

Start of FAST Run

60 inch Telescope Log				Spectrograph: <u>FAST</u>		
Observer: <u>P Benford</u>				Grating: <u>3002, 3" slit, binby 4</u>		Page: <u>4790</u>
PI: <u>Grazing/Krishnar & Bartan/Dickes</u>				Date: <u>7/5/96</u>		
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BDS			0	0s	clouds all over
11-20	FLAT			0	6s	
21-22	Faye 66	12:31	+25-20	1	60s	
23	COMP			↑		
24	N4151	12:08	+39-41	6	60s	stop + go already
25	COMP			↑		
26	N5548	14:15	+25-22	6	4m	
27	COMP			↑		
28	MRK 279	13:51	+69-33	6	4m	
29	COMP			↑		
30	15491 p251	15:49	+25-51	42	12m	
31	COMP			↑		
32	15521 p218	15:52	+30-18	42	12m	clearing
33	COMP			↑		
34	15526 p2048	15:50	+20-47	42	15m	
35	COMP			↑		
36, 38	SN 1996ci	13:10	+37-03	2	20m	bin by 2 x2
37, 39	COMP			↑	8s	
40	H244	13:21	+7-23	0		
41	COMP			↑		increasing clouds
42	16027 p 2814	16:02	+28-13	42	20m	* on slit to far W
43	COMP			↑		
44	H36	16:01	+16-55	48	8m	
45	COMP			↑		
46	H40	16:01	+17-59	48	12m	weak more clouds
47				↑		
48-50	HD 18182	16:26	-12-23	0	30s	
51	COMP			↑		NOBY Telescope
52-54	HD 18382	16:24	-84	0	30s	
55	COMP			↑		

1.13
8.72

60 inch Telescope Log

Observer: P. Berlind

PI: _____

Spectrograph: FAST

Grating: 300R

Date: 7/5/66

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
56-58	HD148349	16:27	-67:33	0	2s	
59	comp			r		
60-62	HD151721	16:44	+23:48	0	30s	close due to SS + clouds
63	comp			r		
64-73	BIAS			2	0s	bin by 2
74-83	FLAT			2	12s	bin by 2
84-93	BIAS			0	0s	bin by 4
94-103	FLAT			0	6s	bin by 4

60 inch Telescope Log

Observer: Aberlin

PI: Grogan

Spectrograph: FAST

Grating: 300R

Date: 7/7/96

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Number	Object	R. A.	Dec.	L/R	Exp	Comments
1-10	BIAS			0	0s	rain + clouds
11-20	FLAT			0	6s	POWER FAILURE
21	16403p2510	16.40	+25.10	42	20m	generator not working
22	COMP			↑		Citygens Electric back on @ 11pm
23	2208F1	15.06	+22.04	42	8m	H α semi clear
24	COMP			↑		increasing clouds
25	2154G1	15.01	+21.56	42	10m	redo stopped by clouds
26	COMP			↑		
27-36	BIAS			0	0s	heavy cloud all night
37-46	FLAT			0	6s	

8.98
1.19
TOTAL P.01
P.01

60 inch Telescope Log

Observer: PBSpectrograph: FASTGrating: 3002Page: 4793PI: Wilkes/KirshnerDate: 7/15/96

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS			0	0s	bin by 1
11-20	FLAT			0	6s	bin by 4
21-30	BIAS			0	0s	bin by 2
31-40	FLAT			0	12s	bin by 2
41-45	sky			0	2s	
47-49	HD 116842	13:25	+54:59	0	6s	# 46 = comp ↑
50	COMP			↑		
51-53	HD 119228	13:40	+54:40	0	6s	
54	COMP			↑		
55-57	HD 126666	14:25	+51:51	0	1s	
58	COMP			↑		
59-61	HD 125462	14:16	+46:05	0	6s	also
62	COMP			↑		
63-65	HD 127665	14:31	+30:22	0	1s	
66	COMP			↑		
67-69	HD 132869	15:26	+44:41	0	5s	clearing !!
70	COMP			↑		
71-72	Fergelle	12:34	+25:20	0	45s	
73	COMP			↑		
74	N4151	12:08	+39:41	6	30s	
75	COMP			↑		
76	MRK 279	13:51	+69:33	6	2m	
77	COMP			↑		
78	N5548	14:15	+25:22	6	2m	
79	COMP			↑		
80-81	N4853	12:58	+27:35	0	5m	
82	COMP			↑		
83	SN 1996ei	13:10	+37:03	2	20m	bin by 2
84	COMP			↑	8s	
85	H244	13:21	+76:23	0	90s	

60 inch Telescope Log			Spectrograph: <u>FAST</u>			
Observer: <u>PB</u>			Grating: <u>3002</u>		Page: <u>4794</u>	
PI: <u>Grogan & Wilkes & Huchra</u>			Date: <u>7/15/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
86	COMP			↑		
87	15490 p2206	15:49	+27:05	42	20m	
88	COMP			↑		
89	15489 p2409	15:49	+26:57	42	20m	decent sky; faint galaxies
90	COMP			↑		
91	15497 p2608	15:49	+25:51	42	20m	
92	COMP			↑		
93	15572 p2832	15:57	+28:41	42	20m	
94	COMP			↑		
95	16047 p3201N	16:04	+22:01	42	20m	
96	COMP			↑		
97	16075 p4152	16:07	+41:52	42	20m	
98	COMP			↑		
99	BDp 332642	15:50	+33:05	0	1m	
100	COMP			↑		
101	16107 p2825C	16:10	+28:24	42	20m	sp nuc
102	COMP			↑		
103	16223 p 305	16:22	+31:59	42	20m	
104	COMP			↑		
105	16292 p2248	16:29	+22:48	42	20m	
106	COMP			↑		
107	BDp 332642	15:50	+33:05	0	1m	
108	COMP			↑		
109, 111	Q 1946 p 7658	19:44	+77:05	49	15m	Wow z=3.03
110, 112	COMP			↑		Seems worse ~2"
113	18416 p 7030	18:41	+70:30	1	12m	sup * sp
114	COMP			↑		
115	19268 p 7710	19:26	+77:10	1	8m	em
116	COMP			↑		
117	19376 p 6129 W	19:38	+61:35	1	6m	A = NW

60 inch Telescope Log

Observer: PBSpectrograph: FASTPI: Falco & WilkesGrating: 300LPage: 4795Date: 7/15/96

Number	Object	R.A.	Dec.	L/R	Exp	Comments
118	19376p129E	19:37	+16:29	1	9m	
119	COMP			↑		
120	19557p120	19:55	+12:20	1	6m	* ; * on slit to W
121	COMP			↑		
122	MCG2125p241S	21:25	+24:42	41	6m	*
123	MCG2125p241N	21:25	+24:42	41	6m	*
124	COMP			↑		
125	MCG2150p38S	22:50	+78:24	41	10m	$CZ \approx 35,500 \text{ km/s}$
126	COMP			↑		(* and gal (?)
127	MGL2254p208	22:54	+70:58	41	15m	
128	COMP			↑		
129	MGL2301p332	23:01	+35:13	41	20m	em
130	COMP			↑		
131	PG2209p184	22:11	+18:41	49	20m	
132	COMP			↑		
133	PG2214p139	22:17	+14:14	49	20m	
134	COMP			↑		
135-136	BDp 284211	21:48	+28:37	0	1m	
137	COMP			↑		
138	MGL2308p208	23:08	+20:08	41	16:40s	QSO!
139	COMP			↑		
140	N7469	23:03	+06:56	6	2m	clear skies @ dawn
141	COMP			↑		
142	MRK509	20:41	+10:34	6	90s	
143	COMP			↑		
144-147	CIC ₂₈	19:50	+35:41	12	1m, 20s, 7s	2m
148	COMP			↑		
149-151	HD 192281	20:40	+40:07	0	5s	Masses std - photometric
152	COMP			↑		
153-154	FD187282	19:48	+18:12	0	30s	Spec std -

60 inch Telescope Log

Spectrograph: FAST

Observer: PS

Grating: 3002

Page: 4796

PI: AM

Date: 7/15/96

Number	Object	R.A.	Dec.	L/R	Exp	Comments
155	COMP			↑		
156-158	HD190002	20-01	+7234	0	15s	
159	COMP			↑		
160-162	HD188001	19-52	+1840	0	3s	
163	COMP			↑		
164-166	HD189319	19-58	+1729	0	1s	
167	COMP			↑		
168-170	HD19163	20-08	HD-43	0	1s	
171	COMP			↑		
172-181	BIAS			0	0s	
182-191	FLAT			0	6s	

60 inch Telescope Log				Spectrograph: <u>EAST</u>		Page: <u>4797</u>
Observer: <u>P. Berline</u>				Grating: <u>300L, 3" slit,</u>		
PI: <u>Wilkes & Graham</u>				Date: <u>7/16/96</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	scattered clouds
26	COMP			↑		
27-29	HD120477	13:49	+15:47	0	1s	NOT REDUCED
30	COMP			↑		OBJECT IN COMP
31-33	HD130109	14:46	+10:53	0	1s	
34	COMP			↑		
35-37	HD170705	14:49	+10:02	0	3s	
38	COMP			↑		
39-41	HD176307	14:24	+25:42	0	5s	
42	COMP			↑		
43-46	HD136711	15:19	+18:37	0	5s	
47	COMP			↑		
48-49	BDP332647	15:50	+73:05	0	45s	
50	COMP			↑		
51	N4151	12:08	+79:41	6	30s	
52	COMP			↑		
53	N4051	12:10	+44:48	6	2m	
54	COMP			↑		
55	M2K279	13:51	+69:33	6	2m	
56	COMP			↑		
57-58	H214	13:71	+76:23	0	90s	
59	COMP			↑		
60	N5548	14:15	+25:22	6	2m	
61	COMP			↑		
62-63	N4453	12:58	+27:35	0	5m	
64	COMP			↑		
65	A1666p2920	16:06	+29:20	42	20m	
66	COMP			↑		

60 inch Telescope Log			Spectrograph: <u>FAST</u>			
Observer: <u>PB & PB</u>			Grating: <u>3002, 6002</u>		Page: <u>4799</u>	
PI: <u>Grosjean & Prosser</u>			Date: <u>7/16/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
67	A1606 p2920	16-06	+28-20	42	20m	
68	COMP			↑		
69	16130 p3112	16-13	+31-41	42	20m	
70	COMP			↑		
71	N6102	16-13	+28-16	42	20m	
72	COMP			↑		
73	16136 p3126	16-13	+31-26	42	20m	
74	COMP			↑		
75	16139 p3131	16-13	+31-31	42	20m	
76	COMP			↑		finishes Norm's burn-in sample
77	16145 p4231	16-14	+42-31	42	20m	bin by 2 - close comps
78	COMP			↑	8s	
79-80	BDp 332642	15-50	+33-05	0	45s	
81	COMP			↑		
82	COMP	test		20	20s	6002g; 1.1" slit; 2 ₂ =4400A
83	P109	17-46:24.7	+05-35:39	20	25m	fast exp = 940
84	COMP			↑	20s	
85	4665M	17-46:07.6	+05-53:53	20	25m	clouds in the north
86	COMP			↑	20s	
87	P33	17-46:18	+05-28:18	20	10m	
88	COMP			↑	20s	
89	P1	17-46:36.6	+05-37-17	20	10m	
90	COMP			↑	20s	
91	P159	17-47:52.1	+05-41:53	20	10m	
92	COMP			↑	20s	
93	P51	17-47:18.4	+05-26:45	20	10m	
94	COMP			↑	20s	
95	P44	17-46:45	+05-37:34	20	11m	
96	COMP			↑	20s	
97	P106	17-46:23.7	+05-54:34	20	12m	

11-30

60 inch Telescope Log			Spectrograph: <u>FAST</u>			
Observer: <u>PB</u>			Grating: <u>300R</u>		Page: <u>4799</u>	
PI: <u>Shlagel, Falcov, Grether, Wilkes</u>			Date: <u>7/16/96</u>			
Number	Object	R. A.	Dec.	L/R	Exp	Comments
98	COMP			↑	20s	
99	COMP			test	5s	300R; 3" slit ↓ Alt=10°
100	Cand 256	19:07:33	+68:25:12	50	20m	2 faint objects on slit
101	COMP			↑	↑	→ too faint z=1.32-6
102	MGL 22290305	22:29	+30:57	41	20m	slit PA=55° - 2 objects
103	COMP			↑		row 41=NE=QSO row 39=SW
104	S18-018129	21:37	+09:57	3	7m	
105	COMP			↑		
106	S18-019536	21:37	+09:59	3	12m	
107	COMP			↑		
108	S18-022835	21:33	+10:04	3	15m	
109	COMP			↑		
110	S18-024378	21:43	+10:07	3	6m	
111	COMP			↑		
112	S18-025319	21:47	+10:09	3	12m	em
113	COMP			↑		
114	MR 2251m178	22:29	-17:34	49	15m	
115	COMP			↑		
116	Ferg 110	23:17	-05:26	6	90s	
117	COMP			↑		
118	S18-036739	21:41	+10:26	3	7m	em
119	COMP			↑		
120	S18-168018	21:43	+14:00	3	4m	x to W
121	COMP			↑		
122	N7469	23:02	+08:56	6	2m	
123	COMP			↑		
124	MRK 335	0:03	+19:55	6	90s	
125	COMP			↑		
126	MRK 509	22:41	-10:54	6	90s	
127	COMP			↑		

2 solutions for file 103 NOT very good - why??

60 inch Telescope Log

Observer: PBSpectrograph: FASTPI: A11Grating: 7002Page: 4800Date: 7/16/96

Number	Object	R.A.	Dec.	L/R	Exp	Comments
128-130	4666-4668 CIG 78	19:50	+35:41	12	2m	grrr... Prosser reset
131	4665 COMP			↑		image file #'s
132-134	4670-4672 HD192281	20:40	+40:07	0	5s	spec phot std
135	4673 COMP			↑		
136-138	4674-4676 HD196943	19:46	+28:16	0	20s	
139	4677 COMP			↑		clear & down, but
140-142	4678-4680 HD191612	20:09	+35:44	0	5s	definitely some clouds
143	4681 COMP			↑		during the night
144-146	4682-4684 HD192781	20:12	+40:16	0	5s	
147	4685 COMP			↑		
148-150	4686-4688 HD192641	20:11	+36:39	0	5s	
151	4689 COMP			↑		
152-161	4690-4699 BIAS			0	0s	bimby 4 152-161
162-171	4700-4709 FLAT			0	6s	bimby 4 162-171
172-181	4710-4719 BIAS			0	0s	bimby 2 172-181
182-191	4720-4729 FLAT			0	12s	bimby 2 182-191
192-201	4730-4739 FLAT600			20	60s	6002g; 1.1" slit @ 425
202	COMP				20s	
	files 132-134 + files 144-146					→ some adjust; diff cords.

60 inch Telescope Log			Spectrograph: <u>FAST</u>			
Observer: <u>P Berlin & P Bernby</u>			Grating: <u>3002</u>		Page: <u>4801</u>	
PI: <u>Wilkes & Huchra</u>			Date: <u>7/17/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS			0	0s	bimby 4
11-20	FLAT			0	6s	bimby 4
21-30	BIAS			0	0s	bimby 2
31-40	FLAT			0	12s	bimby 2
41-45	sky	zenith		0	2s	
46	COMP			↑	5s	
47-49	HD 142091	15:51	+35:39	0	1s	
50	COMP			↑		a few scattered clouds
51-53	HD 141477	15:48	+18:07	0	1s	
54	COMP			↑		
55-57	HD 140159	15:41	+19:40	0	2s	
58	COMP			↑		
59-61	HD 11004	15:46	+07:21	0	1s	
62	COMP			↑		
63-65	HD 140775	15:45	+05:26	0	2s	
66	COMP			↑		
67-68	HD 332642	15:50	+39:05	0	45s	
69	COMP			↑		
70	N5548	14:15	+25:22	6	2m	
71	COMP			↑		
72	MRK 279	13:51	+65:33	6	2m	
73	COMP			↑		
74	N4151	12:08	+39:41	6	30s	
75	COMP			↑		
76	11037 p 6708	11:03	+67:08	1	5m	em
77	COMP			↑		
78	11041 p 6522 N	11:04	+65:22	1	5m	em
79	11041 p 6522 S	11:04	+65:22	1	6m	
80	COMP			↑		
81	N4563	12:58	+27:35	0	5m	

60 inch Telescope Log

Observer: PBSpectrograph: FASTGrating: 3002Page: 4802PI: Geller & Grogan & KenyonDate: 7/17/86

Number	Object	R.A.	Dec.	L/R	Exp	Comments
82	COMP			↑		
83	322.047676	13:08	+28:50	3	15m	redo from 6/15/86 em
84	COMP			↑		
85	322.014806	13:07	+30:52	3	11m	
86	COMP			↑		
87	322.092549	13:03	+32:12	3	15m	em of course
88	COMP			↑		
89	322.089945	13:10	+32:01	3	12m	
90	COMP			↑		
91	323.051812	13:43	+29:46	3	15m	redo from 6/7/86
92	COMP			↑		
93	323.058820	13:30	+30:22	3	12m	
94	COMP			↑		
95	323.066059	13:46	+30:56	3	12m	em
96	COMP			↑		
97	2154FZ	15:03	+21:52	42	12m	
98	COMP			↑		
99	2154F1	15:04	+21:56	42	10m	
100	COMP			↑		
101	4145 F1	15:52	+41:45	42	12m	em
102	COMP			↑		
103-104	BOp 332642	15:50	+33:05	0	45s	a few clouds in the
105	COMP			↑		far south
106-107	TCr B	15:59	+29:55	12	5s, 10s	
108	COMP			↑		
109-111	Hen 1341	17:08	-17:26	12	30s, 10s, 90s	
112	COMP			↑		
113-114	M1m 21	17:34	-19:09	12	5s, 5m	
115	COMP			↑		
116-118	RTSer	17:39	-11:56	12	30s, 5m, 10s	

60 inch Telescope Log				Spectrograph: <u>FAS</u>		Page: <u>4803</u>	
Observer: <u>PB-PB</u>		Grating: <u>3002</u>		Date: <u>7/17/86</u>			
PI: <u>Kempner & Geller</u>							
Number	Object	R.A.	Dec.	L/R	Exp	Comments	
119	COMP			↑		thin clouds	
120-122	Uiso	17:42	-15:24	12	10s, 6m, 20s		
123	COMP			↑			
124-125	V2416 _{syn}	17:57	-21:41	12	20s, 5m		
126	COMP			↑			
127-128	AS270	18:05	-20:20	12	20s, 5m		
129	COMP			↑			
130, 131	R50ph	17:50	-06:42	12	S ₂ , 1m		
132	COMP			↑			
133, 134	AS289	18:12	-11:40	12	S ₂ , 1m		
135	COMP			↑			
136, 137	AS296	18:15	-00:16:53	12	S ₂ , 1m		
138	COMP			↑			
139, 140	VVHer	18:14	+20:59	12	10s, 5m		
141	COMP			↑			
142, 143	V443Her	18:22	+23:27	12	3s, 1m		
144	COMP			↑			
145, 146	AS338	19:03	+16:26	12	S ₂ , 2m		
147	COMP			↑			
148-150	BFC ₂₂	19:23	+29:40	12	S ₂ , 2s		
151	COMP			↑			
152-154	CHC ₂₂	19:24	+50:14	12	1s, S ₂ , 20s		
155	COMP			↑			
156-158	HD192281	20:10	+40:07	0	S ₂		
159	COMP			↑		F star +	
160	NEP270	17:48	+63:37	1	15m	binny 2 • faint comp to SE	
161	COMP			↑		emission 2 px 914	
162	S19.03768	21:36	+10:27	3	15m		
163	COMP			↑			
164	S18.157107	21:48	+13:42	3	10m		

60 inch Telescope Log			Spectrograph: <u>FAST</u>			
Observer: <u>PB + PB</u>			Grating: <u>3002</u>		Page: <u>4804</u>	
PI: <u>Geller & Wilkes</u>			Date: <u>7/17/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
165	COMP			3		
166	S18.162607	21:41	+13:51	3	15m	star on slit (to E) Ha
167	COMP			↑		
168	S18.178492	21:42	+14:19	3	15m	em
169	COMP			↑		thin clouds all over
170	S18.197223	21:48	+14:51	3	9m	
171	COMP			↑		
172	S19.209476	21:34	+15:11	3	15m	
173	COMP			↑		
174	S18.209881	21:34	+15:11	3	20m	
175	COMP			↑		
176	S18.213502	21:46	+15:18	3	15m	
177	COMP			↑		
178	S18.219312	21:51	+15:28	3	10m	
179	COMP			↑		
180	S18.220476	21:45	+15:49	3	12m	
181	COMP			↑		
182	S23.060576	23:53	+12:54	3	10m	
183	COMP			↑		
184	S23.064931	23:47	+13:09	3	10m	solid cloud in S+E
185	COMP			↑		
186	S23.069223	23:51	+13:22	3	9m	stopped by clouds red
187	COMP			↑		
188	N746A	23:03	+06:56	6	5m	
189	COMP			↑		
190	MARK335	00:03	+19:55	6	5m	
191	COMP			↑		
192	3C390.3	18:45	+79:43	6	3m	
193	COMP			↑		
194-196	CICuff	19:50	+75:41	12	2m, 20s, 2s	

60 inch Telescope Log

Observer: PB
 PI: Ad

Spectrograph: FAST

Grating: 300R

Page: 4805

Date: 7/17/96

Number	Object	R.A.	Dec.	L/R	Exp	Comments
197	COMP			T		
198-200	HD192281	20:10	+40:07	0	5s	Massary
201	COMP			T		
202-203	HD195177	20:28	+38:37	0	1m	
204	COMP			T		
205-207	HD194649	20:25	+40:13	0	3s	
208	COMP			T		
209-211	BDp394708	20:28	+39:58	0	5s	
212	COMP			T		
213-215	HD194779	20:25	+41:20	0	3s	
216	COMP			T		
217-219	HD194839	20:26	+41:22	0	2s	
220	COMP			T		
221-223	HD194857	20:25	+32:11	0	1s	
224	COMP			T		
225-234	BIAS			0	0s	
235-244	FLAT			0	6s	

60 Inch Telescope Log

Observer: PBerlin & PBarneySpectrograph: FASTGrating: 3002, 3" slit, bin by 4Page: 4806

PI: _____

Date: 7/18/96

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS			0	0s	bin by 4
11-20	FLAT			0	6s	bin by 4
21-30	BIAS			0	0s	bin by 2
31-40	FLAT			0	12s	bin by 2
41-45	sky			0	2s	
46	COMP			↑		
47-49	HD 114710	13:11	+27:51	0	1s	
50	COMP			↑		
51-53	HD 113946	13:07	+27:37	0	1s	
54	COMP			↑		
55-57	HD 123299	14:04	+64:22	0	2s	
58	COMP			↑		
59-61	HD 123824	14:09	+51:35	0	5s	
62	COMP			↑		
63-65	HD 141992	15:51	+20:58	0	1s	
66	COMP			↑		
67-69	HD 142574	15:54	+20:18	0	2s	
70	COMP			↑		
71-72	BD 332692	15:50	+33:05	0	45s	
73	COMP			↑		
74-75	N 5866	15:05	+55:57	0	2m	
76	COMP			↑		
77	MRK 279	13:51	+64:33	6	2m	
78	COMP			↑		
79	N 5508	14:15	+25:22	6	2m	
80	COMP			↑		
81	N 4151	12:08	+34:41	6	30s	
82	COMP			↑		
83	11183p0044E	11:20	+10:27	1	4m	
84	11183p0044D	11:20	+10:27	1	4m	

60 inch Telescope Log

Observer: PBSpectrograph: F10TPI: Huchra & Geller & KenyonGrating: 30RPage: 4807Date: 7/18/96

Number	Object	R.A.	Dec.	L/R	Exp	Comments
85	COMP			↑		
86	13120p0318	13:12	+03:18	1	5m	thin clouds
87	COMP			↑		
88	12024, 0635	12:04	+06:18	1	6m	redo from 6/18/96
89	COMP			↑		
90	13078p0745	13:27	+07:45	1	12m	em!
91	COMP			↑		
92	322.092054	13:16:	+32:09	3	15m	increasing clouds em
93	COMP			↑		
94	322.092794	13:10	+32:13	3	15m	em
95	COMP			↑		
96	322.092848	13:34	+30:35	3	12m	em finishes the plate!
97	COMP			↑		
98	323.061378	13:34	+30:35	3	15m	...
99	COMP			↑		
100	323.069429	13:30	+31:16	3	15m	em
101	COMP			↑		
102	323.068513	13:39	+31:11	3	15m	
103	COMP			↑		
104, 105	BDp332642	15:50	+33:05	0	45s	
106	COMP			↑		
107-108	AG Dra	16:01	+66:48	12	5s, 10s	
109	COMP			↑		
110	Draco CM1	17:19	+57:00	12	10m	Carbon symbiotz * (?)
111	COMP			↑		
112-113	AS316	18:42	-21:17	12	10s, 5m	
114	COMP			↑		
115, 116	MWC 960	18:47	-20:05	12	10s, 5m	
117	COMP			↑		
118-119	AS327	18:53	-24:23	12	10s, 6m	

978
2265

60 inch Telescope Log

Observer: PBPI: Kensan & BarnbySpectrograph: FASTGrating: 3002Page: 4808Date: 7/18/96

Number	Object	R.A.	Dec.	L/R	Exp	Comments
120	COMP			↑		clouds all around
121-122	FNSgr	18:53	-18:39	12	10s, 8m	
123	COMP			↑		
124-125	V919Sgr	19:03	-17:00	12	10s, 8m	
126	COMP			↑		
127-128	CMA3	19:03	-03:03	12	10s, 10m	
129	COMP			↑		better sky
130	H23	16:07	+18:27	48	15m	em
131	COMP			↑		
132	H26	16:08	+18:34	48	10m	em
133	COMP			↑		
134	H29	16:05	+14:47	48	8m	em
135	COMP			↑		
136	H30	16:01	+15:41	48	11m	
137	COMP			↑		mostly clear sky ↓
138	H34	16:12	+16:11	48	15m	em
139	COMP			↑		
140-142	HMSgr	19:41	+16:44	12	2s, 1s, 1m	
143	COMP			↑		
144, 145	AS360	19:45	+18:36	12	5s, 5m	
146	COMP			↑		
147-149	CFCom	19:50	+35:41	12	2m, 20s, 2s	while I'm here
150	COMP			↑		
151-154	V1016 Cas	19:57	+39:49	12	5s, 1s, 60s	0.5s
155	COMP			↑		
156-158	PULW1	20:21	+21:34	12	3s, 1s, 3m	
159	COMP			↑		
160-161	He2 m467	20:35	+20:11	12	30s, 6m	
162	COMP			↑		
163-164	He2 m468	20:41	+14:44	12	1m, 10m	front camp to W

60 inch Telescope log

Observer: PBPI: Kempner / Schlegel / WilkesSpectrograph: FASTGrating: 302LPage: 4809Date: 7/18/96

Number	Object	R.A.	Dec.	L/R	Exp	Comments
165	COMP			↑		
166-167	V1329 Cyg	20:51	+35:34	12	10s, 6m	clear skies!
168	COMP			↑		
169-170	V407 Cyg	21:02	+45:46	12	1m, 6m	
171	COMP			↑		
172-174	HD192281	20:10	+40:07	0	5s	
175	COMP			↑		
176	Cand 3.12	19:06	+68:17	50	20m	2 objects on slit at PA=95°
177	COMP			↑		3.2 = row 53 → 3.1 = row 14 = ?
178	Cand 5.2	20:31	+60:23	50	20m	5.2 OK
179	COMP			↑		
180	Cand 5.3	20:31	+60:23	50	20m	5.3 M+K
181	COMP			↑		
182	Cand 5.4	20:31	+60:23	50	2m	5.4
183	COMP			↑		
184	PG 2304 6042	23:07	+04:52	49	17m	
185	COMP			↑		
186	MCG 0258	23:04	-08:41	49	12m	a few thin clouds around
187	COMP			↑		☉ down
188-189	Fer 110	23:17	-05:26	0	2m	
190	COMP			↑		
191	N7469	23:40	+08:36	6	2m	
192	COMP			↑		
193-195	RAgr	23:43	-15:17	12	1s, 10s, 30s	
196	COMP			↑		
197-199	AG Peg	21:51	+16:57	12	1s, 10s, 30s	
200	COMP			↑		
201-202	BDP 284211	21:46	+28:37	0	60s	
203	COMP			↑		
204	MRK 335	00:03	+19:55	6	2m	

60 inch Telescope Log			Spectrograph: <u>FAST</u>			
Observer: <u>P. Barmby</u>			Grating: <u>300l</u>		Page: <u>4011</u>	
PI: <u>Wilkes/Geller/Barmby</u>			Date: <u>7/19/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS			0	0s	bin by 4
11-20	FLAT			0	6s	"
21-30	BIAS			0	0s	bin by 2
31-40	FLAT			0	12s	"
41-45	sky			0	2s	through thin clouds
46	COMP			↑		focus set to 1000
47	BDP332642	15:50	+33:05	0	45s	
48	COMP			↑		
49	HZ44	13:21	+36:33	0	90s	
50	COMP			↑		
51	N4051	12:03	+44:31	6	120s	
52	COMP			↑		
53	N4151	12:09	+12:10	6	30s	
54	COMP			↑		
55	MRK279	13:53	+69:33	6	120s	
56	COMP			↑		
57	N5548	14:18	+25:08	6	120s	
58	COMP			↑		
59	N4853	12:58	+27:36	0	5m	
60	COMP			↑		
61	323.069597	13:20	+31:16	3	12m	star on slit to E
62	COMP			↑		
63	323.076207	13:21	+31:50	3	15m	H α ?
64	COMP			↑		
65	323.079359	13:20	+32:07	3	15m	still clouds; clearing
66	COMP			↑		
67	H31	15:56	+10:17	48	15m	
68	COMP			↑		
69	H33	16:00	+16:40	48	15m	clouds - spectrum useless
70	COMP			↑		

next

60 inch Telescope Log			Spectrograph: FAST			
Observer: <u>P. Barmby</u>		Grating: <u>300l</u>		Page: <u>4812</u>		
PI: <u>Barmby/Huchra/Geller/Kenyon</u>		Date: <u>7/19/96</u>				
Number	Object	R.A.	Dec.	L/R	Exp	Comments
71	H37	16:09	+15:36	48	12 ^m	
72	COMP			↑		
73	H35	16:01	+16:24	48	15 ^m	clouds in/out
74	COMP			↑		
75	I4676	18:02	+11:49	98	12 ^m	delay - looking for something not clouded.
76	COMP			↑		
77	18005 p4428	18:02	+44:29	98	15 ^m	
78	COMP			↑		
79	19389 p5915	19:40	+59:22	98	10 ^m	cloud delay
80	COMP			↑		star in slit to E
81	19470 p4912	19:48	+49:20	98	12 ^m	
82	COMP			↑		
83	20332 p12A6	20:34	+12:57	98	15 ^m	H α
84	COMP			↑		
85	19284 p4322	19:30	+43:29	98	15 ^m	star on slit to W
86	COMP			↑		
87	19132 p5340	19:14	+53:44	98	15 ^m	star on slit to W
88	COMP			↑		
89	19090 p4905	19:10	+49:10	98	12 ^m	
90	COMP			↑		
91	19122 p4852	19:14	+49:04	98	10 ^m	star on slit to W
92	COMP			↑		
93	523.039219	23:40	+11:49	3	15 ^m	faint - may need redo H α
94	COMP			↑		
95	20105 p0105	20:13	+01:14	98	12 ^m	faint star to E
96	COMP			↑		
97	21104 p0127	21:12	+01:40	98	15 ^m	
98	COMP			↑		
99-101	CICyg	19:50	+35:41	12	2 ^m , 20 ^s , 2 ^s	
102	COMP					

60 inch Telescope Log

Observer: P. BarmbySpectrograph: FASTGrating: 300LPage: 4814

PI: _____

Date: 7/20/96

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS			0	0 ^s	bin by 4
11-20	FLAT			0	6^s	"
21-30	BIAS			0	0 ^s	bin by 2
31-40	FLAT			0	12 ^s	"
	(no sky - clouds + Herculina rain)					
41	BDP332642	15:52	+32:57	0	60 ^s	open at 21:30 - patchy clouds
42	COMP			↑		esp. to S+E
43	H244	13:23	+36:08	0	90 ^s	
44	COMP			↑		
45	N5548	14:18	+25:08	6	120 ^s	
46	COMP			↑		
47	MRK 279	13:53	+69:19	6	120 ^s	through clouds
48	COMP			↑		
49	NEB66	15:06	+55:46	0	120 ^s	
50	COMP			↑		
						close at 22:35
						never reopened.

60 inch Telescope Log				Spectrograph: <u>FAST</u>		
Observer: <u>P. Barnaby</u>				Grating: <u>300L</u>		Page: <u>4815</u>
PI: <u>Wilkes / Barnaby / Huchra</u>				Date: <u>07/21/96</u>		
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS			0	0 ^s	bin by 2 } <i>oops!</i>
11-20	FLAT			0	6 ^s	
21-30	BIAS			0	0 ^s	bin by 2
31-40	FLAT			0	12 ^s	"
41-45	sky			0	2 ^s	clouds; taken a bit late
46	COMP			↑		
47-56	BIAS			0	0 ^s	bin by 4
57-66	FLAT					"
67	H2AA	13:23	+36:08	0	90 ^s	thin clouds in + out
68	COMP			↑		
69	N5866	15:06	+55:57	0	2 ^m	
70	COMP			↑		
71	N5548	14:18	+25:08	6	2 ^m	
72	COMP			↑		moved telescope
73	MRK 279	13:53	+69:19	6	2 ^m	
74	COMP			↑		
75	NA151	12:10	+39:25	6	30 ^s	
76	COMP			↑		
77	H32	16:06	+16:34	48	12 ^m	clouds in + out, star on slit →
78	COMP			↑		closed 21:10-21:40 (T-storm threat)
79	H39	15:59	+18:03	48	12 ^m	in + out clouds
80	COMP			↑		
81	H38	16:07	+16:56	48	15 ^m	
82	COMP			↑		
83	H41	16:07	+16:34	48	15 ^m	(cloud delay)
84	COMP			↑		
85	H43	15:59	+19:13	48	15 ^m	
86	COMP			↑		
87	18026p SAAZ	18:04	+54:44	98	12 ^m	closed for last time
88	COMP			↑		

did not
reduce file 71 -
no comp @ that
RA + DEC

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4817</u>
Observer: <u>P. Berlin</u>				Grating: <u>3000, 3" slit</u>		
PI: <u>Wilkes</u>				Date: <u>7/22/96</u>		
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS			0	0s	bimby 4
11-20	FLAT			0	6s	b4
21-30	BIAS			0	0s	b2
31-40	FLAT			0	12s	b2
41-45	SKY			0	2s	bimby 4d
46	COMP			↑	5s	
47-49	HD 143107	15:57	+76:52	0	2s	clouds all over
50	COMP			↑		
51-53	HD 141992	15:51	+72:8	0	2s	
54	COMP			↑		
55-57	HD 142574	15:54	+70:18	0	2s	
58	COMP			↑		
59-61	HD 147360	15:52	+15:40	0	2s	
62	COMP			↑		
63-65	HD 147547	16:21	+19:09	0	2s	
66	COMP			↑		
67-69	HD 145328	16:08	+78:29	0	2s	
70	COMP			↑		
71-72	BDP 372642	15:50	+77:05	0	4.5s	
73	COMP			↑		
74-75	Fery 66	12:24	+75:20	0	4.5s	
76	COMP			↑		poor seeing
77	N 4151	12:09	+79:41	6	1m	
78	COMP			↑		
79-80	TXCVn	12:44	+76:45	12	1m	
81	COMP			↑		
82	MRK 279	13:51	+69:33	6	3m	
83	COMP			↑		
84	N 5548	14:15	+75:22	6	3m	
85	COMP			↑		

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4818</u>	
Observer: <u>PB</u>				Grating: <u>300R</u>			
PI: <u>Huchra & Geller & Barabga</u>				Date: <u>7/22/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments	
86-87	N4853	12.58	+27.35	0	6m	through clouds	
88	COMP			↑		part sunny	
89	13594ps208	13.59	+52.08	1	7m		
90	COMP			↑			
91	14103pss38	14.10	+55.38	1	7m		
92	COMP			↑			
93	14175p480	14.17	+45.20	1	8m	em *'s on slit	
94	COMP			↑			
95	14150p496	14.15	+49.46	1	10m	em	
96	COMP			↑			
97	323.061203	13.32	+32.16	3	15m	noisy	
98	COMP			↑			
99	13376p6145	13.37	+61.45	1	10m		
100	COMP			↑			
101	H49	16.01	+15.49	48	10m		
102	COMP			↑			
103	H50	16.05	+15.43	48	12m		
104	COMP			↑			
105	H42	16.07	+15.40	48	12m	em	
106	COMP			↑			
107	H44	16.00	+18.43	48	15m	em	
108	COMP			↑		S to S. + E.	
109	H33	16.00	+16.40	48	15m	red em 7/19/96 em	
110	COMP			↑			
111	H46	16.12	+16.53	48	15m		
112	COMP			↑		solid cloud.	
113-122	BIBS			0	6s		
123-132	FLAT			0	6s		
133-136	DARK			0	15m		
	more ↓					Open for 3-709m sucker hole	

60 inch Telescope Log

Observer: PJBPI: Kirshner & WilkesSpectrograph: FASTGrating: 3002Page: 4819Date: 7/22/96

Number	Object	R.A.	Dec.	L/R	Exp	Comments
137	N7428sn	22:57	-07:02	Z	20m	bin by 2
138	COMP			?		
139	N7428	"	"	Z	3m	nucleus; bin by 4
140	COMP			?		
141	Fergello	23:17	-05:26	0	90s	seeing ~3"
142	COMP			?		
143	N7469	23:02	+06:31	6	2m	thin clouds
144	COMP			?		
145	MRK335	00:03	+19:55	6	2m	
146	COMP			?		
147	MRK509	20:41	-10:54	6	2m	
148	COMP			?		
149-151	CICmy	19:50	+75:41	12	2m, 20s, 75s	
152	COMP			?		
153-155	HD192201	20:10	+40:07	0	5s	
156	COMP			?		
157-158	N7371	22:34	+74:09	0	3m	
159	COMP			?		
160-162	HD 228766	20:47	+77:16	0	15s	
163	COMP			?		
164-166	HD192422S	20:13	+78	0	2s	
167-169	HD192422N	20:13	+78	0	2s	
170	COMP			?		
171-173	HD193092	20:46	+40	0	2s	
174	COMP			?		
175-177	MSZ	00:35	+40:75	0	30s	
180	COMP			?		
181-190	BIAS			0	0s	
191-200	FLAT			0	6s	
201-210	BIAS			0	0s	bin by 2
211-220	FLAT			0	12s	bin by 2

60 inch Telescope Log		Spectrograph: <u>FAST</u>				
Observer: <u>Pber/ind</u>		Grating: <u>3002; 3" Slit; binby4</u>			Page: <u>4820</u>	
PI: <u>Wilkes</u>		Date: <u>7/23/96</u>				
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS			0	0s	
11-20	FLAT			0	6s	
21-30	BIAS			0	0s	
31-40	FLAT			0	12s	
41-45	sky			0	2s	
46	COMP			↑	5s	thunderstorms
47-49	HD 147794	16:19	46:38	0	1s	nearby in the
50	COMP			↑		S + E
51-53	HD 148783	16:28	41:52	0	2s	
54	COMP			↑		
55-57	HD 149161	16:32	11:29	0	2s	
58	COMP			↑		
59-61	HD 154143	17:03	14:05	0	2s	
62	COMP			↑		
63-65	HD 160365	17:48	13:19	0	2s	
66	COMP			↑		
67-69	HD 161797	17:32	27:43	0	2s	
70	COMP			↑		
71-73	HD 178711	15:19	418	0	5s	
74	COMP			↑		
75-76	BD 352642	15:50	433:05	0	45s	
77	COMP			↑		
79	N 4151	12:08	+39:41	6	30s	78 = COMP
80	COMP	12:00:36	44:48.5	↑		
81	N 4051	12:00	+44:46	6	2m	
82	COMP			↑		
83	MRK 279	13:51	+69:33	6	3m	
84	COMP			↑		
85	N 5548	14:15	+75:22	6	2m	
86	COMP			↑		

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4822</u>
Observer: <u>PBerlincl</u>				Grating: <u>300R, 34 slit</u>		
PI: <u>Huchra</u>				Date: <u>7/24/96</u>		
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIDS			0	0s	binby 4
11-20	FLAT			0	6s	binby 4
21-30	BIDS			0	0s	binby 2
31-40	FLAT			0	12s	binby 2
41-45	sky			0	7s	
46	COMP			↑	5s	SS storms heading
47-49	HD 163993	17:57	29:14	0	1s	this way
50	COMP			↑		
51-53	HD 163888	17:55	+28:52	0	1s	
54	COMP			↑		
55-57	HD 143761	16:01	+33	0	1s	
58	COMP			↑		
59-61	HD 157999	17:25	-04:08	0	1s	
62	COMP			↑		clouds all over
63-65	HD 161868	17:47	+02:42	0	1s	
66	COMP			↑		
67-68	BDP 352642	15:50	+33	0	45s	
69	COMP			↑		
70	MRK 279	13:51	+69:33	6	3m	bright sky
71	COMP			↑		
72	H48	16:06	+16:29	48	12m	clearing ???
73	COMP			↑		
74	NS548	14:15	+25:22	6	2m	
75	COMP			↑		
76	13293p6217	13:30	+62:19	1	10m	em!
77	COMP			↑		
78	13420p7034	13:42	+72:20	1	5m	em
79	COMP			↑		
80	NS340	13:48	+72:39	1	5m	
81	COMP			↑		

60 inch Telescope Log				Spectrograph: <u>FAST</u>		
Observer: <u>PB</u>				Grating: <u>3002</u>		Page: <u>4823</u>
PI: <u>Huchra & Shapiro</u>				Date: <u>7/24/66</u>		
Number	Object	R. A.	Dec.	L/R	Exp	Comments
82	13479p6904	13.47	+69.04		7m	storm to NE
83	COMP			↑		
84	13488p7058	13.48	+70.58		6m	
85	COMP			↑		
86	13491p6849	13.50	+68.35		10m	stopped by clouds
87	COMP			↑		spectacular lightning storm
88	17003p5846	17.03	+58.46		8m	
89	COMP			↑		
90	17009p4151	17.00	+41.51		5m	
91	COMP			↑		
92	17037p4154	17.03	+41.54		5m	
93	COMP			↑		
94	17037p3542	17.03	+35.42		5m	
95	COMP			↑		
96	17040p5141	17.04	+51.41		5m	em
97	COMP			↑		
98	17042p5616	17.04	+56.16		5m	
99	COMP			↑		
100	17073p4718	17.07	+47.18		5m	
101	COMP			↑		
102	17094p3804	17.09	+38.04		7m	em
103	COMP			↑		
104	17096p4624	17.09	+46.28		4m	
105	COMP			↑		
106	17091p5648	17.10	+56.48		7m	em
107	COMP			↑		
108	17044p4107E	17.04	+41.07		10m	L513
109				↑		increasingly clouds again
110-115	HR 8703	22.93	+16.50	99	1s, 3s	for track ↓
116	COMP			↑		

60 inch Telescope Log				Spectrograph: <u>FAST</u>		
Observer: <u>PB</u>				Grating: <u>300R</u>		Page: <u>4824</u>
PI: <u>Shapiro & Wilkes</u>				Date: <u>7/24/96</u>		
Number	Object	R.A.	Dec.	L/R	Exp	Comments
117-122	HD217086	22:54	+62:27	0	5s, -30s	lots of clouds
123	COMP			↑		
124-129	HR 8703 red	22:53	+16:50	99	3s, 5s	red filt = 860 ↓
130	COMP			↑		
131-135	HD217086 red	22:54	+62:27	0	15-20s	clouds....
136	COMP			↑		
137-141	HD192281 red	22:10	+40:07	0	10s-20s	#110 saturated
142	COMP			↑		for Iron ↑
143-144	CIC ₂ red	19:50	+35:41	12	2m, 1m	
145	COMP			↑		
146-155	FLAT red	star		99	10s	
156-160	BIAS			0	0s	Normal Tilt = 607 ↓
161-163	CIC ₂	19:50	+35:41	12	2m, 20s, 1s	
164	COMP			↑		
165-167	HD192281	22:10	+40:07	0	5s	for Iron too
168	COMP			↑		
169	3C390.3	18:45	+79:43	6	5m	poor seeing!
170	COMP			↑		
171	19584 p5021	19:58	+50:21	1	4m	superposed star? - had to force velocity to 7681 w/old good
172	COMP			↑		
173	20004 p4900	20:00	+49:60	1	7m	em
174	COMP			↑		
175	19798 p4148	19:29	+41:48	1	4m	
176	COMP			↑		stopped again - clouds
177-178	N7331	22:34	+34:09	0	4m	
179	COMP			↑		
180-183	M32	00:39	+10:35	0	20s	
184	COMP			↑		
185-186	158m213	00:40:30.2	+40:50:55	0	6m	
187	COMP			↑		

TILT CHANGE!

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>4825</u>	
Observer: <u>PB</u>			Grating: <u>300R</u>			
PI: <u>A11</u>			Date: <u>7/24/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
188	N7469	23:03	+06:53	L	3m	clouded off M31!
189	COMP			T		
190	MRK335	02:03	+19:55	L	4m	
191	COMP			T		
192-193	HD21853	22:18	+56:07	D	1m	Wolf-Rayet Star
194	COMP			T		
195-197	HD213019	22:27	+56:15	O	20s	Wolf-Rayet Star
198	COMP			T		
199-201	HD214419	22:26	+56:44	O	10s	eclipsing binary Blue type clouds all over @ dawn WNS
202	COMP			T		
203-205	HD213023	22:26	+63:44	O	5s	Star in double system 09 ✓
206	COMP			T		
207-209	HD215875	22:46	+58:04	O	5s	Spectroscopic binary 05
210	COMP			T		
211-213	HD218195	22:05	+58:15	O	2s	emission line star 08
214	COMP			T		
215-224	BIAS			O	0s	
225-234	FLAT			O	6s	

End of FAST Run.