

60 inch Telescope Log  
 Observer: P. Berline & M. Calkins  
 PI: Kenny & McClintock & Garcia  
 Spectrograph: FAST  
 Grating: 300L + 1200L  
 Date: 4/2/98  
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	BIAS				0s	
11-20	FLAT				6s	
21-30	BIAS				0s	
31-40	FLAT				17s	
41-50	FLAT				20s	1.1" slit
51-60	FLAT		$\gamma_c = H\alpha$		30s	1200L; 2" slit; tilt = 310
61-70	FLAT				6s	300L; 3" slit; normal set-up
71-75	SKY	zenith		S7	2s	
76	COMP			↑	6s	clear skies!
77-79	RWAur	05:07	+30:24	12	5s, 30s	
80	COMP			↑		
81-82	DR Tau	04:47	+16:58	12	12s, 90s	
83	COMP			↑		
84-85	DR Tau	04:27	+26	12	30s, 3m	
86	COMP			↑		
87	Hiltner 60	06:42	+02	S6	45s	
88	COMP			↑		
89	COMP			↓		1.1" slit
90-91	HD 245770	05:38	+26:18	77	30s	↓
92-93	HD 39478	05:53	+26:25	77	25s	
94	COMP			↑		
95-98	J0421	04:19:42	+55:59:58	65	5-10s	Wow!!! → 300L; 2" slit
99	COMP			↑		
100-113	J0421 & unnamed			65	1-5s	test exposures; 1200L; 2" slit
114	COMP			↓		
115-510	J0421	10exp; COMP	10exp; COMP	10exp...	2s	1200L; 2" slit; $\gamma_c = H\alpha$
511-515	FLAT				30s	"

60 inch Telescope Log

Observer: PB MLPI: GretterSpectrograph: FASTGrating: 3W2Date: 4/2/98Page: 6152

Number	Object	R.A.	Dec.	L/R	Exp	Comments
516	g1367.1353.701	11:32	+20:02	64	6m	3" slit, 3W2g; H <sub>2</sub>
517	COMP			↑		normal set-up
518	.1406.2526	11:31	+20:14	64	4m	em
519	COMP			↑		
520	.2528	11:32	+20:09	64	5m	
521	COMP			↑		
522	.2557	11:43	+20:16	64	4m	
523	COMP			↑		
524	.2520	11:43	+20:11	64	4m	em
525	COMP			↑		
526	.2565	11:44	+20:07	64	2m	
527	COMP			↑		
528	.2558	11:32	+20:02	64	5m	em
529	COMP			↑		
530	.2608	11:41	+19:57	64	2m	
531	COMP			↑		
532	.2610	11:42	+19:58	64	5m	
533	COMP			↑		
534	.2618	11:42	+20:05	64	2m	
535	COMP			↑		
536	.2629	11:43	+20:04	64	2m	
537	COMP			↑		
538	.2634	11:44	+19:58	64	2m	* in slit to W
539	COMP			↑		
540	.2646	11:47	+19:56	64	2m	
541	COMP			↑		
542	.2647	11:48	+20:10	64	2m	
543	COMP			↑		
544	.2650	11:50	+20:10	64	90S	
545	COMP			↑		

## 60 inch Telescope Log

Observer: PB MCPI: GrellerSpectrograph: FASTGrating: 300LPage: 6153Date: 4/2/98

Number	Object	R.A.	Dec.	L/R	Exp	Comments
546	a1367.M06.2664	11:33	+19:44	64	3m	
547	COMP			↑		
548	.2669	11:36	+19:48	64	2m	
549	COMP			↑		
550	.2690	11:43	+19:53	64	3m	
551	COMP			↑		
552	.2702	11:44	+19:44	64	3m	
553	COMP			↑		
554	.2705	11:44	+19:52	64	3m	
555	COMP			↑		
556	.2708	11:44	+19:47	64	2m	
557	COMP			↑		
558	.2710	11:44	+19:43	64	3m	
559	COMP			↑		
560	.2715	11:45	+19:50	64	2m	
561	COMP			↑		
562	.2722	11:46	+19:47	64	2m	
563	COMP			↑		
564	.2728	11:47	+19:50	64	90s	
565	COMP			↑		
566	.2757	11:53	+19:45	64	4m	
567	COMP			↑		
568	.2752	11:54	+19:32	64	4m	
569	COMP			↑		
570	.2760	11:43	+19:36	64	4m	
571	COMP			↑		
572	.2764	11:43	+19:37	64	3m	
573	COMP			↑		
574	.2772	11:44	+19:31	64	2m	
575	COMP			↑		

60 inch Telescope Log

Observer: PB MC  
 PI: Gretter

Spectrograph: FAST

Grating: 3002

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Date: 4/2/48

Number	Object	R.A.	Dec.	L/R	Exp	Comments
576	a1367.1406.277	11:45	+19:36	64	90s	
577	COMP			↑		
578	.2785	11:45	+19:31	64	3m	
579	COMP			↑		
580	.2820	11:43	+19:23	64	3m	
581	COMP			↑		
582	.2826	11:45	+19:23	64	5m	
583	COMP			↑		
584	.2828	11:45	+19:23	64	3m	
585	COMP			↑		
586	.2871	11:43	+19:05	64	2m	
587	COMP			↑		
588	.2876	11:46	+19:06	64	90s	
589	COMP			↑		
590	.2909	11:47	+18:55	64	2m	
591	COMP			↑		
592	.3035	11:42	+18:24	64	3m	
593	COMP			↑		
594	.3057	11:42	+18:19	64	4m	em
595	COMP			↑		
596	.3115	11:36	+17:53	64	2m	
597	COMP			↑		
598	.3130	11:44	+17:52	64	8m	LSB em
599	COMP			↑		
600	.3145	11:55	+18:01	64	3m	
601	COMP			↑		
602	.3165	11:36	+17:38	64	3m	to m slit to E
603	COMP			↑		
604	.3172	11:39	+17:42	64	90s	
605	COMP			↑		

7:50  
 9:10 1:30

1951-

60 inch Telescope Log  
 Observer: PB MC  
 PI: Geller & Kirchner  
 Spectrograph: FAST  
 Grating: 3WR  
 Date: 4/2/98  
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
606	a1367.1406.3174	11:40	+17:43	64	10s	
607	COMP			↑		
608	.3176	11:40	+17:47	64	7m	LSB em
609	COMP			↑		
610	.3188	11:45	+17:44	64	2m	
611	COMP			↑		
612	.3211	11:40	+17:27	64	90s	
613	COMP			↑		
614	.3226	11:55	+17:29	64	4m	
615	COMP			↑		
616	.3238	11:33	+17:23	64	7m	
617	COMP			↑		
618	.3251	11:44	+17:18	64	6m	
619	COMP			↑		
620	.3296	11:39-	+17	64	90s	
621	COMP			↑		
622	.3371	11:37	+16:52	64	90s	
623	COMP			↑		
624	.3344	11:39	+16:57	64	4m	was; blue Belmer abs
625	COMP			↑		+em.
626	.3370	11:56	+17:01	64	4m	
627	COMP			↑		
628	COMP			↓		bm by Z
629, 631	SN 1998 S	11:46	+17:28	2	5m	
632	COMP			↑		
633-634	H244	13:21	-17:6	56	90s	
635	COMP			↑		
636	SN. NGC 4704	12:48:47	+41:55:28	2	15m	
637	COMP			↑		

60 inch Telescope Log

Observer: PB MC

PI: Carter

Spectrograph: FAST

Grating: 302

Date: 4/2/98

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
638	SN 1997eg	13:11	+72:55	2	15m	
639	COMP			↑		
640	NGC 4051	12:03	44:31	#6	2m	Bin by 4
641	Comp			↑		
642	NGC 4151	12:10	+92:4	#6	30s	
643	Comp			↑		
644	NGC 4258	12:18	47:18	#6	2m	
645	Comp			↑		
646	MRK 279	15:53	69:18	#6	3m	
647	Comp			↑		extended emission-H $\alpha$
648	13076p7912	13:08	+78:56	68	20m	LSB; also previously observed
649	COMP			↑		NO sup k's! ; OK!
650	NGC 558	14:15	+25:22	6	2m	low cz
651	COMP			↑		
652	NGC 1755	12:53	52:03	#75	5m	
653	Comp			↑		
654	ZO11682	12:54	27:18	#75	4m	
655	Comp			↑		
656	ZO13742	12:54	28:22	#75	4m	
657	Comp			↑		
658	ZO13741	12:54	27:04	#75	3m	
659	Comp			↑		
660	ZO13745	12:55	27:47	#75	3m	
661	Comp			↑		
662	ZO06253	12:57	27:27	#75	25m	
663	Comp			↑		
664	ZO05401	12:56	26:29	#75	4m	
665	Comp			↑		
666	ZO11687	12:57	26:30	#75	4m	
667	Comp			↑		

60 inch Telescope Log  
 Observer: PB MC  
 PI: Kenyon  
 Spectrograph: FAST  
 Grating: 300 ln  
 Date: 4/2/98  
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
668	2013749	12 57	28 10	#75	2m	
669	comp			↑		
670	2008579	12 58	26 51	#75	2m	
671	comp			↑		
672	HBC 270	16:49	-14:22	74	5s	
673	comp			↑		
674	HBC 656	16:46	-15:14	74	10s	
675	comp			↑		
676	HBC 638	16:26	-24:20	74	2m	
677	HBC 636	16:25	-24:51	74	2m	
678	comp			↑		
679	HBC 637	16:26	-24:23	74	90s	
680	HBC 638	16:26	-24:20	74	2m	
681	comp			↓		
682	HBC 639	16:26	-24:20	74	2m	check coords see chart
683	HBC 642	16:27	-24:40	74	4m	
684	comp			↑		
685	HBC 640	16:27	-24:51	74	6m	NW*
686	HBC 641	16:27	-24:51	74	4m	SE*
687	comp			↑		
688	HBC 643	16:28	-24:22	74	2m	
689	HBC 647	16:32	-24:40	74	2m	
690	comp			↑		
691	HBC 644 NW	16:31	-24:04	74	1m	
692	HBC 644 SE	16:31	-24:04	74	2m	+ + E
693	comp			↑		
694	HBC 648	16:32	-24:42	74	4m	
695	comp			↑		
696	HBC 286	16:21	-26:42	74	1m	
697	comp			↑		

60 inch Telescope Log  
 Observer: PB MC  
 PI: Kenyon  
 Spectrograph: FAST  
 Grating: 302  
 Date: 4/2/58  
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Number	Object	R. A.	Dec.	L/R	Exp	Comments
698	HBC 259	16:25	-24:20	74	30s	
699	WMP			↑		
700	HBC 260	16:28	-24:28	74	30s	
701	WMP			↑		
702	HBC 268	16:31	-24:47	74	15s	
703	WMP			↑		
704	SN 1998U	18:22	+15:42	2	15m	
705	WMP			↑		
706	HBC 273	17:10	-27:15	74	20s	
707	WMP			↑		
708	HBC 658	17:15	-20:56	74	2m	
709	HBC 659	17:16	-20:57	74	5m	
710	WMP			↑		
711	HBC 660	17:16	-20:54	74	5m	
712	HBC 661	17:16	-20:57	74	3m	
713	WMP			↑		
714-716	XXOph	17	-6	65	5s	
717	WMP			↑		
718	NS 866	15:03	+55:57	57	4m	
719	WMP			↑		
720	NS 846	15:03	+01:47	57	3+m	
721	WMP			↑		
722-723	BDp 357642	15:50	+33	56	1m	
724	WMP			↑		
725-726	AG Dra	16:01	+66:48	12	20, 2s	
727	WMP			↑		
728-38	Bias				0s	3" slit
729-748	Flat				6s	3" slit
750-60	Flat				8s	2" slit 748-757
761-71	Bias	BIN	B3 2		6s	758-767

762-771 FLAT

Calculated 2" NOT → 3" slit bmbg 768-777

Perry says they are 3" ★ End of FAST Run ★



★ Start of FAST Run★  
 → new UV-cloud to ccd as of this week

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>6189</u>	
Observer: <u>Berlind / Collins</u>			Grating: <u>300L</u>		Date: <u>4/17/98</u>	
PI: <u>All</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
3-17	fast bc					
18-26	BIAS					bin by 4
28-35	DARK					oh boy - lots of counts +
36-46	FLAT	(header says 2" slit, actually is 3")				by 4, 3" slit structure
47-55	FLAT					
57-66	BIAS				0s	Bin by 2
67-76	FLAT				8s	2" slit; bin by 4 (not used)
77-86	FLAT				12s	3" slit; bin by 2
87-91	sky	zenith		57	2s	7:05
92	WMP			↑	6s	Focus motor locked up.
93-94	RWPr				5, 30s	delay to re-grease etc
95	COMP					
96-103	CICam	04:19	+55:59	65	2s-10s	
104	COMP			↑		
105	WMP			↓		
106-107	HD245710	05:38	+26:18	77	30s	1.1" slit
108-109	HD 39478	05:53	+26	77	30s	"
110				↑		
111-113	CICam	04:19	+55:59	75	10s-40s	1-1" slit
114	WMP			↑		hit telescope limits
115-116	Fer34	10:36	+43:21	56	90s	3" slit
117	WMP			↑		
118	SN1998an	07:08	+46:06	2	20m	
119	COMP			↑		
120	1406.3443	11:44	+16:33	64	90s	
121	WMP			↑		
122	1406.3444	11:44	+16:22	64	4m	
123	COMP			↑		
124	1406.3865	11:41	+15:57	64	100s	↓ to W
125	WMP			↑		

UV flood Thursday, 4/16/98 per Wayne  
 MAJOR dark current on red end; can not remove with standard reduction

60 inch Telescope Log

Observer: PB MCPI: GellerSpectrograph: FASTGrating: 3WR, 3" slitPage: 6190Date: 4/17/98

Number	Object	R. A.	Dec.	L/R	Exp	Comments
126	a1367.51.1899	11:31	+20:14	64	3m	
127	COMP			↑		
128	51.1902	11:32	+20:09	64	4m	
129	COMP			↑		Seeing better
130	51.1937	11:32	+20:02	64	7m	
131	COMP			↑		
132	51.1965	11:28	+19:43	64	5m	
133	COMP			↑		
134	51.1968	11:29	+19:46	64	2m	NO sup *
135	COMP			↑		
136	51.2063	11:28	+19:11	64	4m	em
137	COMP			↑		
138	51.3857	12:00	+20:04	64	10s	em
139	COMP			↑		
140	89.4888	11:55	+18:04	64	4m	
141	COMP			↑		
142	89.4241	11:55	+17:29	64	4m	
143	COMP			↑		
144	89.4295	11:56	+17:01	64	3m	
145	COMP			↑		
146	1406.3351	11:41	+17:00	64	4m	em
147	COMP			↑		
148	1406.3400	11:49	+16:38	64	5m	
149	COMP			↑		
150	1406.3432	11:57	+16:33	64	6m	em!
151	COMP			↑		
152	1406.3441	11:43	+16:29	64	4m	Finishes notebook!
153	COMP			↑		
154	2M122122,S	12:21	+17:01	68	7m	
155	COMP			↑		

60 inch Telescope Log

Observer: PB/mc

PI: Huckra

Spectrograph: Fast

Grating: 300 L

Date: ~~4/18/98~~ 4/17/98 (pe)

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
156	2M121320.8	12:13	+16:54	68	7m	
157	COMP			↑		
158	2M121345.0	12:13	+14:22	68	7m	
159	COMP			↑		
160	2M121352.8	12:13	+14:36	68	8m	
161	COMP			↑		
162	2M121406.3	12:14	+14:12	68	7m	
163	COMP			↑		
164	SN1998ab	12:48	+11:55	2	20m	
165	COMP			↑		
166	SN1998ag	11:56	+55:07	2	15m	
167	COMP			↑		
168	COMP			L		
169-170	SN1998S	11:46	+17:28	2	10m	cool! still.
171	COMP			↑		
172-174	H244	13:23	+36	56	90s	
175	COMP			↑		
176	2M121339.5	12:13	+14:14	68	9m	
177	COMP			↑		
178	2M121407.H	12:14	+16:30	68	12m	
179	COMP			↑		
180	2M121358.0	12 14	14 04	68	9m	
181	COMP			↑		
182	2M121401.1	12 14	17 47	68	10m	
183	COMP			↑		
184	2M121532.6	12 15	12 34	68	15m	
185	COMP			↑		
186	2M121354.7	12 15	15 27	68	10m	
187	COMP			↑		
188	N4051	12.05	44 31	Fast Reject	2m	

60 inch Telescope Log  
 Observer: PG/mc  
 PI: Wilkes  
 Spectrograph: Fast  
 Grating: 300L  
 Date: 11/17/98  
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
189	comp			↑		
190	N4151	12 10	39 24	#6	30s	
191	N4151	12 10	39 24	#6	10s	
192	comp			↑		
193	N4258	12 18	47 18	#6	2m	
194	comp			↑		
195	M2K279	13 53	69 18	#6	3m	
196	comp			↑		
197	SBS14-5p606	14 26	60 25	#6	10m	
198	comp			↑		
199	N4853	12 58	27 35	#57	4m	
200	comp			↑		
201	nrqb244.036	13 27	12 07	59	5m	
202	comp			↑		
203	nrqb247.037	13 25	11 49	59	6m	
204	comp			↑		
205	nrqb247.038	13 25	11 40	59	7m	
206	comp			↑		
207	nrqb247.041	13 26	11 33	59	5m	
208	comp			↑		
209	nrqb247.043	13 27	11 53	59	6m	
210	comp			↑		
211	nrqb247.044	13 27	11 50	59	10m	
212	comp			↑		
213	nrqb247.045	13 28	11 26	52	7.5m	TRA TDEC
214	comp			↑		13:28:09 11:26:40
215	nrqb247.046	13 28	11 26	52	6m	13:28:20 11:26:57
216	comp	moving??		↑		13:28:39 11:23:10
217	nrqb247.047	13 28	11 23	52	4m	13:28:39 11:23:18
218	comp			↑		

shift between 214 + 216 is 0.0139

60 inch Telescope Log

Observer: PR/mc

PI: Andi

Spectrograph: FAST

Grating: 3006

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Date: 4/17/98

Number	Object	R.A.	Dec.	L/R	Exp	Comments
219	nrb 247.048	13 28	11 36	S2	3m	bright moon
220	comp			↑		
221	nrb 247.049	13 28	11 22	S2	8m	
222	comp			↑		
223	nrb 247.050	13 28	10 52	S2	8m	
224	comp			↑		
225	nrb 247.051	13 28	12 12	S2	5m	
226	comp					
227	317.107	14:45	+13:43	S9	6m	em
228	comp			↑		
229	317.108	14:45	+13:16	S9	6m	
230	comp			↑		
231	317.109	14:45	+14:04	S9	4m	
232	comp			↑		
233	317.110	14:46	+12:34	S9	7m	
234	comp			↑		
235	317.111	14:46	+13:01	S9	4m	
236	comp			↑		
237	317.113	14:46	+13:01	S9	6m	
238	comp			↑		
239	317.114	14:46	+13:46	S9	6m	
240	comp			↑		
241	317.115	14:46	+13:38	S9	6m	
242	comp			↑		
243	317.117	14:46	+13:40	S9	4m	
244	comp			↑		
245	317.118	14:46	+12:36	S9	4m	
246	comp			↑		
247	317.120	14:46	+13:50	S9	4m	
248	comp			↑		



60 inch Telescope Log  
 Observer: P. Berlin M. Calkins  
 PI: Garcia

Spectrograph: FAST  
 Grating: 300R + 1200R  
 Date: 4/18/98

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-5	BIAS				0s	clear skies
6-10	DARK				15m	
11-14	DARK				20m	bin by 2
15-24	BIAS				0s	by 4
25-31	BIAS				0s	bin by 2
35	COMP	1200R;	1.1" slit	$\lambda_c = 4\mu$	10s	w/o spacer bin by 4
36-40	FLAT				60s	1200R; 1.1" slit; tilt = 340.0
41	COMP	1200R;	1.1" slit	$\lambda_c = 6000$	15s	w/o spacer
42-46	FLAT	NOT USED			90s	1200R; 1.1" slit; tilt = 169.0
47	COMP	1200R;	1.1" slit	$\lambda_c = 4800$	60s	w/ spacer
48-52	FLAT				2m	1200R; 1.1" slit; tilt = 280.0
53	COMP	1200R;	1.1" slit	$\lambda_c = 4200$	60s	w/ spacer
54-58	FLAT					1200R; 1.1" slit; tilt = 110.0
						Seeing terrible 3-5"
59-60	CI Cam	1200R	1.1" slit	$\lambda_c = 4200$	8m	tilt = 110.0 w/ spacer
61	COMP			↑	60s	
						w/ spacer
62-64	CI Cam	1200R		65	1m 2m 4m	tilt = 280.0 $\lambda_c = 4800\text{\AA}$
65	COMP			↑		
						hit telescope limits
66-69	CI Cam		$\lambda_c = 4\mu$	65	30, 20, 2m	tilt = 340.0; spacer is out
70	COMP			↑		
71	test					
72-76	FLAT	300R;	3" slit		6s	300R; 3" slit; tilt = 607 - std
77-81	FLAT				12s	bin by 2

60 inch Telescope Log

Observer: PBMC

PI: Bartun & Huchra & Kirshner

Spectrograph: FAST

Grating: 3002

Date: 4/18/98

Page: 6196

Number	Object	R.A.	Dec.	L/R	Exp	Comments
82	no gal - 071	9:33	+10:09	73	5m	OK.
83	COMP			↑		
84	no gal - 074	09:39	+36:33	73	12m	good ones!
85	COMP			↑		
86	no gal - 075	09:39	+36:34	73	15m	
87	COMP			↑		seeing ~2"
88	0952p0620	09:52:46	+66:20:39	99	20m	for Emilio Falco
89	COMP			↑		faint MK
90	ZM121402.6	12:14	+15:09	68	20m	
91	COMP			↑		
92	ZM122137.6	12 21	17 02	68	15m	
93	COMP			↑		
94	ZM121352.8	12 13	16 50	68	16m	
95	COMP			↑		
96	ZM121310.0	12 13	11 57	68	15m	
97	COMP					
98	SN1998aa	11:56	+55:07	2	15m	extra blue grating
99	COMP			↑		tilt for Peter Gr.
100	SN1998s	11:46	+47:28	2	10m	" tilt = 580.0
101	COMP			↑		
102	SN1998ab	12:48	+41:55	2	20m	"
103	COMP			↑		
104	SN1997cg	13:11	+22:55	2	20m	"
105	COMP			↑		
106-107	HZ44	13:21	+36	56	10s	"
108	COMP			↑		
109-113	FLAT			2	12s	necessary now
114-118	FLAT			2	45s	" saturated





60 inch Telescope Log  
 Observer: PD/MC  
 PI: Carter

Spectrograph: FAST  
 Grating: 3002, 3" slit, tilt=60° Page: 6197  
 Date: 4/18/98

Number	Object	R.A.	Dec.	L/R	Exp	Comments
119	1217p6622	12:11	+6:22	68	20m	normal setup+tilt ↓
120	comp			↑		Large LSB gal, bright & near R EM
121	N000020	12:26	+3:13	75	30s	
122	comp			↑		
123	Z000149	12:28	+18:37	75	45s	
124	comp			↑		
125	N002263	12:34	26:40	75	3m	
126	comp			↑		
127	Z000942	12:35	26:31	75	2.5m	
128	comp			↑		
129	Z0007384	12:35	26:59	75	4m	
130	comp			↑		
131	Z000027	12:35	27:57	75	3m	
132	comp			↑		
133	Z011675	12:36	32:04	75	4m	
134	comp			↑		
135	N000972	12:36	26:49	75	4m	
136	comp			↑		
137	Z011676	12:36	32:06	75	5m	
138	comp			↑		
139	Z010031	12:36	27:51	75	5m	
140	comp			↑		
141	Z011677	12:36	27:44	75	5m	
142	comp			↑		
143	Z006250	12:37	28:12	75	5m	
144	comp			↑		
145	N002952	12:37	27:07	75	6m	
146	comp			↑		
147	Z011678	12:37	32:05	75	10m	
148	comp			↑		

60 inch Telescope Log  
 Observer: PR/MC  
 PI: Scott

Spectrograph: FAST  
 Grating: 300L  
 Date: 4/18/98

Page: 6198

Number	Object	R.A.	Dec.	L/R	Exp	Comments
149	7001654	12 38	32 05	75	6.5m	
150	comp			↑		
151	7003478	12 38	31 59	75	5m	
152	comp			↑		
153	7008574	12 39	30 24	75	5m	
154	comp			↑		bn by 2
155	N00264	12:12	+27:44	75	3m	em; also sup * •
156	comp			↑		
157	162621m2416	16:26	-24:16	74	16m	
158	comp			↑		
159	162603m242337	16 26	-24 23	74	10m	
160	comp			↑		16 26 01 -24 23 34
161	162658m244529	16 26	-24 45	74	10m	16 26 57 -24 45 34
162	comp	m007	22	↑		16 27 34 -24 38 34
163	162735m243834	16 27	-24 38	74	10m	
164	comp			↑		
165	HBC 258	16 25	-24 29	74	4m	
166	comp			↑		
167	HBC 259	16 25	-24 20	74	90s	
168	comp			↑		
169	HBC 262 S	16 26	-24 45	74	7.5m	-•-
170	comp			↑		
171	HBC 262 N	16 26	-24 45	74	10m	-•-
172	comp			↑		
173	HBC 275 NW	17 11	-27 22	74	7.5m	-•-
174	comp			↑		
175	HBC 266	16 28	-24 27	74	2m	
176	comp			↑		
177	HBC 268	16 21	-24 26	74	1m	
178	comp			↑		

shift 160 ± 162 0.046      162 ± 164 0.096  
 160 ± 164 0.122

60 inch Telescope Log				Spectrograph: <u>FAST</u>		Page: <u>6199</u>
Observer: <u>PB/MC</u>				Grating: <u>300 L</u>		
PI: _____				Date: <u>4/18/98</u>		
Number	Object	R.A.	Dec.	L/R	Exp	Comments
179	HBC 270	16 49	-14 20	74	30s	
180	comp			↑		
181	HBC 637	16 26	-24 23	74	4m	
182	comp			↑		
183	HBC 639	16 26	-24 20	74	6m	
184	comp			↑		
185	SN1981	18:22	+15:42	2	20m	
186	WMP			↑		
187	NS866	15:05	+55:59	57	5m	
188	WMP			↑		
189-190	BDp332642	15:50	+33:05	56	1m	
191	WMP			↑		
192-193	AGDn	16:01	+66:48	2	20s, 2s	
194	WMP			↑		
195-204	BIAS				0s	Binby 4
215-224	BIAS				0s	Binby 2
225-234	Flat				6s	Binby 4
235-244	Flat				12s	Binby 2
245-249	SKY	zenith		57	5s	"
250	WMP			↑	6s	"
251-270	DARK				15m	clouds to N of drum

60 inch Telescope Log  
 Observer: P. Berland  
 PI: Carter  
 Spectrograph: FAST  
 Grating: 3000, 3" slit  
 Date: 4/26/98  
 Page: 6200

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-4	DARK				15m	75 cuts; last SW pixels
5-14	BIAS				0s	
15-24	FLAT				6s	
25-34	BIAS				0s	bmb, Z
35-44	FLAT				12s	bmb, Z
45-47	HDS 2771			S7	5s	
48	WMP			↑		snowflakes + rain
49	N 3777	10:45	+04:14	S7	4m	clearing fast after sunset
50	WMP			↑		
51-52	Fer 34	10:36	+43:21	S6	90s	
53	WMP			↑		
54	A 000391 NE	11:43	+26:16	75	3m	
55	A 000391 SW	"	"	75	4m	em
56	WMP			↑		
57	Z 004601	11:43	+26:31	75	3m	
58	WMP			↑		
59	Z 010018	11:43	+31:27	75	4m	em +
60	WMP			↑		
61	Z 011668	11:44	+30:02	75	3m	
62	WMP			↑		
63	Z 011619	11:44	+29:52	75	4m	WMP to E
64	WMP			↑		
65	Z 013732	11:45	+30:49	75	4m	good one
66	WMP			↑		
67	Z 010220	11:45	+26:49	75	3m	
68	WMP			↑		
69	Z 005393	11:45	+26:46	75	4m	
70	WMP			↑		
71	Z 006247	11:45	+31:17	75	3m	
72	WMP			↑		

~~headers~~ APERTURE = 2" in headers  
 NOT CORRECT, APERTURE = 3" slit

60 inch Telescope Log

Observer: PB  
 PI: Carter & Geller

Spectrograph: FAST

Grating: 300R, 3"

Page: 6209

Date: 4/26/98

Number	Object	R.A.	Dec.	L/R	Exp	Comments
73	N002946	11:47	+18:20	75	5m	em+
74	WMP			↑		
75	Z0120	11:48	+30:21	75	2m	
76	WMP			↑		
77	Z011669	11:49	+27:20	75	3m	
78	WMP			↑		
79	N002953	12:39	+26:40	75	3m	
80	WMP			↑		
81	N001754	12:39	+27:46	75	2m	
82	WMP			↑		
83	N002265	12:40	+27:38	75	6m	392 K+H <sup>not long enough</sup> look OK
84	WMP			↑		
85	N002954	12:41	+26:44	75	6m	393 em
86	WMP			↑		
87	A000474	12:49	+32:04	75	6m	em
88	WMP			↑		
89	a1367.103.1056	11:55	+23:06	64	7m	scattered starlight E of gal <sup>very poor</sup>
90	WMP			↑		em @ pix 2131
91	.1119	12:01	+22:37	64	7m	
92	WMP			↑		
93	.1171	12:01	+22:39	64	5m	
94	WMP			↑		
95	.1172	12:02	+22:42	64	5m	
96	WMP			↑		
97	.1263	12:02	+22:20	64	5m	
98	WMP			↑		
99	.1324	11:59	+22:01	64	6m	
100	WMP			↑		
101	.1420	12:00	+21:53	64	5m	
102	WMP			↑		

60 inch Telescope Log

Observer: PBPI: GellenSpectrograph: FASTGrating: 30RPage: 6202Date: 4/26/98

Number	Object	R.A.	Dec.	L/R	Exp	Comments
103	a1367.103.1633	12:02	+21:40	64	5m	em+
104	WMP			↑		
105	.1659	12:02	+20:48	64	6m	
106	WMP			↑		
107	.1754	12:01	+20:37	64	5m	
108	WMP			↑		
109	.1814	12:01	+20:24	64	5m	
110	WMP			↑		
111	.1816	12:01	+20:24	64	4m	
112	WMP			↑		
113	.1707	11:41	+24:48	64	4m	pec
114	WMP			↑		
115	.739	11:55	+24:46	64	4m	
116	WMP			↑		
117	.794	11:48	+24:45	64	4m	
118	WMP			↑		
119	.873	11:39	+23:47	64	4m	
120	WMP			↑		
121	.885	11:44	+23:56	64	4m	
122	WMP			↑		
123	.899	11:54	+23:52	64	4m	
124	WMP			↑		
125	.939	11:52	+23:37	64	4m	pec! blue
126	WMP			↑		
127	.983	11:51	+23:31	64	4m	
128	WMP			↑		
129	.990	11:52	+23:28	64	3m	
130	WMP			↑		
131	.997	11:55	+23:24	64	5m	high cz CD?
132	WMP			↑		

60 inch Telescope Log

Observer: PB  
 PI: Kirshner/Wilkes/Huchra

Spectrograph: FAST  
 Grating: 3000, 3" slit  
 Date: 4/26/98

Page: 6203

Number	Object	R.A.	Dec.	L/R	Exp	Comments
133	SN1998S	11:46	+47:28	Z	10m	bin by 2
134	COMP			↑		
135	SN1998ag	11:56	+55:07	Z	10m	"
136	COMP			↑		
137-8	H2M	13:21	+76	S6	90s	"
139	COMP			↑		
140	N4051	12:10	+44:48	G	2m	bin by 4 ↓
141	COMP			↑		
142	N4151	12:08	+39:41	G	25s	
143	COMP			↑		
144	N4258	12:16	+47:34	G	2m	
145	COMP			↑		
146	ZM121359.8	12:13	+15:54	G8	15m	ok
147	COMP			↑		
148	ZM121406.9	12:14	+14:36	G8	10m	em
149	COMP			↑		
150	ZM121409.5	12:14	+14:04	G8	15m	em
151	COMP			↑		
152	ZM121357.8	12:13	+14:42	G8	15m	H&K @ 5000A
153	COMP			↑		
154	ZM121317.3	12:13	+13:16	G8	15m	
155	COMP			↑		
156	MPK279	13:51	+69:33	G	3m	
157	COMP			↑		
158	SBS1425	14:25	+60:31	G	10m	
159	COMP			↑		
160	N5548	14:0	+25:22	G	3m	
161	COMP			↑		
162	nrq/b247.653	13:29	+11:29	S9	5m	
163	COMP			↑		

## 60 inch Telescope Log

Observer: PBPI: Mahdavi / KenyonSpectrograph: FASTGrating: 3000Page: 6204Date: 4/26/98

Number	Object	R.A.	Dec.	L/R	Exp	Comments
164	Argo 247.054	13:29	+11:13	S9	4m	
165	COMP			↑		
166	.055	13:29	+11:11	S9	5m	
167	COMP			↑		
168	.056	13:29	+11:56	S9	4m	
169	COMP			↑		Seeing worse
170	.057	13:29	+11:16	S9	3m	
171	COMP			↑		
172	.058	13:29	+11:12	S9	3m	
173	COMP			↑		
174	.059	13:29	+11:54	S9	4m	
175	COMP			↑		
176	.060	13:29	+11:20	S9	4m	em
177	COMP			↑		
178	.061	13:29	+11:44	S9	2m	
179	.061ND	13:29	+11:44	S9	3m	
180	COMP			↑		
181	.062	13:29	+11:39	S9	4m	
182	COMP			↑		
183	.063	13:29	+11:47	S9	3m	
184	COMP			↑		
185	HBC642	16:27	-24:40	74	10m	
186	COMP			↑		
187	HBC643	16:28	-24:22	74	10m	
188	COMP			↑		
189	HBC650	16:34	-15:47	74	6m	nice nebulosity
190	COMP			↑		
191	2M160527.2	16:05	+17:49	68	5m	no charts available
192	COMP			↑		for herc h pri
						N part



60 inch Telescope Log  
 Observer: PB  
 PI: Huchra  
 Spectrograph: FAST  
 Grating: 30R  
 Date: 4/26/98  
 Page: 6205

Number	Object	R.A.	Dec.	L/R	Exp	Comments
193	2M160520.6	16:05	+14:44	68	7m	em
194	COMP			↑		
195	2M160532.3	16:05	+14:56	68	6m	em
196	COMP			↑		
197	2M160537.2	16:05	+14:24	68	6m	
198	COMP			↑		
199	2M160533.2	16:05	+18:49	68	7m	wk. high cz
200	COMP			↑		
201	2M160530.2	16:05	+14:01	68	8m	bin by 2; close E-W pair
202	COMP			↑		redo W; E = * NO as OK
203	2M160520.3	16:05	+18:22	68	7m	
204	COMP			↑		Seemg blowing up
205	2M160539.5	16:05	+18:52	68	7m	
206	COMP			↑		
207	2M160546.4	16:05	+18:31	68	7m	
208	COMP			↑		
209	2M160513.9	16:05	+14:70	68	8m	
210	COMP			↑		
211	2M160514.6	16:05	+17:48	68	7m	
212	COMP			↑		
213	MRK501	16:53	+39:45	6	5m	
214	COMP			↑		
215-6	AGDra	16:01	+66:48	12	20s, 2s	
217	COMP			↑		
218-201	BTAS				0s	
218-239	FLAT				6s	
238-247	BTAS				0s	bin by 2
246-251	FLAT				12s	"
256-262	DARK				10m	"

60 inch Telescope Log

Observer: Pberlind  
 PI: Carter

Spectrograph: FAST  
 Grating: 300L, 3" slit  
 Date: 4/27/98

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	DARK				15m	
11-20	BIAS				0s	
21-30	FLAT				6s	scattered clouds
31-40	BIAS				0s	
41-50	FLAT				12s	
51-55	SKY			S7	2s	7:14
56	COMP			↑	6s	14-2037-8
57-59	HDS2971	06:57	+27:13	S7	5s	
60	COMP			↑		
61-62	Faye 34	10:36	+43:24	S6	90s	7:50
63	COMP			↑		
64	N3379	10:45	+12:50	S7	4m	⇒ 2mm!
65	COMP			↑		
66	MRK421	11:01	+38:28	6	4m	
67	COMP			↑		
68	Z000677	11:50	+26:28	75	3m	err
69	COMP			↑		
70	Z00460	11:50	+30:51	75	3m	
71	COMP			↑		
72	Z008866	11:49	+26:44	75	6m	
73	COMP			↑		clouds in the W
74	N002265	12:40	+27:56	75	15m	redo from 4/26/98 #53
75	COMP			↑		
76	N002956	12:49	+30:55	75	15m	
77	COMP			↑		
78	41367, 1358149	11:27	+23:45	64	6m	pec!
79	COMP			↑		
80	1353.16	11:33	+24:41	64	4m	
81	COMP			↑		

60 inch Telescope Log  
 Observer: PB  
 PI: Geller  
 Spectrograph: FAST  
 Grating: 302  
 Date: 4/27/98  
 Page: 6207

Number	Object	R. A.	Dec.	L/R	Exp	Comments
82	α/367.1353.232	11:31	+23:03	64	4m	clearing ok
83	COMP			f		
84	.269	11:31	+23:02	64	7m	em
85	COMP			f		
86	.284	11:25	+22:42	64	3m	to m slit to E
87	COMP			f		
88	.318	11:21	+22:28	64	4m	em wind picking up → 30mph
89	COMP			f		
90	51.1965	11:28	+19:43	64	5m	redo from 4/17/98
91	COMP			f		
92	1406.3351	11:41	+17:40	64	5m	"
93	COMP			f		
94	1406.3432	11:37	+16:33	64	9m	"
95	COMP			f		
96	1353.322	11:26	+22:36	64	3m	
97	COMP			f		
98	1353.355	11:25	+22:23	64	4m	
99	COMP			f		
100	1353.396	11:30	+22:12	64	4m	
101	COMP			f		
102	.495	11:21	+21:21	64	5m	• wk, em
103	COMP			f		
104	.501	11:23	+21:23	64	4m	red
105	COMP			f		
106	.509	11:27	+21:23	64	4m	
107	COMP			f		
108	.544	11:26	+21:05	64	4m	
109	COMP			f		
110	1406.3544	11:32	+15:54	64	4m	wk em
111	COMP			f		

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60 inch Telescope Log

Spectrograph: FAST

Observer: PB

Grating: 30R

Page: 6208

PI: Kirshner & Geller

Date: 4/27/98


Number	Object	R.A.	Dec.	L/R	Exp	Comments
112	SN1998bn	12:29	-23:09	Z	10m	bm by Z Ia
113	COMP			T		
114	SN1998S	11:46	+7:28	Z	10m	
115	COMP			T		
116	SN1998ag	11:56	+55:07	Z	10m	
117	COMP			T		
118-9	H244	13:21	+76	S6	2m	
120	COMP			T		
121	a1367.1406.352	11:37	+853	64	5m	seeing worse
122	COMP			T		windy - E
123	.3608	11:40	+15:37	64	5m	
124	COMP			T		
125	.3609	11:41	+15:36	64	5m	
124	COMP			T		
127	.3615	11:43	+15:40	64	6m	em
128	COMP			T		
129	.3667	11:43	+15:29	64	6m	
130	COMP			T		pod seeing 2+-3"
131	.3673	11:45	+15:29	64	6m	
132	COMP			T		
133	.3675	11:45	+15:29	64	5m	
134	COMP			T		
135	.3691	11:52	+15:31	64	7m	wk
136	COMP			T		
137	.3698	11:54	+15:22	64	7m	wk
138	COMP			T		
139	.3729	11:44	+15:17	64	5m	wk
140	COMP			T		
141	.3777	11:39	+14:59	64	5m	em; star to W in slit
142	COMP			T		

60 inch Telescope Log			Spectrograph: <u>FAST</u>		Page: <u>6209</u>	
Observer: <u>PB</u>			Grating: <u>302</u>			
PI: <u>Andi</u>			Date: <u>4/27/98</u>			
Number	Object	R. A.	Dec.	L/R	Exp	Comments
143	nr gal 247.064	13:29	+11:43	S9	8m	poor seeing
144	WMP			↑		
145	665	13:29	+11:46	S9	4m	
146	WMP			↑		rich cluster!
147	666	13:29	+11:59	S9	5m	
148	WMP			↑		
149	667	13:29	+11:60	S9	2m	
150	WMP			↑		thin clouds
151	668	13:29	+11:46	S9	8m	
152	WMP			↑		
153	669	13:29	+11:37	S9	4m	
154	WMP			↑		
155	670	13:29	+11:44	S9	3m	
156	WMP			↑		
157	671	13:29	+11:38	S9	5m	
158	WMP			↑		
159	672	13:29	+11:41	S9	7m	em
160	WMP			↑		
161	673	13:29	+11:48	S9	7m	
162	WMP			↑		
163	676	13:29	+12:11	S9	5m	
164	WMP			↑		
165	677	13:29	+12:20	S9	4m	
166	WMP			↑		
167	678	13:29	+11:04	S9	8m	wk em
168	WMP			↑		
169	679	13:29	+12:19	S9	8m	big cosmic ray
170	WMP			↑		
171	680	13:30	+12:10	S9		
172	WMP			↑		

60 inch Telescope Log  
 Observer: PB  
 PI: Andi

Spectrograph: FAST  
 Grating: 302  
 Date: 4/27/98

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
173	N5518	14:15	+75:22	6	4m	
174	WMP			↑		
175	N5846	15:01	+101:47	S9	4m	Stars dissolve into nothingness.
176	WMP			↑		
177	NGC 317.118	14:46	+12:36	S9	6m	→ lousy seeing
178	WMP			↑		↳ redo from 4/17/98
179	317.119	14:46	+13:41	S9	7m	
180	WMP			↑		
181	317.121	14:46	+13:42	S9	7m	
182	WMP			↑		
183	.122	14:46	+13:33	S9	5m	
184	WMP			↑		
185	.124	14:47	+13:39	S9	3m	supe? → yes → redo ye*
186	WMP			↑		
187	.125	14:47	+13:39	S9	3m	
188	WMP			↑		
189	.126	14:47	+13:27	S9	5m	
190	WMP			↑		
191	.127	14:47	+13:23	S9	5m	
192	WMP			↑		
193	.128	14:47	+13:27	S9	4m	cool gal; pec  em
194	WMP			↑		
195	.129	14:47	+12:48	S9	5m	low emitt!
196	WMP			↑		
197	.131	14:47	+13:20	S9	5m	
198	WMP			↑		
199	.133	14:47	+13:39	S9	4m	
200	WMP			↑		
201	.134	14:48	+13:28	S9	5m	
202	WMP			↑		

60 inch Telescope Log

Observer: PB

PI: Andrihuchen

Spectrograph: FAST

Grating: 300R

Date: 4/27/98

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Number	Object	R.A.	Dec.	L/R	Exp	Comments
203	Mags 317.136	14:48	+12:35	S9	5m	poor seeing
204	COMP			↑		
205	,138	14:48	+13:45	S9	5m	
206	COMP			↑		
207	,139	14:48	+13:58	S9	5m	em *
208	COMP			↑		
209	A1601 p1556	16:01	+15:56	68	90s	stars
210	COMP			↑		
211	A1601 p1602	16:01	+16:02	68	12m	em high ez
212	COMP			↑		
213	A1559 p1628	15:59	+16:28	68	8m	
214	COMP			↑		
215	A1603 p16183	16:03	+16:18	68	10m	* to W
216	COMP			↑		
217	A1604 p1818	16:01	+18:18	68	10m	
218	COMP			↑		
219-220	DDP 332642	15:30	+33:05	S6	1m	
221	COMP			↑		
222-223	AG Dra	16:01	+66:48	12	20s, 7s	poor seeing
224	COMP			↑		
225-227	HD 168206	18:19	-11	S7	Ss	
228	COMP			↑		clear down
229-231	HD 167633	18:16	-16	S7	Ss	
232	COMP			↑		
233-235	HD 165763	18:08	-21	S7	Ss	
236	COMP			↑		
239-258	BTAS			S6	0s	
259-268	FLAT				6s	
269-278	BTAS				0s	bin by 2
279-286	FLAT				12s	"

289-298 DARK

237-239 HD 166802 10m

241-243 HD 174325

245-247 M5?

Fax to Susan Tokarz pg 1 of 4

60 inch Telescope Log	Spectrograph: <u>FAST</u>	Page: <u>62/2</u>
Observer: <u>P. Berlin</u>	Grating: <u>300L; 3" slit</u>	
PI: <u>Geller</u>	Date: <u>4/28/98</u>	

Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-9	DARK				15m	
10-19	BIAS				0s	
20-29	FLAT				6s	clouds to E.
30-39	BIAS				0s	
40-49	FLAT				12s	
50-54	SKY			57	2s	7-15
55	COMP			↑		
56-94	shoutell-twilight					UofA Tour group
95	α1367.3780	11:44	+15:46	64	10m	5m
96	COMP			↑		
97	51.2122	11:25	+18:35	64	3m	
98	COMP			↑		
99	51.2223	11:21	+17:30	64	9m	wk NOT GOOD ENOUGH X
100	COMP			↑		
101	51.2282	11:24	+17:44	64	9m	
102	COMP			↑		
103	51.2380	11:25	+16:44	64	6m	
104	COMP			↑		
105	51.2314	11:25	+16:44	64	4m	? NOT ENOUGH
106	COMP			↑		
107	51.2445	11:32	+15:40	64	5m	
108	COMP			↑		
109	89.3835	12.04	20.11	64	10m	
110	COMP			↑		
111	51.2475	11.28	15.15	64	15m	
112	COMP			↑		
113	89.3837	12.04	20.12	64	4m	
114	COMP					



60 inch Telescope Log		Spectrograph: <u>FAST</u>				Page: <u>6213</u>
Observer: <u>PS/MC</u>		Grating: <u>200 L / 3" slit</u>		Date: <u>4/28/98</u>		
PI: <u>Geller &amp; Kirshner</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
115	89.3840	12 04	20 13	64	4m	
116	comp			↑		
117	89.3846	12 09	20 09	64	5m	
118	comp			↑		
119	89.3898	12 05	19 44	64	8m	
120	comp			↑		
121	89.4021	12 06	19 13	64	10m	
122	comp			↑		
123	sn1998bn	12 29	-23 10	#2	10m	binby 2
124	comp			↑		
125	sn1998ag	11 56	+55 07	#2	10m	
126	comp			↑		
127	sn1998ab	12 48	41 55	#2	15m	
128	comp			↑		
129	H2 44	13 22	36 07	#2	2m	
130	H2 44	13 23	36 07	#2	2m	
131	comp			↑		
132	2M121400.7	12 14	13 27	#68	15m	binby 4
133	comp			↑		
134	2M121552.5	12 13	13 04	#68	20m	
135	comp			↑		
136	2M121357.2	12 14	14 43	#68	20m	
137	comp			↑		
138	N5348	14 17	25 07	#6	3m	
139	comp			↑		
140	MRK 279	12 53	69 18	#6	3m	
141	comp			↑		
142	ngc247.081	13 30	11 30	#59	4m	
143	comp			↑		
144	ngc247.082	13 30	12 31	#59	5m	

60 inch Telescope Log

Observer: PB/mc

PI: Andi

Spectrograph: FAST

Grating: 300L/3" 11.7

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Date: 4/28/98

Number	Object	R. A.	Dec.	L/R	Exp	Comments
145	comp			↑		
146	nrqb 247.84	13 30	11 11	59	3m	
147	comp			↑		
148	nrqb 247.083	13 30	11 35	59	7m	
149	comp			↑		
150	nrqb 247.085	13 30	10 56	59	4m	
151	comp			↑		
152	nrqb 247.088	13 31	11 22	59	4m	
153	comp			↑		
154	nrqb 247.089	13 31	12 33	59	7m	
155	comp			↑		
156	nrqb 247.090	13 31	11 25	59	8m	spectrum shape slightly odd
157	comp			↑		
158	nrqb 247.091	13 31	10 43	59	10m	
159	comp			↑		
160	nrqb 247.092	13 31	11 02	59	5m	
161	comp			↑		
162	nrqb 247.093	13 31	11 15	59	4m	
163	comp			↑		
164	nrqb 247.094	13 32	11 41	59	8m	
165	comp			↑		
166	nrqb 247.097	13 32	11 06	59	3m	
167	comp			↑		
168	nrqb 247.099	13 32	10 55	59	5m	
169	comp			↑		
170	nrqb 247.100	13 32	11 25	59	10m	
171	comp			↑		
172	nrqb 247.101	13 33	11 06	59	7m	
173	comp			↑		
174	nrqb 247.102	13 33	11 27	59	15m	



60 inch Telescope Log

Observer: PB/mc

PI: Andi

Spectrograph: FAST

Grating: 300L/3" slit

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Date: 4/28/98

Number	Object	R.A.	Dec.	L/R	Exp	Comments
175	comp			↑		
176	ngc317.135	14 48	14 07	59	15m	
177	comp			↑		
178	ngc317.137	14 48	13 09	59	12m	
179	comp			↑		
180	ngc317.140	14 48	12 30	59	10m	
181	comp			↑		
182	ngc317.141	14 48	13 57	59	10m	
183	comp			↑		clouds to N @ dawn
184	ngc317.143	14 49	13 28	59	6m	
185	comp			↑		
186	sn1998v	18 22	15 42	"2	20m	binby 2
187	comp			↑		
188	PG1708p602	17 09	60 09	#56	2m	binby 4
189	comp			↑		
190-199	Bias				0s	binby 4
200-209	Flat				6s	
210-219	bias				0.2s	binby 2
220-229	Flat				12s	
230-239	Darks				15m	

Attn: Susan Tokarz!  
1 of 3

60 inch Telescope Log Observer: <u>Calkins</u> PI: <u>Kiebrer</u>	Spectrograph: <u>FAST</u> Grating: <u>300 L / 2" slit</u> Date: <u>4/29/98</u>
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	DARKS				15m	binby 4
11-20	Bias				0s	
21-30	Flat				0s	
31-40	Bias				0s	binby 2
41-50	Flat				12s	
51-55	sky	zenith		57	2s	binby 4
56	comp			↑		
57	Feige 34	10 39	45 05	56	90s	good seeing
58	comp			↑		
59	M3377	10 47	13 59	57	60s	
60	comp			↑		
61	MRK 421	11 04	38 12	#6	9m	lots of clouds
62	comp			↑		(shut down for 2.5 hrs)
63	sn1998ag	11 56	55 07	#2	10m	clouds moving south
64	comp			↑		binby 2
65	sn1998ab	12 48	41 55	#2	15m	
66	comp			↑		
67	sn1998bn	12 29	-23 09	#2	10m	clouds almost gone
68	comp			↑		
69	HZ 44	13 23	36 07	56	2m	
70	HZ 44	13 23	36 07	56	2m	
71	comp			↑		
72	12168m00705/W	12 19	-00 38	#5	20m	binby 4
73	comp			↑		
74	12325p0542	12 35	05 26	#5	20m	gave it a 9; don't like it though (weird H <sub>α</sub> ?)
75	comp			↑		
76	12455p0458	12 48	04 41	#5	20m	
77	comp			↑		
78	ngc5317.149	14 49	13 11	#59	5m	
79	comp			↑		

60 inch Telescope Log		Spectrograph: <u>FAST</u>		Page: <u>6217</u>		
Observer: <u>Calkins</u>		Grating: <u>300L</u>		Date: <u>4/29/98</u>		
PI: <u>Huchra/Koranyi</u>						
Number	Object	R.A.	Dec.	L/R	Exp	Comments
80	nrqs 317.145	14 49	13 49	#59	10m	
81	comp			↑		
82	nrqs 317.146	14 49	13 46	#59	5m	another object on slit
83	comp			↑		
84	nrqs 317.147	14 49	13 34	#59	10m	
85	comp			↑		
86	nrqs 317.148	14 50	12 50	#59	4m	
87	comp			↑		
88	nrqs 317.149	14 50	13 50	#59	10m	
89	comp			↑		
90	MRK 279	13 53	69 18	#6	3m	
91	comp			↑		
92	N5548	14 17	25 08	#6	3m	
93	comp			↑		
94	awn 4.52	16 05	23 58	#35	20m	
95	comp			↑		
96	awn 4.53	16 05	23 42	#35	20m	another obj on slit (extremely low column) Ha?
97	comp			↑		
98	A1559 p1603	16 02	15 54	#68	4m	# to west another object on slit
99	comp			↑		
100	A1603 p1839	16 05	18 32	#68	15m	
101	comp			↑		
102	A1559 p1608	16 02	16 00	#68	4m	
103	comp			↑		
104	nrqs 32642	15 51	32 57	#56	1m	
105	comp			↑		
106	A1604 p1641A	16 06	16 33	#68	10m	
107	comp			↑		
108	A1559 p1606	16 02	15 58	#68	10m	
109	comp			↑		



ATTN: Susan Tokarz (Hello!)

60 inch Telescope Log Observer: <u>M. Calkins</u> PI: <u>Carter/Kirchner</u>	Spectrograph: <u>FAST</u> Grating: <u>200L/3" slit</u> Date: <u>4/30/98</u>
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Number	Object	R.A.	Dec.	L/R	Exp	Comments
1-10	DARKS				15m	binby 2
11-20	REF				0c	
21-30	FLAT				12s	
31-40	REF				0s	binby 4
41-50	FLAT				6s	
51-55	SKY			57	6s	
56	comp			↑		
57	Feige 56	12 06	11 40	#56	60s	seeing 2"
58	comp			↑		
59	AGK 2p 43928	9 52	43 28	#57	5s	
60	comp			↑		
61	2011670	11 51	26 47	#75	12m	
62	comp			↑		11:51:27 + 26:47:01
63	2004601	11 51	27 39	#75	4m	11:51:32 + 27:39:03
64	comp			↑		11:52:02 + 27:15:36
65	2011671	11 52	30 19	#75	4m	
66	comp			↑		
67	2013733	11 55	32 04	#75	15m	
68	comp			↑		
69	2007380	11 55	27 19	#75	4m	
70	comp			↑		
71	2004002	11 55	32 11	#75	6m	
72	comp			↑		
73	2001650	11 56	32 01	#75	3m	
74	comp			↑		
75	sn1998s	11 46	47 28	#2	10m	binby 2
76	comp			↑		
77	sn1998bn	12 29	-23 09	#2	10m	
78	comp			↑		
79	sn1998ag	11 56	55 07	#2	10m	

Shift between 64 + 62 in 0.018  
 used comp 62 for file 63

60 inch Telescope Log

Observer: M. Calkins

PI: Kirshner / Carter

Spectrograph: FAST

Grating: 300L / 3" slit

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Date: 4/30/98

Number	Object	R.A.	Dec.	L/R	Exp	Comments
80	comp			↑		
81	sn1998ab	10 48	41 55	#2	15m	
82	comp			↑		
83	H244	13 23	26 07	#56	2m	
84	H244	13 23	26 07	#56	2m	
85	comp			↑		
86	Z003005	11 56	32 09	#75	2m	binby 4
87	comp			↑		
88	Z003006	11 57	30 25	#75	90s	
89	comp			↑		
90	Z004003	11 57	27 52	#75	90s	
91	comp			↑		
92	N002947	11 57	31 05	#75	20m	
93	comp			↑		
94	Z001651	11 58	27 52	#75	12m	
95	comp			↑		
96	Z000603	11 58	28 11	#75	90s	
97	comp			↑		
98	Z003473	11 58	27 31	#75	12m	
99	comp			↑		
100	Z008569	11 58	28 17	#75	4m	
101	comp			↑		
102	Z000939	11 58	27 27	#75	5m	"arms" of galaxy also in slit
103	comp			↑		
104	Z010021	11 58	28 24	#75	3m	
105	comp			↑		
106	Z000678	11 58	30 24	#75	6m	
107	comp			↑		
108	Z008570	11 59	30 44	#75	12m	
109	comp			↑		



60 inch Telescope Log		Spectrograph: <u>FAST</u>				
Observer: <u>M Calkins</u>		Grating: <u>300L/3"cl.t</u>			Page: <u>6221</u>	
PI: <u>Carter/Kirchner/Huchra</u>		Date: <u>4/30/98</u>				
Number	Object	R.A.	Dec.	L/R	Exp	Comments
110	2010022	11 59	30 09	#75	8m	
111	comp			↑		11:59:33 +30:09:19
112	2006248	11 59	30 50	#75	4m	11:59:52 +30:50:50
113	comp			↑		11:59:52 +30:06:51
114	N001749	12 00	31 50	#75	3m	
115	comp			↑		
116	2004603	12 00	31 13	#75	11m	
117	comp			↑		
118	N000500	12 00	31 57	#75	5m	
119	comp			↑		
120	2002336	12 02	29 51	#75	6m	
121	comp			↑		
122	2002675	12 02	29 51	#75	3m	
123	comp			↑		
124	N0002948	12 02	26 15	#75	3m	
125	comp			↑		
126	2000148	12 04	31 54	#75	4m	
127	comp			↑		
128	2010023	12 04	28 10	#75	3m	
129	comp			↑		
130	2001652	12 04	31 10	#75	8m	
131	comp			↑		
132	2001653	12 04	26 59	#75	15m	
133	comp			↑		
134	N000592	12 05	30 52	#75	7m	
135	comp			↑		
136	A1600p1911	16 02	19 03	#68	20m	star to the west
137	comp			↑		
138	sn1998bp	17 54	18 19	#2	15m	binby 2
139	comp			↑		

slit between 13 + 111 is 0.020  
 used comp 113 for 112 anyway

