

60 inch Telescope Log

Observer: P Berlin

PI: Huchra

Spectrograph: FAST

Grating: 3000

Date: 11/1/99

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
1-9	DARK				5m	
11-20	TESTS				0s	After sunset
21-30	FLAT				7s	lots of clouds
31-40	TESTS				0s	
41-50	FLAT				14s	
51-53	HD 92181	20:10	+40:07	56	5s	
54	WMP			↑		
55	NT 331	22:21	+31:09	57	3m	
56	WMP			↑		
57	XTE 0148.0-22	18:58	+22	65	15m	PA=65
58	WMP			↑		
59	2M2327070	23:22	+55:4	66	7m	PA=90
60	WMP			↑		
61	2M232725p	23:22	+17:57	68	5m	
62	WMP			↑		
63	2M2327145.7	23:21	+17:01	68	4m	
64	WMP			↑		
65	2M2327288	23:22	+19:26	68	4m	
66	WMP			↑		
67	2M232736c	23:22	+16:51	68	6m	
68	WMP			↑		
69	2M232739.0	23:23	+17:03	68	6m	
70	WMP			↑		
71	2M23273713	23:22	+14:17	68	4m	
72	WMP			↑		
73	2M2327326.4	23:23	+13:58	68	4m	
74	WMP			↑		
75	2M232739.5	23:23	+14:16	68	3m	
76	WMP			↑		

60 inch Telescope Log

Observer: AB

PI: Huchra & Rines

Spectrograph: FAST

Grating: 300L

Date: 11/1/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
77	ZM23231.1	23:23	+17:15	68	8m	to W
78	WMP			f		
79	ZM2323157	23:23	+17:13	68	4m	clouds.
80	WMP			f		
81	ZM231949	23:19	+21:58	68	5m	
82	WMP			f		
83	ZM232348.1	23:23	+16:46	68	4m	
84	WMP			f		
85	ZM23102.2	23:10	+18:48	68	4m	
86	WMP			f		
87	ZM232423.5	23:24	+16:26	68	4m	
88	WMP			f		
89	ZM232431.7	23:24	+14:16	68	4m	
90	WMP			f		
91	AKN564	22:49	+21:43	6	5m	PA=90
92	WMP			f		
93	g119-30	00:55	+10:38	64	7m	redo from 10/15/99 #130
94	WMP			f		
95	g1196-3	00:57	-10:48	64	4m	
96	WMP			f		
97	-40	01:01	-10:03	64	7m	
98	WMP			f		
99+10	Fairfield	23:17	-05:20	56	2m	PA=0.0
101	WMP			f		
102	039	00:40	-10:16	64	6m	PA=0 to avoid brt star
103	WMP			f		
104	SN1999ej	01:22	+33:27	2	20m	
105	WMP			f		
106	038	01:01	-10:59	64	6m	
107	WMP			f		

60 inch Telescope Log
 Observer: PB
 PI: Kenyon
 Spectrograph: FAST
 Grating: 300L
 Date: 11/1/99
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
108	g119-039	01:09	-10:19	64	6m	
109	COMP			↑		↑↑ clouds
110	042	00:46	-10:23	64	10m	
111	COMP			↑		
112	021823p5714	02:18	+57:14	83	10m	* to E
113	COMP			↑		
114	021824p5702	02:18	+57:02	83	7m	
115	COMP			↑		
116	021824p57	02:18	+57:08	83	5m	
117	COMP			↑		
118	021824p5711	02:18	+57:11	83	5m	* to W
119	COMP			↑		
120	021825p5702	02:18	+57:02	83	6m	
121	COMP			↑		
122	021825p5710	02:18	+57:10	83	7m	
123	COMP			↑		
124	021825p5711	02:18	+57:11	83	4m	* to W ^{more of} object
125	COMP			↑		
126	021825p5714	02:18	+57:14	83	6m	more of object
127	COMP			↑		
128	021826p5708	02:18	+57:08	83	6m	
129	COMP			↑		
130	021826p5708	02:18	+57:08	83	12m	more clouds
131	COMP			↑		* to W
132	021826p5714	02:18	+57:14	83	12m	
133	COMP			↑		
134	021905p57014	02:19	+57:01	83	6m	
135	COMP			↑		
136	021829p5712	02:18	+57:12	83	6m	
137	COMP			↑		

415-596-7465
 973-5705

60 inch Telescope Log
 Observer: KB
 PI: Kenyon Kivshner
 Spectrograph: FAST
 Grating: 3002
 Date: 11/1/99
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
138	021831p570	0218	+570	83	12m	clouds all over
139	OMP			↑		
140	021820p5714	02:18	+5714	83	12m	
141	OMP			↑		clearing a little
142	021831p5701	02:18	+5709	83	8m	
143	OMP			↑		
144	SN1999dq	0233	+058	2	20m	PA=31 variable clouds
145	OMP			↑		
146	021830p5707	02:18	+5707	83	8m	
147	OMP			↑		
148	021829p5706	0218	+5706	83	8m	
149	OMP			↑		
150	021829p5707	0218	+5707	83	8m	
151	OMP			↑		
152	021829p5711	02:18	+5711	83	8m	
153	OMP			↑		
154	OMP			↓		
155-157	SN1999em	04:41	-0251	2	8m	PA=-5 thin clouds
158	OMP			↑		
159	COMP.blue			↓		tilt=580.0 PA=-5
160-162	SN1999em.blue	04:41	-0251	2	7m	
163	COMP.blue			↑		
164	HZ14.blue	04:41	+1051	86	6m	PA=7
165	OMP			↑		
166	HZ14	04:41	+1051	86	6m	tilt=610.0 PA=7
167	OMP			↑		more clouds! Stopped

Per my mail 95
 A N/A 2:44 69

60 inch Telescope Log

Observer: PB
 PI: Calvet/Falco

Spectrograph: FAST
 Grating: 300R
 Date: 11/1/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
168	3150 3919Z	05:24	-01:48	112	12m	normal setup clouds.
169	COMP			↑		
170	3150	05:22	-01:12	112	15m	
171	COMP			↑		
172	3132	05:25	-01:54	112	12m	
173	COMP			↑		
174	36976	05:30	-01:55	112	15m	
175	COMP			↑		
176	27961	05:14	-01:59	112	10m	
177	COMP			↑		
178	28776	05:14	-01:59	112	6m	
179	COMP			↑		
180	28304	05:14	-01:43	112	4m	
181	COMP			↑		
182	28325	05:14	-01:57	112	5m	
183	COMP			↑		
184	28637	05:15	-01:55	112	5m	
185	COMP			↑		
186	28782	05:15	-02:02	112	5m	
187	COMP			↑		
188-89	Hiltner 60	06:42	+02:11	56	45s	PA=7
190	COMP			↑		
191	29259	05:16	-01:43	112	6m	
192	31166	05:20	-01:49	112	4m	-oops, better share w/ #193
193	COMP			↑		
194	31979	05:21	-01:55	112	2m	
195	COMP			↑		
196	32696	05:23	-01:42	112	6m	
197	COMP			↑		

NO COMP FOR 191 - used 193

60 inch Telescope Log

Observer: PB
 PI: Falco

Spectrograph: FAST
 Grating: 3000
 Date: 11/1/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
198	ZMJ054648	05:40	+81:59	88	8m	redo from 10/16/99 # 176
199	WAP			↑		sup to SE
200	ZMJ054956	05:45	+74:05	88	6m	
201	WAP			↑		
202	ZMJ055822	05:58	+79:47	88	4m	
203	WAP			↑		
204	ZMJ055907	05:59	+78:30	88	5m	
205	WAP			↑		
206	ZMJ0606	06:06	+74:56	88	4m	
207	WAP			↑		
208	ZMJ060345	06:10	+79:52	88	6m	
209	WAP			↑		
210	ZMJ060520	06:51	+49:53	88	4m	
211	WAP			↑		
212	HD205770	05:38	+26:18	57	5s	
215	WAP			↑		
218	HD52971	06:57	+27	57	5s	
219	WAP			↑		
220-239	BINS				0s	
230-239	FLAT				0s	
240-249	BINS				0s	
250-259	FLAT				160	
260-269	DARK				20m	
						pretty clear & dark

Fax to: Susan Tokarz

60 inch Telescope Log

Observer: R Berlin

PI: JPH

Spectrograph: FAST

Grating: 300R

Date: 11/2/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	DARK				15m	
11-20	FLAT blue				20s	tilt = 580.0
21-30	BIAS				0s	
31-40	FLAT				7s	
41-50	BIAS				0s	circus all over
51-60	FLAT				14s	
61-65	SKY	zenith		S7	2s	
66	WMP			↑		
67-69	HD192251			S6	5s	
70	COMP			↑		
71-72	BDP 28424	21:48	+28:37	S6	30s	
73	WMP			↑		
74	N7331	22:37	+34:25	S7	2m	
75	WMP			↑		
76	ZM205750.0	20:37	+23:02	G8	5m	
77	WMP			↑		
78	XTE J1858.22	18:58	+22	G5	12m	PA=67
79	WMP			↑		
80	ZM205806.3	20:38	+24:53	G8	6m	PA=90↓
81	WMP			↑		
82	ZM205824.7	20:38	+18:53	G8	4m	
83	WMP			↑		
84	ZM20102.5	20:40	+19:18	G8	5m	NW gal * + E
85	WMP			↑		
86	ZM201019.9	20:40	+19:19	G8	4m	SE gal
87	WMP			↑		
88	ZM204032.2	20:40	+21:34	G8	4m	
89	WMP			↑		
90	ZM204224.0	20:42	+13:44	G8	5m	
91	WMP			↑		

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>7735</u>		
Observer: <u>PB</u>		Grating: <u>300L</u>		Date: <u>11/2/99</u>		
PI: <u>JPH et al</u>						
Number	Object	R. A.	Dec.	L/R	Exp	Comments
92	ZM204325.7	20:48	+22:16	68	8m	bin by 2 * to W
93	WMP			↑		
94	ZM205147.7	20:51	+20:03	68	6m	
95	WMP			↑		
96	ZM209110.6	20:54	+18:52	68	4m	
97	WMP			↑		
98	ZM205655.9	20:56	+22:01	68	6m	* to E+W
99	WMP			↑		
100	ZM205634.8	20:56	+20:05	68	5m	
101	WMP			↑		
102	ZM205619.0	20:56	+28:19	68	5m	
103	WMP			↑		
104	ZM205628.9	20:56	+22:10	68	5m	
105	WMP			↑		
106	ZM205631.2	20:56	+15:20	68	4m	mir-c
107	WMP			↑		
108	Akn 564	22:42	+29:43	6	5m	
109	WMP			↑		
110-1	SN1999el	20:37	+66:06	2	2m/2m	PA=110
112	WMP			↑		
113	NT169	23:03	+06:52	6	2m	PA=0
114	WMP			↑		
115	Ferrello	23:17	-05:26	56	2m	
116	WMP			↑		
117	all 96.044	00:47	-00:07	64	4m	
118	WMP			↑		
119	043	00:57	-10:35	64	4m	
120	WMP			↑		
121	041	01:06	-10:37	64	7m	
122	WMP			↑		

60 inch Telescope Log

Observer: PB
 PI: Anne & Scott

Spectrograph: FAST
 Grating: SWL
 Date: 11/2/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
123	11196-045	01:01	-03:04	64	7m	
124	COMP			↑		
125	049	01:08	-03:05	64	7m	
126	COMP			↑		clouds increasing
127	050	01:09	-03:34	64	8m	
128	COMP			↑		
129	021826p57143	02:18	+57:14	83	5m	
130	COMP			↑		
131	021822cp5710	02:18	+57:10	83	8m	*'s to E+W
132	COMP			↑		
133	021827p5701	02:18	+57:04	83	5m	
134	COMP			↑		
135	021827p5707	02:18	+57:07	83	4m	
136	COMP			↑		
137	021828p5705	02:18	+57:05	83	9m	*'s to E+W
138	COMP			↑		
139	021827p5709	02:18	+57:09	83	5m	
140	COMP			↑		
141	021832p5710	02:18	+57:10	83	5m	
142	COMP			↑		
143	021832p5714	02:18	+57:14	83	10m	
144	COMP			↑		
145	021832p5715	02:18	+57:15	83	5m	
146	COMP			↑		
147	021833p5701	02:18	+57:01	83	4m	
148	COMP			↑		
149	021833p5708	02:18	+57:08	83	6m	* to E
150	COMP			↑		
151	021834p5655	02:18	+56:55	83	6m	
152	COMP			↑		

60 inch Telescope Log
 Observer: PB
 PI: Amc
 Spectrograph: FAST
 Grating: 3002
 Date: 11/2/99
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
153	021875p5715	02:18	+5715	83	8m	
154	COMP			↑		
155	021876p5659	02:18	+5659	83	4m	
156	COMP			↑		
157	021876p5700	02:18	+5700	83	4m	
158	COMP			↑		
159	021876p5717	02:18	+5717	83	6m	
160	COMP			↑		
161	021877p5724	02:18	+5724	83	9m	PA=45 to avoid bit ←
162	COMP			↑		
163	021878p5722	02:18	+5722	83	15m	
164	COMP			↑		
165	021878p5715	02:18	+5715	83	10m	
166	COMP			↑		clouds
167-9	021879p5727	02:18	+5727	83	5m, 15m	
168-170	COMP			↑		
171	021879p5705	02:18	+5705	83	15m	
172	COMP			↑		
173	021879p5713	02:18	+5713	83	7m	
174	COMP			↑		
175	021879p5715	02:18	+5715	83	6m	
176	COMP			↑		
177	COMP			↓		
178	SN1999em	04:41	+0251	2	4m	PA=-20 (bimby's)
179-181	SN1999em r	"	"	2	5m	PA=-20
182	COMP			↑		
183	COMP, blue			↑		Filter=580.0 ↓
184-186	SN1999em, blue	"	"	2	5m	PA=-15
187	COMP, blue			↑		

60 inch Telescope Log

Observer: PB

PI: Calvet / Falco

Spectrograph: FAST

Grating: 302

Date: 11/2/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
188	H214.6 line	04:41	+10:59	56	6m	filte=580.0 PA=-15
189	COMP			↑		
190	SN1999ek	05:26	+16:38	2	20m	filte=610.0 PA=-38
191	COMP			↑		
192	qu sol 638057	05:31	-01:55	112	7m	PA=-4 L
193	COMP			↑		
194	qu sol 637588	05:26	+10:40	112	7m	
195	COMP			↑		
196	qu sol 638079 NW	05:24	-01:59	112	4m	
197	qu sol 638079 SE	05:21	-01:59	112	3m	
198	COMP			↑		
199	qu sol 638385 NS	05:32	-01:45	112	5m	close pair; blended
200	COMP			↑		
201	qu sol 638876	05:32	+02:10	112	2m	
202	COMP			↑		
203	qu sol 639033	05:33	-02:20	112	6m	P
204	COMP			↑		
205	qu sol 651335	05:28	-01:09	112	6m	PA=04
206	COMP			↑		
207	qu sol 65217	05:30	-02:08	112	9m	
208	COMP			↑		
209	qu sol 652472	05:29	-01:25	112	8m	
210	COMP			↑		
211	2M J064855	06:48	+50:22	88	3m	
212	COMP			↑		
213	2M J065442	06:54	+50:25	88	3m	
214	COMP			↑		
215	2M J0701526	07:01	+47:39	88	2m	
216	COMP			↑		

60 inch Telescope Log

Observer: PB

PI: Falco

Spectrograph: FAST

Grating: 300R

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Date: 11/2/99

Number	Object	R. A.	Dec.	L/R	Exp	Comments
217	ZM307069	07:02	+4710	88	2m	
218	WMP			f		
219	ZM30707557	07:07	+5745	88	2m	
220	WMP			f		
221	ZM30707518.6	07:05	+4712	88	2m	
222	WMP			f		
223	ZM30707588	07:12	+5957	88	2m	
224	WMP			f		
225	ZM307139	07:13	+4434	88	5m	*'s to W
226	WMP			f		
227	ZM30714179	07:14	+4527	88	10m	
228	WMP			f		
229	Hiltner 60	0642	+4824	86	45	PA=0
230	WMP			f		clouds increasing
231	ZM3072557	07:25	+2957	88	6m	PA=90
232	WMP			f		
233	ZM3071716	07:17	+4308	88	4m	
234	WMP			f		
235	ZM30714045	07:21	+3949	88	4m	
236	WMP			f		
237	ZM3072121	07:21	+4708	88	3m	more clouds.
238	WMP			f		
239	ZM307349	07:31	+4149	88	6m	
240	WMP			f		
241	ZM3075124	07:41	+5122	88	2m	
242	WMP			f		
243	ZM3075454	07:44	+5350	88	10m	
244	WMP			f		
245	ZM307572	07:57	+5640	88	7m	
246	WMP			f		
247	WMP			f		

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>7740</u>	
Observer: <u>PB</u>			Grating: <u>300</u>			
PI: <u>Falco</u>			Date: <u>11/2/99</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
248	2M071506	0715	+8546	48	5m	
249	COMP			↑		
250	2M071751	0717	+8500	88	2m	
251	COMP			↑		pointing test
252	H052971	0657	+877	57	55	
253	COMP			↑		
256-265	BTAS				0s	
266-275	FLAT				7s	
276-285	BTAS				0s	
286-295	FLAT				14s	clouds all over
296-300	DARK				20m	0 dawn

370 +3
372 +1

Fax to: Susan Tokarz
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60 inch Telescope Log

Observer: P. Berlin

PI: Scott

Spectrograph: FAST

Grating: 302

Date: 11/3/99

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
1-6	DARK				15m	
7-20	FLAT blue				20s	f=580 clearing nicely!
21-30	BINS				0s	+tilt=610.0 L
31-40	FLAT				7s	+tilt=610 (header wrong)
41-50	BINS				0s	+tilt=610
51-60	FLAT				14s	+tilt=610 (header wrong)
61-65	sky			57	2s	
66	comp			f	5s	
67-69	HD 12251	20:10	+44	56	5s	
70	comp			f		
71-72	BDp 2124	21:48	+28:37	56	20s	
73	comp			f		
74	N 7331	22:21	+9:09	57	2m	
75	comp			f		
76-77	V 4116 Sp	17:57	-21:41	12	20, 10m	
78	comp			f		
79-80	AS 2710	18:05	-20:60	12	15s, 8s	
81	comp			f		
82-83	Hen 1591	18:07	-25:57	12	2m, 12m	
84	comp			f		
85	XTE J1858	18:58	+22:39	65	15m	
86	comp			f		
87	SN 1999el	20:37	+66:06	2	12m	PA=-30
88	comp			f		
89	Akn 569	22:42	+79:43	6	5m	PA=90 ↓
90	comp			f		
91	all 96067	00:59	-05:2	69	7m	
92	comp			f		
93	66	00:59	-07:20	69	10m	
94	comp			f		

20/55

60 inch Telescope Log

Observer: PB
 PI: Rines + Geller

Spectrograph: FAST
 Grating: 300R
 Date: 11/3/99

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
95	g1196_061	00:58	-00:13	64	7m	PA=90 ↓
96	COMP			↑		
97	062	00:57	-00:51	64	7m	
98	COMP			↑		
99	063	00:50	-00:07	64	12m	
100	COMP			↑		
101	064	00:56	-00:35	64	10m	
102	COMP			↑		
103	065	01:04	-00:38	64	10m	
104	COMP			↑		
105	Ferzello	23:17	-05:	56	2m	PA=4
106	COMP			↑		
107	068	01:06	-00:34	64	12m	PA=90 ↓
108	COMP			↑		
109	058	00:46	-00:42	64	12m	
110	COMP			↑		
111	059	01:00	-00:47	64	6m	
112	COMP			↑		
113	060	00:57	-00:34	64	7m	
114	COMP			↑		
115	057	00:59	-00:59	64	7m	
116	COMP			↑		
117	051	01:01	-00:25	64	5m	
118	COMP			↑		
119	052	01:07	-00:37	64	12m	
120	COMP			↑		
121	053	01:07	-00:22	64	12m	
122	COMP			↑		
123	054	01:05	-00:58	64	7m	
124	COMP			↑		

60 inch Telescope Log

Observer: PB
 PI: Bragg / Keayon

Spectrograph: FAST
 Grating: 302L
 Date: 11/3/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
125	01196-055	0103	-60:35	64	7m	
126	WMP			↑		
127	056	0056	-60:23	64	5m	
128	WMP			↑		
129	SN1999c	01:22	+55:27	2	20m	
130	WMP			↑		
131	021823p573	02:18	+57:13	83	7m	
132	WMP			↑		
133	021838p574	02:18	+57:11	83	12m	super faint * to E/W want * @ row 41
134	WMP			↑		
135	021840p575	02:18	+57:07	83	7m	1
136	WMP			↑		
137	021840p574	02:18	+57:11	83	6m	* to E
138	WMP			↑		
139	021840p576	02:18	+57:16	83	6m	
140	WMP			↑		
141	021841p572	02:18	+57:02	83	7m	
142	WMP			↑		
143	021841p5709	02:18	+57:09	83	7m	but * to E
144	WMP			↑		
145	021841p5706	02:18	+57:06	83	12m	
146	WMP			↑		
147	021841p5709	02:18	+57:09	83	6m	
148	WMP			↑		
149	021842p572	02:18	+57:12	83	7m	
150	WMP			↑		
151	021842p5715	02:18	+57:15	83	6m	
152	WMP			↑		
153	021843p5706	02:18	+57:06	83	5m	
154	WMP			↑		

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>7743</u>		
Observer: <u>PB</u>		Grating: <u>3WR</u>		Date: <u>11/3/99</u>		
PI: <u>Bergg et al</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
155	021844p5706	02:18	+5706	83	5m	
156	COMP			↑		
157	021844p5712	02:18	+5712	83	6m	
158	COMP			↑		
159	021844p5714	02:18	+5714	83	8m	*'s to E+W
160	COMP			↑		
161	021846p5720	02:18	+5720	83	1m	
162	COMP			↑		
163	021846p5712	02:18	+5712	83	4m	
164	COMP			↑		
165	021847p5703	02:18	+5703	83	4m	SE * to W
166	021847p5703	02:18	+5703	83	3m	NW
167	COMP			↑		
168	021848p5704	02:18	+5704	83	11m	
169	COMP			↑		
170	021848p5712	02:18	+5712	83	5m	
171	COMP			↑		
172	COMP			↓		48"
173-175	SN1999em	04:41	-0251	2	5m	PA=0
176	COMP			↑		
177	COMP			L		tilt=580.0
178-180	SN1999em blue	"	"	2	5m	PA=050
181	COMP			↑		
182	H214. blue	04:41	+1059	56	8m	PA=20
183	COMP			↑		
184	05766-001	07:29	+5178	69	20m	tilt=610.0 PA90↓
185	COMP			↑		

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>7744</u>
Observer: <u>PB</u>		Grating: <u>3000</u>		Date: <u>11/3/99</u>		
PI: <u>RimskyGeller</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
186	a5766-08	07:29	+55:31	64	6m	
187	WMP			↑		
188	019	07:14	+57:03	69	15m	+ in slit to W but sky
189	WMP			↑		CZ ok off W
190	020	07:26	+57:11	64	5m	
191	WMP			↑		
192	028	07:31	+55:31	64	7m	PA=20 to avoid bot
193	WMP			↑		
194	032	07:14	+54:51	69	15m	PA=90 ↓ HD opt 2152
195	WMP			↑		
196	033	07:24	+54:33	64	7m	
197	WMP			↑		
198	634	07:13	+55:50	64	8m	should have been longer
199	WMP			↑		
200	035	07:27	+55:31	64	8m	* to W
201	WMP			↑		
202	036	07:29	+56:44	69	7m	
203	WMP			↑		
204	037	07:17	+54:18	69	8m	
205	WMP			↑		
206	038	07:13	+54:47	64	8m	
207	WMP			↑		
208	ZM5071804	07:18	+68:20	88	2m	
209	WMP			↑		
210	ZM5071940	07:19	+60:17	88	3m	W comp also in slit
211	WMP			↑		
212	ZM5075606	07:56	+19:12	88	2m	
213	WMP			↑		
ZM216	BX Mon	07:25	-03:35	12	10s-90s	
217	WMP			↑		

60 inch Telescope Log

Observer: PB
 PI: Falco et al

Spectrograph: FAST
 Grating: 300L
 Date: 11/3/99

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
218	ZMJ075626	07:56	+51:16	88	3m	
219	WMP			↑		
222	ZMJ075816	07:58	+52:10	88	3m	
223	WMP			↑		
224	ZMJ080430	08:04	+15:29	88	2m	
225	WMP			↑		
226	ZMJ081625	08:16	+25:59	88	2m	
227	WMP			↑		
228	ZMJ081023	08:10	+42:16	88	2m	
229	WMP			↑		
230	ZMJ080058	08:00	+41:39	88	2m	PREMS to avoid supt
231	WMP			↑		
232	ZMJ074107	07:41	+51:07	88	3m	
233	WMP			↑		
234-6	HDS2971	06:59	+27	69	5s	
237	WMP			↑		clear & dawn!
238-247	ISAS				0s	~
248-257	FLAT				7s	
258-267	ISAS				0s	
268-277	FLAT				14s	
278-286	DARK				20m	
287						

60 inch Telescope Log

Observer: CALVIN

PI: Kochanek et al

Spectrograph: FAST

Grating: 600L

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Date: 11/4/99

Number	Object	R. A.	Dec.	L/R	Exp	Comments
1-13	DARK				15m	
14-23	RAS				0s	
24-33	FLAT				3s	
34	SDP284211	21 57	28 57	"88	30s	
35	comp			↑	30s	
36,37	MF2031	00 14	28 32	"88	7.5m	PA = -51
38	comp			↑		
39,40	MF3164	23 18	18 43	"88	7.5m	PA = -43
41	comp			↑		
42,43	MF3110	23 04	20 08	"88	7.5m	PA = 0°
44	comp			↑		
45,46	MF3145	23 13	16 48	"88	7.5m	PA = -60°
47	comp			↑		
48,49	MF3162	23 18	18 46	"88	7.5m	PA = 92°
50	comp			↑		
51,52	MF3250	25 47	27 23	"88	7.5m	PA = 92°
53	comp			↑		
54,55	MF2090	00 16	28 58	"88	7.5m	PA = 62°
56	comp			↑		
57,58	MF3244	23 45	12 03	"88	15m	PA = -13
59	comp			↑		
60,61	MF3062	22 50	17 07	"88	7.5m	PA = 35°, row 74°
62	comp			↑		
63,64	MF2430	2 28	32 22	"88	7.5m	PA = 110°
65	comp			↑		
66,67	MF2399	2 22	25 56	"88	7.5m	PA = 100°, row 74°
68	comp			↑		
69	comp			↓		
70-72	MF2212	1 50	32 34	"88	15m	PA = -50
73	comp			↑		

60 inch Telescope Log

Observer: CALVIN

PI: Kochanek et al

Spectrograph: FAST

Grating: 600L

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Date: 11/4/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
7475	MF2288	01 53	36 24	#88	7.5m	PA = -57
76	comp			↑		
77	comp			↓		
78-80	MF2502	2 46	35 16	#88	15m	PA = -13
81	comp			↑		
82	comp			↓		
83-85	MF2646	6 41	53 44	#88	15m	PA = -62°
86	comp			↑		
87	Feige25	2 38	5 28	#56	7m	PA = 90°
88	comp			↑		
89	comp			↓		
90-92	MF250	1 35	31 03	#88	15m	PA = -5°
93	comp			↑		
94	comp			↓		
95-97	MF2742	7 39	29 10	#88	15m	PA = -23 rotation curve?
98	comp			↑		
99	comp			↓		
100,101	MF2666	7 03	49 26	#88	15m	PA = 40°
102	comp			↑		
103	comp			↓		
104,105	MF2764	7 48	24 19	#88	15m	PA = 65°
106	comp			↑		
107,108	MF2842	8 09	19 30	#88	7.5m	PA = -47°
109	comp			↑		
110	comp			↓		
111-113	MF2827	8 05	35 58	#88	15m	PA = 85, cut last exposure to 10m
114	comp			↑		
115	Hiltner 600	6 45	2 08	#56	45s	
116	comp			↑		
117-121	sky			#57	2.5	

60 inch Telescope Log

Observer: CALKINS

PI: Kabanek et al

Spectrograph: FAST

Grating: CGR20L

Date: 11/4/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
122	comp				↑	
123-132	BIAS				0.3	
133-142	PLAT				353	
143-152	DARK				15m	

60 inch Telescope Log
 Observer: CALKINS
 PI: Kochanek et al
 Spectrograph: FAST
 Grating: 600L
 Date: 11/5/99
 Page: 2749

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	DARK				15m	
11-20	BIAS				0s	
21-30	FLAT				35s	scattered cirrus
31	BDP284211	21 51	28 51	88	30s	@. sunset
32	comp			↑		
33,34	M32	00 42	40 51	88	3m	PA = -10
35	comp			↑		
36	HD175743	18 56	18 07	88	N/A	Guide rate = 3"/s
37	comp			↑		
38,39	MF3244	23 46	12 03	88	7.5m	PA = -13
40	comp			↑		
41,42	MF2071	00 25	31 20	88	7.5	PA = -2°
43	comp			↓		
44	comp			↓		
45-47	MF2084	00 33	39 32	88	15m	PA = -43°, object to west
48	comp			↑		
49	comp			↓		
50-52	MF2115	00 47	23 09	88	10m	PA = -65
53	comp			↑		
54	comp			↓		
55-57	MF2163	01 08	33 13	88	10m	PA = -49
58	comp			↑		
59	HD1546	00 38	29 18	88	N/A	3"/s
60	comp			↑		
61	comp			↓		
62-64	MF2102	00 42	18 49	88	15m	PA = -37°
65	comp			↑		
66,67	MF2169	1 09	14 21	88	7.5m	PA = -24
68	comp			↑		
69,70	MF2278	1 51	19 06	88	7.5m	PA = 85°

60 inch Telescope Log

Observer: CALVIN

PI: Kochanek et al

Spectrograph: FAST

Grating: 600L

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Date: 11/5/99

Number	Object	R.A.	Dec	L/R	Exp	Comments
71	comp			↑		
72	HD 7318	01 13	24 35	"88	N/A	3 1/2
73	comp			↑		
74, 75	NGC 1023	2 40	39 02	"88	3m	PA = 86°
76	comp			↑		
77	Feige 25	2 38	5 27	"56	2m	PA = 90°
78	comp			↑		
79	comp			↓		
80-82	MF2491	2 49	52 43	"88	15m	PA = 59°
83	comp			↑		
84	comp			↓		
85-87	MF2509	2 47	16 06	"88	20m	PA = 78°
88	comp			↑		
89, 90	MF2272	1 50	32 31	"88	7.5m	PA = -50°
91	comp			↑		
92	comp			↓		
93-95	MF2160	1 07	40 14	"88	15m	PA = 90°
96	comp			↑		
97, 98	NGC 1700	4 56	-4 51	"88	3m	PA = 90°
99	comp			↑		
100	ADL 7372	4 20	27 21	"88	N/A	3 1/2
101	comp			↑		
102, 103	MF2616	7 03	49 24	"88	7.5m	PA = 45°
104	comp			↑		
105	comp			↓		
106-108	MF2827	8 05	25 56	"88	10m	PA = 85°
109	comp			↑		
110-111	MF2764	7 48	24 19	"88	7.5m	PA = 64°
112	comp			↑		
113	comp			↓		

60 inch Telescope Log

Observer: CALVIN

PI: Kochanek et al

Spectrograph: F

Grating: 600L

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Date: 11/5/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
114-116	MF2682	7 08	50 07	#88	20m	PA = 1°, clouds moving in
117	comp			↑		
118	comp			↓		
119, 120	MF2950	8 54	17 26	#88	10m	PA = -45, abort final exposure due to clouds
121	comp			↑		
122, 123	M81	9 56	69 06	#88	4m	thru clouds
124	comp			↑		
125	Hiltner 600	6 45	2 08	#56	1m	PA = 90°
126	comp			↑		
127	HD34559	5 19	22 06	#88	N/A	3 1/3
128	comp			↑		
129-132	sky			#57	2s	clouds @ sunrise
134	comp			↑		
145-149	BIAS				0s	
145-154	FLAT				35s	
155-164	DARK				15m	

60 inch Telescope Log

Observer: CALKINS

PI: Kochanski et al

Spectrograph: FAST

Grating: 300L, 600L

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Date: 11/6/99

Number	Object	R. A.	Dec.	L/R	Exp	Comments
1-10	DARK				15m	clouds at sunset,
11-20	BIAS				0s	will try to do
21-30	FLAT				14s	redshift, 500L, 3" slit
31, 32	BDp 284211	21 51	28 51	1586	30s	tilt = 610
33	comp			↑		
34, 35	M31	00 42	41 16	1587	1m	
36	comp			↑		
37	001431	00 14	-7 09	1588	3m	
38	comp			↑		
39	003733	00 37	-6 54	1588	1m	
40	comp			↑		
41-50	FLAT				35s	600L, 2" slit, tilt =
51-52	M32	00 42	40 51	1588	3m	494
53	comp			↑		
54	HD 222842	23 43	29 21	1588	N/A	3 1/2
55	comp			↑		
56	BDp 284211	21 51	28 51	1586	30s	
57	comp			↑		
58	comp			↓		
59-61	MF2023	00 11	33 06	1588	15m	PA = 70°, thru clouds
62	comp			↑		last exposure was
63-72	BIAS				0s	increased to 20m
73-82	FLAT				35s	
83-92	DARK				15m	

Fax to: Susan Tokarz
pg 1 of 6

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>7753</u>	
Observer: <u>PBerland</u>			Grating: <u>300L</u>		Date: <u>11/7/99</u>	
PI: <u>Ken</u>						
Number	Object	R. A.	Dec.	L/R	Exp	Comments
16	DARK				15m	
7-20	BIAS				0s	lots of clouds but clear to W!
21-30	FLAT				7s	
31-40	BIAS				0s	
41-50	FLAT				14s	
51-55	SKY	Zenith		59	2s	
56	WMP			↑	5s	
57-59	HD192281	20:40	+40	56	5s	clouds
60				↑		
61-63	BD28421	21:	+78	56	45s	
64	WMP			↑		
65	NY331	22:30	+30	59	3m	
66	WMP			↑		
67	XTEJ1858p22	18:58	+22	65	20m	
68	WMP			↑		
69	a1196.071	0048	-033	64	6m	
70	WMP			↑		
71	079	00:56	-008	64	10m	
72	WMP			↑		
73	SN1999el	20:37	+66:0	2	20m	clearing in North PA=-40
74	WMP			↑		
75	AKn567	27:42	+2443	6	5m	
76	WMP			↑		
77	a1196-069	0040	-017	64	15m	cm
78	WMP			↑		
79	070	01:01	-051	64	10m	
80	WMP			↑		
81	076	00:58	-017	64	10m	
82	WMP			↑		

60 inch Telescope Log

Observer: PB
 PI: Ann

Spectrograph: FAST
 Grating: 300L
 Date: 11/7/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
83	a119b.075	0101	-0109	64	10m	
84	CMP			f		
85	074	0103	-0147	64	5m	
86	CMP			f		
87	073	0103	-0112	64	4m	
88	CMP			f		
89	072	0103	-0121	64	12m	
90	CMP			f		
91	Fairchild	2317	-0526	56	2m	PA-19
92	CMP			f		
93	021818p510	0218	+5710	83	12m	
94	CMP			f		
95	021849p5659	0218	+5659	83	7m	fst comp to E of *
96	CMP			f		bulky 2
97	021849p5715	0218	+5712	83	2m	
98	CMP			f		
99	021849p5716	0218	+5716	83	10m	
100	CMP			f		
101	021850p5702	0218	+5702	83	10m	
102	CMP			f		
103	021850p5703	0218	+5703	83	10m	S*
104	021850p5703	0218	+5703	83	10m	N* * to W
105	CMP			f		
106	021850p5711	0218	+5711	83	10m	
107	CMP			f		
108	021851p5716	0218	+5716	83	7m	
109	CMP			f		
110	021852p5705	0218	+5705	83	10m	
111	021853p5706	0218	+5706	83	10m	
112	CMP			f		

60 inch Telescope Log

Observer: JB
 PI: Ann Scott

Spectrograph: FAST
 Grating: 300L
 Date: 11/7/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
113	021855p5702	02:18	+5702	83	15m	* close to W; bin by C
114	COMP			↑		* to E in slit
115	021852p5702	02:18	+5702	83	6m	but * in slit to W
116	COMP			↑		
117	021855p5701	02:18	+5701	83	12m	*'s to E
118	COMP			↑		
119	021855p5707	02:18	+5707	83	5m	
120	COMP			↑		
121	021855p5709	02:18	+5709	83	8m	but *'s nearby
122	COMP			↑		
123	SN 1999em	02:16	30:19	2	20m	PA=4
124	COMP			↑		
125	021856p5706	02:18	5706	83	8m	
126	COMP			↑		
127	021856p5709	02:18	+5709	83	8m	
128	COMP			↑		
129	021857p5702	02:18	5702	83	9m	
130	COMP			↑		
131	021857p5702	02:18	+5702	83	10m	*'s E-W
132	COMP			↑		
133	021857p5701	02:18	+5701	83	6m	
134	COMP			↑		
135	021857p5706	02:18	5706	83	5m	
136	COMP			↑		
137	021857p5706	02:18	+5706	83	8m	bin by Z
138	COMP			↑		
139	021858p57160	02:18	5716	83	10m	
140	COMP			↑		
141	SN 1999em	01:41	-0251	2	6m	PA=0
142	COMP			↑		

137 - ^{very} nearly star to E
 (took W ~~com~~ star of the pair)

60 inch Telescope Log

Observer: PB
 PI: Calvet/Krishna

Spectrograph: FAST

Grating: 3002

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Date: 11/7/99

Number	Object	R. A	Dec.	L/R	Exp	Comments
143	SN1999em, blue	04:41	-01:51	Z	6m	tilt=580 ↓ PA=0
144	COMP			↑		
145	H2/H, blue	04:41	+11:00	S6	6m	PA=10 ↓
146	COMP			↑		
1479	S32	04:37	-01:19	12	3m, 4s	tilt=610 ↓ PA=10
150	COMP			↑		
151	gV 501615208 S2	05:43	-02:00	112	2m	PA=0 ↓
152	gV 501615208 NE	05:43	-02:00	112	2m	
153	COMP			↑		ORSON'S DELT
154	45217	05:42	-02:06	112	3m	
155	COMP			↑		
156	45215	05:42	-01:42	112	3m	Li
157	COMP			↑		
158	45212	05:42	-01:59	112	3m	S7
159	COMP			↑		
160	45179	05:41	-01:40	112	3m	
161	COMP			↑		
162	45134	05:41	-01:47	112	6m	extended nebulosity
163	COMP			↑		
164	44981	05:41	-01:58	112	6m	
165	COMP			↑		
166	1661601	05:39	-01:20	112	7m	near Tauri
167	COMP			↑		
168	nb 46679	05:48	-01:59	112	2m	
169	COMP			↑		
170	47683	05:50	-01:55	112	5m	
171	COMP			↑		
172	48241	05:51	-01:51	112	4m	
173	COMP			↑		

60 inch Telescope Log

Observer: PLS

PI: Rines

Spectrograph: FAST

Grating: 3002

Date: 11/7/99

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
174	Gilsonb. 48565	09:51	-01:55	112	7m	
175	WMP			f		
176	Hiltner 60	06:42	+02:11	56	45s	PA=8
178	WMP			f		
179	95766-039	07:25	+54:53	64	10m	cm PA=90 ↓
180	WMP			↑		
181	040	07:11	+55:53	64	6m	* to W
182	WMP			f		
183	041	07:15	+55:57	64	5m	* to E
184	WMP			f		
185	042	07:12	+54:47	64	5m	
186	WMP			f		
187	043	07:20	+56:50	64	5m	
188	WMP			f		
189	044	07:19	+54:50	64	4m	
190	WMP			f		
191	048	07:29	+56:43	64	8m	
192	WMP			f		
193	046	07:22	+56:53	64	4m	
194	WMP			f		
195	047	07:31	+57:09	64	9m	
196	WMP			f		
197	052	07:25	+57:05	64	4m	Sy
198	WMP			f		
199	053	07:30	+54:33	64	7m	
200	WMP			↑		
201	054	07:11	+56:02	64	41m	
202	WMP			↑		
203	056	07:13	+54:40	64	4m	
204	WMP			↑		

60 inch Telescope Log

Observer: PB
 PI: Ken

Spectrograph: FAST
 Grating: 300
 Date: 11/7/99

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
205	95766_OSS	07:20	+16:29	64	7m	
206	COMP			↑		
207	OS7	07:23	+16:39	64	6m	
208	COMP			↑		
209	OSB	07:31	+15:06	64	5m	
210	COMP			↑		
211	Obj	07:29	+16:40	64	5m	redo
212	COMP			↑		
2134	Faye34	10:36	+43:21	56	90s	PA=75
215	COMP			↑		
216219	HD52471	06:57	+27:13	57	5s	
219	COMP			↑		
220221	HD245710	05:25	+70	57	10s	
222	COMP			↑		clouds around
223225	HD39478	05:25	+70	57	10s	⊙ down
226	COMP			↑		
227226	BIAS				0s	
237-246	FLAT				7s	
247256	BIAS				0s	
257-266	FLAT				14s	
267276	FLAT blue				20s	+IT=50.0
277286	DARK				20m	

Fax to:
Susan Tokarz
pg 1 of 6

60 inch Telescope Log

Observer: P Berlincl

PI: Kan

Spectrograph: FAST

Grating: 300L

Date: 11/8/99

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
1-9	DARK				15m	
10-20	BFB				0s	
21-30	FLAT				7s	big band of clouds to W
31-40	BFB				0s	
41-50	FLAT				14s	
51-55	sky	zenith		57	2s	
56	WAP			†		
57-59	HIDETESI	2010	+40	56	5s	
60	COMP			†		
61-62	Wp287211	2148	+1837	56	30s	
63	WAP			†		
64	MRK509	2044	+1043	6	3m	PA=8
65	COMP			†		
66	H15Sp7227	1715	+7227	84	20m	redo from 10/16/99 #69
67	WAP			†		Glodern; Ha @ pic 2029
68	KTE01858p22	1858	+1259	65	20m	LSB
69	WAP			†		hmpch clouds. (rogue)
70	GRB191106.stn1	2224	+5417	2	20m	Peter G.
71	WAP			†		
72	AKN564	2234	+30	64	5m	
73	WAP			†		
74	g1196-078	0044	-0101	64	12m	comp to e
75	WAP			†		
76	080	0102	-0044	64	15m	
77	WAP			†		
78	077	0107	-0224	64	6m	
79	WAP			†		
80	081	0058	-0039	64	20m	clouds
81	WAP			†		

60 inch Telescope Log

Observer: PB
 PI: Rinesh Bhasin

Spectrograph: FAST
 Grating: 300R
 Date: 11/8/99

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
82	0119h082	01:05	-01:45	64	6m	
83	COMP			↑		
84	083	01:02	-01:01	64	6m	
85	COMP			↑		
86	084	01:07	-01:46	64	6m	clouds w/ k dk
87	COMP			↑		
88	021859p5289	02:18	+57:09	83	10m	
89	COMP			↑		
90	021859p5707	02:18	+57:07	83	4m	
91	COMP			↑		
92	021900p510	02:19	+57:10	83	8m	
93	COMP			↑		
94	021900p513	02:19	+57:13	83	5m	
95	COMP			↑		
96	021901p5702	02:19	+57:02	83	2m	
97	COMP			↑		
98	021901p5713	02:19	+57:13	83	5m	
99	COMP			↑		
100	021902p5706	02:19	+57:06	83	6m	
101	COMP			↑		
102	021903p5712	02:19	+57:12	83	6m	
103	COMP			↑		
104	021904p5708	02:19	+57:08	83	5m	
105	COMP			↑		
106	021905p5716	02:19	+57:16	83	6m	
107	COMP			↑		
108	021906p5710	02:19	+57:10	83	5m	S*
109	021906p5740	02:19	+57:10	83	5m	N*
110	COMP			↑		

60 inch Telescope Log

Observer: PB

Spectrograph: FAST

Grating: 300L

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PI: Am

Date: 11/8/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
111	SN1999e5	01:22	+33:29	2	20m	PA=90
112	COMP			↑		
113	0221906p5703	02:19	+5703	83	7m	
114	COMP			↑		
115	022203p5716	02:22	+57:16	83	7m	
116	COMP			↑		
117	022204p5703	02:22	+5703	83	9m	close comp to E.
118	COMP			↑		
119	022204p5706	02:22	+5706	83	7m	
120	COMP			↑		
121	022204p5713	02:22	+5713	83	4m	
122	COMP			↑		
123	022205p5659	02:22	+5659	83	4m	
124	COMP			↑		
125	022205p5700	02:22	+5700	83	2m	
126	COMP			↑		
127	022205p5707	02:22	+5707	83	8m	↑'s to E/W
128	COMP			↑		
129	022205p5707	02:22	+5707	83	7m	
130	COMP			↑		
131	022206p5659	02:22	+5659	83	4m	
132	COMP			↑		
133	022206p5705	02:22	+5705	83	30s	
134	COMP			↑		
135	022206p5712	02:22	+5712	83	4m	
136	COMP			↑		
137	022206p5712	02:22	+5712	83	7m	
138	COMP			↑		
139	022207p5659	02:22	+5659	83	4m	
140	COMP			↑		

117 - difficult to separate / - did I do it ???

60 inch Telescope Log

Observer: B

PI: Ann

Spectrograph: FAST

Grating: 3000

Date: 11/8/99

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
141	022207p5705	02:22	+5705	83	4m	
142	COMP			↑		
143	022207p5709	02:22	+5709	83	4m	
144	COMP			↑		
145	022207p5714	02:22	+5714	83	8m	
146	COMP			↑		
147	022208p5713	02:22	+5713	83	7m	comp to NE
148	COMP			↑		
149	022209p5703	02:22	+5703	83	8m	
150	COMP			↑		
151	022209p5704	02:22	+5704	83	6m	
152	COMP			↑		
153	022211p5715	02:22	+5715	83	8m	
154	COMP			↑		
155	022209p5711	02:22	+5711	83	7m	
156	COMP			↑		
157	022209p5713	02:22	+5713	83	7m	NEK
158	COMP			↑		
159	022210p5708	02:22	+5708	83	8m	
160	COMP			↑		
161	COMP			↓		
162-64	SNIPPIem	04:41	-02:51	2	5m	PA = -3
165	COMP			↑		
166	H214	04:41	411	56	6m	
167	COMP			↑		
168	qu501b5726	05:53	-01:22	112	10m	PA = 15 to avoid close comp
169	COMP			↑		
170	57263	05:51	-01:30	112	7m	
171	COMP			↑		

60 inch Telescope Log
 Observer: PB
 PI: Calvet/Ken
 Spectrograph: FAST
 Grating: 3022
 Date: 11/8/99
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Number	Object	R. A.	Dec.	L/R	Exp	Comments
172	SNRPPek	05:36	+16:38	Z	20m	PA=9
173	WMP			↑		
174	gusolbb(127)	05:38	-01:07	112	10m	PA=10
175	WMP			↑		
176	43135	05:38	-01:59	112	12m	
177	WMP			↑		
178	43484	05:39	-01:42	112	4m	
179	WMP			↑		
180	43507	05:39	-01:49	112	7m	
181	WMP			↑		
182	48057	05:33	-01:38	112	7m	
183	WMP			↑		
184	40986	05:35	-02:29	112	5m	PA=25 L
185	WMP			↑		
186	41582	05:36	-01:40	112	5m	
187	WMP			↑		
188	42432	05:37	-02:10	112	5m	
189	WMP			↑		
190	nb50430	05:54	-01:54	112	4m	
191	WMP			↑		
192	50469	05:54	-02:06	112	5m	
193	WMP			↑		
194	Hiltner62	06:42	+16:2	SB	45s	PA=8
196	WMP			↑		SW=star; NE has em
197	95766-04920	07:29	+56:08	64	20m	SW+NE comps. H ₂ PK
198	WMP			↑		bimby 2, PA=45 20m
199	045	07:26	+54:29	64	15m	em
200	WMP			↑		
201	059	07:13	+56:51	64	7m	
202	WMP			↑		

60 inch Telescope Log

Observer: PB

PI: Ken

Spectrograph: FAST

Grating: 300L

Date: 11/8/99

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
203	Q5766-060	07:14	+59:41	64	7m	PA=90L
204	WMP			f		
205	062	07:20	+59:48	64	7m	
206	WMP			f		
207	063	07:15	+55:18	64	7m	
208	WMP			f		
209	064	07:27	+56:14	64	7m	
210	WMP			f		
211	065	07:29	+55:12	64	7m	
212	WMP			f		
213	068	07:27	+56:08	64	7m	
214	WMP			f		
217	HD52971	07:20	+57:10	57	5s	clear & dark!
218	WMP			f		
219-228	BIAS				0s	
229-238	FLAT				7s	
239-248	BIAS				0s	
249-258	FLAT				14s	
259-268	DARK					
no 259-268 DARKS ON TAPE; not used for reduction this probably not available						

Tape in for 1-258

Fax to:
Susan Tokarz
pg 1 of 5

60 inch Telescope Lpg
 Observer: P. Berlind
 PI: Ken
 Spectrograph: FAST
 Grating: 3002
 Date: 11/9/99
 Page: 7765

Number	Object	R. A.	Dec.	L/R	Exp	Comments
1-9	DARK				20m	
11-20	BEAS				0s	
21-30	FLAT				7s	
31-40	BEAS				0s	clear skies!
41-50	FLAT				14s	
51-55	SKY			57	2s	
56	WMP			↑	5s	
57-59	H1012081	2010	+1007	56	5s	
60	WMP			↑		
61-62	H1012081	2050	+78	56	33s	
63	WMP			↑		
64	MRK509	2044	+1043	6	3m	
65	WMP			↑		
66	N7331	2130	+1109	57	2m	
67	WMP			↑		
68	AKN564	2240	+2927	6	5m	
69	WMP			↑		
70	XTEJ1658p22	1858	+2239	66	20m	
71	WMP			↑		
72-74	S169	18	+10	12	30s-10m	
75	WMP			↑		
76	a1196-013	0045	-0106	64	20m	LSB em OK Hx prk 2074
77	WMP			↑		
78	046EW	0046	-0103	64	15m	PA=75
79	WMP			↑		
80	029	0041	-0003	64	20m	LSB em
81	WMP			↑		
82	18	0111	-1029	64	20m	
83	WMP			↑		

NO BIN BY 4 DARKS

60 inch Telescope Log
 Observer: PB
 PI: Ann/Scott
 Spectrograph: FAST
 Grating: 300L
 Date: 11/9/99
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
84	all96-0417	01:00	-0443	64	20m	ok on v.wk em (poor)
85	COMP			↑		
86	048	01:06	-0455	69	20m	
87	COMP			↑		
88	022106p5705	02:22	+5705	83	20s	
89	COMP			↑		
90	022112p5702	02:22	+5702	83	8m	
91	COMP			↑		930
92	022212p5709	02:22	+5709	83	4m	
93	COMP			↑		
94	022217p5710	02:22	+5710	83	8m	
95	COMP			↑		
96	022213p5709	02:22	+5709	83	4m	
97	COMP			↑		
98	022215p5706	02:22	+5711	83	8m	
99	COMP			↑		
100	022217p5714	02:22	+5714	83	4m	
101	COMP			↑		
102	022215p5715	02:22	+5715	83	6m	
103	COMP			↑		
104	022211p5706	02:22	+5706	83	7m	
105	COMP			↑		
106	022211p5706	02:22	+5706	83	5m	(brighter + to W)
107	COMP			↑		
108	022210p5709	02:22	+5709	83	6m	PA-50
109	COMP			↑		
110	022209p5706	02:22	+5706	83	11m	NW
111	COMP			↑		
112	022210p5706	02:22	+5706	83	7m	SE
113	COMP			↑		

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>7167</u>	
Observer: <u>PB</u>			Grating: <u>300L + 600L</u>			
PI: <u>S. Wolk</u>			Date: <u>11/9/99</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
114-115	022216p57149	02:22	+57:16	83	10s, 5s	
116	WMP			↑		
117	022217p5720	02:22	+57:20	83	3m	
118	WMP			↑		
119	fst					600L @ +11 748 ↓
120	MBM12.358	03:04	+17:11	110	12m	2" slit
121	WMP			↑		
122	359	02:58	+19:36	110	14m	
123	WMP			↑		
124	360	02:58	+19:47	110	15m	21
125	WMP			↑		
126	361	02:56	+19:59	110	15m	
127	WMP			↑		
128	363	02:58	+19:47	110	15m	
129	WMP			↑		
130	364	02:58	+19:48	110	15m	
131	WMP			↑		
132	365	02:58	+19:59	110	20m	
133	WMP			↑		
134	366	02:57	+19:40	110	20m	
135	WMP			↑		
136	367	02:58	+19:51	110	20m	
137	WMP			↑		
138	368	03:01	+17:03	110	20m	
139	WMP			↑		
140	369	02:58	+19:58	110	20m	
141	WMP			↑		

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>7768</u>
Observer: <u>PB</u>		Grating: <u>600L + 300L</u>				
PI: <u>Calvet + Wolk</u>		Date: <u>11/9/99</u>				
Number	Object	R.A.	Dec.	L/R	Exp	Comments
142	MBM12.371	02:58	+19:32	110	20m	600gpm; 2" slit ↓ f11=748 (Ha)
143	COMP			↑		
144	G1911326	05:01	+51:45	110	25m	
145	COMP			↑		
146-146	HDS2471	06:27	+27	110	5s	
149	COMP			↑		
150-159	FLAT				14s	N.E.
160	49501612819	05:38	-02:00	112	7m	300L; 3" slit; normal ↓ PA=8 ↓ set-up
161	COMP			↑		
162,163	49156	05:52	-01:59	112	1m, 4m	
164	COMP			↑		
165	49166	05:53	-01:55	112	11m	
166	COMP			↑		
167	49173	05:53	-02:09	112	10m	
168	COMP			↑		
169	49850	05:53	-02:05	112	10m	
170	COMP			↑		
171	51277	05:55	-01:55	112	4m	
172	COMP			↑		
173	52915	05:57	-01:42	112	3m	
174	COMP			↑		
175-6	Hiltner 600	06:12	-02	56	45s	
177	COMP			↑		
178	0613460	06:13	+81:04	88	5m	PA=20
179	COMP			↑		
180	95766.066	07:28	+55:48	64	5m	PA=90L
181	COMP			↓		

60 inch Telescope Log
 Observer: PB
 PI: Ken
 Spectrograph: FAST
 Grating: 300L
 Date: 11/9/99
 Page: 7769

Number	Object	R. A.	Dec.	L/R	Exp	Comments
182	a5676-067	07:26	+56:58	64	5m	
183	COMP			↑		
184	069	07:25	+56:41	64	8m	
185	COMP			↑		
186	070	07:26	+55:53	64	15m	ok superposed star
187	COMP			↑		
188	071	07:14	+56:04	64	12m	ok
189	COMP			↑		
190	072	07:17	+54:52	64	20m	ok star to W
191	COMP			↑		
192	073	07:19	+55:05	64	5m	
193	COMP			↑		
194	SN 1987R	12:19	+79:37	2	10m	(bin by 4; PA=90)
195	COMP			↑		
196	IC 34	10:26	+14:3	56	90s	
197	COMP			↑		
206-207	BIAS				0s	clear @ dawn
206-217	FLAT				7s	~
206-227	BIAS				0s	
206-237	FLAT				14s	

60 inch Telescope Log
 Observer: CARLOS
 PI: All Kacharek

Spectrograph: FAST
 Grating: 300L
 Date: 11/10/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-3	DARK				15m	
4-13	BIAS				0s	
14-23	FLAT				7s	
24-33	BIAS				0s	
34-43	FLAT				14s	
44, 45	RDP 284211	21 51	28 51	F56	30s	
46	comp			↑		
47, 48	RDP 284211	21 51	28 51	F56	30s	
49	comp			↑		
50, 51	RDP 284211	21 51	28 51	F56	30s	PA=0°
52	comp			↑		
53	M31	00 42	41 16	F57	1m	
54	comp			↑		
55	M31	00 42	41 16	F57	1m	
56	comp			↑		
57	3C390, 3	22 36	73 49	F6	12m	
58	comp			↑		
59	M121335	00 06	20 12	F6	4m	
60	comp			↑		
61	M121509	20 44	-10 42	F6	4m	
62	comp			↑		
63	AKN564	22 42	29 43	F6	5m	
64	comp			↑		
65	N7469	23 02	08 52	F6	3m	
66	comp			↑		
67	001430	00 14	-7 09	F88	3m	
68	comp			↑		
69	001833	00 18	-6 15	F88	3m	
70	comp			↑		
71	002617	00 26	-4 28	F88	10m	

60 inch Telescope Log
 Observer: CALKINS
 PI: Kochanek, Bragg

Spectrograph: FAST
 Grating: 300L
 Date: 11/10/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
72	comp			↑		
73	00353	00 33	-2 50	#88	2.5m	
74	comp			↑		
75	003522	00 35	-5 50	#88	2.5m	
76	comp			↑		
77	003628	00 36	-10 06	#88	3.5m	
78	comp			↑		
79	021907	02 19	57 00	#83	6m	
80	comp			↑		
81	021907	02 19	57 05	#83	8m	
82	comp			↑		
83	021908	2 19	57 03	#83	8m	Row 74
84	comp			↑		
85	021908	2 19	57 09	#83	9m	Row 74
86	comp			↑		
87	021909	2 19	57 00	#83	9m	
88	comp			↑		
89	021909	2 19	57 09	#83	9m	
90	comp			↑		
91	021909	2 19	57 16	#83	15m	
92	comp			↑		
93	021910	2 19	57 00	#83	9m	
94	comp			↑		
95	021910	2 19	57 10	#83	15m	
96	comp			↑		
97	021910	2 19	57 11	#83	10m	
98	comp			↑		
99	021910	2 19	57 13	#83	12m	
100	comp			↑		
101	021911	2 19	57 05	#83	15m	

60 inch Telescope Log

Observer: Calkins

PI: Bragg

Spectrograph: FAST

Grating: 300L

Date: 11/10/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
102	comp			↑		
103	021911	02 19	57 06	F83	11m	Row 74
104	comp			↑		
105	021912	02 19	57 07	F83	4m	Row 71
106	comp			↑		
107	021913	02 19	57 07	F83	30s	
108	comp			↑		
109	021913	02 19	57 15	F83	12m	
110	comp			↑		
111	021914	02 19	56 59	F83	9m	
112	comp			↑		
113	021914	02 19	57 06	F83	9m	
114	comp			↑		
115	021917	02 19	56 59	F83	7m	
116	comp			↑		
117	021918	02 19	57 03	F83	15m	
118	comp			↑		
119	021918	2 19	57 06	F83	15m	
120	comp	2:19:10	57:00	↑		MOVING? OR MOVED
121	021919	2 19	57 00	F83	15m	
122	comp			↑		
123	021921	2 19	57 04	F83	15m	
124	comp			↑		
125	021921	2 19	57 15	F83	10m	
126	comp			↑		
127	021922	2 19	57 00	F83	10m	
128	comp			↑		
129	021924	2 19	57 00	F83	40s	
130	comp			↑		
131	021924	2 19	57 14	F83	15m	

USED FILE 118 COMP FOR FILE 119

60 inch Telescope Log

Observer: Calvin

PI: Dragg, Calvet

Spectrograph: FAST

Grating: 5006

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Date: 11/10/99

Number	Object	R. A.	Dec.	L/R	Exp	Comments
132	comp			↑		
133	021925	2 19	57 00	#83	8m	
134	comp			↑		
135	021925	2 19	57 00	#83	5m	
136	comp			↑		
137	021925	2 19	57 00	#83	40s	
138	comp			↑		
139	021926	2 19	57 02	#83	13m	
140	comp			↑		
141	021926	2 19	57 04	#83	20s	
142	comp			↑		
143	021926	2 19	57 07	#83	12m	
144	comp			↑		
145	021926	2 19	57 10	#83	13m	
146	comp			↑		
147	021927	2 19	57 08	#83	12m	
148	comp			↑		
149	021927	2 19	57 09	#83	12m	
150	comp			↑		
151	quasars 33000	5 23	-1 55	#112	8m	$PA=0^\circ$
152	comp			↑		↓
153	quasars 33218	5 24	-1 56	#112	8m	
154	comp			↑		
155	quasars 33234	5 24	-2 05	#112	7m	
156	comp			↑		
157	quasars 33467	5 24	-1 38	#112	10m	
158	comp			↑		
159	quasars 33672	5 24	-2 02	#112	8m	
160	comp			↑		
161	quasars 33929	5 25	-1 58	#112	4m	

60 inch Telescope Log

Observer: Calvin

PI: Calvet, Rines

Spectrograph: FAS5

Grating: 3006

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Date: 11/10/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
162	comp			↑		
163	gusola 34012	5 29	-1 57	"112	8m	
164	comp			↑		
165	gusola 34492	5 26	-2 08	"112	7m	
166	comp			↑		
167	gusola 35479	5 27	-1 56	"112	8m	
168	comp			↑		
169	gusola 35463	5 27	-1 42	"112	7m	
170	comp			↑		
171	gusola 35877	5 28	-1 46	"112	7m	
172	comp			↑		
173	gusola 36258	5 28	-2 01	"112	6m	
174	comp			↑		
175	gusola 36707	5 29	-1 42	"112	4m	
176	comp			↑		
177	gusola 37023	5 30	-1 37	"112	5m	
178	comp			↑		
179	a5766-075	7 25	54 21	"64	8m	
180	comp			↑		
181	a5766-77	7 20	56 40	"64	8m	
182	comp			↑		
183	a5766-078	7 27	55 24	"64	9m	
184	comp			↑		
185	a5766-079	7 16	55 20	"64	12m	
186	comp			↑		
187	a5766-080	7 25	56 42	"64	12m	
188	comp			↑		
189	N3377	10 47	13 59	"57	90s	
190	comp			↑		
191	Hiltner 600	6 45	2 08	"57	45s	

60 inch Telescope Log

Spectrograph: FAST

Observer: CMLK-TAL

Grating: 200L

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PI: all, Kenyon

Date: 11/11/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	DARK				15m	
11-20	BIAS				0s	
21-30	FLAT				7s	
31-40	BIAS				0s	
41-50	FLAT				14s	
51, 52	BDp 284211	21 51	28 51	#52	30s	
53	comp			↑		
54, 55	BDp 284211	21 51	28 51	#56	30s	
56	comp			↑		
57, 58	BDp 284211	21 51	28 51	#56	30s	PA=0
59	comp			↑		
60	M31	00 42	41 16	#57	1m	
61	comp			↑		
62	M31	00 42	41 16	#57	1m	
63	comp			↑		
64, 65	HD 154791	17 06	23 58	#12	1,10s	
66	comp			↑		
67	Draco Cl	17 20	57 50	#12	12m	
68	comp			↑		
69, 70	τ 50 ph	17 50	-6 42	#12	5,120	
71	comp			↑		
72, 73	VY Her	18 14	20 59	#12	20/100	
74	comp			↑		
75, 76, 77	S149	18 18	27 1	#12	5/10/100	
78	comp			↑		
79, 80	V443 Her	18 22	23 27	#12	10/100	
81	comp			↑		
82, 83	RS 105	18 24	01 46	#12	2,20m	
84	comp			↑		
85, 86	DQ Ser	18 44	5 03	#12	1,11m	line 74

Reduced in 2 sets - before + after grating change

60 inch Telescope Log

Observer: CALKINS
 PI: Kenyon

Spectrograph: FAST
 Grating: 300L
 Date: 11/11/99

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
87	comp			↑		
87, 89	V1413Aq1	19 03	16 26	#12	2000/1000	seeing going ↓
90	comp			↑		
91-93	BFCyg	19 22	29 40	#12	2,15,70	
94	comp			↑		
95-98	CHCyg	19 24	50 14	#12	7/7/49/16	
99	comp			↑		
100-102	HM Sgc	19 41	16 44	#12	1,19,60	
103	comp			↑		
104, 105	AS360	19 45	18 37	#12	5/100	
106	comp			↑		
107, 108	S169	19 50	46 15	#12	100/600	
109	comp			↑		
110-112	CICyg	19 50	35 40	#12	1,10,60	
113	comp			↑		
114-116	PLVul	20 21	2 34	#12	1,10,60	
117	comp			↑		
118-120	V1016Cyg	19 57	39 49	#12	1,10,60	
121	comp			↑		
122, 123	He2m467	20 35	20 11	#12	200/1000	seeing terrible
124	comp			↑		
125, 126	S180	20 39	-5 17	#12	3,5m	seeing 73"
127	comp			↑		
128, 129	He2m468	20 41	34 44	#12	200/600	seeing 68"
130	comp			↑		
131-133	S190	21 41	2 43	#12	1,10,60	
134	comp			↑		
135, 136	V1329Cyg	20 51	35 39	#12	20/120	
137	comp			↑		
138, 139	V407Cyg	21 02	45 46	#12	200/1000	

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>7178</u>		
Observer: <u>CALKINS</u>		Grating: <u>300L, 600L</u>		Date: <u>11/11/99</u>		
PI: <u>Kenyon, Kirchner, Holt</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
140	comp			↑		
141-143	AG Per	21 51	14 13	#12	10,60	
148	comp			↑		
149, 150	RA Cr	23 43	-15 17	#12	1,10s	
151	comp			↑		
152, 153	E Girard	00 44	40 40	#12	1,5s	
154	comp			↑		
155-157	AX Per	1 36	54 15	#12	4,10,60	
158	comp			↑		
159, 162	V741 Per	1 58	52 53	#12	10,60	
161	comp			↑		
162	sn1999ej	1 22	33 28	#2	20m	
163	comp			↑		
164, 165	sn1999eb	1 43	4 13	#2	15m	PA=13°
166	comp			↑		
167	sn1999dg	2 33	21 01	#2	20m	PA=17°, seeing getting better
168	comp			↑		
169-178	FLAT				14s	SN=ROW 70
179	MBM12.372	3 02	16 59	#110	20m	600L, Tilt=74°, slit=2", Focus=1140
180	comp			↑		
181	MBM12.373	3 02	17 10	#110	20m	Row 75
182	comp			↑		
183	MBM12.374	3 02	17 13	#110	20m	
184	comp			↑		
185, 186	MBM12.375	2 58	19 47	#110	13m	
187	comp			↑		
188, 189	MBM12.376	2 57	19 56	#110	13m	
190	comp			↑		

217	quasar 10000	5 33	-1 43	#112	4m	PA=44
220	comp			↑		

60 inch Telescope Log
 Observer: Falco
 PI: Falco
 Spectrograph: FAST
 Grating: 300
 Date: 11/29/99
 Page: 0018

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS					Circus
11-20	FLAT					for 1060
35	N7331					21-23 30min DARKS
36	comp					
37	"					
38	"					
39-40	M 31					
41	comp					clearing?
42	Feige 110					
43	comp					
44	01134+3248				300	
45	comp					
46	01208+3302				300	
47	comp					
48	N 428				300	
49	comp					
50	N 428				600	
51	comp					
52	01104-0036				180	
53	comp					
54	01191+3316				180	
55	comp					
56	I 101				300	
57	comp					
58	01133+4629				300	
59	comp					partial seeing
60	01262+3909				300	superposed star; Gal has emission
61	comp					
62	01218+3313				380	
63	comp					

files 24-34 do not exist
 21-23 DARK

60 inch Telescope Log
 Observer: Falco
 PI: Falco
 Spectrograph: FAST
 Grating: 300
 Date: 11/29/99
 Page: 2019

Number	Object	R. A.	Dec.	L/R	Exp	Comments
64	01274+1855				300	Superposed star
65	comp					1st @ 6859 Å ^{???}
66	01233-0134				300	
67	comp					
68	01373-0217				300	
69	comp					
70	01465+1248				180	
71	comp					
72	01275+2020				300	
73	comp					
74	01164+3443				300	
75	comp					
76	N924				180	
77	comp					
78	02228+2700				180	
79	comp					
80	02459+1406				300	
81	comp					
82	02474+1240				300	
83	comp					
84	02414+0513				300	
85	comp					
86	PG				180	bin x 2
87	comp					
88-89	SN 1999em				600	
90	comp					
91	04588+0342				300	bin x 4
92	comp					
93	04557-0015				180	
94	comp					

60 inch Telescope Log		Spectrograph: <u>FAST</u>				
Observer: <u>Felco</u>		Grating: <u>300</u>			Page: <u>8020</u>	
PI: <u>Felco</u>		Date: <u>11/30/99</u>				
Number	Object	R.A.	Dec.	L/R	Exp	Comments
95	05090-0038				180	
96	comp					
97	05045+0355				300	
98	comp					
99	0518.3+0312				600	clouding up
100	comp					
101	qvso la 40487				300	#112 not enuf
102	comp					too cloudy
103-112	BIAS					clouded out bin x2
113-122	FLAT					"
123	DARK					"
124	qvso la 37890				300	bin x4 some clouds
125	comp					
126	qvso la 37890				300	
127	comp					
128	qvso la 40487				300	
129	comp					
130	qvso lb 36175				300	repeat, very
131	comp					
132	qvso lb 45050				300	
133	comp					
134	SN 1999gb				900	bin x2 SN??
135	comp					
136	06507+5025				800	bin x4 still some clouds
137	comp					
138	07399+4946				300	too cloudy?
139	comp					AVIT
140-149	BIAS					
150-159	FLAT					

60 inch Telescope Log
 Observer: Falco
 PI: Falco
 Spectrograph: FAST
 Grating: 300 / 5694 Å
 Date: 11/30/99
 Page: 8021

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS					focus 1040
11-20	FLAT					very cloudy
32-33	DARK					
34-36	Z And			12	2, 10, 60	still some clouds
37	comp			↑		can do only stars
38-39	R Agr			12	1, 10	
40	comp			↑		
41-43	AG Peg			12	1, 10, 30	
44	comp			↑		
45-46	EG And			12	1, 5	
47	comp			↑		
48-50	AX Per			12	1, 10, 60	
55	comp			↑		forgot comp, went back to star
51	N7331			57	180	
52	comp			↑		
53	Feige 110			57	120	still clouds, but comp fine
54	comp			↑		
56	021937+570323			83	300	clouds i/o, not on f. target
57	comp			↑		
58	021937+570323			83	300	ok clouds
59	comp			↑		
60	021956+570922			83	600	ok
61	comp			↑		
62	021956+570829			83	600	over hill
63	comp			↑		
64	022107+571001			83	180	way over hill...
65	comp			↑		
66	022108+570747			83	600	repeat, not on f.
67	comp			↑		
68	022108+570747			83	600	OK with 1st exp

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>8022</u>
Observer: <u>Falco</u>		Grating: <u>300</u>		Date: <u>11/30/99</u>		
PI: <u>Falco</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
69	comp			↑		clouds i/o
70	022248+571200			83	180	not enough
71	comp			↑		
72	022248+571200			83	360	OK now, hard to predict
73	comp			↑		
74	N803			84	600	weak
75	comp			↑		
76	01596+0943			84	600	maybe
77	comp			↑		
78	S32			12	60	
79	comp			↑		
80	quasars 40303			112	180	way low
81	comp			↑		
82	quasars 40303			112	900	bad clouds i/o
83	comp			↑		
84	quasars 40303			112	900	OK, maybe if add all 3
85	comp			↑		
86	quasars 39203			112	900	cut short, done over time
87	quasars 39203			112	900	medium crappy
88	comp			↑		STOP 1:10 AM
89-90	DARK				1800	
91-100	BIAS					4:00 am:
101-110	FLAT					a hole opened overhead.
111	07586+6717			84	300	
112	comp			↑		that's it, decided on