4m	
120	COMP			↑		
121	.173	16:13	+29:09	59	5m	
122	COMP			↑		
123	.175	16:13	+29:09	59	6m	
124	COMP			↑		
125	.176	16:13	+28:46	59	6m	
126	COMP			↑		

60 inch Telescope Log

Observer: PB

PI: Andi Calvet

Spectrograph: FAST

Grating: 3000

Date: 9/5/99

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Number	Object	R. A	Dec.	L/R	Exp	Comments
127	<u>1195382-17.7</u>	<u>16:14</u>	<u>+29:51</u>	<u>SG</u>	<u>4m</u>	
128	<u>COMP</u>			<u>↑</u>		
129	<u>178</u>	<u>16:14</u>	<u>+29:54</u>	<u>SG</u>	<u>5m</u>	
130	<u>COMP</u>			<u>↑</u>		
131	<u>179</u>	<u>16:14</u>	<u>+29:17</u>	<u>SG</u>	<u>6m</u>	
132	<u>COMP</u>			<u>↑</u>		
133	<u>180</u>	<u>16:14</u>	<u>+29:58</u>	<u>SG</u>	<u>5m</u>	
134	<u>COMP</u>			<u>↑</u>		
135	<u>181</u>	<u>16:14</u>	<u>+29:58</u>	<u>SG</u>	<u>4m</u>	
136	<u>COMP</u>			<u>↑</u>		
137	<u>183</u>	<u>16:14</u>	<u>+29:17</u>	<u>SG</u>	<u>5m</u>	
138	<u>COMP</u>			<u>↑</u>		
139	<u>185</u>	<u>16:14</u>	<u>+29:58</u>	<u>SG</u>	<u>10m</u>	
140	<u>COMP</u>			<u>↑</u>		
141	<u>189</u>	<u>16:15</u>	<u>+29:52</u>	<u>SG</u>	<u>6m</u>	
142	<u>COMP</u>			<u>↑</u>		
143-144	<u>V1493 Cas</u>	<u>20:50</u>	<u>+44:16</u>	<u>SG</u>	<u>5m, 10m</u>	
145	<u>COMP</u>			<u>↑</u>		
146, 147	<u>V751 Cas</u>	<u>20:50</u>	<u>+44:08</u>	<u>SG</u>	<u>2m, 15m</u>	
148	<u>COMP</u>			<u>↑</u>		
149, 150	<u>Mac CH2</u>	<u>00:04</u>	<u>+65:21</u>	<u>SG</u>	<u>5m, 20m</u>	
151	<u>COMP</u>			<u>↑</u>		
152, 153	<u>Mac CH4</u>	<u>23:56</u>	<u>+66:09</u>	<u>SG</u>	<u>2m, 15m</u>	
154	<u>COMP</u>			<u>↑</u>		
155-156	<u>MC1</u>	<u>00:04</u>	<u>+65:21</u>	<u>SG</u>	<u>2m, 15m</u>	
157				<u>↑</u>		<u>seeing worse</u>
158-159	<u>V63 Cas</u>	<u>00:08</u>	<u>+58:33</u>	<u>SG</u>	<u>2m, 15m</u>	
160	<u>COMP</u>			<u>↑</u>		
161-162	<u>V 376 Cas</u>	<u>00:08</u>	<u>+58:33</u>	<u>SG</u>	<u>5m, 10m</u>	
163	<u>COMP</u>			<u>↑</u>		

60 inch Telescope Log

Observer: PB

PI: Calvet

Spectrograph: FAST

Grating: 300R

Date: 9/5/99

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
164-165	HD 208947			89	2s	clouds...
166	COMP			↑		
167-168	HD 218440	23:07		89	2s	
169	COMP			↑		
170-172	HD 217866			SG	2s	
173	COMP			↑		
174-175	HD 2210027			89	2s	
176	COMP			↑		
177-178	HD 2213143			89	2s	
179	COMP			↑		
180-181	F074c110	23:17	-05:26	SG	2hr	PA=12
182	COMP			↑		
183-184	HD 22500	00:17	+38:40	89	1s	PA=90 ↓
185	COMP			↑		
186-187	HD 3909			89	2s	
188	COMP			↑		
189-190	HD 3942			89	2s	
191	COMP			↑		
192-193	HD 6961			89	2s	
194	COMP			↑		
195-6	HD 7252			89	2s	
197	COMP			↑		
198-199	HD 14372	02:20	+47:18	89	1s	
200	COMP			↑		
201-202	VX Cas	00:28	+61:42	89	1hr, 2hr	
203	COMP			↑		
204-207	V594 Cas	00:40	+61:58	89	10s-1hr	
208	COMP			↑		
209-10	LKH 2101	01:40	+61:21	89	2hr, 10hr	
211	COMP			↑		

60 inch Telescope Log  
 Observer: PB  
 PI: Calvet/Rines/Kenyon  
 Spectrograph: FAST  
 Grating: 300L  
 Date: 9/5/99  
 Page: 7512

Number	Object	R.A.	Dec.	L/R	Exp	Comments
212-213	RNO6	02:13	+55:09	89	3m, 15m	
214	WMP			↑		
215-217	V741 Per	01:58	+52:53	12	30s, 10s	5m
218	WMP			↑		clouds!
219-221	Ax Per	01:26	+54:15	12	25s, 10s	5m
222	WMP			↑		
223-226	EG And	00:49	+10:40	12	1s-10s	
227	WMP			↑		
228	SNR 99 dg	02:33	+20:58	2	20m	PA=-50 ok
229	WMP			↑		
230	g119-016	00:57	-02:46	64	10m	PA=90
231	WMP			↑		
232	.017	01:08	-02:08	64	10m	
233	WMP			↑		
234	.016	00:57	-05	64	5m	
235	WMP			↑		
236	.019	00:58	-01:52	64	5m	
237	WMP			↑		
238	.020	01:10	-01:11	64	10m	
239	WMP			↑		
240	PGC 0205314	02:05	+15:22	86	12m	PA=20
241	WMP			↑		PA=90 ↓
242-244	I Per	03:37	+72:22	89	30s, 1m	
245	WMP			↑		
246-248	X Per EW	03:46	+78:49	89	20s, 10s	EW camps - unresolved
249	WMP			↑		
250-251	V892 Her	04:15	+18:12	89	2m, 20s	
252	WMP			↑		
253-255	4k Halpha 101	04:26	+38:09	89	3m, 15m	30s extended em
256	WMP			↑		ball over

60 inch Telescope log

Observer: PS  
 PI: AA

Spectrograph: FAST  
 Grating: 300R  
 Date: 9/5/99

Page: 7513

Number	Object	R. A.	Dec.	L/R	Exp	Comments
257-	AB Aur	04:52	+30:28	89	15	more clouds. get again
258	COMP			↑		Stopped
259-266	BIAS				05	
267-278	FLAT				75	
279-288	BIAS				05	
289-298	FLAT				145	
299-306	DARK				15m	



60 inch Telescope Log			Spectrograph: <u>FAET</u>		Page: <u>7514</u>	
Observer: <u>K Rines</u>			Grating: <u>300d</u>		Date: <u>9/6/99</u>	
PI: <u>Kenyon</u>						
Number	Object	R. A.	Dec.	L/R	Exp	Comments
1	COMP					
2-11	DARK				15m	
12-21	BIAS				0	
22-27	DARK				20m	
28-37	FLAT				6s	
38-44	sky				2s	7:05
45	COMP				6s	clouds clearing to E
46-55	FLAT				12s	bin by 2
56	Egg OR2 no.9	20 31	41 04	56	20s	bin by 4
57	"			↑	20s	bin by 2
58	COMP			^		
59	COMP			1		bin by 4
60	N 5866	15 05	55 57	57	150s	
61	COMP			↑		
62-64	H0154791	17 06	23 58	12	0.1, 1, 10	? wrong object??
65	COMP			↑		
66, 67, 68	DracoCl	17 19	57 50	12	20, 200, 600	
69	COMP			↑		
70, 71	RSOph	17 39	-11 56	12	5, 60	
72	COMP			↑		
73, 74	RTSec	17 50	-6 42	12	10, 100	
75	COMP			↑		
76, 77	UUsec	17 42	-15 24	12	30, 300	? wrong object??
78	COMP			↑		
79	V					WRONG not reduced
80, 81	V24165yr	17 57	-21 41	12	20, 200	
82	COMP			↑		
83, 84	AS270	18 05	-20 20	12	30, 300	
85	COMP			↑		

60 inch Telescope Log

Observer: K Rines

PI: Kenyon Falco

Spectrograph: FAST

Grating: 300R

Page: 7515

Date: 9/6/99

Number	Object	R. A.	Dec.	L/R	Exp	Comments
86,87	A5289	18 12	-11 40	12	5.60	
88	COMP			↑		
89,90	VYHer	18 14	20 59	12	20,200	
91	COMP			↑		
92,93	V443Her	18 22	23 27	12	20,200	
94	COMP			↑		
95	16438+5122-155	16 45	51 15	84	8m	
96	COMP			↑		
97	16407+5756-152	16 41	57 50	84	4m	
98	COMP			↑		
99	16375 16322	16 38	63 15	84	7m	cm
100	COMP			↑		
101	16438+7345	16 42	73 39	84	8m	* to W
102	COMP			↑		
103	16445+7447	16 43	74 42	84	4m	
104	COMP			↑		
105	16461+7547	16 44	75 40	84	4m	
106	COMP			↑		
107	16356+7712	16 33	77 05	84	5m	
108	COMP			↑		
109	16337+7903	16 30	78 57	84	10m	
110	COMP			↑		
111	16310+8300	16 28	82 53	84	6m	
112	COMP			↑		
113	16280+7500	16 26	74 53	84	6m	
114	COMP			↑		
115	16290+7403	16 27	73 57	84	5m	
116				↑		
117	16528+7439	16 51	74 34	84	8m	
118				↑		

60 inch Telescope Log				Spectrograph: <u>FAST</u>		
Observer: <u>IC Rines</u>				Grating: <u>300A</u>		Page: <u>7516</u>
PI: <u>Falco</u>				Date: <u>9/6/99</u>		
Number	Object	R. A.	Dec.	LIR	Exp	Comments
119	16560+8140	16 51	81 34	84	4m	
120	COMP			↑		
121	16580+8144	16 53	81 38	84	3m	
122	COMP			↑		
123	17480+8309	17 41	83 07	84	4m	
124	COMP			↑		
125	21256+0823	21 28	08 37	84	3m	star? <i>yes</i>
126	COMP			↑		
127	N 7194	22 03	12 38	84	2m	
128	COMP			↑		
129	N 7332	22 37	23 47	84	30s	
130	COMP			↑		
131	22338+3343	22 36	33 58	84	2m	
132	COMP			↑		
133	22306+3858	22 32	39 12	84	6m	
134	COMP			↑		
135	22567+4046	22 58	40 55	84	30s	interesting SCUT + NJ only
136	COMP			↑		
137	22463+2721	22 48	27 36	84	2m	
138	COMP			↑		
139	N 7437	22 58	14 18	84	8m	broad!
140	COMP			↑		
141	23077+4218	23 10	42 34	84	2m	
142	COMP			↑		
143	22571+5326	22 59	53 44	84	4m	2 stars to NE
144	COMP			↑		
145	22578+0122	23 00	+01 37	84	12m	pretty spiral
146	COMP			↑		
147	23148+0522	23 17	05 38	84	4m	
148	COMP			↑		

125 - superposed star; fuzz around it - tried to extract but nothing there (no em lines)

60 inch Telescope Log

Observer: K Rines

PI: Falco, Rines

Spectrograph: EAST

Grating: 300A

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Date: 9/6/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
149	N7567	23 16	15 51	84	6m	
150	COMP			↑		
151	23149+1826	23 17	18 42	84	2m	
152	COMP			↑		
153	23208+2019	23 23	20 35	84	4m	
154	COMP			↑		
155	N7609	23 19	09 30	84	60s	
156	COMP			↑		
157	23171+0112	23 19	01 28	84	6m	
158	COMP			↑		
159	23170-0207	23 19	-01 50	84	6m	
160	COMP			↑		
161	a119-021	1 01	-2 52	64	4m	
162	COMP			↑		
163	022	0 59	+0 54	64	8m	
164	COMP			↑		
165	023	0 52	-4 53	64	6m	* to W ?
166	COMP			↑		
167	024	0 59	-3 08	64	12m	* to E ?
168	COMP			↑		
169	025	1 01	-4 05	64	8m	
170	COMP			↑		
171	026	0 53	-3 37	64	4m	
172	COMP			↑		
173	027	0 52	-3 16	64	4m	
174	COMP			↑		
175	028	1 03	-1 30	64	8m	
176	COMP			↑		
177	029	1 01	-1 17	64	6m	
178	COMP			↑		

60 inch Telescope Log

Observer: K Rines

PI: Rines

Spectrograph: FAST

Grating: 300l

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Date: 9/6/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
179	a119 - 030	0 49	-4 12	64	4m	
180	COMP			↑		
181	031	0 44	-2 50	64	4m	
182	COMP			↑		
183	031	0 44	-2 50	64	6m	
184	COMP			↑		
185	032	1 01	-3 08	64	4m	
186	COMP			↑		
187	033	1 03	+1 52	64	5m	
188	COMP			↑		
189	034	0 50	-4 14	64	4m	
190	COMP			↑		
191	035	1 05	-4 24	64	12m	
192	COMP			↑		
193	036	0 55	+0 38	64	5m	
194	COMP			↑		
195	037	0 52	-4 50	64	6m	poor SN } may be combined
196	COMP			↑		
197	037	0 52	-4 50	64	9m	
198	COMP			↑		
199	038	1 05	-4 25	64	5m	com
200	COMP			↑		
201	039S	0 50	+1 09	64	4m	
202	COMP			↑		
203	039N	0 50	+1 09	64	4m	
204	COMP			↑		
205	040	0 45	-3 50	64	12m	
206	COMP			↑		
207	041	0 46	-2 31	64	8m	
208	COMP			↑		

195 + 197 combined to rule 9597.

60 inch Telescope Log

Observer: K Rines

PI: Rines, Kirshner, Bragg

Spectrograph: FAST

Grating: 300R

Page: 7519

Date: 9/6/99

Number	Object	R. A.	Dec.	L/R	Exp	Comments
209	a119_042	1 03	-4 45	64	6m	
210	COMP			↑		
211	043	1 03	-3 32	64	5m	
212	COMP			↑		
213	044	1 02	-4 30	64	12m	
214	COMP			↑		
216	COMP			2		bin by 2 @215 is bin
217, 218	sn99dq	2 33	20 58	2	20m	$\Delta = 0$ ; $\Delta = 25$
219	COMP			↑		
220	Fey 25	2 36	5 15	56	2m	$\Delta = 25$
221	COMP			↑		
222	a119b-001	1 04	-0 45	64	3m	$\Delta = 90$ , bin by 4
223	COMP			↑		
224	b-002	0 40	-0 19	64	5m	
225	COMP			↑		
226	b-003	1 04	-0 48	64	150s	
227	COMP			↑		
228	b-004	0 57	-0 25	64	2m	
229	COMP			↑		
230	b-032	0 57	-0 24	64	4m	
231	COMP			↑		
232	b-005	1 04	-1 04	64	2m	
233	COMP			↑		
234	b-006	1 10	-0 16	64	5m	
235	COMP			↑		
236	b-007	1 03	-1 06	64	4m	
237	COMP			↑		
238	021809p570242	2 18	57 02	83	2m	
239	COMP			↑		

60 inch Telescope Log			Spectrograph: <u>FAST</u>			
Observer: <u>K Rines</u>			Grating: <u>300R</u>			Page: <u>7520</u>
PI: <u>Bray, All</u>			Date: <u>9/6/99</u>			
Number	Object	R. A.	Dec.	LIR	Exp	Comments
240	021810p57	2 18	57 07	83	5m	
241	COMP			↑		
242	Feige 25	2 38	+5 28	56	2m	5:25
243	COMP			↑		
244-253	BIAS				0s	clear
254-263	FLAT				6s	
264-273	FLAT				12s	bin by 2
274-283	BIAS				0s	
284-293	DARK				20m	bin by 2

60 inch Telescope Log  
 Observer: K Riars  
 PI: All, Kenyon, Mahdavi  
 Spectrograph: FAST  
 Grating: 3008  
 Date: 9/7/99  
 Page: 7521

Number	Object	R. A.	Dec.	L/R	Exp	Comments
1-10	BIAS				0	
11-20	DARK				20m	
21-30	FLAT				6s	
31-40	FLAT				12s	bin by 2
41-50	BIAS				0	
51-55	sky					bin by 4
56	COMP					clear
57	Cyg OB2 no. 9	20 31	41 01	56	20s	
58	COMP			↑		
59	"	20 31	41 04	56	20s	bin by 2
60	COMP			↑		
61	NS866	15 06	55 45	57	150s	
62	COMP			↑		
63	NS866	15 06	55 45	57	150s	
64				↑		
65	UU Ser	17 42	-15 24	12	20s	object in crosshairs <sup>not enough</sup>
66	UU Ser S	"	"	↑	20s	just before crosshairs <sup>no</sup> enough
67	COMP			↑		
68, 69	AS316	18 42	-21 17	12	20, 200	A to E
70	COMP			↑		
71, 72	V2601 Sgr	18 38	-22 41	12	20, 200	A to E
73	COMP			↑		
74, 75	MWC 460	18 47	-20 05	12	10, 100	A to E
76	COMP			↑		
77, 78	AS327	18 53	-24 22	12	30, 300	
79	COMP			↑		
80, 81	FNSgr	18 53	-18 59	12	20, 200	
82	COMP			↑		
83	negs 382.134	16 11	+29 47	59	12m	NE, NW
84	COMP			↑		



## 60 inch Telescope Log

Observer: K RinesPI: Mahdavi, FalcoSpectrograph: FASTGrating: 300LPage: 7522Date: 9/7/99

Number	Object	R. A.	Dec.	L/R	Exp	Comments
85	nrqs 382.138	16 11	29 34	59	12m	
86	COMP			↑		
87	nrqs 382.187	16 15	30 04	59	12m	
88	COMP			↑		
89	16014+1628	16 03	16 19	84	3m	
90	COMP			↑		
91	16286+0516	16 31	+5 09	84	5m	
92	COMP			↑		
93	16491-0232	16 51	-2 36	84	2m	superposed star; cannot get galaxy
94	COMP			↑		
95	16501+2357	16 52	23 51	84	2m	
96	COMP			↑		
97	NG276	17 00	23 06	84	8m	em!
98	COMP			↑		
99	16506+1731W	16 52	17 26	84	5m	weak em
100	COMP			↑		
101	17035+1829	17 05	18 24	84	10m	
102	COMP			↑		
103	16589+2805	17 00	28 01	84	4m	
104	COMP			↑		
105	16563+3817	16 58	38 13	84	90s	star
106	COMP			↑		
107	17046+3827	17 06	38 23	84	10m	broad
108	COMP			↑		
109	17200+4917	17 21	49 13	84	7m	broad
110	COMP			↑		
111	17192+5025	17 20	50 22	84	4m	broad
112	COMP			↑		
113	16578+5712	16 58	57 05	84	5m	
114	COMP			↑		v. nice

## 60 inch Telescope Log

Observer: K. RinesPI: FalcoSpectrograph: FASTGrating: 300RPage: 7523Date: 9/7/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
115	17001+5902	17 00	58 56	84	30s	poor S/N
116	COMP			↑		
117	"	"	"	84	90s	
118	COMP			↑		
119	17492+5641	17 50	56 41	84	6m	* to W ; em
120	COMP			↑		
121	17497 15719	17 50	57 17	84	5m	
122	COMP			↑		
123	17544+6239	17 54	62 38	84	150s	
124	COMP			↑		
125	17509+7150	17 50	71 49	84	4m	
126	COMP			↑		
127	17523+7448	17 51	74 47	84	150s	Sy
128	COMP			↑		
129	22397+7453	22 40	75 09	84	8m	broad, * to E
130	COMP			↑		
131	22440+7253	22 45	73 09	84	4m	superposed star em + rough
132	COMP			↑		
133	22341+7523	23 36	75 38	84	60s	
134	COMP			↑		
135	23354+3143	23 37	31 59	84	5m	
136	COMP			↑		
137	23487+2017	23 51	20 34	84	10m	em poor S/N (sky brightening → dir)
138	COMP			↑		
139	N7672	23 27	12 23	84	10m	broad
140	COMP			↑		
141	23235+1255	23 26	13 12	84	6m	
142	COMP			↑		
143	23424+0856	23 44	+09 11	84	5m	obj to E
144	COMP			↑		

131 - extracted area to E of bright star  
(brightest emission here)

## 60 inch Telescope Log

Observer: K RinesPI: RinesSpectrograph: FASTGrating: 3008Page: 7524Date: 9/7/99

Number	Object	R. A.	Dec.	L/R	Exp	Comments
145	a119_045	0 53	-3 08	64	4m	
146	COMP			↑		
147	046	0 50	-2 52	64	10m	em
148	COMP			↑		
149	047	0 53	-2 51	64	4m	
150	COMP			↑		
151	048	1 00	-3 25	64	4m	obj to W
152	COMP			↑		
153	049	0 52	-4 06	64	8m	broad
154	COMP			↑		
155	050	0 52	-4 21	64	10m	
156	COMP			↑		
157	051	0 59	-2 22	64	4m	
158	COMP			↑		
159	052	0 49	+0 57	64	6m	
160	COMP			↑		
161	053	1 06	+1 14	64	4m	
162	COMP			↑		
163	054	0 54	-3 35	64	6m	broad
164	COMP			↑		
165	055	0 48	+1 21	64	5m	55E to E
166	COMP			↑		
167	055E	0 48	+1 21	64	4m	55 to W
168	COMP			↑		
169	056	0 50	-4 12	64	4m	
170	COMP			↑		
171	097	0 50	-4 12	64	10m	
172	COMP			↑		
173	057	1 03	-1 43	64	4m	
174	COMP			↑		

161 - interesting - superposed star -  
got both velocities (star + gal)

## 60 inch Telescope log

Observer: K RinesPI: RinesSpectrograph: FASTGrating: 300RPage: 7525Date: 9/7/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
175	a119-210	1 03	-1 42	64	10m	domc related
176	COMP			↑		
177	057	0 53	-3 27	64	8m	weak; needs more
178	COMP			↑		
179	067	0 53	-3 28	64	8m	* to W
180	COMP			↑		rotation curve!
181	111	0 53	-3 28	64	15m	* to W
182	COMP			↑		
183	059	0 45	-3 24	64	6m	
184	COMP			↑		
185	060	0 54	-1 57	64	4m	
186	COMP			↑		
187	061	1 03	-4 40	64	4m	
188	COMP			↑		
189	062	0 52	-3 20	64	4m	
190	COMP			↑		
191	063	0 43	-2 47	64	8m	broad
192	COMP			↑		
193	064	0 53	-3 08	64	4m	
194	COMP			↑		
195	064N	0 53	-3 07	64	4m	
196	COMP			↑		
197	065	1 03	-1 32	64	4m	
198	COMP			↑		
199	066	1 08	+0 05	64	4m	
200	COMP			↑		
201	068	1 03	+2 16	64	10m	broad
202	COMP			↑		W spiral arm
203	069	0 52	+1 12	64	12m	broad
204	COMP			↑		

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>7526</u>	
Observer: <u>K Rines</u>			Grating: <u>3001</u>		Date: <u>9/7/99</u>	
PI: <u>Rines, Kirshner, Bragg</u>						
Number	Object	R. A.	Dec.	L/R	Exp	Comments
205	a119_070	1 02	-1 33	64	4m	
206	COMP			↑		
207	071	0 54	-4 37	64	4m	obj to E
208	COMP			↑		
209	072	0 52	-5 02	64	4m	
210	COMP			↑		
211	073	0 47	+1 12	64	4m	bin by 2, <del>to E?</del>
212	COMP			↑		
213	SN1999dq	2 33	20 58	2	20m	$\lambda = 19$
214	COMP			↑		
215	Feige 25	2 38	5 28	56	2m	$\lambda = 19$
216	COMP			↑		
217	a119_074	0 59	-4 11	64	6m	$\lambda = 90$ , bin by 4
218	COMP			↑		
219	075	1 05	+1 35	64	4m	
220	COMP			↑		
221	076	0 57	-3 53	64	4m	
222	COMP			↑		
223	021810p570838	2 18	57 08	83	4m	
224	COMP			↑		
225	021810p571345	2 18	57 13	83	3m	
226	COMP			↑		
227	021812p570940	2 18	57 09	83	30s	
228	COMP			↑		
229	021812p571408	2 18	57 14	83	90s	
230	COMP			↑		
231	021812p571421	2 18	57 14	83	70s	
232	COMP			↑		
233	021813p570318	2 18	57 03	83	2m	
234	COMP			↑		

## 60 inch Telescope Log

Observer: K RinesPI: BraggSpectrograph: FASTGrating: 300lPage: 7527Date: 9/7/99

Number	Object	R. A.	Dec.	L/R	Exp	Comments
235	021813 <sub>p</sub> 571243	2 18	57 12	83	30s	
236	COMP			↑		
237	021814 <sub>p</sub> 570843	2 18	57 08	83	120s	* to E
238	COMP			↑		
239	021815 <sub>p</sub> 571016	2 18	57 10	83	10s	
240	COMP			↑		
241	021815 <sub>p</sub> 571341	2 18	57 13	83	150s	
242	COMP			↑		
243	021815 <sub>p</sub> 571423	2 18	57 14	83	120s	
244	COMP			↑		
245	021816 <sub>p</sub> 570350	2 18	57 03	83	120s	
246	COMP			↑		
247	021816 <sub>p</sub> 570356	2 18	57 03	83	120s	
248	COMP			↑		
249	021817 <sub>p</sub> 570916	2 18	57 09	83	120s	
250	COMP			↑		
251	Feige 25	2. 38	+5 28	56	120s	5:30
252	COMP			↑		circus, hazy
253-262	BIAS				0	
263-272	FLAT				6s	
273-282	FLAT				12s	bin by 2
283-292	BIAS				0	
293-302	DARK				20m	

60 inch Telescope Log

Observer: K Rines

PI: All, Kenyan, Kirshner

Spectrograph: FAST

Grating: 3008

Page: 7528

Date: 9/8/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	DARK				20 <sub>m</sub>	bin by 4
11-20	BIAS				0	scatt. clouds
21-30	FLAT				6s	
31-40	FLAT				12s	bin by 2
41-50	BIAS				0	
51-56	sky				1s, 7s	
57	COMP				6s	clouds!
58,59	BFCyg	19 23	29 40	12	10,100	thru clouds
60	COMP			↑		
61	BFCyg	19 23	29 40	12	120s	
62	COMP			↑		
63-65	CHCyg	19 24	50 14	12	1, 5, 30s	
66	COMP			↑		
67,68	AS360	19 45	18 36	12	5, 100	
69	COMP			↑		
70-72	HMSgc	19 41	16 44	12	1, 10, 60	
73	COMP			↑		
74-76	CICyg	19 50	35 41	12	1, 10, 60	
77	COMP			↑		
78-80	PVVul	20 21	2-1 34	12	1, 10, 60	
81	COMP			↑		
82-84	V1016Cyg	19 57	39 49	12	1, 10, 60	
85	COMP			↑		
86,87	He 2m467	20 35	20 11	12	150, 390	clouds returning
88	COMP			↑		
89,90,91	ZAnd	23 33	48 49	12	2, 10, 60	
92	COMP			↑		
93	sn1499dq	2 33	20 58	2	10m	$\alpha = 19$ , bin by 2
94	COMP			↑		
95-104	BIAS				0	$\alpha = 90$ , bin by 4

105-114 FLAT  
 115-124 FLAT  
 125-134 BIAS  
 135-144 DARK

6s  
 12s bin by 2  
 0  
 20m

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>7529</u>	
Observer: <u>CALKINS</u>			Grating: <u>300L</u>		Date: <u>9/9/99</u>	
PI: <u>MI KILSNER</u>						
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	
41-50	FLAT				12s	
51	PG0205p134	2 08	13 36	#56	3m	
52	comp			↑		
53	PG0205p134	2 08	13 36	#56	5m	PA=33°
54	comp			↑		
55	HD12622	2 06	63 10	#57	3s	PA=90°
56	comp			↑		
57	SD1999dq	2 34	20 58	#2	20m	PA=48°, clouds
58	comp			↑		returning
59-68	BIAS				0s	
69-78	FLAT				12s	
79-88	DARK				15m	BIN BY 2

BIN BY 2 DARKS ARE HIGH

~~also~~ talked to Mike (Calkins)

chip is warming up

think dewer wasn't filled properly.

REFILLING DEWEN



60 inch Telescope Log		Spectrograph: FAST				Page: 7530	
Observer: CALMANS		Grating: 300L				Date: 9/10/99	
PI: All, Kenyon, Hebra							
Number	Object	R.A.	Dec.	L/R	Exp	Comments	
1-10	DARY.				15m		
11-20	BIAS				0s	Overcast @ sunset	
21-30	FLAT				60s		
31-40	BIAS				0s		
41-50	FLAT				12s		
51	H192281	20 12	40 16	"56	4s	clouds still around	
52	comp			↑			
53	H192281	20 12	40 16	"56	4s	PA=111°	
54	comp			↑			
55	M31	00 42	41 16	"57	60s		
56	comp			↑			
57, 58	V9195gr. p	19 03	-16 59	"12	20,200	star west	
59	comp			↑			
60, 61	CM91	19 03	-3 02	"12	20,300		
62	comp			↑			
63, 64	H22m468	20 41	34 44	"12	200,600	object east	
65	comp			↑			
66, 67	V1329Cy9	20 51	35 34	"12	20,120		
68	comp			↑			
69, 70	V407Cy9	21 02	45 46	"12	20,600		
71	comp			↑			
72-74	AG99	21 51	12 37	"12	1,10,30		
75	comp			↑			
76, 77	RA9r	23 43	-15 17	"12	1,10		
78	comp			↑			
79	2M212217	21 22	29 23	"28	6m		
80	comp			↑			
81	2M221911	22 19	17 55	"68	3m		
82	comp			↑			
83	2M222128	22 21	12 30	"68	6m	object west	

60 inch Telescope Log  
 Observer: CALYAN  
 PI: Huchra, Fazio, Bragg  
 Spectrograph: FAST  
 Grating: 3000 L  
 Date: 9/10/99  
 Page: 531

Number	Object	R. A.	Dec.	L/R	Exp	Comments
84	comp			↑		
85	2M222206	22 22	14 43	↑ <sup>168</sup>	5m	
86	comp			↑		
87	92-235	00 53	00 36	↑ <sup>187</sup>	110s	2" slit
88	comp			↑		
89	92-245	00 54	00 40	↑ <sup>187</sup>	18m	
90	comp			↑		
91	92-253	00 54	00 40	↑ <sup>187</sup>	21.5m	
92	comp			↑		
93	92-188	00 55	00 22	↑ <sup>187</sup>	30m	
94	comp			↑		
95	92-409	00 55	00 56	↑ <sup>187</sup>	110s	
96	comp			↑		
97	92-263	00 55	00 36	↑ <sup>187</sup>	260s	
98	comp			↑		
99	021817	2 18	57 12	↑ <sup>183</sup>	2m	
100	comp			↑		
101	021818	2 18	57 06	↑ <sup>183</sup>	5m	
102	comp			↑		
103	021818	2 18	57 13	↑ <sup>183</sup>	3m	
104	comp			↑		
105	021819	2 18	57 08	↑ <sup>183</sup>	2m	
106	comp			↑		
107	021819	2 18	57 14	↑ <sup>183</sup>	70s	
108	comp			↑		
109	021819	2 18	57 14	↑ <sup>183</sup>	20s	
110	comp			↑		
111	021820	2 18	59 03	↑ <sup>183</sup>	30s	
112	comp			↑		
113	021821	2 18	57 09	↑ <sup>183</sup>	4m	bright star west

60 inch Telescope Log

Observer: CALKINS

PI: BRASS

Spectrograph: FAST

Grating: 3006

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Date: 9/10/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
114	comp			↑		
115	021822	2 18	57 03	#83	3m	
116	comp			↑		
117	021823	2 18	57 03	#83	5s	
118	comp			↑		
119	021824	2 18	57 07	#83	2.5m	
120	comp			↑		
121	021824	2 18	57 10	#83	20s	
122	comp			↑		
123	021824	2 18	57 12	#83	3m	
124	comp			↑		
125	021824	2 18	57 12	#83	3m	bright to east
126	comp			↑		
127	021826	2 18	57 08	#83	4m	2018 24 + 57 0837 moving
128	comp			↑		
129	021826	2 18	57 09	#83	20s	
130	comp			↑		
131	021826	2 18	57 12	#83	3m	bright to east
132	comp			↑		
133	021827	2 18	57 04	#83	5m	
134	comp			↑		
135	021827	2 18	57 08	#83	2m	
136	comp			↑		
137	021827	2 18	57 15	#83	30s	
138	comp			↑		
139	021827	2 18	57 15	#83	3.5m	
140	comp			↑		
141	021828	2 18	57 06	#83	3.5m	
142	comp			↑		
143	021828	2 18	57 10	#83	3m	2 objects west

used comp 24 for obj 125

60 inch Telescope Log

Observer: CALKINS

PI: Wagg, Kirshner, Rines

Spectrograph: FAST

Grating: 300L

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Date: 9/10/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
144	comp			↑		
145	021828	2 18	57 11	#83	10s	
146	comp			A		
147	sn1999dg	2 33	25 58	#2	20m	PA = 14°
148	comp			↑		
149	91196-008	1 04	-00 10	#64	4m	
150	comp			↑		
151	-009	1 01	-1 06	#64	12m	
152	comp			↑		
153	-010	00 57	-00 27	#64	3m	
154	comp			↑		
155	-011	1 03	-00 28	#64	12m	
156	comp			↑		
157	-012	1 04	-1 06	#64	5m	
158	comp			↑		
159, 160	sn1999dp	4 29	69 31	#2	20m	very faint!
161	comp			↑		
162	G19152B	5 05	52 50	#56	3m	
163	comp			↑		
164-168	sky			#57	3s	
169	comp			↑		
170-179	FLAT				7s	2" slit
180-189	BIAS				0s	
190-199	FLAT				6s	
200-209	BIAS				0s	
210-219	FLAT				12s	
220-229	DARK				15m	

60 inch Telescope Log

Observer: CALIKUS

PI: All, Fake

Spectrograph: FAST

Grating: 300L

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Date: 9/11/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	DARK				15m	
11-20	DEAS				0s	
21-30	FLAT				6s	
31-40	DEAS				0s	stars @ sunset
41-50	FLAT				12s	
51	BDp284211	21 51	28 51	#56	30s	
52	comp			↑		
53	BDp284211	21 51	28 51	#56	30s	PA=72°
54	comp			↑		
55	ms1	02 42	41 16	#57	1m	
56	comp			↑		
57	16230	16 19	81 02	#84F	90s	
58	comp			↑		
59	17005	17 01	60 15	#84F	5m	
60	comp			↑		
61	17362	17 38	11 46	#84F	20m	
62	comp			↑		
63	17390	17 40	57 04	#84F	4m	
64	comp			↑		
65	17430	17 42	69 42	#84F	3m	stellar? NO, its a GAL
66	comp			↑		
67	17435	17 43	68 45	#84F	2m	
68	comp			↑		
69	17435	17 44	55 49	#84	2.5m	object west
70	comp			↑		
71	17446	17 46	29 01	#84	1m	
72	comp			↑		
73	17473	17 46	68 38	#84	20s	redo?
74	comp			↑		
75	17470	17 47	52 13	#84	2m	

60 inch Telescope Log

Observer: CALKIN

PI: Huchra

Spectrograph: FAST

Grating: 300L

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Date: 9/11/99

Number	Object	R. A.	Dec.	L/R	Exp	Comments
76	comp			↑		
77	2M223800	22 38	27 05	↑ 68	90s	
78	comp			↑		
79	2M223819	22 38	24 19	↑ 68	4m	DOUBLE PEAKED
80	comp			↑		
81	2M223828	22 38	24 45	↑ 68	4m	
82	comp			↑		
83	2M223829	22 39	24 37	↑ 68	3m	
84	comp			↑		
85	2M223919	22 39	24 17	↑ 68	4m	object east
86	comp			↑		
87	2M223926	22 39	26 46	↑ 68	90s	
88	comp			↑		
89	2M223939	22 39	27 15	↑ 68	2.5m	
90	comp			↑		
91	2M223956	22 39	26 42	↑ 68	2m	
92	comp			↑		
93	2M224035	22 40	24 10	↑ 68	4m	
94	comp			↑		
95	2M224104	22 41	16 50	↑ 68	4m	
96	comp			↑		
97	2M224800	22 48	26 47	↑ 68	2m	
98	comp			↑		
99	2M225027	22 50	24 37	↑ 68	4m	
100	comp			↑		
101	2M225108	22 51	25 28	↑ 68	4m	
102	comp			↑		
103	2M225241	22 52	29 20	↑ 68	90s	
104	comp			↑		
105	2M225429	22 54	29 15	↑ 68	4.5m	

60 inch Telescope Log				Spectrograph: <u>FAST</u>		
Observer: <u>CALKINS</u>				Grating: <u>300L</u>		Page: <u>2536</u>
PI: <u>Hudra, FASTO, Bogg</u>				Date: <u>9/11/99</u>		
Number	Object	R.A.	Dec.	L/R	Exp	Comments
106	comp			↑		
107	211225529	22 55	24 45	↑86	4.5m	
108	comp			↑		
109	92-498	00 55	1 10	↑87	26.5m	2" slit
110	comp			↑		
111	92-425	00 55	00 52	↑87	19m	
112	comp			↑		
113	92-355	00 56	00 50	↑87	30m	
114	comp			↑		
115	92-282	00 56	00 38	↑87	10m	
116	comp			↑		
117	92-248	00 54	00 40	↑87	30m	
118	comp			↑		
119	021828	2 18	57 12	↑83	15s	
120	comp			↑		
121	021828	2 18	57 13	↑83	3m	object east
122	comp			↑		
123	021829	2 18	57 08	↑83	20s	
124	comp			↑		
125	021929	2 18	57 13	↑82	5m	
126	comp			↑		
127	021830	2 18	57 04	↑83	3m	
128	comp			↑		
129	021830	2 18	57 07	↑82	5m	object west
130	comp			↑		
131	021832	2 18	57 08	↑83	2.5m	
132	comp			↑		
133	021832	2 18	57 12	↑83	20s	
134	comp			↑		
135	021832	2 18	57 11	↑83	2m	

60 inch Telescope Log

Observer: CALVIN

PI: Bray, Kirshner

Spectrograph: FAST

Grating: 300L

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Date: 9/11/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
136	comp			↑		
137	021833	2 18	57 06	↑83	4m	
138	comp			↑		
139	021933	2 18	57 10	↑83	4m	object east
140	comp			↑		
141	021833	2 18	57 13	↑83	20s	
142	comp			↑		
143	021833	2 18	57 15	↑83	2.5m	
144	comp			↑		
145	021834	2 18	57 13	↑83	30s	
146	comp			↑		
147	021834	2 18	57 15	↑83	90s	
148	comp			A		
149	021835	2 18	57 06	↑83	90s	
150	comp			↑		
151	021835	2 18	57 12	↑83	3.5m	
152	comp			↑		
153	021836	2 18	57 12	↑83	2.5m	
154	comp			↑		
155	021836	2 18	57 12	↑83	4m	center object
156	comp			↑		
157	021838	2 18	57 12	↑83	20s	
158	comp			↑		
159	sn1999dp	4 29	69 32	↑2	20m	PA = -25°
160	comp			↑		
161	sn1999dq	2 33	20 58	↑2	20m	PA = 46° nucleus to "east"
162	comp			↑		
163	021839	2 18	57 06	↑83	12m	
164	comp			↑		
165	021840	2 18	57 06	↑83	7s	



60 inch Telescope Log

Observer: CALKINS

PI: BRAGG

Spectrograph: FAST

Grating: 3006

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Date: 9/11/99

Number	Object	R. A.	Dec.	L/R	Exp	Comments
166	comp			9		
167	021841	2 18	57 08	1583	3.5m	object east
170	comp			↑		
171	Feige 25	2 38	5 28	156	2.5m	
172	comp			↑		
173-177	sky			157	1s	
178	comp			↑		
179-188	BIAS				0s	
189-198	FLAT				7s	2" slit
199-208	FLAT				6s	
209-218	BIAS				0s	
219-228	FLAT				12s	
229-238	DARK				15m	

60 inch Telescope Log

Observer: P Berlin  
 PI: Kochanek & Pehric & Faleo

Spectrograph: FAST

Grating: 600L, 2" slit

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Date: 9/12/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BSIS				0s	600L; 2" slit
11-20	FLAT				40s	tilt=490.0; focus=1040 (+20)
21-25						
26						scattered clouds
27-30	HD192281	20:10	+40:07	56	10s	
	COMP			↑		
						delay to adjust CCD alignment + re-focus spectrograph
31	COMP			↓		
32-34	MF2974	21:17	+15:27	88	15m	PA=68
35	COMP			↑		
36	COMP			↓		
37-39	MF3025	22:35	+33:56	88	10m	PA=-47
40	COMP			↑		
41	COMP			↓		
42-44	MF3028	22:36	+19:22	88	10m	PA=-43
45	COMP			↑		
46-48	HD192281	20:10	+40:07	56	10s	PA=105
49	COMP			↓		
50	COMP			↓		PA=
51-53	MF3018	22:28	+16:50	88	10m	PA=53
54	COMP			↑		
55	COMP			↓		
56-58	MF3227	23:40	+27:33	88	10m	
59	COMP			↑		
60-61	Fery 110	23:17	-08:26	56	5m	
62	COMP			↑		

60 inch Telescope Log

Observer: PB  
 PI: KSP/ESH

Spectrograph: FAST  
 Grating: 6000, 2" slit  
 Date: 9/12/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
63-65	NT331	22:34	+74:09	88	5m	PA = -9
66	COMP			↑		
67	COMP			↓		
68-70	M32	00:39	+40:35	88	1m	PA = -10
71	COMP			↑		
72	COMP			↓		
72-75	MF3257	23:09	+71:15	88	10m	PA = 57
76	COMP			↑		
77	COMP			↓		
78-80	MF2266	01:49	+13:03	88	15m	PA = 98
81	COMP			↑		clouds ground
82	COMP			↓		
83-85	MF2015	00:17	+79:28	88	10m	PA = 55
86	COMP			↑		
87	COMP			↓		
88	MF2441	02:29	+78:59	88	15m	stopped by clouds
89	COMP			↑		after temp
90-91	HD23604	04:04	+72:04	88	90s	PA = 90 ↓
92	COMP			↑		
93-94	HD27382	04:20	+21:21	88	90s	
95	COMP			↑		
96-97	HD34559	03:19	+22:05	88	2m	
98	COMP			↑		
99-100	HD7318	01:13	+26:35	88	2m	clearing ok!
101	COMP			↑		
102	COMP			↓		
103-105	NGC1023	02:57	+8:50	88	3m	PA = 87
106	COMP			↑		

60 inch Telescope Log

Observer: PB  
 PI: K4PLF

Spectrograph: FAST  
 Grating: 600R, 2° slit  
 Date: 9/12/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
107	COMP			↓		
106-110	MF2402	0227	+76°20	88	12m	PA=35
111, 112	COMP			↑↓		
113-115	MF2299	01:51	+53°32	88	10m	PA=43 114-6min
116	COMP			↑		bright sky & clouds
117-121	SKY			88	20s	↳ corrupted file?
122	COMP			↑		
123-132	FLAT				40s	
133-142	BIAS				0s	
143-152	DARK				15m	
						scattered clouds @ dawn

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>7542</u>
Observer: <u>PBerlinol</u>		Grating: <u>600L, 2" slit</u>		Date: <u>9/13/99</u>		
PI: <u>Kochanek/Pahre/Faleo</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-8	DARK				15m	600L, 2" slit
9-20	BIAS				0s	tilt = 713.0 (2" HA)
21-30	FLAT				35s	bimby 2
31	COMP				8s	
32-34	HDI 92281	22:10		SB	10s	PA = 90 scz = 103
35	COMP			↑		lots of rain today;
36-37	MF 2974	21:17	+15:27	88	9m	solid clouds @ sunset
38	COMP			↑		open ~ 8 pm
39-40	MF 3025	22:35	+33:56	88	9m	PA = -47
41	COMP			↑		
42-43	MF 3028	22:36	+19:22	88	9m	PA = -43
44	COMP			↑		
45	COMP			↓		PA = -7
46-48	MF 3058	22:48	+27:35	88	15m	clouds script locked up not recorded
49	COMP			↑		(delay to help Jose @ 48)
50-51	MF 3227	23:40	+27:33	88	8m	PA = 102 clearing!
52	COMP			↑		
53-54	MF 3127	23:09	+7:15	88	8m	PA = +57
55	COMP			↑		
56	COMP			↓		
57-58	MF 3258	23:52	+31:27	88	15m	nrc curve! PA = -57
59	COMP			↑		
60	COMP			↓		script crashed w/s-13
61	MF 2012	00:04	+31:28	88	15m	PA = -65
62	COMP			↑		2 → not recorded as done
63	COMP			↓		
64-65	MF 2091	00:08	+31:28	88	15m	nrc curve! PA = -25
66	COMP			↑		
67-68	Forcelio	23:19	-05:09	SB	4m	PA = 8
69	COMP			↑		

60 inch Telescope Log  
 Observer: PB  
 PI: KJPE  
 Spectrograph: FAST  
 Grating: 6000, 2" slit  
 Date: 9/13/99  
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
70	COMP			↓		
71-72	MF2024	00:12	+22:19	88	15m	PA=-73 nice curve!
73	COMP			↑		
74-75	MF2045	00:17	+29:28	88	8m	PA=55
76	COMP			↑		
77	COMP			↓		
78-79	MF2266	01:49	+13:03	88	15m	PA=98
80	COMP			↑		
81	COMP			↓		
82-83	MF2299	01:55	+21:19	88	15m	PA=92
84	COMP			↑		
85	COMP			↓		
86-87	MF2402	02:23	+26:30	88	15m	PA=35 hz curve?
88	COMP			↑		
89-90	MF2279	01:51	+33:32	88	8m	PA=43
91	COMP			↑		
92	COMP			↓		
93-94	MF2350	02:09	+25:34	88	15m	PA=75 nice curve!
95	COMP			↑		script crashed again (Sd3)
96	COMP			L		not recorded as obs.
97-98	MF2509	02:47	+16:06	88	15m	PA=70 no em.
99	COMP			↑		(no time for 3 <sup>rd</sup> exp)
100-101	MF2411	02:29	+28:59	88	7m	PA=83 wlk again
102	COMP			↑		nr.
103-104	G191B2B	06:01	+52:45	56	2m	PA=22
105	COMP			↑		
106-115	BDS				0s	
116-125	FLAT				35s	
126-135	DARK				15m	

60 inch Telescope log

Observer: P Berlin

PI: Kochanek & Pahr & Falco

Spectrograph: FAST

Grating: 3000, 3" slit

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Date: 9/14/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-7	DARK				15s	Normal set-up
8-20	BIAS				0s	
21-30	FLAT				7s	
31-40	BIAS				0s	
41-50	FLAT				14s	
51-55	sky			57	2s	solid clouds
56	COMP			↑		clearing
57	ZMJ210407	21:04	+13:15	88	7m	open ~ 8 <sup>pm</sup>
58	COMP			↑		
59	Z14335	21:43	+14:00	88	6m	to to W
60	COMP			↑		clearing even more!
61	Z22309	22:23	+32:06	88	3m	
62	COMP			↑		
63	Z23155	22:31	+74:21	88	3m	
64	COMP			↑		
65	Z22834	22:38	+75:20	88	3m	
66	COMP			↑		
67	Z22989	22:39	+74:37	88	4m	
68	COMP			↑		
69	Z223949	22:39	+34:11	88	3m	
70	COMP			↑		
71	Z224220	22:42	+21:06	88	3m	
72	COMP			↑		
73	Z225103	22:51	+31:22	88	3m	bin by 2 gal to W
74	COMP			↑		
75	Z225444	22:54	+34:12	88	10m	delay @ 18"
76	COMP			↑		
77	Z231151	23:11	+24:00	88	4m	clouds!
78	COMP			↑		

60 inch Telescope Log  
 Observer: PB  
 PI: KPF  
 Spectrograph: FAST  
 Grating: 3002  
 Date: 9/14/99  
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
79	ZMJ231219	23:12	+28:43	88	3m	clouds!
80	COMP			↑		↘ to E
81	Z31512	23:17	+16:46	88	4m	
82	COMP			↑		
83	Z31416	23:14	+30:53	88	3m	
84	COMP			↑		
85	Z31558	23:15	+25:01	88	3m	
86	COMP			↑		
87	Z31600	23:16	+25:33	88	2m	
88	COMP			↑		
89	Z31745	23:17	+24:01	88	2m	
90	COMP			↑		
91	Z31854	23:18	+24:01	88	3m	
92	COMP			↑		
93	Z32224	23:27	+24:45	88	3m	
94	COMP			↑		
95	Z32327	23:25	+14:19	88	4m	
96	COMP			↑		
97	Z32458	23:24	+27:50	88	3m	
98	COMP			↑		
99	Z32558	23:25	+34:02	88	3m	
100	COMP			↑		
101	Z32653	23:26	+15:43	88	3m	
102	COMP			↑		
103	Z32703	23:20	+13:28	88	3m	
104	COMP			↑		
105	Z32809	23:30	+13:26	88	3m	* to W
106	COMP			↑		
107	Z32821	23:37	+31:32	88	3m	
108	COMP			↑		

7415



60 inch Telescope Log

Observer: PB  
 PI: K.P.F.

Spectrograph: FAST  
 Grating: 300R  
 Date: 9/14/99

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
109	2MJ233932	23:39	+28:55	88	2m	
110	COMP			↑		
111	234342	23:43	+26:42	88	2m	
112	COMP			↑		
113	235019	23:50	+28:37	88	3m	
114	COMP			↑		
115	235026	23:50	+24:33	88	2m	4/5 train in train stopped by clouds wham.
116	COMP			↑		
117	235741	23:57	+32:46	88	2m	open again. 1 sec 4/5
118	COMP			↑		
119	000103	00:01	+24:39	88	3m	
120	COMP			↑		
121	001412	00:14	+22:45	88	2m	
122	COMP			↑		
123	001513	00:15	+31:30	88	2m	
124	COMP			↑		
125	002024	00:20	+21:52	88	2m	
126	COMP			↑		
127	002217	00:22	+22:32	88	2m	
128	COMP			↑		
129	002349	00:23	+24:32	88	2m	
130	COMP			↑		
131	005645	00:56	+27:20	88	3m	wk - ok
132	COMP			↑		
133	010205	01:02	+26:57	88	2m	
134	COMP			↑		
135	010628	01:06	+21:52	88	2m	
136	COMP			↑		
137	005850	00:58	+42:32	88	2m	
138	COMP			↑		

60 inch Telescope Log

Observer: PB  
 PI: KGPSE

Spectrograph: FAST  
 Grating: 3000  
 Date: 9/14/99

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
139	2M2010139	01:07	+40:14	88	2m	
140	COMP			↑		
141	011102	01:11	+40:39	88	4m	
142	COMP			↑		
143	011118	01:11	+40:32	88	2m	
144	COMP			↑		
145	012847	01:28	+40:19	88	2m	
146	COMP			↑		
147	013653	01:36	+42:09	88	2m	
148	COMP			↑		
149	015324	01:53	+44:02	88	2m	wk ok
150	COMP			↑		
151	020801	02:08	+47:10	88	3m	
152	COMP			↑		
153	020941	02:09	+45:02	88	3m	
154	COMP			↑		
155	021310	02:13	+44:01	88	2m	
156	COMP			↑		more clouds
157	021428	02:14	+47:11	88	2.5m	
158	COMP			↑		
159	021011	02:10	+45:11	88	2m	North clump
160	COMP			↑		
161	021620	02:16	+46:17	88	2m	SS
162	COMP			↑		
163	021640	02:16	+49:58	88	2m	
164	COMP			↑		
165	021904	02:19	+44:53	88	2m	
166	COMP			↑		
167	021929	02:19	+45:57	88	2m	
168	COMP			↑		

60 inch Telescope Log

Observer: PB  
 PI: K.P.F

Spectrograph: FAST  
 Grating: 3000  
 Date: 9/14/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
169	2M5021950	02:19	+57:06	88	2m	
170	COMP			↑		
171-172	Fergello	23:17	-05:26	86	2m	PA=8 sec2=125
173	COMP			↑		format
174	2M5021941	02:19	+56:57	88	2m	
175	COMP			↑		
176	022005	02:20	+57:54	88	9m	
177	COMP			↑		
178	022014	02:20	+56:54	88	2m	
179	COMP			↑		
180	022031	02:20	+56:51	88	2m	
181	COMP			↑		
182	022055	02:20	+57:03	88	2m	
183	COMP			↑		
184	022076	02:20	+56:34	88	2m	
185	COMP			↑		
186	022094	02:20	+57:47	88	2m	Sig 1 !!
187	COMP			↑		
188	022075	02:20	+56:29	88	2m	
189	COMP			↑		
190	022050	02:20	+57:43	88	2m	
191	COMP			↑		
192	022098	02:20	+57:52	88	2m	
193	COMP			↑		
194	022050	02:20	+57:06	88	4m	bin by 2 star gal
195	COMP			↑		check cov
196	023000	02:30	+57:05	88	2m	star is at coords, not gal
197	COMP			↑		* + E
198	023006	02:30	+58:06	88	2m	
199	COMP			↑		

60 inch Telescope Log

Observer: PB  
 PI: K.P.F.

Spectrograph: FAST  
 Grating: 300  
 Date: 9/14/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
200	ZMJ 02336	02:33	+21:29	88	2m	
201	COMP			↑		
202	02338	02:33	+22:23	88	4m	(Search for M <sub>31</sub> galaxies; they are stars!)
203	COMP			↑		
204	02337	02:33	+23:06	88	2m	
205	COMP			↑		
206	02363	02:36	+28:45	88	2m	
207	COMP			↑		
208	02372	02:37	+20:25	88	2m	
209	COMP			↑		
210	02347	02:37	+31:25	88	90s	
211	COMP			↑		
212	02307	02:38	+58:56	88	90s	
213	COMP			↑		
214	02426	02:42	+52:47	88	90s	
215	COMP			↑		
216	02442	02:44	+17:20	88	2m	
217	COMP			↑		
218	02428	02:47	+16:50	88	2m	
219	COMP			↑		
220	02496	02:49	+14:34	88	3m	
221	COMP			↑		
222	03052	03:05	+16:07	88	2m	
223	COMP			↑		
224	03030	03:07	+27:34	88	2m	
225	COMP			↑		
226	03081	03:08	+27:13	88	2m	
227	COMP			↑		
228	03103	03:10	+19:16	88	4m	
229	COMP			↑		

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>7550</u>
Observer: <u>PB</u>		Crating: <u>300L</u>		Date: <u>9/14/99</u>		
PI: <u>K.P.F</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
230	2M50502S	03:10	+19:26	88	2m	
231	COMP			↑		
232	031235	03:12	+19:49	88	4m	
233	COMP			↑		
234	031506	03:13	+28:38	88	4m	
235	COMP			↑		
236	032124	03:24	+25:40	88	3m	
237	COMP			↑		
238	033533	03:37	+25:40	88	2m	
239	COMP			↑		
240	033817	03:38	+19:23	88	2m	
241	COMP			↑		
242	225m280	00:41	+41:05	87	4m	c.o.p.
243	COMP			↑		(check MF #'s)
244	034135	03:41	+13:33	88	2m	
245	COMP			↑		
246	034508	03:45	+18:37	88	2m	
247	COMP			↑		
248	034903	03:49	+17:03	88	5m	
249	COMP			↑		
250	040230	04:02	+21:37	88	2m	
251	COMP			↑		
252	040247	04:02	+19:20	88	2m	
253	COMP			↑		
254	040506	04:05	+18:58	88	2m	
255	COMP			↑		
256	040521	04:05	+22:14	88	2m	
257	COMP			↑		
258	040910	04:09	+21:26	88	90s	
259	COMP			↑		

60 inch Telescope Log

Observer: PB  
 PI: Krishnar G K P H S Huchra G Calcut

Spectrograph: FAST

Grating: 300L

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Date: 9/14/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
260	SN1999dq	02:34	+10:58	Z	20m	PA=0
261	COMP			↑		
262	ZMJ02573	02:29	+84:01	88	8m	
263	COMP			↑		
264	OS0540	05:05	+76:04	88	12m	bad place to point -NE
265	COMP			↑		
266	OS124	05:12	+75:55	88	12m	
267	COMP			↑		
268	OS2956	05:29	+74:30	88	3m	* to W (bright)
269	COMP			↑		
270	ZM0003 EW	02:03	+21:00	68	1m	km by Z; close EW pair
271	COMP			↑		
272	ZM02225	02:22	+25:08	68	8m	ISL. S <sub>1</sub> !
273	COMP			↑		
274	ZM02354	02:35	+22:16	68	5m	
275	COMP			↑		
276	ZM04904	02:49	+13:26	68	3m	
277	COMP			↑		
278	ZM02264	02:26	+24:47	68	4m	
279	COMP			↑		
280	ZM02518	02:51	+18:46	68	3m	
281	COMP			↑		
282	ZM02206	02:20	+21:12	68	3m	
283	COMP			↑		
284	G191B2B	05:01	+52:45	56	2m	PA=28
285	COMP			↑		
287	N6C17W	04:54	-04:8	57	3m	
288	COMP			↑		
289-291	Fuori	05:45	+01:04	89	10s	
292	COMP					

60 inch Telescope Log

Observer: PB

Spectrograph: FAST

Grating: 300L

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PI: Calvet

Date: 9/14/99

Number	Object	R. A.	Dec.	L/R	Exp	Comments
20327	AB Aur	04:50	+37	89,	45	
20	CMP			↑		
31272	BIAS				03	
31273	FLAT				75	
31274	BIAS				03	
31275	FLAT				145	
31276	DARK				200	

60 inch Telescope Log

Observer: CALVIN S.

PI: All, Garcia, Falcoz, Fazio

Spectrograph: FAST

Grating: 300L

Date: 9/15/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	DARK				15m	
11-20	BIAS				0s	
21-30	FLAT				6s	
31-40	BIAS				0s	storms @ sunset
41-50	FLAT				12s	
51-60	FLAT				8s	5" slit
61-70	FLAT				45s	1.1" slit
71	GM Sp	18 19	-25 24	Garcia	5m	just a peek thru clouds, 1.1" slit, windy
72	comp			↑		
73	17474p2046	17 49	20 45	1846	5m	
74	comp			↑		poor seeing, passing clouds, etc.
75	17486p5531	17 49	55 20	1846	4m	
76	comp			↑		
77	17504p7214	17 49	72 13	1846	2.5m	
78	comp			↑		
79	17501p6825	17 50	68 24	1846	3m	
80	comp			↑		
81	17510p528	17 52	52 26	1846	3m	
82	comp			↑		
83	17554p6633	17 55	66 33	1846	7m	
84	comp			↑		
85	17539p1823	17 56	18 22	184	1m	
86	comp			↑		
87	17539p1823	17 56	18 22	184	7m	← 2 <sup>nd</sup> exp of above
88	comp			↑		suspect super-imposed
89	17558p6419	17 56	64 18	184	3m	str on nucleus (reflector nebula??)
90	comp			↑		
91	17562p4508	17 57	45 08	184	4m	
92	comp			↑		
93	92-260	00 55	00 37	187	30m	2" slit



60 inch Telescope Log				Spectrograph: <u>FAST</u>		
Observer: <u>CALKINS</u>				Grating: <u>300L</u>		Page: <u>7554</u>
PI: <u>Fazio, Bragg</u>				Date: <u>9/15/99</u>		
Number	Object	R.A.	Dec.	L/R	Exp	Comments
94	comp			↑		
95	95-500	02 55	01 13	#87	30m	seeing improving
96	comp			↑		
97	93-103	1 53	00 23	#87	30s	
98	comp			↑		
99	94-251	2 57	00 16	#87	170s	
100	comp			↑		
101	94-305	2 55	00 31	#87	30s	
102	comp			↑		
103	021841	2 18	57 11	#83	4m	star west
104	comp			↑		
105	021842	2 18	57 04	#83	1m	
106	comp			↑		
107	021842	2 18	57 05	#83	4.5m	bright star to the west
108	comp			↑		
109	021842	2 18	57 10	#83	2.5m	
110	comp			↑		
111	021842	2 18	57 13	#83	2m	seeing degrading
112	comp			↑		
113	021843	2 18	57 09	#83	3m	clouds returning
114	comp			↑		bright star to east
115	021845	2 18	57 07	#83	4m	
116	comp			↑		
117	021847	2 18	57 03	#83	3.5m	
118	comp			↑		
119	021847	2 18	57 09	#83	4m	bright star east
120	comp			↑		
121	021847	2 18	57 09	#83	5m	-re-take of above
122	comp			↑		due to possible low
123	021847	2 18	57 14	#83	40s	dis.

↳ 2 objects on slit which one is it ???

OBJECT IS WEST ONE

60 inch Telescope Log

Observer: CALICUS

PI: Bragg, Kirschner

Spectrograph: FAST

Grating: 3006

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Date: 9/15/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
124	comp			↑		
125	021847	2 18	57 14	"83	2m	
126	comp			↑		
127	021848	2 18	57 03	"83	15s	
128	comp			↑		
129	021848	2 18	57 11	"83	15s	
130	comp			↑		
131	021849	2 18	57 01	"83	15s	
132	comp			↑		
133	021850	2 18	57 11	"83	7m	bright star to west
134	comp			↑		
135	021854	2 18	57 02	"83	6m	
136	comp			↑		02 18 55 + 57 01 24 <i>mag</i>
137	021855	2 18	57 01	"83	15s	
138	comp			↑		
139	021855	2 18	57 09	"83	15s	
140	comp			↑		
141	021856	2 18	57 07	"83	1m	star to the west
142	comp		05:0741	↑		
143	021856	2 18	57 13	"83	7m	
144	comp			↑		
145	021857	2 18	57 07	"86	17m	bright star to east
146	comp			↑		
147	sn1999dg	2 34	20 58	"7	20m	PA = -1.0°
148	comp			↑		
149	Feige 25	2 38	5 28	"56	2m	PA = 15°
150	comp			↑		
151	Feige 45	2 38	5 28	"56	2m	
152	comp			↑		
153	Feige 25	2 38	5 28	"56	2m	

60 inch Telescope Log

Observer: CALYSENS

PI: Bragg

Spectrograph: FAST

Grating: 300L

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Date: 9/15/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
154	comp			↑		
155	021857	2 18	48 10	"83	1m	2 OBJECTS
156	comp			↑		
157	021857	2 18	57 09	"83	20s	2 stars to east
158	comp			↑		
159	021858	2 18	57 04	"83	30s	
160	comp			↑		
161	021858	2 18	57 04	"83	3m	
162	comp			↑		
163	021858	2 18	57 09	"83	15s	
164	comp			↑		
165	021859	2 18	57 09	"83	10s	
166	comp			↑		
167	021859	2 18	57 09	"83	90s	done get lost
168	comp			↑		central spectra
169	021860	2 18	57 03	"83	7m	
170	comp			↑		
171	021900	2 19	57 02	"83	7m	star to east
172	comp			↑		
173	021900	2 19	57 04	"83	90s	
174	comp			↑		
175	021900	2 19	57 13	"83	10m	
176	comp			↑		
177	021901	2 19	57 02	"83	4m	2 stars to west
178	comp			↑		
179	021901	2 19	57 06	"83	5m	
180	comp			↑		
181	021901	2 19	57 01	"83	5m	bright star to east
182	comp			↑		
183	021901	2 19	57 08	"83	5m	3 stars to west

155 - E object, row 76 on 2d image

159 cannot separate

161 cannot separate

60 inch Telescope Log

Spectrograph: FAST

Observer: CALKINS

Grating: 300L

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PI: Drugg

Date: 9/15/99

Number	Object	R. A.	Dec.	L/R	Exp	Comments
184	comp			↑		
185	021901	2 19	57 13	#83	5m	stars to west
186	comp			↑		
187	HDS2971	7 00	27 09	#57	7s	
188	comp			↑		
189	HDS2971	7 00	27 09	#57	5s	
190	comp			↑		
191-195	sky			#57	2s	
196	comp			↑		
197-206	BIAS				0s	
207-216	FLAT				6s	
217-226	FLAT				7s	2" slit
227-236	BIAS				0s	
237-246	FLAT				12s	
247-256	DARK				15m	

60 inch Telescope Log

Observer: CALKINS

PI: All Garcia, Kenyan, Huchra

Spectrograph: FAST

Grating: 300L

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Date: 9/16/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	DATE				15m	
11-20	BIAS				0s	
21-30	FLAT				6s	storms at sunset
31-40	BIAS				0s	
41-50	FLAT				12s	
51-60	FLAT				45s	1.1" slit
61-70	FLAT				8s	5" slit
71	Gm Sgr	18 19	-25 24	Garcia	5m	5" slit, thru clouds
72	comp			↑		
73	Gm Sgr	18 19	-25 24	Garcia	5m	1.1" slit, thru clouds
74	comp			↑		
75, 76	Gm Sgr	18 19	-25 24	Garcia	10m	1.1" slit, thru clouds
77	comp			↑		
78, 79	Gm Sgr	18 19	-25 24	Garcia	10m	1.1" slit, thru clouds
80	comp			↑		past limits
81	Gm Sgr	18 19	-25 24	Garcia	10m	1.1" slit
82	comp			↑		refill dewar
83, 84	V1415Aq1	19 03	16 26	"12	<sup>200</sup> / <sub>100</sub>	3" slit
85	comp			↑		
86-88	S149	18 18	27 27	"12	5, 20, 60	
89	comp			↑		seeing terrible
90, 91	S164	19 28	6 03	"12	<sup>200</sup> / <sub>100</sub>	
92	comp			↑		
93, 94	S180	20 39	-5 16	"12	3, 5m	
95	comp			↑		
96, 97	S169	19 49	46 15	"12	<sup>200</sup> / <sub>100</sub>	seeing pathetic!!
98	comp			↑		
99-101	S190	21 41	2 43	"12	1, 10, 60	
102	comp			↑		
103	ZM230527	23 05	21 02	"68	15m	clouds returning

60 inch Telescope Log

Observer: Calvin

PI: Huchra, Bragg

Spectrograph: FAST

Grating: 300L

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Date: 9/16/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
104	comp			↑		
105	ZM230556	23 05	14 39	#68	10m	
106	comp			↑		
107	ZM230652	23 06	18 13	#68	5m	
108	comp			↑		
109	ZM230740	23 07	16 49	#68	4m	
110	comp			↑		
111	ZM230851	23 08	17 18	#68	4.5m	seeing improving
112	comp			↑		
113	ZM230912	23 09	15 40	#68	5m	
114	comp			↑		
115	ZM231017	23 10	17 35	#68	7m	line 40 underexposed
116	comp			↑		
117	ZM231202	23 12	20 47	#68	3.5m	underexposed
118	comp			↑		
119	ZM231347	23 13	22 10	#68	6m	
120	comp			↑		
121	ZM231435	23 14	23 11	#68	4m	
122	comp			↑		
123	ZM231515	23 15	21 42	#68	3m	
124	comp			↑		
125	021903	2 19	57 10	#83	5m	line 75 ✓
126	comp			↑		
127	021903	2 19	57 08	#83	20s	line 75 ✓
128	comp			↑		
129	021904	2 19	57 08	#83	3s	
130	comp			↑		
131	021905	2 19	57 14	#83	6m	
132	comp			↑		
133	021906	2 19	57 07	#83	30s	line 75 ✓

129 A. ...

60 inch Telescope Log

Observer: CALKINS

PI: Ragg

Spectrograph: Fest

Grating: 300L

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Date: 9/16/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
134	comp			↑		
135	021906	2 19	57 09	1183	7m	line 75 ✓
136	comp			↑		
137	021908	2 19	57 03	1183	6m	
138	comp			↑		
139	021908	2 19	57 04	1183	6m	seeing degrading
140	comp			↑		
141	021908	2 19	57 07	1183	90s	line 75 ✓
142	comp			↑		
143	021909	2 19	57 05	1183	5m	
144	comp			↑		
145	021909	2 19	57 08	1183	20s	line 75 ✓
146	comp			↑		
147	021909	2 19	57 15	1183	4m	
148	comp			↑		
149	021910	2 19	57 01	1183	30s	
150	comp			↑		
151	021910	2 19	57 03	1183	6m	line 75 ✓
152	comp			↑		
153	021910	2 19	57 07	1183	15s	
154	comp			↑		
155	021910	2 19	57 07	1183	15s	
156	comp			↑		
157	021912	2 19	57 12	1183	6m	
158	comp			↑		
159	021912	2 19	57 15	1183	6m	
160	comp			↑		
161	021913	2 19	57 06	1183	8m	
162	comp			↑		
163	021914	2 19	57 12	1183	5m	

135 asymmetrical base A A

60 inch Telescope Log

Observer: CALVINB

PI: Drapp, Kirshner

Spectrograph: FAST

Grating: 300L

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Date: 9/16/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
164	comp			↑		
165	sn/99949	2 34	20 58	#2	20m	PA = -1.0°
166	comp			↑		
167	Feige 25	2 35	5 28	#56	2m	PA = 15°
168	comp			↑		
169	Feige 25	2 35	5 28	#56	2m	PA = 91°
170	comp			↑		coords different
171	Feige 25	2 35	5 28	#56	2m	
172	comp			↑		
173	Feige 25	2 35	5 28	#56	2m	1.1" slit
174	comp			↑		
175	Feige 25	2 35	5 28	#56	2m	5.0" slit
176	comp			↑		
177	021915	2 19	57 05	#83	5m	
178	comp			↑		
179	021915	2 19	57 14	#83	90s	
180	comp			↑		
181	021916	2 19	57 02	#83	85m	
182	comp			↑		
183	021917	2 19	57 14	#83	90s	
184	comp			↑		
185	021918	2 19	57 14	#83	6m	line 75 ✓
186	comp			↑		
187	021926	2 19	57 14	#82	4.5m	
188	comp			↑		
189	021928	2 19	57 13	#83	4m	
190	comp			↑		
191	021929	2 19	57 04	#85	6m	line 75 ✓
192	comp			↑		
193	021932	2 19	57 03	#85	5m	



60 inch Telescope Log

Observer: CALKINS

PI: Bray, All

Spectrograph: FAST

Grating: 2006

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Date: 9/16/99

Number	Object	R. A.	Dec.	L/R	Exp	Comments
194	comp			↑		
195	021932	2 19	57 07	83	6m	
196	comp			↑		
197	021932	2 19	57 09	83	5m	took bright obj @ ~75
198	comp			↑		
199	021933	2 19	57 15	83	4m	
200	comp			↑		
201	021934	2 19	57 04	83	4m	Line 75 ✓
202	comp			↑		
203	021935	2 19	57 04	83	4.5m	
204	comp			↑		
205	H D 52971	7 00	27 09	57	5s	
206	comp			↑		
207	H D 52971	7 00	27 09	57	5s	
208	comp			↑		
209-213	sky			57	2s	
214	comp			↑		
215-221	BIAS				0s	
225-234	FLAT				6s	
235-244	BIAS				0s	
245-254	FLAT				12.6	
255-264	DARK				15m	

60 inch Telescope Log  
 Observer: CAULKINS  
 PI: All, Garcia, Huchra  
 Spectrograph: FAST  
 Grating: 3032L  
 Date: 9/17/99  
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	DARK				15m	
11-20	BIAS				0s	
21-30	FLAT				6s	
31-40	BIAS				0s	
41-50	FLAT				12s	
51-60	FLAT				45s	1.1" slit
61-70	FLAT				7s	5" slit
71	HD192281	20 12	40 16	#56	5s	5" slit
72	comp			↑		
73	GM Sqr	18 19	-25 24	Garcia	5m	5" slit
74	comp			↑		
75	HD192281	20 12	40 15	#56	10s	1.1" slit
76	comp			↑		
77,78	GM Sqr	18 19	-25 24	Garcia	10m	1.1" slit
79	comp			↑		
80,81	GM Sqr	18 19	-25 24	Garcia	10m	1.1" slit
82	comp			↑		
83,84	GM Sqr	18 19	-25 24	Garcia	10m	1.1" slit
85	comp			↑		
86	GM Sqr	18 19	-25 24	Garcia	5m	5" slit
87	comp			↑		
88,89	GM Sqr	18 19	-25 24	Garcia	10m	1.1" slit
90	comp			↑		
91	2M201135	20 11	25 42	#68	15m	Row 87, redo!
92	comp			↑		
93	2M202208	20 22	19 38	#68	8m	Row 73
94	comp			↑		
95	2M202234	20 22	25 58	#68	7m	Row 73
96	comp			↑		
97	2M202430	20 24	17 53	#68	7m	Row 77



extracted the e. row 87  
 also tried extracting  
 other 2 "peaks" -  
 nothing

60 inch Telescope Log  
 Observer: Collins  
 PI: Hector Garcia Falco  
 Spectrograph: FAST  
 Grating: 3000  
 Date: 9/17/99  
 Page: 7564

Number	Object	R.A.	Dec.	L/R	Exp	Comments
98	comp			↑		
99, 100	GM Sgr	18 19	-25 24	Garcia	10m	61" slit, high sec 2
101	comp			↑		
102	2M202443	20 24	25 48	#68	20m	PA=111°, clouds
103	comp			↑		redo! row 78
104	2M202503	20 25	17 28	#68	9m	wait out clouds
105	comp			↑		
106	23592	00 01	23 29	#84F	2m	
107	comp			↑		
108	00188	00 21	29 18	#84F	2.5m	
109	comp			↑		
110	00210	00 23	-00 30	#84F	4m	
111	comp			↑		
112	00364	00 39	6 50	#84F	8m	
113	comp			↑		
114	00438	00 46	36 19	#84F	1m	
115	comp			↑		
116	00558	00 58	11 32	#84F	8m	
117	comp			↑		
118	00585	01 01	30 09	#84F	45s	
119	comp			↑		
120	0594	01 02	32 27	#84F	45s	
121	comp			↑		
122	01041	01 06	-2 11	#84F	20m	
123	comp			↑		
124	01045	01 07	32 28	#84F	1m	
125	comp			↑		
126	01047	01 07	32 18	#84F	45s	
127	comp			↑		
128	01098	01 12	16 32	#84F	4m	

60 inch Telescope Log

Observer: CALKINS

PI: Rines

Spectrograph: FAST

Grating: 3000

Page: 7565

Date: 9/17/99

Number	Object	R. A.	Dec.	L/R	Exp	Comments
129	comp			↑		
130	#119-077	1 03	1 40	#64	8m	
131	comp			↑		
132	#078	1 04	-4 38	#64	20m	
133	comp			↑		
134	#079	φφ 56	00 01	#64	3m	
135	comp			↑		
136	#080	01 09	-2 37	#64	6m	
137	comp			↑		
138	#081	00 50	00 27	#64	3m	
139	comp			↑		
140	#082	00 41	-2 00	#64	15m	
141	comp			↑		
142	021934	2 19	57 15	#83	6m	
143	comp			↑		
144	021935	2 19	57 06	#83	7m	
145	comp			↑		
146	021935	2 19	57 14	#83	7m	
147	comp			↑		
148	021937	2 19	57 03	#83	5m	
149	comp			↑		
150	021937	2 19	57 10	#83	4m	
151	comp			↑		
152	021938	2 19	57 03	#83	4m	2 objects on slit
153	comp			↑		
154	021938	2 19	57 06	#83	35m	
155	comp			↑		
156	021939	2 19	57 07	#83	4m	
157	comp			↑		
158	021940	2 19	57 03	#83	2m	

152- 2 objects on slit -  
took brighter one near center

60 inch Telescope Log

Observer: CALKINS

PI: Fragg, Kishner

Spectrograph: FAST

Grating: 3000L

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Date: 9/17/99

Number	Object	R. A.	Dec.	L/R	Exp	Comments
159	comp			↑		
160	021940	2 19	57 05	<sup>15</sup> 83	20s	
161	comp			↑		
162	021940	2 19	57 11	<sup>15</sup> 83	4m	
163	comp			↑		
164	021942	2 19	57 10	<sup>15</sup> 83	4m	
165	comp			↑		
166	sn1999de	2 33	20 58	<sup>15</sup> 2	212m	PA = -1.0°
167	comp			↑		
168	Feige 25	2 38	5 28	<sup>15</sup> 56	2m	PA = 15.0°
169	comp			↑		
170	Feige 25	2 38	5 28	<sup>15</sup> 56	2m	Binby 4
171	comp			↑		
172	Feige 25	2 38	5 28	<sup>15</sup> 56	2m	Binby 2
173	comp			↑		
174	021943	2 19	57 04	<sup>15</sup> 83	3m	
175	comp			↑		
176	021945	2 19	57 01	<sup>15</sup> 83	3m	
177	comp			↑		
178	021946	2 19	57 15	<sup>15</sup> 83	5m	
179	comp			↑		
180	021947	2 19	57 06	<sup>15</sup> 83	90s	
181	comp			↑		
182	021951	2 19	57 10	<sup>15</sup> 83	3m	
183	comp			↑		
184	021951	2 19	57 11	<sup>15</sup> 83	3m	
185	comp			↑		
186	021951	2 19	57 13	<sup>15</sup> 83	2m	
187	comp			↑		
188	021952	2 19	57 03	<sup>15</sup> 83	2.5m	

60 inch Telescope log

Observer: CALKINS

PI: Berry

Spectrograph: FAST

Grating: 3006

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Date: 9/17/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
189	comp			↑		
190	021952	2 19	57 15	↑83	3m	
191	comp			↑		
192	021953	2 19	57 01	↑83	2m	
193	comp			↑		
194	021954	2 19	57 01	↑83	5m	
195	comp			↑		
196	021955	2 19	57 11	↑83	2m	
197	comp			↑		
198	022108	2 21	57 01	↑83	1m	
199	comp			↑		
200	022109	2 21	57 05	↑83	3.5m	
201	comp			↑		
202	022110	2 21	57 01	↑83	2m	
203	comp			↑		
204	022112	2 21	57 12	↑83	4m	
205	comp			↑		
206	022113	2 21	57 08	↑83	40s	
207	comp			↑		
208	022114	2 21	57 13	↑83	40s	
209	comp			↑		
210	022116	2 21	57 07	↑83	3m	
211	comp			↑		
212	022117	2 21	57 05	↑83	2m	
213	comp			↑		
214	022117	2 21	57 08	↑83	8s	
215	comp			↑		
216	022117	2 21	57 14	↑83	6m	
217	comp			↑		
218	022118	2 21	57 08	↑83	5m	

60 inch Telescope Log

Observer: CALUSVS

PI: Bragg, All

Spectrograph: FAST

Grating: 3002

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Date: 9/17/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
219	comp			↑		
220	HDS2971	7 00	27 09	#57	6s	
221	comp			↑		
222	HDS2971	7 00	27 09	#57	6s	
223	comp			↑		
224-229	sky			#57	1s	
230	comp			↑		
231-240	BIAS				0s	
241-250	FLAT				6s	
251-260	BIAS				0s	
261-270	FLAT				12s	
271-280	DARK				15m	

60 inch Telescope Log

Observer: P. Berlind  
 PI: Huchra

Spectrograph: FAST  
 Grating: 3000  
 Date: 9/18/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	DARK				15s	
11-20	FLAT				10s	2" slit
21-30	DIAS				0s	3" slit ↓
31-40	FLAT				7s	
41-50	DIAS				0s	cleaning nitely
51-60	FLAT				14s	
61-65	sky			57	4s	
66	COMP			↑	5s	
67-70	106_Her			87	4	2" slit
71	COMP			↑		
72-73	GMSyr	18:19	-25:29	99	20, 2m	5" slit PA=8° sec 20.19
74				↑	4s	v. close to moon!
75-77	GMSyr	"	"	99	2m	1.5" slit PA=15°
78	COMP			↑	5s	1.5" slit PA=15°
79	GMSyr	"	"	99	10m	
80	COMP			↑	5s	
81	ZM18248	18:24	+30:14	68	4m	3" slit ↓
82	COMP			↑		
83	ZM182519.3	18:25	+30:26	68	4m	
84	COMP			↑		
85	ZM182531.5	18:25	+30:26	68	4m	
86	COMP			↑		
87	ZM182548	18:25	+30:44	68	8m	clouds!
88	COMP			↑		delay
89	ZM182624.7	18:26	+30:31	68	4m	
90	COMP			↑		
91	ZM182632.7	18:26	+30:51	68	4m	
92	COMP			↑		



60 inch Telescope Log

Observer: PB  
 PI: Huchra

Spectrograph: FAST  
 Grating: 300R  
 Date: 9/18/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
93	ZM182651.3	18:26	+33:59	68	3m	
94	COMP			↑		
95	ZM182704.7	18:27	+33:29	68	3m	
96	COMP			↑		
97	ZM182720	18:27	+33:70	68	3s	
98	COMP			↑		
99	ZM182728	18:27	+33:31	68	10m	± to E
100	COMP			↑		more clouds
101	ZM182747	18:27	+33:07	68	5m	
102	COMP			↑		
103	ZM182805	18:28	+33:47	68	3m	
104	COMP			↑		
105	ZM182812	18:28	+33:11	68	4m	
106	COMP			↑		
107	ZM182830	18:28	+33:20	68	3m	
108	COMP			↑		
109	ZM182903	18:29	+33:25	68	3m	clouds.
110	COMP			↑		
111	ZM183017	18:30	+33:20	68	3m	
112	COMP			↑		
113	ZM183119	18:31	+33:36	68	4m	± to E 11 clouds
114	COMP			↑		
115-118	HDB157E	19:18	+30:13	87	4s	2" slit ↓
119	COMP			↑		
120-122	Sig Dia			87	1s	
123	COMP			↑		
124-126	64 Dia			87	1s	
127	COMP			↑		

60 inch Telescope Log

Spectrograph: FAST

Observer: PB

Grating: 300R

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PI: Megenth

Date: 9/18/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
128-131	IS-C <sub>2</sub>	19:44	+57:21	87	1s	2" slit ↓
132	COMP			↑		
133-134	BS-7800			87	1s	
137	COMP			↑		
138-141	HD192281			87	1s	
142	COMP			↑		
143-146	HD181596			87	1s	
147	COMP			↑		
148-150	BS7252			87	1s	
151	COMP			↑		
152-154	BS7800			87	1s	
155	COMP			↑		
156-158	HD192281	20:10	+10:07	86	5s	3" slit ↓
159	COMP			↑		
160	ZM190257	19:02	+41:26	68	6m	
161	COMP			↑		
162	ZM1903045	19:03	+36:16	68	6m	
163	COMP			↑		
164	ZM190504.1	19:05	+59:51	68	6m	more clouds. - thick
165	COMP			↑		close.
166-175	BLAS				0s	rain! fog! \$\$\$
176-185	FLAT				7s	3" slit
186-195	FLAT				14s	1.5" slit
196-205	FLAT				4s	5" slit

5120 Å  
4553

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>7572</u>
Observer: <u>PBerlind</u>		Grating: <u>300L</u>		Date: <u>9/19/99</u>		
PI: <u>Magrath</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	DARK				15m	
11-20	BIAS				0s	huge rain storm today!
21-30	FLAT				7s	3" slit
31-40	BIAS				0s	
41-50	FLAT				14s	
51-60	FLAT				10s	2" slit ↓
61-64	1Pcy			87	1s	
65	COMP			↑		open ~ 11:30 pm
66-68	Gal 795			87	1s	
69	COMP			↑		clouds
70-72	Tau Aqr			87	1s	
73	COMP			↑		
74-76	77 Aqr			87	1s	
77	COMP			↑		
78-80	99 Aqr			87	1s	
81	COMP			↑		
82-84	The Psc			87	1s	
85	COMP			↑		
86-88	Gal 892			87	1s	
89	COMP			↑		
90-92	BS 9038			87	1s	
93	COMP			↑		
94-96	HDF 2281	20:10	+10:07	86	5s	3" slit ↓
97	COMP			↑		
98	Gal 9-084	20:48	+01:14	64	5m	clearing
99	COMP			↑		
100	083	20:50	-01:42	64	4m	
101	COMP			↑		

60 inch Telescope Log

Observer: PB

PI: Kathy MOK

Spectrograph: FAST

Grating: 3000

Date: 9/19/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
102	g119-685	00:56	+02:20	64	2"	MAT in cloud.
103	COMP			↑		
104	086	00:56	-02:56	64	8m	
105	COMP			↑		
106	094	00:53	-03:56	64	4m	
107	COMP			↑		
108	095	00:58	-01:41	64	4m	nice Sy! → fog!
109	COMP			↑		close
110	096	00:52	+02:25	64	4m	open again later
111	COMP			↑		long, select
112	101	01:07	+0:54	64	3m	
113	COMP			↑		
114	102	00:57	-02:48	64	4m	
115	COMP			↑		
116	103	00:47	-03:21	64	3m	
117	COMP			↑		
118	104	01:01	-0:54	64	4m	
119	COMP			↑		
120	105	00:41	-01:21	64	7m	
121	COMP			↑		
122	107	01:10	+02:20	64	3m	
123	COMP			↑		
124	108	00:51	+01:22	64	3m	
125	COMP			↑		
126	109	01:06	+01:21	64	3m	
127	COMP			↑		
128	110	00:49	-03:27	64	4m	
129	COMP			↑		
130	112	00:54	-01:25	64	4m	
131	COMP			↑		

Matt Lal

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>7574</u>
Observer: <u>PB</u>		Grating: <u>3000</u>		Date: <u>9/19/99</u>		
PI: <u>Boyer/Ken</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
132	g119-113	00:55	-03:26	64	3m	ext gal to W
133	CMP			↑		
134	114	00:54	-01:34	64	3m	
135	CMP			↑		
136	115	01:02	-04:01	64	3m	
137	CMP			↑		
138	116	01:07	+10:19	64	3m	
139	CMP			↑		
140	117	00:52	-03:32	64	5m	
141	CMP			↑		
142	119	00:56	+10:57	64	3m	
143	CMP			↑		
144	SN1999 dq	02:57	+20:58	2	20m	PA=31
145	CMP			↑		
146	N000332	04:41	-01:18	111	5m	PA=90
147	CMP			↑		
148	N000935	04:53	+04:03	14	4m	
149	CMP			↑		
150	A000186	05:16	-10:09	111	3m	class2. stellar
151	CMP			↑		
152	Z012609	05:08	+17:21	111	3m	SW gal
153	CMP			↑		
154	Z012609 B	05:08	+17:22	111	6m	NE gal
155	CMP			↑		
156	Z010276	06:	+45	111	5m	
157	CMP			↑		
158-161	COOii	05:27	+11:23	89	20, 2m	H+Ken!
160	CMP			↑		
161-2	HKOr	05:28	+12:07	89	20, 2m	
163	CMP			↑		

60 inch Telescope Log

Observer: PB

PI: Calvet

Spectrograph: FAST

Grating: 300L

Date: 9/19/99

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Number	Object	R. A.	Dec.	L/B	Exp	Comments
164-5	HD245185	05:23	+9:59	89	5s, 25s	
166	COMP			↑		
167-168	BANDI	05:31	+00:45	89	10s, 20s	
169	COMP			↑		
170-172	PIOR	05:26	-06:10	89	10s, 1m	
173	COMP			↑		delay @ 48.
174-175	UXOR	05:02	-03:51	89	0s, 30s	
176	COMP			↑		
177-178	RYORI	05:29	-02:51	89	1m, 4s	
179	COMP			↑		
180-181	PIB99	05:31	-05:38	89	1m, 10s	
182	COMP			↑		
183-184	G191028	05:01	+52:45	56	2m	PA=15
185	COMP			↑		
186-188	HD14372			89	2s	PA=90
189	COMP			↑		
190-192	HD21449			89	2s	
193	COMP			↑		
194-196	HD23524			89	2s	
197	COMP			↑		
198-200	HD23585			89	2s	
201	COMP			↑		
202-204	HD26911			89	2s	
205	COMP			↑		
206-208	HD27524			89	2s	
209	COMP			↑		
210-212	HD39578			89	2s	
213	COMP			↑		

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>7576</u>	
Observer: <u>PB</u>			Grating: <u>3022 2"/3"</u>			
PI: <u>Messath</u>			Date: <u>9/19/99</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
214-216	39 Ari			87	1s	2" slit ↓
217	COMP			↑		
218-220	Del Ari			87	1s	
221	COMP			↑		
222-224	GSAHD			87	1s	
225	COMP			↑		
226-228	Kap Pa			87	1s	
229	COMP			↑		
230-232	Sig Pa			87	1s	
233	COMP			↑		
234-237	Ups Aur			87	1s	
238	COMP			↑		
239-241	HDS 2971	06:57	+2213	57	4s	
242	COMP			↑		
243-245	AGK2	07:17	+1459	67	4s	
246	COMP			↑		
247-256	FLAT			87	10s	
257-261	sky	zenith		87	3s	3" slit ↓
262	COMP			↑		
263-272	BIAS				0s	
273-282	FLAT				7s	
283-292	BIAS				0s	scattered clouds
293-302	FLAT				14s	@ dawn
303-312	DARK				20m	
						<del>★ END OF FAST RUN</del>
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