

60 inch Telescope Log

Observer: CALKINS

PI: All, Kirshner, Murzello

Spectrograph: FAST

Grating: 300L

Page: 7222

Date: 4/10/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-5	DARK				15m	
6-15	BIAS				0s	
16-25	FLAT				6s	
26-35	BIAS				0s	
36-45	FLAT				12s	
46	Hiltner 600	6 45	2 08	#56	3m	
47	comp			↑		
48	HDS2971	7 00	27 09	#57	5s	
49	comp			↑		
50	Akn120	5 16	00 09	#6	3m	
51	comp			↑		
52	Feige 34	10 39	43 05	#56	90s	PA = 73°
53	comp			↑		
54	sm199909	8 27	21 28	#2	15m	PA = 32°
55	comp			↑		
56	Pra 334	8 40	19 43	#82	30s	PA = 90°
57	comp			↑		
58	Pra 322	8 39	19 18	#82	40s	
59	comp			↑		
60	Pra 197	8 37	19 26	#82	90s	
61	comp			↑		
62	Pra 435	8 41	19 45	#82	90s	
63	comp			↑		
64	Pra 361	8 37	19 27	#82	90s	
65	comp			↑		
66	Pra 173	8 37	19 42	#82	2m	
67	comp			↑		
68	Pra 463	8 41	19 15	#82	2m	
69	comp			↑		
70	Pra 342	8 40	19 37	#82	4m	

60 inch Telescope Log

Spectrograph: FASTObserver: CALKINSGrating: 200LPage: 7223PI: Musserolle, All, theora, KirshnelDate: 4/6/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
71	comp			↑		
72	Pra 332	8 40	19 46	#82	9m	
73	comp			↑		
74	Pra 196	8 37	19 35	#82	4m	
75	comp			↑		
76	Pra 127	8 36	19 11	#82	4m	
77	comp			↑		
78	Pra 306	8 39	19 26	#82	8m	
79	comp			↑		
80	Pra 448	8 41	19 15	#82	10m	(Binby 2)
81	comp			↑		
82	Pra 267	8 39	19 31	#82	15m	
83	comp			↑		
84	M3227	10 20	20 07	#6	3m	
85	comp			↑		
86	M3K421	11 04	38 12	#6	3m	
87	comp			↑		
88	M4051	12 03	44 31	#6	2m	
89	comp			↑		
90	M4151	12 10	39 23	#6	30s	
91	comp			↑		
92	M4258	12 18	47 18	#6	2m	
93	comp			↑		
94	2M114458.0p	11 44	16 31	#68	20m	
95	comp			↑		
96-98	SN1998S	11 46	47 28	#2	20m	galaxy "east"
99	comp			↑		PA=0°
100	2M114526.8p	11 45	20 57	#68	15m	
101	comp			↑		
102	2M114719.2p	11 47	17 11	#68	5m	

60 inch Telescope Log

Observer: Calkins Falko

Spectrograph: FAST

Grating: 300L

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PI: Huchra, Geller, Kirshner

Date: 4/6/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
102	comp			↑		
104	2M114752.4p	11 47	19 09	#68	6m	
105	comp			↑		
106	2M114759.5p	11 47	20 47	#68	6m	
107	comp			↑		
108	2M114813.3p	11 48	19 26	#68	4m	
109	comp			↑		
110	2M114943.7p	11 49	23 26	#68	3.5m	
111	comp			↑		
112	2M115019.6p	11 50	19 24	#68	4m	
113	coma			↑		
114	322.028411	12 57	27 53	#64	6m	
115	comp			↑		
116	322.029339	13 02	27 57	#64	12m	
117	comp			↑		
118	322.032385	12 58	28 07	#64	10m	
119	comp			↑		
120	322.041954	13 05	28 44	#64	6m	
121	comp			↑		
122	322.043118	13 04	28 48	#64	10m	circus moving in
123	comp			↑		
124	SN1999bg	12 04	62 29	#2	15m	PA = 55°, circus
125	comp			↑		
126	2M134956.2p	13 44	23 01	#68	15m	
127	comp			↑		
128	2M133413.5p	13 34	63 35	#68	15m	star west
129	comp			↑		
130	2M132202.7p	13 22	25 29	#68	5m	(redo?)
131	comp			↑		(wait out clouds)
132	2M132543.9p	13 25	17 15	#68	5m	

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>7125</u>	
Observer: <u>CALKINS</u>				Grating: <u>300L</u>			
PI: <u>Barton Kirchner</u>				Date: <u>9/6/99</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments	
133	comp			↑			
134	no99L-450	15 40	28 21	#73	12m		
135	comp			↑			
136	sn1999ac	16 07	7 57	#2	20m	thru cirrus, PA=0°	
137	comp			↑			
138	no99L-451	15 42	22 49	#73	8m		
139	comp			↑			
140	no99L-452	15 42	23 46	#73	8m		
141	comp			↑			
142	no99L-454	15 49	20 46	#73	20m	galaxy west	
143	comp			↑			
144	no99L-455	15 52	21 06	#73	15m		
145	comp			↑			
146	no99L-456	15 53	21 04	#73	12m		
147	comp			↑			
148	no99L-457	15 56	41 52	#73	15m	clouds - reds?	
149	comp			↑			
150	BDp 332642	15 51	32 57	#57	90s		
151	comp			↑			
152-158	sky			#57	1s		
159	comp			↑			
158-167	BIAS				0s		
168-177	FLAT				60s		
178-187	BIAS				0s		
188-197	FLAT				12s		
198-207	DARK				15m		

60 inch Telescope Log

Observer: CALVINI

PI: Ally, Kishner, Falco

Spectrograph: FAST

Grating: 300L

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Date: 4/7/99

Number	Object	R. A.	Dec.	L/R	Exp	Comments
1-10	DARK				15m	
11-20	BIAS				0s	
21-30	FLAT				66	
31-40	BIAS				0s	
41-50	FLAT				12s	
51-55	sky			#57	2s	
56	comp			↑		clouds @ sunset
57	Hiltner 600	6 45	2 08	#56	1m	terrible seeing
58	comp			↑		
59	Hiltner 600	6 45	2 00	#56	1m	PACS5, Binby 2
60	comp			↑		
61	SN1999be	8 23	18 19	#2	20m	terrible conditions!
62	comp			↑		
63	N3227	10 23	19 53	F6	3.5m	
64	comp			↑		clouds
65	AGK2p43928	9 56	43 26	#57	5s	
66	comp			↑		
67	IS25-14.9	9 01	-1 51	#60	20m	
68	comp			↑		
69	08598m0054	9 02	-1 04	#60	15m	
70	comp			↑		
71	09009m0223	9 02	-2 34	#60	5m	
72	comp			↑		
73	09010m0111	9 03	-1 22	#60	12m	
74	comp			↑		
75	N2751-15.1	9 05	18 15	#60	10m	
76	comp			↑		
77	09041m0040	9 06	-00 52	#60	8m	
78	comp			↑		
79	09059mD125	9 08	-1 36	#60	15m	

60 inch Telescope Log

Observer: CALKENS

PI: FALCO, All, Geller, Kirchner

Spectrograph: FAST

Grating: 300L

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Date: 4/7/99

Number	Object	R. A.	Dec.	L/R	Exp	Comments
80	comp			↑		
81	09021m0133	9 08	-1 45	#60	20m	
82	comp			↑		
83	MIRK421	11 04	38 12	#60	4m	
84	comp			↑		
85	11216m0052	11 24	-1 09	#60	20m	thru clouds
86	comp			↑		
87	11244m0103	11 26	-1 19	#60	20m	
88	comp			↑		
89	5h1999an	12 01	14 06	#2	10m	PA = 0°
90	comp			↑		
91	322.043579	13 00	28 50	#64	4m	
92	comp			↑		
93	322.044134	12 58	28 51	#64	15m	
94	comp			↑		
95	322.044217	13 00	28 52	#64	8m	
96	comp			↑		
97	322.044493	13 02	28 53	#64	5m	
98	comp			↑		
99	322.044648	13 03	28 53	#64	8m	
100	comp			↑		
101	322.044941	12 58	28 54	#64	7m	
102	comp			↑		
103	322.045403	12 56	28 55	#64	8m	thru clouds (redo?)
104	comp			↑		
105	322.045879	13 09	28 59	#64	10m	PA = 69°
106	comp			↑		
107	322.045953	12 58	28 58	#64	10m	in & out of clouds
108	comp			↑		(moon rising)
109	322.046227	13 01	28 59	#64	8m	

60 inch Telescope Log

Observer: CALKINS

PI: Geller, Huebra

Spectrograph: FAST

Grating: 700L

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Date: 4/7/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
110	comp			↑		
111	222.04661	13 04	29 01	#64	12m	
112	comp			↑		
113	322.046634	13 00	29 01	#64	5m	
114	comp			↑		
115	322.04642	13 01	29 02	#64	10m	
116	comp	13 01 43	29 02 39	↑		wait out clouds
117	322.047210	12 57	29 02	#64	3m	ndo
118	comp	12 58 30	29 06 55	↑		moving
119	322.048251	13 04	29 07	#64	4m	
120	comp			↑		wait out clouds
121	2M162104.9p	16 31	18 55	#68	10m	
122	comp			↑		
123	2M162238.2p	16 22	23 28	#68	10m	
124	comp			↑		
125	2M162420.1p	16 34	21 00	#68	15m	
126	comp			↑		
127	2M163844.8p	16 38	13 00	#68	6m	
128	comp			↑		
129	2M163847.3p	16 38	12 18	#68	5m	
130	comp			↑		
131	2M164040.2p	16 40	19 21	#68	12m	
132	comp			↑		
133	MRK501	16 53	29 45	#60	5m	(star east)
134	comp			↑		
135	HD192281	20 12	40 16	#56	4s	
136	comp			↑		
137-146	BIAS				0s	
147-156	FLAT				60s	
157-166	BIAS				0s	
167-176	FLAT				12s	
177-186	DARK				15m	

60 inch Telescope Log

Observer: CAULKINS

PI: AN, Huchra, Kitchner, Falco

Spectrograph: FAST

Grating: YJOL

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Date: 4/8/99

(4/8/99)

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	DARK				15m	
11-20	DIAS				0s	
21-30	FLAT				6s	
31-40	DIAS				0s	
41-50	FLAT				12s	
51-55	sky			#57	2s	
56	comp			↑		
57	Hiltner 600	6 45	2 08	#56	1m	
58	comp			↑		
59	Hiltner 600	6 45	2 08	#56	1m	PA=32°, bin by 2
60	comp			↑		
61	AGK2p 14783	7 20	14 54	#57	8s	
62	comp			↑		
63	2M052915.9p	5 29	21 18	#68	20m	(Dusk)
64	comp			↑		
65	sn1999aa	8 27	21 28	#2	15m	PA=19°
66	comp			↑		
67	2M052540.6p	5 25	19 44	#68	15m	
68	comp			↑		
69	2M053818.0p	5 38	18 38	#68	12m	
70	comp			↑		
71	2M055207.6p	5 52	16 22	#68	17m	
72	comp			↑		
73	2M050859.6p	5 08	15 47	#68	15m	
74	comp			↑		
75	09054p5406	9 09	53 53	#60	10m	
76	comp			↑		
77	09069m0132	9 09	-1 44	#60	12m	
78	comp			↑		
79	09089m0241	9 11	-2 52	#60	7m	

60 inch Telescope Log				Spectrograph: FAST		
Observer: CALVIN				Grating: 300L		Page: 7230
PI: FAWC, Kishner, All				Date: 4/8/99		
Number	Object	R. A.	Dec.	L/R	Exp	Comments
80	comp			↑	-	
81	09080p5128	9 11	51 15	#60	11m	(very diffuse + broad!!)
82	comp			↑		
83	09091m0320	9 11	-3 32	#60	4m	
84	comp			↑		
85	09117m0215	9 14	-2 27	#60	6m	
86	comp			↑		
87	09093p3515	9 12	35 03	#60	5m	superposed star
88	comp			↑		
89	09141p1741	9 16	18 32	#60	90s	(redo?)
90	comp			↑		
91	09142p4212	9 17	41 59	#60	7m	
92	comp			↑		
93	N2826-14.6	9 19	32 37	#60	25m	
94	comp			↑		
95	09178p5504	9 21	54 52	#60	4m	
96	comp			↑		
97	09200p4023	9 23	40 09	#60	1m	
98	comp			↑		
99	sn1999bh	10 54	61 16	#2	20m	PA = 25°
100	comp			↑		
101	sn1999bg	12 04	62 29	#2	10m	PA = 0°
102	comp			↑		
103	N3227	10 23	19 51	#6	3m	
104	comp			↑		
105	MRK 421	11 04	38 12	#6	4m	
106	comp			↑		
107	N4151	12 08	39 41	#6	30s	
108	comp			↑		
109	MRK 279	13 52	69 18	#6	3m	

H87 - superposed star - may have emission H α or N2 -
 in 2d image this line looks as though it may
 be real, but extremely difficult to tell.

60 inch Telescope Log

Observer: CALKINSPI: All, Tustin, GellerSpectrograph: FASTGrating: 100LPage: 2231Date: 4/8/99

Number	Object	R. A.	Dec.	L/R	Exp	Comments
110	comp			↑		
111	SBS1425p606	14 26	60 25	↑ ₆	10m	
112	comp			↑		
113	N5548	14 17	25 08	↑ ₆	3m	
114	comp			↑		
115	A1644D5018	12 55	-17 49	↑ ₈₁	20m	(Faint!) <i>new</i>
116	comp			↑		
117	A1644D5065	12 57	-17 26	↑ ₈₁	5m	
118	comp			↑		
119	A1644D5026	12 59	-17 58	↑ ₈₁	20m	
120	comp			↑		
121	A1644D5066	12 57	-17 26	↑ ₈₁	12m	
122	comp			↑		
123	A1644D5069	12 55	-17 29	↑ ₈₁	12m	
124	comp			↑		
125	A1644D5071	12 59	-17 25	↑ ₈₁	15m	
126	comp			↑		
127	A1644D5072	12 58	-17 24	↑ ₈₁	10m	
128	comp			↑		
129	A1644D5073	12 57	-17 25	↑ ₈₁	15m	
130	comp			↑		
131	A1644D5076	12 56	-17 26	↑ ₈₁	8m	
132	comp			↑		
133	A1644D5080	12 57	-17 20	↑ ₈₁	10m	
134	comp			↑		
135	322.047210	12 57	29 02	↑ ₆₄	3m	
136	comp			↑		
137	322.048808	12 57	29 08	↑ ₆₄	5m	
138	comp			↑		
139	322.050311	13 02	29 15	↑ ₆₄	2.5m	

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>7232</u>	
Observer: <u>CALKENS</u>				Grating: <u>300L</u>			
PI: <u>Geller, Kirshner, Rines</u>				Date: <u>4/8/99</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments	
140	comp			↑			
141	322.050601	13 05	29 16	#64	4m		
142	comp			↑			
143	322.050914	13 05	29 17	#64	2.5m		
144	comp			↑			
145	322.051289	13 01	29 18	#64	5m		
146	comp			↑			
147	322.051324	12 56	29 17	#64	10m		
148	comp			↑			
149	sn1999ac	16 07	7 57	#2	15m	PA = 0°	
150	comp			↑			
151	322.051328	13 01	29 19	#64	8m		
152	comp			↑			
153	322.052489	12 56	29 22	#64	10m		
154	comp			↑			
155	322.055392	13 11	29 34	#64	6m		
156	comp			↑			
157	322.055672	12 55	29 24	#64	4m		
158	comp			↑			
159	322.055955	12 58	29 36	#64	4m		
160	comp			↑			
161	322.056295	13 11	29 38	#64	90L		
162	comp			↑			
163	322.057007	13 15	29 40	#64	2m		
164	comp			↑			
165	22199c.001	16 07	38 54	#64	12m		
166	comp			↑			
167	22199c.002	16 07	38 36	#64	8m		
168	comp			↑			
169	22199c.003	16 07	38 27	#64	12m	2 stars east (red?)	

60 inch Telescope Log

Observer: CALKINSPI: Rinal AllSpectrograph: FASTGrating: 300LPage: 7233Date: 4/8/99

Number	Object	R A.	Dec.	L/R	Exp	Comments
170	comp			↑		
171	q21994.004	16 07	38 58	±64	15m	
172	comp			↑		
173	MRX 501	16 53	39 45	#6	5m	
174	comp			↑		
175	RDp332642	15 52	32 57	#56	1m	
176	comp			↑		
177-186	BIAS				0s	
187-196	FLAT				6s	
197-206	BIAS				0s	
207-216	FLAT				12s	
217-226	DARK				15m	

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>7234</u>
Observer: <u>PBerlin</u>				Grating: <u>3002 3" slit</u>		
PI: <u>JPH</u>				Date: <u>4/9/99</u>		
Number	Object	R.A.	Dec.	L/R	Exp	Comments
110	BTAS				0s	
1120	FLAT				7s	
21-30	BTAS				0s	
31-40	FLAT				14s	
41-45	SKY			57	3s	clear skies!
46	WMP			↑		
47-50	HD 52971	06:57	+27:13	57	4s	
51	WMP			↑		
52	Kepler	06:03	+27:41	100	6m	
53	WMP			↑		
54	ZM06472.6	06:14	+17:44	68	2m	*
55	WMP			↑		
56	ZM06102.5	06:10	+12:48	68	6m	*
57	WMP			↑		
58	ZM062905.7	06:29	+24:32	68	4m	
59	WMP			↑		
60	ZM062858.4	06:28	+24:41	68	4m	* to E
61	WMP			↑		
62	ZM063330.9	06:33	+28:04	68	5m	bin by 2; * to E + W
63	WMP			↑		
64	ZM064659.8	06:46	+27:12	68	4m	seeing 2-3"
65	WMP			↑		
66	ZM063015.1	06:30	+28:24	68	4m	
67	WMP			↑		
68	ZM063541.2	06:35	+26:14	68	5m	
69	WMP			↑		
70	ZM065335.2	06:53	+24:44	68	3m	
71	WMP			↑		
72	ZM065842.5 EW	06:52	+28:27	68	8m	PA=65° - E+W comps
73	WMP			↑		close pair

60 inch Telescope Log

Observer: PS
 PI: JPH

Spectrograph: FAST

Grating: 3000
 Date: 4/9/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
74	ZM0627158	06:27	+28:33	68	7m	
75	WMP			↑		seeing ~2" +
76	ZM065255.7	06:52	+27:21	68	7m	
77	WMP			↑		
78	ZM0650305	06:50	+28:33	68	5m	277
79	WMP			↑		
80	ZM0634372	06:34	+25:57	68	7m	
81	WMP			↑		
82	ZM062944.7	06:29	+28:27	68	7m	
83	WMP			↑		
84	ZM061206.2	06:12	+15:09	68	12m	
85	WMP			↑		
86	SN1999K	08:51	+36:30	2	20m	? galaxy only
87	WMP			↑		
88	SN1999Z	10:22	+27:21	2	20m	
89	WMP			↑		
90	F4y34	10:34	+43:06	56	90s	
91	WMP			↑		
92	MRK421	11:01	+38:28	6	4m	
93	WMP			↑		
94	N3229	10:20	+20:07	6	3m	
95	WMP			↑		
96	M451	12:08	+39:41	6	30s	
97	WMP			↑		
98	N4051	12:20	+44:48	6	3m	
99	WMP			↑		delay @ 48"
100	N4466B				5m	
101	WMP			↑		
102	WMP					
103	ZM142311.9	14:23	+20:17	13	5m	
104	WMP			↑		

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>7236</u>	
Observer: <u>PB</u>		Grating: <u>3002</u>		Date: <u>4/9/99</u>		
PI: <u>JPH</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
105	ZMM38053	14:53	+19:47	68	5m	
106	COMP			r		
107	ZM14571925	14:57	+22:06	66	5m	
108				r		
109	ZM144928.1	14:42	+12:54	68	15m	
110	COMP			r		
111	ZM145866.2	14:36	+21:44	68	6m	
112	COMP			r		
113	ZM144414.5	14:44	+25:33	68	5m	
114	COMP			r		
115	ZM1447024.6	14:46	+19:16	68	5m	
116	COMP			r		
117	ZM1451123	14:54	+21:35	68	10m	
118	COMP			r		
119	ZM1451427	14:51	+23:54	68	8m	M4: no gal
120	COMP			r		
121	ZM145933.0	14:59	+16:40	68	5m	
122	COMP			r		
123	ZM145539.7	14:55	+22:24	64	6m	
124	COMP			r		
125	ZM144936.1	14:49	+22:08	68	5m	
126	COMP			r		
127	ZM145805.2	14:56	+19:44	68	5m	
128	COMP			r		
129	ZM145111.0	14:52	+20:04	68	4m	
130	COMP			r		
131	ZM145951.4	14:54	+20:46	68	6m	
132	COMP			r		
133	ZM145417.8	14:54	+18:33	68	6m	
134	COMP			r		

60 inch Telescope Log

Observer: PBPI: JPASpectrograph: FASTGrating: 300LPage: 7237Date: 4/9/99

Number	Object	R. A.	Dec.	C/R	Exp	Comments
135	ZM1444135	14:44	+15:23	68	5m	
136	WMP			↑		
137	ZM144658.1	14:46	+13:33	68	5m	
138	WMP			↑		
139	ZM145742.7	14:57	+18:16	68	5m	
140	WMP			↑		
141	ZM145904.1	14:59	+19:33	68	8m	
142	WMP			↑		
143	A16440505A	12:57	-17:06	81	15m	
144	WMP			↑		
145	A16440505B	12:57	-17:00	81	15m	
146	WMP			↑		
147	A16440505C	12:55	-16:59	81	12m	
148	WMP			↑		
149	N5548	14:15	+25:22	6	3m	
150	WMP			↑		
151	H244	13:21	+36:23	56	2m	
152	WMP			↑		
153	MAR209	13:51	+69:33	6	4m	
154	WMP			↑		
155	ZM130351.2	13:03	+12:23	68	5m	
156	WMP			↑		
157	ZM130610.1	13:05	+15:20	68	10m	
158	WMP			↑		
159	ZM130606.3	13:06	+10:30	68	18m	
160	WMP			↑		
161	ZM130652.5	13:06	+7:53	64	8m	
162	WMP			↑		
163	ZM131034.9	13:10	+16:10	64	15m	
164	WMP			↑		

60 inch Telescope Log
 Observer: PD
 PI: JPH
 Spectrograph: FAST
 Grating: 300L
 Date: 4/9/99
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Number	Object	R. A.	Dec.	L/R	Exp	Comments
165	ZM134143.0	13:41	+18:10	68	15m	* to W
166	WMP			f		
167	ZM134447.4	13:44	+20:38	68	9m	
168	WMP			f		
169	ZM134630.5	13:46	+22:42	68	6m	
170	WMP			f		
171	ZM135046.4	13:50	+23:11	68	6m	
172	WMP			f		
173	ZM135157.8	13:51	+21:37	68	12m	
174	WMP			f		
175	ZM135422.5	13:54	+14:49	68	5m	
176	WMP			f		
177	ZM150119.2	15:01	+12:37	68	5m	
178	WMP			f		
179	ZM150139	15:04	+15:55	68	5m	
180	WMP			f		
181	ZM150301.4	15:03	+21:30	68	5m	
182	WMP			f		
183	ZM150319.1	15:03	+17:07	68	5m	
184	WMP			f		
185	ZM150357.4	15:03	+14:58	68	5m	
186	WMP			f		
187	ZM150405.3	15:04	+16:35	68	5m	clear @
188	WMP			f		down.
189	ZM151357.1	15:13	+23:36	68	5m	
190	WMP			f		
191-200	BIAS				0s	
201-210	FLAT				7s	
211-220	BIAS				0s	
221-230	FLAT				14s	
231-240	DARK					

60 inch Telescope Log		Spectrograph: <u>FAST</u>				
Observer: <u>P Berlin</u>		Grating: <u>300R</u>			Page: <u>7239</u>	
PI: <u>Muzerolle - Hutchon</u>		Date: <u>4/10/99</u>				
Number	Object	R. A.	Dec.	L/R	Exp	Comments
1-10	DARK				15s	
11-20	BIAS				6s	
21-30	FLAT				7s	clouds to S
31-40	BIAS				0s	
41-50	FLAT				14s	
51-55	sky				7s	
56	WMP					
57-59	HD 52971			59	4s	
60	WMP			r		
61	ZM070539.9	07.05	+20.39	68	6m	
62	WMP			r		
63	ZM060529.7	06.05	+27.55	68	8m	
64	WMP			r		
65	ZM060522.1	06.12	+13.01	68	10m	A's to E/W
66	WMP			r		
67	ZM060518.1	06.15	+12.29	68	10m	* + E
68	WMP			r		
69	M51513	06.56	+04.48	82	20m	Faint comp to NW
70	WMP			r		
71	M52514	06.57	+09.35	82	20m	
72	WMP			r		
73	M 50769	06.58	+10.01	82	20m	
74	WMP			r		
75	ZM070404.38	07.49	+18.85	68	20m	
76	WMP			r		
77	SN1999ac	08.27	+21.29	Z	20m	PA=70
78	WMP			r		
79-80	Fery 34	10.36	+43.21	56	90s	
81	WMP			r		

60 inch Telesopa Log

Observer: PB

PI: JPH

Spectrograph: FAST

Grating: 3000

Date: 4/10/99

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
82	MRK421	11:01	+38:28	6	4m	
83	WMP			↑		
84	N4051	12:20	+44:48	6	2m	
85	WMP			↑		
86	N4151	12:08	+39:41	6	30s	
87	WMP			↑		
88	N3227	10:20	+20:07	6	3m	
89	WMP			↑		
90	ZM1016398	10:16	+13:52	68	1m	
91	WMP			↑		
92	ZM1017149	10:17	+15:03	68	15m	a few clouds
93	WMP			↑		
94	ZM101536.1	10:15	+14:13	68	5m	
95	WMP			↑		
96	ZM101610.2	10:16	+14:45	68	7m	
97	WMP			↑		
98	SN1999bg	12:01	+62:30	2	15m	PA=0
99	WMP			↑		
100	ZM101741.0	10:17	+16:52	69	10m	
101	WMP			↑		
102	ZM101806.1	10:18	+15:57	68	10m	
103	WMP			↑		clouds
104	ZM101855.3	10:18	+16:10	68	12m	
105	WMP			↑		
106	ZM101913.1	10:19	+15:10	68	9-	
107	WMP			↑		
108	ZM101910.5	10:19	+15:49	68	8m	
109	WMP			↑		
110	ZM115135.3	11:51	+17:55	68	4m	
111	WMP			↑		

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>7241</u>		
Observer: <u>PB</u>		Grating: <u>300R</u>				
PI: <u>JPH</u>		Date: <u>4/11/99</u>				
Number	Object	R.A.	Dec.	L/R	Exp	Comments
112	ZM115321.6	11:53	+14:25	68	6m	
113	WMP			↑		
114	ZM115714.3	11:57	+13:41	68	8m	
115	WMP			↑		
116	ZM115842.9	11:58	+14:08	68	6m	
117	WMP			↑		
118	ZM115926.5	11:59	+27:01	68	7m	more clouds
119	WMP			↑		windy
120	ZM115951.2	11:59	+20:39	68	5m	* to E
121	WMP			↑		
122	In fall. c. 21	13:10	+24:51	64	20m	em ok
123	WMP			↑		
124	ZM120920.2	12:09	+14:73	68	6m	
125	WMP			↑		
126	ZM120958.0	12:09	+14:55	68	6m	
127	WMP			↑		
128	ZM121051.2	12:10	+14:52	68	6m	
129	WMP			↑		
130	ZM121150.9	12:11	+13:23	68	6m	
131	WMP			↑		
132	ZM121314.0	12:13	+21:47	68	6m	
133	WMP			↑		
134	ZM121401.4	12:14	+23:60	68	7m	
135	WMP			↑		
136	ZM121422.6	12:14	+22:11	68	6m	
137	WMP			↑		
138	322, 056657	12:57	+29:39	64	20m	
139	WMP			↑		
140	ZM131156.1	13:11	+12:21	68	5m	
141	WMP			↑		

60 inch Telescope Log

Observer: PB

PI: JPH

Spectrograph: FAST

Grating: 300

Date: 4/10/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
142	ZM131820.1	13:18	+28:37	68	5m	
143	COMP			↑		
144	ZM132136.0	13:21	+26:34	68	5m	
145	COMP			↑		
146	ZM132225.6	13:22	+15:28	68	4m	
147	COMP			↑		
148	H244	13:21	+26:21	56	2m	PA=88
149	COMP			↑		
150	MAK209	13:51	+69:33	6	3m	PA=90
151	COMP			↑		
152	N5548	14:15	+25:22	6	3m	
153	COMP			↑		
154	ZM132356.5	13:23	+15:24	68	6m	
155	COMP			↑		
156	ZM132533.9	13:25	+13:04	68	10m	
157	COMP			↑		
158	ZM132704.6	13:27	+24:45	68	5m	
159	COMP			↑		
160	ZM132721.8	13:27	+13:07	68	4m	
161	COMP			↑		
162	ZM132742.8	13:27	+18:51	68	5m	
163	COMP			↑		
164	ZM132814.8	13:28	+28:41	68	4m	
165	COMP			↑		
166	SN1999ac	16:07	+07:58	2	15m	PA=24
167	COMP			↑		
168	ZM133111.4	13:51	+23:23	68	4m	PA=90 fl's - no gal X clouds.
169	COMP			↑		
170	ZM164135.8	16:41	+15:17	68	10m	
171	COMP			↑		

60 inch Telescope Log

Spectrograph: FAST

Observer: PB

Grating: 300L

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PI: JPH

Date: 4/10/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
172	2M1675127	16.43	12.40	68	6m	2m * no gal *
173	COMP			F		
174	2M1649257	16.44	14.44	68	8m	Sun
175	COMP			F		
176/177	NS846	15.03	14.47	57	3m	lots of clouds
178	COMP			F		☉ dawn.
179-184	BTDS				0s	
185-198	FLAT				7s	
199-208	BTDS				0s	
209-218	FLAT				14s	
219-228	DARK				15m	

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>57244</u>	
Observer: <u>P. Bertine</u>				Grating: <u>3000</u>			
PI: <u>JPH</u>				Date: <u>4/11/99</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments	
1-10	DARK				15m		
11-20	BIAS				0s		
21-30	FLAT				7s	circus to S	
31-40	BIAS				0s	windy	
41-50	FLAT				14s		
51-55	sky			57	2s	Storm supposed to	
56	WMP			↑	5s	move in later	
57-59	HD52971	06:57	+27	57	4s		
60	WMP			↑			
61-62	N33779	10:45	+12:50	57	90s		
63	WMP			↑			
64	ZM065252.7	06:52	+27:13	68	3m		
65	WMP			↑			
66	ZM062848.2	06:28	+24:32	68	5m	* to E POOR	
67	WMP			↑			
68	ZM062753.1	06:27	+24:47	68	6m		
69	WMP			↑			
70	BluGem	06:03	+27:41	100	6m		
71	WMP			↑			
72	ZM064939.6	06:49	+25:40	68	5m	• - gal star bin by 2	
73	WMP			↑			
74	ZM065201.5	06:52	+27:07	68	5m	pec? #284	
75	WMP			↑			
76	ZM065412.0	06:54	+28:19	68	5m		
77	WMP			↑			
78	ZM065845.7	06:58	+27:24	68	4m		
79	WMP			↑			
80	SN1999be	08:23	+18:18	2	20m		
81	WMP			↑			

60 inch Telescope Log

Observer: PB
 PI: JPM

Spectrograph: FAST
 Grating: 30R
 Date: 4/11/99

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
82	ZM063136.8	06:31	+25:20	68	5m	
83	WMP			↑		
84	ZM065034.9	06:50	+24:52	68	5m	
85	WMP			↑		
86	ZM065120.9	06:51	+27:58	68	5m	
87	WMP			↑		
88	ZM063720.9	06:37	+24:40	68	1m	plen. neb. ! + to E
89	WMP			↑		
90	ZM063257.3	06:32	+26:06	68	10m	WK
91	WMP			↑		
92	ZM065344.7	06:53	+26:47	68	10m	3/4 * to E
93	WMP			↑		
94	ZM060207.3	06:02	+16:23	68	4m	
95	WMP			↑		
96	ZM060228.8	06:02	+20:30	68	3m	
97	WMP			↑		
98	ZM080259.7	08:02	+15:08	68	5m	
99	WMP			↑		
100	ZM061206.5	06:12	+16:59	68	6m	
101	WMP			↑		
102	ZM061125	06:11	+14:39	68	10m	
103	WMP			↑		
104	ZM080508.6	08:05	+20:15	68	10m	
105	WMP			↑		
106	ZM080442.2	08:04	+18:46	68	10m	bot star off to W
107	WMP			↑		
108	ZM080459.7	08:04	+14:48	68	8m	
109	WMP			↑		
110	ZM080707.8	08:07	+17:20	68	7m	
111	WMP			↑		

60 inch Telescope Log			Spectrograph: <u>FBI</u>		Page: <u>7246</u>	
Observer: <u>PB</u>			Grating: <u>202</u>		Date: <u>4/11/99</u>	
PI: <u>JPH</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
112	ZM080815.8	08:08	+20:50	68	7m	
113	COMP			T		
114	ZM080832.6	08:08	+19:12	68	6m	
115	COMP			T		
116	ZM080955.3	08:09	+16:44	68	6m	
117	COMP			T		
118	N3227	10:20	+20:07	6	3m	
119	COMP			T		(ok)
120	MRK421	11:01	+38:28	6	4m	
121	COMP			T		
122	Fcige34	10:36	+43	56	90s	
123	COMP			T		
124	N4151	12:08	+39:41	6	30s	
125	COMP			T		
126	N4051	12:00	+44:48	6	2m	
127	COMP			T		
128	SNR99an	12:01	+14:06	2	15m	
129	COMP			T		
130	A1644DS084	12:56	+17:02	81	15m	
131	COMP			T		
132	A1644DS111	12:52	-16:52	81	14m	
133	COMP			T		
134	A1644DS119	12:57	-16:47	81	Man	
135	COMP			T		
136	H204	13:21	+36:23	56	2m	PA=90
137	COMP			T		
138	ZM121506.0	12:15	+18:53	68	6m	
139	COMP			T		
140	ZM122104.6	12:24	+16:19	68	5m	
141	COMP			T		

60 inch Telescope Log

Observer: PB

PI: JPH

Spectrograph: FAST

Grating: 30R

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
142	ZM 12314.5	12:31	+23:05	68	5m	
143	COMP			f		
144	ZM 12314.2	12:31	+23:29	68	4m	
145	COMP			f		
146	ZM 12320.7	12:32	+16:48	68	4m	
147	COMP			f		
148	ZM 12325.0	12:32	+16:42	68	4m	comp to W
149	COMP			f		
150	ZM 12356.1	12:38	+15:39	68	4m	
151	COMP			f		
152	ZM 12365.0	12:38	+12:36	68	11m	
153	COMP			f		
154	ZM 12390.2	12:39	+16:48	68	5m	Scamp
155	COMP			f		
156	ZM 12390.8	12:39	+15:21	68	5m	
157	COMP			f		
158	K016	13:00	+28:02	64	4m	
159	COMP			f		
160	K017	13:00	+28:03	64	5m	
161	COMP			f		
162	K018	13:00	+27:55	64	4m	* to W
163	COMP			f		
164	K019	13:00	+27:58	64	3m	
165	COMP			f		
166	K020	13:00	+28:05	64	3m	
167	COMP			f		
168	K021	13:00	+28:09	64	4m	
169	COMP			f		
170	K022	13:00	+28:02	64	3m	
171	COMP			f		

60 inch Telescope Log

Observer: PB
 FI: JPH

Spectrograph: FAST
 Grating: 3002
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
172	K023	13:00	+27:47	69	3m	
173	WMP			f		
174	MKW12-i 040	13:57	+49:24	35	20m	high ca nice spectrum
175	WMP			f		
176	ZM1328453	13:28	+25:05	68	4m	
177	WMP			f		
178	ZM132909.9	13:29	+25:45	68	5m	
179	WMP			f		
180	ZM132927.1	13:29	+13:52	68	5m	
181	WMP			f		
182	ZM133122.7	13:31	+13:40	68	6m	* to E
183	WMP			f		
184	ZM1332136.1	13:31	+13:35	68	10m	
185	WMP			f		
186	ZM133154.8	13:31	+13:28	68	7m	
187	WMP			f		
188	ZM133225.8	13:32	+12:34	68	7m	
189	WMP			f		
190	ZM1334110.1	13:34	+13:49	68	7m	
191	WMP			f		
192	ZM133626.9	13:36	+16:05	68	6m	
193	WMP			f		
194	ZM133844.8	13:38	+15:25	68	6m	
195	WMP			f		
196	ZM134053.3	13:40	+18:31	68	6m	
197	WMP			f		
198	ZM135147.2	13:51	+19:29	68	5m	
199	WMP			f		
200	ZM135217.3	13:52	+21:04	68	7m	
201	WMP			f		

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>7249</u>	
Observer: <u>PB</u>			Grating: <u>300L</u>			
PI: <u>JPH</u>			Date: <u>4/11/99</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
202	ZM125909.4	13:59	+16:50	68	7m	
203	COMP			↑		
204	N5548	14:13	+25:22	6	3m	
205	COMP			↑		
206	N5846	15:03	+01:47	57	90s	
208	COMP			↑		
209	ZM150331.5	15:00	+47:10	68	11m	
210	COMP			↑		
211	ZM1503331.5	15:03	+20:39	68	5m	
212	COMP			↑		
213	ZM150459.1	15:04	+26:25	68	5m	
214	COMP			↑		
215	ZM150538.5	15:05	+23:23	68	6m	
216	COMP			↑		a few clouds.
217	ZM151030	15:11	+20:24	68	5m	☉ down.
218	COMP			↑		
219-228	BIAS				0.5	
229-238	FLAT				0.3	
239-248	BIAS				0.3	
249-258	FLAT				1.5	
259-268	DARK				15m	

60 inch Telescope Log

Observer: CALKINS

PI: All Kirchner, Huchra

Spectrograph: FAST

Grating: 200L

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Date: 4/12/99

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	
51-55	sky			#57	2s	
56	comp			↑		
57	Feige 34	10 39	43 06	#56	2m	
58	comp			↑		
59	Feige 34	10 39	43 06	#56	2m	PA = 75°
60	comp			↑		
61	SN1999aa	8 27	21 28	#2	20m	PA = 31°
62	comp			↑		
63	N3227	10 23	19 51	F6	3m	seeing 50-50
64	comp			↑		
65	2M070344	7 03	28 08	#68	8m	PA
66	comp			↑		
67	2M070326	7 03	18 04	#68	10m	
68	comp			↑		
69	2M070357	7 03	20 57	#68	8m	galaxy west star
70	comp			↑		
71	2M070410	7 04	21 16	#68	6m	
72	comp			↑		
73	2M070411	7 04	18 33	#68	4m	
74	comp			↑		
75	2M070416	7 04	19 06	#68	6m	
76	comp			↑		
77	2M070423	7 04	27 22	#68	5m	
78	comp			↑		
79	2M070438	7 04	18 33	#68	5m	bright star east

chip gain calculations slightly low
 ~ 7.7 - 7.9 noise
 1.1 gain

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>7251</u>
Observer: <u>CALVIN</u>				Grating: <u>300L</u>		
PI: <u>Wachra, Kirchner, All</u>				Date: <u>4/12/99</u>		
Number	Object	R.A.	Dec.	L/R	Exp	Comments
80	comp			↑		
81	2M023457	7 04	25 35	"68	15m	storm clouds coming
82	sn1999bg	12 03	62 29	"2	20m	PA=80°, seeing 5+!"
84	comp			↑		
85	sn1999ac	16 07	7 57	"2	20m	PA=14°
86	comp			↑		
87	N4051	12 03	44 31	"6	2m	Bright objects until seeing settles down
88	comp			↑		
89	N4151	12 10	39 24	"6	30s	
90	comp			↑		
91	N4258	12 18	47 18	"6	2m	
92	comp			↑		
93	11R2279	13 52	69 18	"6	3m	
94	comp			↑		
95	SBS1425p606	14 26	60 25	"6	15m	
96	comp			↑		
97	MRK501	16 53	39 45	"6	6m	V
98	comp			↑		
99	N5548	14 18	25 08	"6	4m	
100	comp			↑		
101	N5846	15 06	01 36	"57	5m	
102	comp			↑		
102-112	BIAS				0s	
113-122	FLAT				6L	
123-132	BIAS				0s	
133-142	FLAT				12s	
143-152	DARK				15m	

60 inch Telescope Log

Observer: CALVINS

PI: All, Muse collector, theora

Spectrograph: FAST

Grating: 300L

Page: 7252

Date: 4/13/99

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	
51-55	sky			#57	5s	
56	comp					
57	Feige 34	10 39	43 06	*56	90s	
58	comp			↑		
59	Feige 34	10 39	43 05	*56	90s	RA = 75°
60	comp			↑		
61	N3227	10 23	19 51	*6	3m	
62	comp			↑		
63	Akn120	5 16	-00 08	*6	4m	central spectra
64	comp			↑		
65	HDS2971	7 00	27 09	*57	5s	
66	comp			↑		
67	MC1774	6 40	9 42	*82	30m	
68	comp			↑		
69, 70	ML1039	6 41	9 53	*82	30m	
71	comp			↑		
72	2M101937.7p	10 19	22 42	*68	6m	
73	comp			↑		
74	2M101942.1p	10 19	13 14	*68	5m	
75	comp			↑		
76	2M102017.5p	10 20	18 55	*68	6m	star east
77	comp			↑		
78	2M102024	10 20	21 21	*68	4m	
79	comp			↑		
80	2M102117.6p	10 21	23 49	*68	5m	

chip gain calcs a little low
 noise ~ 7.9
 gain ~ 1.1

60 inch Telescope Log

Observer: CNUKJWSSpectrograph: FASTGrating: 300LPage: 7253PI: Huchra, Kirshner, Justin, GellerDate: 4/13/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
81	comp			↑		
82	ZM102128.0p	10 21	23 58	#68	4m	star west
83	comp			↑		
84	ZM102137.1p	10 21	14 06	#68	3m	
85	comp			↑		
86	ZM102145	10 21	22 41	#68	4m	
87	comp			↑		
88	ZM102155	10 21	20 59	#68	5m	
89	comp			↑		
90-92	sn1998S	11 46	47 28	#2	20m	
93	comp			↑		
94	sn1999an	12 01	14 05	#2	10m	
95	comp			↑		
96	A1644DS097	12 58	17 13	#81	20m	
97	comp			↑		
98	A1644DS106	12 57	17 09	#81	20m	
99	comp			↑		
100	Z006257	12 59	28 53	#64	2m	
101	comp			↑		
102	Z007312	13 09	24 34	#64	5m	
103	comp			↑		
104	Z007392 E	13 02	27 38	#64	3.5m	
105	comp			↑		
106	Z007394	13 09	29 22	#64	3.5m	
107	comp			↑		
108	Z008491	13 08	24 41	#64	5m	
109	comp			↑		
110	Z008580	12 58	28 56	#64	2m	
111	comp			↑		
112	Z008586.5	12 58	28 08	#64	7m	

60 inch Telescope Log
 Observer: CALKINS
 PI: Geller, Koranyi, Huchra
 Spectrograph: FAST
 Grating: 300L
 Date: 4/13/99
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
113	comp			↑		
114	2009922	13 07	24 48	#64	6m	
115	comp			↑		
116	2010039	13 58	27 58	#64	3m	
117	comp			↑		
118	2010044	13 10	29 42	#64	10m	
119	comp			↑		
120	2013746-5	12 56	27 38	#64	8m	
121	comp			↑		
122	2013754	12 59	28 55	#64	3m	- Last one!
123	comp			↑		
124	mkw12-i.039	13 58	8 45	#35	8m	
125	comp			↑		
126	mkw12-i.041	14 03	8 16	#35	20m	
127	comp			↑		
128	mkw12-i.043	14 06	10 21	#35	15m	
129	comp			↑		
130	mkw12-i.044	13 59	9 32	#35	17m	
131	comp			↑		
132	2M164430	16 44	16 19	#68	5m	star west
133	comp			↑		
134	2M164451	16 44	22 21	#68	8m	
135	comp			↑		
136	2M164456	16 44	21 46	#68	8m	
137	comp			↑		
138	2M165103	16 51	20 17	#68	7m	
139	comp			↑		
140	2M165222	16 52	23 42	#68	12m	
141	comp			↑		
142	2M165251	16 52	17 26	#68	7m	

60 inch Telescope Log

Observer: CALKINS

PI: Hudara, Kirshner

Spectrograph: FAST

Grating: 300L

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Date: 4/13/99

Number	Object	R. A.	Dec.	L/R	Exp	Comments
143	comp			↑		
144	ZM165320	16 53	22 00	¹⁵ 68	4m	
145	comp			↑		
146	ZM165323	16 53	17 51	¹⁵ 68	9m	
147	comp			↑		
148	ZM165438	16 54	24 05	¹⁵ 68	2m	
149	comp			↑		
150	SN-IC1254	17 11	72 24	¹⁵ 2	20m	PA=0°
151	comp			↑		
152	ZM170203	17 02	18 59	¹⁵ 68	5m	
153	comp			↑		
154	ZM170527	17 05	22 18	¹⁵ 68	5m	
155	comp			↑		
156	ZM170547	17 05	18 24	¹⁵ 68	10m	
157	comp			↑		
158	BDP332642	15 51	32 55	¹⁵ 6	1m	
159	comp			↑		
160-169	BIAS				0s	
170-179	FLAT				6s	
180-189	BIAS				0s	
190-199	FLAT				12s	
200-209	DARK				15m	

60 inch Telescope Log

Observer: CALKINS

Widdow

Spectrograph: FAST

Grating: 300L

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PI: All, Huchra, Kirshner, Munnich

Date: 4/14/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	DARK				15m	
11-20	BIAS				0s	
21-30	FLAT				0s	
31-40	BIAS				0s	
41-50	FLAT				12s	
51-55	slcy			#57	2s	
56	comp			↑		
57	Feige 34	10 39	43 06	#56	90s	
58	comp			↑		
59	Feige 34	10 39	43 06	#56	90s	PA = 74°
60	comp			↑		
61	N3577	10 47	13 59	#57	2m	
62	comp			↑		
63	2M102203	10 22	13 46	#67	10m	windy again !!
64	comp			↑		
65	2M102212	10 22	20 01	#68	4m	
66	comp			↑		
67	2M102216	10 22	19 36	#68	4.5m	
68	comp			↑		
69	2M102224	10 22	15 37	#68	12m	
70	comp			↑		
71	2M102252	10 22	12 16	#68	5m	
72	comp			↑		
73	sn1999aa	8 27	21 29	#2	15m	PA = 49°
74	comp			↑		
75, 76	ML2639	6 41	9 40	#82	30m	← last one!
77	comp			↑		
78	SS26144.001	9 44	-5 11	#59	15m	
79	comp			↑		
80	SS26144.002	9 44	-5 07	#59	6m	

60 inch Telescope Log				Spectrograph: <u>F15F</u>		Page: <u>2257</u>	
Observer: <u>CALICINS Koranyi</u>				Grating: <u>200L</u>			
PI: <u>unibrow, Tusting, Kirshner,</u>				Date: <u>4/14/99</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments	
81	comp			↑			
82	ss26144.003	9 44	-4 52	"89	20m		
83	comp			↑			
84	ss26144.024	9 44	-5 03	"89	20m		
85	comp			↑			
86	A1644DS110	12 56	-17 11	"81	20m		
87	comp			↑			
88	A1644DS112	13 00	-17 04	"81	12m		
89	comp			↑			
90	A1644DS113	12 57	-17 05	"81	17m		
91	comp			↑			
92	A1644DS117	12 56	-17 05	"81	15m		
93	comp			↑			
94	A1644DS120	12 59	-17 01	"81	20m		
95	comp			↑			
96	A1644DS121	12 58	-17 00	"81	20m		
97	comp			↑			
98	sn1999bf	13 00	2 30	"2	20m	PA = 9°	
99	comp			↑			
100	mkw12-i.045	14 04	9 31	"35	15m		
101	comp			↑			
102	mkw12-i.046	14 03	10 23	"35	10m		
103	comp			↑			
104	mkw12-i.047	13 58	9 47	"35	12m		
105	comp			↑			
106	mkw12-i.049	14 07	10 10	"35	12m		
107	comp			↑			
108	mkw12-i.50	13 59	9 32	"35	20m		
109	comp			↑			
110	mkw12-i.051	14 01	8 19	"35	12m	object east	

60 inch Telescope Log

Spectrograph: FAST

Observer: CALKINS

Grating: 300L

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PI: Bartels, All, Kirshner, Huchra

Date: 4/14/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
111	comp			↑		
112	NGC 458	15 56	41 53	11-73	15m	
113	comp			↑		
114	NGC 463	15 59	41 28	11-73	12m	-last redo
115	comp			↑		
116	M4151	16 10	39 24	11-6	30s	
117	comp			↑		
118	HR 1279	13 52	69 18	11-6	3m	
119	comp			↑		
120	NGC 48	14 18	25 08	11-6	3m	
121	comp			↑		
122	SN 1999ac	16 07	7 58	11-2	15m	PA = 15°
123	comp			↑		
124	2M170633	17 06	12 03	11-68	5m	
125	comp			↑		
126	2M170809	17 08	21 56	11-68	7m	foreground star
127	comp			↑		
128	2M171009	17 10	13 41	11-68	5m	
129	comp			↑		
130	2M171212	17 12	21 48	11-68	4.5m	
131	comp			↑		
132	2M171923	17 19	21 45	11-68	4.5m	
133	comp			↑		
134	2M172310	17 23	20 32	11-68	2.5m	stellar? (star east) *
135	comp			↑		
136	2M172951	17 29	20 02	11-68	6m	
137	comp			↑		
138	2M172956	17 29	18 41	11-68	10m	
139	comp			↑		
140	SN 1999bs	18 01	7 00	11-2	15m	PA = 5°

60 inch Telescope Log

Observer: CALIGINS

PI: Huckers, AH

Spectrograph: FAST

Grating: 300L

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Date: 4/14/99

Number	Object	R. A.	Dec.	L/R	Exp	Comments
141	comp			↑		
142	2M17150	18 11	21 07	#68	4m	
143	comp			↑		
144	RDP332642	15 52	32 57	#56	1m	
145	comp			↑		
146-155	BIAS				0s	
156-165	FLAT				6s	
166-175	BIAS				0s	
176-185	FLAT				12s	
186-195	DARK				15m	

60 inch Telescope log

Observer: PB

PI: And.

Spectrograph: FAST

Grating: 3000

Date: 4/15/99

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
1-10	DARK				15m	
11-20	BIDS				0s	hazy, windy
21-30	FLAT				7s	
31-40	BIDS				0s	
41-50	FLAT				14s	
-55	SKY			S7	2s	
56	WMP			T		
57-58	MDS2771	06:57	+27	S6	4s	
60	WMP			T		
61	N3227	10:20	+2007	G	3m	
62	WMP			T		
63	M2K421	11:01	+59:	G	4m	
64	WMP			T		
65-66	Fc19c31	10:36	+43	S6	90s	
67	WMP			T		
68	B666m	06:03	+27:41	10	6m	
69	WMP			T		
70	SS26141020	09:	-05	S9	5m	
71	WMP			T		
72	028	09:47	-05:18	S9	10m	
73	WMP			T		
74	030	09:47	-06:26	S9	5m	
75	WMP			T		
76	031	09:47	-05:53	S9	5m	
77	WMP			T		
78	033	09:48	-06:29	S9	5m	
79	WMP			T		
80	041	09:48	-05:34	S9	10m	
81	WMP			T		

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>7261</u>	
Observer: <u>PB</u>			Grating: <u>300R</u>			
PI: <u>Andi</u>			Date: <u>4/15/99</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
82	SS26144.044	09:48	-05:29	S9	8m	windy, poor seeing
83	WMP			↑		
84	077	09:49	-04:44	S9	10m	* to W
85	WMP			↑		
86	049	09:49	-05:20	S9	10m	
87	WMP			↑		
88	052			S9	10m	
89	WMP			↑		
90	055			S9	5.5m	
91	WMP			↑		
92	059	09:49	-05:15	S9	6m	
93	WMP			↑		
94	060	09:49	-05:15	S9	10m	
95	WMP			↑		
96	058	09:49	-05:12	S9	8m	
97	WMP			↑		
98	062	09:49	-04:54	S9	8m	
99	WMP			↑		
100	064	09:49	-06:04	S9	5m	
101	WMP			↑		
102	065	09:49	-04:51	S9	12m	
103	WMP			↑		
104	068	09:50	-05:37	S9	15m	
105	WMP			↑		
106	074	09:50	-04:59	S9	15m	
107	WMP			↑		
108	073	09:50	-05:44	S9	3m	
109	WMP			↑		
110	081	09:50	-04:55	S9	4m	nice gal!
111	WMP			↑		

60 inch Telescope Log

Observer: PB

PI: Andi

Spectrograph: FAST

Grating: 3000

Date: 4/15/99

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
112	NGC 110, 143	11:00	+10:43	S9	4m	
113	COMP			T		
114	.144	11:00	+11:00	S9	4m	
115	COMP			T		
116	.146+147	11:00	+10:30	S9	4m	147N 147 PA=69
117	147N	11:00	+10:30	S9	4m	PA=69 146 row 83
118	COMP			T		row 93
119	148	11:00	+10:36	S9	5m	
120	COMP			T		
121	149	11:00	+10:18	S9	4m	
122	COMP			T		
123	SNR99an	12:01	+14:06	2	15m	PA=38
124	COMP			T		
125	.150	11:01	+11:02	S9	5m	Sy 1 bl.
126	COMP			T		
127	.153	11:01	+10:28	S9	3m	
128	COMP			T		
129-130	M244	13:21	+76:23	S6	2m	
131	COMP			T		
132-134	SNIPAGE	13:17	-18:33	2	20m	
133, 135	COMP			T		
136	N451	12:08	+39:41	6	30s	
137	COMP			T		
138	N4051	12:10	+14:48	6	2m	4
139	COMP			T		
140	MK209	13:51	+69:33	6	3m	7
141	COMP			T		
142	N5548	14:15	+25:22	6	3m	
143	COMP			T		

60 inch Telescope Log		Spectrograph: <u>FAST</u>				
Observer: <u>PO</u>		Grating: <u>300L</u>		Page: <u>7263</u>		
PI: <u>JPH</u>		Date: <u>4/15/99</u>				
Number	Object	R.A.	Dec.	L/R	Exp	Comments
144	ZM123927.8	12:39	+16:25	68	5m	
145	COMP			r		
146	ZM12413.6	12:41	+18:31	68	5m	
147	COMP			r		
148	ZM124133.2	12:41	+17:24	68	5m	
149	COMP			r		
150	ZM12423.9	12:42	+20:51	68	5m	
151	COMP			r		
152	ZM12454.5	12:45	+19:30	68	5m	
153	COMP			r		
154	ZM124719.0	12:47	+15:42	68	9m	* to E
155	COMP			r		
156	ZM125056	12:51	+17:23	68	5m	
157	COMP			r		
158	ZM125526.6	12:55	+17:48	68	5m	
159	COMP			r		
160	ZM1206502.9	12:55	+14:10	68	5m	2 stars; no gal
161	COMP			r		
162	ZM125520.0	12:55	+17:51	68	6m	
163	COMP			r		
164	ZM125528.2	12:59	+15:10	68	6m	
165	COMP			r		
166	ZM125911.8	12:59	+18:09	68	6m	
167	COMP			r		
168	SN1999bt	17:11	+72:25	68	20m	
169	COMP			r		
170	a21996.050	16:26	+43:24	69	4m	
171	COMP			r		
172	.056	16:30	+36:14	69	10m	* to W
173	COMP			r		

N6340

60 inch Telescope Log

Observer: PB

PI: Ken

Spectrograph: FAST

Grating: 300R

Date: 4/13/99

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
174	220996.057	16:31	+42:42	64	4m	
175	COMP			f		
176	058	16:32	+37:14	64	3m	
177	COMP			f		
178	059	16:33	+35:53	64	5m	
179	COMP			f		
180	060	16:34	+37:20	64	4m	
181	COMP			f		
182	061	16:37	+40:52	64	4m	NW gal
184	062	16:37	+40:52	64	5m	SE
183	COMP			f		
185	063	16:37	+39:14	64	4m	
186	COMP			f		
187	064	16:38	+37:15	64	3m	
188	COMP			f		
189	065	16:39	+43:17	64	5m	
190	COMP			f		
191	066	16:39	+37:05	64	4m	
192	COMP			f		
193	067	16:40	+39:13	64	4m	
194	COMP			f		
195	068	16:41	+40:25	64	5m	
196	COMP			f		
197	069	16:41	+39:45	64	4m	
198	COMP			f		
199	070	16:41	+36:53	64	4m	
200	COMP			f		
201	073	16:42	+37:31	64	4m	
202	COMP			f		

60 inch Telescope Log

Observer: PB

Spectrograph: FAST

Grating: 300L

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PI: All

Date: 4/15/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
203	g22996 077	16.43	+47-21	64	4m	
204	COMP			7		
205	MPK501	16.53	+71-45	6	4m	
206	COMP			7		
207-209	HDX2281	20.10	+40-07	56	5	clear and windy
210	COMP			7		
211-220	ISAS				08	
221-230	FLAT				13	
231-240	ISAS				08	
241-250	FLAT				14s	
251-260	DIRK				20m	

60 inch Telescope Log
 Observer: P Berlin
 PI: JPH
 Spectrograph: FAST
 Grating: 3002
 Date: 4/16/99
 Page: 7266

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	DARK				15m	
11-20	BIAS				0s	
21-30	FLAT				7s	clearing nicely @ sunset.
31-40	BIAS				0s	
41-50	FLAT				14s	
51-55	sky	zenith		57	2s	
56	COMP			↑		
57-59	HDS2777	06:57	+27:13	57	4s	
60	COMP			↑		
61-63	HDS1354	06:57	+17:54	57	5s	
64	COMP			↑		
65-68	HDS0816	06:57	+22:55	57	4s	
69	COMP			↑		
70-72	HDS0868	06:55	+05:26	57	4s	
73	COMP			↑		
74	N5377	10:45	+14:14	57	1m	
75	COMP			↑		
76	N5379	10:45	+17:50	57	1m	
77	COMP			↑		
78-79	Faye 34	10:36	+43:21	56	90s	
80	COMP			↑		
81	N3227	10:20	+20:07	6	3m	
82	COMP			↑		
83	2M061624.9	06:46	+25:11	68	4m	
84	COMP			↑		
85	2M064205.4	06:42	+14:19	68	4m	
86	COMP			↑		good seeing
87	2M061719.7	06:17	+27:50	68	4m	
88	COMP			↑		

Standard data Reduced in 2 data sets 1-177 + 214-283

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>7267</u>		
Observer: <u>PB</u>		Grating: <u>3000</u>				
PI: <u>JPH</u>		Date: <u>4/16/99</u>				
Number	Object	R. A.	Dec.	L/R	Exp	Comments
88	ZM065344.3	06:53	+14:13	68	6m	
89	COMP			†		
91	ZM065322.5	06:53	+12:14	68	3m	
92	COMP			†		
93	ZM065059.1	06:50	+15:18	68	5m	
94	COMP			†		
95	SNP9999	08:27	+21:29	2	20m	PA=36
96	COMP			†		
97	ZM081006.1	08:10	+19:35	68	6m	
98	COMP			†		
99	ZM081004.3	08:10	+17:29	68	5m	
100	COMP			†		
101	ZM081308.5	08:13	+14:43	68	6m	
102	COMP			†		
103	ZM081322.3	08:13	+17:01	68	5m	
104	COMP			†		
105	ZM081355.7	08:13	+16:58	68	5m	
106	COMP			†		
107	SNP9999	12:01	+62:30	2	15m	PA=32°
108	COMP			†		
109	ZM085147.2	08:31	+13:40	68	5m	
110	COMP			†		
111	ZM083351.9	08:33	+14:07	68	4m	
112	COMP			†		
113	ZM082828.6	08:28	+13:41	68	5m	
114	COMP			†		
115	ZM082824.4	08:28	+15:42	68	5m	
116	COMP			†		
117	ZM082712.4	08:27	+17:59	68	5m	
118	COMP			†		

60 inch Telescope Log

Observer: PB
 PI: JPH

Spectrograph: F16J
 Grating: 3000
 Date: 4/16/99

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
119	2M0826429	08:26	+17:38	68	5m	
120	COMP			↑		
121	2M0849289	08:49	+18:00	68	4m	
122	COMP			↑		
123	2M085015.2	08:50	+18:48	68	4m	
124	COMP			↑		
125	2M085217.5	08:52	+18:17	68	4m	
126	COMP			↑		
127	2M0853498	08:53	+18:52	68	4m	
128	COMP			↑		
129	2M090334.7	09:03	+13:39	68	3m	
130	COMP			↑		
131	2M0904324	09:04	+17:29	68	4m	
132	COMP			↑		
133	2M0904408EW	09:04	+17:35	68	5m	PA=60 to avoid star
134	COMP			↑		
135	2M0913482	09:13	+16:14	68	5m	
136	COMP			↑		
137	2M0947114	09:47	+18:52	68	4m	
138	COMP			↑		
139	2M094752.7	09:47	+20:17	68	3m	
140	COMP			↑		
141	2M095731.9	09:57	+20:33	68	5m	
142	COMP			↑		
143	2M095910.9	09:59	+19:44	68	4m	
144	COMP			↑		
145	2M095927.4	09:59	+12:56	68	4m	
146	COMP			↑		
147	2M095946.7	09:59	+15:58	68	5m	
148	COMP			↑		

60 inch Telescope Log

Observer: PB

PI: JPH

Spectrograph: FAST

Grating: 3002

Date: 4/16/99

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
149	ZM095M4.4	09:57	+17:45	68	4m	
150	COMP			↑		
151	ZM095810.4	09:58	+17:41	68	5m	
152	COMP			↑		
153	ZM095816.8	09:58	+17:42	68	5m	
154	COMP			↑		
155	ZM095930.C	09:59	+16:10	68	5m	
156	COMP			↑		
157	ZM102227.9	10:23	+22:25	68	4m	
158	COMP			↑		
159	ZM102206.9	10:24	+22:17	68	4m	
160	COMP			↑		
161	ZM102209	10:24	+22:02	68	5m	
162	COMP			↑		
163	ZM102502.C	10:25	+22:24	68	5m	
164	COMP			↑		
165	HZ44	13:21	+76:23	56	2m	strange chip binnig
166	HZ44	13:21	+76:23	56	2m	108 rows instead of 161
167	COMP			↑		
168	MK421	11:01	+78:28	6	4m	
169	COMP			↑		
170	N404	12:03	+44:48	6	2m	
171	COMP			↑		
172	N451	12:08	+39:41	6	30s	
173	COMP			↑		
174	MKw12_i.054	14:03	+45:26	35	6m	
175	COMP			↑		
176	N5548	14:15	+25:22	6	3m	
177	COMP			↑		

60 inch Telescope Log			Spectrograph: <u>FAST</u>			
Observer: <u>PB</u>			Grating: <u>3000, tilt = 745</u>		Page: <u>7270</u>	
PI: <u>Mink</u>			Date: <u>4/16/99</u>			
Number	Object	R. A.	Dec.	L/R	Exp	Comments
178	COMP test			78	8s	3000, 3" slit, 100
179-183	FLAT			78	14s	tilt = 745 focus = 850
			<u>CZE</u>			$\lambda_c = 7445 \text{ \AA}$
184	N4853	17:58	7.5K	78	6m	
185	COMP			↑		thin clouds
186	N4486B	17:30	1.5K	78	6m	
187	COMP			↑		comp mink 44-49
188	mink 44-49	17:05	25K	78	20m	PA = 17°
189	COMP			↑		
190	ZM139401	17:35	15K	78	10m	+ to W of gal PA = 80
191	COMP			↑		
192	mink 7-035	17:53	45K	78	20m	Faint gal to E of row 153
193	COMP			↑		PA = 80
194	ZM150605.6	15:06	20K	78	15m	
195	COMP			↑		
196	NGC 4172	16:05	10K	78	10m	PA = 85 gal to E
197	COMP			↑		
198	160310, 161520	16:05	40K	78	20m	
199	COMP			↑		
200	ZM16050.2	16:05	35K	78	20m	* to E
201	COMP			↑		clouds...
202	NGC 4100, 089	16:49	30K	78	20m	wk
203	COMP			↑		delay of clouds.
204-213	FLAT				14s	
						windy
214	15222, 2056	15:24	2045	60	5m	normal setup
215	COMP			↑		3000, tilt = 610
216	15219, 2057E	15:24	2046	60	6m	
217	COMP			↑		

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>7271</u>	
Observer: <u>PB</u>			Grating: <u>3020</u>		Date: <u>4/16/99</u>	
PI: <u>Falco</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
218	1526 Sp 1220	15:28	+42:56	60	3m	windy + cloudy
219	COMP			↑		
220	1534p 4340	15:36	+43:20	60	7m	
221	COMP			↑		
222	SN1999ac	16:07	+07:58	2	20m	PA=45
223	COMP			↑		
224	1534p 4201	15:56	+41:52	60	5m	
225	COMP			↑		
226	I 1153	15:57	+48:10	60	3m	
227	COMP			↑		
228	H2Her	16:57	+78:20	57	5m	
229	COMP			↑		
230-32	H10P2281	20:10	+40:07	56	5s	lots of clouds @ dawn
233	COMP			↑		
234-43	BIAS				0s	
244-53	FLAT				7s	
244-63	BIAS				0s	
264-73	FLAT				14s	
271-83	DARK				15m	

60 inch Telescope Log
 Observer: PB
 PI: 2PH
 Spectrograph: FAST
 Grating: 3000
 Date: 4/17/99
 Page: 7272

Number	Object	R. A.	Dec.	L/R	Exp	Comments
1-10	DARK				15s	
11-20	BIAS				0s	
21-30	FLAT				7s	
31-40	BIAS				0s	some thin cirrus
41-50	FLAT				14s	
51-55	sky			57	1s	windy
56	comp			↑	5s	
57-59	HD 52971	06:57	+27	57	4s	
60	comp			↑		
61-63	HD 45910	06:70	+05:52	57	4s	
64	comp			↑		
65-67	HD 45995	06:71	+11:15	57	2s	
68	comp			↑		
69-70	HD 46150	06:31	+14:55	57	4s	
72	comp			↑		
73-75	HD 46485	06:33	+10:31	57	5s	
76	comp			↑		
77-78	Feige 34	10:36	+43:71	56	90s	PA=70
79	comp			↑		
80	NG 2271	10:20	+20:07	6	3m	PA=90
81	comp			↑		
82	2M 070524.7	07:05	+19:04	68	4m	+ to W
83	comp			↑		
84	2M 070554.5	07:05	+19:09	68	4m	seeing 2"+
85	comp			↑		
86	2M 070652.2	07:06	+24:53	68	8m	thin clouds.
87	comp			↑		
88	2M 070655.7	07:06	+24:55	68	5m	
89	comp			↑		

chip gain calc low for bin by 4

gain ~ 1.08
 noise ~ 7.7

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>7273</u>
Observer: <u>PB</u>		Grating: <u>3000</u>		Date: <u>4/17/99</u>		
PI: <u>JPM</u>						
Number	Object	R. A.	Dec.	L/R	Exp	Comments
90	ZM071127.9	07:11	+19:40	68	6m	PA=45° to avoid star
91	COMP			↑		
92	ZM071456.2	07:14	+108:39	68	5m	PA=45° to avoid star
93	COMP			↑		
94	ZM071504.8	07:15	+175:57	68	9m	* to W
95	COMP			↑		
96	SN1999be	08:23	+18:18	2	20m	PA=56
97	COMP			↑		
98	ZM081559.2	08:15	+20:29	68	4m	
99	COMP			↑		
100	ZM081922.7	08:19	+20:13	68	4m	
101	COMP			↑		
102	ZM082202.9	08:22	+15:35	68	4m	
103	COMP			↑		
104	ZM082320.2	08:23	+18:32	68	4m	
105	COMP			↑		
106	ZM082515.3	08:25	+13:42	68	7m	PA=35° to avoid star
107	COMP			↑		
108	SN1999bu	11:31	+18:54	2	20m	PA=10° to avoid nucleus
109	N3786mc	11:39	+31:54	2	90s	nucleus.
110	COMP			↑		
111	ZM091513.7	09:15	+12:05	68	6m	PA=90
112	COMP			↑		
113	ZM091713.4	09:13	+12:53	68	6m	
114	COMP			↑		
115	ZM091736.6	09:13	+13:24	68	10m	* to W
116	COMP			↑		
117	ZM091454.5	09:14	+15:41	68	5m	
118	COMP			↑		

60 inch Telescope Log

Observer: PB
 PI: JPH

Spectrograph: FAST
 Crating: 3000
 Date: 4/17/99

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
119	ZM091514.5	09:15	+22:38	68	8m	PA=35,
120	COMP			↑		
121	ZM091541.3	09:15	+17:42	68	3m	
122	COMP			↑		
123	ZM091717.4	09:17	+20:02	68	4m	
124	COMP			↑		
125	ZM091727.6	09:17	+20:14	68	3m	
126	COMP			↑		
127	ZM092147.6	09:21	+15:38	68	4m	
128	COMP			↑		
129	ZM092376.9	09:23	+13:15	68	3m	
130	COMP			↑		
131	ZM092508.8	09:25	+12:26	68	3m	
132	COMP			↑		
133	ZM092659.5	09:26	+20:53	68	3m	
134	COMP			↑		
135	ZM092715.8	09:27	+22:15	68	5m	
136	COMP			↑		
137	ZM093109.5	09:31	+22:44	68	3m	
138	COMP			↑		
139	ZM093524.2	09:39	+18:59	68	4m	
140	COMP			↑		
141	ZM094124.4	09:41	+22:34	68	5m	
142	COMP			↑		
143	ZM094658.0	09:46	+11:52	68	8m	
144	COMP			↑		
145	ZM102626.2	10:26	+21:39	68	5m	
146	COMP			↑		
147	ZM102716.1	10:27	+18:05	68	4m	bright to low
148	COMP			↑		

60 inch Telescope Log

Observer: PB

PI: JPH

Spectrograph: FAST

Grating: 300R

Date: 4/17/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
149	ZM102720.7	10:27	+18:21	68	4m	
150	COMP			f		
151	ZM103158.3	10:31	+16:30	68	4m	
152	COMP			f		
153	ZM103222.9	10:32	+17:38	68	4m	
154	COMP			f		
155	ZM103258	10:32	+20:22	68	4m	
156	COMP			f		
157	ZM103253.0	10:32	+12:05	68	4m	
158	COMP			f		
159	ZM103728.0	10:33	+16:22	68	5m	
160	COMP			f		
161	ZM105002.9	10:50	+16:17	68	3m	
162	COMP			f		
163	ZM105052.6	10:50	+17:27	68	3m	
164	COMP			f		
165	ZM105117.9	10:51	+11:59	68	3m	
166	COMP			f		
167	MIRAC21	11:01	+56:28	68	4m	
168	COMP			f		
169-70	N4151	12:08	+39:46	6	20s, 1m	
171	COMP			f		
172	N4151	12:08	+39:41	6	2m	
173	COMP			f		
174	H244	13:21	+36:23	56	2m	PA=110
175	COMP			f		
176	M9617120.7	12:10	+70:04	59	3m	
177	COMP			f		
178	Z70	12:00	+20:16	59	3m	
179	COMP			f		

60 inch Telescope Log

Observer: PB

PI: Andi

Spectrograph: FAST

Grating: 300L

Date: 4/17/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
180	Mrab 177.276	12:01	+20:29	S9	4m	
181	COMP			↑		
182	.277	12:01	+20:49	S9	3m	
183	COMP			↑		
184	.280	12:01	+20:44	S9	2m	
185	COMP			↑		
186	.281	12:01	+20:57	S9	4m	
187	COMP			↑		
188	.282	12:01	+20:24	S9	3m	
189	COMP			↑		
190	.284	12:02	+21:10	S9	3m	
191	COMP			↑		
192	.286	12:02	+20:58	S9	4m	
193	COMP			↑		
194	.287	12:02	+20:32	S9	4m	
195	COMP			↑		
196	.288	12:02	+21:09	S9	2m	
197	COMP			↑		
198	.289	12:03	+20:48	S9	2m	
199	COMP			↑		
200	.299	12:03	+19:43	S9	2m	
201	COMP			↑		
202	.301	12:03	+20:58	S9	4m	
203	COMP			↑		
204	.302	12:03	+20:01	S9	3m	
205	COMP			↑		
206	.309	12:04	+20:20	S9	3m	
207	COMP			↑		
208	.310	12:04	+20:13	S9	2m	
209	COMP			↑		

60 inch Telescope Log
 Observer: PB
 PI: And:

Spectrograph: FAST
 Grating: 3000
 Date: 4/17/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
210	Argo 177-311	12:04	+20:14	S9	4m	
211	COMP			↑		
212	.312	12:04	+20:14	S9	100s	
213	COMP			↑		
214	.315	12:04	+20:20	S9	100s	
215	COMP			↑		
216	.317	12:04	+20:24	S9	100s	
217	COMP			↑		
218	.319	12:04	+20:12	S9	3m	
219	COMP			↑		
220	.323	12:04	+20:18	S9	2m	S9 2
221	COMP			↑		
222	.324	12:04	+20:12	S9	2m	
223	COMP			↑		
224	.325	12:04	+20:13	S9	4m	
225	COMP			↑		
226	.328	12:04	+19:14	S9	3m	
227	COMP			↑		
228	.335	12:05	+21:12	S9	100s	
229	COMP			↑		
230	.338	12:05	+20:18	S9	2m	
231	COMP			↑		
232	.352	12:05	+20:28	S9	2m	
233	COMP			↑		
234	.355	12:05	+20:34	S9	100s	
235	COMP			↑		
236	NS9416	14:25	+25:22	6	3m	
237	COMP			↑		
238	MRK 271	13		6	3m	
239	COMP			↑		

60 inch Telescope Log
 Observer: PB
 PI: Ken

Spectrograph: FAST
 Grating: 3000
 Date: 4/17/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
240	α21996.071	16:41	+41:49	64	5m	
241	COMP			↑		
242	.072	16:41	+39:07	64	3m	
243	COMP			↑		
244	.074	16:42	+39:52	64	3m	
245	COMP			↑		
246	.075	16:42	+39:27	64	5m	+ to E
247	COMP			↑		
248	.078	16:43	+38:55	64	6m	
249	COMP			↑		
250	.079	16:44	+38:55	64	5m	close E-W pair 00
251	COMP			↑		
252	.080	16:44	+39:59	64	4m	PA=30 to avoid star
253	COMP			↑		
254	.081	16:45	+37:76	64	6m	"
255	COMP			↑		
256	.082	16:46	+42:27	64	5m	
257	COMP			↑		
258	.083	16:46	+43:01	64	5m	
259	COMP			↑		
260	.084	16:46	+38:58	64	6m	
261	COMP			↑		
262	.085	16:47	+39:03	64	2m	
263	COMP			↑		
264	SN 1996S	18:01	+07:10	2	20m	PA=90 great seeing S 700
265	COMP			↑		
266	α2199.56	16:47	+40:08	64	5m	
267	COMP			↑		
268	.087	16:47	+42:41	64	3m	
269	COMP			↑		

60 inch Telescope Log

Observer: PBPI: KenSpectrograph: FASTGrating: 300RDate: 4/17/99Page: 7279

Number	Object	R.A.	Dec.	L/R	Exp	Comments
270	QZ1946-088	16:47	+76:42	64	3m	
271	COMP			↑		
272	.081	16:48	+71:57	69	10s	
273	COMP			↑		
274	.090	16:48	+71:56	69	6m	E+W comps
275	COMP			↑		
276	.092	16:49	+78:56	64	3m	
277	COMP			↑		
278	.093	16:49	+76:12	64	3m	
279	COMP			↑		
280-282	XYOPH	17:13	-06:16	57	2s	
283	COMP			↑		
284	H2Her	16:57	+76:20	57	2m	
285	COMP			↑		clear & down
286-288	HD192281	20:10	+40	56	4s	
289	COMP			↑		
290-292	HD151941	17:06	+23:58	57	3s	
293	COMP			↑		
294-303	BIAS				0s	
304-313	FLAT				7s	
314-323	BIAS				0s	
324-333	FLAT				15s	
334-346	DARK					

274 - both objects have H α -
see following images

60 inch Telescope Log
 Observer: CALKINS
 PI: All, Kenyon, Huchra
 Spectrograph: FAST
 Grating: 3006
 Date: 4/18/99
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-12	DARK				15m	
13-22	BEAS				0.5	
23-32	PLAT				6.5	
33-42	BEAS				0.5	
43-52	PLAT				12.5	
53-57	sky			F57	20	
58	comp			↑		
59	Feige 34	10 32	43 06	F56	90s	
60	comp			↑		
61	Feige 34	10 32	43 06	F56	90s	PA = 64°
62	comp			↑		
63	BGGem	6 03	27 41	F100	6m	
64	comp			↑		
65	N3227	16 23	19 51	F60	3m	
66	comp			↑		
67	2M071513	7 15	23 28	F68	2.5m	
68	comp			↑		
69	2M071514	7 15	18 49	F68	12m	object east - reds
70	comp			↑		
71	2M071515	7 15	00 11	F68	10m	central spectra
72	comp			↑		
73	2M071516	7 15	20 56	F68	10m	object west
74	comp			↑		
75	2M071523	7 15	4 49	F68	6m	
76	comp			↑		
77	2M071526	7 15	23 47	F68	5m	
78	comp			↑		
79	2M071600	7 16	3 08	F68	10m	
80	comp			↑		
81	2M071622	7 16	4 50	F68	8m	

73 2 objects in center; hard to separate - but W is a star w/ E.

60 inch Telescope Log

Observer: CALKINSPI: Kirshner, All, Justin, KoranySpectrograph: FASTGrating: 300LPage: 7281Date: 4/18/99

Number	Object	R. A.	Dec.	L/R	Exp	Comments
82	comp			↑		
83	SN1999aa	8 27	21 28	#2	15m	$P\alpha = 64^\circ$
84	comp			↑		
85	MRK 421	11 04	38 12	#26	4m	
86	comp			↑		
87	N4051	12 03	49 31	#6	2m	
88	comp			↑		
89	N4151	12 10	39 24	#6	30s	
90	comp			↑		
91	N4258	12 18	47 18	#6	2m	
92	comp			↑		
93	MRK 279	13 51	69 33	#6	3m	
94	comp			↑		
95	A1644DS140	12 57	-16 42	#81	20m	
96	comp			↑		
97	A1644DS141	12 55	-16 44	#81	20m	
98	comp			↑		
99	A1644DS142	12 56	-16 42	#81	11m	
100	comp			↑		
101	A1644DS144	12 57	-17 46	#81	10m	
102	comp			↑		
103	A1644DS145	12 56	-17 11	#81	15m	
104	comp			↑		
105	IC 5711 = 171547	12 57	-17 15	#81	12m	← last one!
106	comp			↑		
107	IC 3639 = 14042	14 28	24 27	#35	20m	
108	comp			↑		
109	IC 1212 = 14066	14 01	8 19	#35	12m	
110	comp			↑		
111	IC 1212 = 14052	13 57	9 36	#35	20m	

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>7282</u>	
Observer: <u>CALKINS</u>				Grating: <u>300L</u>			
PI: <u>Koranyi, Huchra</u>				Date: <u>4/18/99</u>			
Number	Object	R. A.	Dec.	L/R	Exp	Comments	
112	comp			↑			
113	mkw12-i.053	13 58	8 42	#35	15m		
114	comp			↑			
115	mkw12-i.052	14 00	10 58	#35	17m		
116	comp			↑			
117	ZM140009	14 00	17 57	#68	5m	object west	
118	comp			↑			
119	ZM140013	14 00	16 42	#68	5m		
120	comp			↑			
121	ZM140019	14 00	17 55	#68	6m		
122	comp			↑			
123	ZM140132	14 01	13 32	#68	4m		
124	comp			↑			
125	ZM142142	14 23	20 31	#68	4m		
126	comp			↑			
127	ZM142426	14 24	16 38	#68	6m		
128	comp			↑			
129	ZM142944	14 29	23 44	#68	8m		
130	comp			↑			
131	ZM143107	14 31	23 02	#68	4m		
132	comp			↑			
133	ZM143352	14 33	18 22	#68	10m		
134	comp			↑			
135	ZM143402	14 34	18 58	#68	8m	star west (redo?) ok	
136	comp			↑			
137	ZM143527	14 35	21 01	#68	7m		
138	comp			↑			
139	ZM143603	14 36	21 51	#68	8m		
140	comp			↑			
141	ZM143713	14 37	19 24	#68	4m		

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>7283</u>
Observer: <u>CALIXTA</u>				Grating: <u>300L</u>		
PI: <u>Kishner, All, Rines</u>				Date: <u>4/18/99</u>		
Number	Object	R.A.	Dec.	L/R	Exp	Comments
142	comp			↑		
143	sn1999ac	16 07	25 57	*6	15m	PA = 14°
144	comp			↑		
145	SBS1425p66	14 26	60 25	*6	10m	
146	comp			↑		
147	NS548	14 17	25 08	*6	3m	
148	comp			↑		
149	MIRK501	16 53	39 45	*6	5m	
150	comp			↑		
151	a2199c.005	16 08	36 36	*64	8m	
152	comp			↑		
153	a2199c.007	16 09	39 24	*64	12m	
154	comp			↑		
155	a2199c.008	16 09	42 26	*64	9m	
156	comp			↑		
157	a2199c.009	16 10	43 00	*64	9m	
158	comp			↑		
159	a2199c.010	16 10	37 06	*64	11m	
160	comp			↑		
161	a2199c.011	16 11	42 45	*64	11m	
162	comp			↑		
163	NS866	15 06	55 45	*57	5m	circus @ sunrise
164	comp			↑		(dust lane)
165-174	BIAS				0s	
175-184	FLAT				6s	
185-194	BIAS				0s	
195-204	FLAT				12s	
205-214	DARK				15m	

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>7284</u>		
Observer: <u>GALKINS</u>		Grating: <u>300L</u>				
PI: <u>Abi, Huchra, Mahdavi</u>		Date: <u>4/12/99</u>				
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	DARK				15m	
11-20	BEARS				0s	
21-30	FLAT				6s	
31-40	BEARS				0s	
41-50	FLAT				12s	
51-55	sky			#57	2s	
56	comp			↑		
57	Feige 34	10 39	43 06	#56	90s	
58	comp			↑		
59	Feige 34	10 39	43 06	#56	90s	PA=64°
60	comp			↑		
61	N3227	10 23	19 52	#6	3m	
62	comp			↑		
63	N3327	10 47	13 59	#57	1m	
64	comp			↑		
65	2M062458	6 24	17 03	#68	20m	dusk (object west)
66	comp			↑		
67	2M062100	6 21	24 12	#68	13m	
68	comp			↑		
69	2M063218	6 32	17 12	#68	15m	
70	comp			↑		
71	SS26144.005	9 45	-4 29	#59	20m	
72	comp			↑		
73	SS26144.007	9 45	-4 29	#59	20m	
74	comp			↑		
75	SS26144.011	9 46	-5 31	#59	12m	
76	comp			↑		
77	SS26144.037	9 48	-5 09	#59	9m	
78	comp			↑		
79	SS26144.038	9 48	-5 49	#59	17m	

60 inch Telescope Log

Observer: CALVINPI: Mahdavi, HuchraSpectrograph: FASTGrating: 300LPage: 2285Date: 4/19/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
80	comp			↑		
81	ss26144.039	9 48	-5 19	1559	13m	
82	comp			↑		
83	ss26144.087	9 51	-5 05	1559	4m	
84	comp			↑		
85	ss26144.088	9 51	-5 01	1559	12m	
86	comp			↑		
87	ss26144.085	9 51	-6 02	1559	9m	
88	comp			↑		
89	ss26144.089	9 51	-3 53	1559	7m	
90	comp			↑		
91	2m103396	10 33	14 49	1568	12m	
92	comp			↑		
93	2m103400	10 33	13 20	1568	11m	
94	comp			↑		
95	2m103549	10 35	21 31	1568	6m	
96	comp			↑		
97	2m103612	10 36	20 30	1568	6m	
98	comp			↑		
99	2m104414	10 44	14 06	1568	3m	
100	comp			↑		
101	2m104452	10 44	14 18	1568	6m	
102	comp			↑		
103	2m104528	10 45	14 16	1568	3.5m	
104	comp			↑		
105	2m104604	10 46	14 24	1568	4.5m	
106	comp			↑		
107	2m104633	10 46	16 05	1568	4m	
108	comp			↑		
109	2m104702	10 47	14 15	1568	8m	

60 inch Telescope Log

Observer: CALVIN

PI: Kachner, Koranyi, Rines, All

Spectrograph: FAST

Grating: 3000

Page: 7286

Date: 4/19/99

Number	Object	R. A.	Dec.	L/R	Exp	Comments
110	comp			↑		
111	sn1999aa	12 01	14 05	" 2	10m	PA = 45°
112	comp			↑		
113	sn1999ba	12 03	62 29	" 2	10m	PA = 45°
114	comp			↑		
115	sn1999bc	13 00	2 29	" 2	20m	PA = 17°
116	comp			↑		
117	gwm3-i.026	14 31	24 36	" 35	13m	object east
118	comp			↑		
119	gwm3-i.027	14 29	25 02	" 35	10m	
120	comp			↑		
121	gwm3-i.028	14 31	24 14	" 35	20m	
122	comp			↑		
123	gwm3-i.030	14 28	26 55	" 35	12m	
124	comp			↑		
125	gwm3-i.032	14 31	25 34	" 35	10m	
126	comp			↑		
127	gwm3-i.035	14 30	24 11	" 35	12m	
128	comp			↑		
129	gwm3-i.036	14 32	24 23	" 35	13m	
130	comp			↑		
131	gwm3-i.039	14 25	27 18	" 35	15m	
132	comp			↑		
133	gwm3-i.040	14 32	25 28	" 35	20m	
134	comp			↑		
135	MRK279	13 52	69 18	" 6	3m	
136	comp			↑		
137	MS548	14 18	25 07	" 6	3m	
138	comp			↑		
139	z199c-006	16 09	40 03	" 64	17m	object east

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>7287</u>	
Observer: <u>CALKINS</u>			Grating: <u>300L</u>		Date: <u>4/19/99</u>	
PI: <u>Rinet, Hyscha</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
140	comp			↑		
141	<u>a2199c.012</u>	16 11	36 57	#64	8m	
142	comp			↑		
143	<u>a2199c.013</u>	16 11	36 55	#64	6m	
144	comp			↑		
145	<u>a2199c.014</u>	16 11	38 12	#64	3.5m	
146	comp			↑		
147	<u>a2199c.015</u>	16 11	36 53	#64	8m	
148	comp			↑		
149	<u>a2199c.016</u>	16 11	37 27	#64	12m	
150	comp			↑		
151	<u>a2199c.017</u>	16 11	40 51	#64	13m	
152	comp			↑		
153	<u>a2199c.018</u>	16 11	42 57	#64	13m	
154	comp			↑		
155	<u>2m151841</u>	15 18	23 36	#68	8m	redo? Yew redo
156	comp			↑		
157	<u>BDP332642</u>	15 52	32 57	#56	1m	
158	comp			↑		
159-168	BIAS				0s	
169-178	FLAT				6s	
179-188	BIAS				0s	
189-198	FLAT				12s	
199-208	DARK				15m	

155- blue end is wierd - (down??)
redo - (but if der have H α)

60 inch Telescope Log

Spectrograph: PACTObserver: CALYDINEGrating: R00LPage: 7288PI: All, Kenyon, Kirchner, MahdaviDate: 4/20/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	DARK				15m	
11-20	BEAS				0s	
21-30	FLAT				6s	
31-40	BEAS				0s	
41-50	FLAT				12s	
51-55	sky			"57	2s	
56	comp			↑		
57	Feige 34	10 39	43 06	"56	90s	
58	comp			↑		
59	Feige 34	10 39	43 06	"56	90s	PA = 63°
60	comp			↑		
61	BG Gem	6 03	27 41	"100	6m	
62	comp			↑		
63	AKN120	5 16	-00 08	"6	5m	
64	comp			↑		
65	N322.7	10 23	11 52	"6	3m	
66	comp			↑		
67	MRK 421	11 04	38 12	"6	4m	
68	comp			↑		
69	N4151	12 10	39 24	"6	30s	
70	comp			↑		
71	sn1999aa	8 27	21 29	"2	15m	PA = 55°
72	comp			↑		
73-75	sn03178	10 19	45 30	"2	20m	PA = 0°
76	comp			↑		
77	ngc110.129	11 00	10 15	"59	10m	circus overhead
78	comp			↑		
79	ngc110.130	11 00	10 22	"59	15m	wait out some clouds
80	comp			↑		
81	ngc110.132	11 00	10 19	"59	12m	

60 inch Telescope Log				Spectrograph: FAST		
Observer: CAUL SWA				Grating: 300L		Page: 1189
PI: Mahdavi, Koranyi, Richra				Date: 4/20/99		
Number	Object	R.A.	Dec.	L/R	Exp	Comments
82	comp			↑		
83	NGC 110.133	11 00	9 57	#59	15m	
84	comp			↑		
85	NGC 110.134	11 00	10 01	#59	10m	
86	comp			↑		
87	NGC 110.136	11 00	9 57	#59	20m	redo! REVO
88	comp			↑		
89	NGC 110.137	11 00	10 26	#59	4m	
90	comp			↑		
91	NGC 110.138	11 00	10 53	#59	8m	
92	comp			↑		
93	ICM 3-1.041	14 32	26 15	#35	8m	
94	comp			↑		
95	ICM 3-1.046	14 21	24 51	#35	20m	
96	comp			↑		
97	ICM 3-1.047	14 34	26 20	#35	8m	object west poor
98	comp			↑		
99	ICM 3-1.048	14 23	21 00	#35	5m	
100	comp			↑		
101	ICM 3-1.049	14 29	24 41	#35	10m	
102	comp			↑		
103	ICM 3-1.050	14 32	26 15	#35	8m	
104	comp			↑		
105	ICM 3-1.056	14 33	24 27	#35	20m	object east
106	comp			↑		
107	2M143740	14 37	18 58	#68	8m	
108	comp			↑		
109	2M143755	14 37	22 19	#68	4m	
110	comp			↑		
111	2M144121	14 41	21 39	#68	4m	

60 inch Telescope Log

Observer: CALKINSPI: HuchraSpectrograph: FASTGrating: 300LPage: 7290Date: 4/20/99

Number	Object	R. A.	Dec.	L/R	Exp	Comments
112	comp			↑		
113	ZM144210	14 42	12 56	#68	10m	
114	comp			↑		
115	ZM144317	14 43	16 52	#68	4m	
116	comp			↑		
117	ZM144431	14 44	15 36	#68	7m	agn!
118	comp			↑		
119	ZM144529	14 45	13 42	#68	12m	
120	comp			↑		
121	ZM144625	14 46	22 18	#68	5m	
122	comp			↑		
123	ZM144631	14 46	19 07	#68	2.5m	
124	comp			↑		
125	ZM144750	14 47	20 05	#68	3m	
126	comp			↑		
127	ZM144804	14 48	18 25	#68	5m	
128	comp			↑		
129	ZM144809	14 48	18 27	#68	8m	
130	comp			↑		
131	ZM144824	14 48	18 30	#68	5m	
132	comp			↑		
133	ZM145236	14 52	12 02	#68	4m	
134	comp			↑		
135	ZM145251	14 52	20 19	#68	2.5m	
136	comp			↑		
137	ZM145327	14 53	23 03	#68	4m	
138	comp			↑		
139	ZM145331	14 53	14 20	#68	3.5m	
140	comp			↑		
141	ZM145650	14 56	11 58	#68	3.5m	

119 - 2 objects - galaxy & M* -
extracted only gal

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>7291</u>
Observer: <u>CALVINS</u>				Grating: <u>300L</u>		
PI: <u>Huchra, Kirchner, All</u>				Date: <u>4/20/99</u>		
Number	Object	R.A.	Dec.	L/R	Exp	Comments
142	comp			↑		
143	ZM145834	14 58	18 52	#68	5m	
144	comp			↑		
145	ZM145843	14 58	13 40	#68	4m	
146	comp			↑		
147	ZM145858	14 58	13 01	#68	8m	
148	comp			↑		
149	ZM145957	14 59	22 18	#68	10m	
150	comp			↑		
151	SN1999ac	16 07	7 58	#2	15m	PA=30°
152	comp			↑		
152-155	SN1999bv	17 22	60 00	#2	20m	PA=0°, very faint!!
156	comp			↑		
157	NS866	15 06	55 45	#57	3m	
158	comp			↑		
159	BDP2842 ii	21 51	28 51	#56	70s	
160	comp			↑		
161-170	BIAS				0s	
171-180	FLAT				6s	
181-190	BIAS				0s	
191-200	FLAT				12s	
201-210	DARK				15m	

60 inch Telescope Log

Observer: PBerlino

PI: Falco

Spectrograph: FAST

Grating: 30R

Date: 4/21/99

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
1-10	DARK				15m	
11-20	BIAS				0s	
21-30	FLAT				7s	clouds.
31-40	BIAS				0s	bright moon.
41-50	FLAT				14s	
51-55	SKY			57	5s	
56	COMP			↑	5s	
57-59	HDS2971	06:57	+27:13	57	4s	
60	COMP			↑		
61-62	Falco 34	06:36	+43:21	56	90s	PA-100
63	COMP			↑		
64	MRK421	11:01	+38:28	6	3m	
65	COMP			↑		
66	N3227	10:20	+20:07	6	3m	
67	COMP			↑		
68	06514p659	06:56	+64:56	60	5m	
69	COMP			↑		
70	06546p646	06:59	+64:11	60	4m	
71	COMP			↑		
72	06552p6528	06:59	+63:24	60	4m	
73	COMP			↑		
74	06591p5442	07:03	+57:37	60	3m	
75	COMP			↑		
76	07430p8638	07:03	+86:37	60	5m	
77	COMP			↑		clearing
78	07006p6408	07:03	+64:02	60	4m	
79	COMP			↑		
80	07041p6123	07:06	+61:18	60	4m	
81	COMP			↑		

157.48

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>7293</u>		
Observer: <u>AB</u>		Grating: <u>300</u>		Date: <u>4/21/99</u>		
PI: <u>Falco</u>						
Number	Object	R. A.	Dec.	L/R	Exp	Comments
82	06480 p8645	07:08	+86:54	60	3m	a few clouds
83	COMP			f		bright moon
84	07020 p8101	07:10	+80:58	60	10m	LSB * to E on
85	COMP			f		
86	07059 p7307	07:11	+73:04	60	12m	
87	COMP			f		
88	06580 p8551	07:15	+88:46	60	4m	
89	COMP			f		
90	07050 p 8506	07:17	+85:00	60	21m	
91	COMP			f		
92	08570 p6677	08:41	+66:76	60	4m	
93	COMP			f		
94	08546 p6510	08:45	+64:58	60	3m	
95	COMP			f		
96	09210 p6447	09:25	+64:33	60	5m	
97	COMP			f		
98	09211 p6445	09:25	+64:31	60	6m	
99	COMP			f		
100	09236 p6839 N	09:27	+68:24	60	4m	N
101	09236 p6839 S	09:27	+68:24	60	4m	S clump
102	COMP			f		
103	09238 p6840	09:28	+68:25	60	4m	
104	COMP			f		
105	1005110107	10:57	+10:36	59	6m	
106	COMP			f		
107	, 110	10:57	+10:53	59	6m	
108	COMP			f		
109	.111	10:58	+10:54	59	6m	
110	COMP			f		

11093

60 inch Telescope Log
 Observer: PB
 PI: And: Dan
 Spectrograph: FAST
 Grating: 300R
 Date: 4/21/99
 Page: 7294

Number	Object	R.A.	Dec.	L/R	Exp	Comments
111	Arg 110.112	10:58	+11W	59	8m	windy.
112	COMP			f		
113	.114	10:59	+10W	59	7m	* to E
114	COMP			f		
115	.117	10:59	+09:50	59	7m	
116	COMP			f		
117	.117	"	"	59	7m	
118	COMP			f		
119	.118	10:59	+11:11	59	8m	
120	COMP			f		
121	.120	10:59	+10:04	59	10m	beautiful
122	COMP			f		
123	mkw4-1009	12:01	+01:55	35	15m	
124	COMP			f		
125	.020	12:03	+01:07	35	10m	
126	COMP			f		
127	.022	11:59	+01:52	35	15m	
128	COMP			f		
129	B25	12:01	+01:49	35	15m	
130	COMP			f		
131	.026	12:04	+01:08	35	15m	
132	COMP			f		
133	.030	12:03	+00:51	35	15m	
134	COMP			f		
135	.031	12:08	+02:29	35	15m	
136	COMP			f		
137	N4061	12:00	+44:28	6	3m	
138	COMP			f		
139.0	N4151	12:08	+36	6	30s	
144	COMP			f		

1 26
 2 8-11m
 34

71
 34
 111

2:41.24
 75
 32.5

74
 110

457

60 inch Telescope Log

Observer: PB
 PI: Dan

Spectrograph: FAST
 Grating: 300R
 Date: 4/21/99

Page: 7295

Number	Object	R. A.	Dec.	L/R	Exp	Comments
142	MRK279	13:51	+69:33	G	3m	
143	Comp			F		
144	H214	13:21	+36	S6	2m	
145	Comp			F		
146	N5548	14:22	+25:21	G	3m	
147	Comp			F		
148	ALM3_i.029	14:30	+24:53	3S	15m	en
149	Comp			F		
150	.033	14:19	+25:56	3S	15m	
151	Comp			F		
152	.037	14:21	+24:52	3S	15m	
153	Comp			F		
154	.051	14:24	+24:16	3S	15m	
155	Comp			F		
156	.052	14:23	+24:58	3S	15m	+ to E poor but G
157	Comp			F		
158	.054	14:32	+26:11	3S	15m	
159	Comp			F		
160	.055	14:22	+26:18	3S	15m	
161	Comp			F		
162	.057	14:24	+24:20	3S	15m	
163	Comp			F		
164	.058	14:25	+24:28	3S	15m	
165	Comp			F		
166	.059	14:20	+24:31	3S	15m	
167	Comp			F		
168	.069	14:35	+26:22	3S	8m	high - no. ~9200 km/sec
169	Comp			F		
170	.068	14:27	+26:09	3S	8m	
171	Comp			F		

60 inch Telescope Log

Observer: PB

PI: Ken

Spectrograph: FAST

Grating: 3000

Date: 4/21/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
172	a2199c.019	16:12	+36:07	G9	Sm	
173	COMP			r		
174	.020	16:12	+35:42	G9	6m	
175	COMP			r		
176	.22	16:12	+40:10	G9	5m	
177	COMP			r		
178	.23	16:12	+39:23	G9	5m	
179	COMP			r		
180	.27	16:13	+37:21	G9	4m	
181	COMP			r		
182	.32	16:14	+37:53	G9	5m	
183	COMP			r		
184-185	BTAS				Ds	
194-203	FLAT				Ds	
204-213	BTAS				Ds	
214-223	FLAT				M3	

60 inch Telescope Log

Observer: P. Berlin
 PI: And.

Spectrograph: FAST

Grating: 300L

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Date: 4/22/99

Number	Object	R. A.	Dec.	L/R	Exp	Comments
1-10	DARK				15s	
11-20	DARK				15m	Windy
21-30	BIAS				0s	Very hazy.
31-40	FLAT				7s	
41-50	BIAS				0s	
51-60	FLAT				14s	
61-65	sky			S6	2s	
66	COMP			T	5s	
67-68	Foige 39	10:36	+43:21	S6	90s	PA=10
69	COMP			T		
70-71	N3377	10:45	+14:34	S7	90s	
72	COMP			T		
73	N3229	10:20	+20:07	B	3m	
74	COMP			T		
75	MRK 421	11:01	+78:28	B	4m	
76	COMP			T		
77	Babcock	06:03	+27:41	100	6m	
78	COMP			T		
79	N4051	12:00	+44:48	B	2m	
80	COMP			T		
81	N4151	12:08	+39	B	30s	
82	COMP			T		
83	Mrgh 171.339	12:05	+20:14	S9	3m	
84	COMP			T		
85	.376	12:05	+71:6	S9	6m	
86	COMP			T		
87	.242	12:05	+19:43	S9	6m	
88	COMP			T		
89	.357	12:06	+20:54	S4	6m	
90	COMP			T		

60 inch Telescope Log

Observer: PB
 PI: Andi

Spectrograph: FAST
 Grating: 300L
 Date: 4/22/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
91	NGC 6177.358	12:06	+21:43	S9	6m	
92	COMP			T		
93	.365	12:06	+19:14	S9	10m	
94	COMP			T		
95	.367	12:06	+20:49	S9	4m	
96	COMP			T		
97	.368	12:06	+19:50	S9	5m	
98	COMP			T		
99	.371	12:07	+20:49	S9	5m	
100	COMP			T		
101	.372	12:07	+20:34	S9	6m	
102	COMP			T		
103	.373	12:07	+20:22	S9	5m	
104	COMP			T		
105	.374	12:07	+21:00	S9	6m	* to E
106	COMP			T		
107	.375	12:07	+19:49	S9	6m	* to W
108	COMP			T		
109	SN1998S	11:46	+40	Z	20m	no.
110	COMP			T		
111	NGC 6177.381	12:09	+20:10	S9	5m	
112	COMP			T		
113	.264	11:59	+20:33	S9	10m	
114	COMP			T		
115	.265	11:59	+20:39	S9	7m	
116	COMP			T		
117	.272	12:01	+17:47	S9	6m	
118	COMP			T		
119	.283	12:02	+20:34	S9	12m	
120	COMP			T		

60 inch Telescope Log

Observer: PB

PI: Dan & Doug

Spectrograph: FAST

Grating: 300L

Date: 4/22/99

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
121	AWM3-i.060	14:24	+25:03	35	15m	
122	Comp			f		
123	.061	14:25	+26:41	35	15m	
124	Comp			f		
125	.062	14:22	+26:11	35	10m	
126	Comp			f		
127	.063	14:31	+25:41	35	15m	high cz; out of cluster
128	Comp			f		not worth reds
129	.065	14:27	+24:41	35	10m	
130	Comp			f		
131	.066	14:25	+26:30	35	15m	
132	Comp			f		Seemg poor
133	.069	14:21	+27:13	35	5m	
134	Comp			f		
135	.070	14:24	+25:41	35	15m	
136	Comp			f		
137	.071	14:23	+24:41	35	15m	
138	Comp			f		
139	N5548	14:25	+25:22	6	3m	
140	Comp			f		
141	MRK25A	13:51	+6:49	6	3m	
142	Comp			f		
143	a2199.46	16:21	+42:45	78	20m	tilt=7450 red.
144	Comp			f		
145	2M160533	16:05	+18:49	78	20m	
146	Comp			f		
147	N5560	15:05	+55:57	78	7m	Just lane
148	Comp			f		

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her cm

60 inch Telescope Log

Observer: PB
 PI: John Ken

Spectrograph: FAST
 Grating: 300R
 Date: 4/22/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
147	H244	13:21	+36	78	4m	PA=88
150	COMP			↑		
151-160	FLAT			78	146	n.e.
161	ZM1506552.4	15:08	+20:41	68	12m	tilt=610.0 normal setup
162	COMP			↑		
163	ZM151338.6	15:13	+20:29	68	6m	
164	COMP			↑		
165	ZM151552.7	15:15	+18:38	68	10m	
166	COMP			↑		
167	ZM151641.5	15:16	+20:09	68	5m	
168	COMP			↑		
169	ZM151841.0	15:18	+23:76	68	8m	redo from 4/18/99
170	COMP			↑		
171	ZM151940.6	15:19	+22:25	68	7m	
172	COMP			↑		
173	ZM152112.0	15:21	+21:15	68	8m	
174	COMP			↑		
175	ZM152148.6	15:21	+20:45	68	8m	
176	COMP			↑		
177	SN1999ae	16:07	+67:58	2	20m	PA=35 seeing 3"
178	COMP			↑		
179	a2199c031	16:14	+37:23	64	7m	
180	COMP			↑		
181	.033	16:14	+37:03	64	7m	
182	COMP			↑		
183	.034	16:14	+37:51	64	6m	
184	COMP			↑		
185	.035	16:14	+37:16	64	12m	
186	COMP			↑		

60 inch Telescope Log

Observer: PB

PI: A11

Spectrograph: FAST

Crating: 300L

Date: 4/22/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
187	g2199c.036	16:15	+39:01	64	7m	
188	COMP			f		
189	038	16:15	+37:41	64	6m	
190	COMP			r		
191	H1D192281	120:10	+40:09	56	4s	PA=100
191	COMP			r		
195-204	BIAS				0s	clear, cold
205-214	FLAT				9s	humid, + hazy
215-224	BIAS				0s	→ Dawn
225-234	FLAT				14s	
						★ End of FAST Run ★