

Start of FAST Run

60 inch Telescope Log		Spectrograph: <u>FAST</u>				
Observer: <u>P Berlin</u>		Grating: <u>300L</u>			Page: <u>4181</u>	
PI: <u>Geller</u>		Date: <u>12/13/95</u>				
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIBS				0s	cirrus all over
11-20	FLAT				6s	
21	COMP				5s	
22-26	sky	zenith			2s	
27	COMP			↑	5s	
28-33	HD..				5s	spect stars (twilight)
74-75	N7331	22:34:46	+34:09:43	0	2m	
76	COMP			↑		
77	S22.01662	23:30:1311	+10:32:359	3	7m	
78	COMP			↑		
79	S22.01614	23:22:572	+10:34:552	3	12m	H α
80	COMP			↑		
81	S22.022934	23:19:275	+10:34:068	3	15m	
82	COMP			↑		
83	S22.023056	23:14:452	+10:34:262	3	12m	
84	COMP			↑		
85	S22.023677	23:26:412	+10:35:15	3	10m	
86	COMP			↑		
87	S22.026267	23:14:319	+11:04:138	3	12m	
88	COMP			↑		
89	S22.038870	23:29:457	+11:42:077	3	12m	H α - strong
90	COMP			↑		
91	S22.03909	23:18:0526	+11:43:377	3	10m	H α
92	COMP			↑		
93	S22039628	23:18:578	+11:45:327	3	10m	H α
94	COMP			↑		
95	S22.042901	23:16:32	+11:55:12	3	10m	H α * on slit!
96	COMP			↑		
97	S22.044561	23:20:29	+12:02:18	3	10m	H α
98	COMP			↑		

11/28 64



gain 1.12
noise 8.56

dark mean 4.47

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>4/82</u>	
Observer: <u>PB</u>			Grating: <u>300</u>			
PI: <u>Geller</u>			Date: <u>12/13/95</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
99	S22.046546	23:15:94	+12:06:35	3	10m	
100	COMP			↑		
101	S22.047415	23:17:287	+12:09:26	3	12m	
102	COMP			↑		
103	S22.048077	23:21:084	+12:11:46	3	15m	
104	COMP			↑		
105	S22.048886	23:23:229	+12:22:56	3	12m	
106	COMP			↑		
107	S22.052742	23:31:585	+12:24:49	3	15m	H α
108	COMP			↑		
109	467.045475	01:12:3829	+12:41:266	3	12m	H α
110	COMP			↑		
111	467.046947	01:32:0404	+12:45:43	3	10m	H α
112	COMP			↑		
113	467.047596	01:17:18	+12:49:49	3	8m	
114	COMP			↑		
115	467.050350	01:18:4518	+12:51:52	3	6m	poor seeing
116	COMP			↑		
117	467.050541	01:04:5103	+13:01:282	3	10m	
118	COMP			↑		
119	467.0516909	01:19:098	+12:46:27	3	12m	
120	COMP			↑		
121	467.052059	01:18:296	+13:05:34	3	10m	
122	COMP			↑		
123	awm7-2003	02:49:453	+41:22:05	35	20m	H α main 2 up
124	COMP			↑		lots of clouds out there!
125	awm7-2006	02:49:59	+41:30:53	35	20m	strong lines
126	COMP			↑		
127	L15413.86	05:02:57	+25:16:47	38	12m	clouds + moon syndrome
128	COMP			↑		

60 inch Telescope Log		Spectrograph: <u>FAST</u>				
Observer: <u>PB</u>		Grating: <u>3000, 3" slit</u>			Page: <u>4/83</u>	
PI: <u>Briceno/Huchra</u>		Date: <u>12/13/95</u>				
Number	Object	R.A.	Dec.	L/R	Exp	Comments
129	L1544B-8cd	05:03:01	+28:15:39	38	10m	objects c+d on slit
130	COMP			↑		dis w of c
131	L1544B-2a	05:04:50.5	+24:53:18	38	12m	
133	L1544B-2b	05:04:48.6	+24:53:36	38	7m	
132	COMP			↑		
134	L1544B-3c	05:03:37.7	+24:46:41	38	10m	
135	L1544B-3a	05:03:38.1	+24:46:27	38	5m	cluds
136	COMP			↑		
137	0600p27	06:00:52.7	+07:47:08	38	5m	
138	COMP			↑		clearing
139	0604p28	06:04:55	+28:02:29	1	5m	
140	COMP			↑		
141	0605p32	06:05:28	+32:29:43	1	5m	
142	COMP			↑		
143	0606p06	06:06:05.7	+06:16:41	1	15m	LSB H α
144	COMP			↑		
145	0612p34	06:12:07	+34:03:52	1	10m	1607p25
146	COMP			↑		
147	0612p34	06:12:07	+34:03:52	1	10m	H α
148	COMP			↑		
149	0612p30	06:12:22	+30:07:29	1	10m/5m	x2
150	COMP			↑		
153	0615p28	06:15:02.4	+28:46:09	1	10m	moon is too close
154	COMP			↑		to the 15R fields
155	0616p28	06:16:03	+28:11:29	1	7m	tonight
156	COMP			↑		
157	0619p29	06:19:44.9	+28:06:54	1	7m	
158	COMP			↑		
159	0620p28	06:20:37.2	+28:45:44	1	10m	
160	COMP			↑		

Moon 11 +3

Li 6701

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>4184</u>	
Observer: <u>PB</u>			Grating: <u>302</u>			
PI: <u>Parkins/Brice</u>			Date: <u>12/13/95</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
161	062 p25	06:21:53	+25:07:42	1	10m	moon
162	WMP			↑		a few more clouds
163	062Sp23a	06:25:21	+23:32:51	1	15m	
164	WMP			↑		
165	062Sp23b	06:25:35	+23:49:56	1	15m	
166	WMP			↑		low mountain clouds!
167	0630p24	06:30:27	+24:24:30	1	15m	- redo this in good sky
168	WMP			↑		. nice moon halo,
169-170	Ferze34	10:31	+43	0	1m	compact red+green
171	WMP			↑		
172-194	HD...			0	20s	heavy cloud - stars
195	MRK421	11:04:15	+38:18:30	6	5m	
196	WMP			↑		
197-198	N4151	12:08	+39:44	6	30s	
199	WMP			↑		
200-201	H244	13:4	+36:27	0	45s	
202	WMP			↑		
203	AS456	08:41:494	+11:11:47	38	7m	
204	WMP			↑		solid out there
205	AS178	08:42:16	+20:03:32	38	6m	
206	WMP			↑		
207-208	ASS20	08:43:06	+19:42:17	38	5m	4m
209	WMP			↑		
210-11	N3001	09:54:30	+69:18:18	0	90s	
212	WMP			↑		
213-217	AGK2p45928	09:49:20	+43:42:57	0	30-90s	
218	WMP			↑		close due to cloud
219-228	239-248 BIRS			0	0s	@down
229-238	FLAT			0	6s	2nd level up to S10
249-252	DARK			0	15m	

that's a wrap.

17345

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>4/85</u>		
Observer: <u>PB/T. Lappin</u>		Grating: <u>300L</u>		Date: <u>12/14/95</u>		
PI: <u>Geller</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BDS				0s	5:35
11-20	FLAT				6s	clear, cold, + windy
21-25	SKY				2s	
26	COMP				5s	delay of tv
27-28	DDP 284211	21:48:57d	+28:57:40	0	20s	LXHOOD not working!
29	COMP			↑		
30	MRK 335	00:03	+19:55	6	1m	
31	COMP			↑		
32-33	N7331	22:34:46.9	+19:01:43	0	2m	
34	COMP			↑		
35	S22.053870	23:30:06.59	+12:29:40.8	3	20m	sup * galaxy
36	COMP			↑		
37	S22.05173	23:16:32	+12:32:27	3	10m	poor seeing
38	COMP			↑		Clear see 4" @ 4"
39	S22.059258	23:11:30.7	+12:46:31.6	3	15m	
40	COMP			↑		
41	S22.059327	23:13:06.07	+12:46:57	3	12m	30 mph wind
42	COMP			↑		steady
43	S22.060055	23:0:10.6	+12:49:17.8	3	15m	
44	COMP			↑		
45	S22.060296	23:23:06.8	+12:49:51.1	3	20m	Hα
46	COMP			↑		
47	S23:021409	23:47:49.37	+10:52:25	3	20m	
48	COMP			↑		
49	S23022580	23:54:20.7x	+10:55:19.1	3	20m	all faint leftovers Hα → pix 2307
50	COMP			↑		
51	S23.029221	23:30:35	+11:17:24	3	20m	Hα @ pix 2261
52	COMP			↑		wind gusts to +35
53	S23.029472	23:55:32	+11:17:55	3	12m	
54	COMP			↑		

0:305 Jim 1.16
vane 8.73

60 Inch Telescope Log

Observer: PB/T. LappinPI: Goodman/BriteroSpectrograph: FASTGrating: 3002Page: 4186Date: 12/14/95

Number	Object	R.A.	Dec.	L/R	Exp	Comments
55	523.029933	23:48:03.05	+11:20:22.5	3	15m	clouds below us
56	comp			↑		
57	523.030670	23:44:20.67	+11:22:56.3	3	15m	V. poor seeing (lost guide star) Redo
58	comp			↑		
59	131121	04:22:41.8	26:42:28	37	4m	
60	131122	04:22:45.2	26:40:32	37	7m	clouds gone, still windy
61	comp			↑		
62	131123	04:22:42.9	26:35:57	37	4m	
63	131124	04:22:45.2	26:33:04	37	4m	forgot fresh command
64	131125	04:22:43.7	26:30:54	37	1m	
65	comp			↑		moon rise
66	141131	04:22:39.8	27:04:44	37	8m	
67	141132	04:22:42.9	27:00:39	37	10m	2 stars on slit
68	comp			↑		
69	141133	04:22:38	+26:55:57	37	5m	seeing still
70	141134	04:22:33	+26:51:38	37	3m	very poor
71	141135	04:22:39	+26:50:10	37	10m	WD & 30
72	comp			↑		
73	151141	04:22:30	+27:24:23	37	10m	
74	151142	04:22:31	+27:21:11	37	8m	
75	comp			↑		
76	151143	04:22:33	+27:17:59	37	8m	extra * on slit to W
77	151144	04:22:33	+27:13:24	37	5m	
78	151145	04:22:33	+27:09:43	37		
79	comp			↑		
80	151145	04:43:20.3	+29:40:26	38	4m	
81	comp			↑		
82	L1544A-76c	05:02:33.9	+25:21:51	38	5m	• close double
83	L1544A-7a	05:02:37	+25:23:14	38	12m	blended spec
84	comp			↑		

82- cannot separate objects b & c

60 inch Telescope Log		Spectrograph: <u>FAST</u>				Page: <u>4187</u>
Observer: <u>PB/TL</u>		Grating: <u>300R</u>				
PI: <u>Brown/Geller</u>		Date: <u>12/14/95</u>				
Number	Object	R.A.	Dec.	L/R	Exp	Comments
85	L1544A-2b	05:03:11.9	+25:44:43	38	8m	terrible seeing. 3" +
86	COMP			↑		windy!
87	L1544A-4b	05:02:42	+25:28:41	38	5m	
88	COMP					
89	L1544A-4a	05:02:42.7	+25:27:50	38	5m	
90	L1544A-4d	05:02:45.4	+25:27:15	38	1m	
91	L1544A-4c	05:02:47.3	+25:27:35	38	7m	
92	COMP			↑		
93,4	G223	05:42:02	+12:30:43	30	10s	
95	COMP			↑		
96	HBC72	04:43:59	+16:41:40	36	90s	
97	COMP			↑		
98,99	HBC427	04:52:51	+30:16:20	38	60s	wrong ⁹⁸ & marked on chart 98 is not Tau1, 99 is not either
100	COMP			↑		
101	312104166	08:38:55	+31:44:47	3	10m	
102	COMP			↑		
103,107	312.097025	08:39:146	+31:20:49	3	15m	x2
104,108	COMP			↑		star on slit; 1/2 wind died down
105	312.095122	08:46:15	+31:16:26	3	15m	seeing still 2-3"
106	COMP			↑		
109	312.107552	08:45:51	+31:57:35	3	15m	HA
110	COMP			↑		
111	312.109225	08:52:18	+32:03:21	3	12m	
112	COMP			↑		finally, decent sky
113	312.106654	08:47:11.9	+31:54:35	3	12m	
114	COMP			↑		
115	312.107840	08:48:45	+31:56:56	3	10m	
116	COMP			↑		
117	312.115363	08:40:51	+32:23:42	3	12	star on slit
118	COMP			↑		

60 inch Telescope Log			Spectrograph: <u>FAB</u>		Page: <u>4188</u>	
Observer: <u>PBTL</u>			Grating: <u>300L</u>			
PI: <u>Geller</u>			Date: <u>12/14/95</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
119	312.113192	08:52:22	+32:17:07	3	15m	
120	COMP			↑		
121	312.115749	08:50:25.4	+32:25:40.9	3	15m	
122	COMP			↑		
123	312.118308	08:55:11.8	+32:24:30	3	15m	
124	COMP			↑		seeing comes + goes...
125	312.050595	08:38:50	+28:55:15	3	15m	
126	COMP			↑		
127	312.051904	08:53:53.7	+29:00:17	3	15m	
128	COMP			↑		
129	312.053421	08:56:14.54	+29:03:45.1	3	15m	
130	COMP			↑		
131	313.005366	09:10:21	+26:27:33	3	10m	
132	COMP			↑		
133-134	Fer234	10:16:41	+43:21:50	1	30s	seeing 2"
135	COMP			↑		
136	N4151	12:08:0	+39:41:01	6	30s	
137	COMP			↑		
138	N45518	14:15:43	+25:22:	6	60s	
139	COMP			↑		
140-141	H244	13:21	+36:33	1	30s	
142	COMP			↑		
143-144	N45LS	12:16:21	+25:59:14	1	30, 3m	
145	COMP			↑		
146-150	AGK2p43928	09:44:21	+43:42:03	1	5s	def + trailed
151				↑		noise
152-161	B1A5					
162-171	Flats				6s	

phew, a struggle for
the photos tonight
w/ the wind + seeing...

Time 11:30 15

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>4/119</u>		
Observer: <u>PB</u>		Grating: <u>300L, 3" slit</u>				
PI: <u>Geller</u>		Date: <u>12/15/95</u>				
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BHAS			0	0s	clouds
11-20	FLAT			0	6s	awesome sunset
21	COMP			0	5s	fast foc = 1060
22-26	sky	zenith		0	2s	
27	COMP			↑	5s	
28, 29	N7331	22:34	+34:09	0	2m	thick cloud overhead
30	COMP			↑		entizing clear sky to W
31-33	HD217086	22:54	+62:27	0	5s	impending rainstorm in CA
34	COMP			↑		
35	MRK335	00:03:45	+19:55:27	6	2m	
36	COMP			↑		clouds
37-40	M32	00:39:58.2	+40:35:30	0	1m, 2m	
41	COMP			↑		
42-43	225m280	00:41	+39	3	10m	clearing
44	COMP			↑		
45	S23.031375	23:46:33	+11:24:55	3	10m	
46	COMP			↑		
47	S23.030670	23:44:20	+11:22:56	3	20m	
48	COMP			↑		
49	S23.031664	23:52:41	+11:25:28	3	15m	
50	COMP			↑		pretty clear!
51	S23.032054	23:55:41	+11:28:17	3	15m	
52	COMP			↑		
53	S23.033113	23:54:57.9	+11:29:58.8	3	15m	H+
54	COMP			↑		
55	467.052165	01:09:23.56	+13:05:40.7	3	8m	
56	COMP			↑		
57	467.052610	01:22:54	+13:07:36	3	15m	H+
58	COMP			↑		
59	467.053469	01:15:35.06	+13:11:06.9	3	15m	

Advice 8.67

gain 1.14

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4190</u>	
Observer: <u>PB</u>				Grating: <u>3002</u>			
PI: <u>Geller/Goodman/Fuko</u>				Date: <u>12/15/95</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments	
60	COMP			↑			
61	467.054591	01:09:22.7	+13:15:05.8	3	9m		
62	COMP			↑			
63	467.054227	01:30:38.64	+13:12:42.6	3	7m	Ha	
64	COMP			↑		finishes the plate.	
65	467.055761	01:17:11.8	+13:20:26	3	7m	seeing just get worse	
66	COMP			↑			
67	quasar 7.2038	02:52:08	+41:14:47	35	15m		
68	COMP			↑			
69	quasar 7.2046	02:52:45	+41:09:44	35	10m		
70	COMP			↑			
71	quasar 7.2054	02:53:03.5	+41:17:25.8	35	15m	Ha	
72	COMP			↑			
73	quasar 7.2068	02:53:30	+41:39:03	35	15m		
74	COMP			↑		bin by 2 ↓ 3" slit	
75	03130344	03:49:46.2	+34:26:45	31	15m		
76	COMP			↑			
77	0456025	04:56:22.3	+02:34:15	31	15m	Rot = 57° (27)	
80	COMP			↑		j 2x5 on slit	
83	161151	04:22:50	+27:50:03	37	5m	bin by 4 ↓	
84	161152	04:22:43	+27:42:02	37	5m	clouds!	
85	161154	04:22:44	+27:35:04	37	4m		
86	161155	04:22:40	+27:21:45	37	7m		
87	COMP			↑			
88	171161	04:22:33.5	+28:04:14	37	4m		
89	171163	04:22:37	+27:57:06	37	4m		
90	171164	04:22:31	+27:54:36	37	10m		
91	COMP			↑			
92	171165	04:22:33	+27:46:09	37	7m	alt *	
93	171162	04:22:31	+28:00:40	37	10m		

4/16/11

Moon Rise 1:15

JK

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>4191</u>	
Observer: <u>PB</u>			Grating: <u>300</u>		Date: <u>12/15/95</u>	
PI: <u>Goodman/Brizeno</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
94	COMP			↑		increasing clouds
95	181172	04:22:35.2	+18:18:55	37	10m	
96	181171	04:22:33	+18:22:59	37	7m	
97	COMP			↑		
98	181174	04:22:30.9	+18:13:45	37	10m	clouded out
99	COMP			↑		
100	HBC43	04:27:09	+18:07:21	38	1m	fainter comp to W
101	HBC495D	04:28:46	+18:07:32	38	10m	lots of clouds
102	COMP			↑		decid seeing
103	HBC398	04:29:17	+24:16:07	38	4m	stopped short by clouds
104	COMP			↑		
105	HBC408	04:31	+24:54	38	7m	
106	COMP			↑		
107	HBC409	04:32	+22:48	38	5m	read
108	COMP			↑		
109-110	HDM984	06:25:28	+14:43:16	0	30s	close due to clouds
111	COMP			↑		
112-121	BIAS				0s	
122-131	FLAT				6s	
132-141	BIAS				0s	bin by 2
142-151	FLAT				12s	bin by 2

2/23/99

bin by 2
 noise 8.8
 gain 1.15

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>4/92</u>		
Observer: <u>P. Berland</u>		Grating: <u>3000-biny 4.3°</u>		Date: <u>12/21/95</u>		
PI: <u>Geller</u>						
Number	Object	R. A.	Dec.	L/R	Exp	Comments
1-10	BIAS					6" fresh snow!
11-20	FLAT					
21-25	SKY	zenith				
26	COMP					
27-28	206750	21:43	+38:01	0	5s	
29	COMP			↑		
30-32	206774	21:43	+38:17	0	5s	
33	COMP			↑		
34-35	N7331	22:34	+34:09	0	2m	
36	COMP			↑		
37-38	BDP284211	21:48	+28:37	0	30s	
39	COMP			↑		
40	MARKS	00:03	+4:55	6	1m	
41	COMP			↑		
42-43	158m213	00:40:30Z	+40:50:55	0	5m	heavy cloud
44	COMP			↑		
45-46	225m280	00:41:451	+41:05:12	0	5m	
47	COMP			↑		clearing
48	S23.054132	23:31:24	+12:35:27	3	15m	
49	COMP			↑		
50	S23.071072	23:46:55	+11:33:45	3	15m	Hx
51	COMP			↑		
52	S23.074422	23:57:17	+11:34:26	3	15m	
53	COMP			↑		
54	S23.035954	23:35:14.1	+11:39:218	3	15m	Hx
55	COMP			↑		
56	S23.036017	23:36:37.6	+11:39:55.5	3	15m	Hx
57	COMP			↓		
58	S23.036801	23:56:02	+11:41:11	3	15m	sparkly crashed!
59	COMP			↑		no comp file taken; had to stop

use # 57

60 inch Telescope Log

Observer: PBPI: Kirshner/GreierSpectrograph: FASTGrating: 300RDate: 12/21/95Page: 4193

Number	Object	R.A.	Dec.	L/R	Exp	Comments
59,61	SN1995ak	02:45:48	+03:13:50	2	30m	x2 bin by 2
60,62	COMP			↑		SN in rows 81-84 on read
63	470.014435	02:36:23	+10:20:20.5	3	10m	bin by 4 ↓
64	COMP			↑		Spiky, crashed again!
65	470.014643	02:35:01	+10:31:11.5	3	12m	lost ~ 10 min
66	COMP			↑		
67	470.015571	02:25:50.70	+10:35:08	3	10m	He pit 2169
68	COMP			↑		
69	470.017334	02:31:27.4	+10:42:30.7	3	10m	
70	COMP			↑		
71	470.017632	02:43:59	+10:42:08	3	10m	
72	COMP			↑		
73	470.017783	02:42:34.5	+10:43:02.6	3	12m	
74	COMP			↑		
75	470.017936	02:39:36	+10:44:07	3	8m	
76	COMP			↑		
77	470.018853	02:39:37	+10:47:45	3	90s	
78	COMP			↑		
79	470.018814	02:22:11	+10:48:09	3	10m	
80	COMP			↑		
81	470.018888	02:26:15	+10:48:07	3	7m	
82	COMP			↑		
83	470.019009	02:37:28	+10:48:44	3	8m	He
84	COMP			↑		
85	470.019100	02:38:01	+10:48:42	3	8m	
86	COMP			↑		
87	470.020111	02:38:44	+10:52:54	3	8m	
88	COMP			↑		
89	470.020609	02:38:17	+10:54:47	3	7m	
90	COMP			↑		

798-3239

-6

750 860

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4194</u>
Observer: <u>PB</u>				Grating: <u>3002</u>		Date: <u>12/21/95</u>
PI: <u>Koranyi/Falco/Kirshner/Geller</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
91	AWM7-2097	02:54:32	+42:23:41	35	15m	H α
92	COMP			↑		
93	AWM7-2058	02:51:33	+41:23:48	35	20m	
94	COMP			↑		
95	0640p448	06:40:32	+44:53:39	31	10m	bin by 2, slit PA=68°
96	COMP			↑		
97	0736m063	07:36:302	-06:10:029	31	20m	PA=107°
98	COMP			↑		2 interesting absorption features Ly α ?
99, 101, 103	0640p449	06:40:43	+44:54:27	31	20m	*3 2" slit, PA=33°
100, 102, 104	COMP			↑		(North object = high row #)
105, 106	Hiltner 600	06:42	+02:11	0	30	bin by 4; 3" slit PA=90
107	COMP			↑		
108, 110	SNR95al	07:50:559	+33:33:09	2	15m	bin by 2
109, 111	COMP			↑		
112	312.048726	08:47:27	+28:50:79	3	20m	bin by 4 H α
113	COMP			↑		
114	312.055320	08:51:01	+29:10:565	3	15m	pretty face on spiral w/bar
115	COMP			↑		v=30K
116	312.065624SE	08:52:16	+29:42:45	3	10m	southeast comp
117	312.065624NW	"	"	3	10m	← NW → 31K
118	COMP			↑		
119	312.065735	08:52:03	+29:43:144	3	12m	very interesting line
120	COMP			↑		H α III shapes
121	312.066776	08:58:23	+29:45:19.9	3	10m	finishes the plate!
122	COMP			↑		
123	313.004039	09:27:59	+26:19:28	3	15m	
124	COMP			↑		
125, 126	Fe7e39	10:3:11	+43:21:50	0	1m	
127	COMP			↑		
128	MRK421	11:01:40	+38:28:43	6	5m	

597 621

60 inch Telescope Log

Observer: PB

PI: Wilkes

Spectrograph: FAST

Grating: 300

Date: 12/21/95

Page: 4195

Number	Object	R.A.	Dec.	L/R	Exp	Comments
129	COMP			↑		
130	N4151	12:08:01	+37:41:01	6	30s	
131	COMP			↑		
132	N5548	14:15:43	+25:27:01	6	2m	
133	COMP			↑		
134-135	H244	13:21:19	+36:23:39	0	1m	
136	COMP			↑		
137-139	41311	10:33:43	+53:29	0	5s	
140	COMP			↑		
141-143	91427	10:33	+23:21	0	5s	
144	COMP			↑		
145-147	91428	10:34	+22:22	0	5s	
148	COMP			↑		
149-151	92940	10:41	+32:37	0	5s	
152	COMP			↑		
153-162	BIAS			0	0s	bin by 4
163-172	FLAT			0	6s	"
173-182	BIAS			0	0s	bin by 2
183-192	FLAT			0	12s	"

gain 1.13
drive 8.47

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>4196</u>		
Observer: <u>P. Berlind</u>		Grating: <u>300R, 3" slit 6mm Y</u>		Date: <u>12/22/95</u>		
PI: <u>Kenyon</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS					clearing at sunset
11-20	FLAT					
21-25	sky	zenith				1 day old moon out
26	COMP					w/ Mercury + Venus stars
27-29	206807	21:43	+35:18	0	10s	
30	COMP			↑		
31-33	206792	21:43	+27:50	0	10s	
34	COMP			↑		a few clouds around
35-37	206793	21:43	+22:48	0	5s	
38	COMP			↑		
39-41	206847	21:44	+33:20	0	10s	
42	COMP			↑		
43-44	BDp284211	21:48:57	+28:37:48	0	30s	
45	COMP			↑		
46-47	NT731	22:34:46	+34:07:43	0	2m	
48	COMP			↑		
49	MRK335	00:13:45	+15:55	6	1m	
50	COMP			↑		
51-53	EG And	00:41:52	+40:24:22	2	1,3,5s	
54	COMP			↑		- NO COMP use #57
54-56	AT Per	01:33:06	+54:40:18	2	1,3,5,10s	
57	COMP			↑		
58-60	Z And	23:31:15.3	+48:32:72	2	1,3,5,32s	
61	COMP			↑		
62	IC5146.015	21:45:27.4	+47:31:09	30	90s	
63	COMP			↑		
64	IC5146.015	21:46:59	+47:31:29	30	8m	
65	IC5146.005	21:46:15.7	+47:35:46	30	6m	
66	COMP			↑		
67	IC5146.004	21:45:19.3	+47:32:10	30	10m	

11, 12, 14, 16

8.65
1.14

60 inch Telescope Log

Observer: PBSpectrograph: FASTPI: Kayon/Keller/KirchnerGrating: 3002Page: 497Date: 12/22/95

Number	Object	R.A.	Dec.	L/R	Exp	Comments
68	IC516.0026	21:47:14	+47:36:43	30	10m	#24 also on slit
69	COMP			↑		
70	IC516.0040	21:46:24.5	+47:36:11	30	1m	
71	COMP			↑		
72	522.060343	23:09:37.5	+12:49:46.3	3	20m	LSB H _α
73	COMP			↑		
74	522.061557	23:26:31.5	+12:53:23	3	12m	
75	COMP			↑		Susan's SN!!
76,78	SN 1995bb	00:16:17	+2:24:54	2	20m	bin by 2 +2
77,79	COMP			↑		
80	523.038344	23:55:49	+11:46:47	3	12m	bin by 1 H _α
81	COMP			↑		
82	523.038531	23:45:44.9	+11:47:34	3	10m	same cirrus around
83	COMP			↑		variable seeing
84	523.057516	23:50:56.7	+12:46:03	3	20m	H _α
85	COMP			↑		
86	470.021357	02:43:31.4	+10:56:46	3	8m	
87	COMP			↑		
88	470.020525	02:35:17	+10:54:49	3	8m	
89	COMP			↑		
90	470.019760	02:25:41.78	+10:50:08	3	8m	
91	COMP			↑		
92	470.021561	02:35:14.5	+10:58:42	3	10m	
93	COMP			↑		
94	470.022231	02:26:42	+11:01:15.1	3	10m	Strong H _α
95	COMP			↑		
96	470.022853	02:44:06	+11:02:46	3	8m	
97	COMP			↑		
98	470.023223	02:36:55	+11:05:11.3	3	20m	
99	COMP			↑		

60 inch Telescope Log			Spectrograph: <u>FAST</u>			
Observer: <u>PB</u>			Grating: <u>3WR</u>		Page: <u>4/98</u>	
PI: <u>Koranyi/Kirshner/Huchra</u>			Date: <u>12/22/95</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
100	gwm7-2.110	02:54:56	+41:29:46	3S	20m	seeing 2"
101	WMP			↑		Weak; faint galaxy!
102	gwm7-2.111	02:54:59	+41:36	3S	12m	really R=15.4???
103	WMP			↑		→ gal w/ sup* ; Ho ringal
104	gwm7-2.113	02:55:00	+41:19:53	3S	20m	→ also bright* p12-2063
105	WMP			↑		
106, 108, 110	U3151SN	04:45:27	+11:04:02	2	20m	binby 2 x3
107, 109, 111	WMP			↑		
112, 113	Hiltner 60	06:42:37	+01:11:25	0	1m	binby 4
114	WMP			↑		
115-117	DX Mon	07:22:54	-03:30:00	2	15, 10, 32	
118	COMP			↑		runaway dome!
119-121	UWAir	05:15:33	+37:21:51	2	3s	
122	WMP			↑		
123	07125p4821	07:17:28	+48:21	1	9m	seeing is much improved
124	WMP			↑		
125	07127p3730	07:17:42	+37:30:27	1	9m	
126	WMP			↑		
127	07133p2743	07:13:08	+27:43:00	1	12m	H _α
128	WMP			↑		
129	07134p2942	07:13:24	+29:42:00	1	20m	interacting blobs
130	WMP			↑		
131	07138p2242	07:13:44	+22:42:00	1	10m	H _α
132	WMP			↑		
133	07183p3113	07:18:10	+31:13:00	1	4m	
134	WMP			↑		
135	07197p2112	07:19:42	+21:12:00	1	8m	H _α
136	WMP			↑		
137	07206p2112	07:20:36	+21:12:00	1	7m	
138	WMP			↑		

47

60 inch Telescope Log

Observer: PBPI: GellerSpectrograph: FASTGrating: 3000Page: 4/99Date: 12/2/95

Number	Object	R.A.	Dec.	L/R	Exp	Comments
139	313.002157	09:10:25	+26:15:31	3	10m	
140	COMP			↑		
141	313.006000	09:27:40	+26:27:11	3	8m	H _α
142	COMP			↑		
143	313.008516	09:17:27	+26:39:13	3	8m	
144	COMP			↑		
145	313.008501	09:10:39	+26:31:35	3	8m	
146	COMP			↑		
147	313.015604	09:13:02	+27:06:59	3	7m	
148	COMP			↑		
149	313.014533	09:09:49	+27:04:09	3	8m	
150	COMP			↑		
151	313.022174	09:14:08	+27:34:41	3	8m	
152	COMP			↑		
153	313.024448	09:11:07	+27:37:10	3	8m	
154	COMP			↑		
155	313.023115	09:23:23	+27:37:25	3	15m	H _α
156	COMP			↑		
157	313.021264	09:19:13	+27:27:43	3	10m	H _α
158	COMP			↑		
159	313.025939	09:10:32.96	+27:44:20	3	10m	H _α
160	COMP			↑		
161	313.026100	09:17:16	+27:44:47	3	8m	H _α
162	COMP			↑		
163	313.028600	09:18:50	+27:53:36	3	8m	
164	COMP			↑		
165	313.032457	09:18:59	+28:07:25	3	8m	
166	COMP			↑		
167	313.034948	09:03:16	+28:15:30.6	3	8m	
168	COMP			↑		

60 inch Telescope Log			Spectrograph: <u>FAST</u>			
Observer: <u>PB</u>		Grating: <u>300L</u>		Page: <u>4200</u>		
PI: <u>Geller/Wilkes</u>		Date: <u>12/22/95</u>				
Number	Object	R.A.	Dec.	L/R	Exp	Comments
169	313.028912	09:42:04	+27:55:06	3	15m	Hk 2px 2199
170	COMP			↑		
171	313.062489	09:06:23	+29:55:46	3	5m	
172	COMP			↑		
173-174	Fezepe	10:36	+43:21	0	1m	
175	COMP			↑		
176	MRK421	11:01	+34:28	6	5m	
177	COMP			↑		
178	N4151	12:06	+39:41	6	30s	
179	COMP			↑		
180-182	TYCUN	12:42	+57:02	2	30s	
183	COMP			↑		
184	N5548	14:15	+25:22	6	2m	
185	COMP			↑		
186-187	H244	13:21	+36:23	0	1m	
188	COMP			↑		
189-190	N4486B	12:28	+42:46	0	4m	
191	COMP			↑		
192-194	97211	11:11	+26:49	0	5s	
195	COMP			↑		
196-198	97194	11:11	+42:49	0	5s	
199	COMP			↑		
200-202	96574	11:07	+43:51	0	5s	
203	COMP			↑		
204-206	96975	11:10	+15:54	0	5s	
207	COMP			↑		
208-210	97005	11:10	+22:42	0	5s	
211	COMP			↑		
212-221	BIAS			0	0s	
222-231	FLAT			0	6s	
232-241	BIAS			2	0s	binby 2
242-251	FLAT			2	12s	"

60 inch Telescope Log			Spectrograph: <u>FAST Binby 2</u>			
Observer: <u>T Lappin</u>			Grating: <u>300L 3"slit</u>		Page: <u>9201</u>	
PI: <u>Kenyon/Geller/etc.</u>			Date: <u>12/24/95</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS					Clouds!
11-20	FLAT				6s	
21-25	sky	some are unnamed			25	64% Hum, 40°F @ 5:40pm ^{clouds}
26	comp			↑		@ 6:20pm
27	V1329 Cyg	20:51:01.6	+35:34:54		1s	looks strange" [?]
28	comp			↑		
29	V1057 Cyg	20:58:53.4	+44:15:28		25	
30	comp			↑		
31	M31	08:40:00.0	+40:59:42		30s	820pm hazy T=36°F H=69%
32	comp					
33	470.023850	02:25:20.74	+11:08:14.5		15m	
34	comp			↑		
Don't understand the file numbering here - had changed to 12/23 to look at another symbiotic spectrum (file 51 on 9/27/22) - then file numbers started @ 51 on 9/5/22/4						
52	470.024154	02:38:0.46	+11:08:55.0		15m	
53	comp			↑		
54	470.024903	02:42:02.11	+11:11:20.7		15m	
55	comp			↑		
56	470.026177	02:38:32.54	+11:16:48.9		13m	
57	comp			↑		
58	U3151 SN	04:45:21.24	+11:04:02.5		20m	72% Hum, 36°F @ 10:45pm
59	comp			↑		
60	G191B2B	05:01:31.5	+52:45:52		1s	} exposures too short? ^{yes}
61	comp			↑		
62	G191B2B	05:01:31.5	+52:45:52		1s	
63	comp			↑		
64	G191B2B	05:01:31.5	+52:45:52		1s	
65	comp			↑		
66	Hiltner 600	06:42:37.20	+02:11:25		1m	
67	comp			↑		

#58 - wrong PI + Program - should be Kirshner / SN observations skip look like flats, not sky

1. 13

8.56

Underexposed

60, 62, 64, 29, 27

60 inch Telescope Log

Observer: T. Lappin
 PI: Kenyon, Wilkes, Geller

Spectrograph: FAST

Grating: 300R, 3" slit

Page: 4203

Date: 12/25/95

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS					bin by 2
11-20	BIAS					bin by 4
21-30	FLAT				6s	bin by 2
31-40	FLAT				6s	bin by 4
	no skies					H=5790 T=44F
41	N7331	22:34:46.9	+34:09:43	0	2m	bin by 4
42	comp			↑		
43	Mrk 335	00:03:45.1	+19:55:27	6	1m	circus envelope, ^{small} moon halo
44	comp			↑		
45	V1329 Cyg	20:51:01.6	+35:34:54	12	2m	
46	comp			↑		
47	V1057 Cyg	20:58:53.4	+44:15:28	12	1m	
48	comp			↑		
49	AG Peg	21:51:01.9	12:37:32	12	1s	
50	comp			↑		
51	Z And	23:33:40.1	+48:49:05	12	1s	brightest star in field - cap 1d by verify against finder chart
52	comp			↑		
53	RAgr	23:43:49.4	-15:17:04	12	1s	no finder chart
54	comp			↑		
55	RAgr	23:43:49.4	-15:17:04	12	1s	same as 53
56	comp			↑		
57	470.026628	02:36:55.03	+11:18:55.1	3	13m	
58	comp			↑		
59	470.026704	02:23:06.00	+11:19:26.9	3	15m	
60	comp			↑		
61	470.027618	02:39:24.94	+11:22:37.3	3	15m	
62	comp			↑		
63	470.028303	02:20:14.76	+11:25:51.9	3	13m	hand guided
64	comp			↑		
65	470.029032	02:21:20.18	+11:28:51.0	3	13m	

gain 1.17
 drive 9.05

60 inch Telescope Log

Observer: T. LappinPI: Geller, Kirshner, HuckraSpectrograph: FASTGrating: 300L, 3" slitPage: 4204Date: 12/25/95

Number	Object	R.A.	Dec.	L/R	Exp	Comments
66	comp			↑		bin by 4
67	470.030319	02:30:59.50	+11:34:34.9	3	15m	↓
68	comp			↑		
69	470.031237	02:23:13.36	+11:38:34.9	3	15m	
70	comp			↑		
71	470.031520	02:23:04.85	+11:29:35.5	3	15m	
72	comp			↑		
73	U3151SN	04:45:21.24	+11:04:02.5	2	20m	bin by 2
74	comp			↑		↓
75	U3151SN	04:45:21.24	+11:04:02.5	2	20m	↓
76	comp			↑		
77	U3151SN	04:45:21.24	+11:04:02.5	2	20m	
78	comp			↑		
79	Hiltner 600	06:42:37.2	+02:11:25	0	1m	
80	comp			↑		
81	Hiltner 600	06:42:37.2	+02:11:25	0	1m	
82	comp			↑		
83	0641p23	06:41:40.2	+23:56:56	1	15m	bin by 4
84	comp			↑		↓
85	07208p2110	07:20:48.00	+21:10:00	1	13m	↓
86	comp			↑		
87	07212p3245	07:21:13.59	+32:45:06	1	13m	
	forgot to do comp				(use 86 or 89)	
88	07212p3633	07:21:14.16	+36:33:57		15m	
89	comp			↑		
90	313.036565	09:10:34.48	+28:22:30.8	3	8m	
91	comp			↑		
92	313.061012	09:09:46.73	+29:48:44.0	3	10m	hand guided
93	comp			↑		
94	313.061802	09:24:56.62	+29:51:59.8	3	8m	

60 inch Telescope Log				Spectrograph: <u>FAST</u>		
Observer: <u>J Lappin</u>				Grating: <u>300d, 3' slit</u>		Page: <u>4205</u>
PI: <u>Geller /</u>				Date: <u>12/25/95</u>		
Number	Object	R. A.	Dec.	L/R	Exp	Comments
95	comp			↑		
96	313.062296	09:13:54.79	+29:55:43.2	3	10m	
97	comp			↑		
98	313.042152	09:12:54.23	+28:42:21.3	3	10m	satellite obscured by during this exposure
99	comp			↑		
100	313.042416	09:03:21.08	+28:41:44.4	3	10m	steady seeing -
101	comp			↑		
102	313.053773	09:09:21.81	+29:23:45.4	3	10m	star also in slit, hand guided
103	comp			↑		
104	313.063931	09:00:47.71	+29:57:23.7	3	8m	hand guided
105				↑		
106	313.036437	09:04:33.26	+28:20:52.6	3	20m	V. Faint, hand guided
→	sky improved some since midnight, but still hazy					
107	comp			↑		
108	M42	11:01:40.6	38:28:43	6	5m	
109	comp			↑		
110	313.037231	09:15:10.58	+29:24:54.4	3	20m	hand guided
111	comp			↑		
112	313.080180	09:08:37.24	+30:59:25.0	3	8m	
113	comp			↑		
114	313.083352	09:06:33.48	+31:11:21.7	3	8m	
115	comp			↑		
116	N4151	12:08:01.1	+39:41:01	6	30s	
117	comp			↑		
118	N5548	14:15:43.5	+25:22:01	6	2m	hand guided 45° elev.
119	comp			↑		
120	313.086457	09:21:10.67	+31:23:13.3	3	10m	clouds interfering
121	comp					T=38°F / H=54%
122	Feige 34	10:36:41.2	+13:21:50	0	1m	clouds interfering
123	comp			↑		

INCREASING CLOUDS MAKING OBSERVATIONS DIFFICULT
WAITING TO GET FLATS

60 inch Telescope Log

Observer: T LAPPIN

PI: _____

Spectrograph: FAST

Grating: 3002, 3" slit

Page: 4206

Date: 12/25/95

Number	Object	R.A.	Dec.	L/R	Exp	Comments
124-128	sky (morning)				55	bin by 4
129	comp					
130-134	sky				25	bin by 2
135	comp					
136-145	FLAT				65	bin by 2
146-155	BIAS					bin by 2
156-165	FLAT				65	bin by 4
166-175	BIAS					bin by 4

60 inch Telescope Log			Spectrograph: FAST			
Observer: <u>T Lappin</u>			Grating: <u>300Å, 3" slit</u>		Page: <u>4207</u>	
PI: <u>Goodman/Koranyi</u>			Date: <u>12/26/95</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS					bin by 4
11-20	BIAS					bin by 2
21-30	FLAT				6s	bin by 2
31-40	FLAT				6s	bin by 4
41-45	SKY	Zenith			2s	bin by 2 - clouds, ~5:40pm
46	comp			↑		
47-51	SKY	Zenith			2s	bin by 4 - clouds, ~5:40pm
52	comp			↑		
53	N7331	22:34:46.9	+34:09:43		2m	bin by 4
54	comp			↑		
55	MrK 335	00:03:45.1	+19:53:27		1m	
56	comp			↑		
	clouds getting thicker - can't see many stars in guide camera					
	clear to North + east - thin clouds overhead - try some stars					
57	012008	04:21:29.2	+22:36:46	37	10m	alternate star
58	comp			↑		
59	022016	04:21:21.2	+23:05:06	37	8m	
60	comp			↑		
61	022017	04:21:24.7	+23:00:34	37	10m	
62	022018	04:21:06	+22:57:20	37	8m	
63	comp			↓		
64	022019	04:21:23.6	+22:51:26	37	8m	
65	2wm7-2.059	02:53:19.10	+41:45:21.60	35	20m	much clearer now
66	comp			↑		
67	2wm7-2.082	02:54:11.80	+40:58:46.12	35	20m	
68	comp					
69	2wm7-2.167	02:59:19.30	+42:01:13.91	35	17m	
70	comp			↑		
71	2wm7-2.168	02:59:22.30	+41:42:20.41	35	20m	galaxy not visible in tv
72	comp			↑		

8.96

1.17

60 inch Telescope Log

Observer: T LappinPI: Huchra / GellerSpectrograph: FASTGrating: 300L, 3" slitPage: 4208Date: 12/26/95

Number	Object	R.A.	Dec.	L/R	Exp	Comments
73	0637p21	06:37:58.8	+21:29:12		10m	star to West in slit
74	comp			↑		
75	0630p24	06:30:27.8	+24:24:30		10m	
76	comp					
77	0642p14a	06:42:29.6	+14:23:23		8m	(file is "unnamed")
78	comp			↑		
79	0652p19	06:52:13.8	+19:55:36		20m	
80	comp			↑		
81	0657p10	06:57:58.6	+10:40:52		10m	
82	comp			↑		
83	0659p00	06:59:50.8	+00:01:42		30s	doublet?, bright one
84	0659p00	06:59:50.8	+00:01:42		5m	fainter one - the galaxy?
85	comp			↑		
86	0700p13	07:00:09.4	+13:36:29		8m	
87	comp			↑		
88	0700p01	07:00:55.8	+01:21:29		10m	faint star v. close - South
89	comp			↑		
90	0701p13	07:01:01.8	+13:20:03		10m	star near slit
91	comp			↑		
92	0702p13	07:02:06.2	+13:37:26		10m	
93	comp			↓		
94	0702p14	07:02:09.5	+14:21:26		10m	no comp - use 93
95	0702p17a	07:02:39.6	+17:45:15		15m	use comp 97
96	0702p17b	07:02:48.1	+17:45:50		15m	
97	comp			↑		
98	313.086157	09:21:10.67	+31:23:13.3	3	10m	
99	comp			↑		
100	313.089029	09:08:37.22	+31:34:21.4	3	15m	
101	comp			↑		
102	313.089978	09:10:04.40	+31:38:16.3	3	15m	star to E

60 inch Telescope Log

Observer: T Lappin

PI: Geller/Wilkes

Spectrograph: FAST

Grating: 300L, 3" slit

Page: 4209

Date: 12/26/95

Number	Object	R.A.	Dec.	L/R	Exp	Comments
103	Comp			↑		
104	313.098400	09:16:46.26	+32:11:38.4	3	15m	hand guided
105	Comp			↑		
106	313.099919	09:09:01.27	+32:16:55.2	3	10m	star to NW, hand guided
107	Comp			↑		
108	Mrk 421	11:01:40.6	38:28:43	6	5m	
109	Comp			↑		
110	Feige 34	10:36:41.2	+43:21:50	6	1m	
111	Comp			↑		
112	N4151	12:08:01.1	+39:41:01	6	30s	
113	Comp			↑		
114	315.000364	09:57:01.13	+26:09:42.4	3	10m	
115	Comp			↑		
116	315.001483	09:59:47.32	+26:17:11.0	3	10m	
117	Comp			↑		
118	315.004735	10:17:07.65	+26:35:00.7	3	10m	hand guided ("unnamed")
119	Comp			↑		
120	315.005225	09:55:29.97	+26:36:14.7	3	10m	
121	Comp			↑		
122	N5448	14:15:43.5	+25:22:01	6	2m	
123	Comp			↑		
124	315.7549	09:59:23.28	+26:54:42.8	3	10m	sky getting bright Red
125	Comp			↑		
126-135	FLATS				6s	bin by 4
136-145	BIAS					bin by 4

Moon @ 23° 41' + 0° 34' - 12/28/95 U1, UH, P1000

Weather forecast is for increasing clouds tonight - Clear at sunset. Cirrus moved in during night but clear at dawn.

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>4210</u>	
Observer: <u>T Lappin</u>			Grating: <u>300L, 3" slit</u>		Date: <u>12/27/95</u>	
PI: <u>Geller/Koranyi/Kirshner/Wilkes</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS					bin by 4
11-20	BIAS					bin by 2
21-30	FLAT				6.5	bin by 2
31-40	FLAT				6.5	bin by 4
41-45	sky	Zenith			2.5	@ 5:40pm, T=49°, H=49%
46	comp			↑		
47-51	sky	Zenith			10.5	bin by 2 @ 5:50pm
52	comp			↑		bin by 2
53	} Deleted these files					
54						
55						
56	Mr K 335	00:03:45.1	19:55:27	6	1m	bin by 4 ↓
57	comp			↑		
58	523.058428	23:55:05.26	+12:48:10.8	3	15m	bright sky - moonlight
59	comp					
60	awm 7-2.044	02:52:25.90	+41:53:00.89	3.5	15m	
61	comp			↑		
62	awm 7-2.047	02:52:42.00	+41:48:46.60	3.5	15m	
63	comp			↑		
64	awm 7-2.087	02:54:20.50	+41:25:33.20	3.5	20m	only faint object nearby
65	comp			↑		
66	awm 7-2.130	02:55:37.60	+42:02:07.30	3.5	20m	
67	comp			↑		
68	awm 7-2.118	02:55:06.00	+41:44:00.38	3.5	20m	
69	comp			↑		bin by 4 ↑
70	U31515N	04:45:21.24	+11:04:02.5	2	20m	bin by 2 ↓
71	comp			↑		
72	U31515N	04:45:21.24	+11:04:02.5	2	20m	
73	comp			↑		
74	U31515N	04:45:21.24	+11:04:02.5	2	20m	↓

main 9.08
gain 1.19

60 Inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4211</u>	
Observer: <u>T Lappin</u>				Grating: <u>300λ/3" slit</u>		Date: <u>12/27/95</u>	
PI: <u>Kirshner/Koranyi/Huchra/Wilkos</u>							
Number	Object	R.A.	Dec.	L/R	Exp	Comments	
75	comp			↑		↑	
76	Hiltner 600	06:42:37.2	02:11:25	0	1m		
77	comp			↑		bin by 2	
78	2wm7-2.122	02:55:14.10	+41:41:51.79	35	15m	bin by 4	
79	comp			↑			
82	2wm7-2.123	02:55:16.60	+41:20:20.57	35	15m	↓ cirrus moving in from west	
83	comp			↑			
84	2wm7-2.122	02:55:14.10	+41:41:51.79	35	15m	repeated since I messed up!	
85	comp			↑			
86	2wm7-2.128	02:55:32.50	+41:29:51.30	35	15m		
87	comp			↑			
88	07272 p 2435	07:27:12.00	+24:35:00	1	10m		
89	comp			↑			
90	07286 p 3039	07:28:36.00	+30:39:00	1	10m	2 objects on chart - this is the one to the West	
91	comp			↑			
92	07290 p 3159	07:29:00.00	+31:59:00	1	10m	2 vsp in slit	
93	comp			↑			
94	07293 p 2713	07:29:18.00	+27:13:00	1	13m		
95	comp			↑			
96	07313 p 3035	07:31:18.00	+30:35:00	1	20m	hand guided, cirrus in center, guide star lost. RED	
97	comp			↑			
		→ Cirrus getting thicker in this part of sky					
98	Feige 34	10:36:41.2	+43:21:50	0	1m		
99	comp			↑			
100	N 3079	09:58:34.8	+55:55:24	0	2m		
101	comp			↑			
102	Mrk 421	11:01:40.6	+38:28:43	6	5m		
103	comp			↑			
104	315.005225	09:55:29.97	+26:39:14.7	3	15m	guide star disappears @ times	
105	comp			↑			

accidentally
deleted

60 inch Telescope Log

Observer: T LappinPI: Geller/WilkesSpectrograph: FASTGrating: 3002, 3" slitPage: 4212Date: 12/27/95

Number	Object	R. A.	Dec.	L/R	Exp	Comments
106	315.007549	09:59:23.28	+26:54:42.8	3	10m	
107	comp			↑		
108	315.008419	10:00:39.66	+27:00:09.1	3	15m	
109	comp			↑		
110	315.012267	09:55:48.02	+27:22:11.2	3	10m	nothing to guide on
111	comp			↑		
112	N4151	12:08:01.1	+39:41:01	6	30s	
113	comp			↑		
114	315.012598	10:00:13.25	+27:24:49.6	3	15m	
115	comp			↑		
116	315.013451	09:58:14.19	+27:29:42.7	3	15m	redo - not long enough? hand guided, star on S edge of slit
117	comp			↑		
118	315.013552	10:13:25.68	+27:29:38.2	3	20m	hand guided
119	comp			↑		
120	315.016037	10:18:57.54	+27:41:38.7	3	20m	
121	comp			↑		
122	315.017605	10:01:29.27	+27:53:18.7	3	20m	2 dyds on slit
123	comp			↑		
124	N5548	14:15:43.5	+25:22:01	6	?m	
125	comp			↑		
126-135	FLAT				6s	binby 2
136-145	FLAT				6s	binby 4
146-155	BIAS					bin by 2
156-165	BIAS					bin by 4

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4213</u>
Observer: <u>P. Bertel</u>				Grating: <u>3000, 3" slit, bin by 4</u>		Date: <u>12/28/95</u>
PI: <u>Geller</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS	zenith		0	0s	thin clouds
11-20	FLAT			0	6s	fast for = 1060
21-25	sky			0	2s	
26	COMP			↑		
27-36	Z06807	21:43:36.5	+38:18:17	0	5-10s	
37	COMP			↑		
38-39	N7331	22:36:54	+31:09:43	0	2m	
40	COMP			↑		lots of clouds
41,42	BD p284211	21:48:57.1	+28:37:48	0	45s	
43	COMP			↑		
44	MRK335	00:03	+19:55	6	2m	
45	COMP			↑		
46	470.030740	02:28:16	+11:36:20	3	15m	H _α
47	COMP			↑		
48	470.030029	02:37:56	+11:32:59	3	15m	
49	COMP			↑		
50	470.029744	02:34:33	+11:32:10	3	15m	
51	COMP			↑		
52	470.029053	02:24:18	+11:29:20	3	10m	stopped by clouds
53	COMP			↑		
54	470.030027	02:36:16	+11:33:29	3	15m	H _α pix 2014 bright sky
55	COMP			↑		also has N1, N2, S1, S2 lines
56	0621p14	06:21:06	+14:32:17	1	4m	Susan - here's one to test the robustness of the auto-extr.
57	COMP			↑		- lost 3 hours → H _α
58	0711p05	07:11:25.8	+08:52:10	1	10m	→ nearby Seyfert
59	COMP			↑		
60	0715p00	07:15:10.6	+00:27:57	1	10m	H _α clouds still
61	COMP			↑		pix 2014
62	032028	04:21:16	+23:19	37	5m	
63	COMP			↑		

Moon 00:43+05

1.14
8.72

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>4214</u>	
Observer: <u>P. Berlin</u>			Grating: <u>300L</u>			
PI: <u>Goodman/Karanyi/Geller</u>			Date: <u>12/28/95</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
64	042059	04-21-28	+23-40-11	37	6m	clouds all over
65	comp			↑		
66	042039	04-21-23	+23-30-48	37	10m	
67	comp			↑		
68	052049	04-21-22	+23-54-39	37	8m	
69	comp			↑		
70	062056	04-21-24	+24-23-10	37	2m	
71	062057	04-21-25	+24-20-57	37	3m	
72	062058	04-21-25	+24-15	37	2m	
73	062059	04-21-18	+24-12	37	1m	clearing nicely!
74	comp			↑		
75	awm 7.2.151	02-57-19	+41-43-33	35	15m	
76	comp			↑		
77	awm 7.2.160	02-58-26	+42-06-59	35	10m	2 on slit
78	comp			↑		moon set!!
79	awm 7.2.162	02-58-29	+41-57-26	35	10m	nice lines
80	comp			↑		
81	awm 7.2.172	02-59-41	+41-34-58	35	15m	redo
82	comp			↑		
83	0728 p07	07-28-23	07-20-03	7	8m	H _α @ slit 2/96
84	comp			↑		
85	314.00085C	09-38-58	+26-18-57	3	12m	
86	comp			↑		
87	314.001521	09-27-59	+26-15-29	3	20m	H _α ? but of course
88	comp			↑		
89	314.001982	09-22-12	+26-22-45	3	12m	interesting spectra; emission
90	comp			↑		full Balmer absorption
91	314.002900	09-31-31.6	+26-28-77	3	12m	more clouds
92	comp			↑		
93	314.006491	09-45-34	+26-38-15	3	18m	

60 inch Telescope Log		Spectrograph: <u>FAST</u>				
Observer: <u>PB</u>		Grating: <u>300L</u>			Page: <u>42/5</u>	
PI: <u>Geller/Wilkes</u>		Date: <u>12/28/95</u>				
Number	Object	R.A.	Dec.	L/R	Exp	Comments
94	COMP			↑		thin cloud all over
95	314.007901	09:42:026	+26:44:17	3	15m	* on slit thick to N
96	COMP			↑		wind picking up
97	314.009860	09:48:00	+26:50:31	3	15m	
98	COMP			↑		
99	314.009656	09:51:45.2	+26:48:31	3	15m	H _β
100	COMP			↑		
101	314.010140	09:57:31	+26:52:49	3	15m	E on slit H _β
102	COMP			↑		
103	314.010470	09:49:26	+26:52:23	3	12m	
104	COMP			↑		
105	314.014067	09:43:35	+27:06:24	3	20m	H _α 26.775 Km/sec
106	COMP			↑		
107	314.015548	09:50:04	+27:10:12	3	15m	cute spiral
108	COMP			↑		
109	314.016329	09:51:20.7	+27:12:49	3	15m	* on slit ; some E lines
110	COMP			↑		
111	314.017042	09:46:29	+27:16:37	3	15m	
112	COMP			↑		
113	314.017661	09:46:34	+27:15:32	3	15m	H _β
114	COMP			↑		clouds moving in
115/16	Fe7e34	10:36	+43:21	0	1m	
117	COMP			↑		
118	MRK421	11:01	+38:28	6	50s	
119	COMP			↑		
120	NY451	12:08	+39:41	6	30s	
121	COMP			↑		
122,123	H244	13:21	+36:23	0	1m	
124	COMP			↑		
125	NS548	14:15	+25:22	6	2m	

60 inch Telescope Log

Observer: PS

PI: Al

Spectrograph: FAST

Grating: 3002

Date: 12/28/95

Page: 4216

Number	Object	R.A.	Dec.	L/R	Exp	Comments
176	QMP			↑		
127-128	N4486B	12:28.10	+12:46.10	0	3m	
129	QMP			↑		
130-139	BIAS			0	2s	
140-149	FLAT			0	6s	
						clouds everywhere
						@ dawn

End of FAST Run