

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS				0s	circus all around
11-20	FLAT				6s	
21-25	sky	zenith			2s	
26	COMP				5s	
27-29	HD192281	10:12	+40:17	56		1.2
30	COMP			↑		
31-33	CIC _{sky}	19:50	+55:41	12	2, 20, 120	
34	COMP			↑		
35-36	ZAD	21:33	+48:49	12	3, 60s	
37	COMP			↑		
38-39	AXPer	01:36	+51:15	12	5, 90s	
40	COMP			↑		
41	MAK335	00:03	+19:55	6	2m	
42	COMP			↑		
43	N7469	21:03	+06:52	6	2m	
44	COMP			↑		
45	Fey ₁₁₀	23:17	+65:26	56	2m	1.25
46	COMP			↑		
47	MAK509	20:41	-10:54	6	3m	
48	COMP			↑		
49-50	N7731	22:34	+34:09	57	90s	
51	COMP			↑		
52-53, 56	SN _{Comp} 92	20:30	+52:36	2	10m	6m by 2 53 is 5" N of 52
54, 57	COMP			↑	10s	
55	SN _{Comp} sky	20:30	+52:41	2	10m	7m N
56	COMP			↑		
58	524 027524	00:14	+06:10	55	12m	em t
59	COMP			↑		
60	524 027578	00:09	+06:11	55	15m	note: object 524 027596 is
61	COMP			↑		at row 66; please reduce em both

11/10
Did not extract SN files 52, 53, 56, 74, 76

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>5078</u>	
Observer: <u>PB</u>			Grating: <u>300</u>			
PI: <u>Gallerbyknishner Ave</u>			Date: <u>12/4/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
62	S24.027579	00:10	+06:11	SS	15m	thin clouds
63	COMP			↑		poor seeing
64	S24.029084	00:11	+06:23	SS	15m	em
65	COMP			↑		
66	S24.030046	00:13	+06:25	SS	20m	em
67	COMP			↑		
68	S24.031688	23:54	+06:38	SS	15m	em
69	COMP			↑		
70	S24.044914	23:54	+07:53	SS	10m	pos ID galaxy
71	COMP			↑		red. from 11/11/96
72	SN PFlabw	01:43	+08:13	2	20m	km by 2
73	COMP			↑		
74, 76	SN cand	04:52	-03:06	2	10m	" SN SW of gal
75	COMP			↑		
77, 78, 80	DETan	04:33	+25:20	12	60, 5m	
79	COMP			↑		
81, 82	DRtan	04:47	+6:58	12	20, 4m	
83	COMP			↑		
84	AKN120	05:13	-00:12	6	5m	
85	COMP			↑		
86	TDC-111	04:22	+27:59	37	3m	
87	COMP			↑		increasing clouds
88	TDC-304	04:22	+27:43	37	10m	
89	COMP			↑		
90	TDC-332	04:22	+27:42	37	15m	
91	COMP			↑		
92	TDC-341	04:22	+27:52	37	15m	
93	COMP			↑		
94	TDC-354	04:22	+28:00	37	20m	comp * on slit + E
95	COMP			↑		

-03 06 00 5" W (160)

60 inch Telescope Log

Observer: PBSpectrograph: FASTGrating: 700LPage: 5079PI: A11Date: 12/9/96

Number	Object	R. A.	Dec.	L/R	Exp	Comments
96	TDC-364	04:22	+28:12	37	20m	
97	COMP			r		
98-100	NGC 7900	04:54	04:54	57	3m	
101	COMP			r		
102-106	HD 52911	06:57	+57:13	57	5-10s	
107	COMP			r		
108	A000366/15.20	07:21	+41:22	3	5m	em NO COMP
109	Z005251/15.20	03:53	+32:19	3	8m	em
110	COMP			r		clouded out
111-120	BIAS			0	0s	bm by 4
121-130	FLAT			0	6s	"
131-140	BIAS			0	0s	bm by 2
141-150	FLAT			0	12s	"
151-154	DARK			0	15m	bm by 4
						Mtn clouds

60 inch Telescope Log

Observer: PBerlindPI: Briceno et alSpectrograph: FASTGrating: 300RPage: 5080Date: 12/10/96

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS			0	6s	
11-20	FLAT			0	6s	
21-30	BIAS			0	0s	
31-40	FLAT			0	12s	
41	B30p28424	2148	+28:37	56	1m	delayed start due
42	COMP			↑		to clouds
43	N7Y69	23:03	+08:52	6	2m	close due to fog
44	COMP			↑		
45-46	DETan	04:33	+28:20	12	45, 4m	open @ /
47	COMP			↑		clearing
48-49	DETan	04:47	+16:58	12	20, 3m	
50	COMP			↑		
51-52	Hiltner60	06:42	+02:11	56	45s	1:15
53	COMP			↑		poor scanning
54	Tan 6 NNE4LS	04:29	+18:19	38	15m	
55	COMP			↑		
56	Tan 2 NE68	04:19	+28:32	38	20m	
57	COMP			↑		
58	Tan 6 NW17	04:28	+18:13	38	15m	
59	COMP			↑		
60	Tan 6 NNE68	04:29	+18:15	38	20m	1.4 comp to W on slit
61	COMP			↑		please extract
62	Tan 6 SSW98	04:28	+17:47	38	11m	
63	COMP			↑		
64	Tan 6 SW106	04:28	+17:56	38	15m	
65	COMP			↑		
66-67	Hiltner60	06:42	+02:11	56	45s	1:23 3:15
68	COMP			↑		
69	N003078 MISSO	09:41	+46:58	3	20m	LSB em p2 2127
70	COMP			↑		

60 inch Telescope Log

Observer: PB

PI: Wilkes et al

Spectrograph: FAST

Grating: 3000

Page: 5081

Date: 12/10/96

Number	Object	R. A.	Dec.	L/R	Exp	Comments
71	Z013868miss	10:01	+76:51	3	7m	low gain = 980
72	COMP			↑		
73	Z005789 m14.90	10:13	+70:10	3	8m	scasma increased
77	COMP			↑		
78	PG1048 p342	10:51	+53:59	49	20m	1.08
79	COMP			↑		nice sky here
80	Feige 34	10:39	+43	56	90s	1.06
81	COMP			↑		
82,84	SN1996bu	11:20	+53:12	2	15m	Faint! bin by 2
83,85	COMP			↑		
86	PG1100 p772	11:04	+76:58	49	20m	seeing worse bin by 2 1.4
87	COMP			↑		wind picking up.
88	PG1114 p445	11:17	+44:17	49	20m	1.04
89	COMP			↑		
90	PG1116 p215	11:19	+21:19	49	12m	
91	COMP			↑		clear & down
92	MRK421	11:01	+38:28	6	5m	
93	COMP			↑		
94	N4051	12:00	+44:48	6	2m	
95	COMP			↑		
96	N4151	12:04	+39:41	6	30s	
97	COMP			↑		
98-99	Feige 66	12:34	+15:20	56	45s	
100	COMP			↑		
101-102	N4486B	12:30	+12:29	57	4m	
103	COMP			↑		
104-106	Wilson 6377	06:58	+55:50	57	5s	
109	COMP			↑		

110-119 BTAS
 120-129 FLAT
 130-139 BTAS
 140-149 FLAT
 150-154 SKY
 155 COMP

0s
 6s
 0s
 12s
 bin by 2
 "

60 inch Telescope Log

Observer: PBerlandSpectrograph: FASTGrating: 300RPage: 5082PI: Kayser & GallerDate: 12/16/96

Number	Object	R. A.	Dec.	L/R	Exp	Comments
1-10	BIPAS			0	0s	bin by 4
11-20	FLAT			0	6s	"
21-30	BIPAS			0	0s	bin by 2
31-40	FLAT			0	12s	"
41-45	sky			0	2s	
46	COMP			↑	5s	windy!
47-49	HD 206057	21:53	+25:25	57	2s	mostly clear
50				↑		poor seeing
51-53	HD 206001	21:54	+26:16	57	3s	
54				↑		
55-57	HD 206016	21:56	+26:57	57	2s	
58				↑		
59-61	HD 205481	22:02	+28:00	57	2s	
62				↑		
63-65	HD 192281	20:10	+40:07	56	6s	1.33
66	COMP			↑		
67-69	CIC eye	19:50	+35:41	12	2s, 2s, 3s	
70	COMP			↑		
71-72	Z And	23:33	+48:49	12	3s, 60s	
73	COMP			↑		
74-75	AxAr	01:32	+54:15	12	5s, 90s	
76	COMP			↑		
77	MRK 335	00:03	+19:55	6	3m	
78	COMP			↑		
79	N 7749	23:03	+06:52	6	2m	
80	COMP			↑		
81	467.056715	01:13	+17:23	3	15m	ISR redo
82	COMP			↑		
83	468.049532	01:47	+12:58	3	15m	ISR redo
84	COMP			↑		

Number	Object	R. A.	Dec.	L/R	Exp	Comments
85	SN NY30	22:30	+13:59	Z	15m	bim by 2 $scz=1.7$
86	COMP			↑		$scz=1.77$
87-90	HDF2281	20:40	+10	S6	S5	$scz=1.75$
91	COMP			↑		
92	466.034505	01:08	+11:56	SS	9m	sup* ; gal has H α em
93	COMP			↑		→ pm 2275
94	466.034233	00:55	+11:55	SS	15m	400 cts; wk features
95	COMP			↑		poor seeing
96	466.037335	00:50	+12:08	SS	15m	
97	COMP			↑		
98	466.034956	00:53	+11:58	SS	9m	
99	COMP			↑		
100	466.037873	00:57	+12:10	SS	12m	
101	COMP			↑		
102	466.038379	01:04	+12:12	SS	15m	wk.
103	COMP			↑		
104	466.049591	01:05	+12:58	SS	15m	
105	COMP			↑		
106	466.053569	01:03	+13:15	SS	15m	
107	COMP			↑		
108	466.054775EW	00:54	+13:20	SS	10m	bim by 2 ; close EW pair
109	COMP			↑		both #'s (?)
110	466.055620	00:42	+13:21	SS	2m	* bim by 2
111	COMP			↑		
112	468.044230	01:49	+12:38	SS	20m	400 cts 15R redo
113	COMP			↑		
114	468.045211	01:56	+12:34	SS	15m	wk em! pm 2210 15R redo
115	COMP			↑		
116	470.017518	02:36	+10:42	SS	15m	
117	COMP			↑		

4178
51
47
51

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>5084</u>	
Observer: <u>PB</u>			Grating: <u>300</u>		Date: <u>12/16/96</u>	
PI: <u>Geller</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
118	470.020057	02:38	+10:52	SS	15m	more clouds in the N
119	COMP			↑		WKen
120	470.024895 EW	02:33	+11:12	SS	10m	W = 470.024895 binby 2
121	COMP			↑		also bright star to W
122	470.025594	02:38	+11:14	SS	12m	both em same z
123	COMP			↑		binby 2
124	470.025231	02:37	+11:13	SS	15m	em
125	COMP			↑		
126	471.053670	02:48	+13:27	3	20m	ISR redo; COMP to W
127	COMP			↑		↳ H ₂ pz 2.355?
128	531.027631	02:57	+05:46	3	5m	brighter comp to NW
129	COMP			↑		
130	531.023322	02:57	+05:25	3	5m	
131	COMP			↑		
132	531.028073	02:57	+05:49	3	11m	clouds
133	COMP			↑		
134	531.027657	03:00	+05:46	3	10m	
135	COMP			↑		
136	531.029512	02:57	+05:56	3	7m	
137	COMP			↑		
138	531.029023	02:58	+05:54	3	15m	
139	COMP			↑		
140	531.029528	02:57	+05:56	3	7m	
141	COMP			↑		
142-143	DLTan	04:33	+25:20	12	20, 3m	
144	COMP			↑		
145-146	DRTan	04:47	+16:58	12	15, 25	
147	COMP			↑		
148	AKN120	05:13	-00:12	6	3m	
149	COMP			↑		

60 inch Telescope Log			Spectrograph: <u>FIRST</u>			
Observer: <u>PB</u>			Grating: <u>302L</u>		Page: <u>5085</u>	
PI: <u>Kirshner / Pantaja / Geller</u>			Date: <u>12/16/96</u>			
Number	Object	R. A.	Dec.	L/R	Exp	Comments
150-151	Hiltner 60	06:42	+02:11	56	1m	1.15
152	COMP			↑		windy!
153	SN 1996by	05:58	+08:27	2	17m	1.26 6m by 2
154	COMP			↑		
155	086	06:28	+22:00	43	15m	em
156	COMP			↑		
157	111	06:50	+08:10	43	11m	
158	COMP			↑		
159	117	06:54	+08:30	43	15m	
160	COMP			↑		
161	118	06:52	+08:36	43	17m	wk em
162	COMP			↑		
163	121	06:54	+06:25	43	20m	* to E wk em
164	COMP			↑		
165	317.013660	11:02	+27:02	3	15m	
166	COMP			↑		
167	317.017070	10:50	+27:19	3	14m	emf
168	COMP			↑		
169	317.017372N	10:45	+27:19	3	10m	North Comp
170	COMP			↑		
171	317.017494	11:03	+27:20	3	14m	spendy
172	COMP			↑		
173	317.023074	11:03	+27:48	3	15m	
174	COMP			↑		
175	SN N3510	11:03	+28:54	2	15m	6m by 2
176	COMP			↑		
177	317.024117	10:47	+27:53	3	15m	em
178	COMP			↑		
179	317.027483	11:10	+28:08	3	15m	em
180	COMP			↑		

60 inch Telescope Log

Observer: PBPI: GreenSpectrograph: FASTGrating: 7002Page: 5086Date: 12/16/96

Number	Object	R.A.	Dec.	L/R	Exp	Comments
181	317.046763	11:00	+25:50	3	14m	em
182	WMP			↑		
183	CLS23	10:45	+35:40	32	10m	1.01
184	WMP			↑		poor seeing
185	CLS29	10:37	+36:03	32	15m	1.00
186	WMP			↑		
187	Fer3034	10:24	+43:21	56	2m	
188	WMP			↑		
189	MRK421	11:01	+36:28	6	4m	
190	WMP			↑		
191	N4051	12:00	+44:48	6	2m	Clear @ dawn
192	WMP			↑		still windy
193	N4151	12:06	+39:41	6	30s	
194	WMP			↑		
195	N5548	14:15	+25:08	6	2m	
196	WMP			↑		
197-198	N4853	12:58	+27:25	57	5m	
199	WMP			↑		
200	H244	13:21	+36:23	56	2m	
201	WMP			↑		
202	N4466	12:30	+12:23	57	2m	
203	WMP			↑		
204-206	HD 86667	10:00	+08:02	57	2s	
207	WMP			↑		
208-210	HD 90994	10:30	-00:38	57	2s	
211	WMP			↑		
212-214	HD 92055	10:37	-13:23	57	2s	
215	WMP			↑		
216-225	BIAS			0	0s	
226-235	FLAT			0	6s	
236-245	BIAS				0s	binby 2
246-255	FLAT				12s	"
256-259	DARK				15m	binby 4

TOTAL P.06

Number	Object	R. A.	Dec.	L/R	Exp	Comments
1-10	BIAS			0	0s	
11-20	FLAT600			54	50s	6000g; 1.5" slit, filter = 425 (2-440)
21-31	BIAS			0	0s	
31-40	FLAT			0	6s	
41-50	BIAS			0	0s	binby 2
51-60	FLAT			0	12s	binby 2
61-65	sky	Z		0	2s	
66	COMP			↑	5s	
67-69	HD 210027	22:06	+55:20	0	1s	clear
70	COMP			↑		windy
71-73	HD 211376	22:14	+57:02	0	1s	cold
74	COMP			↑		terrible seeing
75-77	HD 213706	22:09	+58:24	0	2s	
78	COMP			↑		
79-81	HD 210939	22:11	+59:24	0	2s	
82				↑		
83-85	HD 210809	22:11	+52:25	0	3s	
86	COMP			↑		
87-89	HD 211564	22:16	+55:37	0	30s	
90	COMP			↑		
91-93	HD 42281	20:10	+40:07	56	5s	
94	COMP			↑		
95-98	CICcyg	19:50	+73:41	12	2, 2s, 2m, 2m	
99	COMP			↑		
100-101	ZAnd	23:33	+48:49	12	4s, 90s	
102	COMP			↑		
103-104	AXPer	07:36	+54:15	12	5s, 120s	
105	COMP			↑		← bad Comp (stellar image)
106	3C 390.3	18:45	+79:43	6	7m	reduce > 40 pix column
107	COMP			↑		

My program did not pick up problem in 105. - 1 faint line down center
used Comp file 102 for file 103-104

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>5088</u>	
Observer: <u>PB</u>			Grating: <u>3022</u>		Date: <u>12/17/96</u>	
PI: <u>Geller et al</u>						
Number	Object	R. A.	Dec.	L/R	Exp	Comments
108	MRK335	00:03	+19:55	6	3m	VERY BRIGHT BACKGROUND
109	COMP			↑		seeing 3-5" +
110	N 7469	2303	+06:52	6	2.5m	
111	COMP			↑		
112	MRK509	20:41	-10:54	6	3m	2.3
113	COMP			↑		
114, 116	SNN7300	22:30	+13:59	2	15m	bin by 2
115, 117	COMP			↑		
118-120	M31	00:40	+40:59	0	2m	
121	COMP			↑		
122-124	M32	00:39	+40:35	0	2m	
125	COMP			↑		
126	M31sky			0	2m	
127	COMP			↑		
128-129	225m280	00:41	+41:05	57	8m	
130	COMP			↑		delay @ 48"
131	471.093264	02:57	+13:26	3	20m	ISR red
132	COMP			↑		
133	S31.001035	02:49	+03:31	55	15m	
134	COMP			↑		
135	S31.001065	02:51	+03:31	55	10m	em
136	COMP			↑		delay @ 48"
137	S31.001080	03:01	+03:31	55	10m	em
138	COMP			↑		
139	S31.001210	03:05	+03:31	55	10m	em
140	COMP			↑		
141	S31.004293	02:54	+03:46	55	10m	
142	COMP			↑		
143	S31.004350	02:55	+03:46	55	10m	
144	COMP			↑		

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>5089</u>	
Observer: <u>PB</u>			Grating: <u>300L; 600R</u>			
PI: <u>Geller et al / Prosser</u>			Date: <u>12/17/96</u>			
Number	Object	R.A.	Dec.	L/R	Exp	Comments
145	S31.004810	02:55	+03:48	SS	10m	
146	COMP			↑		
147	S31.004945	02:50	+03:49	SS	5m	
148	COMP			↑		
149	S31.005684	02:58	+03:52	SS	10m	
150	COMP			↑		
151	S31.011978	03:07	+04:23	SS	12m	
152	COMP			↑		
153	S31.012325	03:07	+04:25	SS	7m	
154	COMP			↑		
155-156	DLTan	04:37	+25:20	12	20s, 3m	
157	COMP			↑		
158-159	DRTan	04:47	+16:58	12	10s, 2m	
160	COMP			↑		
161	GM113213	05:01	+52:45	S6	2m	
162	COMP			↑		
163	SN1996by	05:58	+68:27	Z	17m	binby 2
164	COMP			↑		
165	COMP			-	15s	600R g; 1.5" slit ↓
166	SA076231	03:49	+23:53	S4	90s	FOC = 900
167	COMP			↑	15s	TV camera died!
168	HR1279	04:07	+15:10	S4	20s	delay to fix
169	COMP			↑		comp act relay
170	SA093936	04:26	+16:44	S4	90s	
171	COMP			↑		
172	F2Na	06:27	-04:30	S4	20m	
173	COMP			↑		
174	F2M	06:27	-04:28	S4	20m	
175	COMP			↑		
176	F1Ma	06:28	-04:44	S4	20m	

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>5090</u>	
Observer: <u>PB</u>			Grating: <u>600L; 300L</u>			
PI: <u>Prosser & Geller</u>			Date: <u>12/17/96</u>			
Number	Object	R. A.	Dec.	L/R	Exp	Comments
177	COMP			↑	15s	600L; 15" slit ↓
178	FIC	06:27	-04:39	S4	15m	
179	COMP			↑		variable seeing
180	FIT	06:28	-04:72	S4	20m	mostly poor
181	COMP			↑		
182	FIX	06:28	-04:42	S4	20m	
183	COMP			↑		
184	FIX	06:28	-04:45	S4	15m	
185	COMP			↑		
186	FIZ	06:28	-04:49	S4	20m	
187	COMP			↑		
188	FZE	06:26	-04:39	S4	15m	
189	COMP			↑		seeing blowing up
190	FZR	06:25	-04:28	S4	20m	
191	COMP			↑		
192	Hiltner 600	06:42	-00:42	S4	4m	
193	COMP			↑		
194	HR 4112	10:30	+55:59	S4	10s	
195	COMP			↑		
196	COMP			-		300L; 3" slit ↓
197	Hiltner 600	06:42	-00:42	S4	1m	1.3
198	COMP			↑		
199	317.003040	10:51	+26:16	3	20m	redo from 6/7/96
200	COMP			↑		
201	317.004872	11:05	+26:42	3	17m	
202	COMP			↑		
203	317.012533	10:48	+26:56	3	20m	em+1
204	COMP			↑		
205	317.014087	10:55	+27:04	3	20m	WK em ~6700 Å
206	COMP			↑		

60 inch Telescope Log

Observer: PBPI: Geller et alSpectrograph: FASTGrating: 300LPage: 5091Date: 12/17/96

Number	Object	R.A.	Dec.	L/R	Exp	Comments
207	317.017256	10:59	+29:53	3	20m	seeing $\geq 5''$
208	COMP			↑		
209	317.056300	10:44	+30:39	3	20m	em
210	COMP			↑		
211	SNN3510	11:03	+28:54	2	20m	bin by 2
212	COMP			↑		
213	317.058534	11:05	+30:52	3	15m	
214	COMP			↑		
215	N4051	12:00	+44:48	6	2.5m	
216	COMP			↑		
217	N4151	12:08	+59:41	6	45s	
218	COMP			↑		
219	H244	13:21	+28:23	56	2.5	
220	COMP			↑		
221	N5548	14:15	+25:22	6	4m	
222	COMP			↑		
223	MRK279	13:51	+65:33	6	3m	
224	COMP			↑		
225	N4214	12:15	+38:20	57	2m	
226	COMP			↑		
227-228	HD93521	10:48	+37:34	57	6s	
230	COMP			↑		
231-233	HD95735	11:03	+26:02	57	5s	
234	COMP			↑		
235-244	BTAS			0	0s	
245-254	FLAT			0	6s	
255-264	BTAS			0	0s	bin by 2
265-274	FLAT			0	12s	bin by 2
275-278	DARK			0	15m	bin by 4

TOTAL P.06