

START of FAST Run

60 inch Telescope Log		Spectrograph: <i>FAST</i>		Page: <i>4511</i>		
Observer:	<i>PBerlin</i>	Grating:	<i>300L, 3" slit, bmb4</i>	Date:	<i>4/8/96</i>	
PI:	<i>PBerlin</i>					
Number	Object	R.A.	Dec.	L/R	Exp	Comments
<i>1-3</i>	<i>test</i>			<i>—</i>		<i>clear skies!</i>
<i>4-23</i>	<i>BIAS</i>			<i>0</i>	<i>0s</i>	
<i>24-43</i>	<i>FLAT</i>			<i>0</i>	<i>6s</i>	
<i>44-48</i>	<i>sky</i>			<i>0</i>	<i>2s</i>	
<i>49</i>	<i>COMP</i>			<i>↑</i>		
<i>50-52</i>	<i>HD34578</i>	<i>5-10 hrs ↓</i>	<i>0-30° ↓</i>	<i>0</i>	<i>2s</i>	
<i>53</i>	<i>COMP</i>			<i>↑</i>		
<i>54-57</i>	<i>HD35600</i>			<i>0</i>	<i>2s</i>	
<i>58</i>	<i>COMP</i>			<i>↑</i>		
<i>59-61</i>	<i>HD36371</i>			<i>0</i>	<i>2s</i>	
<i>62</i>	<i>COMP</i>			<i>↑</i>		
<i>63-66</i>	<i>HD40239</i>			<i>0</i>	<i>2s</i>	
<i>67</i>	<i>COMP</i>			<i>↑</i>		
<i>68-70</i>	<i>HD42087</i>			<i>0</i>	<i>2s</i>	
<i>71</i>	<i>COMP</i>			<i>↑</i>		
<i>72-74</i>	<i>HD43818</i>			<i>0</i>	<i>2s</i>	
<i>75</i>	<i>COMP</i>			<i>↑</i>		
<i>76-78</i>	<i>HD43836</i>			<i>0</i>	<i>2s</i>	
<i>79</i>	<i>COMP</i>			<i>↑</i>		
<i>80-82</i>	<i>HD47731</i>			<i>0</i>	<i>2s</i>	
<i>83</i>	<i>COMP</i>			<i>↑</i>		
<i>84-86</i>	<i>HD52499</i>			<i>0</i>	<i>2s</i>	
<i>87</i>	<i>COMP</i>			<i>↑</i>		
<i>88-90</i>	<i>HD39400</i>			<i>0</i>	<i>2s</i>	
<i>91</i>	<i>COMP</i>			<i>↑</i>		
<i>92-94</i>	<i>HD43416</i>			<i>0</i>	<i>2s</i>	
<i>95</i>	<i>COMP</i>			<i>↑</i>		
<i>96-98</i>	<i>HD46300</i>			<i>0</i>	<i>2s</i>	
<i>99</i>	<i>COMP</i>			<i>↑</i>		
<i>100-102</i>	<i>RCMi</i>			<i>0</i>	<i>2s</i>	

*CRS 96 @ 8:15*

60 inch Telescope Log

Observer: PB  
 PI: PB

Spectrograph: FAST

Grating: 300R

Date: 4/8/96

Page: 4512

Number	Object	R. A.	Dec.	L/R	Exp	Comments
103	COMP			↑		
104-106	HD 67594			0	2s	
107	COMP			↑		
108-109	HD 76294			0	2s	
110	COMP			↑		
111-113	HD 91316			0	2s	
114	COMP			↑		
115-117	HD 2125 9			0	2s	
118	COMP			↑		
119-120	UGem	7:55	+22:00	39	3m	
121	COMP			↑		
122-123	Z Cam	08:25	+73:06	39	30s	
124	COMP			↑		
125-126	SUMMa	08:12	+62:36	39	3m	
127	COMP			↑		
128-129	Ferz 34	10:36	+43:21	0	90s	
130	COMP			↑		
131-140	CB596	09:20	+33:56	39	3m	8:15 - 11:15
141	COMP			↓		
142-143	CB596			39	3m	
144	COMP			↓		
145-146	CB596			39	3m	
147	COMP			↓		
148-149	CB596			39	3m	
150	COMP			↓		
151-152	CB596			39	3m	
153	COMP			↓		
154-155	CB596			39	3m	
156	COMP			↓		
157-158	CB596			39	3m	

60 inch Telescope Log

Observer: PB Spectrograph: F15T

PI: PB Grating: 300L Page: 4513

Date: 4/8/96

Number	Object	R.A.	Dec.	L/R	Exp	Comments
159	COMP			↓		
160-164	CBS96	09:20	+33:56	39	3m	blustery wind variable seeing
162	COMP			↓		1.5" - 2.2"
163-164	CBS96			39	3m	
165	COMP			↓		
166-167	CBS96			39	3m	
168	COMP			↓		
169-170	CBS96			39	3m	
171	COMP			↓		
172-173	CBS96			39	3m	
174	COMP			↓		
175-176	CBS96			39	3m	
177	COMP			↓		
178-179	CBS96			39	3m	
180	COMP			↓		
181-182	CBS96			39	3m	
183	COMP			↓		
184-185	CBS96			39	3m	
186	COMP			↓		
187-188	CBS96			39	3m	
189	COMP			↓		
190-191	CBS96			39	3m	
192	COMP			↓		
193-194	CBS96			39	3m	
195	COMP			↓		
196-197	CBS96			39	3m	
198	COMP			↓		
199-200	CBS96			39	3m	
201	COMP			↓		
202-203	CBS96			39	3m	

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4514</u>	
Observer: <u>PB</u>				Grating: <u>3002</u>			
PI: <u>PB</u>				Date: <u>4/8/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments	
204	COMP			↓			
205-206	CBS96	09:20	+33:56	39	3m		
207	COMP			↓			
208-209	CBS96			39	3m		
210	COMP			↓			
211-212	CBS96			39	3m		
213	COMP			↓			
214-215	CBS96			39	3m	11:35 → 3'20"	
216	COMP			↑			
217-218	Fair 67	12:39	+17:47	0	2m		
219	COMP			↑			
220	S10932	12:39	+21:08	39	5m	11:50	
221	COMP			↓			
222	S10932			39	7m		
223	COMP			↓		North Wind	
224	S10932			39	7m	Poor Seeing	
225	COMP			↓			
226-227	S10932			39	7m		
228	COMP			↓			
229-230	S10932			39	6m		
231	COMP			↓			
232-233	S10932			39	6m		
234	COMP			↓			
235-236	S10932			39	6m		
237	COMP			↓			
238-239	S10932			39	6m		
240	COMP			↓			
241-242	S10932			39	6m		
243	COMP			↓			
244-45	S10932			39	6m		

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>4515</u>	
Observer: <u>PB</u>			Grating: <u>300L</u>			
PI: <u>PB</u>			Date: <u>4/8/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
246	COMP			↓		
247-248	S10932	12:39	+17:08	39	6m	
249	COMP			↓		
250-251	S10932			39	7m	
252	COMP			↓		
253-254	S10932			39	7m	
255	COMP			↓		
256-257	S10932			39	6m	
258	COMP			↓		
259-260	S10932			39	6m	
261	COMP			↓		
262-263	S10932			39	6m	
264	COMP			↓		
265-266	S10932			39	6m	
267	COMP			↓		
268-269	S10932			39	6m	
270	COMP			↓		
271-272	S10932			39	6m	
273	COMP			↓		
274-275	S10932			39	6m	40 obs; 3:55 ⇒ 4hrs
276	COMP			↓		
277-278	Ferrel 67	12:39	+17:47	0	2m	Sec Z = 1.8
279	COMP			↑		
280-281	Scor XI	16:19	-15:38	39	3m	
282	COMP			↑		
283	DQ Her	18:07	+15:51	39	5m	
284	COMP			↑		
285	AM Her	18:16	+15:52	39	5m	Wow
286	COMP			↑		
287-291	HD 18796	19:50	+32:54	39	2s	

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>4516</u>		
Observer: <u>PB</u>		Grating: <u>30R</u>				
PI: <u>PB</u>		Date: <u>4/8/96</u>				
Number	Object	R.A.	Dec.	L/R	Exp	Comments
292	COMP			↑		
293-294	Cygn	19:58	+35	39	30s	
295	COMP			↑		
296	WZ Sge	20:07	+17:42	39	5m	
297	COMP			↑		
298-299	SS433	19:11	+04:58	39	2m, 9m	
300	COMP			↑		
301-303	Ring	18:53	+33	39	20s	
304	COMP			↑		
305-308	M27	19:59	+22:43	39		A-NE ← B-SW C- further SW-center
309	COMP			↑		
310-32	HD19862			0	2s	
313	COMP			↑		
314-317	HD144206			0	2s	
318	COMP			↑		
319-320	HD156283			0	2s	
321	COMP			↑		
322-324	HD167506			0	2s	
325	COMP			↑		
326-328	HD63770			0	2s	
329	COMP			↑		
330-333	HD172780			0	2s	
336	COMP			↑		
337-340	HD174638			0	2s	
341	COMP			↑		
342-346	HD175588			0	2s	
347	COMP			↑		
348-349	HD183143			0	2s	
350	COMP			↑		
351-354	HD18455			0	2s	

could not extract 335

60 inch Telescope Log

Observer:   PB  

PI:   AM  

Spectrograph:   FAST  

Grating:   300R  

Date:   4/8/96  

Page:   107  

Number	Object	R. A.	Dec.	L/R	Exp	Comments
355	COMP			↑		
356-358	HD18655			0	2s	
359	COMP			↑		
360-363	HD18659			0	2s	
364	COMP			↑		
365-368	HD 18679			0	2s	
369	COMP			↑		
370-372	neptune			0	30s	
373	COMP			↑		
374-373	BIAS			-	0s	
394-413	FLAT			-	6s	
414-416	DARK			-	10m	
						clear @ dawn photometric all night

60 inch Telescope Log

Observer: P BerlinPI: Wilkes & KenyonSpectrograph: FASTGrating: 7002, 3" slit, binby 4Page: 4518Date: 4/9/96

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS			0	0s	clouds all over
11-20	FLAT			0	6s	
21-25	sky			0	2s	
26	COMP			↑	5s	
27-31	HD52971	06:57	+27:13	0	5s	
32	COMP			↑		RT system lock-up
33-37	AGK2 p11783	07:17	+14:59	0	5s	
38	COMP			↑		
39-43	Wilson 637	09:58	+55:50	0	8s	
44	COMP			↑		
45-46	Fer337	10:38	+43:21	0	90s	
47	COMP			↑		Lots of cirrus
48	MRK421	11:00	+38	6	5m	
49	COMP			↑		
50	N 4151	12:08	+39	6	35s	
51	COMP			↑		
52	N4061	12:00	+44:48	6	3m	
53	COMP			↑		
54	HBC206	06:29	+10:58	30	10m	
55	COMP			↑		
56	HBC545	06:38	+09:43	30	10m	
57	COMP			↑		
58	HBC241	06:39	+09:44	30	10m	
59	COMP			↑		
60	HBC239	06:38	+10:12	30	12m	
61	COMP			↑		
62	HBC237	06:38	+09:36	30	12m	
63	COMP			↑		
64	HBC540	06:38	+09:36	30	15m	star on slit to W
65	COMP			↑		



60 inch Telescope Log

Spectrograph: FAST

Observer: PB

Grating: 300L

Page: 4519

PI: All

Date: 4/9/96

Number	Object	R.A.	Dec.	L/R	Exp	Comments
66-67	Hiltner 60	06:42	+02	0	90s	clouds
68	COMP			↑		
69	320.07198	12	+3	3	10m	garbage - all cloud
70	COMP			↑		
71	320.07882	12	+31	3	10m	garbage - all cloud
72	COMP			↑		
73-74	N3379	10:45	+12:50	0	5m	
75	COMP			↑		
76-77	N3379	"	"	0	5m	clouded out
78	COMP			↑		
79-88	BIAS			0	0s	
89-98	FLAT			0	6s	

789

## 60 inch Telescope Log

 Observer: P Berlin  
 PI: Kemp & Wilkes & Geller

 Spectrograph: FAST  
 Grating: 3000, 5" slit, binby, 4  
 Date: 4/10/96
Page: 4520

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS			0	0s	clouds to SE
11-20	FLAT			0	6s	
21-25	SKY			0	2s	
26	COMP			↑	5s	
27-36	BIAS			2	0s	bin by 2 for SN obs
37-46	FLAT			2	12s	"
47-50	HD48329	06:43	+25:07	0	0.2	bin by 4 ↓
51	COMP			↑	0	
52-55	HD42543	06:12	+22:54	0	2s	
56	COMP			↑		
57-60	HD36371	05:32	+12	0	2s	
61	COMP			↑		
62-66	HD52971	06:	+27	0	5s	
67	COMP			↑		
68-73	UUAur	05:21	+32:30	12	248.16	
74				↑		
75-78	BSMan	07:25	-03:35	12	103.30	
79	COMP			↑		
80-81	Hiltner 60	06:42	+02:11	0	60s	
82	COMP			↑		
83	MRK 421	11:01	+38:28	6	4m	campaign: 48", X-ray, GRD, etc
84	COMP			↑		
85	N4151	12:08	+37	6	35s	
86	COMP			↑		
87	320.071198	12:26	+34:15	3	6m	
88	COMP			↑		
89	320.078202	12:26	+34:20	3	10m	Ha @ pix 2020 - weak
90	COMP			↑		
91	320.078232	12:11	+34:20	3	8m	
92	COMP			↑		

gal 8.0

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>4521</u>		
Observer: <u>PB</u>		Grating: <u>300R</u>		Date: <u>4/10/96</u>		
PI: <u>Geller</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
93	320.079806	12:31	+31:26	3	6m	poor seeing
94	COMP			↑		
95	320.079955	12:02	+31:27	3	9m	
96	COMP			↑		
97	320.079910	12:13	+31:29	3	8m	em
98	COMP			↑		
99	320.079964	12:06	+31:25	3	4m	
100	COMP			↑		
101	320.079922	12:05	+31:27	3	5m	
102	COMP			↑		
103	320.078837	12:06	+31:24	3	6m	H <sub>2</sub>
104	COMP			↑		
105	320.078852	12:10	+31:24	3	6m	em p.
106	COMP			↑		
107	320.080109	12:25	+31:29	3	6m	
108	COMP			↑		
109	320.080208	12:12	+31:30	3	6m	Nice face on spiral
110	COMP			↑		
111	320.080660	12:10	+31:32	3	5m	
112	COMP			↑		seeing better
113	320.080522	12:29	+31:29	3	4m	
114	COMP			↑		
115	320.081574	12:29	+31:35	3	5m	
116	COMP			↑		
117	320.081676	12:28	+31:35	3	5m	
118	COMP			↑		
119	320.082365	12:21	+31:40	3	5m	H <sub>2</sub> ; COMP 3" to E (HL7)
120	COMP			↑		
121	320.08270	12:23	+31:46	3	7m	
122	COMP			↑		

1654 = 6014A  
 1655 2422

60 inch Telescope Log

Observer: PB  
 PI: Kirshner & Geller

Spectrograph: FAST

Grating: 300L

Page: 4522

Date: 4/10/96

Number	Object	R.A.	Dec.	L/R	Exp	Comments
123	SN1996V	11:21:31	+02:48:41	2	15m	bin by 2 galaxy - Ho
124	COMP			↑	8s	↑ Type I
125	320.083937	12:25	+31:47	3	6m	bin by 4 ↓ NGC 3041
126	COMP			↑		
127	320.084976	12:18	+31:52	3	6m	
128	COMP			↑		
129	320.086160 EW	12:24	+31:56	3	9m	3 galaxies on slit E, W, middle
130	COMP			↑		
131	320.086276	12:13	+31:58	3	6m	$\begin{matrix} \uparrow & \uparrow \\ E & W \end{matrix}$
132	COMP			↑		new noise pattern on tv
133	320.086888	12:09	+32:00	3	5m	West
134	COMP			↑		
135	320.087079	12:10	+32:01	3	5m	Middle } well separated
136	COMP			↑		
137	320.087207	12:10	+32:01	3	6m	East } em
138	COMP			↑		
139	320.087649	12:20	+32:05	3	8m	em
140	COMP			↑		
141	320.088043	12:05	+32:07	3	6m	seemly worse again
142	COMP			↑		
143	320.088841	12:23	+32:04	3	6m	em
144	COMP			↑		
145	320.089641	12:08	+32:13	3	10m	Finishes the plate! em
146	COMP			↑		
147	322.006872	15:13	+76:28	3	5m	
148	COMP			↑		
149	322.006186	12:58	+26:25	3	10m	
150	COMP			↑		
151	322.021997	12:57	+27:25	3	5m	
152	COMP			↑		

128 = 128.320.086160 W  
 130 = 130.320.086160 E

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4523</u>	
Observer: <u>PB</u>				Grating: <u>300</u>			
PI: <u>Cutter</u>				Date: <u>4/10/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments	
153	322.02089	12:59	+27:29	3	3m		
154	COMP			↑			
155	322.02227	13:08	+27:30	3	3m		
156	COMP			↑			
157	322.022343	13:00	+27:30	3	8m	COMP GAL to E	
158	COMP			↑			
159	322.023015	12:59	+27:32	3	5m		
160	COMP			↑			
161	322.023572	13:17	+27:34	3	3m	em	
162	COMP			↑			
163	322.025016	13:00	+27:41	3	6m	poor seeing	
164	COMP			↑			
165	322.025882	12:59	+27:44	3	5m		
166	COMP			↑		Moon's up	
167	322.026244	13:13	+27:45	3	4m	em	
168	COMP			↑			
169	322.026471	12:59	+27:46	3	4m		
170	COMP			↑			
171	322.026671	12:58	+27:47	3	4m	rich field!	
172	COMP			↑			
173	322.027077	12:58	+27:48	3	3m		
174	COMP			↑			
175	322.027225	12:58	+27:48	3	4m		
176	COMP			↑			
177	322.027529	12:57	+27:49	3	3m		
178	COMP			↑			
179	322.027889	12:55	+27:50	3	5m		
180	COMP			↑			
181	322.027923	12:56	+27:50	3	5m		
182	COMP			↑			

60 inch Telescope Log

Observer: PBPI: CarterSpectrograph: FASTGrating: 300RDate: 4/10/96Page: 4524

Number	Object	R.A.	Dec.	L/R	Exp	Comments
183	322.028367	12:57	+27:52	3	5m	
184	COMP			↑		
185	322.028374	12:55	+27:51	3	8m	
186	COMP			↑		
187	322.028471	12:57	+27:52	3	4m	
188	COMP			↑		
189	322.02859	13:01:26	+27:53:11.6	3	3m	nucleus nice...
190	COMP			↑		
191	322.028808	12:59	+27:54	3	6m	
192	COMP			↑		
193	322.029815N	12:59	+27:57	3	4m	heart of the cluster ↓
194	COMP			↑		
195	322.029855	12:59	+27:56	3	4m	
196	COMP			↑		
197	12596p2757	12:59:36	+27:57:35	3	3m	central cD
198	COMP			↑		
199	322.030095N	13:00	+27:59	3	4m	
200	COMP			↑		
201	322.030439	13:00	+28:00	3	3m	
202	COMP			↑		
203	322.030888	13:07	+28:02	3	8m	em
204	COMP			↑		
205	322.032069	13:02	+28:06	3	7m	
206	COMP			↑		
207	322.032396	12:58	+28:07	2	4m	
208	COMP			↑		
209	322.032804	12:58	+28:09	3	6m	10" N of another brighter galaxy
210	COMP			↑		
211	322.033316	12:59	+28:10	3	5m	
212	COMP			↑		

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4525</u>	
Observer: <u>PB</u>				Grating: <u>300L</u>			
PI: <u>Geller &amp; Huchra &amp; Kenyon</u>				Date: <u>4/10/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments	
213	322.053349	12:58	+28:10	3	8m		
214	COMP			↑			
215	322.053313	12:57	+28:11	3	4m		
216	COMP			↑			
217	322.053361	13:02	+28:13	3	4m		
218	COMP			↑			
219-222	TXCVN	12:47	+28:45	12	10s, 60s		
223	COMP			↑			
224	323.059438	13:33	+30:25	3	8m		
225	COMP			↑			
226	323.020182	13:27	+27:36	3	5m	em	
227	COMP			↑			
228	323.066098	13:24	+30:58	3	4m		
229	COMP			↑			
230	323.066016	13:27	+30:58	3	5m	em	
231	COMP			↑			
232	323.066178	13:36	+30:59	3	6m	em	
233	COMP			↑			
234	NS179	14:05	+65:42	1	4m		
235	COMP			↑			
236	I1099	14:39	+62:01	1	4m		
237	COMP			↑			
238	I1099	15:06	+56:31	1	5m	Susan - good luck w/	
239	COMP			↑		this one: weak H $\alpha$ per 2139	
240	15016 p6828	15:01	+68:17	1	4m	lines look OK	
241	COMP			↑			
242	15020 p7005	15:02	+69:54	1	5m	em	
243	COMP			↑			
244	15020 p6137	14:59	+51:25	1	4m		
244	COMP			↑			

60 inch Telescope Log

Observer: PB  
 PI: Wilkes/Kearson

Spectrograph: FAST

Grating: 300R

Date: 4/10/86

Page: 4526

Number	Object	R.A.	Dec.	L/R	Exp	Comments
246	ISO60p8025	15:05	+80:47	1	8m	weak em
247	COMP			↑		
248	MRK279	17:51	+65:33	6	90s	
249	COMP			↑		
250	NSS48	14:15	+75:22	6	2m	
251	COMP			↑		
252-255	TCrB	15:59	+25:55	12	8,30s	
256	COMP			↑		
257-259	CIC <sub>2</sub>	17:50	+25:41	12	20s, 1m	5s
260	COMP			↑		
261-265	HD92281	20:10	40:07	0	5s	
266	COMP			↑		
267-269	CHC <sub>2</sub>	19:24	+50:14	12	1,520	
270				↑		
271-273	BFC <sub>2</sub>	19:23	+29:40	12	2,5,60	
274	COMP			↑		
275-277	HD180605	19:16	+38	0	1s	
278	COMP			↑		clear @ dawn
279-281	HD181475	19:20	-4:30	0	1s	
282	COMP			↑		
283-292	BIAS			0	0s	
293-302	FLAT			0	6s	



60 inch Telescope Log			Spectrograph: <u>FAST</u>			Page: <u>4527</u>
Observer: <u>P. Bertin / B. Barton</u>			Grating: <u>300L, 3" slit, Lumby 4</u>			
PI: <u>Geller</u>			Date: <u>4/11/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	ISIAS			0	03	
11-20	FLAT			0	6s	
21-25	skys			0	2s	on clouds
26	COMP			↑		
27-31	HDS2971	06:57	+27:13	0	5s	
32	COMP			↑		
33-37	AGK2 PM783	07:17	+14:59	0	5s	
38	COMP			↑		
39-40	Fape 34	10:26	+43:21	0	90s	
41	COMP			↑		
42	MRK421	11:01	+38:28	6	4m	
43	COMP			↑		
44	NG151	12:08	+59:41	6	40s	
45	COMP			↑		
46	NG151	12:00	+44:48	6	3m	
47	COMP			↑		
48	320.09020	12:12	+31:30	3	10m	hd reds from 4/10/96
49	COMP			↑		V=18K+
50	e99CV	11:13	+29:35	3	15m	extra gal to W
51	COMP			↑		Century Survey Objects
52	e99DS	11:15	+29:09	3	15m	
53	COMP			↑		
54	e99EI	11:16	+29:32	3	15m	em
55	COMP			↑		→ em + t
56	e99GB	11:25	+29:47	3	20m	Bright galaxy on slit ~50"
57	COMP			↑		West of e99GB
58	e99HC	11:32	+29:49	3	20m	
59	COMP			↑		
60	e99HD	11:32	+29:27	3	15m	em
61	COMP			↑		

## 60 inch Telescope Log

Observer: PBPI: GellerSpectrograph: FASTGrating: 3002Date: 4/11/96Page: 4528

Number	Object	R.A.	Dec.	L/R	Exp	Comments
62	e1379BG	11:48	+29:01	3	20m	clear skies!
63	COMP			↑		
64	e1379CL	11:54	+29:37	3	20m	em; H <sub>2</sub> O pin 2604 pec
65	COMP			↑		
66	e1379CF	11:52	+29:15	3	20m	em
67	COMP			↑		
68	e1379DL	12:02	+28:51	3	20m	extra object on slit em
69	COMP			↑		
70	e1398GZ	12:24	+29:13	3	20m	em
71	COMP			↑		
72	322.059030	12:56	+29:48	3	4m	
73	COMP			↑		
74	322.062115	13:13	+30:01	3	6m	<del>                    </del> em
75	COMP			↑		both
76	322.038910	13:06	+28:32	3	3m	
77	COMP			↑		
78	322.051209N	13:01	+29:18	3	4m	→ extended object(s)
79	322.051289S	13:01	+29:18	3	2m	(N+S Components) em++ sharing a COMP
80	COMP			↑		
81	322.065870	13:19	+30:15	3	3m	em+
82	COMP			↑		
83	322.037618	13:01	+28:25	3	6m	
84	COMP			↑		
85	322.058357	12:57	+28:29	3	5m	
86	COMP			↑		
87	322.067613	13:15	+30:24	3	5m	em
88	COMP			↑		
89	322.067951	12:56	+30:25	3	5m	
90	COMP			↑		
91	322.046612	12:54	+30:32	3	8m	em

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>4529</u>	
Observer: <u>PB</u>			Grating: <u>300L</u>		Date: <u>4/11/96</u>	
PI: <u>Geller/Prosser</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
92	COMP			↑		
93	323.066670	13:24	+73:01	3	7m	em
94	COMP			↑		
95	323.066809	13:39	+74:02	3	5m	
96	COMP			↑		
97	323.040352	13:27	+72:11	3	5m	
98	COMP			↑		
99	323.000685	13:35	+76:02	3	4m	bright star on slit to W
100	COMP			↑		
101	323.001591	13:35	+76:06	3	5m	em
102	COMP			↑		
103	C9CB	15:30	+29:34	3	15m	Century em
104	COMP			↑		
105	C9DG	15:36	+29:34	3	15m	
106	COMP			↑		
107	C9DM	15:40	+29:13	3	20m	em!
108	COMP			↑		
109	C9EF	15:45	+29:35	3	15m	Moon's up
110	COMP			↑		
111	COMP	test		20	10s	600L/mm grating ↓
112	P39	17:46	+05:49	20	12m	1.1" slit ↓
113	COMP			↑	20s	good sky 2.2x4000Å
114	P107	17:46	+05:47	20	15m	
115	COMP			↑	20s	spectra = 900
116	P150	17:47	+05:31	20	15m	
117	COMP			↑		
118	P165	17:48	+05:48	20	17m	
119	COMP			↑		
120	P60	17:44	+05:51	20	20m	
121	COMP			↑		

3:11 6.3  
0.15 3:6

60 inch Telescope Log				Spectrograph: <u>FAST</u>		
Observer: <u>PB</u>				Grating: <u>300R+600R</u>		Page: <u>4530</u>
PI: <u>Prosser/Kenyon/Wilkes</u>				Date: <u>4/11/96</u>		
Number	Object	R.A.	Dec.	L/R	Exp	Comments
122	P20	17:45	+03:36	20	12m	600R grating; 1.1" slit
123	COMP			↑		
124	P30	17:46	+03:55	20	15m	
125	COMP			↑		
126	N548	17:15	+25	6	2m	<del>300R grating; 3" slit</del>
127	COMP			↑		
128	MRK279	13:51	+69:33	6	90s	
129	COMP			↑		
130-131	ISP332642	15:50	+33:05	0	1m	
132	COMP			↑		
133-134	R50ph	17:50	-06:12	12	10s, 90s	
135	COMP			↑		
136-137	AS289	18:12	-11:40	12	90s, 20s	
138	COMP			↑		
139-143	HMSep	19:41	+16:44	12	1-32s	2, 1, 10, 20 ?
144	COMP			↑		
145-147	CIC	19:50	+35:41	12	2, 20, 60	
148	COMP			↑		
149-153	HDF2281	20:10	+10:07	0	4s	
154	COMP			↑		
155-159	V1016C	19:57	+39:49	12	1-30s	
160	COMP			↑		
161-170	ISDS			0	0s	
171-180	FLAT			0	6s	
181-200	FLAT 600			20	60s	600R; 1.1" slit
201	COMP					

60 inch Telescope Log

Observer: E. Barton

PI: Geller / Kenyon / Barton

Spectrograph: FAST

Grating: 300 l

Date: 4/12/96

Page: 4531



Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS			0	0s	
11-20	FLAT			0	6s	
21-25	Sky			0	2s	looks clean; <del>few clouds</del> <sup>few clouds</sup> <del>far in West</del>
26	COMP			↑		
27-31	HD 57971	06:57	27:13	0	5s	
32	COMP			↑		
33-35	AG 12 p 4783	07:17	+14:59	0	5s	profile is double-peaked on 50 (poor "tracking" & de-focusing skills)
38	COMP			↑		
39-40	Felix 34	10:36	43:21	0	90s	
41	COMP					
42-43	Hiltner 600	06:42	02:11	0	90s	← too long (?)
44	COMP					
45	MRK 421	11:01	38:28	0	4m	
46	COMP			↑		
47	HBC 212	02:08	00:59	30	10m	
48	COMP			↑		
49	NY 151	12:08	39:41	6	90s	
50	COMP			↑		
51	e1379B12	11:45	29:22	3	20m	I don't know why there are two obj. on the slit - obj. is very faint on the screen
52	COMP			↑		
53	e1398AW	12:01	29:54	3	15m	
54	COMP			↑		
55	e1398ET	12:14	29:11	3	20m	pretty faint
56	COMP			↑		
57	gr 1406 gal 20	12:44	26:25	33	5m	
58	COMP			↑		
59	gr 1406 gal 21	12:46	26:27	33	5m	probably star
60	COMP			↑		(want bright obj.)
61	gr 1406 gal 22	12:44	26:35	33	4m	probably star, but I think it takes more time (back to it @ # 65)
62	COMP			↑		

8.6  
1.12

60 inch Telescope Log			Spectrograph: <u>FAST</u>			
Observer: <u>E. Barton</u>			Grating: <u>300l</u>		Page: <u>4532</u>	
PI: <u>Barton/Keller/Koranyi</u>			Date: <u>4/12/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
63	gal1406-gal23	12:45	26:05	33	15m	
64	COMP			↑		
65	gal1406-gal22	12:44	26:35	33	10m	repeated
66	COMP			↑		
67	gal1406-gal24	12:45	25:58	33	10m	
68	COMP			↑		
69	SN-NGC4027	11:59	-19:16	2	15m	
70	COMP (binned)			↑		3/ at this point I screwed up & had to "home" the dome and start tracking.
71	322.034141	13:04	+28:14	3	8m	not sure I'm on the SN exactly where they say. I BINNED x2 COMP again.
72	COMP			↑		
73	322.035262	13:02	+28:14	3	7m	
74	COMP			↑		
75	322.034293	12:59	+28:14	3	5m	
76	COMP			↑		
77	322.034430	12:58	+28:14	3	5m	
78	COMP			↑		
79	322.035226	13:08	+28:19	3	7m	
80	COMP			↑		
81	322.036055	13:02	+28:22	3	8m	
82	COMP			↑		
83	322.071858	12:56	+30:42	3	8m	
84	COMP			↑		
85	322.072120	12:55	+30:42	3	10m	
86	COMP			↑		
87	322.072143	12:56	+30:43	3	5m	
88	COMP			↑		
89	qum2-26	12:14	24:10	35	20m	
90	COMP			↑		
91	qum2-30	12:14	24:36	35	17m	
92	COMP			↑		

## 60 inch Telescope Log

Observer: E. BurtonPI: Koranyi/Gellen/GroginSpectrograph: FASTGrating: 300Page: 4533Date: 4/12/96

Number	Object	R.A.	Dec.	L/R	Exp	Comments
93	0002-31	12:14	23:43	35	15m	bright stars also on slit!
94	COMP			↑		
95	323.001757	13:14	26:05	3	8m	
96	COMP			↑		
97	323.003454	13:26	+26:14	3	8m	
98	COMP			↑		
99	323.00348	13:46	+26:12	3	10m	
100	COMP			↑		
101	323.003669	13:46	+26:13	3	12m	
102	COMP			↑		
103	323.003711	13:42	+26:14	3	10m	Faint obj. near -
104	COMP			↑		want brighter one; 
105	323.003735	13:33	+26:16	3	10m	more up - now 
106	COMP			↑		
107	15132p2538	15:13	25:38	42	17m	
108	COMP			↑		
109	15141p2502	15:14	25:03	42	15m	slightly off slit center
110	COMP			↑		
111	1514p2440	15:14	24:40	42	15m	
112	COMP			↑		
113	15195p2325	15:19	23:19	42	20m	off slit center
114	COMP			↑		have star on slit - I don't know if this is good
115	MRK 279	13:51	69:33	6	90s	sky beginning to brighten!
116	COMP			↑		
117	N 5548	14:15	25:22	6	120s	
118	COMP			↑		
119-120	FDp 332642	15:50	33:05	0	1m	
121	COMP			↑		
122-126	HD 192281	20:10	40:07	0	4s	
127	COMP			↑		





60 inch Telescope Log

Observer: E. Banton

PI: Wilkes/Geller

Spectrograph: FAST

Grating: 300L; 3" slit binby 4

Page: 4533

Date: 4/18/96

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS			0	0s	
11-20	FLAT			0	6s	
21-25	sky			0	2s	
26	COMP			↑		
27-31	HDS2971	06:57	29:13	0	5s	poorly trailed (same)
32	COMP			↑		Problem with TV camera - can only do BRIGHT objects!
33-37	AGK2p14783	07:17	14:59	0	5s	(lost ~1 hour)
38	COMP			↑		
39-40	Feige 34	10:36	43:21	0	90s	
41	COMP			↑		
42-43	Hiltner 600	06:42	02:11	0	90s	
44	COMP			↑		
45	MRK 421	11:01	38:28	6	4m	
46	COMP			↑		
47	N 4151	12:08	39:41	6	40s	
48	COMP			↑		
49	322.072538	12:56	30:45	3	15m	had trouble keeping it on the slit - no guide star
50	COMP			↑		
51	322.073207	13:18	30:46	3	8m	
52	COMP			↑		
53	322.073761	13:19	30:48	3	8m	
54	COMP			↑		
55	322.074481	13:18	30:51	3	4m	guiding trouble (negs)
56	COMP			↑		
57	322.075105	13:20	30:53	3	6m	
58	COMP			↑		
59	322.07597	13:16	31:01	3	3m	
60	COMP			↑		
61	322.077113	13:17	31:3	3	8m	
62	COMP			↑		

## 60 inch Telescope Log

Observer: E. BentonPI: Celler/Benton/Kishner/BentonSpectrograph: FASTGrating: 300JPage: 4536Date: 4/13/96

Number	Object	R.A.	Dec.	L/R	Exp	Comments
63	322.07740	12:59	5:18	3	4m	
64	COMP			↑		
65	322.077563	13:10	31:08	3	3m	
66	COMP			↑		
67	322.079745	12:58	31:15	3	4m	
68	COMP			↑		
69	322.079998	13:21	44:44	3	6m	
70	COMP			↑		
71	gn1406-gal17	12:39	26:38	33	20m	
72	COMP			↑		
73	gn1406-gal18	12:43	25:50	33	20m	
74	COMP			↑		
75	gn1406-gal19	12:40	27:04	33	20m	← <del>long</del> <i>!!</i> <i>fixed</i>
76	COMP			↑		(same)
77	SN-1996X	13:18	-26:50	2	10m	binned x2
78	COMP			↑		"
79	gn1712-gal11	13:21	36:50	33	15m	binned x4 again
80	COMP			↑		(poor guiding...)
81	gn1712-gal12	13:24	36:16	33	17m	
82	COMP			↑		
83	gn1712-gal13	13:22	37:02	33	17m	(too long)
84	COMP			↑		
85	gn1712-gal15	13:28	36:24	33	10m	(too low exp...)
86	COMP			↑		
87	gn1712-gal16	13:26	35:30	33	8m	
88	COMP			↑		
89	gn1712-gal17	13:25	35:29	33	10m	
90	COMP			↑		
91	gn1712-gal18	13:24	36:43	33	10m	← not great spectrum
92	COMP			↑		

## 60 inch Telescope Log

Observer: E. BantonPI: Geller / Grogan / GellerSpectrograph: FASTGrating: 3001Page: 4537Date: 4/13/96

Number	Object	R.A.	Dec.	L/R	Exp	Comments
93	323.003804	13:33	26:16	3	6m	very windy
94	COMP			↑		
95	323.003942	13:27	26:16	3	6m	
96	COMP			↑		
97	323.003942	13:21	26:18	3	4m	
98	COMP			↑		
99	323.005309	13:45	26:20	3	5m	
100	COMP			↑		
101	323.005562	13:29	26:24	3	6m	very poor guiding
102	COMP			↑		
103	323.005748	13:19	26:23	3	6m	
104	COMP			↑		
105	323.006506	13:26	26:28	3	6m	
106	COMP			↑		
107	15197 p3922	15:19	39:22	42	12m	
108	COMP			↑		
109	15207 p2957	15:20	29:56	42	12m	
110	COMP			↑		
111	15747 p4232	15:24	42:31	42	10m	
112	COMP			↑		
113	329.000593	15:58	26:26	3	7m	
114	COMP			↑		
115	329.002045	15:54	26:29	3	4m	still very windy
116	COMP			↑		(~30mph)
117	329.004662	16:09	26:37	3	7m	I think we want the bigger object (could only see 1 big galaxy)
118	COMP			↑		
119	329.006007	15:58	26:38	3	7m	Very hard to guide (windy, no guide star)
120	COMP			↑		
121	15548	14:15	+25:22	6	2m	
122	COMP			↑		

60 inch Telescope Log

Observer: E. Barton Spectrograph: F&S

Grating: 300J Page: 4538

PI: \_\_\_\_\_ Date: 4/13/96

Number	Object	R.A.	Dec.	L/R	Exp	Comments
123	MR K279	13:51	69:33	6	90s	sky very light
124	COMP			7		
125-126	I Cyg	19:50	35:41	12	2,20	Command window size - restricted with grafast SKY VERY LIGHT!
127	COMP			7		
128-132	HD 192281	20:10	40:07	0	4s	
133	COMP					
134-143	BNS			0	2s	
144-153	FLAT			0	6s	
154-163	FLAT			0	12s	Binned by 2
164-173	BNS			0	0s	Binned by 2

## 60 inch Telescope Log

Observer: E. BartonPI: Willas/Ranynoh/GellerSpectrograph: FASTGrating: 300l, binby 4Page: 4539Date: 4/14/96

Number	Object	R.A.	Dec.	I/R	Exp	Comments
1-10	BIAS			0	0s	
11-20	FLAT			0	6s	
21-25	sky			0	2s	thin clouds in the west
26	COMP			↑		
27-31	HDS2971	06:57	27:13	0	5s	my "training" is still
32	COMP			↑		terrible - - -
33-37	AGK2p14783	07:17	14:59	0	5s	
38	COMP			↑		
39-43	AGK2p14783	07:17	14:59	0	5s	I'll try to see if I
44	COMP			↑		WOSE - I don't know
45-46	Edge 34	10:76	43:21	0	90s	how to do it...
47	COMP			↑		can't see rest of field but
48	MRK421	11:01	38:28	6	4m	I'm pretty sure this is the
49	COMP			↑		right one (sky still bright)
50	N4051	12:00	44:48	6	3m	
51	COMP			↑		
52	N4151	12:08	39:41	6	40s	
53	COMP			↑		
54-55	H11res 600	06:42	02:11	0	90s	
56	COMP			↑		
57	HBC214	06:37	09:53	30	15m	galaxy on slit on right
58	COMP			↑		other star partially on
59	HBC221	06:38	09:39	30	15m	slit on left
60	COMP			↑		
61	HBC275	06:38	09:40	30	12m	
62	COMP			↑		
63	322.080069	12:57	31:16	3	4m	galaxy far off on
64	COMP			↑		slit
65	322.080077	12:57	31:16	3	8m	
66	COMP			↑		

22-5

## 60 inch Telescope Log

Observer: E. BartonSpectrograph: FASTPI: Geller/Barton/GellerGrating: 300Page: 4540Date: 4/14/96

Number	Object	R.A.	Dec.	L/R	Exp	Comments
67	322.080859	12:59	31:20	3	5m	
68	COMP			↑		
69	ga 4081-gal 24	11:36	21:41	33	20m	
70	COMP			↑		
71	ga 4081-gal 25	11:36	22:02	33	20m	
72	COMP			↑		
73	ga 4081-gal 26	11:38	21:41	33	17m	
74	COMP			↑		
75	ga 2284-gal 17	11:33	19:47	33	8m	star off slit center
76	COMP			↑		
77	ga 2281-gal 18	11:38	19:17	33	10m	too long an integ.
78	COMP			↑		
79	ga 2281-gal 19	11:39	20:00	33	10m	bright star ~1/2 arcmin away on slit!
80	COMP			↑		
81	ga 2284-gal 20	11:38	19:36	33	12m	I don't know if this is good enough (I corrected it if in 15 min...)
82	COMP			↑		
83	ga 1712-gal 19	13:22	37:02	33	10m	
84	COMP			↑		
85	ga 1712-gal 20	13:24	37:13	33	17m	
86	COMP			↑		
87	ga 1712-gal 21	13:22	37:14	33	20m	some header info may be incorrect
88	COMP			↑		
89	SN-1996X	13:19	-26:50	2	10m	binned x 2
90	COMP			↑		"
91	e 70 CT	14:17	29:52	3	20m	binned by 4 again
92	COMP			↑		
93	e 70 FB	14:32	29:32	3	17m	star off center
94	COMP			↑		
95	e 70 FM	14:31	29:17	3	20m	
96	COMP			↑		

## 60 inch Telescope Log

Observer: E. BurtonPI: GellerSpectrograph: FASTGrating: 300Page: 4541Date: 4/14/96

Number	Object	R.A.	Dec.	L/R	Exp	Comments
97	C8FK	15:22	29:32	3	10m	
98	COMP			↑		
99	C8FS	15:23	29:20	3	10m	
100	COMP			↑		
101	C9E1	15:46	29:17	3	17m	
102	COMP			↑		
103	C9EK	15:46	29:09	3	10m	
104	COMP			↑		
105	C9EZ	15:48	29:45	3	12m	
106	COMP			↑		
107	C9-FV	15:52	29:03	3	10m	
108	COMP			↑		
109	329.007869	16:00	26:43	3	7m	
110	COMP			↑		
111	329.009699	15:56	26:46	3	6m	a bit off slit center
112	COMP			↑		
113	329.01137	15:54	26:49	3	8m	
114	COMP			↑		
115	329.011715	16:13	26:53	3	5m	star off center on slit
116	COMP			↑		
117	329.012269	16:09	26:54	3	3m	
118	COMP			↑		
119	329.012578	16:14	26:55	3	6m	
120	COMP			↑		
121	329.015073	16:09	27:00	3	3m	
122	COMP			↑		
123	329.016287	15:56	27:00	3	6m	maybe not enough time
124	COMP			↑		
125	329.018226	16:12	27:07	3	5m	
126	COMP			↑		

60 inch Telescope Log

Observer: E. Barton

PI: Gugin

Spectrograph: FAST

Grating: 300 l

Date: 4/14/96

Page: 4842

Number	Object	R.A.	Dec.	L/R	Exp	Comments
127	15274p3948	15:27	39:47	42	10m	
128	COMP			↑		
129	1531p2818	15:31	28:18	42	17m	
130	COMP			↑		
131	N5548	14:15	25:22	6	2m	
132	COMP			↑		
133	MKIC279	13:51	69:33	6	90s	
134	COMP			↑		
135-136	B0p332642	15:50	39:05	0	1m	
137	COMP			↑		
138-140	CIC <sub>4g</sub>	19:50	35:41	12	2,20,60s	
141	COMP			↑		
# 142-146	H0192281	20:10	40:07	0	4s	
147	COMP			↑		
148-157	BIAS			0	0s	
158-167	FLAT			0	6s	
168-177	FLAT			0	12s	binned x 2
178-187	BIAS			0	0s	"



## 60 inch Telescope Log

Observer: E. BartonPI: Wilkes/GellerSpectrograph: FASTGrating: 300L, binby 4, 3" slit Page: 4543Date: 4/15/96

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 clouds around...
26	COMP			↑	3s	light cirrus, covering perhaps half the sky
27-31	HD 52971	06:57	27:13	0	5s	
32	COMP			↑		
33-37	AGK 2, 14783	07:17	14:59	0	5s	trailing is awful for this one
38	COMP			↑		
39-40	Feige 31			0	90s	still cloudy...
41	COMP			↑		
42-43	Hiltner 600			0	90s	
44	COMP			↑		
45	MRK 421	11:01	38:28	0	4m	
46	COMP			↑		
47	NY 151	12:08	39:41	6	40s	poor guiding
48	COMP			↑		
49	03760	07:14	05:03	43	15m	reads star slightly w/ or slit
50	COMP			↑		→ clouds overhead, lost guiding quite clearly now
51	322.080860	12:59	31:21	3	12m	CAN'T SEE A THING... may be best spectrum, very poor guiding, may be usable.
52	COMP			↑		
53	322.082084	13:21	31:23	3	5m	clouds intermittent
54	COMP			↑		
55	322.083162	13:11	31:30	3	5m	↓
56	COMP			↑		
57	322.090260	13:20	32:00	3	4m	poor guiding, can't see anything else in field; galaxy off central
58	COMP			↑		
59	322.089680	13:05	31:59	3	6m	
60	COMP			↑		
61	322.091667	12:53	06:21	3	6m	fewer clouds here, but looks cloudy in one west
62	COMP			↑		doesn't look like a star...

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>4544</u>		
Observer: <u>E. Barton</u>		Grating: <u>3000</u>		Date: <u>4/15/96</u>		
PI: <u>Koranyi/Geller/Wilkes</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
63	awm2-75	12:17	23:20	3S	20m	very faint, this may
64	COMP			↑		notice spk down - too faint to do now???
65	awm2-82	12:18	23:35	3S	12m	
66	COMP			↑		
67	awm2-55	12:15	23:56	3S	12m	lost guiding for a
68	COMP			↑		moment or 2
69	awm2-52	12:15	24:04	3S	12m	also trouble guiding...
70	COMP			↑		
71	awm2-17	12:13	23:17	3S	20m	may be USBSS, 1
72	COMP			↑		from the clouds
73	1317p3321-1	13:17	33:22	3	17m	may be returning... poor guiding
74	COMP			↑		very cloudy
75	329.021072	16:02	27:12	3	12m	(must stop for a while...)
76	COMP			↑		still very cloudy
77	329.022217	16:14	27:15	3	15m	clouds over during
78	COMP			↑		exp. re...
79	SN-1996X	13:18	26:50	2	15m	horrible spectrum (cloudy)
80	COMP			↑		binned x2
81	1317p3321-2	13:17	33:21	3	12m	cloudy, clearing in
82	COMP			↑		places (west) - poor guiding
83	1317p3321-3	13:17	33:21	3	15m	heavy wrong! clearing... binby 4 again! need help
84	COMP			↑		doesn't look like 2 obj. on screen. could be catching part of nearby galaxies
85	329.019391	16:08	27:10	3	20m	other gal(s) on slit....
86	COMP			↑		
87	329.020449	16:03	27:11	3	5m	very LSB
88	COMP			↑		clean!
89	329.020656	16:05	27:12	3	4m	looks star-like only
90	COMP			↑		sky beginning to get light
91	NSS48	14:15	25:22	6	2m	other obj. on slit (on the right)
92	COMP			↑		



60 inch Telescope Log			Spectrograph: <u>FAST</u>			
Observer: <u>E. Barton</u>			Grating: <u>3000, 3" slit, binby 4</u>		Page: <u>4546</u>	
PI: <u>Wilkes/Kenyon/Bentoja/Barton</u>			Date: <u>4/16/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS			0	0s	
11-20	FIAT			0	6s	lots of clouds
21-25	sky			0	2s	around...
26	COMP			↑		
27-31	HDS 2971	06:57	27:13	0	5s	
32	COMP			↑		
33-37	AGK 2p14783			0	5s	
38	COMP			↑		
39-40	Feige 34	10:36	43:21	0	90s	
41	COMP			↑		← may have moved during this exposure??
42-43	Hiltner 600	06:42	02:11	0	90s	
44	COMP			↑		
45	MRC 421	11:01	38:28	6	4m	
46	COMP			↑		
47	N4151	12:08	39:41	6	40s	
48	COMP			↑		
49	HBC 542	06:38	09:48	30	15m	may still be cloudy?
50	COMP			↑		
51	HBC 544	06:38	09:35	30	15m	see finding chart, plus! (for 10 of stars)
52	COMP			↑		
53	HBC 229	06:38	09:51	30	17m	a little cloudy!
54	COMP			↑		
55	O 3768	07:14	06:34	43	10m	high star, than little star, star galaxy is weak can't tell if got galaxy
56	COMP			↑		
57	O 3634	07:01	14:07	43	6m	bright ish star just west of galaxy
58	COMP			↑		
59	sp 2284-gal 21	11:31	20:20	33	5m	
60	COMP			↑		
61	sp 2284-gal 22	11:38	19:33	33	7m	had to retest FAST...
62	COMP			↑		

Yes 39 x 40 auto prep.

60 inch Telescope Log

Observer: E. Barton

PI: Barton/Kishner/Geller

Spectrograph: FAST

Grating: 300l

Page: 4847

Date: 4/16/96

Number	Object	R.A.	Dec.	L/R	Exp	Comments
63	gn 2284-gal 23	11:33	20:27	33	5m	
64	COMP			↑		
65	gn 2284-gal 24	11:40	19:57	33	10m	
66	COMP			↑		
67	gn 2284-gal 25	11:38	19:51	33	10m	
68	COMP			↑		
69	gn 2284-gal 26	11:37	19:21	33	7m	poor guiding
70	COMP			↑		stars in image?
71	gn 2284-gal 26	"	"	33	15m	redo!
72	COMP			↑		
73	gn 2284-gal 27	11:35	20:35	33	5m	
74	COMP			↑		
75	gn 2284-gal 28	11:36	19:55	33	10m	
76	COMP			↑		
77	gn 2284-gal 29	11:39	20:33	33	6m	poor guiding
78	COMP			↑		
79	gn 2284-gal 30	11:34	20:14	33	4m	star?
80	COMP			↑		
81	gn 2284-gal 31	11:38	20:25	33	5m	star on slit (far
82	COMP			↑		away...)
83	gn 2284-gal 32	11:35	20:38	33	10m	
84	COMP			↑		
85	SN-1996X	13:18	33:50	2	10m	binned x 2
86	COMP			↑		
87	1317p3321-1	13:17	33:21	3	5m	binned x 4 again
88	COMP			↑		redo from 4/15/96
89	1317p3321-4	13:17	33:21	3	15m	
90	COMP			↑		
91	1317p3324A	13:17	33:24	3	7m	elliptical n/1 arm in
92	COMP			↑		away on slit

→ header wrong

## 60 inch Telescope Log

Observer: E. BartonPI: Geller/Koranyi/GellerSpectrograph: EASTGrating: 300 lPage: 4548Date: 4/16/96

Number	Object	R.A.	Dec.	L/R	Exp	Comments
93	1317p3324B	13:17	33:24	3	7m	ext gal partially on slit
94	COMP			↑		(pixel ~20)
95	awn2_73	12:17	24:02	35	12m	
96	COMP			↑		
97	awn2-77	12:17	23:56	35	17m	
98	COMP			↑		
99	322.081139	12:59	31:21	3	5m	
100	COMP			↑		
101	322.081590	13:20	31:21	3	3m	
102	COMP			↑		
103	322.081623	13:21	31:21	3	6m	
104	COMP			↑		
105	322.082888	13:18	31:28	3	4m	
106	COMP			↑		
107	322.083686	13:20	31:30	3	3m	
108	COMP			↑		
109	322.084246	13:16	31:34	3	3m	
110	COMP			↑		
111	322.084777	12:57	31:37	3	5m	
112	COMP			↑		
113	322.087298	13:11	31:49	3	4m	
114	COMP			↑		
115	322.087818	13:15	31:50	3	6m	off center; nearby star
116	COMP			↑		star partly on slit
117	322.087891	13:11	31:51	3	10m	(star is East of gal.)
118	COMP			↑		
119	322.091619	12:59	32:02	3	6m	
120	COMP			↑		
121	c21CG	15:59	29:37	3	20m	
122	COMP			↑		

60 inch Telescope Log

Observer: E. Banton

PI: Gellen/Wilkes

Spectrograph: FAST

Grating: 3002

Page: 4549

Date: 4/16/96

Number	Object	R.A.	Dec.	L/R	Exp	Comments
123	C21CT	15:59	29:35	3	17m	
124	COMP			↑		
125	C21EU	16:11	29:58	3	12m	
126	COMP			↑		
127	C21CG	16:12	29:10	3	15m	
128	COMP			↑		
129	329.021072	16:02	27:12	3	10m	redo from 4/15
130	COMP			↑		
131	329.021500	16:13	27:14	3	8m	sky beginning to lighten
132	COMP			↑		
133	N5548	11:15	25:22	6	2m	
134	COMP			↑		
135	MRK279	13:51	69:33	6	90s	
136	COMP			↑		
137-138	BD <sub>p</sub> 332642	15:50	33:05	0	1m	
139	COMP			↑		
140-142	CICyg	19:50	35:41	12	2,20,60 sec.	
143	COMP			↑		
144-148	HD192281	20:10	40:07	0	4s	poor guiding
149	COMP			↑		
150-159	BIAS			0	0s	
160-169	FLAT			0	6s	
170-179	FLAT			0	12s	binned x2
180-189	BIAS			0	0s	binned x2

60 inch Telescope Log  
 Observer: Pberlind  
 PI: Wilkes & Kenyon  
 Spectrograph: FAST  
 Grating: 300L, 3" slit, binby 4  
 Date: 4/17/96  
 Page: 4550

Number	Object	R. A.	Dec.	L/R	Exp	Comments
1-10	BIAS			0	0s	binby 4 ↓
11-20	FLAT			0	6s	
21-30	BIAS			2	0s	binby 2 ↓
31-40	FLAT			2	12s	
41-45	sky			0	2s	706.70 binby 4 ↓
46	COMP			↑	5s	
47-49	HDS2005	07:00	+16:00	0	2s	
50	COMP			↑		
51-53	HDS2938	07:02	-06:27	0	2s	
54	COMP			↑		
55-58	HDS3244	07:07	-15:57	0	2s	
59	COMP			↑		
60-62	HDS3138	07:03	-23:50	0	0.5s	
63	COMP			↑		
64-66	HDS7061	07:16	-24:57	0	1s	
67	COMP			↑		clear skies
68-72	PK241908	09:52	+43:28	0	5s	poor seeing
73	COMP			↑		
74	NH51	12:06	+39:41	6	35s	
75	COMP			↑		
76	NH51	12:00	+44:48	6	2m	
77	COMP			↑		
78	MRKY21	11:01	+38:28	6	4m	
79	COMP			↑		
80-81	Fer303Y	10:22	+43:21	0	90s	
82	COMP			↑		
83-84	H11mer600	06:42	+02:11	0	60s	
85	COMP			↑		
86	HDS285	06:29	+10:47	30	15m	
87	COMP			↑		



60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4551</u>
Observer: <u>PB</u>				Grating: <u>300L</u>		
PI: <u>Huchra &amp; Geller</u>				Date: <u>4/17/96</u>		
Number	Object	R.A.	Dec.	L/R	Exp	Comments
88	08042p5539	08:04	+55:39	1	10m	Weak em; wrong project # in header
89	COMP			↑		
90	08106p5823	08:14	+58:13	1	5m	
91	COMP			↑		Faint em lines in file 94 (?)
92,94	08283p5601	08:32	+55:50	1	2m, 12m	bright sup *
93,95	COMP			↑		Faint halo em
96	08062p0146	08:06	+01:37	1	7m	em
97	COMP			↑		
98	08115m0008	08:11	00:08	1	3m	a star; no fuzz
99	COMP			↑		
100	08123p0003	08:12	+00:03	1	5m	humidity ↑
101	COMP			↑		
102	08210p0000N	08:21	+00:00	1	5m	North em
103	08210p0000S	08:21	+00:00	1	5m	South
104	COMP			↑		
105	08296p0245EW	08:29	+02:45	1	6m	bin by 2; EW pair
106	COMP			↑	8s	
107	U04467	08:30	+00:24	1	4m	bin by 4; em +
108	COMP			↑		
109	08230p0022	08:32	+00:22	1	8m	em; pec
110	COMP			↑		clouds? - no
111	323.007900	13:23	+26:32	3	10m	wide (spatial) Ha <del>+</del>
112	COMP			↑		
113	323.008910	13:21	+26:38	3	6m	
114	COMP			↑		
115	323.010051	13:28	+26:45	3	4m	
116	COMP			↑		
117	323.010417	13:24	+26:46	3	5m	
118	COMP			↑		
119	323.011149	13:24	+26:50	3	6m	

92 & 94 tried to extract "fuzz" - NOT much luck - extracted 94 E + W (above & below star); nothing from 92

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>455Z</u>	
Observer: <u>PB</u>				Grating: <u>300L</u>			
PI: <u>Geller &amp; Kirshner</u>				Date: <u>4/17/86</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments	
120	COMP			↑			
121	323.011194	13:26	+26:50	3	10m	H <sub>α</sub>	
122	COMP			↑			
123	323.012605	13:27	+26:57	3	4m		
124	COMP			↑			
125	323.013017	13:27	+27:00	3	4m		
126	COMP			↑			
127	323.014099	13:30	+27:05	3	5m		
128	COMP			↑			
129	323.015117	13:44	+27:08	3	7m		
130	COMP			↑			
131	323.015463	13:22	+27:10	3	7m		
132	COMP			↑			
133	323.016424	13:34	+27:16	3	6m	em	
134	COMP			↑			
135	323.018173	13:29	+27:21	3	4m		
136	COMP			↑			
137	323.019815	13:25	+27:32	3	8m	em	
138	COMP			↑			
139	323.021189	13:39	+27:39	3	4m		
140	COMP			↑			
141	323.021028	13:22	+27:43	3	3m		
142	COMP			↑			
143	323.022122	13:19	+27:42	3	6m	em	
144	COMP			↑			
145	SN196X	13:18	+26:50	2	10m	bin by 2	
146	COMP			↑	8s	worse seeing down here!	
147	H214	13:21	+26:23	0	90s		
148	COMP			↑			
149	323.022635	13:38	+27:46	3	4m	em +	

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4553</u>	
Observer: <u>PB</u>		Grating: <u>300L</u>		Date: <u>4/17/86</u>			
PI: <u>Geller</u>							
Number	Object	R.A.	Dec.	L/R	Exp	Comments	
150	COMP			↑			
151	323.023779	13:35	+27:51	3	4m		
152	COMP			↑			
153	323.023787	13:35	+27:52	3	5m		
154	COMP			↑			
155	323.023805	13:25	+27:51	3	3m	pec. Super strong H $\beta$	
156	COMP			↑		Palmer abs...	
157	21HJ	16:15	+29:48	3	13m	em	
158	COMP			↑			
159	21HU	16:16	+29:56	3	15m		
160	COMP			↑			
161	323.024494	13:39	+27:54	3	5m		
162	COMP			↑			
163	323.024625	13:19	+27:53	3	10m	em	
164	COMP			↑			
165	323.025522	13:37	+27:59	3	7m	em	
166	COMP			↑			
167	323.029417	13:27	+28:15	3	7m	em	
168	COMP			↑			
169	323.030408	13:32	+28:16	3	5m	fast foc = 940	
170	COMP			↑			
171	323.037532	13:28	+28:41	3	4m		
172	COMP			↑			
173	323.039070	13:37	+28:18	3	15m	em L5B	
174	COMP			↑			
175	323.051846	13:42	+29:45	3	4m		
176	COMP			↑			
177	323.051850	13:41	+29:46	3	4m		
178	COMP			↑			
179	323.052089	13:29	+29:49	3	6m		

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>4554</u>	
Observer: <u>PB</u>			Grating: <u>5002</u>			
PI: <u>Geller</u>			Date: <u>4/17/86</u>			
Number	Object	R. A.	Dec.	L/R	Exp	Comments
180	COMP			↑		
181	323.052361	13:42	+29:49	3	3m	Seeing worse again
182	COMP			↑		
183	323.052758	13:42	+29:51	3	15m	SD
184	COMP			↑		
185	323.052926	13:42	+29:52	3	3m	NE
186	COMP			↑		
187	323.053083	13:25	+29:54	3	5m	
188	COMP			↑		
189	323.053128	13:49	+29:52	3	5m	em
190	COMP			↑		
191	323.053816	13:42	+29:56	3	4m	
192	COMP			↑		
193	323.054257	13:31	+30:00	3	4m	-
194	COMP			↑		
195	323.054551	13:30	+30:01	3	8m	Ha - wide velocity spread
196	COMP			↑		E+W
197	324.109808	13:46	+31:09	3	5m	
198	COMP			↑		
199	324.038253	13:50	+28:19	3	6m	lamp to E
200	COMP			↑		
201	324.001584	14:09	+26:18	3	5m	
202	COMP			↑		
203	325.046012	14:22	+28:48	3	5m	
204	COMP			↑		
205	325.046126	14:22	+28:48	3	5m	
206	COMP			↑		
207	325.049802	14:23	+28:59	3	6m	
208	COMP			↑		
209	325.050889	14:27	+29:03	3	7m	em

3:30 05:01

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>4555</u>	
Observer: <u>PB</u>			Grating: <u>300L</u>			
PI: <u>Geller &amp; Wilkes &amp; Kenyon</u>			Date: <u>4/17/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
210	COMP			↑		
211	326.049907	14:42	+30:10	3	7m	
212	COMP			↑		
213	326.650060	14:54	+30:17	3	7m	em; dust knee; pec!
214	COMP			↑		
215	327.0736004	15:03	+31:08	3	6m	
216	COMP			↑		
217	N 5948	14:15	+25:22	6	2m	
218	COMP			↑		
219	MAK 279	13:51	+69:33	6	90s	
220	COMP			↑		
221-222	BD552642	15:50	+33:05	0	1m	
223	COMP			↑		
224-225	TCrB	15:59	+25:55	12	5s, 20s	
226	COMP			↑		
227-229	AGD <sub>2</sub>	16:01	+66:48	12	1s, 15s	
230	COMP			↑		
231-233	CICyg	19:50	+75:41	12	2, 20, 60	
234	COMP			↑		
235-239	V1016Cyg	19:57	+91:49	12	1m, 1s	
240	COMP			↑		
241-244	Puckal	20:21	+21:34	12	1m, 7s	
245	COMP			↑		
246-247	V1529Cyg	20:54	+38:34	12	1m, 7s	
248	COMP			↑		
251-255	HD19251	20:10	+40:07	0	5s	
256	COMP			↑		
257-259	HD 190603	20:04	+32:17	0	2s	
260	COMP			↑		
261-264	HD 90788	20:05	+25:36	0	2s	
265	COMP			↑		
266-275	BIAS			0	0	
276-285	FLAT			0	6s	

60 inch Telescope Log				Spectrograph: <u>FAST</u>		
Observer: <u>PBerlind</u>				Grating: <u>3000, 3" slit, +1200 <math>\mu</math>m</u> Page: <u>4556</u>		
PI: <u>Kenyon &amp; Wilkes &amp; Koranyi</u>				Date: <u>4/18/96</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	bin by 4 ↓
46	COMP			↑	5s	↓
47-49	HD17142	09:06	+38:27	0	2s	a few thin scattered clouds
50	COMP			↑		
51-54	HD84441	09:45	+23:46	0	1s	
55	COMP			↑		
56-59	HD67737	10:07	+16:45	0	1s	
60	COMP			↑		
61-63	N3599	10:45	+12:50	0	1m	
64	COMP			↑		
65	N4151	12:04	+39:41	6	30s	
66	COMP			↑		
67	MRC121	11:01	+79	6	4m	
68	COMP			↑		
69-70	Hiltner 600	06:42	+02:11	0	1m	
71	COMP			↑		
72	HBC223	06:38	+09:16	30	10m	
73	COMP			↑		nice sky
74	HBC234	06:38	+09:55	30	8m	
75	COMP			↑		
76	HBC233	06:38	+09:29	30	10m	
77	COMP			↑		tilt = 41° $\lambda_c = 5200 \text{ \AA}$
78-79	tests			+		1200 $\mu$ g grating; 3" slit
80	N3825a	11:42	+10:15	3S	20m	slit rotated to 48°
81	COMP			↑	30s	↳ nucleus
82	N3825b	11:42	+10:15	3S	30m	3" above #80 ↓

60 inch Telescope Log				Spectrograph: <u>FAST</u>		
Observer: <u>PB</u>				Grating: <u>1200/300</u>		Page: <u>4557</u>
PI: <u>Koranyi &amp; Kirshner &amp; Geller &amp; Barton</u>				Date: <u>4/18/96</u>		
Number	Object	R.A.	Dec.	L/R	Exp	Comments
83	COMP			↑	30s	
84	N4213a	12:15	+23:58	3S	20m	1200l/mm grating; 3" slit ↓
85	COMP			↑	30s	slit pos = 57°; nucleus
86	N4213b	12:15	+23:58	3S	30m	3" above #84
87	COMP			↑	30s	
88	Feige 66, 1200	12:34	+23:20	0	3m	
89	COMP			↑	30s	→ wow; type II pre-max
90, 92	SN1996W	11:59	-19:15	2	15m	300l/mm grating; tilt = 60°
91, 93	COMP			↑	8s	slit pos = 90° EW
94	323.055582	13:43	+30:04	3	6m	bin by 2
95	COMP			↑		
96	323.055550	13:42	+30:05	3	6m	bin by 4 ↓
97	COMP			↑		
98	323.055708	13:39	+30:06	3	4m	
99	COMP			↑		
100	323.055933	13:30	+30:08	3	10m	nice CaII-
101	COMP			↑		
102	323.055960	13:39	+30:07	3	6m	* on slit; em
103	COMP			↑		
104	SN1996X	13:18	-26:50	2	10m	bin by 2
105	COMP			↑	8s	
106-7	H244	13:21	+36:53	0	90s	bin by 4 ↓
108	COMP			↑		
109	gcm12 of 114	13:23	+36:56	3S	15m	LSB em
110	COMP			↑		
111	323.056663	13:42	+30:09	3	5m	
112	COMP			↑		
113	323.056973	13:28	+30:12	3	7m	em
114	COMP			↑		
115	323.057110	13:26	+30:13	3	5m	

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4588</u>	
Observer: <u>PB</u>				Grating: <u>300R</u>			
PI: <u>Geller</u>				Date: <u>4/18/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments	
116	COMP			↑		Seems worse w2"	
117	323.057761	13:29	+30:16	3	5m		
118	COMP			↑			
119	323.057911	13:43	+30:15	3	8m	finishes notebook 1!	
120	COMP			↑			
121	323.059673	13:33	+30:16	3	10m	em	
122	COMP			↑			
123	323.059945EW	13:20	+30:26	3	8m	E+W comps; 5" sep	
124	COMP			↑		W comp = 323.059945	
125	323.060035	13:20	+30:26	3	5m	em both have em	
126	COMP			↑			
127	323.060113	13:39	+30:28	3	5m	em	
128	COMP			↑			
129	323.060125	13:24	+30:28	3	4m		
130	COMP			↑			
131	323.060516	13:24	+30:30	3	5m		
132	COMP			↑		seems better	
133	323.061606	13:21	+30:35	3	4m		
134	COMP			↑			
135	323.061842	13:20	+30:26	3	10m	LSB S(r) p em	
136	COMP			↑			
137	323.062711	13:26	+30:42	3	5m	em	
138	COMP			↑			
139	323.064525	13:19	+30:49	3	6m	em ++	
140	COMP			↑			
141	323.065094	13:39	+30:53	3	6m	wk	
142	COMP			↑			
143	323.065376	13:18	+30:52	3	5m	wk	
144	COMP			↑			
145	323.065585	13:43	+30:55	3	5m		



60 inch Telescope Log

Observer: PB

PI: Prosser & Wilkes & Brizeno & Kemp

Spectrograph: FAST

Grating: 300R 600R

Date: 4/18/96

Page: 4559

Number	Object	R.A.	Dec.	L/R	Exp	Comments
146	COMP			↑		
147	test			-		
148	PM77	17:45	+06:01	20	9m	600 l/mm grating; 1.1" slit fit = 425 $\lambda$ = 4400Å
149	COMP			↑	20s	
150	P188	17:47	+05:22	20	22m	
151	COMP			↑		
152	P71	17:45	+05:47	20	25m	
153	COMP			↑		
154	P75	17:45	+05:51	20	25m	
155	COMP			↑		
156	P166	17:48	+05:48	20	25m	
157	COMP			↑		
158	NSS48	14:15	+25:22	6	2m	300 l/mm grating; 3" slit
159	COMP			↑		
160	MRK279	13:51	+69:33	6	90s	
161	COMP			↑		
162-163	BDp332642	15:50	+33:03	0	1m	
164	COMP			↑		
165-166	G17612	19:32	+00:34	38	1m	
167	COMP			↑		
168-169	G1806	20:45	+44:25	38	1m	
170	COMP			↑		
171-173	CIC <sub>88</sub>	19:50	+35:41	12	2, 20m	
174	COMP			↑		
175-176	AS360	19:45	+19:36	12	2m, 30s	
177	COMP			↑		clear @ dawn
178-180	AS338	19:03	+16:26	12	2m, 30s, 10s	
181	COMP			↑		
182-186	H082751	20:10	+40:07	0	5s	
187	COMP			↑		



60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4561</u>
Observer: <u>P. Ber Lind</u>		Grating: <u>3002</u>		Date: <u>4/19/96</u>		
PI: <u>Wilkes/Kemp &amp; Pantaja</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS			0	0s	
11-20	FLAT			0	6s	clouds to W+N
21-30	BIAS			2	0s	bin by 2
31-40	FLAT			2	12s	↓
41-45	SKY			0	2s	bin by 4
46	COMP			↑	5s	
47-51	HDS2971	06:59	+27:13	0	5s	def star
52	COMP			↑		
53-54	N3379	10:45	+12:50	0	60s	
55	COMP			↑		
56	N4051	12:06	+49:41	6	30s	
57	COMP			↑		
58	N4051	12:00	+49:48	6	2m	
59	COMP			↑		
60	MRK421	11:21	+38:28	6	4m	
61	COMP			↑		
62	SWUMa	08:36	+53:28	39	2m	in outburst
63	COMP			↑		
64-65	Hiltner 600	06:45	+02:00	0	1m	
66	COMP			↑		
67	HBC 537	06:38	+09:43	30	9m	guider not working
68	COMP			↑		re booting guide pc fixed it
69	HBC 225	06:38	+09:27	30	10m	bright meteor passed right
70	COMP			↑		through middle of slit
71	HBC 208	06:26	+09:49	30	10m	
72	COMP			↑		
73	03m18m006	07:03	+18:29	43	4m	
74	COMP			↑		
75	03m18m005	07:01	+19:37	43	4m	bright star to South
76	COMP			↑		

1.15  
8.8

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>4562</u>	
Observer: <u>PB</u>			Grating: <u>300L</u>			
PI: <u>Patrick/Huehry/Geller</u>			Date: <u>4/19/96</u>			
Number	Object	R.A.	Dec.	L/K	Exp	Comments
77	03950	07:29	+02:13	43	3m	
78	COMP			↑		
79	03939	07:37	+19:58	43	3m	em
80	COMP			↑		
81	08283p5601	08:32	+55:50	1	15m	HA @ 112121 slit <del>to s.</del> to s. redo from 4/17/96 (v. when 487)
82	COMP			↑		bright superposed to on galaxy
83	α1398ET	12:14	+29:41	3	20m	
84	COMP			↑		
85	322.016884	12:51	+27:09	3	6m	Orion setting in clouds nice sky above
86	COMP			↑		
87	322.018909	13:04	+27:18	3	10m	
88	COMP			↑		
89	522.028231	13:12	+27:52	3	10m	
90	COMP			↑		
91	322.027836	12:59	+27:51	3	8m	faint comp to W
92	COMP			↑		
93	322.001555	13:14	+26:06	3	8m	em
94	COMP			↑		poor seeing
95	322.008110	13:15	+26:33	3	8m	HA
96	COMP			↑		
97	322.032154	12:54	+28:05	3	10m	
98	COMP			↑		
99	322.032863	12:55	+28:08	3	8m	bin by 2 - bright * to W
100	COMP			↑	8s	
101	322.034667	12:55	+28:15	3	8m	bin by 4 ↓
102	COMP			↑		
103	320.035179	12:56	+28:18	3	8m	a few clouds around
104	COMP			↑		
105	320.035451	13:06	+28:20	3	8m	
106	COMP			↑		

60 inch Telescope Log

Observer: PS

PI: Kirsher & Geller

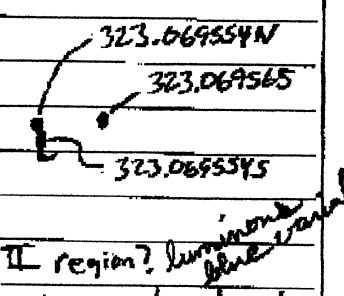
Spectrograph: FAST

Grating: 3002

Date: 4/19/96

Page: 4563

Number	Object	R.A.	Dec.	L/R	Exp	Comments
107, 109	SN1996M	12:51	-13:01	2	20m	bin by 2 x2
108, 110	COMP			↑		very faint 18+
111	SN1996X	13:18	-26:50	2	10m	
112	COMP			↑		poor seeing
113-114	H244	13:21	+8:33	0	90s	bin by 4 ↓
115	COMP			↑		
116	322.035508	12:54	+28:18	3	8m	
117	COMP			↑		
118	322.038368	12:59	+28:20	3	9m	
119	COMP			↑		
120	322.040158	13:04	+28:39	3	10M	em
121	COMP			↑		
122	322.040360	12:59	+28:39	3	10m	em
123	COMP			↑		
124	323.06806	13:24	+30:55	3	5m	
125	COMP			↑		
126	323.065710	13:24	+30:57	3	5m	
127	COMP			↑		
128	323.065975	13:20	+30:56	3	5m	
129	COMP			↑		
130	323.068104	13:38	+31:09	3	5m	
131	COMP			↑		
132	323.066672	13:19	+31:10	3	5m	
133	COMP			↑		
134	323.069567	13:26	+31:16	3	5m	
135	COMP			↑		
136	323.069554N	13:30	+31:17	3	6m	North Comp also, object
137	COMP			↑		323.069565 is on slit to W
138	323.069554S	13:30	+31:17	3	7m	em++ "South"
139	COMP			↑		



Emilio had the guys on the 48" image this field. lbrw

#64 slit

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4564</u>
Observer: <u>PB</u>				Grating: <u>300R; 600R</u>		
PI: <u>Geller &amp; Prosser</u>				Date: <u>4/11/96</u>		
Number	Object	R.A.	Dec.	L/R	Exp	Comments
140	323.069774	13:22	+31:16	3	5m	
141	COMP			↑		
142	323.069824	13:25	+31:17	3	4m	
143	COMP			↑		
144	323.069919	13:41	+31:17	3	5m	
145	COMP			↑		
146	323.070012	13:18	+31:17	3	4m	
147	COMP			↑		
148	323.070485	13:41	+31:20	3	5m	em
149	COMP			↑		
150	323.070496	13:35	+31:21	3	4m	weak
151	COMP			↑		
152	323.070908	13:20	+31:21	3	5m	
153	COMP			↑		
154	323.070815	13:37	+31:23	3	4m	
155	COMP			↑		
156	323.070839	13:35	+31:23	3	8m	sup ← (off slit to N) em
157	COMP			↑		
158	P146	17:47	+06:31	20	25m	600R/mm gr; 1.1" slit ↓
159	COMP			↑	20s	$\lambda_c = 4400 \text{ \AA}$
160	P94	17:45	+06:36	20	25m	
161	COMP			↑		
162	P100	17:46	+06:41	20	27m	
163	COMP			↑		
164	327.075407	15:25	+31:17	3	6m	300R/mm grating; 3" slit ↓
165	COMP			↑		
166	327.074427	15:23	+31:36	3	6m	em
167	COMP			↑		
168	327.074511	15:21	+31:37	3	6m	em
169	COMP			↑		

60 inch Telescope Log

Observer: PB  
 PI: Gallery Wilkes/Keyon

Spectrograph: FAST

Grating: 300L; 600L

Page: 4565

Date: 4/19/96

Number	Object	R. A.	Dec.	L/R	Exp	Comments
170	327.078488	15:06	+34:31	3	7m	
171	COMP			↑		
172-175	AS210	16:51	-26:00	12	2m; 5s	
176	COMP			↑		
177-179	Hen 134	17:09	-17:26	12	5s; 30s	
180	COMP			↑		
181-184	AS296	18:15	-00:18	12	2s-30s	
185	COMP			↑		
186	NG 5548	14:15	+25:22	6	2m	
187	COMP			↑		
188	MRK 279	13:51	+67:33	6	90s	
189	COMP			↑		
190-192	CIC 49	19:50	+35:41	12	1m; 20s; 2s	
193	COMP			↑		
194-198	HD 192781	20:10	+40:07	0	5s	
199	COMP			↑		
200-209	BIAS			0	0s	
210-219	FLAT			0	6s	
220-229	FLAT 600			20		600L/6m; 1.1" slit
230	COMP	test			test	300L/6m; 3" slit
						a couple of clouds around & down

60 inch Telescope Log				Spectrograph: <u>PAS7</u>		Page: <u>4566?</u>	
Observer: <u>JPH</u>				Grating: <u>300L</u>			
PI: <u>JPH</u>				Date: <u>4/24/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments	
1-10	Bigs			-			
11-20	PLA7			-			
21	Comp			↓			
22-27	Sky	-	-	-	55-103	Twilight Sky	
28	Comp			↑			
29	07224 p 0918	07 <sup>h</sup> 22 24	+09 <sup>o</sup> 18 00	2	600s	fuzzy selection	
30	07224 p 0918			1	300s		
31	Comp			↑		Circus, moon	
32	07584 p 2725	07 58 24	+27 25 00	2	420s		
33	Comp			↑			
34	09271 +6800	09 27 06	+68 00	1	480		
35	Comp			↑			
36	09271 +6800	"	"	2	480	Add Encoder	
37	Comp			↑			
38	09273 +6750	09 27 18	+67 50	2	300		
39	Comp			↑			
40	09559 +5115	09 55 54	+51 15	1	300		
41	" "			1	300		
42	Comp			↑			
43	10012 +5341	10 01 12	+53 41	1	600		
44	Comp			↑			
45	10015 +5348	10 01 30	+53 48	2	360		
46	Comp			↑			
47	10020 +5324	10 02 0	+53 24	2	360		
48	Comp			↑			
49	10028 +5225	10 02 48	+52 25	2	480	Ha	
50	Comp			↑			
51	10055 p 5021			1	200		
52	Comp			↑			
53	"	10 05 30	+50 21	2	300		



## 60 inch Telescope Log

Observer: JPHSpectrograph: PASZGrating: 300Page: 4867PI: JPK, RPK, MJR, BJW, TCNDate: 4/28/96

Number	Object	R.A.	Dec.	L/R	Exp	Comments
54	comp			↑		Cirrus, moon
55	10068 + 5433	10 06 48	+54 33	↓	420	
56	comp			↑		
57	10075 + 5428	10 07 20	+54 28	↓	300	
58	comp			↑		
59	10253 + 5407	10 25 18	+54 07	↓	600	}
60	comp			↑		
61	10253 + 5407			↓	600	
62	Page 34	10 36 41	+43 21 50	0	60	S10 star
63	comp			↑		
64	comp			↑		
65	N4151	12 08 01	+39 41 02	0	60s	AGN
66	comp			↑		
67	N4051	12 00 30	+44 48 35	0	120s	AGN
68	comp			↑		
69	N44421	11 01 40	+38 28 43	0	240s	AGN weak
70	comp			↑		
71	N4486B	12 28 00	+12 45 57	0	300s	Template
72	comp			↑		
73	SD1996X	13 18 01	-26 50 45	2	600s	SN
74	comp			↑		
75	322.081060	12 59 52	+31 21 04	3	600s	Redone with overkill
76	comp			↑		
77	11170 p 5444	11 17.0	+54 44	±	600s	} H <sub>2</sub> ?
78	comp			↑		
79	11170 p 5444	"	"	±	600s	
80	comp			↑		
81	11178 p 5107	11 17 48	+51 07	±	300s	
82	comp			↑		
83	11192 p 5106	11 19 12	+51 06	±	420	

60 inch Telescope Log

Observer: JPH

PI: JPH, MSB, BSW

Spectrograph: FAST

Grating: 3002

Page: 4568

Date: 4/28/96

Number	Object	R. A.	Dec.	L/R	Exp	Comments
84	comp			↑		
85	12132p6210	12 13 12	+62 10	1	300	H <sub>2</sub>
86	comp			↑		
87	12450p8342	12 45 00	+83 42	1	600	H <sub>2</sub>
88	comp			↑		
89	m+m 279	13 51 53	+69 33 13	6	600	
90	comp			↑		
91	322,058336	13 13 52	+25 40 27	3	420s	
92	comp			↑		
93	322,068599	13 20 23	+30 20 40	3	420s	double, both on sl. 1
94	comp			↑		
95	322,070135	13 01 13	+20 35 49	3	200s	
96	comp			↑		
97	322,069712	13 13 21	+30 35 31	3	600s	
98	comp			↑		
99	322,080593	13 18 33	+31 17 55	3	300s	
100	comp			↑		
101	322,080762	13 02 25	+31 20 19	3	420s	H <sub>2</sub> high 2
102	comp			↑		
103	322,081192	13 18 24	+31 20 36	3	360	
104	comp			↑		
105	322,081590	13 20 27	+31 21 40	3	300	
106	comp			↑		
107	322,081744	12 53 08	+01 22 22	3	360	
108	comp			↑		
109	322,082411	13 19 59.9	+01 25 27	3	360	H <sub>2</sub>
110	comp			↑		
111	13314p5513	13 31 24	+55 13	1	420	
112	comp			↑		
113	14041 +5522	14 04 06	+53 22	1	240	



60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>4571</u>	
Observer: <u>JWH</u>				Grating: <u>300L</u>			
PI: <u>Apt. Wesley, J. Iker</u>				Date: <u>4/25/96</u>			
Number	Object	R. A.	Dec.	L/R	Exp	Comments	
1-10	BIAS			-	0		
11-13	DARK			-	900s		
14-23	BIAS			-	0		
24-34	FLAT			-	6		
35	DARK				900s		
36	COMP			↓			
37-41	SKY			0	5s	complete	
42	COMP			↓			
43-47	SKY			0	5s		
48-52	AGK2 p4328	09 49 20	+43 42 07	0	5s	Complete, out of focus	
53	COMP			↑			
54	EG 67	09 43 29	+44 48 33	0	100s	SDP scan	
55	COMP			↑			
56-57	Feig 34	10 36 41	+43 21 50	0	100s	SDP scan	
58	COMP			↑	1		
59	N2115	10 02 44	+07 28 30	0	180s	Complete	
60	COMP			↑			
61	N3115	"	"	0	180s	"	
62	COMP			↑			
63	N3379	10 45 11	+12 50 48	0	180s	"	
64	COMP			↑			
65	MvK 421	11 01 40	+38 28 43	6	120s	AGN	
66	COMP			↑			
67	N4051	12 00 36	+44 48 35	6	120	AGN	
68	COMP			↑			
69-70	N4151	12 08 07	+39 41 02	6	30s		
71	COMP			↑			
72	HZ 44	13 21 19	+36 23 38	0	120	SDP	
73	COMP			↑			
74	CG 210 p5620	09 21 00	+56 20	1	600		

unmatched objects (with COMOS): file 86, 181 + 182  
(telescope moving??)

60 inch Telescope Log				Spectrograph: <u>6AV?</u>		Page: <u>4572</u>	
Observer: <u>JPH</u>				Grating: <u>300</u>			
PI: <u>JPH</u>				Date: <u>4/25/80</u>			
Number	Object	R. A.	Dec.	L/R	Exp	Comments	
75	comp			↑		}	
76	09 21 0 +56 20	"	"	↓	300		
77	comp			↑			
78	09 21 3 +56 06	09 21 18	+56 06	↓	600	}	
79	comp			↑			
80	09 21 3 +56 06	"	"	↓	600	} Longish	
81	comp			↑			
82	09 22 0 p 50 38	09 22 00	+50 38	↓	360		
83	comp			↑			
84	09 22 6 p 50 40	09 22 36	+50 40	↓	360		
85	comp			↑			
86	A 10 02 p 68 03	10 02 12	+68 03	↓	240	star	
87	comp			↑			
88	A 10 04 +70 50	10 04 42	+70 50	↓	180	star	
89	comp			↑			
90	N 32 48	10 34 12	+50 22	↓	240		
91	comp			↑			
92	10 41 2 p 53 01	10 41 12	+53 01	↓	200		
93	comp			↑			
94	N 32 14	10 19 48	+57 18	↓	240		
95	comp			↑			
96	N 32 36	10 23 24	+61 32	↓	200		
97	comp			↑			
98	10 26 1 p 55 26	10 26 06	+55 26	↓	240		
99	comp			↑			
100	10 34 6 p 55 16	10 34 26	+55 16	↓	300	}	
101	comp			↑			
102	10 34 6 p 55 16	"	"	↓	300		
103	comp			↑			
104	10 43 3 p 51 21	10 43 18	+51 21	↓	480	Hr	

104	comp			35	420	J
				↑		

60 inch Telescope Log

Observer: JPH

PI: JPH, RPK, JK, DK

Spectrograph: MOS

Grating: 300 L

Page: 4573

Date: 4/25/96

Number	Object	R.A.	Dec.	L/R	Exp	Comments
105	comp			↑		
106	12 226 p0445	12 <sup>h</sup> 22 36	+04 45	↓	600	edges
107	comp			↑		
108	13002 p0338	13 00 12	+03 38	↓	480	H <sub>2</sub>
109	comp			↑		
110	123615 m2702	12 36 15	-27 02	↓	240	] Sy2
111	comp			↑		
112	123615 m2702	"	"	↓	240	
113	comp			↑		
114	SN 1996 X	13 18 01	-26 50 45	↓	600 s	SN
115	comp			↑		
116	RW H <sub>2</sub>	13 34 17	-25 22	12	5s	
117	RW H <sub>2</sub>	"	"	12	60s	
118	comp			↑		
119	135557 m1553	13 55 57	-15 53	↓	300s	
120	comp			↑		
121	AWM2-09	12 13 09	+23 41 18	35	420	
122	comp			↑		
123	AWM2-03	12 12 42	+23 20 40	35	600	
124	comp			↑		
125	AWM2-07	12 13 05	+23 41 23	35	600	] pos H <sub>2</sub> at 6700 Å
126	comp			↑		
127	AWM2-07	"	"	35	600	
128	comp			↑		
129	AWM2-19	12 13 45	+24 21	35	600	H <sub>2</sub> ? at 6700
130	comp			↑		
131	AWM2-57	12 25 57	+03 52	35	600	] ]
132	comp			↑		
133	AWM2-57	"	"	35	420	
134	comp			↑		

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>4574</u>	
Observer: <u>JPK</u>			Grating: <u>300</u>			
PI: <u>JPK, Wilko, MSB, SA</u>			Date: <u>4/25/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
135	M42 279	13 51 53	+62 33 13	6	600	
136	COMP			↑		
137	N5548	14 15 43	+25 22 01	6	1200	
138	COMP			↑		
139	Felix 98	14 30 04	+27 42 38	0	1200	570 571-
140	COMP			↑		
141	322.082752	13 20 15	+31 20 54	3	420	
142	COMP			↑		
143	322.084366	13 19 45	+31 34	3	480	
144	COMP			↑		
145	322.084862	13 16 50	+31 37	3	480	H <sub>2</sub> !
146	COMP			↑		
147	322.085884	13 04 51	+31 41	3	480	
148	COMP			↑		
149	12910 p 7943	12 54 00	+79 43	1	240	
150	COMP			↑		
151	12200 p 7567	12 20 00	+75 07	2	240	
152	COMP			↑		
153	12205 p 6708	12 20 30	+67 08	1	240	
154	COMP			↑		
155	12182 p 7734	12 15 12	+77 34	1	300	H <sub>2</sub>
156	COMP			↑		
157	12178 p 7547	12 17 48	+75 47	2	240	}
158	COMP			↑		
159	12178 p 7547	"	"	1	240	
160	COMP			↑		
161	N4481	12 29	+64 03	1	300	H <sub>2</sub>
162	COMP			↑		
163	N5640	14 20 38	+80 07	1	240	
164	COMP			↑		

60 inch Telescope Log			Spectrograph: <u>FAST</u>			
Observer: <u>JAH</u>			Grating: <u>3rd</u>		Page: <u>456</u>	
PI: <u>JAH, Hagan, Wilke</u>			Date: <u>4/25/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
165	N 5620	14 22	+69 37	1	240s	
166	COMP			↑		
167	I 1049	14 38 21	+62 13	1	246	H $\alpha$
168	COMP			↑		
169	I 1099	15 05 35	+56 42	1	300	
170	COMP			↑		
171-2	C 5 Cyg	19 58 08	+35 42	12	2s, 60s	
173	COMP			↑		
174-5	Arco Cm 2	17 19 57	+57 50 03	12	60s, 480s	
176	COMP			↑		
177-79	V 4 Her	18 14 34	+60 59 14	12	2.5, 180	
180	COMP			↑		
181-2	V 433 Her	18 22 07	+23 27 15	12	3, 60s	24
183	COMP			↑		
184-5	CM Aql	19 03 35	-03 03 11	12	3s, 60s	30
186	COMP			↑		
187-8	He 2-467	20 35 57	+20 11 29	12	3s, 120s	39
189	COMP			↑		
190-91	He 2-468	20 41 19	+34 44 48	12	10s, 180	40
192	COMP			↑		
193-194	V 1329 Cyg	20 50 58	+35 36 32	12	5, 120s	41
195	COMP			↑		
196-7	V 407 Cyg	21 02 05	+45 48 19	12	5, 180s	42
198	COMP			↑		
199	N 5712	14 29 28	+78 53	1	240s	
200	COMP			↑		
201-210	BIAS	-	-	0	0	
211-220	FLAT	-	-	0	6s	
221-3	DARK			0	900s	

196 - object not on slit