

60 inch Telescope Log				Spectrograph: <u>FAST</u>		
Observer: <u>P. Berland</u>				Grating: <u>300L, 3" slit</u>		Page: <u>8109</u>
PI: <u>Ann</u>				Date: <u>11/1/00</u>		
Number	Object	R.A.	Dec.	L/R	Exp	Comments
10	BEAS				03	Y2K!
11-20	FLAT				7s	
21-30	BEAS				03	
31-40	FLAT				14s	
41-45	sky			57	2s	thin clouds.
46	WMP			↑	5s	
47-48	M31	03:40	+40	57	30s	
49	COMP			↑		
50-51	M32	00:40	+40	57	30s	
52	WMP			↑		
53	225m 290	00:44	+11:21	57	4h	
54	WMP			↑		
55	MRK 335	00:06	+20:12	6	3m	
56	WMP			↑		
57	AKN 569			6		
58	WMP			↑		
59	SNR 6075113	00:44	+24:10	7	15m	
60	WMP			↑		
61	114	00:44	+25:27	59	20m	
62	WMP			↑		
63	COMP			↓		
64-66	SNR 9885 host	01:37	+05:53	2	15m	PA=20; Integrated spectra scanned host gal
67	WMP			↑		
68	021803p574	02:18	+57:11	83	12m	
69	COMP			↑		
70	210405p572	02:18	+57:02	83	15m	
71	WMP			↑		

chip gain calculate slightly low ~ 7.5-7.7 rd/min  
+ 1.1 gain

60 inch Telescope Log  
 Observer: PS  
 PI: Ann/Ken  
 Spectrograph: FAST  
 Grating: 300  
 Date: 1/1/00  
 Page: 8110

Number	Object	R.A.	Dec.	L/R	Exp	Comments
72	021805p5710	02:18	+5710	83	15m	
73	COMP			↑		
74	021805p5706	02:18	+5706	83	22m	
75	COMP			↑		
76	021813p5701	02:18	+5701	83	15m	
77	COMP			↑		
78	SN1999gp	02:31	+3922	2	20m	PA=95
79	COMP			↑		
80	SN1999gp	03:37	+0502	2	20m	PA=25
81	COMP			↑		
82	HZ14	04:41	+1110	56	6m	PA=14
83	COMP			↑		
84	SN1999em	04:41	+0251	2	72m	PA=14
85	COMP			↑		
86	9496-042	04:50	-11:25	64	12m	
87	COMP			↑		
88	043	04:29	-10:30	64	8m	
89	COMP			↑		
90	044	04:32	-10:13	64	4m	
91	COMP			↑		
92	045	04:19	-1241	64	5m	
93	COMP			↑		
94	046	04:27	-12:35	64	4m	
95	COMP			↑		
96	047	04:17	-12:27	64	4m	
97	COMP			↑		
98	048	04:18	-14:59	64	12m	
99	COMP			↑		
100	049	04:46	-15:20	64	8m	
101	COMP			↑		

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>8111</u>	
Observer: <u>PB</u>			Grating: <u>300L</u>			
PI: <u>Kan/Andi</u>			Date: <u>1/1/00</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
102	g 996_050	04:43	-15:32	64	4m	
103	COMP			↑		
104	S1	04:31	-15:46	64	12m	
105	COMP			↑		
106	S2	04:46	-14:51	64	4m	
107	COMP			↑		
108	S3	04:28	-14:00	64	10m	
109	COMP			↑		
110	094	04:20	-13:50	64	12m	
111	COMP			↑		
112	g 5766_111	07:11	+55:59	64	12m	
113	COMP			↑		rt crash
114	162	07:18	+57:04	64	15m	
115	COMP			↑		
116	154	07:28	+55:19	64	15m	
117	COMP			↑		
118	155	07	+55	64	15m	
119	COMP			↑		
120	SN1999gd	08:38	+25	2	20m	PA=90
121	COMP			↑		
122	SS 26164.172	4:17	-07:52	59	20m	
123	COMP			↑		
124	162	11:19	-08:06	59	22m	
125	COMP			↑		
126	196	11:21	-07:25	59	15m	M STAN TO WEST
127	COMP			↑		
128	188	11	-07	59	10m	
129	COMP			↑		
130	196	11:21	-07:25	59	15m	
131	COMP			↑		

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>8112</u>	
Observer: <u>PB</u>			Grating: <u>300</u>			
PI: <u>AW.</u>			Date: <u>1/1/00</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
132	552-6164, 197	11:21	-07:43	SS	22m	
133	COMP			f		
134	198	11:21	-07:52	SS	15m	
135	COMP			f		
136	199	11:22	-07:39	SS	15m	
137	COMP			f		clouds!
138	202	11:22	-08:15	SS	15m	
139	COMP			f		
142	203	11:22	-08:10	SS	15m	stopped by clouds!
144	COMP			f		local fog - 25° F!
140-1	Ferg 374	10:36	-14:3	SC	3m	
142	COMP			f		
143-152	BIAS				0s	
153-162	FLAT				7s	
163-172	BIAS				0s	
173-182	FLAT				14s	
183-192	DARK					



60 inch Telescope Log		Spectrograph: <u>FAST</u>				
Observer: <u>P. Berling</u>		Grating: <u>3100</u>			Page: <u>813</u>	
PI: <u>Am</u>		Date: <u>1/2/00</u>				
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-4	DARK				20m	
5-15	BKs				05	cloudy day.
16-25	FLAT				75	
26-35	BKs				05	
36-45	FLAT				145	clearing after sunset
46-47	M31	0040	+40	57	205	
48	WMP			†		
49-50	M32	0040	+40	57	205	
51	COMP			†		
52	156m 203	0040	+40	57	5m	
53	COMP			†		
54	SNA 7674	2328	+0847	2	20m	PA=50
55	COMP			†		
56	Star 675114	0044	+7526	59	20m	
57	COMP			†		
58	021819p5710	02:18	+57:10	83	15m	
59	COMP			†		
60	021818p5713	02:18	+57:13	83	20m	
61	COMP			†		
62	021815p5705	02:18	+57:05	83	20m	↓ M
63	COMP			†		621815p571232 → row 80
64	021818p5712	02:18	+57:12	83	20m	bin by 2 → ● ●
65	COMP			†		row 104 → 021818p571233
66	021818p5704	02:18	+57:04	83	20m	clouds!
67	COMP			†		
68	021819p5710	02:18	+57:10	83	20m	
69	COMP			†		
70	021820p5710	02:18	+57:10	83	20m	
71	COMP			†		

bin by 4 stars are higher than usual (mean ≈ 3) - why? why?

60 inch Telescope Log		Spectrograph: <u>F18</u>		Page: <u>8114</u>		
Observer: <u>PB</u>		Grating: <u>300L</u>				
PI: <u>Ann/Ken</u>		Date: <u>1/2/00</u>				
Number	Object	R.A.	Dec.	L/R	Exp	Comments
72	021820p5709	02:18	+57:09	83	1hr	
73	WMP			↑		
74	021820p5714	02:18	+57:14	83	15m	
75	WMP			↑		
76	021824p5713	02:18	+57:13	83	20m	
77	WMP			↑		
78	021826p5709	02:18	+57:09	82	20m	
79	WMP			↑		
80	0456.055	04:26	-04:22	64	12m	
81	WMP			↑		
82	056	04:29	-10:29	69	5m	
83	WMP			↑		
84	057	04:28	-11:34	69	4m	
85	WMP			↑		
86	058	04:29	-12:16	64	12m	
87	WMP			↑		
88	059	04:27	-16:35	69	7m	22° F.
89	WMP			↑		
90	060	04:26	-16:53	64	6m	
91	WMP			↑		
92	061	04:18	-14:12	69	8m	
93	WMP			↑		
94	062	04:25	-16:24	64	4m	wind ↑↑
95	WMP			↑		
96	063	04:39	-13:16	64	15m	yuk, but there em
97	WMP			↑		
98	064	04:46	-11:28	64	5m	
99	WMP			↑		
100	066	04:41	-08:05	64	5m	7 reds yarels
101	WMP			↑		



60 inch Telescope Log		Spectrograph: <u>FAST</u>				
Observer: <u>P. Berlind</u>		Grating: <u>300R; 3" slit</u>			Page: <u>8116</u>	
PI: <u>Ken R.</u>		Date: <u>11/3/00</u>				
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS				0s	
11-20	FLAT				7s	
21-30	BIAS				0s	
31-40	FLAT				14s	big computer failure disk crash on sky @ 9pm
41	a496-067	04:30	-12 20	64	10m	
42	WMP			†		
43	068	04:16	-11.16	69	7m	
44	WMP			†		
45	065	04:26	-13 14	69	10m	
46	WMP			†		seeing terrible!
47	66	04:26	-18 01	69	10m	
48	WMP			†		
49	69	04:26	-14 01	69	10m	
50	WMP			†		
51	SN 1999cm	04:41	-02 21	2	10m	PA=8
52	WMP			†		
53	070	04:50	-14 20	64	4m	PA=90
54	WMP			†		
55	071	04:30	-11 45	69	20m	
56	WMP			†		temp 17 to 40 N. wind
57	072	04:34	-08 01	64	5m	
58	WMP			†		
59	073	04:29	-09 22	64	4m	
60	WMP			†		
61	074	04:23	-15 44	64	4m	
62	WMP			†		
63	086	04:26	-06 01	69	15m	
64	WMP			†		
65						

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>8117</u>	
Observer: <u>PB</u>				Grating: <u>3000</u>			
PI: <u>Ken R.</u>				Date: <u>1/3/00</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments	
65	a496_075	04:46	-16:26	64	4m		
66	COMP			↑		windy; v. poor seeing	
67	076	04:32	-14:57	64	6m		
68	COMP			↑			
69	077	04:15	-13:26	64	7m		
70	COMP			↑			
71	078	04:27	-14:20	64	11m		
72	COMP			↑			
73	079	04:29	-14:06	64	15m		
74	COMP			↑			
75/76	Mittnerbed	06:42	00:00	56	45s	PA=10	
77	COMP			↑			
78-79	B66ben	06:03	+02:41	12	5m/5m		
80	COMP			↑			
81-82	DLMa	07:23	-03	12	10s,		
83	COMP			↑			
84	a576b_155	07:13	+05:02	64	16m	↑ Star! tv-problem coords wrong? get to West	
85	COMP			↑			
86	156	07:13	+15:14	64	20m		
87	COMP			↑			
88	157	07:27	-56:01	64	20m		
89	COMP			↑			
90	0158	07:25	+57:01	64	15m		
91	COMP			↑		bigger tv problem fix w/ remote gain	
92	159	07	+57	64	20m		
93	COMP			↑			
94	SN1999ah	06:44	-24:16	2	20m	PA=15	
95	COMP			↑			
96	COMP			↓		this comp for Feige34 PA=90	
97	Feige34	10:43	+40	56	90s		

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>8178</u>		
Observer: <u>PB</u>		Grating: <u>3002</u>		Date: <u>1/3/00</u>		
PI: <u>Andi</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
99	5526 164.206	11:22	-08:18	S9	8m	wk em
100	COMP			↑		
101	COMP			↓		tv gain problems;
102	209	11:22	-07:42	S9	5m	group comps together
103	209	11:22	-08:15	S9	5m	
104	COMP			↑		
105	COMP			↓		
106	201	11:22	-06:39	S9	15m	
107	203	11:22	-08:10	S9	5m	
108	COMP			↑		
109	COMP			↓		
110	209	11:22	-07:21	S9	6m	
111	210	11:22	-07:37	S9	7m	
112	COMP	11:22:40	-7:37:35	↑		
113	COMP	11:22:41	-6:58:31	↓		
114	211	11:22	-06:58	S9	6m	
115	214	11:22	-07:35	S9	4m	} both comp #113
116	215	11:22	-07:35	S9	9m	
117	SN1999 <sub>g</sub>	12:	45'	Z	15m	
118	COMP			↑		
119	COMP			↓		
120	SN1999 <sub>gk</sub>	12:43	-10	Z	20m	v. poor seeing
121-130	BIDS				0s	
131-140	FLAT				1/8s	
141-150	BIDS				0s	
151-160	FLAT				7/8	
161-170	DAKE				20m	

FORCED COMP FILE 113 FOR FILES 115 + 116

60 inch Telescope Log		Spectrograph: <u>FAST</u>				
Observer: <u>CALKINS</u>		Grating: <u>300L</u>			Page: <u>8119</u>	
PI: <u>Al, Kirshner, Kenyon</u>		Date: <u>1/4/00</u>				
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-4	DARK				15m	
5-14	REAS				0s	
15-24	FLAT				6s	
25-34	REAS				0s	
35-44	FLAT				12	
45, 46	Feige 25	2 38	5 28	#56	2m	PA = 90
47	comp			↑		
48, 49	Feige 25	2 38	5 28	#56	2m	PA = 90
50	comp			↑		
51, 52	Feige 25	2 38	5 28	#56	2m	PA = 26°
53	comp			↑		
54	M31	00 42	41 15	#57	1m	
55	comp			↑		
56	M31	00 42	41 15	#57	1m	
57	comp			↑		
58	SN1999gp	2 31	19 22	#2	15m	PA = 49°
59	comp			↑		
60	M24335	00 06	20 11	#6	2m	
61	comp			↑		
62	Akn 564	22 42	29 43	#6	5m	
63	comp			↑		
64	M7469	23 03	8 52	#10	2.5m	line 75
65	comp			↑		
66, 67	E-G And	00 44	40 40	#12	4.5s	
68	comp			↑		
69-71	AX Per	1 36	59 15	#12	1, 10, 60	
72	comp			↑		
73-74	V741 Per	1 58	52 53	#12	19, 60	
75	comp			↑		
76-78	Z And	23 33	48 49	#12	2, 10, 60	

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>8120</u>	
Observer: <u>CALVIN</u>			Grating: <u>7006</u>		Date: <u>1/4/00</u>	
PI: <u>Levy, Bragg</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
79	comp			↑		
80,81	RAGE	23 43	-15 16	#12	410s	
82	comp			↑		
83,84	532	4 37	-1 19	#12	45.5	
85	comp			↑		
86-88	MiraCet	2 19	-2 59	#12	62.1	
89	comp			↑		
90-92	LV Aur	5 21	32 29	#2	1,10,60	
93	comp			↑		
94	021822p5707	2 17	57 07	#83	20m	PA=110
95	comp			↑		
96	021822p5702	2 18	57 03	#83	20m	Row 75
97	comp			↑		
98	021822p5711	2 18	57 10	#83	20m	Row 75
99	comp			↑		
100	021834p5710	2 18	57 10	#83	20m	
101	comp			↑		
102	021830p5707	2 18	57 05	#83	15m	Row 75
103	comp			↑		
104	021840p5708	2 18	57 08	#83	20m	
105	comp			↑		
106	021855p5706	2 18	57 06	#83	20m	
107	comp			↑		
108	021840p5705	2 18	57 05	#83	20m	
109	comp			↑		
110	021843p5708	2 18	57 08	#83	20m	
111	comp			↑		
112	021845p5705	2 18	57 04	#83	20m	Row 75
113	comp			↑		
114	021845p5715	2 18	57 15	#53	17m	Row 75



60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>812</u>	
Observer: <u>CAUSINS</u>			Grating: <u>300X</u>		Date: <u>1/4/00</u>	
PI: <u>Bragg, Rines, Kirshner, Mahdai</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
115	comp			↑		
116	576b-122	7 17	54 22	#64	20m	
117	comp			↑		
118	-133	7 19	54 22	#64	17m	Row 70
119	comp			↑		
120	-134	7 30	54 22	#64	20m	
121	comp			↑		
122	-135	7 24	56 14	#64	15m	
123	comp			↑		
124	-136	7 22	54 40	#64	20m	
125	comp			↑		
126	-139	7 20	54 40	#64	15m	
127	comp			↑		
128	sn1999gm	8 35	-8 22	#2	20m	PA = 18°, Row 76
129	comp			↑		
130	sn1999gi	10 18	41 27	#2	10m	PA = 0
131	comp			↑		
132	snmcj	12 09	29 17	#2	20m	PA = 76°, very faint
133	comp			↑		
134	ssublc4.213	11 22	-7 23	#59	20m	
135	comp			↑		
136	-217	11 23	-6 54	#59	20m	
137	comp			↑		
138	-219	11 23	-7 52	#59	12m	
139	comp			↑		
140	-225	11 23	-7 34	#59	20m	
141	comp			↑		
142	-226	11 23	-7 44	#59	20m	
143	comp			↑		
144	-231	11 23	-8 44	#59	10m	



60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>8123</u>	
Observer: <u>CALKINS</u>			Grating: <u>300L</u>		Date: <u>1/5/00</u>	
PI: <u>Al, Kenyon, Bragg</u>						
Number	Object	R. A.	Dec.	L/R	Exp	Comments
1-8	DARK				15m	
9-18	BIAS				0s	
19-28	FLAT				6s	
29-38	BIAS				0s	
39-48	FLAT				12s	
49-50	Feige 25	2 58	5 28	#56	2m	
51	comp			↑		
52, 51	Feige 25	2 38	5 27	#56	2m	PA = 35°
54	comp			↑		
55, 56	Feige 25	2 35	5 28	#56	2m	
57	comp			↑		
58	M31	00 42	41 15	#57	1m	
59	comp			↑		
60	M31	00 42	41 15	#57	1m	
61	comp			↑		
62, 63	Ruvul	20 21	21 34	#12	5s, 2m	
64	comp			↑		
65, 66	Helix 467	20 36	20 11	#12	30s, 6m	
67	comp			↑		
68, 69	Helix 468	20 41	34 46	#12	1, 10m	
70	comp			↑		
71, 72	S190	21 41	02 44	#12	0, 90	
73	comp			↑		
74, 75	V407 Cyg	21 02	45 97	#12	1m, 6m	
76	comp			↑		
77-79	AG Peg	21 51	12 37	#12	1/10/30	
80	comp			↑		
81	021847p565	2 18	56 59	#83	15m	
82	comp			↑		
83	021848p5709	2 18	57 09	#83	20m	

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>8124</u>	
Observer: <u>CALL-SWS</u>			Grating: <u>100L</u>		Date: <u>1/5/00</u>	
PI: <u>Bray, Kirshner, Rines</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
84	comp			↑		seeing got good
85	021849p5712	2 18	57 12	#83	20m	Row 75
86	comp			↑		
87	021850p5704	2 18	57 02	#83	20m	row 75
88	comp			↑		
89	021852p5708	2 18	57 09	#83	15m	row 75
90	comp			↑		
91	021853p5700	2 18	57 00	#83	15m	high auras
92	comp			↑		
93	021856p57034	2 18	57 02	#83	20m	
94	comp			↑		
95	021858p5707	2 18	57 07	#83	17m	clouds
96	comp			↑		
97	021859p5704	2 18	57 04	#83	20m	Row 75, PA=95
98	comp			↑		
99	021900p5713	2 18	57 13	#83	20m	PA=110
100	comp			↑		
101	021901p5709	2 19	57 09	#83	15m	Row 75
102	comp			↑		
103	021909em	4 41	-2 51	#83	10m	PA=30°
104	comp			↑		
105	05766b-142	7 21	52 54	#64	15m	
106	comp			↑		
107	-143	7 12	52 25	#64	20m	row 75
108	comp			↑		
109	-144	7 13	56 49	#64	20m	
110	comp			↑		
111	-146	7 26	53 33	#64	20m	row 75
112	comp			↑		
113	-148	7 15	54 21	#64	15m	row 75

95 A - unresolved?

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>8125</u>	
Observer: <u>CALKINS</u>			Grating: <u>300L</u>		Date: <u>1/5/00</u>	
PI: <u>Pinus, Kirchner, Mahdavi</u>						
Number	Object	R. A.	Dec.	L/R	Exp	Comments
114	comp			↑		
115	-149	7 27	56 35	#64	15m	
116	comp			↑		
117	-151	7 28	54 39	#64	15m	PA = 100°
118	comp			↑		
119	-152	7 12	55 51	#64	13m	conditions improving
120	comp			↑		
121	-153	7 26	56 50	#64	15m	
122	comp			↑		
123	-160	7 22	54 38	#64	17m	
124	comp			↑		
125	sn1999gd	8 38	25 45	#2	20m	PA = 62°
126	comp			↑		
127	sn1999gh	9 44	21 16	#2	15m	PA = 7°
128	comp			↑		
129	nrq3241.005	13 17	33 30	#59	17m	
130	comp			↑		
131	-005	13 18	33 17	#59	12m	
132	comp			↑		
133	-007	13 18	33 36	#59	8m	
134	comp			↑		
135	-010	13 19	32 35	#59	10m	
136	comp			↑		
137	-011	13 19	32 05	#59	10m	
138	comp			↑		
139	-012	13 19	33 15	#59	10m	
140	comp			↑		
141	-013	13 19	33 19	#59	13m	
142	comp			↑		
143	-014	13 19	32 59	#59	8m	wk. not enough

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>8126</u>	
Observer: <u>CAKINS</u>			Grating: <u>300L</u>		Date: <u>1/5/00</u>	
PI: <u>MAHRAVE</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
144	comp			↑		
145	-015	13 19	33 15	#59	13m	
146	comp			↑		
147	-016	13 19	32 21	#59	4m	
148	comp			↑		
149	-022	13 20	33 05	#59	9m	
150	comp			↑		
151	-023	13 20	33 19	#59	4m	
152	comp			↑		
153	-024	13 20	33 05	#59	2m	
154	comp			↑		
155	-025	13 20	33 00	#59	90s	
156	comp			↑		
157	-026	13 20	33 02	#59	10m	
158	comp			↑		
159	H344	13 23	36 05	#56	2m	
160	comp			↑		
161	H344	13 23	36 05	#56	2m	
162	comp			↑		
163-167	sky			#57	2s	
168-177	BIAS				0s	
178-187	FLAT				6s	
188-197	BIAS				0s	
198-207	FLAT				12s	
208-217	DARK				15m	

69 - 178  
 179 - 188  
 189 - 198  
 199 - 208  
 209 - 218

168 COMP

60 inch Telescope Log  
 Observer: CALVIN  
 PI: All  
 Spectrograph: FAST  
 Grating: 300L  
 Date: 1/6/00  
 Page: 8127

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, 47	Feige 25	2 38	5 28	#56	2m	
48	comp			↑		
49, 50	Feige 25	2 38	5 28	#56	2m	seeing not too good
51	comp			↑		
52, 53	Feige 25	2 38	5 28	#56	2m	PA = -20
54	comp			↑		
55	M31	00 42	41 15	#57	1m	
56	comp			↑		
57	M31	00 42	41 15	#57	1m	seeing ~ 5"!!
58	comp			↑		
59, 60	021902p5701	2 31	57 22	#82	15	Row 75
61	comp			↑		
62	021902p5702	2 19	57 03	#83	20m	
63	comp			↑		
64	021902p5703	2 19	57 04	#83	20m	Row 75
65	comp			↑		
66	021902p5707	2 19	57 07	#83	20m	Row 75
67	comp			↑		
68	021902p5713	2 19	57 13	#83	20m	Row 75
69	comp			↑		
70	021902p5704	2 19	57 04	#83	20m	" "
71	comp			↑		
72	021905p5711	2 19	57 16	#83	17m	
73	comp			↑		
74	021906p5701	2 19	57 01	#83	20m	

#66. 2 stars very close together - I extracted the (north) Eastern one with trace turned off,



60 inch Telescope Log			Spectrograph: <u>FAST</u>			
Observer: <u>CALVIN</u>			Grating: <u>500L</u>		Page: <u>8/28</u>	
PI: <u>Bray, Kenyon, Pines</u>			Date: <u>1/6/00</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
75	comp			↑		
76	021907p5703	2 19	57 03	#83	20m	High winds, Row 75
77	comp			↑		
78	021907p5706	2 19	57 06	#83	20m	Row 75
79	comp			↑		
80	021907p5707	2 19	57 07	#83	3m	Row 75
81	comp			↑		
82	021910p5704	2 19	57 04	#83	20m	" "
83	comp			↑		
84	021911p5704	2 19	57 04	#83	20m	
85	comp			↑		wind "weather-vaned"
86	IXstem	6 03	27 41	#12	7m	dome while skewing
87	comp			↑		wait out wind
88	a576b-163	7 14	56 38	#64	8m	seeing much better @ ~2.5"
89	comp			↑		
90	-164	7 29	56 36	#64	20m	Hq?
91	comp			↑		
92	-165	7 18	54 52	#64	20m	
93	comp			↑		
94	-166	7 28	56 53	#64	8m	
95	comp			↑		← really a comp !!
96	-167	7 22	54 59	#64	20m	
97	comp			↑		
98	-168	7 29	55 36	#64	20m	
99	comp			↑		
100	-170	7 24	55 10	#64	15m	
101	comp			↑		
102	-171	7 17	56 26	#64	15m	
103	comp			↑		
104	-172	7 18	54 51	#64	20m	



60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>8129</u>	
Observer: <u>CALVIN</u>			Grating: <u>300 L</u>			
PI: <u>Binns, Mahdavi, Kirshner</u>			Date: <u>1/6/00</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
105	comp			↑		
106	-173	7 19	56 31	#64	20m	
107	comp			↑		
108	arg 241.027	13 20	33 17	#59	4m	Row 75
109	comp			↑		
110	-028	13 20	33 08	#59	4m	
111	comp			↑		
112	-029	13 20	33 08	#59	6m	
113	comp			↑		
114	-030	13 20	33 10	#59	4m	
115	comp			↑		
116	-031	13 20	33 08	#59	8m	
117	comp			↑		
118	-032	13 20	33 17	#59	3.5m	
119	comp			↑		
120	sn 1999gk	12 43	00 32	#2	20m	PA=11°
121	comp			↑		
122	sn 1999gg	12 33	15 13	#2	15m	PA=0° dome.
123	comp			↑		"weather-varied"
124-128	sky			#57	2s	again at end of exposure!
129	comp			↑		
130-139	BIAS				0s	
140-149	FLAT				6s	
150-159	BIAS				0s	
160-169	FLAT				12s	
170-179	DARK				15m	

Fax to: Susan Tokarz  
pg 1 of 4

60 inch Telescope Log		Spectrograph: <u>FAST</u>			Page: <u>8130</u>	
Observer: <u>P Berlin</u>		Grating: <u>3000</u>				
PI: <u>Ken</u>		Date: <u>1/7/00</u>				
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-16	DARK				15s	
11-20	BIAS				0s	
21-30	FLAT				7s	circus to W
31-40	BIAS				0s	
41-50	FLAT				14s	
51-55	sky			57	2s	
56	COMP			↑		
57-58	M31	00:40	+41	57	30s	
59	COMP			↑		
60-61	M32			57	7s	
62	COMP			↑		
63	2M3003410	00:39	+02	68	4m	
64	COMP			↑		
65	2M3235602	00:10	02:02	68	3m	
66	COMP	23:42:56	-3:39	↑		name changed
67	2M3234256	23:42	-03:38	68	2m	
68	COMP			↑		
69-70	V1329Cys	20:51	+35	12	15s, 7m	(6 better)
71	COMP			↑		
72	V1516Cys	20:23	+40:13	12	7m	good seeing!
73	COMP			↑		
74	V1057Cys	20:58	+44:17	12	5s	
75	COMP			↑		
76	α 496-115	04:21	-09:05	69	4m	
77	COMP	04:21	-09:29	↑		→ given name of #76, renamed
78	104	04:21	-09:29	69	8m	COMP
79	COMP			↑		
80	105	04:26	-08:07	69	10m	
	COMP			↑		

FORCED FILE 65 TO COMP 66

↑ FILE 75 TO COMP 77

These comp have diff coordinates

than objects -

60 inch Telescope Log

Observer: PB

PI: Ken

Spectrograph: FAST

Grating: 300L

Date: 1/7/60

Page: 8131

Number	Object	R.A.	Dec.	L/R	Exp	Comments
82	9496-106	04:26	-08:01	64	10m	em
83	COMP			f		
84	107	04:22	-13:11	64	4m	
85	COMP			f		
86	108	04:26	-10:14	64	6m	
87	COMP			f		
88	80	04:32	-10:52	64	6m	
89	COMP			f		
90	81	04:29	-14:08	64	5m	
91	COMP			f		
92	82	04:18	-11:29	64	6m	
93	COMP			f		
94	84	04:16	-12:09	64	5m	
95	COMP			f		
96	83	04:34	-17:58	64	10m	
97	COMP			f		
98	85	04:43	-15:48	64	5m	
99	COMP			f		
100	87	04:16	-13:09	64	4m	
101	COMP			f		
102	88	04:38	-05:46	64	5m	
103	COMP			f		
104	89	04:18	-14:05	64	15m	
105	COMP			f		
106	90	04:39	-09:27	64	4m	
107	COMP			f		
108	91	04:29	-12:34	64	7m	
109	COMP			f		
110	92	04:46	-11:55	64	6m	
111	COMP			f		

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>8132</u>	
Observer: <u>PB</u>			Grating: <u>300 + 1200</u>			
PI: <u>Ken / Paul / Groot</u>			Date: <u>11/7/00</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
112	0496-095	04:46	-10:13	64	4m	
113	COMP			f		
114	96	04:46	-10:13	64	6m	
115	COMP			f		
116	94	04:38	-08:12	64	4m	
117	COMP			f		
118	COMP			↓	90s	1200R, 1.5" slit
119-124	UGem	07:55	+21:59	121	4m	Focus: 1095 ↓
125	COMP	↓	↓	↑		tilt = 350.6 z = 5050
126-131	UGem				4m	
132	COMP					for Paul Groot
133-138	UGem				4m	
139	COMP					special CCD binning!
140-45	UGem				4m	2720x120x1
146	COMP					
147-52	UGem				4m	p.s. Paul will reduce data
153	COMP					
154-59	UGem				4m	
160	COMP					
161-66	UGem				4m	
167	COMP					a few clouds
168-73	UGem				4m	
174	COMP					
175-80	UGem				4m	good seeing
181	COMP					
182-87	UGem				4m	
188	COMP					
189-194	UGem				4m	



Fax to Susan Tokarz  
pg 1 of 6

60 inch Telescope Log

Observer: P Berlin

PI: JPM

Spectrograph: FAST

Grating: 300L, 3" slit

Page: 8134

Date: 1/8/00

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-9	FLAT	spec	blurring		15m	→ for P. Groot - 1200L, 1.5" slit
11-20	FLAT	normal			0s	→ partly saturated (ok)
21-30	FLAT				2s	→ ward @ bottom row.
31-40	PDKS				0s	
41-50	FLAT				14s	
51-55	sky	zenith		57	2s	circus to N,W
56	COMP			↑		
57-58	M31			57	30s	+ overhead
59	COMP			↑		
60-61	M32			57	30s	
62	COMP			↑		
63	ZMJ 232280	00:44	+41:21	57	4m	
64	COMP			↑		
65	ZMJ 232208	27:20	-06:13	68	4m	
66	COMP			↑		
67	ZMJ 231629	23:16	-02:13	68	4m	
68	COMP			↑		
69	ZMJ 231616	27:16	-04:58	68	3m	+ to W
70	COMP			↑		
71	ZMJ 232521	20:58	-01:10	68	3m	
72	COMP			↑		circus
73	ZMJ 232835	23:28	-02:08	68	3m	
74	COMP			↑		
75	021912p5703	2:19	+57:03	83	10m	
76	COMP			↑		
77	021912p5704	02:19	+57:04	83	12m	
78	COMP			↑		
79	021914p5703	02:19	+57:03	83	12m	
80	COMP			↑		

60 inch Telescope Log  
 Observer: PB  
 PI: Scott / Ken

Spectrograph: FAST  
 Grating: 300L  
 Date: 1/8/00

Page: 8/35

Number	Object	R.A.	Dec.	L/R	Exp	Comments
81	02194p5716	02:19	+5716	83	7m	
82	COMP			f		good seeing
83	021915p5702	02:19	+5702	83	7m	a few thin clouds.
84	COMP			f		
85	021919p5703	02:19	+5710	83	12m	
86	COMP			f		
87	021921p5702	02:19	+5702	83	15m	
88	COMP			f		
89	021922p5703	02:19	+5703	83	12m	
90	COMP			f		
91	0496.077	04:48	+246	64	3m	
92	COMP			f		
93	93	04:21	+701	64	12m	
94	COMP			f		
95	98	04:29	+205	64	15m	
96	COMP			f		
97	99	04:27	+503	64	15m	* to E end
98	COMP			f		
99	110	04:46	+1006	64	36m	
100	COMP			f		
101	112	04:23	+211	64	9m	
102	COMP			f		
103	101	04:21	+706	64	7m	lan by 2; * to W
104	COMP			f		
105	102	04:47	+604	64	12m	
106	COMP			f		
107	103	04:17	+351	64	5m	
108	COMP			f		
109	109	04:29	+318	64	6m	
110	COMP			f		

60 inch Telescope Log

Observer: PB  
 PI: Ken

Spectrograph: FAST  
 Grating: 300R  
 Date: 1/8/60

Page: 8136

Number	Object	R.A.	Dec.	L/R	Exp	Comments
111	a496-111	04:27	-14:38	64	4m	
112	COMP			f		
113	113	04:26	-10:42	64	7m	
114	COMP			f		
115	114	04:18	-14:46	64	5m	
116	COMP			f		
117	116	04:35	-14:42	64	7m	
118	COMP			f		
119	117	04:34	-10:39	64	5m	
120	COMP			f		
121	118	04:26	-08:23	64	5m	
122	COMP			f		
123	119	04:17	-12:15	64	4m	
124	COMP			f		
125	120	04:31	-11:50	64	4m	
126	COMP			f		
127-28	B6Gem	06:03	+27:41	12	7m, 1m	
129	COMP			f		
130, 131	RNO63	06:07	-05:16	89	3m, 7m	PA=0 ↓
132	COMP			f		
133-34	LKH 2338	06:16	-06:12	89	2m, 15m	
135	COMP			f		
136-37	LKH 2339	06:10	-06:14	89	3m, 7m	
138	COMP			f		
139-41	H12250550	05:59	+16:30	89	10-20s	
142	COMP			f		
143-44	Hiltner 62	06:42	+02:4	56	45m	
145	COMP			f		
146	Hiltner 60	"	"	56	60s	
147	COMP			f		

3  
4  
5



60 inch Telescope Log  
 Observer: PB  
 FI: Calvet  
 Spectrograph: FAST  
 Grating: 300L  
 Date: 1/8/00  
 Page: 8157

Number	Object	R.A.	Dec.	L/R	Exp	Comments
148-149	LkH 208	06:01	+18:39	89	30s, 2hr	PA=0 L
150	COMP			f		
151-153	MWC 137	06:18	+15:16	89	5s, 5m	cluster
154	COMP			f		
155-57	LkH 220	07:01	+11:26	89	10s-2m	
158	COMP			f		
159-162	2CMA	07:03	+11:33	89	30s-1s	
163	COMP			f		
164-165	LkH 218	07:02	+11:26	89	30s, 2m	PA=20 ↓ avoid bot *
166	COMP			f		
167-68	LkH 311	06:33	+10:33	89	90s, 10m	
169	COMP			f		
170-1	VY Mon	06:31	+10:26	89	90s, 15m	
172	COMP			f		
173-75	LkH 215	06:32	+10:09	89	30s	PA=45 L
176	COMP			f		
177-180	HDS 54431	06:33	+10:19	89	1s-10s	
181	COMP			f		
182-85	R Mon	06:39	+08:44	89	10s-5m	cool nebula
186	COMP			f		
187-88	VSOZ	06:39	+09:34	89	1m, 10m	id ✓
189	COMP			f		
190-91	W 81	06:40	+09:33	89	1m, 3m	temp ↑↑ seeing, etc
192	COMP			f		
193-94	W 121	06:40	+09:44	89	2m, 7m	bot * to SE
195	COMP			f		
196	SN 1999 gm	08:36	-08:11	2	20m	PA=3
197	COMP			f		
198	CPW 36 a	09:21	+44:12	123	12m	PA=45
199	COMP			f		

60 inch Telescope Log

Observer: PB

FI: Amc

Spectrograph: FAST

Grating: 3002

Date: 1/8/00

Page: 8138

Number	Object	R.A.	Dec.	L/R	Exp	Comments
200	0920366	09:24	+49M	123	7m	A=90
201	OMP			f		
202	SS26164233	11:23	-0641	59	12m	clouds moving in fast
203	OMP			f		+ to E stopped
204-5	Fe4c34	1036	+43	56	3m	clearing
206	OMP			f		windy
207	234	11:24	-0630	59	10m	
208	OMP			f		
209	236	11:24	-0747	59	8m	huge cosmic ray
210	OMP			f		
211	237	11:24	-0717	59	8m	
212	OMP			f		
213	238	11:24	-0629	59	8m	
214	OMP			f		
215	239	11:24	-0740	59	10m	
216	OMP			f		
217	240	11:24	-0648	59	10m	
218	OMP			f		
219	242	11:24	-0653	59	12m	
220	OMP			f		
221	249	11:24	-0647	59	12m	
222	OMP			f		Seemy pair
223	252	11:25	-0613	59	10m	
224	OMP			f		more clouds
225	260	11:26	-0606	59	5m	
226	OMP			f		
227	261	11:2	-068	59	10m	
228	OMP			f		
229	nrngb302088	14:28	+1122	59	2m	
230	OMP			f		

60 inch Telescope Log  
 Observer: AB  
 PI: And.  
 Spectrograph: FAST  
 Grating: 3000  
 Date: 1/8/60  
 Page: 8/39

Number	Object	R.A.	Dec.	L/R	Exp	Comments
231	<del>NGC 702.085</del>	14:28	+11:25	S9	2hr	
232	WAP			f		
233	OT4	14:28	+11:29	S9	8hr	
234	WAP			f		
235	OT8	14:27	+11:33	S9	4hr	
236	WAP			f		
237	OT5	14:27	+11:19	S9	2hr	
238	WAP			f		
239	OT3	14:27	+11:02	S9	5hr	
240	WAP			f		
241	OT7	14:27	+11:22	S9	6hr	
242	WAP			f		windy!
243	OT2	14:27	+11:16	S9	7hr	
244	WAP			f		
245	OT1	14:27	+11:20	S9	3hr	
246	WAP			f		
247	H244	13:20	+26	S6	2hr	
248	WAP			f		CIRUS.
249-258	BIAS				0s	
259-268	FLAT				7s	
269-278	BIAS				0s	
279-288	FLAT				14s	
289-298	DARK				20hr	
299-298						

*Fax to Susan Tokarz  
Pg 1 of 6*

60 inch Telescope Log  
 Observer: PBerberich  
 PI: All  
 Spectrograph: FAST  
 Grating: 3002, 3" slit  
 Date: 11/9/00  
 Page: 8140

Number	Object	R.A.	Dec.	L/R	Exp	Comments
19	DARK				20m	
11-20	BIAS				0s	circles all over
21-30	FLAT				7s	
31-40	BIAS				0s	
41-50	FLAT				16s	
51-55	SKY	zenith		57	7s	
56	WMP			f		
57-58	HD 196379			57	7s	Tom, Nurin, All
59	WMP			f		
60-61	HD 7427			57	7s	
62	WMP			f		
63-64	HD 13076			57	7s	
65	WMP			f		
66-67	HD 14433			57	7s	
68	WMP			f		
69-70	HD 14489			57	7s	
71	WMP			f		
72-73	HD 17378			57	7s	
74	WMP			f		
75-76	HD 193702 f			57	7s	
77	WMP			f		
78-79	HD 17623			57	5s	
80	WMP			f		
81	ZM J005717	0057	-0728	68	4m	
82	WMP			f		
83	ZM J010148	01.01	-0451	68	3m	
84	WMP			f		
85	ZM J010198	0101	-0647	68	2m	
86	WMP			f		

60 inch Telescope log  
 Observer: PS  
 PI: Ken

Spectrograph: FAST  
 Grating: 300R  
 Date: 11/9/00

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
87	2M5002A	0102	-0638	68	2m	
88	WMP			↑		
89	2M10138	0101	0611	68	3m	
90	WMP			↑		
91	2M10547	1057	-0506	68	5m	twilight.
92	WMP			↑		
93	0219236510	0219	+5710	93	17m	
94	WMP			↑		
95	0219236515	0219	+5715	93	15m	
96	WMP			↑		
97	SN1999gp	0239	+3922	2	20m	PA=90.
98	WMP			↑		
99	0446-123	0429	-0950	69	8m	clearing!
100	WMP			↑		
101	125	0427	-0928	69	8m	
102	WMP			↑		
103	127	0427	-1001	69	5m	
104	WMP			↑		
105	126	0443	-1629	69	10m	
106	WMP			↑		
107	129	0425	-1253	69	4m	
108	WMP			↑		
109	121	0446	-1250	69	12m	
110	WMP			↑		
111	122	0452	-1411	69	10m	
112	WMP			↑		
113	129	0439	-1111	69	4m	
114	WMP			↑		
115	130	0416	-1349	69	8m	
116	WMP			↑		

60 inch Telescope Log  
 Observer: PB  
 PI: Ken

Spectrograph: FAST  
 Grating: 3002  
 Date: 1/9/60

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
117	a496-131	04:46	-14:37	64	9m	
118	COMP			↑		
119	132	04	-10	64	4m	
120	COMP			↑		
121	133	04:39	-13:14	64	7m	
122	COMP			↑		
123	136	04:46	-15:35	64	5m	
124	COMP			↑		
125	SN1969em	04:41	-02:52	2	10m	PA=0 ↓
126	COMP			↑		
127	134	04:36	-08:10	64	8m	along axis
128	COMP			↑		
129	128	04:45	-16:17	64	6m	0 to guard bot &
130	COMP			↑		
131	135	04:47	-17:02	64	17m	
132	COMP			↑		
133	137	04:34	-08:18	64	15m	
134	COMP			↑		
135	138	04:44	-15:02	64	6m	
136	COMP			↑		
137	139	04:17	-16:10	64	4m	
138	COMP			↑		
139	140	04:29	-18:10	64	4m	
140	COMP			↑		
141	141	04:43	-15:42	64	4m	
142	COMP			↑		
143	143	04:41	-14:11	64	5m	
144	COMP			↑		
145	142	04:16	-17:26	64	5m	
146	COMP			↑		

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>8143</u>	
Observer: <u>PB</u>			Grating: <u>300</u>			
PI: <u>Ken/Nuria/Baby-MOG</u>			Date: <u>11/9/00</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
147	a496-144	04:22	-15:43	64	5m	
148	COMP			↑		
149	148	04:23	-14:02	64	4m	
150	COMP			↑		
151	147	04:25	-09:33	64	4m	
152	COMP			↑		
153	149	04:22	-11:34	64	4m	
154	COMP			↑		
155	145	04:48	-11:26	64	4m	
156	COMP			↑		
157	146	04:51	-14:06	64	6m	
158	COMP			↑		
159-60	Hiltner 60	06:42	+02	56	45s	PA=1
161	COMP			↑		
162-64	V380 Mon	06:40	+04:48	89	30s-Sun	
163	COMP			↑		
166-168	W108	06:40	+04:44	89	30s-Sun	
169	COMP			↑		
170-72	V380 Mon	06:41	+04:06	89	1m, 12m	Mix H, K, H-em, Li Fe
173	COMP			↑		
174	SNUG 4119	08:21	+61	2	6m	NO SN
175	COMP			↑		
176	08472a	08:17	+75	123	10m	"b" is a PF.
177	COMP			↑		
178	083151p ab	08:31	+01:39	123	20m	PA=57 <del>0</del> b row 110 <del>0</del> a row 78
179	COMP			↑		
180	084906 ab	08:51	+02:02	103	20m	PA=8 <del>0</del> b-117 <del>0</del> a row 76
181	COMP			↑		
182	08530a	08:54	+03:32	123	8m	PA=8
183	COMP			↑		COMP PROC

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>8144</u>	
Observer: <u>PB</u>			Grating: <u>300</u>			
PI: <u>Betsy</u>			Date: <u>1/9/00</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
184	085130b	08:51	+39:44	123	20m	PA=26L
185	COMP			↑		
186	091236 ab	09:15	+11:53	123	20m	<del>PA=26L</del>
187	COMP			↑		a row 107 } L b row 40
188	SN1999gh	09:44	-21	2	20m	PA=4
189	COMP			↑		
190	SN1999gi	10:18	-40	2	12m	PA=4
191	COMP			↑		
192	091454 a	09:17	-10:37	123	15m	
193	COMP			↑		
194.5	Ferze 34	10:36	+76	56	90s	
196	COMP			↑		
197	091546	09:17	-10:34	123	15m	
198	COMP			↑		
199	092442 b	09:27	+44:33	123	20m	
200	COMP			↑		
201	115224 pds	11:55	+06:44	123	8m	PA=50
202	COMP			↑		
203	115606 pds ab	11:58	+75:02	123	20m	PA=16
204	COMP			↑		b row 102 } L a row 82
205	120612 pds oc	12:04	+07:16	123	20m	
206	COMP			↑		
207	125212 a	12:51	+08:03	123	12m	
208	COMP			↑		
209	125212 bc	12:55	+08:03	123	12m	PA=85
210	COMP			↑		c row 106 } L b row 82
211	ngs 241.20 NE NW	13:20	+73	59	4m	PA=68
212	ngs 241.20	"	"	59	2m	NE row 44 } L NW row 81
213	COMP			↑		NE row - NW L 20



60 inch Telescope Log

Observer: PS  
 PI: Scott

Spectrograph: FAST  
 Grating: 3002  
 Date: 1/9/00

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
21425	TYCWn	12:14	+3645	12	5-30s	
216	WMP			f		
21720	RW Hya	13:31	-2522	12	1s-1m	
221	WMP			f		
222-21	DT22d3873	14:16	-2145	12	5-5s	
225	WMP			f		
226	H244	13:36	-26	56	2m	
227	WMP			f		clear & dark
228-257	BIAS				0s	
228-277	FLAT				7s	
228-287	BIAS				0s	
228-287	FLAT				16s	

60 inch Telescope Log  
 Observer: CALVIN  
 PI: All, Brass  
 Spectrograph: FAST  
 Grating: 3000  
 Date: 1/10/99  
 Page: 8146

Number	Object	R.A.	Dec.	L/R	Exp.	Comments
1-3	DARK				15m	
4-12	BIAS				0s	
14-23	FLAT				6s	
29-33	BIAS				0s	
34-43	FLAT				12s	
44-45	Feige 25	2 38	5 27	#56	2m	
46	comp			↑		
47-48	Feige 15	2 38	5 27	#56	2m	
49	comp			↑		
50-51	Feige 15	2 38	5 27	#56	2m	PA = -18
52	comp			↑		
53	M31	00 40	+40 59	#57	1m	
54	comp			↑		
55	021926p5701	2 19	57 04	#83	15m	
56	comp			↑		
57	021926p5714	2 19	57 14	#83	20m	low 75 NOTHING AC 75
58	comp			↑		
59	021930p5705	2 19	57 05	#83	12m	
60	comp			↑		
61	Abn 564	22 42	29 43	#6	5m	
62	comp			↑		
63	021930p5710	2 19	57 10	#83	20m	
64	comp			↑		
65	021931p5713	2 19	57 12	#83	20m	
66	comp			↑		
67	021933p5705	2 19	57 06	#81	15m	
68	comp			↑		
69	021935p57	2 19	57 05	#83	20m	
70	comp			↑		
71	021938p5709	2 19	57 09	#83	20m	

# 57  
 ↓  
 M  
 80 85

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>8197</u>		
Observer: <u>CALKIN</u>		Grating: <u>200L</u>		Date: <u>1/10/99</u>		
PI: <u>Bragg, Calvert</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
72	comp			↑		
73	021940p57	2 19	57 04	#83	20m	
74	comp			↑		
75	021940p57k4	2 19	57 04	#83	20m	
76	comp			↑		
77	021940p5713	2 19	57 13	#83	20m	
78	comp			↑		
79	gusola27729	5 12	-00 16	#112f	15m	
80	comp			↑		
81	gusola27410	5 12	-00 16	#112f	3m	
82	comp			↑		
83	gusola284103	5 13	-00 15	#112f	3.5m	
84	comp			↑		
85	gusola28768	5 14	-00 06	#112f	4m	
86	comp			↑		
87	gusola28176	5 14	-1 59	#112f	3m	
88	comp			↑		
89	gusola28323	5 14	-1 53	#112f	4m	
90	comp			↑		
91	gusola29685	5 15	00 01	#112f	2.5m	
92	comp			↑		
93	gusola29259	5 16	-1 43	#112f	3m	
94	comp			↑		
95	gusola34151	5 18	-00 34	#112f	4m	
96	comp			↑		
97	gusola42272	5 18	-1 29	#112f	2m	
98	comp			↑		
99	gusola35020	5 19	-00 37	#112f	6m	
100	comp			↑		
101	gusola42267	5 19	-1 31	#112f	5m	

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>8198</u>	
Observer: <u>Calvert</u>			Grating: <u>XOL</u>		Date: <u>1/10/99</u>	
PI: <u>Calvert</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
102	comp			↑		
103	gusola 31166	5 20	-1 49	#112	3m	
104	comp			↑		
105	gusola 32963	5 20	-00 01	#112	3m	
106	comp			↑		
107	gusola 33148	5 20	00 02	#112	4m	
108	comp			↑		
109	gusola 36232	5 20	00 30	#112	2.5m	
110	comp			↑		
111	gusola 33963	5 21	00 00	#112	5m	Row 75 <sup>NOT AT 75</sup>
112	comp			↑		
113	gusola 4945539	5 21	-1 35	#112	3m	
114	comp			↑		
115	gusola 37203	5 21	00 30	#112	3.5m	
116	comp			↑		
117	gusola 415948	5 22	-1 31	#112	2.5m	
118	comp			↑		
119	gusola 45992	5 22	-1 35	#112	2.5m	
120	comp			↑		
121	gusola 34863	5 22	00 07	#112	4m	Row 75
122	comp			↑		
123	gusola 47282	5 23	-1 20	#112	12m	
124	comp			↑		
125	gusola 4933218	5 23	-1 56	#112	3m	
126	comp			↑		
127	gusola 41717	5 24	-1 24	#112	3m	
128	comp			↑		
129	gusola 39888	5 24	-00 31	#112	4m	
130	comp			↑		
131	gusola 48320	5 24	-1 09	#112	3m	

123 - comp was named for following file with coords of following file.

60 inch Telescope Log  
 Observer: CAKESALS Mahdavi  
 PI: Nickliner, Barton, Kishner  
 Spectrograph: FAST  
 Grating: 3006  
 Date: 1/10/99  
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
132	comp			↑		
133	sn1999gd	8 28	25 45	#2	20m	SN on Row 75
134	comp			↑		(opt to "west")
135	093124p1140a	9 24	11 00	#113	20m	
136	comp			↑		
137	093124p1140b	9 34	11 03	#113	18m	
138	comp			↑		
139	093124p0090a/b	9 34	00 14	#113	20m	a & b PA = -3°
140	comp			↑		a is row 57
141	00448p12312a/b	10 07	12 17	#113	20m	a & b PA = 30°
142	comp			↑		a is row 151
143	115626p31000	11 59	30 43	#113	20m	
144	comp			↑		
145	115626p30000	11 59	30 41	#113	20m	
146	comp			↑		
147	sn1999gg	12 33	15 10	#2	10m	
148	comp			↑		
149	sn1999gk	12 43	-0032	#2	15m	
150	comp			↑		
151	093124p1033	13 20	33 25	#59	5m	
152	comp			↑		
153	-034	13 20	33 05	#59	3m	
154	comp			↑		
155	-035	13 20	33 26	#59	2.5m	
156	comp			↑		
157	-036	13 20	33 05	#59	2m	
158	comp			↑		
159	N4486aB	12 30	12 29	#57	2m	
160	comp			↑		
161	H244	12 23	36 07	#56	2m	



60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>8157</u>		
Observer: <u>CALVIN</u>		Grating: <u>300L</u>		Date: <u>1/11/00</u>		
PI: <u>All, Bragg, Kishores</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-5	DARK				15m	
6-15	DARK				05	
16-25	FLAT				60	
26-35	BIAS				05	
36-45	FLAT				125	
46-50	sky			#57	25	
51	comp			↑		
52, 53	Feige 25	2 35	5 28	#56	2m	
54	comp			↑		
55, 56	Feige 25	2 35	5 28	#56	2m	
57	comp			↑		
58, 59	Feige 25	2 35	5 28	#56	2m	PA = -23
60	comp			↑		
61	M31	00 47	41 16	#57	1m	
62	comp			↑		
63	M3	00 47	41 16	#57	1m	
64	comp			↑		
65	SM 1999sp	2 21	59 22	#2	15m	PA = 39°
66	comp			↑		
67	021943p5709	2 19	57 09	#83	20m	
68	comp			↑		
69	021941p5708	2 19	57 08	#83	15m	
70	comp			↑		
71	021946p5706	2 19	57 06	#83	15m	small one on row 75
72	comp			↑		
73	021946p5708	2 19	57 08	#83	17m	
74	comp			↑		
75	021947p5706	2 19	57 04	#83	20m	Row 75
76	comp			↑		
77	021950p57	2 19	57 09	#83	17m	

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>8152</u>	
Observer: <u>CACKINS</u>			Grating: <u>300L</u>		Date: <u>1/11/99</u>	
PI: <u>Bray, Kirshner, Calvet</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
78	comp			↑		
79	021954p5711	2 19	57 11	#83	15m	
80	comp			↑		
81	022108p570804	2 21	57 07	#83	20m	Row 75
82	comp			↑		
83	022111p57102	2 21	57 10	#83	20m	
84	comp			↑		
85	022116p570251	2 21	57 02	#83	20m	wind picking up
86	comp			↑		Row 75
87	sn1999em	4 41	-2 51	#2	10m	PA = 26°
88	comp			↑		
89	rs0435827	5 24	-2 00	#122	2m	PA = 90° (forgot
90	comp			↑		to update
91	-34012	5 25	-1 58	#122	2m	realign
92	comp			↑		box)
93	-49994	5 26	-1 21	#122	2m	
94	comp			↑		
95	-35463	5 27	-1 44	#112	3m	
96	comp			↑		Unable to access
97	-35439	5 27	-1 58	#112	45s	DSS or other net
98	comp			↑		services due to
99	-51335	5 28	-1 09	#112	3m	wind.
100	comp			↑		
101	-51362	5 28	-1 12	#112	5m	
102	comp			↑		
103	-51542	5 28	-1 24	#112	4m	
104	comp			↑		
105	-35877	5 28	-1 48	#112	3m	
106	comp			↑		
107	-52044	5 28	-1 33	#112	4m	



60 inch Telescope Log

Observer: CALKINS

PI: Galvet

Spectrograph: FAST

Grating: 500L

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Date: 1/11/99

Number	Object	R.A.	Dec.	L/R	Exp	Comments
108	comp			↑		
109	-36513	5 29	-2 12	#112	4m	PA = 90°
110	comp			↑		
111	-36707	5 29	-1 44	#112	2m	
112	comp			↑		
113	-37247	5 29	-2 09	#112	2m	
114	comp			↑		
115	-35865	5 24	-00 16	#112	5m	
116	comp			↑		
117	-36410	5 24	-00 06	#112	2m	western most star
118	comp			↑		
119	-37360	5 26	00 02	#112	90s	
120	comp			↑		
121	-37892	5 26	00 06	#112	4m	
122	comp			↑		
123	-38017	5 26	00 05	#112	4m	
124	comp			↑		
125	-52422	5 29	-1 25	#112	5m	
126	comp			↑		
127	-42893	5 29	-00 30	#112	7m	
128	comp			↑		
129	-52641	5 29	-1 25	#112	5m	
130	comp			↑		
131	-52896	5 29	-1 36	#112	5m	
132	comp			↑		
133	-44765	5 30	-00 55	#112	6m	
134	comp			↑		
135	-45744	5 31	-00 48	#112	4m	
136	comp			↑		
137	-38057	5 31	-01 55	#112	2m	

113 / double?

60 inch Telescope Log  
 Observer: Colvins  
 PI: Colvet, Kenyon, Rines, Geller

Spectrograph: EDST  
 Grating: 3006  
 Date: 1/11/00

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
138	comp			↑		
139	BGGem	6 03	27 41	#12	5m	
140	comp			↑		
141	-38079	5 31	-1 59	#112	4m	
142	comp			↑		
143	-55190	5 32	-1 10	#112	2m	
144	comp			↑		
145	-42622	5 32	-00 01	#112	2.5m	
146	comp			↑		
147	sn1999gh	9 44	-21 16	#2	20m	PA = -14°
148	comp			↑		
149	25766-174	7 18	55 09	#64	5m	
150	comp			↑		
151	-175	7 14	56 03	#64	4m	
152	comp			↑		
153	-176	7 29	56 53	#64	5m	Row 40
154	comp			↑		
155	121854p0650a/b	12 21	6 40	#113	20m	a & b, PA = -12°, a on row 50
156	comp			↑		
157	122906p09110	12 31	3 55	#113	12m	
158	comp			↑		
159	122906p09110	12 31	3 56	#113	12m	
160	comp			↑		
161	123630p38220a	12 38	38 05	#113	20m	
162	comp			↑		
163	123630p38220b	12 39	38 09	#113	20m	
164	comp			↑		
165	125306p08300a	12 55	8 14	#113	15m	
166	comp			↑		
167	125306p08300b	12 55	8 15	#113	20m	

60 inch Telescope Log  
 Observer: CALKINS  
 PI: Geller, Mahdavi  
 Spectrograph: FAST  
 Grating: 300L  
 Date: 1/1/00  
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
168	comp			↑		
169	125348p10280a	12 56	10 11	#113	20m	
170	comp			↑		
171	125348p10280b	12 56	10 10	#113	18m	
172	comp			↑		
173	130318p28000a	13 05	27 43	#113	12m	
174	comp			↑		
175	1035241.039	13 20	33 07	#59	5m	
176	comp			↑		
177	-038	13 20	33 46	#59	5m	
178	comp			↑		
179	-039	13 21	33 20	#59	1m	
180	comp			↑		
181	-040	13 21	33 44	#59	2m	
182	comp			↑		
183	-043	13 21	32 55	#59	2.5m	
184	comp			↑		
185	N4853	12 58	27 35	#57	2m	
186	comp			↑		
187, 188	H344	13 23	36 07	#56	2m	
189	comp			↑		
190, 191	H344	13 23	36 07	#56	2m	
192	comp			↑		
193-202	BIAS				0s	
203-212	FLAT				6s	
213-222	BIAS				0s	
223-232	FLAT				12s	
233-242	DARK				15m	

60 inch Telescope Log  
 Observer: CAULKINS  
 PI: All Bagg  
 Spectrograph: FAST  
 Grating: XXXX  
 Date: 1/12/00  
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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	
46-50	sky			#57	2s	
51	comp			↑		
52,53	Feige 25	2 38	5 28	#56	2m	
54	comp			↑		
55,56	Feige 25	2 28	5 28	#56	2m	
57	comp			↑		
58,59	Feige 25	2 38	5 28	#56	2m	PA = -26
60	comp			↑		
61	m31	1 44	14 03	#57	1m	
62	comp			↑		
63	022118p57099	2 21	57 09	#83	15m	
64	comp			↑		
65	022127p570556	2 21	57 05	#83	15m	
66	comp			↑		
67	022127p570553	2 21	57 05	#83	20m	
68	comp			↑		
69	022124p570619	2 21	57 02	#83	10m	
70	comp			↑		
71	022125p570511	2 21	57 05	#83	20m	
72	comp			↑		
73	022126p570509	2 21	57 05	#83	11m	
74	comp			↑		
75	022126p571149	2 21	57 11	#83	10m	
76	comp			↑		
77	022129p570623	2 21	57 06	#83	10m	

?? 

60 inch Telescope Log  
 Observer: CALKINS  
 PI: Brady, Calvert  
 Spectrograph: FAST  
 Grating: 300L  
 Date: 1/12/00  
 Page: 857

Number	Object	R.A.	Dec.	L/R	Exp	Comments
78	comp			↑		
79	022133p571220	2 21	57 12	F83	20m	
80	comp			↑		
81	022133p570518	2 21	57 05	F83	20m	
82	comp			↑		
83	022134p570428	2 21	57 04	F83	20m	
84	comp			↑		
85	022134p570125	2 21	57 01	F83	20m	low 75 <sup>WORTHING</sup> AT 75
86	comp			↑		
87	022136p571450	2 21	57 14	F83	20m	
88	comp			↑		
89	022137p570745	2 21	57 07	F83	20m	
90	comp			↑		
91	9501656401	5 33	-1 30	112f	3m	
92	comp			↑		
93	1656514	5 33	-1 33	112f	2m	
94	comp			↑		
95	1656603	5 33	-1 35	112f	3m	
96	comp			↑		
97	39216	5 33	-1 54	112f	2m	
98	comp			↑		
99	56621	5 33	-1 32	112f	4m	
100	comp			↑		
101	56726	5 33	-1 32	112f	5m	
102	comp			↑		
103	43245	5 33	00 07	112f	90s	
104	comp			↑		
105	56974	5 33	-1 15	112f	2.5m	
106	comp			↑		
107	48465	5 34	00 20	112f	2m	

99 A

85 - obj at row 70  
 + obj at row 79 - used this one



60 inch Telescope Log  
 Observer: CALKINS  
 PI: Calvet

Spectrograph: FAST  
 Grating: 300L  
 Date: 1/12/99

Page: 0158

Number	Object	R. A.	Dec.	L/R	Exp	Comments
108	comp			↑		
109	48517	5 34	-00 55	#112	3.5m	
110	comp			↑		
111	57262	5 34	-1 30	#112	2.5m	
112	comp			↑		
113	48624	5 34	-0 48	#112	5m	
114	comp			↑		
115	57372	5 34	-1 33	#112	3.5m	
116	comp			↑		
117	49073	5 34	-0 27	#112	7m	
118	comp			↑		
119	44325	5 34	00 07	#112	30s	Symbiotic?
120	comp			↑		
121	49399	5 35	-0 36	#112	6m	
122	comp			↑		
123	50145	5 35	-0 34	#112	5m	
124	comp			↑		
125	61127	5 38	-1 7	#112	5m	
126	comp			↑		
127	61601	5 39	-1 20	#112	4m	
128	comp			↑		
129	43507	5 39	-1 44	#112	5m	
130	comp			↑		
131	43528	5 39	-1 43	#112	4m	
132	comp			↑		
133	62175	5 39	-1 13	#112	4m	
134	comp			↑		
135	62821	5 40	-1 08	#112	7m	
136	comp			↑		
137	45545	5 36	00 03	#112	4m	



60 inch Telescope Log  
 Observer: CALKINS  
 PI: Calvet, Kirchner, Geller  
 Spectrograph: FAST  
 Grating: 500L  
 Date: 1/12/99  
 Page: 8159

Number	Object	R.A.	Dec.	L/R	Exp	Comments
138	comp			↑		
139	46287	5 37	-00 20	112F	1.5m	2 blended ??
140	comp			↑		
141	47082	5 38	-00 16	112F	7m	Pow 75
142	comp			↑		
143	47273	5 38	-00 19	#112F	3m	
144	comp			↑		
145	53502	5 39	-00 37	#112F	7m	
146	comp			↑		
147	sn1999gi	10 18	41 26	#2	10m	PA = 17°
148	comp			↑		
149	32602/46500a	13 28	46 40	#113	15m	
150	comp			↑		
151	46560-b	13 28	46 35	#113	10m	
152	comp			↑		
153	01280-a	13 30	-1 42	#113	8m	
154	comp			↑		
155	01280-b	13 30	-1 39	#113	8m	
156	comp			↑		
157	28000-b	13 06	27 41	#113	18m	
158	comp			↑		
159	38530 a & b	13 37	38 37	#113	18m	PA = 63° which is ?? which is ??
160	comp			↑		
161	33230-a	13 38	33 06	#113	15m	extended
162	comp			↑		
163	44420-a	14 41	44 28	#113	10m	Pow 75
164	comp			↑		
165	44420-b	14 41	44 30	#113	10m	
166	comp			↑		
167	sn1999gk	12 43	-00 32	#2	15m	PA = 2°

145 A

139 M





Fax to:  
Susan Tokarz  
Pg 1 of 3

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>8161</u>		
Observer: <u>P Berlin</u>		Grating: <u>300R</u>		Date: <u>1/13/00</u>		
PI: <u>Am</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
110	BARS				0s	
1120	FLAT				7s	
2150	BARS				0s	
3140	FLAT				14s	lots of cirrus.
4145	sky	zenith		57	2s	
46	WMP			f		
4747	M31	0240	+40	57	30s	
49	WMP			f		
5051	M32	0240	+40	57	30s	
52	WMP			f		
53	022138 p5713	02:21	+57:13	83	12m	
54	WMP			f		
55	022144 p5700	02:21	+57:00	83	12m	
56	WMP			f		pretty cloudy
57	022144 p5702	02:21	+57:02	83	15m	
58	WMP			f		
59	022146 p5709	02:21	+57:09	83	15m	
60	WMP			f		
61	022146 p5710	02:21	+57:10	83	15m	
62	WMP			f		
63	022148 p 7103	02:21	+57:10	83	20m	
64	WMP			f		
65	022148 p5709	02:21	+57:09	83	20m	
66	WMP			f		
67	SN1999ap	02:31	+59:23	2	20m	PA=100
68	WMP			f		
69	SN 50147779	05:39	+12:06	112	10m	
70	WMP			f		
71	48101 w	05:39	+12:04	112	8m	close ew pair; blended
72	WMP			f		

60 inch Telescope Log			Spectrograph: <u>FAST</u>			Page: <u>8162</u>
Observer: <u>PB</u>		Grating: <u>3002</u>		Date: <u>1/13/00</u>		
PI: <u>Calvet</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
73	gvsorb-48670	05:40	+0236	112	12m	sky is much better
74	COMP			↑		
75	SN1999em	04:41	+02	2	12m	PA=S
76	COMP			↑		
77	49001	05:40	+0206	112	6m	
78	COMP			↑		
79	49001	05:41	-01:58	112	4m	but beyond; v. close to E Ori
80	COMP			↑		
81	49002	05:41	-01:16	112	6m	
82	COMP			↑		
83	49004	05:41	-01:47	112	8m	cool nebula; N2O24 the Flame
84	COMP			↑		
85	SG0305	05:41	-01:42	112	7m	SE*
86	SG0303N	"	"	112	7m	NW*
87	COMP			↑		
88	50180	05:42	-01:28	112	6m	
89	COMP			↑		
90	SG092	05:42	-01:29	112	7m	
91	COMP			↑		
92	SG085	05:42	-01:39	112	12m	
93	COMP			↑		
94	51399	05:43	-01:09	112	8m	
95	COMP			↑		
96	50777	05:	-01	112	10m	
97	COMP			↑		
98-99	Hiltner 60	05:42	+02	86	45s	PA=01
100	COMP			↑		
101	266em	06:03	+07	12	8m, 1m	
102	COMP			↑		

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>863</u>	
Observer: <u>PB</u>			Grating: <u>300R</u>			
PI: <u>Calvet</u>			Date: <u>1/13/00</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
103	gysan 6548	05:48	-01:12	112	9m	
104	COMP			f		clouds ff
105	47088	05:49	-01:57	112	9m	
106	COMP			f		
107	66319	05:50	-01:17	112	12m	
108	COMP			f		
109	47683	05:50	-01:55	112	5m	
110	COMP			f		
111	60612	05:51	-01:27	112	12m	
112	COMP			f		
113	55077	05:50	-01:16	112	9m	103
114	COMP			f		more clouds
115	69359	05:51	-01:31	112	12m	
116	COMP			f		
117	ZMJ 68353	06:35	-01:54	68	12m	wk ; stopped
118	COMP			f		
119	ZMJ 035425	07:52	+18:49	68	5m	*
120	COMP			f		
121	ZMJ 091902	09:19	+16:6	68	10m	wk stopped by clouds
122	COMP			f		
123-132	BIAS				0s	
133-142	FLAT				7s	
143-152	BIAS				0s	
153-162	FLAT				14s	
<del>End of FAST Run</del>						

★ Start of FAST Run ★

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS				0s	ccd has new UV-flux
11-20	FLAT				7s	(No sig. dark current!)
21-30	BIAS				0s	clearing
31-40	FLAT				16s	
41-45	SKY			SB	2s	
46	WMP			f		done problems - software
47-49	ZAnd			12	30s	
50	WMP			f		
51-53	EAnd			12	30s	
54	WMP			f		
55-57	AKPer	01:26	-54:15	B	30s	
58	WMP			f		cloud cap over mth
59-61	SZL	04:37	-01:19	B	30-120	delay - solid clouds!
62	WMP			f		
63	a446-155			B	8m	
64	WMP			f		
65	153	04:27	-12:06	B	6m	
66	WMP			f		
67	150	04:41	-12:26	B	6m	
68	WMP			f		
69	151	04:40	-12:16	B	2m	
70	WMP			f		
71	152	04:45	-15:20	B	9m	
72	WMP			f		
73	154	04:49	-16:20	B	10m	
74	WMP			f		
75	155	04:51	-14:36	B	10m	
76	WMP			f		
77	157	04:28	-11:36	B	12m	+ to E
78	WMP			f		At system hang

THERE IS SIGNIFICANT DARK CURRENT; mean  
 =  
 ~31 (used 1-5)

CHIPMAN CALCS A LITTLE LOW noise ~ 2.8,  $\sigma$  ~ 1.1



60 inch Telescope Log

Observer: PB

PI: Ken

Spectrograph: FAST

Grating: 300R

Date: 1/26/00

Page: 8195

Number	Object	R A	Dec.	L/R	Exp	Comments
79	2496-158	04:19	-14:29	69	8m	
80	WMP			r		
81	159	04:26	-14	69	7m	TV cable problems
82	WMP			r		
83	160	04:37	-14	69	8m	
84	WMP			r		clear + windy!
85	161	04:20	-14:42	69	10m	
86	WMP			r		
87	162	04:29	-14:43	69	10m	
88	WMP			r		
89-90	Hiltner 60	06:42	+02	56	60s	PA=0.
91	WMP			r		
92	25766-178	07:37	+55:17	69	15m	
93	WMP			r		
94	177	07:22	+54:43	69	15m	
95	WMP			r		
96	179	07:11	+56:09	69	15m	
97	WMP			r		
98	185	07:27	+56:51	69	15m	
99	WMP			r		
100	181	07:27	+55:23	69	15m	
101	WMP			r		strong winds
102	184	07:22	+56:39	69	15m	
103	WMP			r		poor seeing.
104	186	07:13	+55	69	15m	
105	WMP			r		
106	5526164.243	11:24	-06:48	59	20m	
107	WMP			r		
108	248	11:24	-06:46	59	15m	
109	WMP			r		

PHR







60 inch Telescope log

Observer: P. Berlin  
 PI: Scott

Spectrograph: FAST

Grating: 300R +1200

Page: 8197

Date: 1/27/00

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1	* <u>test</u>				2m	→ pgrat test comp
2-11	<u>BIAS</u>				0s	→ pgrat special binning
12-29	* <u>FLAT</u>	1200R			8m	→ pgrat 1200R; 1.5" slit
30-40	<u>BIAS</u>				0s	} normal setup.
41-50	<u>FLAT</u>	300R			7s	
51-60	<u>BIAS</u>				0s	
61-70	<u>FLAT</u>	300R			14s	
71-75	<u>sky</u>	<u>zenith</u>		57	2s	
76				↑		clear skies!
77-78	<u>M31</u>	00:40	+40	57	30s	
79				↑		
80-81	<u>M32</u>	00:40	+40	57	30s	
82						
83	<u>158m2B</u>	00:40	+40:30	B	5m	
84	<u>COMP</u>			↑		
85	<u>SN200D</u>	02:18	+38	2	22m	PA=100
86	<u>COMP</u>			↑		
87-88	<u>AKPer</u>	01:30	+57	12	10s, 2m	
89	<u>COMP</u>			↑		
90-92	<u>V MI Per</u>	01:58	+52:53	12	7m-15s	
93	<u>COMP</u>			↑		
94-95	<u>Wuh</u>	05:21	+32	12	10s	
96	<u>COMP</u>			↑		
97-98	<u>Bogen</u>	06:03	+241	6	2m-3m	
99	<u>COMP</u>			↑		
100	<u>SN2000D</u>	07:05	+50:35	2	15m	PA=80
101	<u>COMP</u>			↑		
102	<u>SN2000C</u>	07:36	+35:19	2	15m	PA=100
103	<u>COMP</u>			↑		
104	<u>H214</u>	04:41	+10	56	5m	PA=0
105	<u>COMP</u>					

NO DARKS TAKEN FOR 300 LINE DATA  
 (EXTRACTED SPECTRA LOOK OK)

60 inch Telescope Log;  
 Observer: PS  
 PI: Paul Groot

Spectrograph: FAST  
 Grating: 1200L; 1.5" slit  
 Date: 1/27/00

Page: 8198

Number	Object	R.A.	Dec.	L/R	Exp	Comments
<del>106</del>	test					1200 @ 500Å - 1.5" slit
107	COMP			↓	90s	2120 = 1200x1 binning
<del>108-113</del>	CNOri	05:52	05	116	260s	Fast foc = 1125
114	COMP			↓	90s	
115-120	CNOri			116	260s	
121	COMP			↓		
122-127	CNOri			116	260s	
128	COMP			↓		
129-134	CNOri			116	260s	
135	COMP			↓		
136-141	CNOri			116	260s	
142	COMP			↓		
143-148	CNOri			116	260s	3rs on this guy.
149	COMP			↑		
150	COMP			↓		
151-156	UGem	07:55	+22	116	270s	H $\alpha$ = 0
157	COMP			↓	↓	
158-163	UGem			116	270	
164	COMP			↓		
165-170	UGem			116	270	
171	COMP			↓		
172-177	UGem			116	270	
178	COMP			↓		
179-184	UGem			116	270	
185	COMP			↓		
186-191	UGem			116	270	
192	COMP			↓		
193-198	UGem			116	270	
199	COMP			↓		



60 inch Telescope Log,  
 Observer: PB  
 PI: Groot/Caldwell/Andi  
 Spectrograph: FAST  
 Grating: 1200R, 600R, 300R Page: 8199  
 Date: 1/27/00

Number	Object	R.A.	Dec.	L/R	Exp	Comments
200-205	UGen	07:55	+72	16	270s	1200R, 1.5"
206	COMP			↓		
207-212	UGen			16	270s	4.5h on this one.
213	COMP			↑		
214	Ferap31	10:36	+13	70	2m	600R grating; 3" slit
215	COMP			↑	PA=100	@ H <sub>α</sub> bin by Z
216	N 3648	11:22	+3552	70	20m	
217	COMP			↑		
218-225	FLAT			↑	20s	N.E.
226	test.					
227	NGC 241.012	13:21	+33:01	59	12m	300R; 3" slit normal setup
228	COMP			↑		PA=90
229	044	13:21	+32	59	5m	
230	COMP			↑		
231	045	13:21	+33	59	10m	
232	COMP			↑		
233	046	13:21	+33	59	5m	
234	COMP			↑		
235	047	13	+33	59	8m	
236	COMP			↑		
237-40	RWHya	13:34	-25	12	2m1s	PA=0
241	COMP			↑		Mon by BDPJ-skip
242-3	TXCWn	12:49	+36	12	30s	PA=90
244	COMP			↑		
245	ZM511047	11:04	+36	68	5m	
246	COMP			↑		
247	ZM5110205	11:02	+38	68	5m	
248	COMP			↑		
249-58	BIAS				0s	

259-268 FLAT 7s  
 269-278 BIAS 0s  
 279-288 FLAT 14s  
 289-298 DARK

289-298 - DARKS for Paul Groot

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>8200</u>	
Observer: <u>P Berlincl</u>			Grating: <u>300L</u>		Date: <u>1/28/00</u>	
PI: <u>Scott</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
122	FLAT	1200L			8m	1200L; 1.5" slit for Bul G
2332	BIAS	Planet binning			0s	"
3342	BIAS				0s	300L; 3" slit ↓
4352	FLAT				7s	
5362	BIAS				0s	lots of thin
6372	FLAT				14s	circus moving in
7377	sky	Zenith		57	2s	
78	COMP			↑		
7940	M31	0040	+40	57	30s	
81	COMP			↑		
8253	M32	0040	+40	57	20s	
84	COMP			↑		
85	ZM210	0140	+40	57	5m	clouds
86	COMP					
87	ZM301026	0102	-0623	68	6m	
88	COMP			↑		
89	ZM1026	0102	-0624	68	6m	
90	COMP			↑		
91	SN1999ep	0231	+39	2	20m	PA=90.
92	COMP			↑		
93	022147p5702	0221	+5710	83	12m	clouds.
94	COMP			↑		
95	022147p5704	0221	+5709	83	20m	
96	COMP			↑		
97	022147p5706	0221	+5706	83	20m	
98	COMP			↑		
99	SN1999em	0440	-62	2	15m	PA=0
100	COMP			↑		

60 Inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>8201</u>	
Observer: <u>PB</u>			Grating: <u>300+1200</u>		Date: <u>1/28/00</u>	
PI: <u>Ken</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
101	021145725	02:21	+57	83	15m	
102	COMP			↑		great seeing!
103	02219p5710	02:21	+57:10	83	20m	2 objects on slit!
104	COMP			↑		extracted one nearest center
105	SN2000C	07:36	+35	2	15m	1.5" slit PA: 100
106	COMP			↑	20s	
107	a496-161	04:32	-10:17	69	6m	3" slit ↓
108	COMP			↑		
109	163	04:49	-12	69	12m	
110	COMP			↑		
111	165	04:46	-14	69	7m	
112	COMP			↑		
113	167	04:23	-16:19	69	5m	
114	COMP			↑		
115	168	04:38	-17:23	69	5m	
116	COMP			↑		
117-118	Hiltner 60	06:42	+02	56	1m	PA=0
119	COMP			↑		
120	a5766-190	07:15	+56:24	69	15m	
121	COMP			↑		
122	189	07:27	56:18	69	15m	
123	COMP			↑		
124	194	07:24	+51:37	69	15m	
125	COMP			↑		
126-7	B6hem	06:03	+27	100	8m, 30s	
128	<del>COMP</del>			↑		*B!X not saved. use #129?
129-9	B6hem. 1200	"	"	100	5m, 10m	1200eq; 1.5" slit
130	COMP			↑	15s	tilt = 685 Gauss = 450

used comp 125 for 126+127  
 incorrect  $\lambda$  - but may  
 not matter for these dets

Flats 150sec

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>8202</u>	
Observer: <u>PB</u>			Grating: <u>600R, 300R</u>			
PI: <u>Nelson</u>			Date: <u>1/28/00</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
131	N 2778	09:12	+35:09	70	20m	600R; 3" slit $\lambda_c = H\alpha$
132	WAP			↑		$\lambda_{c2} = H\alpha$
133, 135	N 3511	09:58	+31:37	70	20m	
134, 136	WAP			↑		
137	N 3752	10:12	+03:07	70	20m	PA=50
138	WAP			↑		
139	N 3489	11:00	+17:59	20	15m	
140	WAP			↑		increasing clouds
141-142	Fare 34	10:36	+43:21	56	2m	
143	WAP			↑		
144-153	FLAT				20s	N.E. clouds pretty thick.
154	Fare 34	10:36	+43	56	6m <sup>100</sup>	300R; 3" slit normal set-up
155	WAP			↑		stopped by clouds.
156-165	FLAT				40s	1.5" slit (for Scumbl)
166-175	FLAT				2.5m	1200R; 1.5" slit for Scott
176	test					300R; 3" slit; normal set-up
177-186	BINS				0s	
187-196	FLAT				7s	
197-206	BINS				0s	
207-216	FLAT				1/6	
217-226	DARK					

60 inch Telescope Log				Spectrograph: FAST		Page: 8203	
Observer: <u>Felco</u>				Grating: <u>600 / 2"</u>			
PI: <u>Kochanich</u>				Date: <u>1/29/00</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments	
1-10	BIAS				0	tilt 741, $\lambda \sim H\alpha$	
11-20	FLAT				30	2" slit linx 2	
21-25	HeNeAr				30		
26-27	DARK				900	more later, had to	
28	G 191B2B		PA=30		240	deal with f****	
29	comp		"	↑	30	screwed up IRAP on filter	
30	HeNeAr		PA=55	↓	30		
31	MF4006		↓		900		
32	MF4006		↓		900	3 H $\alpha$	
33	HeNeAr		↓	↑	30		
34	HeNeAr		PA=85	↓	30		
35	MF4008		↓		900	3 H $\alpha$	
36	"		↓		900		
37	HeNeAr		↓	↑	30		
38	HeNeAr		PA=90	↓	30	lost guide com, cycle power	
39	SN 1999 em		90		900		
40	HeNeAr		PA=73	↓	30		
41	MF4012		↓		900	3 H $\alpha$ !	
42	"		↓		900		
43	HeNeAr		↓	↑	30		
44	"		PA=66	↓	30		
45	MF4029		"		900	Has not been do 3	
46	"		↓		900		
47	"		↓		900		
48	HeNeAr		↓		30		
49	HeNeAr		PA=40		30		
50	MF2958		↓		900		
51	MF2958		↓		900		
52	MF2958		↓		900		
53	HeNeAr		↓		30		

60 inch Telescope Log

Observer: Felco

PI: Kochanek

Spectrograph: FAST

Grating: 600/2"

Page: 8204

Date: 1/29/00

Number	Object	R.A.	Dec.	L/R	Exp	Comments
54	BG Gem		PA=90		300	
55	HeNe Ar		PA=90	↑	30	
56	Foige 34		PA=61		180	
57	HeNe Ar		"	↑	30	
58	HeNe Ar		PA=-16	↓	30	
59	MF 2251		↓		900	3 H $\alpha$
60	MF 2259		↓	↑	900	
61	HeNe Ar		↓	↑	30	
62	HeNe Ar		PA=17	↓	30	
63	MF 4027		↓		900	2 H $\alpha$
64	"		↓		900	
65	HeNe Ar		↓	↑	30	
66	HeNe Ar		PA=33	↓	30	
67	MF 4028		↓		900	2 H $\alpha$
68	"		↓		900	
69	HeNe Ar		↓	↑	30	
70	HeNe Ar		PA=30	↓	30	
71	MF 4042		↓		900	3 H $\alpha$
72	MF 4042		↓		900	
73	HeNe Ar		↓	↑	30	
74	HeNe Ar		PA=-16	↓	30	
75	MF 4055		↓		900	3 H $\alpha$
76	MF 4055		↓		900	
77	MF 4055		↓		900	
78	HeNe Ar		↓	↑	30	
79	HeNe Ar		PA=15	↓	30	
80	MF 4042		↓		900	3 H $\alpha$
81	MF 4042		↓		900	
82	HeNe Ar		↓	↑	30	
83	HeNe Ar		PA=10	↓	30	



60 inch Telescope Log

Observer: Falco

PI: Kochanek

Spectrograph: FAST

Grating: 600 / 2"

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Date: 1/30/00

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS				0	$\lambda$ - 4825 Å tick 490
11-20	FLAT				30	fac = 1100
21-25	HeNeAr				30	
26-35	DARK				900	clouds - 1 hr
36	H214		PA = -31		600	flux
37	HeNeAr		↓		30	
38	NO 821		PA = 05		180	gal stat
39	NO 821		↓		180	
40	HeNeAr			↑	30	
41	HD 27368		14		~80	* incl
42	HeNeAr		"	↑	30	
43	HD 28305		3		~80	* incl
44	HeNeAr		"	↑	30	
45	"		35	↓	30	
46	MF 2665		↓		900	E cloud: i/o
47	↓		↓		↓	" useful?
48	↓		↓		↓	
49	HeNeAr		↓	↑	30	
50	MF 4004		55		450	
51	MF 4004		↓		"	
52	HeNeAr		↓	↑	30	
53	HeNeAr		26	↓	30	
54	MF 4003		↓		900	
55	↓		↓		↓	
56	↓		↓		↓	same clouds
57	HeNeAr		↓	↑	30	
58	MF 2742		-23		450	clouded out
58	N 1900				180	clouds within
59	HD 34559		64		~80	heavy clouds G8 II



60 inch Telescope Log

Observer: Falco

PI: Kuchanob

Spectrograph: FAST

Grating: 600/2"

Date: 1/30/00

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
60	HeNeAr		PA 64	↑	30	check ifc
61	H $\gamma$ 48433		PA 35		~80	
62	HeNeAr		"	↑	30	
63	M81		23		180	
64	M81		↓		180	
65	HeNeAr		↓	↑	30	
66	Hiltner 600		33		60	flux for a bubble
67	HeNeAr		"	↑	30	
68	"		75	↓	30	
69	MF0014				900	no chart? ok I hope
70	"				↓	clouds
71	"				↓	
72	"		↓		↓	add 1 exp
73	HeNeAr		↓	↑	30	
74	"		33	↓	30	
75	MF4028				600	
76	↓				↓	clouds
77	↓				↓	fair
78	HeNeAr		↓	↑	30	
79	HeNeAr		-15	↓	30	
80	MF4055				900	clouds
<del>81</del>	"				900	clouded out 3:00
81	HeNeAr					

60 inch Telescope Log  
 Observer: Falco  
 PI: Kuchner  
 Spectrograph: F&S T  
 Grating: 600 / 2"  
 Date: 1/31/00  
 Page: 8208

Number	Object	R. A.	Dec.	L/R	Exp	Comments
1-14	BIAS				0	$\lambda_c \sim 4825 \text{ \AA}$ tilt 490
15-24	FLAT				30	cold, fairly cloudy
25-27	HeNeAr				30	
28-37	DARK				900	lost 2.5 hrs - to guide
38	H2 14				600	not short - clouds
39	HD 25604		PA 30		~80	KO TV
40	HeNeAr		↓	↑	30	
41	N 1700		87		180	
42	"		↓		180	
43	HeNeAr		↓	↑	30	
44	H2 14		41		600	
45	HeNeAr		"	↑	30	
46	MF 2761		-23		450	some clouds still
47	"		↓			
48	HeNeAr		↓		30	
49	MF 2646		-62		450	
50	HeNeAr		↓	↓	30	how 'bout a sandwich?
51	MF 2646		↓		450	
52	MF 2759		+5		450	
53	"		↓		450	
54	HeNeAr		↓	↑	30	
55	HeNeAr		+17	↓	30	
56	MF 4027		↓		600	no guide *
57	↓		↓		600	
58	↓		↓		600	
59	HeNeAr		↓	↑	30	
60	HeNeAr		0	↓	30	
61	MF 2960		↓		900	
62	"		↓		900	

60 inch Telescope Log

Observer: Falco

PI: Kochanski

Spectrograph: FAST

Grating: 600 / 2"

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Date: 1/31/00

Number	Object	R.A.	Dec.	L/R	Exp	Comments
63	MF2960		PA=0		900	seeing mediocre
64	HeNeAr		↓	↑	30	some clouds
65	Feige 34		52		180	flux, for longer
66	HeNeAr		↓	↑	30	
67	HD48433		57		~80	K1 III
68	HeNeAr		↓	↑	30	
69	M86=N44 06		50		180	
70	"		↓		180	
71	HeNeAr		↓	↑	30	
72	HeNeAr		-35	↓	30	
73	MF0013		↓		900	no guide ⋆
74	↓		↓		↓	
75	↓		↓		↓	give it 1 more
76	↓		↓		↓	
77	HeNeAr		↓	↑	30	
78	HeNeAr		-15	↓	30	
79	MF4055		↓		600	
80	↓		↓		600	
81	↓		↓		600	clouds. wind. RH 70%
82	HeNeAr		↓	↓	30	
83	MF4055				600	do 1+ but more clouds closed in a hurry in a cloud, RH 80%