

★ Start of FAST Run★

60 inch Telescope Log

Observer: P. Berbind

PI: Huchra

Spectrograph: FAST

Grating: 300R; 3" slit

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Date: 11/10/98

Number	Object	R. A.	Dec.	L/R	Exp	Comments
	test					New CCD Flood
2-11	BD15				0s	
12-21	FLAT				6s	high dark current
22-31	BD15				0s	300R; 3" slit; tilt=610.0
32-40	FLAT				12s	
42-46	SKY	zenith		57	6s	lines tilted ///
47	COMP			↑		1 pix
48-50	HD168917	18:22	-14:22	57	3s	
51	COMP			↑		
52-54	HD169727	18:26	-13:39	57	5s	
55	COMP			↑		
56-58	HD169755	18:20	+12:56	57	5s	2%
59	COMP			↑		
60-62	BDP28421	21:48	+28:37	56	30s	
63	COMP			↑		
64-66	HD192281	20:40	+40:07	56	4s	
67	COMP			↑		
68-69	N7331	22:34	+34:09	57	3m	
70	COMP			↑		
71	2M20583.1	20:58	+28:28	68	10m	
72	COMP			↑		
73	2M2058.0	20:58	+24:48	68	7m	
74	COMP			↑		
75	2M201517.5	20:45	+13:02	68	2m	Star; faint fuzz
76	COMP			↑		
76	2M213155.2	21:31	+28:53	68	5m	
77	COMP			↑		
78	2M2150277	21:50	+28:17	68	6m	
79	COMP			↑		

NO BIN BY 2 DARKS!
 BIN BY 2 OBJECTS REDUCED WITH BIN BY 2
 DARKS FROM 11/11/98

60 inch Telescope Log

Observer: PB

PI: Huchra

Spectrograph: FAST

Grating: 300R; 3" slit

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Date: 11/10/98

Number	Object	R.A.	Dec.	L/R	Exp	Comments
80	ZM211605.9	21:16	+29:58	68	6m	
81	COMP			↑		
82	ZM213208.7	21:32	+29:03	68	6m	em
83	COMP			↑		
84	ZM212759.5	21:27	+28:01	68	5m	
85	COMP			↑		
86	ZM212849.6	21:28	+28:01	68	10m	
87	COMP			↑		
88	ZM2148W.5	21:48	+27:38	68	5m	
89	COMP			↑		
90	ZM213215.4	21:32	+27:10	68	10m	
91	COMP			↑		
92	ZM212521.3	21:25	+25:16	68	5m	
93	COMP			↑		
94	ZM212224.0	21:22	+27:27	68	7m	*'s in slit to E
95	COMP			↑		
96	ZM212238.5	21:22	+29:02	68	7m	
97	COMP			↑		
98	SNR98eg	22:39	+08:36	2	20m	
99	COMP			↑		
100	Fetp110	23:03	-05	56	2m	
101	COMP			↑		
102	ZM212324.8	21:23	+26:58	68	6m	
103	COMP			↑		
104	ZM215751.6	21:57	+28:06	68	5m	
105	COMP			↑		
106	ZM215751.6	21:57	+28:06	68	4m	
107	COMP			↑		
108	ZM225710.7	22:57	+61:55	68	10s	Str w/ neb.
109	COMP			↑		

108 2 stars in neb? Ha at rest λ in one

60 inch Telescope Log
 Observer: PB
 PI: Huchra & Geller
 Spectrograph: F85T
 Grating: 300R
 Date: 11/10/98
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
110	ZM225449.5	22:54	+59:52	68	7m	bin by 2; close E-W pair
111	COMP			↑		gal u/en + star to E
112	ZM222252.6	22:22	+25:17	68	4m	
113	COMP			↑		
114	ZM221930.9	22:19	+29:23	68	8m	*'s to E+W em
115	COMP			↑		
116	ZM221035.9	22:10	+26:03	68	4m	
117	OMP			↑		
118	ZM222229.0	22:21	+25:15	68	4m	
119	COMP			↑		
120	ZM2222062	22:28	+19:01	68	4m	
121	COMP			↑		
122	ZM221114.9	22:11	+25:35	68	4m	
123	COMP			↑		
124	ZM220551.9	22:05	+26:37	68	4m	
125	COMP			↑		
126	ZM220648.8	22:06	+25:01	68	5m	
127	OMP			↑		
128	ZM221848.2	22:18	+25:27	68	4m	* to W (M* u/en)
129	COMP			↑		
130	E-823.2595652EW	00:31	+10:12	55	8m	close E-W pair of galaxies
131	COMP			↑		bin by 2
132	E-823.26476W	00:39	+10:20	55	11m	
133	COMP			↑		
134	E-823.276608	00:28	+15:05	55	10m	
135	COMP			↑		
136	E-823.356829	00:30	+14:48	55	8m	
137	COMP			↑		
138	E-915.46133	00:37	+09:33	55	10m	
139	COMP			↑		

110 star is to W - it has emission (H α)
 possible gal to E - couldn't get velocity

60 inch Telescope Log

Observer: PB
 PI: Geller

Spectrograph: FAST
 Grating: 3002
 Date: 11/10/98

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
140	E_823.44788	00:31	+14:26	SS	10m	
141	COMP			↑		
142	E_823.47865	00:38	+14:28	SS	15m	goodem!
143	COMP			↑		
144	E-1274.57321	00:51	+14:53	SS	10m	
145	COMP			↑		
146	E-1274.73025	00:52	+14:31	SS	15m	em
147	COMP			↑		
148	E-1274.75306	00:49	+10:15	SS	10m	* to W
149	COMP			↑		
150	E-1274.77624	00:50	+10:22	SS	10m	Moon is up.
151	COMP			↑		
152	E_82351682	00:35	+10:39	SS	12m	em
153	COMP			↑		
154	E_823.76078	00:38	+13:59	SS	10m	
155	COMP			↑		
156	E1274.75696	00:49	+10:58	SS	8m	
157	COMP			↑		
158	E915.86352	00:41	+10:01	SS	6m	
159	COMP			↑		
160	SN1998ef	01:03	+32:14	2	15m	
161	COMP			↑		
162	SNcageg SS3	02:29	+18:25	2	15m	ugh - not a SN! K&K
163	COMP			↑		
164	SNcageg SS3 host	02:29	+18:25	2	3m	* in slit to W
165	SNcageg	"	"	2	2m	SN cand; still not a SN
166	E1528178	01:56	+14:54	SS	4m	
167	OMP			↑		

60 inch Telescope Log
 Observer: PB
 PI: Geller/Koranyi/Huchra
 Spectrograph: FAST
 Grating: 300L
 Date: 11/10/98
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Number	Object	R. A.	Dec.	L/R	Exp	Comments
168	E-15,3982179	01:41	+10:21		7m	em
169	COMP					
170	E-15,4002406	01:41	+10:20	SS	7m	em
171	COMP			↑		
172	E-15,4004016	01:45	+10:20	SS	7m	em wow! young starburst
173	COMP			↑		
174	E-15,4229833	01:45	+09:49	SS	4m	
175	COMP			↑		
176	E-15,4230058	01:45	+09:51	SS	15m	
177	COMP			↑		
178	E-209,78117	01:59	+15:07	SS	5m	± in slit to W
179	COMP			↑		
180	COMP 7-3.072	02:50	+10:01	3S	7m	
181	COMP			↑		
182	073	02:46	+12:24	3S	6m	
183	COMP			↑		
184	074	02:51	+10:10	3S	7m	
185	COMP			↑		Seeing worse
186	76	02:50	+11:10	3S	7m	
187	COMP			↑		
188	78	02:47	+11:15	3S	7m	
189	COMP			↑		
190	-80	02:46	+12:58	3S	10m	
191	COMP			↑		
192	2M040341.9	04:03	+32:09	68	4m	
193	COMP			↑		
194	2M040301.7	04:03	+30:50	68	3m	
195	COMP			↑		
196	2M04041.7	04:07	+30:17	68	5m	
197	COMP			↑		

60 Inch Telescope Log

Observer: PB
 PI: Huchra & Krshner

Spectrograph: FAST

Grating: 300R

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Date: 11/10/98

Number	Object	R.A.	Dec.	L/R	Exp	Comments
196	2M010410.9	04:04	+72:57	68	10m	
197	OMP			f		
200	2M010741.9	04:07	+70:15	68	6m	
201	OMP			f		
202	2M013102.6	04:33	+74:26	68	7m	
203	OMP			f		
204	2M043336.0	04:33	+13:31	68	6m	
205	OMP			f		
206	2M044322.2	04:43	+18:42	68	6m	
207	OMP			f		
208/210	SN1998cc	06:53	+56:52	2	20m	+2
209/211	OMP			f		
212	2M062514.1	06:25	+15:05	68	10m	+3 to W
213	OMP			f		
214	2M062229.4	06:22	+13:58	68	10m	* to W
215	OMP			f		
216-217	Feig34	10:36	+43:21	56	90s	
218	OMP			f		
219-228	BIAS			0	0s	
229-238	FLAT			0	6s	
239-248	BIAS			0	0s	
249-258	FLAT			0	12s	
259-268	DARK				15m	bin by 4
						clear @ dawn
						~

60 inch Telescope Log
 Observer: P Berlin
 PI: Jeff et al
 Spectrograph: FAST
 Grating: 300L
 Date: 11/11/98
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS				0s	
11-20	DARK				20m	cloudy
21-30	DARK				15m	
31-40	BIAS				0s	
41-50	FLAT				6s	
51-60	BIAS				0s	
61-70	FLAT				12s	open @ 3am
71-75	CGCam	0449	+5159	107	20s, 10s	4m
74	COMP			↑		still lots of clouds
75	BGCam				10m	
76	COMP			↑		
77-78	Hiltner 60	0642	+0241	56	1m	
79	COMP			↑		
80-81	AOS 35026	0558	+2618	104	1m	1.1" slit
82	COMP			↑		
83-85	HDS 478	0553	+2625	104	10s	
86	COMP			↑		more clouds...
87-96	FLAT			104	20s	
97	ZM0672257	0632	+2759	68	5m	3" slit. open again
98	COMP			↑		
99	ZM06745.8	0647	+2722	68	5m	
100	COMP			↑		
101	ZM06749.7	0645	+2709	68	5m	*'s to E + W
102	COMP			↑		
103	ZM067405.7	0640	+2732	68	6m	more clouds
104	COMP			↑		
105	ZM06732.0	0630	+2724	68	8m	1m by 2; *'s to E+W
106	COMP			↑		redo

105 - 2 objects on slit - one to east is galaxy
 western object is centered object but it
 is a star

60 inch Telescope Log
 Observer: P Berlinol
 PI: Huchra
 Spectrograph: FAST
 Grating: 300R
 Date: 11/12/98
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
140	DARK			0	15m	
1120	BIAS			0	0s	
2120	FLAT			0	6s	SNOW this afternoon
2140	BIAS			0	0s	
4150	FLAT			0	12s	
552	00284211	21:48	+28:37	56	1m	clearing ~ 7:30
53	CMP			r		
54	ZM223023.9	22:00	+22:33	68	6m	
55	CMP			r		
56	ZM221019.2	22:10	+26:03	68	5m	
57	CMP			r		
58	ZM222211.6	22:22	+26:41	68	10m	* to E
59	CMP			r		windy;
60	ZM221155.0	22:11	+25:05	68	5m	poor seeing
61	CMP			r		
62	ZM221706.6	22:17	+22:53	68	6m	
63	CMP			r		
64	ZM220623.2	22:06	+28:05	68	6m	* to E
65	CMP			r		
66	ZM223245.8	22:32	+23:56	68	10m	gal to far W
67	CMP			r		
68	ZM222858.7	22:28	+28:33	68	6m	
69	CMP			r		
70	ZM220504.4	22:08	+26:08	68	15m	bm by 2 em
71	CMP			r		
72	SNAP809	22:41	+08:36	2	20m	12m stopped by clouds
73	CMP			r		
74	E-20126480	01:24	+04:25	55	12m	open again @ 11:15
75	CMP			r		

NO BIN BY 2 DARKS !!
 USED BIN BY 2 DARKS FROM
 11/13/98 For files 70 & 72

60 inch Telescope Log
 Observer: PB
 PI: Grueter
 Spectrograph: FAST
 Grating: 300L
 Date: 11/12/98
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Number	Object	R. A.	Dec.	L/R	Exp	Comments
76	E-1201.26525	01:25	+09:30	SS	15m	still some clouds
77	WMP			f		
78	E-635.282684	01:30	+13:40	SS	15m	windy
79	WMP			f		
80	E-1201.2694	01:41	+09:36	SS	15m	
81	WMP			f		
82	E-1201.28640	01:50	+09:23	SS	15m	
83	WMP			f		
84	E-1201.52762	01:24	+05:25	SS	15m	
85	WMP			f		
86	E-1201.53393	01:25	+04:08	SS	15m	
87	WMP			f		
88	a539.045241	04:52	+02:47	64	10m	
89	WMP			f		
90	a539.045247	04:52	+05:40	64	12m	
91	WMP			f		
92	a539.045304	04:53	+06:02	64	10m	
93	WMP			f		
94	a539.045328	04:53	+05:47	64	10m	* to W em
95	WMP			f		
96	a539.045305	04:53	+10:29	64	12m	
97	WMP			f		
98	a539.045311	04:53	+07:21	64	7m	* to W
99	WMP			f		
100	a539.045324	04:53	+08:47	64	10m	still strong wind
101	WMP			f		+ poor seeing
102	a539.045326	04:53	+02:14	64	12m	clear
103	WMP			f		
104	a539.045352	04:53	+02:50	64	12m	
105	WMP			f		

60 inch Telescope Log
 Observer: PB
 PI: Geller
 Spectrograph: FAST
 Grating: 300R
 Date: 11/12/88
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Number	Object	R. A.	Dec.	L/R	Exp	Comments
106	Q539.045332	04:53	+06:24	64	10m	
107	COMP			f		
108	Q539.045333 _p	04:53	+02:30	64	12m	bright * to W (or Ori) was uneven sky emitt!
109	COMP			f		
110	Q539.045335	04:53	+02:29	64	15m	
111	COMP			f		
112	Q539.045335 _p	04:53	+07:19	64	12m	gal to E no sup*
113	COMP			f		
114	Q539.045334	04:53	+04:40	64	7m	
115	COMP			f		
116	Q539.045338	04:53	+01:37	64	15m	* to E
117	COMP			f		
118	Q539.045339	04:53	+01:57	64	15m	
119	COMP			f		
120	Q539.045342	04:54	+01:48	64	12m	
121	COMP			f		
122-124	CalCam	04:19	+55:55	107	20s, 10s, 5s	
125	COMP			f		
126	Q539.052700	05:27	+04:38	64	20m	high cz!
127	COMP			f		
128	Q539.052704	05:27	+04:23	64	20m	4 Iridium flares; 2 brighter than Sirius
129	COMP			f		
130	Q539.052703	05:27	+06:01	64	6m	
131	COMP			f		
132-133	F44234	10:36	+43:21	56	2m	
134	COMP			f		clouds to SE of jam
135-144	BIAS				0s	
145-154	FLAT				6s	
155-164	BIAS				0s	
165-174	FLAT				12s	
175-184	DARK				15m	

112- OBJECT IN CENTER OF SLIT IS A STAR
 OBJECT TO EAST IS GALAXY E Z ~ .1

60 inch Telescope Log Observer: <u>CALKENS</u> PI: <u>All, Geller</u>	Spectrograph: <u>FAST</u> Grating: <u>300L</u> Date: <u>11/13/98</u>
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
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-15	DARK				15m	Bin-by 4
16-25	BIAS				0s	
26-35	FLAT				6s	
36-45	BIAS				0s	Bin-by 2
46-55	FLAT				12s	
56-65	FLAT				20s	1.1" slit, Bin-by 4
66-70	sky			S7	2.5	
71	comp			↑		
72	SDP 289211	21 51	28 51	S6	45s	(Terrible dark current)
73	comp			↑		
74	N7331	22 37	34 25	#S7	3m	
75	comp			↑		
76	comp			↓		
77,78	4U1907p09	19 09	09 49	#104	15m	1.1"
79	comp			↑		
80,81	HD220579	19 04	11 07	#104	10,20	1.1"
82	comp			↑		
83	E-1274.766757	00 55	10 04	#55	20m	faint!
84	comp			↑		
85	E-1274.794431	01 02	09 47	#55	15m	
86	comp			↑		
87	E-1465.9616	00 07	09 42	#55	20m	
88	comp			↑		
89	E-15.964337	01 49	14 04	#55	20m	
90	comp			↑		
91	E-1201.37082	01 20	09 19	#55	20m	
92	comp			↑		
93	E1201.37703	01 11	09 10	#55	20m	Star to the east
94	comp			↑		
95	E-1201.539	01 07	09 46	#55	20m	

60 inch Telescope Log Observer: <u>CALKINS</u> PI: <u>Geller, Koranyi</u>	Spectrograph: <u>FAST</u> Grating: <u>3006</u> Date: <u>11/12/98</u>
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
96	comp			↑		
97	E-21.547159	01 42	9 05	#55	20m	Finished!
98	comp			↑		
99	sm7632	01 37	05 52	#2	10m	
100	comp			↑		
101	sm763.077	2 58	42 47	#35	20m	Binby 2, star west
102	comp			↑		
103	3.079	2 46	41 58	#35	20m	star east
104	comp			↑		
105	3.081	2 49	41 34	#34	10m	
106	comp			↑		
107	3.082	2 46	41 38	#35	15m	
108	comp			↑		
109	3.082	2 47	42 37	#35	20m	par. int Q
110	comp			↑		
111	3.085	2 48	41 01	#35	15m	
112	comp			↑		
113	3.086	3 02	41 47	#35	20m	Q int par
114	comp			↑		
115	0452.01541p0138	4 54	2 07	#64	10m	
116	comp			↑		
117	0452.7p0137	4 54	6 28	#64	20m	object to the east
118	comp			↑		
119	045429p0135	4 54	01 34	#64	20m	Binby 2
120	comp			↑		
121	045429p0145	4 54	01 43	#64	20m	
122	comp			↑		
123	045440p0202	4 54	2 02	#64	20m	
124	comp			↑		
125	045500p0141	4 55	01 41	#64	20m	

60 inch Telescope Log
 Observer: CALY JINS
 PI: Geller, Garcia, McClintock, Kinsler
 Spectrograph: FAST
 Grating: 300L
 Date: 11/13/98
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
126	comp			↑		
127-129	CICam	4 19	55 59	#103	5,20,90	
130	comp			↑		
131	comp			↓		
132	AO535p2L	5 38	26 18	#104	1m	
133	comp			↑		
134	AO39478	5 53	26 25	#104	1m	
135	comp			↑		
136	045507p2L6	4 55	6 16	#64	20m	stars east & west
137	comp			↑		Binby 2
138	045509p2L1	4 55	01 41	#64	20m	gal to the west, binby 2
139	comp			↑		
140	045510p2L35	4 55	5 36	#69	20m	 lower gal
141	comp			↑		
142,143	sn1998bu	10 46	11 51	#2	20m	lots of galaxy!
144	comp			↑		
145,146	sn1998s	11 46	47 29	#2	20m	lotsa H α
147	comp			↑		
148	Feige 34	10 39	43 05	#56	2m	Binby 2
149	comp			↑		
150	Feige 34	10 39	43 05	#56	2m	Binby 4
151	comp			↑		
152	WILSON6377	10 01	55 24	#57	10s	
152	comp			↑		
154-163	DIMS				0s	
164-173	FLAT				6s	
174-183	BIGS				0s	
184-193	FLAT				12s	
194-208	DARKS				15m	

60 inch Telescope Log

Observer: CALKINS

PI: All, Hutchra,

Spectrograph: FAST

Grating: 300L

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Date: 11/14/98

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-8	DARK				15m	
9-18	BIAS				0s	
19-28	FLAT				6s	
29-38	BIAS				0s	
39-48	FLAT				12s	
49	BDp284211	21 51	28 51	#56	45s	
50	comp			↑		
51	N7469	23 03	08 52	#6	2.5m	Rinby 2, star east
52	comp			↑		
53	MRK509	20 44	-10 43	#6	3m	
54	comp			↑		
55	3C390.3	18 41	79 45	#6	10m	
56	comp			↑		
57	2M232749.7p	23 27	15 06	#68	10m	
58	comp			↑		
59	2M232054.0p	23 20	21 06	#68	2.5m	stellar?
60	comp			↑		
61	2M232333.6p	23 23	13 44	#68	5m	
62	comp			↑		
63	2M231331.2p	23 13	21 11	#68	20m	
64	comp			↑		
65	2M231731.6p	23 17	19 11	#68	10m	
66	comp			↑		
67	2M232130.1p	23 21	15 26	#68	5m	
68	comp			↑		
69	2M232029.6p	23 20	12 04	#68	15m	
70	comp			↑		
71	2M232453.7p	23 24	20 20	#68	4m	
72	comp			↑		
73	2M231121.7p	23 11	20 00	#68	10m	

60 inch Telescope Log

Observer: CALKINS

PI: Huchra, Kirshner, Koranyi

Spectrograph: FAST

Grating: 300L

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Date: 11/14/98

Number	Object	R.A.	Dec.	L/R	Exp	Comments
74	comp			↑		
75	2M232208.5p	23 22	22 49	#68	5m	
76	comp			↑		
77	2M235958.5p	00 00	29 16	#68	15m	
78	comp			↑		
79	2M231859.0p	23 14	21 09	#68	20m	
80	comp			↑		
81	2M233941.7p	23 39	20 11	#68	20m	
82	comp			↑		
83	2M232216.2p	23 22	21 06	#68	10m	
84	comp			↑		
85	2M231706.4p	23 17	21 28	#68	5m	
86	comp			↑		
87	2M232252.9p	23 22	17 29	#68	20m	
88	comp			↑		
89	2M232237.0p	23 22	16 28	#68	10m	
90	comp			↑		
91	2M232257.6p	23 23	15 05	#68	5m	
92	comp			↑		
93	sn1998ef	01 03	52 13	#2	15m	galaxy to the west
94	comp			↑		
95	sn1998es	01 37	05 52	#2	10m	
96	comp			↑		
97	PG0205p134	2 08	13 36	#56	4m	
98	comp			↑		
99	3.087	3 01	42 51	#35	15m	star east, binby 2
100	comp			↑		
101	3.088	2 52	40 30	#35	20m	galaxy west, binby 2
102	comp			↑		
103	3.089	2 52	43 07	#35	20m	galaxy west, binby 2

60 inch Telescope log

Observer: CALIXUS

PI: Koranyi, Geller, Garcia

Spectrograph: FAST

Grating: 300L

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Date: 11/14/98

Number	Object	R.A.	Dec.	L/R	Exp	Comments
104	comp			↑		
105	3.090	2 59	42 13	#35	20m	
106	comp			↑		
107	3.091	2 51	40 15	#35	10m	one star to the east
108	comp			↑		
109	3.092	2 49	42 11	#35	20m	two stars to the east
110	comp			↑		
111	045520p0156	4 55	1 35	#64	30m	
112	comp			↑		
113-115	CICam	4 19	55 59	#102	5,20,30	
116	comp			↑		
117	045524p0543	4 55	5 43	#64	20m	gal to east, binby 2
118	comp			↑		
119	045551p0231	4 55	2 31	#64	20m	
120	comp			↑		
121	045552p0658	4 55	7 00	#64	20m	bright star to the east, binby 2
122	comp			↑		
123	045558p0256	4 55	2 56	#64	12m	star west
124	comp			↑		
125	045600p0238	4 56	2 38	#64	20m	
126	comp			↑		
127	045605p0149	4 56	1 49	#64	12m	
128	comp			↑		
129	045620p0156	4 56	1 36	#64	15m	
130	comp			↑		
131	045623p0636	4 56	6 36	#64	12m	
132	comp			↑		
133	045626p0301	4 56	3 01	#64	15m	
134	comp			↑		
135	045639p0607	4 56	6 08	#64	12m	

107 - spectrum is stellar
but there is emission at $\lambda = 16891$ + it
looks red in the 2d spectral image

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>6675</u>	
Observer: <u>CALKINS</u>			Grating: <u>300L</u>			
PI: <u>Geller, Kenyon, Kirshner</u>			Date: <u>11/14/98</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
136	comp			↑		
137	045652p0647	4 56	2 47	#64	5m	
138	comp			↑		
139	045657p0647	4 56	6 49	#64	10m	
140	comp			↑		
141	045702p0620	4 57	6 20	#64	8m	
142	comp			↑		
143	BGGem	6 03	27 42	#100	5m	Birby L
144	comp			↑		
145-147	sn19985	11 46	47 28	#2	20m	
148	comp			↑		
149	Feige 34	10 39	43 05	#64	2m	
150	comp			↑		
151-155	sky	zenith		#57	10c	
156	comp			↑		
157-166	BIAS				0s	
167-176	FLAT				6s	
177-186	BIAS				0s	
187-196	FLAT				12s	
197-206	DARK				15m	

60 inch Telescope Log Observer: <u>CALKINS</u> PI: <u>All, McClintock, Huebra</u>	Spectrograph: <u>FAST</u> Grating: <u>300L</u> Date: <u>11/15/98</u>
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-7	DARK				15m	
8-17	BIAS				0s	
18-27	FLAT				6s	
28-37	FLAT				20s	1.1" slit
38-47	BIAS				0s	BIBBY 2
48-57	FLAT				12s	
58-62	sky			#57	2s	
63	comp			↑		
64	ADP 284211	21 51	28 51	#56	45s	
65	comp			↑		
66	N7331	22 37	34 25	#57	4m	Great seeing
67	comp			↑		
68	comp			↓		
69, 70	4U1907p09	19 09	09 49	#104	15m	
71	comp			↑		
72, 73	HD 230579	19 04	11 07	#104	10, 20	
74	comp			↑		
75	2M230309.1p	23 03	29 29	#68	4m	
76	comp			↑		
77	2M232331.7p	23 23	17 36	#68	3m	
78	comp			↑		
79	2M230606.dp	23 06	19 43	#68	4m	
80	comp			↑		
81	2M235721.9p	23 57	12 07	#68	5m	
82	comp			↑		
83	2M231913.2p	23 19	18 55	#68	4m	
84	comp			↑		
85	2M232215.3p	23 22	14 04	#68	3m	
86	comp			↑		
87	2M231756.3p	23 17	13 53	#68	2m	

60 inch Telescope Log
 Observer: CALIKINS
 PI: Huchra, Koranyi, Kirshner
 Spectrograph: FAST
 Grating: 3006
 Date: 11/15/98
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
88	comp			↑		
89	2M232605.6p	23 26	17 42	#68	2.5m	
90	comp			↑		
91	2M231940.1p	23 19	14 51	#68	15m	
92	comp			↑		
93	2M231253.1p	23 12	18 19	#68	3m	
94	comp			↑		
95	2M234828.9p	23 48	21 35	#68	8m	
96	comp			↑		
97	2M230340.9p	23 03	19 58	#68	4m	
98	comp			↑		
99	2M232325.4p	23 23	20 36	#68	4m	
100	comp			↑		
101	2M232524.7p	23 25	14 15	#68	4m	
102	comp			↑		
103	2M230517.9p	23 05	20 41	#68	15m	
104	comp			↑		
105	2M232621.8p	23 26	14 12	#68	8m	
106	comp			↑		
107	2M232429.0p	23 24	18 03	#68	22m	
108	comp			↑		
109	3.093	2 47	41 21	#35	20m	
110	comp			↑		
111	3.094	2 55	42 32	#35	8m	bright star east, bin
112	comp			↑		2
113	3.095	2 47	41 01	#35	20m	2 objects to the east
114	comp			↑		
115	3.096	2 47	41 32	#35	12m	bright object east
116	comp			↑		bin by 2
117	SN1998es	1 37	5 53	#2	15m	$\alpha = 0^\circ$, Tilt = 550 arc galaxy nucleus to the south (ie: to the left on quick-look)

NO FLATS @ this tilt

NOT reduced

60 inch Telescope Log
 Observer: CALKINS
 PI: Kirshner, Geller
 Spectrograph: FAST
 Grating: 300L
 Date: 11/15/98
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
117	comp			↑		
119	PG0205p134	2 08	13 39	#56	2m	$\delta = 0^\circ$ Tilt = 550.c
120	comp			↑		
121	045703p0655	4 57	6 55	#64	10m	
122	comp			↑		
123	045708p0311	4 57	3 11	#64	20m	
124	comp			↑		
125	045716p0307	4 57	3 07	#64	10m	bin by 2 star to the west
126	comp			↑		
127	045722p0653	4 57	1 53	#64	20m	
128	comp			↑		
129	045722p0208	4 57	2 08	#64	10m	
130	comp			↑		
131	045732p0711	4 57	7 13	#64	20m	
132	comp			↑		
133	045741p0724	4 57	7 24	#64	15m	
134	comp			↑		
135	045744p0251	4 57	2 49	#64	12m	bin by 2
136	comp	MOU 120		↑		045744 + 07:4240 Tonde
137	045745p1031	4 57	10 32	#64	4m	
138	comp			↑		
139	045756p0653	4 57	6 52	#64	5m	
140	comp			↑		
141	045758p0714	4 57	7 13	#64	6m	
142	comp			↑		
143	045800p0715	4 58	7 15	#64	20m	
144	comp			↑		
145	045835p0253	4 58	2 51	#64	20m	
146	comp			↑		
147	045841p0653	4 58	6 34	#64	15m	

no comp for 135 - redo

60 inch Telescope Log			Spectrograph: <u>FAST</u>			
Observer: <u>CALYNS</u>			Grating: <u>3000</u>		Page: <u>6679</u>	
PI: <u>Geller, McClintock, Garcia</u>			Date: <u>11/15/98</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
148	comp			↑		
149	045848p0706	4 58	7 08	#64	20m	
150	comp			↑		
151	045850p0658	4 58	6 58	#64	20m	
152	comp			↑		
153	045852p0601	4 58	6 00	#64	15m	
154	comp			↑		
155	comp			↓		
156	A0535p26	5 38	26 17	#104	1m	
157	comp			↑		
158	HD39478	5 53	26 24	#104	1m	
159	comp			↑		
160-162	CICam	4 19	55-58	#107	5, 20, 90s	
163	comp			↑		
164	045902p0216	4 59	2 14	#64	20m	
165	comp			↑		
166	045921p0537	4 59	5 38	#64	10m	2 objects east
167	comp			↑		
168	045926p0231	4 59	2 31	#64	15m	
169	comp			↑		
170	045935p0559	4 59	6 00	#64	20m	1 object west, 1 bright object east, binby 2
171	comp			↑		
172	052832p0450	5 28	4 50	#64	20m	
173	comp			↑		
174	052829p0534	5 28	5 34	#64	15m	
175	comp			↑		
176	052829p0400	5 28	4 00	#64	10m	
177	comp			↑		
178	Feige 34	10 39	43 06	#56	1.5m	
179	comp			↑		

60 inch Telescope Log Observer: <u>CALKINS</u> PI: <u>AI</u>	Spectrograph: <u>FAST</u> Grating: <u>100L</u> Date: <u>11/15/98</u>
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
180	N3379	10 47	12 24	457	90s	
181	comp			↑		
182-191	BIAS				0s	
192-201	FLAT				6s	
202-211	BIAS				0s	BENBY 2
212-221	FLAT				12s	
222-231	DARK				15m	

60 inch Telescope Log
 Observer: P. Berlino
 PI: Huchra
 Spectrograph: FAST
 Grating: 300L
 Date: 11/16/98
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	DARK				15m	Leonids tonight?
11-20	FLAT				4s	5" slit
21-30	BIAS				0s	
31-40	FLAT				6s	3" slit
41-50	BIAS				0s	
51-60	FLAT				12s	clear skies
61-65	sky			S7	2s	
66	COMP			↑	5s	
67-69	HD 193514	20:18	+38:16	S7	5s	
70	COMP			↑		
71-73	HD 193585	20:19	+7:16	S7	6s	
74	COMP			↑		
75-77	HD 205375	20:19	+79:03	S7	6s	
78	COMP			↑		
79-81	HD 207076	21:46	-02:42	S7	4s	
82	COMP			↑		
83-86	HD 214479 - N	22:32	-70:37	S7	5s	
87	COMP			↑		
88-91	HD 193538	20:20	+16:43	S7	4s+	
92				↑		
93-94	SDP 284211	21:48	+28:37	S6	30s	
95	COMP			↑		
96	ZM 221949.7	22:49	+76:13	G6	5m	lens by 2; close E-W pair
97	COMP			↑		* to W ↑ ↑ - S ₂ 1
98	ZM 220944.6	22:09	+76:27	G6	5m	* gal
99	COMP			↑		
100	ZM 230350.2	23:03	+22:48	G8	5m	
101	COMP			↑		
102	ZM 231537.8	23:15	+18:35	G8	5m	
103	COMP			↑		

96 * to E, gal to W

60 inch Telescope Log

Observer: AB

PI: Hucha

Spectrograph: FAS

Grating: 300L

Date: 11/16/98

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
104	ZM231936.7	23-19	+19-57	68	4m	
105	COMP			r		
106	ZM232030.1	23-30	+13-54	68	4m	gal to E (ok)
107	COMP			r		
108	ZM232117.5	23-31	+21-31	68	4m	
109	COMP			r		
110	ZM232058.4	23-30	+21-20	68	4m	
111	COMP			r		
112	ZM232059.9	23-05	+19-53	68	5m	
113	COMP			r		
114	ZM232135.7	23-04	+20-45	68	4m	
115	COMP			r		
116	ZM232034.9	23-03	+22-14	68	5m	
117	COMP			r		
118	ZM232052.9	23-05	+20-40	68	10m	Exp + off ok
119	COMP			r		
120	ZM2320413.8	23-04	+20-53	68	10m	close bin by 2 * + E - 0 em
121	COMP			r		
122	ZM232050.3	23-05	+18-02	68	4m	
123	COMP			r		
124	ZM232247.5	23-23	+19-37	68	4m	
125	COMP			r		
126	ZM231854.2	23-18	+18-39	68	4m	
127	COMP			r		
128	ZM231410.0	23-14	+22-34	68	3m	
129	COMP			r		
130	ZM232429.0	23-24	+18-02	68	11m	off em
131	COMP			r		
132	ZM232213.6	23-22	+20-30	68	4m	
133	COMP			r		

60 inch Telescope Log
 Observer: PB
 PI: Huchra & All
 Spectrograph: FAST
 Grating: 300R
 Date: 11/16/98
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Number	Object	R.A.	Dec.	L/R	EXP	Comments
134	ZM 233208.6	23:32	+21:43	68	4m	SSS
135	COMP			↑		
136	ZM 233855.3	23:38	+22:17	68	6m	* to E
137	COMP			↑		
138	SN 1998eg	20:39	+04:36	2	20m	sec z = 1.18
139	COMP			↑		
140	Ferg 110	23:17	-00	56	2m	sec z = 1.30 HA = 11
141	COMP			↑		
142	SN 1998es	01:37	+05:52	2	10m	sec z = 1.16 PA = -234
143	COMP			↑		
144	COMP test					tilt = 59.50; z ₀ = 3000 Å L
145	SN 1998es blue	01:37	+05:52	2	15m	PA = -25° = 155° sec z = 1.3
146	COMP			↑		
147-150	HD 217086	22:54	+62:27	2	4s, 8s	PA = -47 = 133° sec z =
151	COMP			↑		
152	Ferg 110	27:17	-05:26	56	2m	PA = +35
153	COMP			↑		
154-156	Ferg 110	"	"	56	2m	5" slit; tilt = 610.0 PA = +36
157	COMP					sec z = 1.45 PA = 90 L
158	sky. zenith	01:36:20	+32:15:07	56	30m	blank sky for Nelson tests
159	COMP			↑	4s	
160	sky. south	02:17:29	-17:22:46	56	30m	star around 57
161	COMP			↑		
162	sky. west	22:49:54	+31:59:29	56	30m	
163	COMP			↑		good meteors
164	sky. north	03:11:33	+79:56:29	56	30m	bright; orange, green
165	COMP			↑		

60 inch Telescope Log

Observer: PB
 PI: Gretler

Spectrograph: FAST
 Grating: 300R
 Date: 11/16/98

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
166	sky. east	3:11:33		56	30m	
167	COMP			↑		
168-170	G ₁ 19102B	05:01	+52:43	56	2m	10x
171	COMP			↑		
172	G539.04594	04:59	+07:13	64	7m	3" slit
173	COMP			↑		
174	.045945	04:59	+06:41	64	12m	
175	COMP			↑		
176	.045954	04:59	+10:17	64	15m	high cz
177	COMP			↑		
178	.045909	04:59	+07:27	64	10m	a few thin clouds
179	COMP			↑		
180	.050002	05:00	+02:44	64	12m	
181	COMP			↑		
182	.05003E0	05:00	+06:56	64	15m	bimby 2; close EW pair gaps
183	COMP			↑		
184	.050014	05:00	+05:55	64	10m	lots of bright meteors! high cz
185	COMP			↑		
186	.050019	05:00	+08:32	64	10m	
187	COMP			↑		
188	.050019	05:00	+05:32	64	10m	
189	COMP			↑		
190	.050040	05:00	+10:51	64	11m	
191	COMP			↑		
192	.050011	05:00	+06:10	64	9m	
193	COMP			↑		
194	.051618	05:16	+06:17	64	12m	+ to E
195	COMP			↑		
196	.051618	05:16	+06:28	64	12m	
197	COMP			↑		

60 inch Telescope Log
 Observer: PB
 PI: Geller
 Spectrograph: FAST
 Grating: 300L
 Date: 11/16/98
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
198	4539.051620	05:16	+05:13	64	10m	
199	COMP			↑		
200-03	CZ 2m	04:19	+58:59	107	5, 20, 30	
201	COMP			↑		
205	4539.051625	05:16	+06:20	64	5m	
206	COMP			↑		
207	.051628	05:16	+06:20	64	12m	
208	COMP			↑		
209	.051631	05:16	+06:26	64	15m	* to E
210	COMP			↑		
211	.051631	05:16	+06:33	64	5m	
212	COMP			↑		
213	.051631	05:16	+06:26	64	6m	
214	COMP			↑		
215	.051637	05:16	+06:26	64	8m	
216	COMP			↑		
217	.051639	05:16	+06:27	64	8m	dk bmbg 2 * to W
218	COMP			↑		
219	.051645	05:16	+06:22	64	8m	* to E
220	COMP			↑		
221	.051645	05:16	+06:25	64	15m	
222	COMP			↑		
223	.051647	05:16	+04:42	64	10, 8m	em big fireball w/ lingering vapor trail - cool
224	COMP			↑		
225	Faye 34	10:36	+48:21	56	90s	
226	COMP			↑		
227	N3377	10:45	+14:14	57	2m	clear at dawn
228	COMP			↑		
229-236	DARK				0s	
237-248	FLAT				6s	
249-258	DARK				0s	
259-268	FLAT				12s	
269-278	DARK				15m	

60 inch Telescope Log
 Observer: Pberlind
 PI: Huchra
 Spectrograph: FAST
 Grating: 300R
 Date: 11/17/98
 Page: 666b

Number	Object	R.A.	Dec.	L/R	Exp	Comments
13	DARK				30m	clouds
4-13	B775				0s	
14-23	FLAT				6s	
24-33	B775				0s	
34-43	FLAT				12s	
44-48	SKY	zenith		57	2s	
49	COMP			↑		
50-52	HD 191978	20:10	+11:21	57	5s	
53	COMP			↑		
54-56	HD 192001	20:11	+12:07	57	5s	
57	COMP			↑		
58-60	HD 192641	20:14	+16:35	57	6s	.
61	COMP			↑		
62-67	HD 228524	20:14	+57:02	57	30s	1.2
68	COMP			↑		
69-71	HD 192563	20:15	+17:42	57	30s	
72	COMP			↑		
73-74	HD 228421	20:18	+28:37	56	30s	
75	COMP			↑		
76	N7331	22		57	2m	
77	COMP			↑		
78	ZM191527.4	19:13	+67:58	68	15m	W's to E+W wk but good emission @ pri 2220
79	COMP			↑		
80	ZM210012.0	21:00	+12:14	68	5m	* to W
81	COMP			↑		
82	ZM210138.0	21:01	+21:14	68	4m	
83	COMP			↑		clearing!
84	ZM210206.0	21:02	+15:59	68	4m	
85	COMP			↑		

78 em not that good
 should have been a longer integration
 62-64 HD 228534
 65-67 HD 192745 (title listed as 228534 EA)
 (did they just move the telescope?)
 probably 2/4m as is
 P.02

60 inch Telescope Log
 Observer: PB
 PI: Huchra

Spectrograph: FAST
 Grating: 302
 Date: 11/17/98

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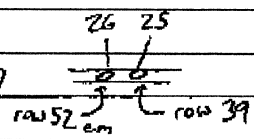
Number	Object	R.A.	Dec.	L/R	Exp	Comments
86	ZM210220.2	21:02	+19:57	68	5m	+3 to W
87	COMP			↑		
88	ZM210725.8	21:07	+18:02	68	5m	
89	COMP			↑		
90	ZM210846.6	21:08	+21:47	68	6m	
91	COMP			↑		
92	ZM211705.4	21:17	+29:40	68	6m	
93	COMP			↑		
94	ZM211757.6	21:17	+29:34	68	6m	
95	COMP			↑		
96	ZM213507.5	21:35	+28:08	68	5m	
97	COMP			↑		
98	ZM213611.4	21:36	+28:47	68	5m	
99	COMP			↑		
100	ZM21448.0	21:41	+29:48	68	5m	
101	COMP			↑		
102	ZM214636.7	21:46	+24:49	68	4m	
103	COMP			↑		
104	ZM214822.3	21:48	+14:51	68	4m	
105	COMP			↑		
106	ZM215133.5	21:51	+14:36	68	6m	
107	COMP			↑		
108	ZM214914.2	21:49	+28:07	68	5m	
109	COMP			↑		
110	ZM215656.8	21:56	+28:01	68	5m	
111	COMP			↑		
112	ZM215913.4	21:59	+26:10	68	6m	
113	COMP			↑		
114	ZZSm250	00:41	+41:05	57	4m	
115	COMP			↑		

60 inch Telescope Log

Observer: PB
 PI: And:

Spectrograph: FAST
 Grating: 3002
 Date: 11/17/98

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
116	Srg 6102.1	01:19	+01:53	S9	5m	
117	COMP			↑		
118	2	01:19	+01:57	S9	6m	
119	COMP			↑		
120	7	01:20	+01:53	S9	8m	blue; em
121	COMP			↑		
122	11	01:20	+01:58	S9	23m	
123	COMP			↑		
124	15	01:21	+02:10	S9	6m	
125	COMP			↑		
126	16	01:21	+01:52	S9	8m	
127	COMP			↑		
128	20	01:21	+01:34	S9	8m	
129	COMP			↑		
130	23	01:22	+01:45	S9	8m	
131	COMP			↑		
132	21	01:21	+01:56	S9	9m	
133	COMP			↑		
134	22	01:21	+01:16	S9	5m	
135	COMP			↑		
136	25-26	01:22	+02:15	S9	15m	PA=17 
137	COMP			↑		
138	28	01:22	+01:53	S9	5m	PA=90
139	COMP			↑		
140	29	01:22	+01:43	S9	5m	
141	COMP			↑		
142	30	01:22	+01:43	S9	8m	bright to to W
143	COMP			↑		
144	33	01:23	+01:31	S9	7m	
145	COMP			↑		

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>6689</u>	
Observer: <u>AD</u>		Grating: <u>300R</u>		Date: <u>11/17/98</u>			
PI: <u>And. Green</u>							
Number	Object	R.A.	Dec.	L/R	Exp	Comments	
146	Srg 6162.36	01:23	+01:46	59	5m		
147	COMP			↑			
148	37	01:23	+01:39	59	5m		
149	COMP			↑			
150	39	01:23	+01:41	59	7m		
151	COMP			↑			
152	40	01:23	+01:42	59			
153	COMP			↑			
154	SN 1998cs	01:57	+05:52	2	10m	PA=25	
155	COMP			↑			
156	Faye 24	02:32	+03:30	56	2m		
157	COMP			↑			
158	SN 1998cs	01:57	+05:52	2	15m	tilt= 590 PA=30 ↓	
159	COMP			↑			
160	PG 0216052	02:16	+03:13	56	10m	"L PA=23	
161	COMP			↑			
162	HD 21708	22:54	+62:27	56	8s	PA=86	
163	COMP			↑		prob w/vec in	
164-165	HD 21708	22:54	+62:27	56	5s	tilt= 610.0 ↓	
166	COMP			↑			
170	DQ 0101p866	01:21	+86:40	106	2m	mis-id ; get better check	
171	COMP			↑			
172-4	DQ 0115p159	01:15	+15:55	106	5m	PA=56	
175	COMP			↑			
176-180	DQ 0341p18	03:41	+18:17	106	6m	PA=20	
177, 180	COMP			↑			
181-3	DQ 0426p566E	04:26	+58:52	106	2m	PA=5	
184	COMP			↑			
185-187	DQ 0426p566D	04:26	+58:52	106	30s	M.E	
188	COMP			↑			

60 inch Telescope Log
 Observer: PB
 PI: Green Torres
 Spectrograph: FAST
 Grating: 300R
 Date: 11/17/98
 Page: 6690

Number	Object	R.A.	Dec.	L/R	Exp	Comments
189-190	H214	04:41	+10:59	SG	5m	PA=5
191				↑		
192-195	DQ055 Sm088	04:35	+08:53	106	6m	PA=5
193, 196	OMP			↑		
197-198	B37AS			↑		
199, 201, 202	DQ0548m001	05:48	+10:11	106	5m	PA=-15
200, 203	OMP			↑		
204-207	C5Zan	04:19	+55:59	109	2.5m	PA=-25 bmb y 2
208	OMP			↑		
209-210	G191B2B	05:01	+52	SG	2m	PA=-25
211	OMP			↑		
212-213	Hiltner600	06:42	+02:10	SG	45s	PA=-25
214	OMP			↑		
215	DQ0706p3775	07:06	+37:45	106	1m	S k PA=75
216, 217	DQ0706p377	07:06	+37:45	106	6m	
217, 218	OMP			↑		
221, 223, 4	DQ0886p331	08:56	+33:08	106	7m	PA=90
222, 225	OMP			↑		
226	B6Gem	06:03	+27:41		5m	
227	OMP			↑		
228	test					1200R g; 1.1" slit; tilt=345.0 bmb y 2 ↓
229	NCTTSm55	05:14	+32:13	101	90s	
230	OMP			↑		
231	NCTTSm54	05:11	+32:36	101	3m	
232	OMP			↑		
233	HD30834	04:52	+8:42	101	26	
234	OMP			↑		
235	NCTTSm42	04:56	+39:08	101	15m	
236	OMP			↑		

2665

60 inch Telescope Log

Observer: PB
 PI: Torres / Song

Spectrograph: FAST
 Grating: 1200
 Date: 11/17/98

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
237	NGTT3-43	04:57	+38:07	101	3m	12000; 1.1" slit ↓
238	COMP			↑		
239	NGTT3-44	04:57	+36:31	101	10m	
240	COMP			↑		
241	NGTT3-48	05:06	+32:08	101	12m	
242	COMP			↑		
243	NGTT3-49	05:09	+30:30	101	4m, 5m	
245	COMP			↑		
246	NGTT3-50	05:10	+31:52	101	15m	
247	COMP			↑		afew clouds!
248	NGTT3-53	05:11	+35:31	101	5m	
249	COMP			↑		
250	NGTT3-57	05:23	+34:11	101	8m	
251	COMP			↑		
252	Hiltner 60	06:42	+06:11	56	90s	
254	COMP			↑		
255-6	HD 58647	07:25	-14:10	108	5x10s	Song / Stauffer
257-8	HD 58647	07:25	-14:10	108	90s, 3m	
259	COMP			↑		
260-262	HD 69830	08:16	+12:17	108	5s	
263	COMP			↑		
264	HD 69830B	08:18	+12:35	108	1m	→ stars as marked on charts
265	HD 69830C	"	"	108	1m	
266	COMP			↑		
267	HD 73752	08:38	-22:34	108	2s	
269	HD 73752B	08:38	-22:34	108	1m	
270	HD 73752C	08:38	-22:34	108	1m	
271	COMP			↑		
272	HD 69830B, 1	08:16	+12:17	108	1m	
273	COMP			↑		

60 inch Telescope log
 Observer: P. Bertland
 PI: Green
 Spectrograph: FAST
 Grating: 3000, 3" slit
 Date: 11/18/98
 Page: 6693

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BTAS				0s	bin by 2
11-20	FLAT				16s	fit = 590.0
21-30	FLAT				12s	fit = 60.0
31-40	BTAS				0s	
41-50	FLAT				6s	sparky lock-up.
51-53	HD 186077	19:40	+32:37	104	3s	
54	COMP			↑		clouds to W
55-57	HD 190606	20:05	+70:50	104	5s	
58	COMP			↑		
59-61	HD 193708	20:18	+37:26	104	5s	
62	COMP			↑		
63-65	HD 195685	20:31	+72:33	104	5s	
66	COMP			↑		
67-69	HD 195651	20:50	+45:25	104	5s	
70	COMP			↑		
71-73	HD 235661	21:55	+57:29	104	5s	
74	COMP			↑		Hand paddle S. button broke
75-77	HD 209512	21:51	+50:30	104	5s	change paddles
78	COMP			↑		
79-81	BDP 284211	21:48	+28	56	30s	
82				↑		
83	N 7531	22:34	+74:09	57	2m	
84	COMP			↑		
85	2M 2205515	22:05	+76:36	68	5m	
86	COMP			↑		
87	2M 220603.9	22:06	+76:09	68	5m	
88	COMP			↑		
89	2M 220943.9	22:09	+76:26	68	5m	
90	COMP			↑		


NO BIN BY 4 DARKS
 USED BIN BY 4 DARKS FROM 11/19/98

60 inch Telescope Log

Observer: PB
 PI: Huchra & Andri

Spectrograph: FAST
 Grating: 300L
 Date: 11/18/88

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
91	ZM221430.6	22:14	+13:04	68	5m	
92	COMP			↑		
93	ZM2214404	22:14	+13:52	68	5m	
94	COMP			↑		
95	ZM221453.7	22:14	+16:25	68	6m	bin by 2, * to E ..
96	COMP			↑		
97	ZM221507.3	22:15	+13:51	68	4m	* to W
98	COMP			↑		
99	ZM221533.9	22:15	+24:45	68	4m	
100	COMP			↑		
101	ZM221549.8	22:15	+17:40	68	3m	
102	COMP			↑		
103	E-12015770.3	01:21	+09:40	55	20m	redo from 11/13/88 "93 OK
104	COMP			↑		
105	Sig b102.034	01:23	+03:07	59	20m	
106	COMP			↑		
107	031	01:22	+02:33	59	15m	emp pec
108	COMP			↑		
109	009	01:20	+01:21	59	20m	
110	COMP			↑		
111	43	01:23	+00:40	59	5m	
112	COMP			↑		
113	41	01:23	+01:57	59	10m	
114	COMP			↑		
115	42	01:23	+01:33	59	5m	
116	COMP			↑		
117	44	01:23	+02:51	59	10m	em+t
118	COMP			↑		
119	46 EW	01:23	+02:04	59	6m	2 gals 
120	COMP			↑		

60 inch Telescope Log

Observer: PB

PI: Andi

Spectrograph: FAST

Grating: 300R

Date: 11/18/98

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
121	Sgr 6102.047	01:23	+02:07	S9	8m	bin by 2; * to W
122	WMP			↑		↑ per 2
123	651	01:24	+01:02	S9	6m	
124	WMP			↑		
125	654	01:24	+01:45	S9	4m	
126	WMP			↑		
127	661	01:24	+01:43	S9	3m	
128	WMP			↑		
129	55	01:24	+01:38	S9	6m	front gal to E
130	WMP			↑		
131	56	01:24	+02:13	S9	6m	
132	WMP			↑		
133	57	01:24	+01:28	S9	5m	
134	WMP			↑		
135	58	01:24	+02:30	S9	5m	
136	WMP			↑		
137	59	01:24	+02:32	S9	6m	
138	WMP			↑		
139	62	01:24	+02:02	S9	2m	
140	WMP			↑		
141	69	01:24	+02:52	S9	10m	
142	WMP			↑		
143	65	01:24	+01:22	S9	5m	
144	WMP			↑		
145	66	01:24	+02:04	S9	5m	
146	WMP			↑		
147	68	01:24	+01:36	S9	2m	
148	WMP			↑		
149	69	01:24	+02:54	S9	2m	
150	WMP			↑		

60 inch Telescope Log

Observer: PB

PI: Hartmann

Spectrograph: FAST

Grating: 3002

Date: 11/18/98

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
151,153	SN1998es	01:37	+05:52	Z	15m, 8m	filt=590.01; PA=30
152,154	COMP			↑		coops bin by 4 (and by 2)
155,156,1	G 191B2B	05:01	+52:45	S6	2m	PA=56 #7
157	COMP			↑		
158	quasar - 3091	02:51	+40:16	35	15m	PA=90 filt=610.0 ↓ sep ± → OK all gal redo from 11/13 <u>em</u>
159				↑		
160	test					
161,163,165	Tau 3NW m 55m 57	04:39	+25:51	102	20m	PA=49 <u>S W</u> both +s (row 59)=57 P 55 (row 5)
162,164,6				↑		
167,169	Tau 3NW m 2	04:40	+25:46	102	15m	PA=90 ↓
168,170	COMP			↑		
174,173	Tau 3NW m 85	04:40	+25:53	102	20m	
172,174	COMP			↑		
175,176	Hiltner 60	06:42	+02	S6	4.5s	
177	COMP			↑		
178,180	CX Leo	04:19	+55:59	109	2, 20, 90s	
181	COMP			↑		
182	SN1998new	06:59	+57:44	Z	20m	type II faint! 197
183	COMP			↑		
184	a 539.045744	04:57	+02:51	64	10m	redo from 11/15/98
185	COMP			↑		
186	.05165x	05:16	+06:25	64	20m	bin by 2; t to W
187	COMP			↑		
188	.051649	05:16	+06:23	64	5m	clouds to the N
189	COMP			↑		
192	.051658	05:16	+06:09	64	8m	SD gal <u>3/2</u>
193	COMP			↑		
194	.051658	05:16	+06:27	64	6m	
195	COMP			↑		

190 4539.051653 05:16 +04:41 64 5m
191 ↑

60 inch Telescope Log
 Observer: PD
 PI: Dan

Spectrograph: FAST
 Grating: 300R
 Date: 11/18/98

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
196	g 539.051711	05:17	+04:48	64	9m	26
197	COMP			f		
198	g 539.051703	05:17	+05:06	64	15m	25
199	COMP			f		
200	.051718	05:17	+04:45	64	8m	k to G. W
201	COMP			f		
202	.051654	05:16	+06:10	64	15m	258
203	COMP			f		
204-205	AD0535p26	05:58	+26:08	104	30s	1.1" slit L
207	COMP			f		
208-9	HD39478	05:53	+26:25	104	10s	
210	COMP			f		
211	Gwm1.001	09:16	+20:11	35	90s	3" slit L
212	COMP			f		
213	.002	09:17	+20:01	35	90s	
214	COMP			f		
215	3	09:17	+19:54	35	90s	
216	COMP			f		
217	4	09:13	+20:34	35	10s	
218	COMP			f		
219	5	09:19	+20:14	35	10s	
220	COMP			f		
221	7	09:16	+19:56	35	10m	LSB em
222	COMP			f		
223	9	09:17	+20:02	35	100s	
224	COMP			f		
225	10	09:15	+20:55	35	3m	
226	COMP			f		

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>6698</u>
Observer: <u>PB</u>		Grating: <u>300</u>		Date: <u>11/18/98</u>		
PI: <u>Dan</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
227	awml-011	09:18	+20:17	35	3m	
228	COMP			↑		
229	12	09:15	+19:41	35	2m	blue
230	COMP			↑		
231	13	09:14	+20:07	35	3m	
232	COMP			↑		
233	14	09:16	+20:01	35	3m	
234	COMP			↑		
235	15	09:16	+19:50	35	2m	
236	COMP			↑		
237-239	HD 52971	06:57	+27:13	57	4s	
240	COMP			↑		
241-243	AGK2, 1483	09:	22	57	4s	
244	COMP			↑		
245-7	HD 57300	07:08	+10:01	106	4s	
248	COMP			↑		
249-9	HD 55284	07:12	+14:35	106	4s	
252	COMP			↑		
253-255	HD 47883	06:36	+18:26	106	4s	
256	COMP			↑		
257-259	HD 316687	06:42	+31:27	106	0.5s	
260	COMP			↑		
261-263	HD 76221	04:55	+17:14	106	0.3s	
264	COMP			↑		
265-294	BIAS				0s	
275-281	FLAT				6s	
285-294	BIAS				0s	
295-304	FLAT				12s	
305-314	FLAT				20s	1.1" slit 6m by 4
315-324	DARK				20m	6m by 2

Hello Susan!

60 inch Telescope Log Observer: <u>CALVIN</u> PI: <u>Kirshner, Geller</u>	Spectrograph: <u>FAST</u> Grating: <u>300C</u> Date: <u>11/19/98</u>
---	--

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	DARK				15m	
11-20	BIAS				0s	
21-30	FLAT				6s	
31-40	FLAT				20s	1.1" slit
41-50	BIAS				0s	
51-60	FLAT				13s	
						clouds + overcast at sunset
						10:40 - hole?
61	SN1998es	01 37	05 52	#2	15m	tilt = 590.0, $\delta = 37^\circ$
62	comp			↑		in/out of clouds
63	Feige 25	02 38	05 27	#56	2m	590.0, $\delta = 49^\circ$
64	comp			↑		great seeing
65	050205p0518	05 02	05 13	#64	15m	
66	comp			↑		
67	050211p0342	05 02	03 42	#64	15m	
68	comp			↑		
69	050211p0747	05 02	07 49	#64	20m	(very weak)
70	comp			↑		
71	050213p0516	5 02	5 16	#64	15m	
72	comp			↑		
73	050215p0742	05 02	07 42	#64	20m	clouds
74	comp			↑		
75	050227p0357	05 02	03 57	#64	20m	
76	comp			↑		
77	050235p0712	05 02	07 13	#64	20m	bright star to the west
78	comp			↑		
79	050239p0710	05 02	07 11	#64	20m	thru clouds, object to the east
80	comp			↑		

(clouds completely obscured object before thru exposure - will redo)

60 inch Telescope Log
 Observer: CALKINS
 PI: All, McClinton, Huchra, Mahdavi
 Spectrograph: FAST
 Grating: 300L
 Date: 11/20/98
 Page: 6701

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-7	DARK				15m	
8-17	BIAS				0s	
18-27	FLAT				6s	
28-37	BIAS				0s	
38-47	FLAT				12s	
48-57	FLAT				20s	1.1" slit
58	BDp 284211	21 51	28 51	#56	30s	
59	comp			↑		
60	N7331	22 37	34 25	#57	3m	
61	comp			↑		
62	comp			↓		
63, 64	441907p09	19 09	09 49	#104	15m	1.1" slit
65	comp			↑		
66, 67	HD230579	19 04	11 07	#104	10, 20s	1.1" slit
68	comp			↑		
69	2M200136.3p	20 01	13 54	#68	10m	bright star west
70	comp			↑		
71	2M200414p2	20 04	25 05	#68	15	central, prominent *
72	comp			↑		object
73	2M200458.5p	20 04	24 08	#68	20m	very weak spectra part #
74	comp			↑		(should've skipped!)
75	2M200517.3p	20 08	27 12	#68	20m	* * ^{Mag 15} dist
76	comp			↑		image looks stellar
77	scr6102.010	01 20	01 26	#59	20m	
78	comp			↑		
79	scr6102.015	01 21	01 34	#59	20m	
80	comp			↑		
81	scr6102.014	01 21	01 28	#59	15m	
82	comp			↑		
83	scr6102.027	01 22	02 47	#59	15m	

73 - ^{image} looks like a star anyway

60 inch Telescope Log
 Observer: CALICINS
 PI: Maddavi, Kirchner, Geller
 Spectrograph: FAST
 Grating: 300L
 Date: 11/20/98
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
84	comp			↑		
85	srq6102.035	01 23	02 10	#59	12m	
86	comp			↑		
87	sn1998es	01 37	05 51	#2	15m	$\delta = 38^\circ$, tilt = 590
88	comp			↑		
89	Feige 25	02 38	05 26	#56	2m	$\delta = 48^\circ$, tilt = 590
90	comp			↑		
91	srq6102.052	01 24	00 34	#59	15m	
92	comp			↑		
93	srq6102.053	01 24	2 21	#59	20m	
94	comp			↑		
95	srq6102.060	01 24	01 59	#59	15m	
96	comp			↑		
97	srq6102.063	01 24	00 28	#59	15m	
98	comp			↑		
99	050239p0710	05 02	07 10	#64	15m	bright star to east
100	comp			↑		
101	050239p0726	05 02	07 26	#64	17m	
102	comp			↑		
103	050241p0537	05 02	03 25	#64	15m	bright star east
104	comp			↑		
105	050246p0350	05 02	03 49	#64	17m	bright star west
106	comp			↑		
107	050301p0600	5 03	6 00	#64	12m	bright star east
108	comp			↑		
109	050301p0821	5 03	8 21	#64	8m	object west
110	comp			↑		
111	050303p0412	5 03	4 10	#64	15m	
112	comp			↑		
113	050303p0718	5 03	7 19	#64	15m	

60 inch Telescope Log

Observer: CALKINS

PI: Geller, Garcia, McClintock, Kemp

Spectrograph: FAST

Grating: 300 L

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Date: 11/20/98

Number	Object	R.A.	Dec.	L/R	Exp	Comments
114	comp			↑		
115	OS0305p0609	5 03	6 09	#64	15m	
116	comp			↑		
117	OS0307p0414	5 03	4 14	#64	15m	bright star to the west
118	comp			↑		
119-121	CICam	4 19	55 59	#107	2, 20, 90	
122	comp			↑		
123	comp			↓		
124, 125	AOS35p26	5 38	26 18	#104	10s	1.1" slit
126	comp			↑		
127, 128	HD39478	05 53	26 25	#104	10s	1.1" slit
129	comp			↑		
130	IRG Gem	06 03	27 41	#100	5m	
131	comp			↑		
132	OS0207p0607	5 03	6 08	#64	12m	2 objects west
133	comp			↑		
134	OS0237p0602	5 03	6 02	#64	12m	2 objects east
135	comp			↑		
136	OS0318p0726	5 02	7 27	#64	15m	
137	comp			↑		
138	OS0322p0727	5 03	7 28	#64	12m	
139	comp			↑		
140	OS0325p0728	5 03	7 28	#64	12m	
141	comp			↑		
142	OS0326p0744	5 03	7 44	#64	12m	
143	comp			↑		
144	OS0335p0457	5 03	4 57	#64	10m	
145	comp			↑		
146	OS0345p0525	5 03	5 25	#64	12m	
147	comp			↑		

60 inch Telescope Log

Observer: CALIFORNIA

PI: Geller, Kirchner

Spectrograph: FAST

Grating: 300L

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Date: 11/20/98

Number	Object	R.A.	Dec.	L/R	Exp	Comments
148	CS2345 pos 58	5 03	5 57	T ^h 64	15m	
149	comp			↑		
150-152	sn 19985	11 45	47 28	H ^β 2	20m	(shortened last exp. to 19min)
153	comp			↑		
154	Feige 34	10 39	43 05	H ^β 56	2m	
155	comp			↑		
156-160	sky			H ^β 56	5s	
161	comp			↑		
162-171	BIAS				0s	
172-181	FLAT				60s	
182-191	BIAS				0s	
192-201	FLAT				12s	
202-211	DARK				15m	

60 inch Telescope Log

Observer: CALX. JNSPI: All, HuchraSpectrograph: FASTGrating: 300LPage: 6705Date: 11/21/98

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-7	DARK				15m	
8-17	BIAS				0s	
18-27	FLAT				6s	
28-37	BIAS				0s	
38-47	FLAT				12s	
48-52	sky			#56	2s	
53	comp			↑		
54	DDp284211	21 51	28 50	#56	45s	
55	comp			↑		
56	N7469	23 03	08 52	#6	3m	object to the east
57	comp			↑		
58	MRK509	20 44	-10 43	#6	4m	
59	comp			↑		
60	3C390.3	18 41	79 45	#6	11m	
61	comp			↑		
62	MRK501	16 53	39 45	#6	5m	object east
63	comp			↑		
64	2M005446.7p	00 54	28 43	#68	2.5m	objects east
65	comp			↑		
66	2M005924.4p	00 59	29 03	#68	3m	
67	comp			↑		
68	2M002828.4p	00 28	23 29	#68	2m	object east
69	comp			↑		
70	2M004724.2p	00 47	28 21	#68	3m	
71	comp			↑		
72	2M001323.7p	00 13	28 22	#68	2m	
73	comp			↑		
74	2M005054.6p	00 50	25 37	#68	4m	
75	comp			↑		
76	2M005622.3p	00 56	25 36	#68	3m	

60 inch Telescope Log

Observer: CALKINS

PI: Huchra

Spectrograph: FAST

Grating: 300L

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Date: 11/21/98

Number	Object	R.A.	Dec.	L/R	Exp	Comments
77	comp			↑		
78	2M002336.0p	00 23	20 50	#68	3m	
79	comp			↑		
80	2M004213.3p	00 42	25 35	#68	4m	
81	comp			↑		
82	2M005853.6p	00 58	29 02	#68	4m	
83	comp			↑		
84	2M002852.7p	00 28	27 22	#68	3m	
85	comp			↑		
86	2M003745.8p	00 37	37 24	#68	3m	
87	comp			↑		
88	2M002322.1p	00 23	26 33	#68	4m	
89	comp			↑		
90	2M001950.6p	00 49	28 38	#68	4m	
91	comp			↑		
92	2M000946.3p	00 09	28 28	#68	2m	
93	comp			↑		
94	2M003939.2p	00 39	24 14	#68	2.5m	
95	comp			↑		
96	2M002741.1p	00 27	23 52	#68	2.5m	
97	comp			↑		
98	2M001814.0p	00 18	29 57	#68	4m	object east
99	comp			↑		
100	2M004845.2p	00 48	28 02	#68	3m	
101	comp			↑		
102	2M004912.9p	00 49	16 00	#68	4m	
103	comp			↑		
104	2M002528.8p	00 25	20 16	#68	5m	
105	comp			↑		
106	2M003840.6p	00 38	29 35	#68	5m	

60 inch Telescope Log

Observer: CALVIN

PI: Mahdavi

Spectrograph: FAST

Grating: 200L

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Date: 11/21/98

Number	Object	R.A.	Dec.	L/R	Exp	Comments
107	comp			↑		
108	srqb102.070	01 24	2 03	#59	10m	
109	comp			↑		
110	srqb102.074	01 25	01 33	#59	11m	
111	comp			↑		
112	srqb102.075	01 25	00 26	#59	8m	
113	comp			↑		
114	srqb102.076	01 25	01 43	#59	8m	
115	comp			↑		
116	srqb102.077	01 25	02 19	#59	12m	
117	comp			↑		
118	srqb102.078	01 25	01 57	#59	8m	
119	comp			↑		
120	srqb102.079	01 25	01 43	#59	10m	
121	comp			↑		
122	srqb102.082	01 25	2 03	#59	7m	
123	comp			↑		
124	srqb102.083	01 25	01 44	#59	3m	
125	comp			↑		
126	srqb102.085	01 25	01 47	#59	6m	
127	comp			↑		
128	srqb102.086	01 25	01 43	#59	4m	
129	comp			↑		
130	srqb102.088	01 25	00 42	#59	13m	
131	comp			↑		
132	srqb102.089	1 25	1 51	#59	8m	
133	comp			↑		
134	srqb102.090	1 25	1 46	#59	90s	
135	comp			↑		
136	srqb102.091	1 25	2 35	#59	3m	

60 inch Telescope Log

Observer: CALKINSPI: Kirchner, Geller, GarciaSpectrograph: FASTGrating: 300LPage: 6708Date: 11/21/98

Number	Object	R. A.	Dec.	L/R	Exp	Comments
137	comp			↑		
138	sn1998es	01 37	5 51	#2	15m	$\alpha = 37^\circ$, tilt = 590.0
139	comp			↑		
140	Feige 25	2 38	5 27	#56	2m	$\alpha = 49^\circ$, tilt = 590.0
141	comp			↑		
142	050346p0418	5 03	4 18	#64	15m	
143	comp			↑		
144	050347p0501	5 03	5 01	#64	15m	
145	comp			↑		
146	050355p0555	5 03	5 55	64	15m	
147	comp			↑		
148	050405p0341	5 04	3 41	64	15m	
149	comp			↑		
150	050408p0831	5 04	8 31	64	10m	
151	comp			↑		
152	050411p041x	5 04	4 17	#64	20m	object east
153	comp			↑		
154	050417p0332	5 04	3 31	#64	15m	
155	comp			↑		
156	050417p0439	5 04	4 39	#64	10m	
157	comp			↑		
158	050420p0345	5 04	3 45	#64	12m	
159	comp			↑		
160	050432p0844	05 04	08 46	#64	10m	
161	comp			↑		
162-164	CICam	4 19	55 59	#107	2,10,90s	
165	comp			↑		
166	050440p0229	5 04	6 28	#64	8m	
167	comp			↑		
168	050448p0405	5 04	4 04	#64	5m	

60 inch Telescope Log

Observer: CALVIN

PI: Geller, Barton

Spectrograph: FAST

Grating: 300L

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
169	comp			↑		
170	050448p0742	5 04	7 43	#64	12m	
171	comp			↑		
172	050503p0402	5 05	4 02	#64	20m	object east
173	comp			↑		
174	050503p0426	5 05	4 37	#64	10m	
175	comp			↑		
176	050505p0801	5 05	8 01	#64	4m	object west
177	comp			↑		
178	050510p0518	5 05	5 16	#64	8m	agn
179	comp			↑		
180	050511p0555	5 05	5 54	#64	20m	very bright star to the west
181	comp			↑		
182	050513p0521	5 05	5 20	#64	15m	2 galaxies here, 2 in Sg
183	comp			↑		
184	050515p0439	5 05	4 38	#64	15m	
185	comp			↑		
186	050524p0409	5 05	4 08	#64	10m	
187	comp			↑		
188	050532p0739	5 05	7 40	#64	11m	
189	comp			↑		
190	050540p0428	5 05	4 28	#64	8m	
191	comp			↑		
192	050546p0230	5 05	2 31	#64	20m	
193	comp			↑		
194	050548p0435	5 05	4 34	#64	20m	
195	comp			↑		
196	no gal 057	9 21	18 13	#73	15m	
197	comp			↑		
198	no gal 058	9 21	18 15	#73	15m	

60 inch Telescope Log

Observer: ALIKINS

PI: Barton, Al

Spectrograph: FAST

Grating: 300L

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
199	comp			↑		
200	negal 059	9 23	22 18	#72	12m	
201	comp			↑		
202	negal 070	9 29	21 25	#73	15m	
203	comp			↑		
204	Feige 34	10 39	43 06	#56	2m	
205	comp			↑		
206-215	BIAS				0s	
216-225	FLAT				6s	
226-235	BIAS				0s	
236-245	FLAT				12s	
246-255	DARK				15m	
277-288	DARK					
no file	e 246					

60 inch Telescope Log

Observer: K Rines

PI: Huchra, Mahdavi

Spectrograph: FAST

Grating: 300R

Date: 11/22/98

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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	
31-35	sky				2s	
36	COMP					
37-46	BIAS				0s	bin by 2
47-56	FLAT				12s	
57	BD _p 284211	21:49	+28:38	#56	30s	600, mostly clear
58	COMP			↑		some cirrus (esp. in N)
59	BD _p 284211	21:49	+28:38	#56	45s	bin by 4
60	COMP			↑		
61	NGC 7331	22 35	+31 09	#57	3m	
62	COMP			↑		
63	2m002409.9 _p	00:24	+27 57	#68	4m	
64	COMP			↑		
65	2m005245.7 _p	00:52	+24 20	#68	4m	
66	COMP			↑		
67	2m003652.0 _p	00 37	+18 47	#68	6m	
68	COMP			↑		
69	2m005214.0 _p	00 52	+24 22	#68	4m	
70	COMP			↑		
71	2m001207.4 _p	00 12	+25 09	#68	5m	
72	COMP			↑		
73	2m005339.4 _p	00 53	+11 59	#68	4m	
74	COMP			↑		
75	2m000953.0 _p	00 09	+28 17	#68	6m	
76	COMP			↑		
77	scgb102.092	01 25	02 26	#59	8m	
78	COMP			↑		
79	scgb102.093	01 25	02 43	#59	10m	
80	COMP			↑		

60 inch Telescope Log

Observer: K Rines

PI: Mahdavi, Huchra

Spectrograph: FAST

Grating: 300A

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Date: 11/22/98

Number	Object	R. A.	Dec.	L/R	Exp	Comments
81	srcb102.094	01 25	+00 26	59	10m	
82	COMP			↑		
83	srcb102.095	01 25	+02 26	59	8m	
84	COMP			↑		
85	srcb102.096	01 25	+01 10	59	8m	object to E
86	COMP			↑		
87	srcb102.098	01 25	+02 17	59	10m	
88	COMP			↑		
89	srcb102.099	01 25	+01 54	59	8m	
90	COMP			↑		
91	srcb102.100	01 25	+01 46	59	8m	circus clouds scattered over sky
92	COMP			↑		
93	srcb102.102	01 25	+01 45	59	10m	
94	COMP			↑		
95	srcb102.104	01 25	+01 45	59	5m	
96	COMP			↑		
97	srcb102.105	01 25	+01 30	59	10m	* to E
98	COMP			↑		
99	Zm000800.5p16	00 07	22 17	68	5m	
100	COMP			↑		
101	Zm003424.5p24	00 34	24 21	68	5m	
102	COMP			↑		
103	Zm005623.8p13	00 56	13 52	68	5m	
104	COMP			↑		
105	Zm004047.9p20	00 40	20 27	68	5m	
106	COMP			↑		
107	Zm005135.7p26	00 51	26 46	68	4m	
108	COMP			↑		
109	Zm004223.8p29	00 42	29 03	68	4m	AGN?
110	COMP			↑		

60 inch Telescope Log

Observer: K Rines

PI: Hucha, Kirshner, Geller

Spectrograph: FAST

Grating: 300P

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
111	2m000545.6p18	00 05	18 27	68	6m	
112	COMP			↑		
113	2m004609.4p18	00 46	18 43	68	8m	
114	COMP			↑		
115	2m006650.1p18	00 06	18 04	68	10m	
116	COMP			↑		
117	2m015111.9p36	01 51	36 52	68	10m	
118	COMP			↑		
119	2m014551.9p38	01 45	38 09	68	10m	
120	COMP			↑		
121	2m014702.7p35	01 47	35 30	68	12m	
122	COMP			↑		
123	2m014531.5p36	01 45	36 25	68	9m	
124	COMP			↑		
125	2m1998es	01 37	5 51	2	15m	Alt = 590, Δ = 37°
126	COMP			↑		
127	Frige 25	2 38	5 27	56	2m	Alt = 590, Δ = 49
128	COMP			↑		
129	a539.050557p0823	05 05	08 23	64	10m	Δ = 90, Alt = 60
130	COMP			↑		
131	a539.050601p0358	05 06	3 58	64	8m	
132	COMP			↑		
133	a539.050610p05	5 06	5 40	64	5m	off to E
134	COMP			↑		
135	a539.050614p05	5 06	5 41	64	7m	
136	COMP			↑		
137	a539.050635p07	5 06	7 35	64	5m	
138	COMP			↑		
139	a539.050637p04	5 06	4 34	64	5m	
140	COMP			↑		

60 inch Telescope Log

Observer: K. Kines

PI: Geller, Koranyi

Spectrograph: FAST

Grating: 300A

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
141	a539.050637p05	5 06	+5 21	64	7m	dome rotated 360° during exposure
142	COMP			↑		
143	a539.050642p06	5 06	6 33	64	10m	
144	COMP			↑		
145	a539.050653p07	5 06	7 30	64	15m	to W
146	COMP			↑		
147	a539.050703p04	5 07	4 15	64	10m	
148	COMP			↑		
149	a539.050712p04	5 07	4 38	64	10m	
150				↑		
151-153	C.I. Cam	04 19	+55 38	107	2, 20, 96	
154	COMP			↑		
155	awm7.3.097	02 48	+42 59	35	15m	
156	COMP			↑		
157	awm7.3.098	02 46	41 38	35	10m	obj. to W
158	COMP			↑		
159	a539.050725p05	05 07	+5 10	64	7m	
160	COMP			↑		
161	a539.050733p09	5 07	9 08	64	7m	
162	COMP			↑		
163	a539.050737p05	5 07	5 20	64	5m	
164	COMP			↑		
165	a539.050737p07	5 07	7 14	64	5m	
166	COMP			↑		
167	a539.050744p03	5 07	3 47	64	5m	
168	COMP			↑		
169	a539.050744p06	5 07	6 54	64	7m	
170	COMP			↑		
171	a539.050751p06	5 07	6 36	64	10m	
172	COMP			↑		

60 inch Telescope Log
 Observer: K. Rines
 PI: Geller, Barton
 Spectrograph: FAST
 Grating: 3001
 Date: 11/22/98
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Number	Object	R. A.	Dec.	L/R	Exp	Comments
173	a539.050756p05	5 07	+05 12	64	7m	
174	COMP			↑		
175	a539.050803p07	5 08	7 16	64	7m	
176	COMP			↑		
177	a539.050804p05	5 08	5 54	64	8m	
178	COMP			↑		
179	a539.050806p05	5 08	5 10	64	5m	
180	COMP			↑		
181	a539.050812p05	5 08	5 09	64	4m	
182	COMP			↑		
183	a539.050819p04	5 08	4 22	64	12m	
184	COMP			↑		
185	a539.050851p06	5 08	6 38	64	8m	
186	COMP			↑		
187	a539.050905p05	5 09	5 16	64	10m	
188	COMP			↑		
189	a539.050907p07	5 09	7 21	64	5m	
190	COMP			↑		
191	a539.050931p05	5 09	5 14	64	5m	
192	COMP			↑		
193	negal-039, -040	9 10	22 51	73	13m	$\Delta = -57^\circ$ (2 gals)
194	COMP			↑		
195	negal-040 040	9 10	22 50	73	18m	$\Delta = -57^\circ$
196	COMP			↑		
197	negal-025, -026	8 51	29 10	73	16m	$\Delta = -37^\circ$ (2 gals)
198	COMP			↑		
199-208	BIAS				0s	
209-218	FLAT				6s	
219-228	BIAS				0s	bin by 2
229-238	FLAT				12s	
239-248	DARK				15m	

193 039 in row 36
 NW gal in row 44 (NW by ~15")
 197 025 in row 34 + 026 in row 41
 195 in 040 (not 041)

} message from K. Rines

60 inch Telescope Log			Spectrograph: <u>FAST</u>			Page: <u>6716</u>
Observer: <u>K Rines / Huchra</u>			Grating: <u>300R</u>			Date: <u>11/23/98</u>
PI: <u>Huchra, McClinton, Madore</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-5	DARKS					- Beware flux residuals
6-9	DARKS					
10-19	BIAS				0s	
20-29	FLAT				6s	
30-39	BIAS				0s	bin by 2
40-49	FLAT				12s	
50-55	sky				15s	bin by 4
56	COMP					
57	BDp332642	21 48	28 37	56	30s	clear; some scattered cirrus
58	COMP			↑		
59	N7331	22 34	34 09	57	3m	NOT 7331
60	COMP			↑		
61	BDp332642	21 48	28 37	56	30s	bin by 2
62	COMP			↑		
63	2m010820.4	1 08	22 16	68	60s	bin by 4 star
64	COMP			↑		
65	2m010808.9	1 08	20 38	68	3m	star
66	COMP			↑		
67	2m012058.5	1 20	30 15	68	4m	
68	COMP			↑		
69	2m014246.4	1 42	28 43	68	6m	
70	COMP			↑		
71	COMP			104		1.1" slit
72,73	4m1907.09	19 09	+9 49	104	15m x 2	
74	COMP			↑		
75,76	HD 230579	19 01	+11 01	104	10s, 20s	
77	COMP			↑		
78	srcb102.109	01 25	+1 52	59	15m	3" slit
79	COMP			↑		
80	srcb102.111	1 26	2 25	59	10m	AGN
81	COMP			↑		

60 inch Telescope Log

Observer: K Rines, J Huchra

PI: Mohidexi, Huchra

Spectrograph: FAST

Grating: 300P

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Date: 11/23/98

Number	Object	R. A.	Dec.	L/R	Exp	Comments
82	srgb102.112	1 26	2 24	59	8m	
83	COMP			↑		
84	srgb102.116	1 26	2 09	59	8m	
85	COMP			↑		
86	2m005857.1	00 58	25 36	68	5m	
87	COMP			↑		
88	2m003903.5	00 39	25 33	68	5m	
89	COMP			↑		
90	2m004803.1	00 48	20 44	68	4m	
91	COMP			↑		
92	srgb102.120	1 26	1 27	59	4m	
93	COMP			↑		
94	srgb102.122	1 26	2 01	59	90s	
95	COMP			↑		
96	srgb102.126	1 27	2 16	59	3m	
97	COMP			↑		
98	srgb102.128	1 27	2 10	59	7m	
99	COMP			↑		
100	srgb102.135	1 27	2 08	59	3m	
101	COMP			↑		
102	srgb102.137	1 28	2 30	59	3m	big spiral
103	COMP			↑		
104	srgb102.139	1 28	2 26	59	3m	
105	COMP			↑		
106	srgb102.140	1 28	+0 37	59	7m	
107	COMP			↑		
108	srgb102.141	1 28	1 49	59	7m	
109	COMP			↑		
110	srgb102.142	1 29	2 05	59	6m	
111	COMP			↑		

60 inch Telescope Log
 Observer: K Rines, J Huchra
 PI: Mahdavi, Huchra
 Spectrograph: FAST
 Grating: 3000
 Date: 11/23/98
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
112	srcgb102.145	1 29	2 13	59	6m	
113	COMP			↑		
114	srcgb102.148	1 29	2 13	59	12m	
115	COMP			↑		
116	srcgb102.152	1 30	2 51	59	15m	broad
117	COMP			↑		
118	srcgb102.150	1 29	2 19	59	12m	
119	COMP			↑		
120	srcgb102.113	1 26	2 26	59	15m	H α at ~px2000
121	COMP			↑		
122	srcgb102.114	01 ^h 26 ^m 04.9	+00 18 57	59	15m]
123	COMP			↑		
124	srcgb 102.114	"	"	59	15m	
125	COMP			↑		
126	2m 015051.73305	01 50 51	+33 05	68	200s	
127	Comp			↑		
128	2m 015408+341313	01 54 08	+34 13 13	68	200s	5 μ filter
129	Comp			↑		
130	2m 014657p3844	01 46 57	+38 44 26	68	420s	6 μ
131	Comp			↑		
132	2m 0146625p3508	01 46 25	35 08 57	68	600s	
133	Comp			↑		
134	2m 015008p3659	01 50 08	+36 59 58	68	480s	
135	Comp			↑		
136	2m 015031+3616	01 50 31.7	+36 16 07	68	600s	
137	Comp			↑		
138	2m 015055+3619	01 50 55.8	+36 19 26	68	600s	emission! H α at 6800
139	Comp			↑		
140	2m 015338+3742	01 53 38	+37 42 28	68	600s	
141	Comp			↑		

60 inch Telescope Log

Observer: R. Nea (Chadwick)

PI: Koranyi, Huchra, Geller

Spectrograph: Fast

Grating: 300R

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Date: 11/23/98

Number	Object	R.A.	Dec.	L/R	Exp	Comments
142	AWM 7-3.099	02 55 36	+43 03 29	35	600	(H)
143	COMP			↑		
144	AWM 7-3.100	02 42 25	+42 49 55	35	720	
145	COMP			↑		
146	AWM 7-3.101	03 01 49	+42 58 31	35	720	
147	COMP			↑		
148	2m 0254 p2335 S	02 57	+23 35	68	255	Stellar G stars
149	COMP			↑		
150	2m 0254 p2335 S	02 57 36	+23 47 11	68	600s	star
151	COMP			↑		
152	AWM 7-3.102	3 00	42 58	35	12m	
153	COMP			↑		
154	a539.050904 p05	5 09 09	5 17	64	12m	obj. to W
155	COMP			↑		
156	a539.050945 p16	5 09	6 26	64	10m	
157	COMP			↑		
158	a539.051003 p09	5 10	9 05	64	15m	
159	COMP			↑		
160	a539.051025 p05	5 10	5 59	64	7m	
161	COMP			↑		
162	a539.051039 p06	5 10	6 43	64	7m	
163	COMP			↑		
164	a539.051039 p07	5 10	7 37	64	5m	
165	COMP			↑		
166	a539.051050 p08	5 10	8 14	64	8m	Hα
167	COMP			↑		
168	a539.051106 p05	5 11	5 20	64	6m	obj. to
169	COMP			↑		
170	a539.051116 p07	5 11	7 37	64	7m	* to E yuh
171	COMP			↑		

60 inch Telescope Log
 Observer: Rines/Huchra
 PI: Geller, Kenyon, McKittrick, Kirshner
 Spectrograph: FAST
 Grating: 3001
 Date: 11/23/98
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
172-4	CICam	4 19	+55 59	107	2s, 20s, 90s	
175	COMP			↑		
176	a539.05112p05	5 11	5 15	64	6m	* low
177	COMP			↑		
178	a539.051120p06	5 11	6 21	64	7m	* low
179	COMP			↑		
180	a539.051134p06	5 11	6 45	64	15m	* low
181	COMP			↑		
182	a539.051139p03	5 11	3 46	64	6m	
183	COMP			↑		
184	a539.051149p07	5 11	7 48	64	8m	
185	COMP			↑		
186	a539.051207p06	5 12	6 00	64	4m	
187	COMP			↑		
188	a539.051212p06	5 12	6 05	64	10m	
189	COMP			↑		
190	a539.051241p04	5 12	8 02	64	8m	
191	COMP			↑		
192	B66em	6 03	27 41	100	5m	bin by 2
193	COMP			↑		
194	COMP			104		bin by 4, 1.1" slit
195, 196	A0 535 p26	5 38	26 18	104	30s	
197	COMP			↑		
198, 199	HD 39478	5 53	26 25	104	10s	
200	COMP			↑		
201-3	094C+534	09 50	+53 15	106	5m	3" slit (object name wrong in 201, 202)
204	COMP			↑		
205	COMP			2		bin by 2
206, 207	SN 1998ag	11 56	+55 07	2	20m, 15m	
208	COMP			↑		

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>6722</u>
Observer: <u>River / Hutchra</u>				Grating: <u>3002</u>		Date: <u>11/24/98</u>
PI: <u>Wilkes, Hutchra</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-5	BIAS			-	-	bin by 4
6-15	DATA			-	900s	
16-25	BIAS				0s	
26-35	FLAT				6s	
36-45	BIAS				0s	bin by 2
46-55	FLAT				12s	
56-60	sky				2s	cirrus bin by 4
61	COMP					
62	BDP 284 211	21 48	28 37	56	45s	
63	COMP			↑		
64	BDP 284 211	21 48	28 37	56	45s	bin by 2
65	COMP			↑		
66	N 7331	22 37	34 24	57	3m	bin by 4
67	COMP			↑		
68	MRK 509	20 41	-10 54	6	3m	
69	COMP			↑		
70	MRK 335	00 03	19 55	6	3m	
71	COMP			↑		
72	Zm 013404.0 p 27	01 34	27 52	68	5m	
73	COMP			↑		
74	Zm 014746.6 p 38	1 47 46	38 58 46	68	10m	
75	COMP			↑		
76	Zm 014539.3 p 36	1 45 39	36 26 26	68	12m	* low
77	COMP			↑		
78	Zm 015116.8 p 34	1 51 16	34 18 58	68	10m	
79	COMP			↑		
80	Zm 014817.9 p 36	1 48 17	36 09 00	68	10m	
81	COMP			↑		
82	Zm 014554.5 p 38	1 45 54	38 08 06	68	12m	
83	COMP			↑		

60 inch Telescope Log
 Observer: Rines/Hachra
 PI: Hachra, Mahdavi
 Spectrograph: FAST
 Grating: 300L
 Date: 11/24/98
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
84	2m015252.5p36	1 52 52	36 46 03	68	12m	
85	COMP			↑		
86	2m015328.1p23	1 53 28	23 59 52	68	4m	
87	COMP			↑		
88	2m015051.7p33	1 50 51	33 05 32	68	4m	
89	COMP			↑		
90	2m012214.6p25	1 22 14	25 43 47	68	3m	* to E
91	COMP			↑		
92	2m015100.7p26	1 51 00	26 47 18	68	3m	
93	COMP			↑		
94	2m014529.5p24	1 45 29	24 50 26	68	4m	* to W
95	COMP			↑		
96	sr gb 102.153	1 30 02	2 25 03	59	5m	
97	COMP			↑		
98	sr gb 102.159	1 30 16	2 25 27	59	6m	
99	COMP			↑		
100	sr gb 102.160	1 30 14	2 24 52	59	3m	
101	COMP			↑		
102	sr gb 102.164	1 30 43	1 25 21	59	10m	broad
103	COMP			↑		
104	sr gb 102.165	1 30 50	2 36 52	59	10m	obj to W
105	COMP			↑		
106	sr gb 102.167	1 31 13	1 39 16	59	10m	* to W
107	COMP			↑		
108	sr gb 102.168	1 31 27	1 09 46	59	6m	* to W
109	COMP			↑		
110	sr gb 102.115	1 26 05	1 40 49	59	8m	
111	COMP			↑		
112	sr gb 102.117	1 26 10	2 02 36	59	8m	
113	COMP			↑		

60 inch Telescope Log
 Observer: Rinkar Hachra
 PI: Rupnar Maheshwari, Houston

Spectrograph: FAST
 Grating: 300L
 Date: 11/24/98

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
114	SN 1978es	1 37	5 51	2	15m	$\Delta = 37$, Alt = 5950
115	COMP			↑		
116	Feige 25	2 36	5 15	56	2m	$\Delta = 49$
117	COMP			↑		bia by 4 ↓ for 600
118	sr gb102.118	1 26	00 58	59	10m] cm? pass the ~6615] 42
119	COMP			↑		
120	sr gb102.118	"	"	59	10m	
121	COMP			↑		
122	sr gb 102. 102	01 30 22	+01 31 16	59	720s	102? 6780
123	COMP			↑		
124	2M 01540 p 3331	01 54 07	+33 31 32	68	300s]
125	COMP			↑		
126	2M 01540 + 3331	"	"	68	300	
127	COMP			↑		
128	2M 0155 p 3955	01 55 04	+39 55 47	68	420	
129	COMP			↑		
130	2M 0148 p 3233	01 48 48	+32 33 05	68	200	
131	COMP			↑		
132	2M 14955 p 3241	01 49 55	+32 47 38	68	300	
133	COMP			↑		
134	2M 014602 p 3932	01 46 02	+39 32 02	68	200	emission
135	COMP			↑		
136	2M 0153 p 3322	01 53 13	+33 22 02	68	200	
137	COMP			↑		
138	2M 015122 p 3040	01 51 32	+30 40 47	68	240	
139	COMP			↑		
140	2M 014942 p 3237	01 49 42	+32 37 30	68	200	
141	COMP			↑		
142	2M 015202 p 3155	01 52 02	+31 55 16	68	360	
143	COMP			↑		

60 inch Telescope Log

Observer: Rinea/Huchra

PI: Huchra, Garcia, Geller

Spectrograph: FAS7

Grating: 300 L

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
144	2m 015401 p3152	01 54 01	+31 52 26	68	200	
145	Comp			↑		
146	2m 015340 p3605	01 53 40	+36 05 46	68	720]
147	Comp			↑		
148	2m 015340 p3605			68	260	
149	Comp			↑		
150	2m 01 4818+38 24	01 48 18	+38 24 34	68	900	
151	Comp			↑		
152	2m 015829 p3848	01 50 29	+38 48 45	68	900	
153	Comp			↑		
154-6	C.I. Cam	04 19 42	+55 59 58	107	2,20,90	
157	Comp			↑		
158	4.17mer 600	06 42 37	02 11 25	56	4853	820 star
159	Comp			↑		
160	a539.051224p08	5 12 24	8 02 25	64	10m	
161	COMP			↑		
162	a539.051243p06	5 12 42	6 19 09	64	12m	* to W
163	COMP			↑		
164	a539.051243p07	5 12 43	7 24 34	64	12m	
165	COMP			↑		
166	a539.051246p06	5 12 46	6 17 46	64	10m	em!
167	COMP			↑		
168	a539.051252p09	5 12 52	9 26 47	64	8m	* to W, em!
169	COMP			↑		
170	a539.051307p04	5 13 07	4 06 10	64	6m	
171	COMP			↑		
172	a539.051318p07	5 13 18	7 44 19	64	12m	* to E
173	COMP			↑		
174	a539.051319p07	5 13 19	7 37 19	64	8m	
175	COMP			↑		

60 inch Telescope Log

Observer: Rines / Hutchra

PI: Geller, Packer

Spectrograph: FAST

Grating: 3001

Date: 11/24/98

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
176	a539.051323 _{p09X}	5 13 23	9 36 40	64	4m	X to E
177	COMP			↑		
178	051324 _{p07}	5 13 24	7 31 34	64	8m	
179	COMP			↑		
180	051328 _{p07}	5 13 28	7 25 00	64	4m	obj to E
181	COMP			↑		
182	051329 _{p05}	5 13 29	5 03 58	64	8m	
183	COMP			↑		
184	051329 _{p06}	5 13 29	6 34 27	64	12m	
185	COMP			↑		
186	051330 _{p07}	5 13 30	7 25 08	64	4m	
187	COMP			↑		
188	051335 _{p07}	5 13 35	7 25 48	64	4m	obj to E
189	COMP			↑		
190	051336 _{p06}	5 13 36	6 39 33	64	8m	X to W
191	COMP			↑		
192	051338 _{p0725}	5 13 38	7 25 31	64	8m	
193	COMP			↑		
194	051308 _{p0634}	5 13 08	6 34 09	64	15m	X nothing here
195	COMP			↑		
196	051344 _{p0157}	5 13 44	1 57 09	64	4m	
197	COMP			↑		
198	051352 _{p0157}	5 13 52	1 57 07	64	6m	
199	COMP			↑		
200	magal-041, -040	9 10 09	22 50 19	73	18m	-041 to E, -040 to W
201	COMP			↑		(A E of -041)
202	magal-047	9 15 15	40 55 02	73	15m	
203	COMP			↑		
204	SN suspect in above	9 15	40 55	2	10m	M star? bin by 2
205	COMP			↑		

NR 2785

60 inch Telescope Log			Spectrograph: <u>FAST</u>			
Observer: <u>River Hudson</u>			Grating: <u>300R</u>		Page: <u>6728</u>	
PI: <u>Hudson, McCormick</u>			Date: <u>11/25/98</u>			
Number	Object	R. A.	Dec.	L/R	Exp	Comments
1-5	BIAS			-	-	bin by 2
6-10	BIAS			-		bin by 4
11-20	DARK			-	900s	
21-30	BIAS			-	-	
31-40	FAST			-	60s	
41-50	BIAS			-	-	bin by 2
51-60	FAST			-	12s	"
61-70	BIAS			-		bin by 4
71	SKY			-	5s	
72-75	SKY			-	20s	
76	COMP			↑		
77	+28 4211	21 ^h 48 57	+28 37 48	56	30s	STD STAR
78	+28 4211	"	"	56	30s	
79	COMP			↑		Spectrograph focussed.
80	17435 p 5051	17 43 30	+55 0052	68	360s	f=1000
81	COMP			↑		moon hit
82	4U 1907 009	19 09 38	+09 49 48	104	900s	6.1" slit
83	COMP			↑		
84	4U 1907 009	"	"	104	900s	
85	COMP			↑		
86-88	4U 2305 79			104	10s-20s	
88	COMP			↑		
89	2M 0029 p 1535	00 29 48	+15 35 21	68	360	3" slit m star
90	COMP			↑		
91	2M 0043 p 1807	00 43 57	+18 09 37	68	360	
92	COMP			↑		
93	2M 0040 +2104	00 40 12	+21 04 29	68	360	Poor seeing
94	COMP			↑		
95	2M 0036 +1846	00 36 52	+18 46 30	68	360	
96	COMP					

60 inch Telescope Log

Observer: Rinos/Huchra

PI: Rinos/Huchra/Huchra

Spectrograph: FAST

Grating: 300

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Date: 11/25/98

Number	Object	R.A.	Dec.	L/R	Exp	Comments
97	2m 0050 +22 31	00 50 21	+22 31 40	68	300s	
98	comp			↑		
99	2m 0053 +16 58	00 53 39	+16 58 38	68	360	
100	comp			↑		
101	2m 00 08 +16 58	00 08 00	+16 58 22	68	200	star
102	comp			↑		
103	2m 01 07 06 +28 38	01 07 06	+28 38 05	68	60s	star? yes
104	comp			↑		
105	2m 01 02 4 +26	01 02 11	+26 59 49	68	360	
106	comp			↑		
107	2m 01 05 +19 56	01 05 59	+19 56 16	68	60	star?
108	comp			↑		
109	2m 01 40 +27 40	01 40 04	+27 40 17	68	360]
110	comp			↑		
111	2m 01 40 +27 40	11	11	68	300	
112	comp			↑		
113	2m 01 55 +24 02	01 55 05	+24 02 27	68	300	
114	comp			↑		
115	2m 01 30 +29 46	01 30 05	+29 46 06	68	460	
116	comp			↑		
117	SN 1988es	01 37 19	+05 52 50	2	900s	bin by 2 7.17 595
118	comp			↑		Paradise ai exp
119	Fery-25	02 36	+05 15	2	120	d=-12 -2° to +8°
120	comp			↑		
121	2m 01 53 +33 22	01 53 13	+33 22 02	68	300	bin by 4
122	comp			↑		
123	2m 01 14 +16 02	01 14 14	+16 02 04	68	360	
124	comp			↑		
125	2m 01 53 +12 52	01 53 46	+12 52 49	68	300	
126	comp			↑		

60 inch Telescope Log

Spectrograph: RAS1

Observer: RINGS / HUCCMAN

Grating: 300

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PI: HuCCMAN

Date: 11/25/98

Number	Object	R.A.	Dec.	L/R	Exp	Comments
127	2M 0157+1310	01 57 03	+13 10 01	68	300	
128	COMP			↑		
129	2M 0150+2648	01 50 39	+26 48 57	68	360	
130	COMP			↑		
131	2M 0155+4048	01 55 01	+40 48 34	68	360	
132	COMP			↑		
133	2M 015128+3052	01 51 28	+30 52 14	68	360	
134	COMP			↑		
135	2M 0151+4150	01 51 33	+41 50 50	68	600	H α
136	COMP			↑		
137	2M 0151+3205	01 51 08	+32 55 59	68	360	
138	COMP			↑		
139	2M 0152+3110	01 52 54	+32 10 45	68	240	
140	COMP			↑		
141	2M 0151+3039	01 51 17	+30 39 21	68	200	
142	COMP			↑		
143	2M 0147+3310	01 47 08	+33 10 51	68	300	
144	COMP			↑		
145	2M 0150 23+3228	01 50 23	+32 28 58	68	480	
146	COMP			↑		
147	2M 0150 23+3232	11	11	68	600	
148	COMP			↑		
149	2M 0150+3309	01 50 40	+33 09 32	68	420	
150	COMP			↑		
151	2M 0335+3303	03 35 04	+33 03 14	68	420	
152	COMP			↑		
153	05068 p 6831	05 06 42	+68 32 54	68	300	
154	COMP			↑		
155	B1A3			—		
156	05265 p 6734	05 26 30	+67 34 30	68	200	

60 inch Telescope Log

Observer: Rines / Hutcherson

PI: Grund, Geller

Spectrograph: PAS7

Grating: 300L

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
157	Comp			↑		
158-60	CI CAM	4 19	55 59	60	2, 20, 20	
161	Comp			↑		
162	a539.051718p06	5 17 18	6 46 40	64	12m	
163	Comp			↑		
164	a539.051722p05	5 17 22	5 44 21	64	10m	* to W, * to E
165	Comp			↑		
166	a539.051726p07	5 17 26	7 11 26	64	10m	
167	Comp			↑		
168	051729p05	5 17 29	5 36 43	64	7m	
169	Comp			↑		
170	052004p0432	5 20 04	4 32 56	64	4m	* to E
171	Comp			↑		
172	052005p0406	5 20 05	4 06 06	64	8m	
173	Comp			↑		
174	052006p0540	5 20 06	5 40 31	64	10m	obj to E
175	Comp			↑		
176	052012p0550	5 20 12	5 50 12	64	8m	* to E
177	Comp			↑		
178	052020p0404	5 20 20	4 04 51	64	12m	* to E needed more
179	Comp			↑		
180	052020p0454	5 20 20	4 54 21	64	8m	
181	Comp			↑		
182	052020p0937	5 20 20	9 37 18	64	5m	
183	Comp			↑		
184	052021p0555	5 20 21	5 55 50	64	8m	2 * to W
185	Comp			↑		
186	052022p0850	5 20 22	8 50 12	64	4m	
187	Comp			↑		
188	052029p0543	5 20 29	5 43 41	64	4m	

60 inch Telescope Log

Observer: Rines/Huchra

PI: Geller, McClintock, Barton

Spectrograph: FAST

Grating: 3001

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
189	COMP			↑		
190	052035p0633	5 20 35	6 33 07	64	8m	
191	COMP			↑		
192	052100p0621	5 21 00	6 21 24	64	8m	underexposed
193	COMP			↑		
194	052111p0652	5 21 11	6 52 39	64	8m	
195	COMP			↑		
196	052145p0641	5 21 45	6 41 17	64	3m	
197	COMP			↑		
198	052157p0643	5 21 57	6 43 16	64	4m	Superposed star; weak em. ^{with} cz band on H α + H β (weak)
199	COMP			↑		
200	052146p0347	5 21 46	3 47 33	64	7m	M* - (superposed) - may have H α at λ 6959 \AA (cz \sim 17200 km/sec)
201	COMP			↑		
202	052214p0534	5 22 14	5 34 08	64	10m	obj. to E
203	COMP			↑		
204	052217p0401	5 22 17	4 01 09	64	10m	* to E underexposed
205	COMP			↑		
206	052227p0534	5 22 27	5 34 48	64	10m	
207	COMP			↑		
208	052230p0534	5 22 30	5 34 13	64	4m	
209	COMP			↑		
210	052228p0548	5 22 28	5 48 03	64	10m	* to E
211	COMP		5 28 03	↑		
212	COMP			104		1.1" slit
213, 214	A0535p26	5 38	26 18	104	2x30s	
215	COMP			↑		
216, 217	H039478	5 53	26 25	104	2x10s	
218	COMP			↑		3" slit, $\lambda = 55^\circ$
219	magal_050, _051	9 23	22 18	73	15m	-050 in row ⁵² , -051 in row ³¹
220	COMP			↑		

60 inch Telescope Log
 Observer: K. Rines
 PI: Hucha

Spectrograph: FAST
 Grating: 300L
 Date: 11/26/98

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-5	BIAS				0s	bin by 2
6-10	BIAS				0s	bin by 4
11-20	DARK				15m	
21-30	BIAS				0s	
31-40	FLAT				6s	
41-50	BIAS				0s	bin by 2
51-60	FLAT				12s	
61	sky				10s	
62-66	sky				15s	
67	COMP					
68	BD _p 284211	21 48	28 37	5L	45s	
69	COMP			↑		6s, not 12s
70	BD _p 284211			5G	30s	
71	BD _p 284211			5G	30s	bin by 4
72	COMP			↑		
73	N7331	22 34	34 09	57	3m	
74	COMP			T		
75	Zm015401.7 _p 31	1 54 01	31 52 26	68	5m	obj. to E underexposed
76	COMP			↑		
77	Zm010923.5 _p 13	1 09 23	13 05 43	68	5m	obj. to W
78	COMP			↑		
79	Zm014554.0 _p 34	1 45 54	34 40 56	68	5m	$\Delta = 84^\circ$ WAY underexposed
80	COMP			↑		
81	Zm012543.6 _p 27	1 25 43	27 07 21	68	6m	$\Delta = 84^\circ$
82	COMP			↑		
83	Zm010730.0 _p 26	1 07 30	26 06 19	68	5m	$\Delta = 90.0$
84	COMP			T		
85	Zm010339.9 _p 15	1 03 39	15 53 12	68	5m	
86	COMP			↑		
87	Zm015122.2 _p 13	1 51 22	13 03 37	68	4m	Δ to E

file # 79, 97, 105 + 181
 are badly underexposed
 but 79 is only one with ?
 other set 9

60 inch Telescope Log
 Observer: K Rines
 PI: Huchra
 Spectrograph: FAST
 Grating: 3001
 Date: 11/26/98
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Number	Object	R. A.	Dec.	L/R	Exp	Comments
88	COMP			↑		
89	2m014758.4p27	1 47 50	27 17 33	68	5m	
90	COMP			↑		
91	2m011924.0p12	1 19 24	12 40 46	68	5m	A to W
92	COMP			↑		
93	2m012743.6p28	1 27 43	28 14 51	68	8m	obj. (gal?) to W
94	COMP			↑		lon by 2
95	2m010139.4p29	1 01 39	29 37 45	68	8m	2 A to E
96	COMP			↑		
97	2m014454.1p27	1 44 54	27 29 09	68	10m	underexposed
98	COMP			↑		
99	2m012310.1p27	1 23 10	27 23 07	68	5m	
100	COMP			↑		
101	2m010559.4p29	1 05 59	29 12 34	68	4m	Z = 84
102	COMP			↑		
103	2m014754.0p25	1 47 54	25 52 25	68	10m	Z = 79 ^{Q = U, W, K, com} underexposed
104	COMP			↑		
105	2m010027.7p21	1 00 27	27 01 31	68	15m	Z = 84
106	COMP			↑		
107	2m010827.7p21	1 08 27	21 44 31	68	6m	Z = 90
108	COMP			↑		
109	2m012923.5p16	1 29 23	16 34 24	68	5m	
110	COMP			↑		
111	2m012417.7p34	1 24 17	34 33 09	68	4m	
112	COMP			↑		
113	2m010545.3p26	1 05 45	26 55 46	68	5m	Z = 84
114	COMP			↑		
115	2m015547.3p34	1 55 47	34 33 14	68	4m	Z = 84
116	COMP			↑		
117	2m010739.1p22	1 07 39	22 27 54	68	4m	Z = 90

Photo #2

60 inch Telescope Log
 Observer: Rines
 PI: Huebra, Koranyi, Kirshner
 Spectrograph: FAST
 Grating: 3001
 Date: 11/26/98
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Number	Object	R. A.	Dec.	LIR	Exp	Comments
118	COMP			↑		
119	2m014537.5p31	1 45 37	31 19 56	68	4m	
120	COMP			↑		
121	2m012100.1p3542	1 21 00	35 42 08	68	5m	
122	COMP			↑		
123	2m014131.3p30	1 41 31	30 31 50	68	4m	
124	COMP			↑		
125	SN1998es	1 37 21	5 52 50	2	15m	tilt = 595.0, $\Delta = -3$ to $+2$
126	COMP			↑		kin by 2
127	Felge 25	2 36	5 15	2	2m	$\Delta = -20$
128	COMP			↑		
129	2m011146.1p14	1 11 46	14 58 39	68	4m	tilt = 610.0, $\Delta = 90$
130	COMP			↑		
131	2m012222.7p35	1 22 22	35 55 02	68	3m	
132	COMP			↑		
133	2m013530.0p34	1 35 30	34 17 13	68	8m	
134	COMP			↑		
135	2m013342.8p28	1 33 42	28 10 37	68	5m	$\Delta = 84$
136	COMP			↑		
137	awm7-3.103	2 52 55	43 08	35	8m	$\Delta = 90$
138	COMP			↑		
139	awm7-3.104	2 54 56	42 53	35	8m	
140	COMP			↑		
141	awm7-3.105	2 47 49	41 12	35	12m	em
142	COMP			↑		
143	awm7-3.106	2 46 00	42 51	35	15m	
144	COMP			↑		
145	awm7-3.107	2 46 18	40 51	35	12m	
146	COMP			↑		
147	awm7-3.108	2 49 55	40 28	35	12m	

Comments
 wrong

60 inch Telescope Log

Observer: Rines

PI: Kocany, Garcia, Konjov, Geller

Spectrograph: FAST

Grating: 300L

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Date: 11/26/98

Number	Object	R.A.	Dec.	L/R	Exp	Comments
148	COMP			↑		
149	awm7-3.109	2 53 25	42 39	35	12m	
150	COMP			↑		
151	awm7-3.110	2 46 42	42 38	35	15m	$\Delta = 84$
152	COMP			↑		
153	awm7-3.111	2 46 48	41 30	35	15m	$\Delta = 84$
154	COMP			↑		
155	awm7-3.112	2 50 01	40 20	35	15m	$\Delta = 90$
156	COMP			↑		
157	awm7-3.113	2 51 34	40 06	35	12m	
158	COMP			↑		
159	awm7-3.114	2 59 17	42 54	35	12m	em?
160	COMP			↑		
161	awm7-3.115	3 01 59	40 45	35	15m	em
162	COMP			↑		
163-5	CILem	4 19	55 59	107	2s, 20s, 90s	
166	COMP			↑		
167	BGGem	6 03	27 41	100	5m	bin by 2
168	COMP			↑		
169	0539.052232p0590	5 22 32	5 40	64	6m	$\Delta = 84$, bin by 4
170	COMP			↑		
171	052252p0434	5 22 52	4 34	64	8m	$\Delta = 90$
172	COMP			↑		
173	052313p0550	5 23 13	5 50	64	8m	Δ to E
174	COMP			↑		
175	052338p0534	5 23 38	5 34	64	6m	2 faint Δ 's to W
176	COMP			↑		
177	052342p0331	5 23 42	3 31	64	6m	
178	COMP			↑		
179	052359p0344	5 23 59	3 44	64	6m	

60 inch Telescope Log
 Observer: Rines
 PI: Geller, Koenig, Bacton, Huchra
 Spectrograph: FAST
 Grating: 300R
 Date: 11/26/98
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
180	COMP	-	-	↑		
181	052417p0910	5 24 17	9 10	64	8m	* to W underposed
182	COMP			↑		← marginal
183	052431p0820	5 24 31	8 20	64	12m	circus everywhere
184	COMP			↑		
185	052448p0829	5 24 48	8 29	64	12m	
186	COMP			↑		
187	052451p0733	5 24 51	7 33	64	8m	* to E
188	COMP			↑		
189	052452p0933	5 24 52	8 33	64	6m	
190	COMP			↑		
191	052504p0546	5 25 04	5 46	64	6m	
192	COMP			↑		
193	052515p0433	5 25 15	4 33	64	12m	underposed Orion difficult to see! C-Ax 30° E
194	COMP			↑		
195	awml_016	9 17 12	2 0 09	35	6m	
196	COMP			↑		
197	awml_017	9 17 08	19 52	35	6m	underposed
198	COMP			↑		
199	negal_060	9 23 27	22 19	73	12m	obj. to E
200	COMP			↑		
201	negal_069	9 29 47	21 26	73	20m	
202	COMP			↑		
203	07353p6956	7 35	69 56	68	6m	
204	COMP			↑		
205	07384p6019	7 38 23	60 19	68	5m	
206	COMP			↑		
207	snanon	7 41 42	+64 44 03	2	20m	faint! bin by 2
208	COMP			↑		
209	awml_018	9 18 50	20 09	35	6m	bin by 4

193 thrown out - nothing on slit

60 inch Telescope Log
 Observer: Rines
 PI: Kocany, Green
 Spectrograph: FAST
 Grating: 3001
 Date: 11/26/98
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
210	COMP			↑		
211	awml_019	9 18 16	20 22	35	5m	
212	COMP			↑		
213-5	1039p145	10 41 53.2	14 16 00.2	106	5m, 5m, 4m	BADLY ALL UNDER EXPOSED
216	COMP			↑		215 is garbage
217	Ferge 34	10 39	43 06	56	90s	
218	COMP			↑		
219	Ferge 34			56	2m	bin by 2
220	COMP			↑		
221-230	BIAS				0s	
231-240	FLAT				12s	
241-250	BIAS				0s	bin by 4
251-260	FLAT				6s	
261-270	DARK				15m	bin by 2

215 thrown out - essentially nothing or shit - garbage

60 inch Telescope Log
 Observer: P. Berlin
 PI: Hucha
 Spectrograph: FAST
 Grating: 300R
 Date: 11/29/98
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-7	DARK					
8-17	BDS					clearing after 2 days of rain & clouds
18-27	FLAT					
28-37	BDS					
38-47	FLAT					
48-57	sky	Zenith		57	10s	
58	COMP			↑		only 2 Mass gals up & away from moon.
59-60	HD 215306			57	1s	
61	COMP			↑		
62-64	HD 224014			57	1s	
65	COMP			↑		
66-68	HD 217476			57	1s	
69	COMP			↑		
70-71	HD 217086	22:54	+62:27	56	4s-6s	poor seeing clouds & bright moon
72	COMP			↑		
73	BDP 28424	21:48	+28:37	56	4s	
74	COMP			↑		
75	N 7351	22:34	+31:09	57	3m	
76	COMP			↑		
77	ZM 211830.4	21:18	+26:23	68	5m	star only
78	COMP			↑		
79	ZM 211941.9	21:19	+14:16	68	5m	
80	COMP			↑		
81	ZM 212352.5	21:25	+15:35	68	7m	
82	COMP			↑		
83	ZM 212706.2	21:27	+26:35	68	10m	* to W edge
84	COMP			↑		
85	ZM 212758.8	21:27	+12:37	68	10m	
86	COMP			↑		
87	ZM 212812.5	21:28	+12:37	68	10m	

Reductions were done in 2 separated sections of 300 line grating data taken before & after the 1200 line grating stuff. Chip gain calculation ^{Moon} 1:40 + 3 within normal limits.

60 inch Telescope Log
 Observer: PB
 PI: Huchra
 Spectrograph: FAST
 Grating: 300L
 Date: 11/29/98
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Number	Object	R. A.	Dec.	L/R	Exp	Comments
86	OMP			↑		clouds + moon
87	ZM212853.1	21:28	+12:10	68	10m	~
88	OMP			↑		
89	ZM215522	21:15	+14:49	66	10m	good one!
90	OMP			↑		
91	ZM221651.9	22:16	+15:32	68	12m	
92	OMP			↑		
93	ZM222156.6	22:21	+21:38	68	8m	seemg better.
94	OMP			↑		
95	ZM222151.4	22:21	+21:40	68	6m	
96	OMP			↑		
97	ZM222555.9	22:25	+28:02	68	5m	
98	OMP			↑		
99	ZM222634.2	22:26	+28:05	68	7m	
100	OMP			↑		sky pretty good
101	ZM222649.5	22:26	+28:53	66	10m	still bright moon though
102	OMP			↑		
103	ZM222955.3	22:29	+19:22	68	6m	
104	OMP			↑		
105	GM7-3045	02:07	+12:46	59	20m	I hope ok, but sky good
106	OMP			↑		
107	ZM022352.4	02:23	+26:30	68	2m	
108	OMP			↑		
109	ZM034032.5	03:40	+15:03	68	4m	
110	OMP			↑		
111	ZM035638.3	03:56	+14:50	68	7m	bin by 2; close E-W pair
112	OMP			↑		E is v. faint
113	ZM035667.6	03:56	+31:32	68	6m	
114	OMP			↑		

60 inch Telescope Log

Observer: PB
 PI: Huchra, Wolk

Spectrograph: EAST
 Grating: 300L, 1200L
 Date: 11/29/98

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
115	ZM031101	03:21	+19:18	68	3m	
116	COMP			T		
117	ZM0330023	03:30	+55:55	68	6m	
118	COMP			T		
119	ZM032749.4	03:27	+55:54	68	6m	gal to W
120	COMP			T		
121	ZM030510.5	03:05	+21:28	68	10m	
122	COMP			T		
123	ZM035159.0	03:51	+17:48	68	10m	
124	COMP			T		
125-127	test					1200L; 1.5" slit; tilt=345 $\alpha_c = H\alpha$
128	053710m057	05:37	-02:57	109	6m	
129	COMP			T		
130	053711m0122	05:37	-01:22	109	6m	
131	COMP			T		
132	053714m0113	05:37	-01:13	109	6m	
133	COMP			T		
1345	H1230874	04:52	+36:42	109	2s	Li Rich Star.
136	COMP			T		
137	053723m0257	05:37	-02:57	109	6m	
138	COMP			T		
139	053720m0104	05:37	-01:04	109	7m	
140	COMP			T		
141	053658m0101	05:36	-01:01	109	6m	
142	COMP			T		
143	053654m0100	05:36	-01:00	109	7m	
144	COMP			T		

60 inch Telescope Log

Observer: PB
 PI: Wolk

Spectrograph: FAST
 Grating: 1200R
 Date: 11/29/98

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
145	053652m0121	05:36	-01:21	109	10m	Hk em; strong Li
146	COMP			↑		
147	053644m0124	05:36	-01:24	109	6m	
148	COMP			↑		
149	053641m0102	05:36	-01:02	109	6m	
150	COMP			↑		
151	053635m0109	05:36	-01:09	109	6m	* faint comp to NW
152	COMP			↑		
153	053632m0123	05:36	-01:23	109	5m	Strong Li
154	COMP			↑		
155	053630m0115	05:36	-01:25	109	4m	
156	COMP			↑		
157	053628m0126	05:36	-01:26	109	7m	pec get again
158	COMP			↑		
159	053620m0105	05:36	-01:05	109	6m	faint comp to NW
160	COMP			↑		
161	053628m0126	05:36	-01:26	109	7m	same as #157, pec!
162	COMP			↑		
163	053939m0231	05:39	-02:31	109	15m	PA=73° to get Hk set
164	COMP			↑		15' set blue shifted set
165	053939m0231	"	"	109	5m	PA=90°
166	COMP			↑		
167	053113m0114	05:31	-01:14	109	5m	
168	COMP			↑		
169	053116m0115	05:31	-01:15	109	4m	
170	COMP			↑		
171	053117m0111	05:31	-01:11	109	10m	
172	COMP			↑		
173	053156m0122	05:31	-01:22	109	11m	Strong Li; Hk em
174	COMP			↑		

60 inch Telescope Log
 Observer: PB
 PI: Wolk
 Spectrograph: F16T
 Grating: 1200L 300L
 Date: 11/29/98
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
175	053515 m009N	05:35	-0:59	109	5m	N+ Strong Li; H α em
176	COMP			↑		
177	053515 m009LS	05:35	-0:59	109	12m	S+
178	COMP			↑		
179	053530 m0118	05:35	-01:18	109	15m	Strong Li; H α em
180	COMP			↑		
181	053534 m0129	05:35	-01:29	109	6m	
182	COMP			↑		
183	053539 m0111	05:35	-01:11	109	15m	Strong Li; H α em
184	COMP			↑		
185-186	Hiltner 603	06:42	-02	109+56	1m, 3m	
187				↑		
188-194	CICam	04:19	+55:55	107	6s-2m	special
192	COMP			↑		
193-194	B6bem	06:05	+27:41	100	6m, 2m	M waw
195	COMP			↑		
196-198	053545 m057	05:35	-00:57	109	10m, 5m	ouch; cosmic γ on Li line redo the
197	COMP			↑		
199-200	A0535 Sp2c	05:38	+26:18	104	90s	
201	COMP			↑		
202-203	HD 39478	05:53	+26:25	104	20s	
204	COMP			↑		
205-214	FLAT				45s	Necessary now
215	test					300L; 1.1" slit ↓
216-218	CICam	04:19	+55:55	107	8s-2m	
219	COMP			↑		
220	B6bem	06:05	+27:41		6m	
221						

60 inch Telescope Log

Observer: PB
 PI: Jeff Kirshner

Spectrograph: FAST
 Grating: 300
 Date: 11/29/98

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
220-223	A053426	05:58	+26:18	104	30s	1.1" slit
224	COMP			↑		
225-226	HD 7474	05:53	+26:23	104	10s	
227	COMP			↑		
228	SN 1998ex	07:41	+64:44	2	20m	3" slit I 18.5!
229	COMP			↑		
230-232-234	SN 1998S	11:46	+47:26	2	20m	
233-235-235	COMP			↑		
236-237	FayeBY	10:36	+47:21	56	90s	
238	COMP			↑		clear of dawn
239-246	BIAS				0s	
247-258	FLAT				12s	
259-268	BIAS				0s	
269-278	FLAT				6s	
279-286	FLAT				20s	1.1" slit
287-298	DARK				20m	bin by 2
						★ End of FAST Run ★