

★ Start of FAST run ★

60 inch Telescope Log

Observer: P. BerlindPI: HuchraSpectrograph: FASTGrating: 3000, 3" slit; 6m by 4Page: 4843Date: 9/4/96

Number	Object	R. A.	Dec.	L/R	Exp	Comments
1-20	BIAS			0	0s	
21-40	FLAT			0	6s	scattered + storms
41-45	sky			0	2s	
46	COMP			↑	5s	everything looks ok
47-49	HD192281	20:10	+40:07	0	5s	
50	COMP			↑		
51-53	CTA 1	19:50	+35:41	12	2s, 2s, 2m	
54	COMP			↑		
55	160159p161350	16:01	+16:13	25	6m	
56	COMP			↑		
57	160018p201950	16:01	+16:13	25	6m	
58	COMP			↑		
59	160400p162648	16:04	+16:26	25	6m	
60	COMP			↑		
61	160018p201950	-16:02	+20:18	25	8m	
62	COMP			↑		
63	160206p1631	16:02	+16:46	25	8m	
64	COMP			↑		
65	160159p163345	16:01	+16:35	25	10m	
66	COMP			↑		
67	160133p155303	16:01	+15:53	25	10m	
68	COMP			↑		
69	160404p201607	16:01	+20:16	25	10m	
70	COMP			↑		
71	160036p152822	16:02	+15:28	25	8m	
72	COMP			↑		
73	16:0158p153340	16:01	+15:33	25	8m	
74	COMP			↑		increasing clouds
75	3C340.3	19:45	+79:43	6	5m	
76	COMP			↑		

noise 8.98
 gain 1.18

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>4845</u>	
Observer: <u>Pforlind</u>			Grating: <u>3000; 3" slit; bin by 4</u>		Date: <u>9/5/96</u>	
PI: <u>Huchra/Wilkos/Kemp</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS			0	0s	
11-20	FLAT			0	6s	thin clouds
21-25	sky			0	4s	
26	COMP			↑	5s	
27-29	HD192281	20		0	5s	
30	COMP			↑		
31-33	CIT	19:50	+35	12	2s, 20s, 2m	
34	COMP			↑		
35	160216p164839	16:02	+16:458	25	8m	
36	COMP			↑		
37	160120p160736	16:01	+16:077	25	6m	
38	COMP			↑		
39	160300p158804	16:03	+15:18	25	8m	
40	COMP			↑		
41	160608p181557	16:00	+18:15	25	9m	
42	COMP			↑		
43	160046p153541	16:00	+15:35	25	10m	em
44	COMP			↑		increasing clouds
45	160055p150153	16:00	+15:01	25	9m	2 objects on slit
46	COMP			↑		W object is target
47	160300p175032	16:03	+17:50	25	9m	
48	COMP			↑		
49-50	MRK509	20:41	+0:54	6	5m	clouds...
51	COMP			↑		
52-53	Comet HB	17:35	-06:16	0	30s, 3m	nucleus; tail
54	COMP			↑		
55-56	HD186427N +S	19:41	+50:31	0	1s	
57	COMP			↑		
58	18560p5105	18:56	+51:05	98	5m	
59	COMP			↑		

bin by 2 gain: 1.2 noise 4.16
 bin by 4 gain: 1.15 noise 8.69

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>48/46</u>	
Observer: <u>PB</u>			Grating: <u>300L</u>			
PI: <u>Huchra & Wilkes</u>			Date: <u>9/5/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
60	19339p4147	19-33	+41-47	98	10m	LSB <u>Ha</u>
61	COMP			↑		
62	19347p0237	19-34	+02-37	98	5m	proc 2 solutions; careful on clearing!!
63	COMP			↑		
64	19490p0326	19-49	+03-26	98	5m	
65	COMP			↑		
66	19509p0813	19-50	+08-13	98	7m	
67	COMP			↑		
68	19220p3442	19-22	+34-42	98	12m	em gal + 3 stars on slit
69	COMP			↑		
70	20012p0701NE	20-01	+07-01	98	5m	
71	20012p0701SW	20-01	+07-01	98	8m	nice sky
72	COMP			↑		
73	20065p0738	20-06	+07-38	98	15m	LSB em
74	COMP			↑		
75	Q2135m147	21-35	-14-32	49	20m	sec 2 = 1.44 Hz = 0
76	COMP			↑		
77	Ferze 110	23-17	-05-26	0	2m	sec 2 = 1.37 8m
78	COMP			↑		
79	N7469	23-10	+08-36	6	2m	
80	COMP			↑		
81	MPX 333	00-03	+19-33	6	2m	
82	COMP			↑		
83	3C445	22-23	-02-06	49	15m	sec 2 = 1.21
84	COMP			↑		
85, 87, 89	PHLS 200	22-24	-05-18	49	15m	bin by 2 sec 2 = 1.25
86, 88, 90	COMP			↑	8s	
91	Ferze 110	23-17	-05-26	0	2m	sec 2 = 1.25
92	COMP			↑		
93	S23.052745	23-38	+12-30	3	12m	em

87 used exp 86 in auto program

4000
150 FC

60 inch Telescope Log			Spectrograph: <u>FAST</u>			
Observer: <u>PB</u>			Grating: <u>3002</u>		Page: <u>4847</u>	
PI: <u>Geller/Kemner</u>			Date: <u>9/5/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
94	COMP			↑		delay @ 48"
95	523.052245	23:38	+12:30	3	15m	
96	COMP			↑		increasing clouds again
97	523.047523	23:33	+12:19	3	15m	OK
98	COMP			↑		
99-100	ZAN	23:33	+12:49	12	55, 60s	
101	COMP			↑		
102-104	AXPer	01:36	+54:15	12	60, 3m, 20s	
105	COMP			↑		
106	466.019217	01:05	+10:54	3	15m	
107	COMP			↑		decreasing clouds
108	466.020571	00:43	+10:58	3	10m	
109	COMP			↑		
110	466.020255	00:57	+10:59	3	10m	
111	COMP			↑		
112	466.020623	00:53	+11:10	3	9m	
113	COMP			↑		
114	466.018466	00:48	+10:51	3	10m	
115	COMP			↑		
116	466.018115	00:43	+10:48	3	10m	
117	COMP			↑		
118	466.019778	01:03	+10:49	3	10m	
119	COMP			↑		
120	466.017591	00:51	+10:47	3	15m	
121	COMP			↑		
122	466.017177	00:58	+10:46	3	12m	
123	COMP			↑		
124	466.016966	01:08	+10:45	3	10m	
125	COMP			↑		
126	466.016729	00:45	+10:43	3	10m	

60 inch Telescope Log			Spectrograph: <u>EAST</u>		Page: <u>4848</u>	
Observer: <u>PIB</u>			Grating: <u>3002</u>			
PI: <u>Geller & Kenyon & Wilkes</u>			Date: <u>9/5/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
127	COMP			↑		
128	466.015625	00:44	+10:39	3	10m	
129	COMP			↑		
130	466.014845	01:08	+10:37	3	11m	
131	COMP			↑		
132	466.022541	00:49	+11:01	3	12m	
133	COMP			↑		
134	466.022168	00:54	+11:10	3	10m	
135	COMP			↑		
136	466.023712	00:59	+11:13	3	9m	
137	COMP			↑		
138	466.0244095	00:52	+11:15	3	10m	em
139	COMP			↑		
140-141	DL Tau	04:33	+25:20	12	1m, 3m	
142				↑		
143-144	DR Tau	04:17	+16:58	12	10s, 2m	
145				↑		
146	AKn120	05:13	-00:12	6	2m	
147	COMP			↑		
148	Fe1324	02:32	+03:20	0	3m	
149	COMP			↑		
150-152	HD12623	02:02	+62:56	0	5s	
157	COMP			↑		
154-156	HD13022	02:09	+58:46	0	5s	
157	COMP			↑		
155-160	HD12268N	02:11	+56:09	0	3s	
161-163	HD12268S	02:11	+56:09	0	3s	
164	COMP			↑		
165-167	HD14372	02:20	+47:18	0	2s	
168	COMP			↑		

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4850</u>	
Observer: <u>P. Berlind</u>				Grating: <u>300R</u>			
PI: <u>Kenyon & Huchra</u>				Date: <u>9/6/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments	
1-4	DARK			0	15m		
5-14	BIAS			0	0s	clouds all around	
15-24	FLAT			0	6s		
25-29	sky			0	2s		
30	COMP			↑	5s		
31-34	HD192281	20:10	+40:07	0	5s		
35	COMP			↑			
36-38	CIC 288	19:50	+35:41	12	2s, 20s, 2m		
39	COMP			↑		object "on slit"	
40-42	HD167971	18:18	-12:19	0	3s		
43	COMP			↑			
44-46	HD168072	18:18	-13:48	0	5s		
47-49	HD168075	18:18	-13:47	0	5s		
50	COMP			↑			
51-53	HD168206	18:19	-11:37	0	10s		
54	COMP			↑			
55-8	TG B	15:59	+25:55	12	10s, 45s		
57	COMP			↑			
58-59	AG Dra	16:	+6:	12	30s, 2s		
60	COMP			↑			
61	160027 p162523	16:00	+16:25	25	10m		
62	COMP			↑			
63	160023 p160715	16:00	+16:07	25	9m		
64	COMP			↑			
65	160331 p160752	16:03	+16:07	25	10m	wk; H α	
66	COMP			↑			
67	160025 p180839	16:00	+18:08	25	15m	H α	
68	COMP			↑			
69	160026 p180602	16:00	+18:08	25	15m	pec. (high z)	
70	COMP			↑		cz = 42,000 km/sec	

gain 1.17
noise 8.8 (799)

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4851</u>
Observer: <u>PB</u>				Grating: <u>JWL</u>		
PI: <u>Wilkes/Kenyon/Geller</u>				Date: <u>9/6/96</u>		
Number	Object	R.A.	Dec.	L/R	Exp	Comments
71	160312 p153029	16:03	+15:30	25	9m	em
72	COMP			↑		
73	160250 p164350	16:02	+16:43	25	9m	
74	COMP			↑		
75	gums_16	16:58	+28:07	35	15m	em
76	COMP			↑		
77	gums_17	16:57	+28:07	35	10m	ugh. stopped by clouds
78	COMP			↑		
79	MRK509	20:41	+0:54	6	2m	
80	COMP			↑		cloud delay - 5 hrs
81-82	ZAnd	23:33	+48:49	12	5s/90s	clearing somewhat
83	COMP			↑		
84-85	AXPer	01:36	+51:15	12	30s,	
86	COMP			↑		
87	N7469	23:10	+08:26	6	2m	
88	COMP			↑		clouds all over
89-90	Ferg10	23:17	-65:26	0	3m	
91	COMP			↑		
92-94	M32	00:39	+40:35	0	1m	
95	COMP			↑		
96-98	M31	00:40	+40:59	0	1m	
99	COMP			↑		
100	M31 SKy	00:42	+41:16	0	1m	clearing
101	COMP			↑		
102-103	22Sm280	00:41	+41:05	0	6m	
104	COMP			↑		
105	523.041465	23:37	+11:56	3	12m	
106	COMP			↑		
107	523.058951	23:54	+12:49	3	10m	emt
108	COMP			↑		

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>4852</u>	
Observer: <u>PB</u>			Grating: <u>7002</u>			
PI: <u>Geller & Wilkes / Kempton</u>			Date: <u>9/6/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
109	S23.060599	23:48	+12:55	3	10m	
110	COMP			↑		
111	S23.065067	23:50	+13:09	3	15m	H _α !
112	COMP			↑		
113	S23.068889	23:50	+13:20	3	15m	
114	COMP			↑		
115	S23.069223	23:51	+13:22	3	15m	pec.
116	COMP			↑		
117	S23.070660	23:53	+13:26	3	15m	
118	COMP			↑		
119	S23.040040	23:50	+11:52	3	15m	V. LSB - H _α !
120	COMP			↑		
121	466.025556	00:48	+11:20	3	8m	
122	COMP			↑		
123	MRK335	00:03	+19:55	6	2m	
124	COMP			↑		
125	Fairg 25	02:36	+05:15	0	3m	
126	COMP			↑		
127-128	DL Tau	04:33	+29:20	12	2m, 30s	
129	COMP			↑		
130-131	DRTau	04:47	+6:58	12	2m, 10s	
132	COMP			↑		
133-135	HD 30616	04:51	+11:34	0	6s	
136	COMP			↑		
137-139	HD 31487	04:59	+51:56	0	6s	
140	COMP			↑		clouds to S+E
141-143	HD 32016	05:09	+59:00	0	6s	• dawn
144	COMP			↑		
145-147	HD 34469	05:19	+55:47	0	6s	
148	COMP			↑		
149-158	BIAS			0	0s	
159-168	FLAT			0	6s	

60 inch Telescope Log			Spectrograph: <u>FAST</u>			
Observer: <u>P. Bland</u>			Grating: <u>3002; 3" slit; bin by 4</u>		Page: <u>4853</u>	
PI: <u>Huchra</u>			Date: <u>9/7/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
10	BIAS			0	0s	
11-20	FLAT			0	6s	clouds to S+W
21-25	SKY			0	2s	
26	COMP			↑		
27-29	HD 167006	18:11	31:24	0	6	
30	COMP			↑		
31-33	HD 170970	18:30	36:14	0	2s	
34	COMP			↑		
35-37	HD 168720	18:20	21:57	0	5s	
38-39	COMP			↑		
39-41	HD 168112	18:18	-12:05	0	5s	
42	COMP			↑		
43-45	HD 168137	18:18	-13:48	0	6s	
46	COMP			↑		
47-49	HD 192281	20:10	+40:07	0	5s	
50	COMP			↑		thin clouds
51-53	CIC 49	19:50	+35:41	12	2,20,700	
54	COMP			↑		
55	17036p2534	17:03	+25:36	1	4m	
56	COMP			↑		
57	17021p0420	17:02	+04:20	1	4m	
58	COMP			↑		
59	17019p0651	17:01	+06:51	1	6m	em
60	COMP			↑		
61	17008p1622NW	17:00	+16:22	1	6m	em → high bias level
62	17008p1622SE	17:00	+16:22	1	7m	dewar warming up!?
63	COMP			↑		refill
64-73	BIAS			0	0s	OK it is holding now
74	19452p5502	18:45	+55:02	1	15m	
75	COMP			↑		

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>4854</u>	
Observer: <u>PB</u>			Grating: <u>3002</u>			
PI: <u>Huchra & Wilkes & Geller</u>			Date: <u>9/7/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
76	18441 p5256	18:44	+52:56	1	8m	thin clouds
77	COMP			↑		
78	18379 p5522	18:38	+55:24	1	8m	*burst
79	COMP			↑		
80	18355 p2009	18:35	+20:09	1	4m	✓
81	COMP			↑		
82	18352 p3258	18:35	+32:58	1	6m	
83	COMP			↑		
84	20122 p0622	20:12	+06:22	1	4m	
85	COMP			↑		
86	20177 p0237	20:20	+02:33	1	4m	em
87	COMP			↑		
88	20179 p0137	20:17	+07:37	1	4m	
89	COMP			↑		
90	20257 p0020N	20:25	+10:20	1	3m	* W of gal
91	20257 p0020S	20:25	+10:20	1	3m	
92	COMP			↑		
93	20282 p0435	20:28	+04:35	1	4m	
94	COMP			↑		
95	20297 p0441	20:29	+04:41	1	4m	
96	COMP			↑		
97	20310 p0228	20:31	+02:28	1	4m	
98	COMP			↑		nice sky
* 101	Q2128m123	21:31	-12:07	49	20m	sec 2 = 1.38
102	COMP			↑		
103	Feige 110	23:17	-05:26	0	2m	sec 2 = 1.39
104	COMP			↑		
105	S23.070871	23:40	+13:27	3	15m	very faint H α
106	COMP			↑		2 finishes the plate!
107	N7469	23:00	+06:36	6	2m	

* file #99: 20344 p0328 20:34 +03:28 1 6m em
 #100: COMP ↑

60 inch Telescope Log				Spectrograph: <u>F&T</u>		Page: <u>4855</u>	
Observer: <u>PIB</u>				Grating: <u>300L</u>			
PI: <u>Wilkes/Boston</u>				Date: <u>9/7/96</u>			
Number	Object	R. A.	Dec.	L/R	Exp	Comments	
108	COMP			↑			
109	Z3401S p0416W	23:43	+04:33	1	15m	E+W Comp ✓	
110	COMP			↑			
111	Z3401S p0416N	23:43	+04:33	1	12m	em	
112	COMP			↑			
113	PG223 p134	22:36	+3:43	49	15m	sec z = 1.05	
114	COMP			↑			
115	PK52251 p113	22:54	+1:36	49	20m	sec z = 1.06	
116	COMP			↑			
117	BDp28421	21:48	+28:37	0	1m	sec z = 1.05	
118	COMP			↑			
119	gr85 gal C	23:21	+27:07	33	20m	burn-in object	
120	COMP			↑			
121	gr85 gal 07	23:22	+26:16	33	10m	redn from 6/16/96	
122	COMP			↑			
123	gr85 gal 08	23:21	+26:25	33	7m	sec z = 1.01	
124	COMP			↑			
125	gr85 gal 09	23:20	+27:14	33	7m		
126	COMP			↑			
127	gr85 gal 10	23:20	+26:13	33	7m		
128	COMP			↑			
129	PG0007 p106	00:10	+10:58	49	20m	sec z = 1.07	
130	COMP			↑			
131, 133, 135	0013 p0018	00:46	+01:04	49	15m	sec z = 1.18 bin by 2	
132, 134, 136	COMP			↑	85	z = 2.1	
137	MRK335	00:03	+19:55	6	2m		
138	COMP			↑			
139, 140	Z And	23:33	+48:49	12	4, 90s		
141	COMP			↑			
142	Fesp25			10	3m	sec z = 1.16	

00:15

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4856</u>
Observer: <u>PB</u>				Grating: <u>300L</u>		
PI: <u>Barton & Kenyon</u>				Date: <u>9/7/96</u>		
Number	Object	R.A.	Dec.	L/R	Exp	Comments
143	COMP			↑		
144	gr904-gal19	01:25	+14:51	33	15m	burn-in
145	COMP			↑		
146	gr904-gal20	01:25	+14:49	33	15m	burn-in
147	COMP			↑		
148	gr904-gal22	01:28	+14:43	33	8m	
149	COMP			↑		
150	gr904-gal23	01:28	+14:46	33	5m	
151	COMP			↑		
152	gr904-gal24E	01:24	+14:02	33	7m	E+W Comp E = gal29
153	COMP			↑		
154	gr904-gal25	01:21	+14:53	33	5m	
155	COMP			↑		
156	gr904-gal26	01:24	+15:43	33	8m	
157	COMP			↑		
158	gr904-gal27	01:26	+15:36	33	10m	
159	COMP			↑		
160	gr904-gal21	01:25	+14:52	33	20m	burn-in
161	COMP			↑		
162	gr904-gal33	01:29	+14:58	33	12m	
163	COMP			↑		
164-166	AXPer	01:26	+15:15	12	30s, 2m, 10s	
167	COMP			↑		
168	Fep25	2:36	+05:15	0	3m	
169	COMP			↑		clear & dawn
170-171	DRtan	04:33	+25:20	12	3m, 20s	
172	COMP			↑		
173-174	DRtan	04:47	+16:58	12	2m, 10s	
175	COMP			↑		
176	AKn 120	05:16	-02:12	6	2m	

60 inch Telescope Log		Spectrograph: <u>FAST</u>				Page: <u>4858</u>	
Observer: <u>Grogin</u>		Grating: <u>300L, 3" slit, binog 4</u>		Date: <u>9/8/96</u>			
PI: <u>Konig/Wilkes</u>							
Number	Object	R.A.	Dec.	L/R	Exp	Comments	
1-10	BIAS			0	0.5.		
11-20	FLAT			0	6.5.	partly cloudy; RH = 25%	
21-25	sky			0	8, 10, 12.		
26	COMP			↑			
27-29	HD19228	20:12	+40:01	0	10, 10, 10.	Thickening clouds 7-7:30	
30	COMP			↑		8:30 - clouds thinning	
31-33	CICyg	19:50	+35:41	12	10, 10, 10.	~8:45 - clouded over	
34	COMP			↑			
35-36	CICyg	"	"	12	2, 2.5.	brief break in clouds	
37	COMP			↑			
38-39	Z And	23:33	48:49	12	1, 9 m.	clearing - 12:45 am	
40	COMP			↑			
41	Mrk 335	03:15	19:55	6	3 m.	Break in clouds	
42	COMP			↑			
43	M31	00:40	40:59	0	1 m.	rvstd	
44	COMP			↑			
45-6	AX Per	1:36	54:15	12	100, 15.		
47	COMP			↑			
48	Frige 24	2:32	3:30	0	4 m.		
49	COMP			↑			
50	DR Tau	4:47	16:58	12	2 m.	Moonrise - bright sky	
51	COMP			↑			
52-3	DL Tau	4:53	25:20	12	4 m, 6 m.	Clouds	
54	COMP			↑			
55	HD2623	2:02	62:56	0	5 m.	rvstd. good cts	
56	COMP			↑			
57-66	BIAS			0	0.5.		
67-76	FLAT			0	6.5.		

noise 8.97
gain 1.18

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4860</u>
Observer: <u>Grogan</u>		Grating: <u>holog 4:3000; 3" slit</u>				
PI: <u>Kayson/Wilkes/Hochm/Grogan</u>		Date: <u>9/10/96</u>				
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS			0	0s.	Raining lightly
11-20	FLAT			0	6s.	Can't open for sky
21-3	HD192281	20:10	+40:07	0	5s.	Clearing ~8 PM; sp. still
24	COMP			↑		
25-7	CICyg	19:50	+35:41	12	2, 20, 100s.	Still light clds
28	COMP			↑		
29	3C390.3	18:45	+79:43	6	3m.	"
30	COMP			↑		
31	Mrk 509	20:41	-10:54	6	3m.	"
32	COMP			↑		
33	17038+1815	1703	18:15	98	5m.	Clearing
34	COMP			↑		
35	17048+1543	17:04	15:43	98	7m.	
36	COMP			↑		
37	17051+1309	17:05	43:09	98	12m.	
38	COMP			↑		
39	21032+0730	21:03	7:31	42	12m.	obs.
40	COMP			↑		
41	21034+0727	21:03	7:27	42	10m.	
42	COMP			↑		
43	21052+0340 W	21:05	3:40	42	15m.	haze; on
44	COMP			↑		
45	21087+0318	21:08	3:18	42	15m.	on
46	COMP			↑		
47	21098+1248E	21:09	12:48	42	15m.	obs; misort above track
48	COMP			↑		Adjacent glx at pix 25
49	21103+0834	21:10	08:34	42	15m.	
50	COMP					
51	21108+0632	21:10	06:32	42	10m.	~1000 obs; extreme bad
52	COMP					

1000 obs
 2000 obs

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4861</u>	
Observer: <u>Grogan</u>				Grating: <u>300X</u>			
PI: <u>Grogan/Wilkes</u>				Date: <u>9/10/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments	
53	N2040	21:10	8:39	42	15m.	~1500 cts; em	
54	COMP			↑			
55	21115+0020	21:15	0:20	42	12m.	~1:50 cts; abs	
56	COMP			↑			
57	21162+1930	21:16	19:30	42	15m.	~1500 cts; em	
58	COMP			↑			
59	N7311	22:31	5:18	42	7m.	bright! ~3000 cts; abs	
60	COMP			↑			
61	N7323	22:34	18:53	42	12m.	Broad LSG; ~1000 cts, em.	
62	COMP			↑			
63	I5291	22:39	+02:22	42	10m.	faint, not concentrated. ~1400 cts bad fit to 9958 [0.30]	
64	COMP			↑			
65	22528+0859	22:52	+08:59	42	10m.		
66				↑			
67	N7469	23:03	8:52	6	2m.	Hazy?	
68	COMP			↑			
69	N7521	23:11	-2:00	42	12m.	[Dome closed] after 8m. (1500 cts.)	
70	COMP			↑		977.2H!! 80% RH in dome Stowed tele. ~12:40 AM.	
71-80	sky			0		to, 45, 8, 6, 4, 9, 2, 2, 2, 2, 5	
81	COMP			↑		5:45 AM: Dew on EH=93% clouds on horizon	
92-91	BIAS			0	0.5.		
92-101	FLAT			0	6.5.		

60 inch Telescope Log		Spectrograph: <u>FAST</u>				
Observer: <u>Grogan</u>		Grating: <u>300; 4; 3" slit</u>		Page: <u>4862</u>		
PI: <u>Konig/Grogan/Witkes</u>		Date: <u>9/11/96</u>				
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS			0	0s.	Rain in afternoon, overcast.
11-20	FLAT			0	6s.	Not opening for evening steps
21-23	HD 192281			0	5s.	Bad breaks in dds. ~2pm
24	COMP			↑		
25-28	CI Cyp	19:50	35:41	12	2, 2, 20, 120s.	In/out of clouds
29	COMP			↑		
30	N7331	22:34	34:09	0	240s.	" ; valstd.
31	COMP			↓		
32	N7331	22:34	34:09	0	90s.	" ; checked over
33	21311 + 0833	21:31	8:33	42	20m.	Few openings to W; low cts.
34	COMP			↑		
35-7	Z And	23:33	48:49	12	100, 5, 5s.	Clearing again to W
38	COMP			↑		
39	N7469	23:03	8:52	6	3m.	In/out of clouds
40	COMP			↑		RH = 85%
41	23046 + 0828	23:04	8:28	12	15m.	Shading nearby to avoid clouds. Good cts: ~2500; abs
42	COMP			↑		
43	23080 + 0752	23:08	7:52	12	12m.	Clearing now. ~1800 cts; abs
44	COMP			↑		
45	23093 + 0914	23:09	9:14	12	10 m.	~1250 cts; emake
46	COMP			↑		
47	23102 + 1029	23:10	10:28	12	13m.	~1700 cts; very blue; strong em
48	COMP			↑		RH → 80% inside dome.
49	N7547	23:12	18:42	12	8 m.	~1600 cts; bad ghost vel
50	COMP			↑		
51	N7550	23:12	18:41	12	5m.	~1500 cts; abs.
52	COMP			↑		
53	23142 + 0837	23:14	8:37	12	10 m.	~2500 cts; abs + em
54	COMP			↑		
55	N7601	23:16	8:57	12	15m.	LSB; ~900 cts, em

total 8.81

1.17

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>4863</u>		
Observer: <u>Grogan</u>		Grating: <u>300R; 5"</u>		Date: <u>9/4/96</u>		
PI: <u>Grogan/Wilkes/Geller</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
56	COMP			↑		(N7601)
57	23396-0210	23:33	-2:10	12	12m	48" dome shut; outside RH = 92%
58	COMP			↑		
61	Mrk 335	0:03	19:55	6	2m	
62	COMP			↑		
63	Feige 110	23:17	-5:26	0	2m	sp std.
64	COMP			↑		
65	Xc 465. 012949	0:29	10:41	3	5m	low cts.
66	COMP			↑		
67	Xc 465. 024646	0:29	11:42	3	9m	better cts.; H _β ?
68	COMP			↑		RH = 87% in dome; metal dry.
69	N7825	0:02	4:55	12	20m	cloud obscuration: in fog
70	COMP			↑		low cts; redo
						DOME SHUT - outdoor RH > 99%
71-75	sky			0	54, 33, 33	RH = 95%; clouds on horiz.
76	COMP			↑		
77-86	BIAS			0	0s.	
87-96	PLAT			0	6s.	

60 inch Telescope Log

Observer: GroganPI: Koyan / Koyan / GroganSpectrograph: FASTGrating: 300 L, 3rd slit, 1000gPage: 48/64Date: 9/12/86

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS			0	0s	Partly cloudy. Lower RH: 50%
11-20	FLAT			0	6s	
21-27	Sky			0	5, 2, 3, 3, 3, 3, 3s	
28	COMP			↑		
29-31	HD 192281	20:10	40:07	0	5s	sp. std.
32	COMP			↑		
33-5	CI Cyg	19:50	35:41	12	120, 20, 3s	
36	COMP			↑		
37	awm4-40	16:03	23:52	35	15m.	light clds. W sky still bright
38	COMP			↑		low cts; reds?
39	awm5-28	16:57	28:03	35	15m.	star on edge, overlapping slit
40	COMP			↑		
41	awm5-48	16:57	27:55	35	15m.	good vel.
42	COMP			↑		
43	awm5-49	16:57	27:54	35	20 m.	good vel.
44	COMP			↑		
45	20496 + 1318	20:49	13:18	42	20 m.	~900 cts
46	COMP			↑		
47	21238 + 0935	21:23	9:35	42	15m.	~800 cts; good em. vel.
48	COMP			↑		
49	I 5111	21:25	2:15	42	15m.	~900 cts
50	COMP			↑		
51	21311 + 0833	21:31	8:33	42	20 m.	~1250 cts; bad first vel.
52	COMP			↑		
53	21317 + 0833	21:31	8:33	42	20 m.	~1100 cts; blue, strong em.
54	COMP			↑		
55	21336 + 0743	21:33	7:46	42	20m.	~1100 cts; em tabs
56	COMP			↑		
57	N7102	21:37	6:03	42	20m.	~1400 cts
58	COMP			↑		

Number	Object	R. A.	Dec.	L/R	Exp	Comments
59	21507-0227	21:50	-2:27	42	20m	~300 cts; cm.
60	COMP			↑		
61	21530+0622	21:53	6:22	42	20m	~250 cts.
62	COMP			↑		
63	21569+1014	21:56	10:14	42	20m	Clouds moved in - covered
64	COMP			↑		glx. - 900 cts.
65-6	E And	23:33	48:49	12	3, 60s	Clear hor.
67	COMP			↑		
68	N7469	23:03	8:52	6	2m.	
69	COMP			↑		
70	Mrk 335	0:03	19:55	6	2m.	
71	COMP			↑		
72	23336+0210	23:33	2:10	42	20m.	In/out of clouds; ~1000 cts
73	COMP			↑		
74	F1460	22:54	4:24	42	20m.	" " ; ~1000 cts; strong cm
75	COMP			↑		
76	N7430	22:54	8:31	42	10m.	~1700 cts; abs
77	COMP			↑		
78	N7451	22:58	8:11	42	20m.	In clouds; ~900 cts; cm
79	COMP			↑		
80	00175+0612E	0:17	6:12	42	20m.	Satellite passed w/ below slit!
81	COMP			↑		~1300 cts; huge Hae
82	00203+0633	0:20	6:33	42	20m.	Clouds; ~900 cts; abs
83	COMP			↑		
84	00224+0623	0:22	6:23	42	5m.	~1500 cts; abs.
85	COMP			↑		
86	00279+0536	0:27	5:36	42	15m	Squashed by clouds; RSDO
87	COMP			↑		
88-9	AX Per	1:36	54:15	12	10, 180s	Clouds!
90	COMP			↑		

60 inch Telescope Log

Observer: GroganPI: Grogan/Kenyon/WilkosSpectrograph: FASTGrating: 300/3" slit; band 4Page: 4865Date: 9/12/96

60 inch Telescope Log				Spectrograph: <u>FAST</u>		
Observer: <u>Grogan</u>		Grating: <u>500L; 3" slit; bin by 4</u>		Page: <u>4865</u>		
PI: <u>Galar/Konjar/Wilkes</u>		Date: <u>9/12/96</u>				
Number	Object	R.A.	Dec.	L/R	Exp	Comments
91	M31	0:46	40:59	0	3m.	cloudy - rustle.
92	COMP			↑		
93	471.089716	2:53	13:18	3	20m.	
94	COMP			↑		
95	471.089742W	2:51	13:18	3	20m.	heavy clouds - reds?
96	COMP			↑		
97	471.090424	2:52	13:20	3	20m.	clouds - reds
98	COMP			↑		
99-100	DR Tau	4:47	16:58	12	100, 10s	
101	COMP			↑		
102-3	DL Tau	4:33	25:20	12	20, 30s	Heavy clouds
104	COMP			↑		
105	471.091636	2:52	13:22	3	20m.	clouds
106	COMP			↑		
107	Akn 120	5:13	-0:12	6	2m.	sky coming up.
108	COMP			↑		
109	HZ14	4:38	10:53	0	5m.	sp std
110	COMP			↑		
111	Frige 24	2:52	3:30	0	2m.	
112	COMP			↑		cloudy
113	Frige 25	2:36	5:15	0	3m.	
114	COMP			↑		
115-29	BIAS			0	0s.	
125-34	FLAT			0	6s.	overcast; thin clouds

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>4867</u>		
Observer: <u>P Berlin</u>		Grating: <u>3000</u>		Date: <u>9/1/96</u>		
PI: <u>Kernan / Wilkes / Bernby</u>						
Number	Object	R. A.	Dec.	L/A	Exp	Comments
1-10	BeAS			0	0s	
11-20	FLAT			0	6s	
21-25	SKY			0	2s	
26	COMP			↑	5s	
27-29	HD 164353	18-00	+2	0	5s	
30	COMP			↑		
31-33	HD 166097	18-08	+9	0	4s	
34	COMP			↑		
35-37	HD 165763	18-08	-21	0	4s	
38	COMP			↑		
39-41	HD 166733	18-16	-16	0	4s	
42	COMP			↑		
43-45	HD 192281	20-10	40:16	0	4s	
46	COMP			↑		
47-49	CC Cyg	19-50	+35:41	12	2s, 2s, 1s	
50	COMP			↑		poor seeing 2.5"
51	MRK 509	20:41	+0:54	6	2m	
52	COMP			↑		
53	H24	15:57	+6:07	48	15m	H+
54	COMP			↑		
55	H45	16:01	+15:47	48	14m	clouds.
56	COMP			↑		stopped by clouds
57	NTM 69	23:00	+00:52	6	3m	close.
58	COMP			↑		
59	Fergello	23:17	-05:26	0	4m	
60	COMP			↑		
61	MRK 335	00:03	+49:55	6	4m	
62	COMP			↑		
63-64	Z And	23:33	+48:49	12	90s, 3m	
65	COMP			↑		

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>4868</u>		
Observer: <u>PB</u>		Grating: <u>3002</u>				
PI: <u>Geller</u>		Date: <u>9/11/86</u>				
Number	Object	R. A.	Dec.	L/R	Exp	Comments
66-68	ArAr	01:36	+54:15	12	20, 5m	20s
69	COMP			↑		
70-72	M32	00:39	+40:35	0	60s	pair seeing
73	COMP			↑		
74-76	M31	00:40	+40:59	0	60s	
77	COMP			↑		
78	M31 sky	00:40	+41:21	0	60s	
79	COMP			↑		clearing
80-81	163m217	00:40	+41:11	0	7m	
82	COMP			↑		
83	466.025677	00:59	+11:20	3	5m	
84	COMP			↑		
85	466.024409N	00:52	+11:15	3	6m	
86	COMP			↑		
87	466.026259	00:50	+11:23	3	9m	
88	COMP			↑		
89	466.027308	00:51	+11:27	3	12m	
90	COMP			↑		
91	466.028724	00:58	+11:33	3	10m	em
92	COMP			↑		
93	466.028320	00:51	+11:31	3	10m	em + on slit to W
94	COMP			↑		
95	466.028048	00:53	+11:30	3	12m	em
96	COMP			↑		
97	466.028714	01:00	+11:37	3	6m	
98	COMP			↑		
99	466.029774	00:53	+11:37	3	9m	
100	COMP			↑		
101	466.030505	00:52	+11:40	3	10m	
102	COMP			↑		

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4869</u>
Observer: <u>PB</u>		Grating: <u>300</u>		Date: <u>9/14/96</u>		
PI: <u>Geller & Kenyon</u>						
Number	Object	R.A.	Dec.	L/A	Exp	Comments
103	466.035486	00:56	+12:02	3	10m	
104	WMP			↑		
105	466.035823	00:57	+12:02	3	12m	
106	WMP			↑		
107	466.035984	00:42	+12:01	3	10m	pec * -
108	WMP			↑		
109	466.036910	00:57	+12:07	3	15m	
110	WMP			↑		
111	466.038401	01:06	+12:12	3	10m	
112	WMP			↑		
113	466.038955	01:04	+12:14	3	12m	
114	WMP			↑		
115	466.040060	00:57	+12:19	3	10m	
116	WMP			↑		
117	466.041225	01:01	+12:24	3	15m	em
118	WMP			↑		
119	466.041995	01:04	+12:27	3	15m	em
120	WMP			↑		
121	466.048347	01:04	+12:52	3	15m	
122	WMP			↑		
123	466.055617	01:03	+13:23	3	8m	
124	WMP			↑		
125-126	DLTan	04:33	+25	12	12m, 10s	
127	WMP			↑		
128-129	DRTan	04:47	+14	12	2m, 10s	
130	WMP			↑		
131	Forge 24	02:32	+03:30	0		
132	WMP			↑		clear @ dawn
133-142	BIAS			0	0s	
143-152	FLAT			0	6s	

1,11
8.41

60 inch Telescope log

Observer: P. BerthelPI: BarnbySpectrograph: FASTGrating: 3000Date: 9/15/96Page: 4870

Number	Object	R.A.	Dec.	L/3	Exp	Comments
1-10	BIAS			0	0s	
11-20	FLAT			0	6s	
21-25	SKY			0	2s	
26	COMP			↑	5s	
27-29	H0192281	20:0	+40:07	0	5s	
30	COMP			↑		
31-33	CICing	19:50	+35:41	0	2, 10, 120	
34	COMP			↑		
35	17008p1622SE	17:00	+16:22	1	5m	redo from 9/7/96 #62
36	COMP			↑		
37	17048p4109W	17:04	+11:07	1	6m	West Camp em
38	COMP			↑		(East camp observed 7/24/96)
39	17052p3129E	17:05	+31:29	1	4m	...
40	COMP			↑		
41	17098p2823	17:09	+28:23	1	5m	weak
42	COMP			↑		
43	PG 1626p554	16:27	+55:22	4	9m	sec 2 = 1.25
44	COMP			↑		ugh. stopped by clouds
45	H47	16:05	+16:35	4	10m	mainly in East from the South
46	COMP			↑		
47	H51	16:04	+14:54	4	12m	em
48	COMP			↑		
49	H53	16:03	+14:23	4	10m	
50	COMP			↑		
51	H54	16:05	+15:04	4	10m	
52	COMP			↑		
53	H55	16:04	+16:18	4	10m	
54	COMP			↑		
55	H61	16:04	+15:49	4	6m	
56	COMP			↑		

144

8.76
1.15

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>4871</u>	
Observer: <u>PB</u>			Grating: <u>7u2</u>		Date: <u>9/15/96</u>	
PI: <u>Graham</u>						
Number	Object	R.A.	Dec.	L/E	Exp	Comments
57	18351p1956	18:35	+19:56	1	5m	em
58	COMP			↑		
59	18374p19415	18:37	+19:15	1	4m	
62	COMP			↑		increasing humidity
63-64	BDp 284211	21:48	+28:37	0	1m	
65	COMP			↑		
66	N7112	21:39	+17:16	42	15m	
67	COMP			↑		
68	N7113	21:40	+17:20	42	11m	* on slit to W
69	COMP			↑		
70	21400p1340	21:40	+17:40	42	12m	
71	COMP			↑		MMT in cloud
72	21482p1302	21:48	+13:02	42	12m	
73	COMP			↑		
74	IS145	21:51	+14:55	42	15m	
75	COMP			↑		
76	21572p2328	21:57	+23:28	42	20m	
77	COMP			↑		
78	22105p1111	22:10	+11:10	42	9m	stopped by clouds
79	COMP			↑		
80-89	BIAS			0	0s	fogged in all night
90-99	FLAT			0	6s	

60 inch Telescope Log

Observer: P BerlinPI: GriffinSpectrograph: FASTGrating: 300LDate: 5/16/96Page: 4872

Number	Object	R.A.	Dec.	L/A	Exp	Comments
1-10	BIAS			0	0s	
11-20	FLAT			0	6s	
21-25	SKY			0	2s	
26	COMP			↑	5s	
27-29	HD192201	20:10	+40.15	0	5s	
30	COMP			↑		
31-33	CICING	19:50	+35:41	12	2s, 2s, 1s	
34	COMP			↑		close due to clouds
35	ZUOS p1111	22:10	+11:10	42	20m	open @ 8:30
36	COMP			↑		heavy cloud in the West
37	NT367	22:42	+03:22	42	20m	* to E
38	COMP			↑		
39	Z2476 p1147	22:47	+11:47	42	17m	
40	COMP			↑		
41	Z2540 p1731	22:54	+17:31	42	5m	Stopped by clouds
42	COMP			↑		
43	Z1114S m2731	21:11	-27:31	1	15m	clearing
44	COMP			↑		
45	Z2283 p3314	22:28	+33:34	53	20m	Very LSB - good luck
46	COMP			↑		
47	Z2590 p2958	22:54	+29:58	53	20m	LSB
48	COMP			↑		
49	Z3061 p1638 S	23:06	+46:38	57	5m	star N S
50	Z3061 p1638 N	23:06	+46:38	57	10m	Fuzz around stars
51	COMP			↑		
52	NT469	23:06	+06:52	6	2m	some clouds
53	COMP			↑		
54	MRK509	20:41	-10:54	6	2m	
55	COMP			↑		
56	Z23159 m2594	22:34	-25:49	1	12m	bin by 2 - Sy w/ fuzz

8, 6
1, 1

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4873</u>
Observer: <u>PB</u>				Grating: <u>70R</u>		
PI: <u>Carroll & Huchra</u>				Date: <u>9/16/96</u>		
Number	Object	R.A.	Dec.	L/A	Exp	Comments
57	COMP			↑		finally some nice sky
58	Ferrello "	23:17	-05:26	6	2m	
59	COMP			↑		
60	22294p1928	22:29	+19:25	42	20m	
61	COMP			↑		
62	22369p1376	22:28	+13:37	42	20m	
63	COMP			↑		
64	22540p1731	22:54	+17:31	42	20m	* on slit to E
65	COMP			↑		
66	22586p1920	22:54	+19:20	42	12m	wright... clouds big
67	COMP			↑		time forming overhead
68-69	ZAnd	23:33	+48:49	12	2m/6s	MMT in cloud
70	COMP			↑		
71-72	AXPer	01:36	+54:15	12	3m/1m	mountain cloud
73	COMP			↑		
74	NGC 392	01:05	+32:52	↑	5m	S
75	NGC 394	01:05	+32:52	↑	6m/4	N reds stopped
76	COMP			↑		
77-86	BIAS			0	0s	bin by Z
87-96	FLAT			0	12s	bin by Z
97	NGC 394	01:05	+32:52	↑	6m	open again
98	COMP			↑		poor seeing; clouds
99	01134p1945	01:13	+19:45	↑	15m	em
100	COMP			↑		
101	MRK 335	00:03	+16:55	↑	3m	
102	COMP			↑		
103	01315p5510	01:31	+55:10	↑	12m	em
104	COMP			↑		
105	01317p5510	01:31	+55:09	↑	12m	stopped short by clouds
106	COMP			↑		em.

250 265

60 inch Telescope Log
 Observer: P Berlin & S Kenyon
 PI: Koranyi & Grogan
 Spectrograph: FAST
 Grating: 300
 Date: 9/17/96
 Page: 4875

Number	Object	R.A.	Dec.	L.R.	Exp	Comments
10	BIAS			0	0s	
11-20	FLAT			0	6s	heavy cloud @ sunset
21-25	SKY			0	2s	
26	COMP			↑	5s	
27-29	HD192791	20:10	+40	0	5s	
30	COMP			↑		
31-35	CICyg	19:50	+35:41	12	2s, 2s, 2s, 3s	
36	COMP			↑		clearing
37	430201	16:02	+42:53	42	15m	
38	COMP			↑		
39	Z1001	16:40	+29:07	42	15m	
40	COMP			↑		
41	awm S-17	16:57	+29:07	39	15m	
42	COMP			↑		a few thin clouds
43	awm S-51	16:58	+27:39	39	15m	
44	COMP			↑		
45	awm S-53	16:57	+27:55	39	15m	wk
46-47	COMP			↑		
48	ZAnd	23:33	+48:45	12	3s, 6s	
49	COMP			↑		
50	N7469	23:08	+8:52	6	2m	
51	COMP			↑		
52	Z3168 p1916	23:16	+19:16	42	20m	
53	COMP			↑		
54	I1481	23:16	+05:37	42	15m, 9m	↑↑ clouds
55-56	COMP			↑		
57	MR335	00:06	+10:11	6	5m	delay of cloud
58-60	COMP			↑		
61	ALP	01:36	+54:45	12	20s, 2m, 5m	
62-71	COMP			↑		
72-81	BIAS			0	0s	
82-85	FLAT			0	6s	
	DARK			0	15m	

fog fog fog

60 Inch Telescope Log				Spectrograph: FAST		Page: 4876	
Observer: Kenyon				Grating: 300 gmm ⁻¹		Date: 9/18/96	
PI: Kenyon/Groen/Grogin/Wilkes							
Number	Object	R.A.	Dec.	L/R	Exp	Comments	
1-10	BIAS			0	0 ^s	dark clouds	
11-20	FLAT			0	6 ^s		
21-25	Sky			0	5 ^s	light clouds	
26	COMP			↑	5 ^s	FOCUS OK	
27-29	HO192251	20:10	+40	0	5		
30	COMP			↑	5		
31-33	CI CYG	19:50	+35	12	2,20	120	better
34	COMP			↑	5		
35	CL6 96	15:52	+29	32	900	weak in blue	
36	COMP			↑	5		
37	N5888f1	15:43	+24:53	42	900	too weak?	
38	COMP			↑	5		
39	3C 390.3	18:45	+79	6	300	broad lines	
40	COMP			↑	5		
41	MRK 509	20:41	-10:54	6	120		
42	COMP			↑	5		
43-45	BD+28°4211	21:49	28:38	0	60 ^s	almost clear	
46	COMP			↑	5 ^s	RH ≈ 70%	
47-48	22118+1302	22 11	13:01	42	900 ^s		
49	COMP			↑	5 ^s		
50	22220+1750	22 22	17:50	42	1200 ^s		
51	COMP			↑	5 ^s		
52	23181+1556	23 18	15:56	42	900 ^s	RH = 75%	
53	COMP			↑	5 ^s		
54	N7641	23 19	11:37	42	750 ^s	companion * (?) <u>not</u> on slit	
55	COMP			↑	5 ^s		
56	23292+1818	23 25	18:17	42	900 ^s	too weak?	
57	COMP			↑	5 ^s		
58	23421+1125	23 42	11:25	42	900 ^s	nice!	
59	COMP			↑	5 ^s		

8.6
1.14

60 inch Telescope Log				Spectrograph: <u>FAST</u>		
Observer: <u>Kenyon</u>				Grating: <u>300 Lmm^{-1}</u>		Page: <u>4877</u>
PI: <u>Grogan/Wilkas/Geller</u>				Date: <u>9/18/96</u>		
Number	Object	R.A.	Dec.	L/R	Exp	Comments
60	23445+1434	23:44	14:34	42	750 ^s	star @ row 30 (west)
61	COMP			↑	5 ^s	
62	23500+1417	23:50	14:17	42	600 ^s	
63	COMP			↑	5 ^s	
64	N7469	23:03	8:52	6	120 ^s	
65	COMP			↑	5 ^s	
66	Mk 335	0:04	19:55	6	120 ^s	
67	COMP			↑	5 ^s	
68-69	Z And	23:33	48:49	12	3,60	
70	COMP			↑	5 ^s	
71-73	HD 217086	22:55	62:27	0	5 ^s	
74	COMP			↑	5 ^s	RH ≈ 74%
75	465.02356	0:27	10:39	3	600 ^s	very low z? #II region
76	COMP			↑	5 ^s	
77	465.012520	0:31	10:39	3	600 ^s	emission lines
78	COMP			↑	5 ^s	
79	465.013514	0:21	10:44	3	900 ^s	
80	COMP			↑	5 ^s	
81	465.014114	0:28	10:47	3	900 ^s	clouds weak?
82	COMP			↑	5 ^s	
83	465.017870	0:30	11:07	3	600 ^s	clouds
84	COMP			↑	5 ^s	
85	465.025656	0:38	11:48	3	600 ^s	through clouds
86	COMP			↑	5 ^s	
87	465.025675	0:29	11:49	3	900 ^s	clouds
88	COMP			↑	5 ^s	
89	465.030661	0:39	12:14	3	600 ^s	emission H α , [NII], [S II]
90	COMP			↑	5 ^s	thinner cirrus
91	465.032958	0:21	12:27	3	750 ^s	RH ≈ 80%
92	COMP			↑	5 ^s	

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4878</u>
Observer: <u>Kenyon</u>		Grating: <u>300 gmm⁻¹</u>		Date: <u>9/18/96</u>		
PI: <u>Geller / Kenyon / Wilkes</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
93	465.029011	0:40	12:06	3	900 ^s	
94	COMP			↑	5 ^s	
95-96	M32	0:40	40:35	0	30 ^s	
97	COMP			↑	5 ^s	
98	465.027983	0:26	12:01	3	900 ^s	
99	COMP			↑	5 ^s	
100	465.017316	0:33	11:04	3	600 ^s	emission
101	COMP			↑	5 ^s	
102	465.017043	0:31	11:02	3	750 ^s	clouds are back
103	COMP			↑	5 ^s	
104-105	AX Per	1:33	54:15	12	10 ^s 90 ^s	RH R 83%
106	COMP			↑	5 ^s	
107	465.043143	0:44	13:22	3	600 ^s	thick clouds - redo
108	COMP			↑	5 ^s	socked in
109-110	DL Tau	4:33	25:20	12	20/180	
111	COMP			↑	5 ^s	
112-113	DR Tau	4:47	16:58	12	10/120	
114	COMP			↑	5 ^s	
115	471.090719	2:48	13:20	3	900	too weak?
116	COMP			↑	5 ^s	
117	471.090424	2:52	13:20	3	1200	
118	COMP			↑	5 ^s	
119	Arn 120	5:13	-0:12	6	120	
120	COMP			↑	5 ^s	
						CLOUDED UP AGAIN
121-130	BIAS			0	0 ^s	
131-140	FLAT			0	6 ^s	

60 inch Telescope Log				Spectrograph: FAST		Page: 4879
Observer: S. Kenyon				Grating: 300 μmm^{-1}		
PI: Kenyon/Green/Grogin/Geller				Date: 9/19/96		
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS			0	0 ^s	
11-20	FLAT			0	6 ^s	
21-25	sky			0	60 ^s	waiting for clouds to leave
26	COMP			↑	5 ^s	FWHM = 4.0
27-29	HD 192281	20:10	+40:07	0	5 ^s	very light clouds
30	COMP			↑	5 ^s	
31-33	CI CyG	19:50	+35	12	2, 20	120
34	COMP			↑	5 ^s	
35-36	CBS 311	15:19	50:07	32	900 ^s	clear!
37	COMP			↑	5 ^s	
38	2825cf2	16:12	28:12	42	1200	RH \approx 45%
39	COMP			↑	5 ^s	
40	3201nfl	16:04	+32:00	42	900	weak but too west!
41	COMP			↑	5 ^s	
42	Z00496_14.80	17:00	+59	3	300	
43	COMP			↑	5 ^s	
44	N000913_15.00	17:05	+62:30	3	240	
45	COMP			↑	5 ^s	
46	Z01240_15.40	17:20	+51:55	3	240	
47	COMP			↑	5 ^s	
48	N000024_12.40	17:20	+57:58	3	240	star??
49	COMP			↑	5	
50	Z002605_14.40	17:57	26:21	3	300	weak?
51	COMP			↑	5	
52	Z002605_east	17:57	26:21	3	240	clouds
53	COMP			↑	5	soaked in!
54	A000267_14.90	20:24	+2:30	3	300	
55	COMP			↑	5	
56	Z002847_14.40west	22:17	29:08	3	450	some clouds; w comp
57	COMP			↑	5	

8.88
1.17

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4880</u>	
Observer: <u>S Kenyon</u>				Grating: <u>300 2mm⁻¹</u>			
PI: <u>Geller/Grogin/Kenyon</u>				Date: <u>9/19/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments	
58	Z002817_14.40 east	22:17	29:08	3	450	east component	
59	COMP			↑	5		
60	Z00762_14.00 west	22:20	30:40	3	300	West component	
61	COMP			↑	5		
62	Z00762_14.00 east	22:20	30:40	3	450	east component	
63	COMP			↑	5		
64	A00085_14.00	22:34	18:53	3	300		
65	COMP			↑	5		
66	Z004234_14.70 west	22:39	19:59	3	240	W component	
67	COMP			↑	5		
68	Z004234_14.70 east	22:39	19:59	3	450	E component	
69	COMP			↑	5		
70	Z003209_14.50A	22:59	15:42	3	240	NW component of 3	
71	COMP			↑	5 ^s		
72	Z003209_14.50B	22:59	15:42	3	400	central component	
73	COMP			↑	5 ^s		
74	Z003209_14.50C	22:59	15:42	3	180	SE component	
75	COMP			↑	5 ^s		
76	I1481	23:16	5:37	42	600		
77	COMP			↑	5 ^s	clouds thick again	
78-80	ZAnd	23:33	48:49	12	3,90,3	clouds	
81	COMP			↑	5 ^s		
82-83	AX Per	1:36	54:15	12	10,60		
84	COMP			↑	5 ^s		
85	I1483	23:20	11:03	42	750		
86	COMP			↑	5 ^s	light clouds	
87	N7681	23:25	17:00	42	1000		
88	COMP			↑	5 ^s		
89-90	23328+1240	23:32	12:38	42	900	clouds try again	
91	COMP			↑	5 ^s	better!	

78 → NOTHING ON SLIT

60 inch Telescope Log		Spectrograph: FAST				Page: 4881
Observer: S. Kenyon		Grating: 3002 mm ⁻¹				
PI: Grogan, Wilkes, Geller		Date: 9/19/96				
Number	Object	R. A.	Dec.	L/R	Exp	Comments
92	23310+4405	23:31	14:05	42	900	clouds - variable
93	COMP			↑	5	
94	N7469	23:03	8:52	6	120	
95	COMP			↑	5	
96	Hrk 335	00:03	19:55	6	120	
97	COMP			↑	5	
98	465.015699	0:26	10:57	3	900	
99	COMP			↑	5	
100	465.015787	0:24	10:56	3	600	
101	COMP			↑	5	
102	465.016008	0:26	10:58	3	900	
103	COMP			↑	5	
104	465.016094	0:30	10:58	3	600	companion
105	COMP			↑	5	
106	465.017513	0:24	11:05	3	750	light cirrus only
107	COMP			↑	5	
108	465.018683	0:21	11:11	3	900	
109	COMP			↑	5	
110	465.019835	0:30	11:17	3	900	more clouds
111	COMP			↑	5	
112	Z001278_13.70N	2:21	39:22	3	300	thicker clouds
113	COMP			↑	5	
114	Z001278_13.70S	2:21	39:22	3	300	off center to avoid
115	COMP			↑	5	bright star on TV
116	Z000993_1350S	2:47	-00:17	3	300	
117	COMP			↑	5	
118	Z000993_1350N	2:47	-00:17	3	360	
119	COMP			↑	5	
120	HD 12623	2:02	62:56	0	10 ^s	RV standard
121	COMP			↑	5 ^s	

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>4882</u>		
Observer: <u>Kenyon</u>		Grating: <u>300 lmm⁻¹</u>		Date: <u>9/19/96</u>		
PI: <u>Geller / Kenyon</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
122	Z001982_14.10	2:23	41:22	3	300	object "B" also on slit
123	COMP			↑	5	B is a star
124	Z001982_14.10C	2:23	41:22	3	60	Star also
125	Z001982_14.10D	2:23	41:22	3	450	redshifted H α
126	COMP			↑	5	
127	N00004_13.20	1:50	27:40	3	240	looks like a star
128	COMP			↑	5	
129	471.077773	2:51	17:51	3	750	
130	COMP			↑	5	
131	Z002559_14.30	3:20	41:22	3	450	
132	COMP			↑	5	
133	Z00790_15.10	3:20	41:20	3	300	
134	COMP			↑	5	
135	A000360_15.00	3:20	41:38	3	450	too weak?
136	COMP			↑	5	
137-138	DL Tau	4:33	25:20	12	20/180	
139	COMP			↑	5	
140-141	DR Tau	4:47	16:58	12	10/20	
142	COMP			↑	5	
143	A000360_15.00	3:20	41:38	3	750	goes with 135
144	COMP			↑	5	
145-154	BIAS			0	0	
155-164	FLAT			0	6	

60 Inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4883</u>
Observer: <u>S. Kenyon</u>				Grating: <u>300 gmm⁻¹</u>		
PI: <u>Kenyon/Geller</u>				Date: <u>9/20/96</u>		
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS			0	0	clear! RH ≈ 35%
11-20	FLAT			0	6 ^s	
21-25	SKY			0	3 ^s	
26	COMP			↑	5 ^s	
27-29	HO 192281	20:10	40:07	0	5 ^s	clear!
30	COMP			↑	5 ^s	
31-33	CI CYG	19:50	35:41	12	2, 20, 120	
34	COMP			↑	5 ^s	
35	N002348_15.40	18:10	49:55	3	300 ^s	
36	COMP			↑	5 ^s	
37	N00416_15.20	17:49	61:40	3	300 ^s	
38	COMP			↑	5 ^s	
39	N001425_15.20	17:43	67:36	3	300 ^s	
40	COMP			↑	5 ^s	
41	N001404_15.20	17:59	57:22	3	600 ^s	emission lines
42	COMP			↑	5 ^s	
43	N000528_14.70	17:20	62:36	3	300 ^s	
44	COMP			↑	5 ^s	
45	N002421_15.40	17:12	80:11	3	120 ^s	star
46	COMP			↑	5 ^s	
47	N002421_15.40N	17:12	80:11	3	600 ^s	low sb galaxy
48	COMP			↑	5 ^s	
49	A001003_15.50	17:13	72:25	3	750 ^s	weak
50	COMP			↑	5 ^s	
51	N001431_15.20	17:24	72:08	3	600 ^s	
52	COMP			↑	5 ^s	
53	N000919_15.00	17:30	67:19	3	300 ^s	interesting em lines
54	COMP			↑	5 ^s	
55	N001432_15.20	17:32	71:50	3	300 ^s	
56	COMP			↑	5 ^s	

8.74
1.18

60 inch Telescope Log				Spectrograph: FAST		Page: 4884
Observer: S. Kenyon				Grating: 300 lmm ⁻¹		
PI: Geller/Grogin				Date: 9/20/96		
Number	Object	R.A.	Dec.	L.R.	Exp	Comments
57	A00257.14.90N	20:27	2:41	3	300 ^s	strong [NII]
58	COMP			↑	5 ^s	
59	A00257.14.90S	20:27	2:41	3	300 ^s	
60	COMP			↑	5 ^s	
61	N00249.15.40N	20:29	10:44	3	300 ^s	
62	COMP			↑	5 ^s	
63	N00249.15.40S	20:29	10:44	3	600 ^s	weak
64	COMP			↑	5 ^s	
65	N00249.15.40W	22:39	18:37	3	300 ^s	
66	COMP			↑	5 ^s	
67	N00249.15.40E	22:39	18:37	3	600 ^s	weak?
68	COMP			↑	5 ^s	
69	N002485.15.40A	23:21	27:07	3	600 ^s	emission lines
70	COMP			↑	5 ^s	
71	N002485.15.40B	23:21	27:04	3	450 ^s	H α [NII]
72	COMP			↑	5 ^s	
73	N002485.15.40C	23:21	27:04	3	600 ^s	H α [NII]
74	COMP			↑	5 ^s	
75	23357+1157	23:36	11:57	42	900 ^s	a little weak
76	COMP			↑	5 ^s	
77	I 1526	0:01	11:20	42	900 ^s	
78	COMP			↑	5 ^s	
79	I 5378	0:02	16:38	42	1000 ^s	
80	COMP			↑	5 ^s	
81	00372+2056	0:37	20:56	42	900 ^s	
82	COMP			↑	5 ^s	
83	01170+0765	01:17	07:55	42	900 ^s	
84	COMP			↑	5 ^s	
85	01161+1445	01:16	14:45	42	900	
86	COMP			↑	5 ^s	

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4885</u>
Observer: <u>S. Kenyon</u>				Grating: <u>300 g mm⁻¹</u>		
PI: <u>Groggin/Wilkes/Kenyon/Geller</u>				Date: <u>9/20/96</u>		
Number	Object	R. A.	Dec.	L/I	Exp	Comments
87	00367+0341	00 36	3:40	42	750	
88	COMP			↑	5	
89	N7469	23:03	8:52	6	120	
90	COMP			↑	5	
91	HRK 335	0:03	19:55	6	120	
92	COMP			↑	5	
93-95	Felge 110	23:17	-5:26	0	120 ^s	
96	Comp			↑	5	
97-98	Z And	23:33	48:49	12	3,60	
99	Comp			↑	5	
100-101	AX Per	1:36	54:15	12	10,90	
102	COMP			↑	5	
103	466.052977	0:42	13:11	3	750	
104	COMP			↑	5	
105	466.050701	0:59	13:03	3	600	
106	COMP			↑	5	
107	466.049829N	0:58	12:59	3	600	
108	COMP			↑	5	
109	466.049829S	0:58	12:59	3	900	
110	COMP			↑	5	
111	466.055220	1:08	13:21	3	900	
112	COMP			↑	5	
113	466.055052	0:44	13:22	3	900	
114	COMP			↑	5	
115	466.055669	0:43	13:22	3	500	
116	COMP			↑	5	
117	466.055714	0:58	13:24	3	1000	error while writing-redo
118	COMP			↑	5	
119	466.055760	0:59	13:24	3	600	
120	COMP			↑	5	

60 inch Telescope Log
 Observer: S Kenyon
 PI: Geller

Spectrograph: FAST
 Grating: 300 gmm⁻¹
 Date: 9/20/96 Page: 4886

Number	Object	R. A.	Dec.	L/	Exp	Comments
121	466.055797	1:00	13:24	3	600	
122	COMP			↑	5	
123	466.056350	1:03	13:26	3	900	H α emission
124	COMP			↑	5	
125	466.056774	0:45	13:27	3	900	
126	COMP			↑	5	
127	466.057347	0:44	13:29	3	600	
128	COMP			↑	5	
129	466.055776	1:01	13:24	3	900	
130	COMP			↑	5	
131	N00473.15.20S	1:15	28:29	3	600	bright star on slit
132	COMP			↑	5	
133	N00473.15.20N	1:15	28:29	3	750	H α emission
134	COMP			↑	5	
135	Z007960.15.10F	3:19	41:33	3	300	a few emission lines !!
136	COMP			↑	5	
137	Z007960.15.10E	3:19	41:33	3	240	
138	COMP			↑	5	
139	Z007960.15.10D	3:19	41:33	3	240	
140	COMP			↑	5	
141	Z007960.15.10B	3:19	41:33	3	240	
142	COMP			↑	5	
143	Z007960.15.10A	3:19	41:33	3	240	
144	COMP			↑	5	
145	Z007960.15.10G	3:19	41:33	3	240	
146	COMP			↑	5	
147-148	DL Tau	4:33	25:20	12	20,180	
149	COMP			↑	5	
150-151	DR Tau	4:47	16:58	12	10,120	
152	COMP			↑	5	

153-162 BIAS
 163-172 FLAT

0 0
 0 6

FAX: To Susan Takara pg 1 of 4
From FLWD 60"

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4887</u>
Observer: <u>PBerthel</u>				Grating: <u>302R</u>		
PI: <u>Wilkes/Caroan/Huchra</u>				Date: <u>9/21/96</u>		
Number	Object	R.A.	Dec.	L/R	Exp	Comments
110	BIAS				0s	
11-20	FLAT				6s	a few scattered clouds
21	DDp284211	21:48	+28:37	0	1m	
22	COMP			↑		
23-25	CICogg	19:50	+35:41	12	2, 20, 100	bright moon
26	COMP			↑		
27, 29	V1803p676	18:03	+67:38	49	15m	sec 2 - 1.30
28, 30	COMP			↑		
31	PG1708p60L	17:08	+60:43	0	4m	sec 2 - 1.32
32	COMP			↑		
33	18139p4731 W	18:13	+47:31	1	6m	sup * to E
34	COMP			↑		
35	NG62	18:14	+46:03	1	4m	
36	COMP			↑		
37	18163p4120	18:16	+46:20	1	4m	
38	COMP			↑		
39	18176p4744	18:17	+47:44	1	9m	em
40	COMP			↑		
41	18191p4733	18:19	+47:33	1	5m	
42	COMP			↑		dome keeps closing
43	18188p3509	18:18	+35:09	1	6m	- disengage auto dome
44	COMP			↑		
45	18200p5531	18:20	+55:31	1	5m	
46	COMP			↑		
47	18223p4047	18:22	+40:47	1	12m	em
48	COMP			↑		
49	23256p1815	23:25	+18:45	42	20m	
50	COMP			↑		
51	22586p1920	22:56	+19:20	42	15m	
52				↑		

rise:

gain

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>4888</u>	
Observer: <u>PB</u>			Grating: <u>302</u>		Date: <u>9/24/96</u>	
PI: <u>Geller</u>						
Number	Object	R. A.	Dec.	I/R	Exp	Comments
53	N7469	23:03	+08:52	6	2m	
54	COMP			↑		bright sky
55	MRK335	00:03	+49:55	6	2m	
56	COMP			↑		
57-58	Z And	23:33	+48:49	12	3, 60s	
59	COMP			↑		
60	Z3446p1520	23:44	+15:20	42	15m	
61	COMP			↑		
62	464.05640	00:14	+10:36	3	15m	
63	COMP			↑		
64	464.018534	00:00	+10:46	3	15m	
65	COMP			↑		
66	464.020151	00:12	+10:51	3	15m	
67	COMP			↑		
68	464.021386	23:56	+10:55	3	15m	
69	COMP			↑		
70	464.022924	00:15	+10:59	3	15m	probably reds em!
71	COMP			↑		
72	464.024482	00:14	+11:04	3	15m	
73	COMP			↑		
74	464.028688	23:56	+11:17	3	15m	
75	COMP			↑		clouds around
76	464.031478	00:10	+11:25	3	15m	
77	COMP			↑		
78	464.034359	00:06	+11:33	3	15m	
79	COMP			↑		
80	464.036383	00:10	+11:39	3	15m	moon set
81	COMP			↑		
82	464.038659	23:55	+12:33	3	15m	
83	COMP			↑		more clouds!

60 inch Telescope Log

Observer: PBPI: Geller / Huchra / KenyonSpectrograph: FASTGrating: 30RDate: 9/21/96Page: 4889

Number	Object	R.A.	Dec.	L/R	Exp	Comments
84	464.059685	00:03	+12:43	3	15m	
85	COMP			↑		
86	464.060060	00:12	+12:45	3	15m	
87	COMP			↑		a few thin clouds
88	464.071785	00:05	+13:19	3	15m	seeing ~1.5"
89	COMP			↑		
90	464.072525	00:06	+13:21	3	15m	
91	COMP			↑		
92	015154p334235	01:51	+33:42	25	12m	
93	COMP			↑		
94	014317p344415	01:43	+34:42	25	12m	am
95	COMP			↑		
96	014314p36303	01:43	+36:31	25	15m	
97	COMP			↑		
98	014345p36637	01:43	+36:06	25	15m	
99	COMP			↑		
100	014713p34342	01:47	+37:43	25	15m	
101	COMP			↑		
102	014515p353532	01:45	+35:35	25	15m	
103	COMP			↑		
104	014437p353902	01:44	+35:39	25	15m	
105	COMP			↑		
106	014625p364446	01:46	+36:46	25	15m	
107	COMP			↑		
108-109	AXR	01:30	+34:14	12	90s, 10s	
110	COMP			↑		
111-112	DLTan	04:33	+15:20	12	3m, 20s	
113	COMP			↑		
114-115	DRTan	04:47	+16:58	12	2m, 10s	
116	COMP					

Fax: To Susan Tokarz 4 pages Total

60 inch Telescope Log	Spectrograph: <u>FAST</u>
Observer: <u>P. Barlund</u>	Grating: <u>3002</u>
PI: <u>Greenly Geller et al</u>	Date: <u>9/27/96</u>
	Page: <u>4891</u>

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS			0	0s	
11-20	FLAT			0	6s	
21-25	sky			0	2s	some cirrus
26	COMP			↑	5s	very bright moon
27-29	HD 165341	18:05	+07:30	0	6s	
30	COMP			↑		
31-33	HD 165760	18:07	+08:49	0	1s	
34	COMP			↑		
35-37	HD 144578	16:04	+50:29	0	10s	
38	COMP			↑		
39-40	Comet HB	17:30	-05:20	0	30s	
41	COMP			↑		
42-44	HD 192251	20:10	+40:07	0	5s	
45	COMP			↑		
46-48	CSky	19:50	+35:41	12	2, 20, 120	
49	COMP			↑		
50, 52	CB5311	15:19	+50:07	32	15m	also observed 9/19/96
51, 53	COMP			↑		
54	N002015-15.50	17:20	+38:32	3	6m	these charts are very
55	COMP			↑		ambiguous
56	A000779-15.40	17:27	+57:11	3	6m	on to something else
57	COMP			↑		
58	3C 390.3	19:42	17:46	6	5m	
59	COMP			↑		
60	17068p3239	17:06	+22:39	1	7m	em
61	COMP			↑		
62	17072p2207	17:07	+22:17	1	6m	* + E
63	COMP			↑		
64	17076p1951	17:07	+19:51	1	10m	em
65	COMP			↑		

8.35
1.10

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>4892</u>	
Observer: <u>PB</u>			Grating: <u>3022</u>			
PI: <u>Huchra & Geller</u>			Date: <u>9/22/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
66	17084p3217	17-08	+32-17	1	5m	pec. emission; beware X-ray
67	COMP			↑		N II strength = low
68	17106p3058	17-10	+30-58	1	6m	
69	COMP			↑		TV gain problems
70	18030p4130	18-03	+41-30	1	6m	
71	COMP			↑		
72	18035p4745 SE	18-03	+47-45	1	5m	
73	18035p4745 NW	18-03	+47-45	1	7m	
74	18035p4745 NE	18-03	+47-45	1	11m	
75	COMP			↑		
76	18035p5657	18-04	+56-57	1	6m	clouds around
77	COMP			↑		
78	18098p5320	18-09	+53-20	1	6m	
79	COMP			↑		
80	18244p3523	18-24	+35-23	1	7m	em
81	COMP			↑		
82	18262p3734	18-26	+37-38	1	6m	
83	COMP			↑		
84	18273p3360	18-27	+33-60	1	8m	looks like a red
85	COMP			↑		
86	18323p3208	18-32	+32-08	1	10m	
87	COMP			↑		
88	464.015000	00-07	+10-34	3	15m	too faint red
89	COMP			↑		
90	464.007586	23-55	+11-43	3	15m	ok
91	COMP			↑		
92	465.015245	00-21	+10-53	3	15m	em ok
93	COMP			↑		
94	465.021001	00-42	+11-21	3	15m	em ok
95	COMP			↑		

Moon 20:30 -14

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>4893</u>	
Observer: <u>PB</u>			Grating: <u>3002</u>			
PI: <u>Hucha et al</u>			Date: <u>9/22/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
96	N7469	23:00	+08:52	6	2m	
97	COMP			r		
98	MRK335	00:03	+19:55	6	2m	clouds around
102	COMP			↕		
103/104	AXR	01:36	+54:15	12	10s, 40s	use comp #102
105	COMP			r		
106	015133p574717	01:51	+37:47	25	15m	Mag break? -redo see #115
106	COMP			r		
107	014553p361928	01:45	+76:19	25	15m	Mg, Na weak but ok?
108	COMP			r		
109	015127p84517	01:51	+38:49	25	20m	+ on slit to W
110	COMP			r		
111	014453p353932	01:44	+35:39	25	17m	nice
112	COMP			r		
113	014544p333812	01:45	+37:38	25	20m	ok
114	COMP			r		
115	015133p374717	01:51	+37:47	25	20m	redo from #105 above
116	COMP			r		
117	014940p32435	01:49	+36:24	25	20m	more clouds - all over
118	COMP			r		
119	G77m61	03:32	01:58	32	5m	
120	COMP			r		
121	Feyz25	02:26	+08:15	0	3m	
122	COMP			r		
123	Z009281-152	02:19	+42:47	3	5m	clouds
124	COMP			r		
125	Z004196-1470BW	02:11	+02:39	3	10m	E+W comps W=em
126	COMP			r		ruby red moon set

120 - high resolution

103 & 104 100 comp

60 Inch Telescope Log		Spectrograph: <u>FAST</u>				
Observer: <u>PB</u>		Grating: <u>3002</u>			Page: <u>4894</u>	
PI: <u>Geller</u>		Date: <u>9/22/96</u>				
Number	Object	R.A.	Dec.	L/R	Exp	Comments
127	N003271 J550	07:54	H4:10	3	4m	star
128	COMP			↑		
129	A001066 J5.30	07:28	+34:40	3	2m	star
130	COMP			↑		chasing holes
131	466.047263	00:59	+12:49	3	10m	em
132	COMP			↑		
133	466.048861	01:00	+12:54	3	15m	
134	COMP			↑		
135,137	466.048632	00:58	+12:54	3	15m	
136,138	COMP			↑		
139	466.048687	00:46	+12:53	3	20m	mostly cloud; strong em
140	COMP			↑		
141	466.049021	00:58	+12:56	3	17m	
142	COMP			↑		
143	466.049261	00:58	+12:57	3	17m	
144	COMP			↑		
145	466.049263	00:59	+12:57	3	15m	plate is almost finished
146	COMP			↑		
147	466.054029	01:08	H3:16	3	12m	em
148	COMP			↑		
149-150	DLTan	04:33	H2:20	12	3m, 20s	
151	COMP			↑		
152-153	DRTan	04:47	H6:58	12	2m, 10s	
154	COMP			↑		clouds all over @ dawn
155	Hiltner 600	06:42	+02:11	0	60s	
156	COMP			↑		
157-159	HD 27876	04:24	H4:45	0	3s	
160	COMP			↑		
161-163	HD 16806	02:43	F2242	0	1s	
164	COMP			↑		
165-174	BIAS			0	0s	
175-184	FLAT			0	60s	

★ End of FAST Run ★