

9/30

Spectrograph ECHELLE Intensified Reticon TO CAM  
 Grating 3002 Log Sheet RAW/RET  
 Telescope 61" Wyeth Date 30 Sept - 1 Oct 1987 Observer RPS  
 Disk OR01750

Change.... File ID 1950.0 RA Dec L/R Exposure Comments

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
1		Th-Ar			↓	60s	
2	G2-38		01:24:17	11:45:18		12m	11.4/15 HALOS
3		Th-Ar			↑	60s	
4		Th-Ar			↓	60s	
5	G191-55		05:53:04	58:40:24		12.5m	10.5/40 "
6		Th-Ar			↑	60s	
7		Th-Ar			↓	60s	
8	H270		04:19:52	16:40:32		2m	7.9 Hyades Binny
9		Th-Ar			↑	60s	
10		Th-Ar			↓	60s	
11	H361		04:22:54	17:54:18		2.5m	"
12		Th-Ar			↑	60s	
13		Th-Ar			↓	60s	
14	H544		04:29:58	15:54:05		2m	A
15		Th-Ar			↑	60s	
16		Th-Ar			↓	60s	
17	G39-18		04:29:21	58:12:00		8.5m	11/15 HALO
18		Th-Ar			↑	60s	
19		Th-Ar			↓	60s	
20	G39-23		04:30:05	58:57:00		8m	11.0/15 "
21		Th-Ar			↑	60s	
22		Th-Ar			↓	60s	
23	G8-40		04:29:29	26:21:36		10m	10.7/15 "
24		Th-Ar			↑	60s	
25		Th-Ar			↓	60s	
26	G8-46		04:34:53	19:58:12		13m	11.0/15 "
27		Th-Ar			↑	60s	
28		Th-Ar			↓	60s	
29	G84-29		04:58:39	04:02:24		10m	9.8/15 "
30		Th-Ar			↑	60s	
31							
32							

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Spectrograph ECHELLE Intensified Reticon TO CAM1  
 Grating 3002 Log Sheet RAW RET  
 Telescope 61" Wyeth Date 30 Sept - 1 Oct 1987 Observer RPS  
 Disk ORO 1751

Change....	File	ID	RA	Dec	1950.0 L/R ↑/↓	Exposure	Comments
		1			↓	60s	
		2	G83-50	04:59:20	14:00:54	2.25m	8.2/15 HALO
		3			↑	60s	
		4			↓	60s	
		5	H26162	04:06:15	19:28:43	2m	5.5 IAU standard
		6			↑	60s	
		7			↓	60s	
		8	H66141	07:59:40	02:28:24	2m	4.4 IAU standard
		9			↑	60s	
		10			↓	60s	
		11	SKY-DWN	4hrs E	+20°	2m	
		12			↑	60s	
		13			↓	60s	
		14	SKY-DWN	φ hrs	+20°	2m	
		15			↑	60s	
		16	IN HANDS			120m	
1-2 Oct 1987		17			↓	60s	S187A - pretty cldy-
		18	SKY-EVE	φ hrs	+30°	2m	
		19			↑	60s	
		20			↓	60s	
		21	SKY-EVE	4 1/2 hrs W	+30°	2m	
		22			↑	60s	
		23			↓	60s	
		24	H146051	16:11:43	-03:34:01	3m	2.7 IAU standard G.IND
		25			↑	60s	
		26			↓	60s	
		27	(1)	17:52:17	-28:29:56	7m	9.6 Asteroid - Probably No Good - in the area -
		28			↑	60s	
		29			↓	60s	
		30	G140-46	18:09:56	5:23:36	9m	11.4/15 HALO 15% background
		31			↑	60s	
		32					

Spectrograph ECHELLE Intensified Reticon TO CAM  
 Grating 3002 Log Sheet RAW/RET  
 Telescope 61" Wyeth Date 1-2 Oct 1987 Observer RPS  
 Disk OR01752

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60s	
	G23-15	2	19:51:43	01:48:54		4.5m	8.8/15 HALOS
	Th-Ar	3			↑	60s	
	Th-Ar	4			↓	60s	
	G203-69	5	17:28:45	44:00:24		6m	11.0/15 "
	Th-Ar	6			↑	60s	
	Th-Ar	7			↓	60s	
	G2623	8	16:22:39	48:28:24		20m	10.3/35 M stars
	Th-Ar	9			↑	60s	
	Th-Ar	10			↓	60s	
	G18-28	11	22:03:44	12:08:18		5.5m	9.6/15 HALOS (G18-28)
	Th-Ar	12			↑	60s	
	<del>CI-Th-Ar</del>	13	<del>19:45:21</del>	<del>35:22:44</del>	↓	60s	<del>Kenyon</del> (Th-Ar)
	CI-Cyg	14	19:45:21	35:33:24		20m	11.0 Kenyon - Symbioters
	Th-Ar	15			↑	60s	
	Th-Ar	16			↓	60s	
	CH Cyg	17	19:23:14	50:08:31		4m	7.0 Kenyon "
	Th-Ar	18			↑	60s	
	Th-Ar	19			↓	60s	
	1016Cyg	20	19:55:20	39:41:30		10m	10.0 Kenyon "
	Th-Ar	21			↑	60s	
	Th-Ar	22			↓	60s	
	AG Peg	23	21:48:36	12:23:27		8m	8.5 Kenyon "
	Th-Ar	24			↑	60s	
	Th-Ar	25			↓	60s	
	EG And	26	00:41:53	40:24:22		4.5m	7.5 Kenyon "
	Th-Ar	27			↑	60s	
	Th-Ar	28			↓	60s	
	G18-54	29	21:29:03	01:54:24		15m	10.7/30 HALOS (G18-54)
	Th-Ar	30			↑	60s	
		31					
		32					

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Spectrograph ECHELLE Intensified Reticon TO CAM  
 Grating 300L Log Sheet RAW/RET  
 Telescope 61" Wyeth Date 1-2 Oct 1987 Observer RPS  
 Disk ORO 1753

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60s	
	G130-29	23 56:16	33:27:54			3m	7.8/15 HALOS
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G33-30	00:58:27	16:06:18			16.5m	10.7/30 " -
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G131-59	00:20:23	22:06:00			2m	7.6/15 "
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G33-56	01:22:11	8:14:30			2m	8.5/15 "
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G3-10	01:35:31	17:34:30			4m	9.4/15 "
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G94-8	01:43:06	20:03:30			3m	7.1/15 "
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	H4128	00:41:05	-18:15:39			2m	20 IAU standard 0.140
	Th-Ar				↑	60s	(Forgot to remove F. filter)
	Th-Ar				↓	60s	
	G72-58	02:05:31	28:04:36			5.5m	10.0/15 HALOS
	Th-Ar				↓	60s	
	G72-59	02:05:31	28:04:18			7m	10.6/15 "
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G75-31	02:35:45	02:13:48			7m	10.5/15 "
	Th-Ar				↑	60s	
	/						
	/						
	/						

Intensified      Reticon      TO CAM

Spectrograph ECHELLE      Log Sheet      RAW/RET

Grating 300L      Observer RPS

Telescope 61" Wyeth      Date 1-2 Oct. 1987      Disk ORO 1754

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
					↓	60s	
					↓	18m	10.0      Kenyan Symbiotics
					↑	60s	
					↓	60s	
					↓	11m	10.4/15      HALOS
					↑	60s	
					↓	60s	
					↓	4.5m	7.7/100      "
					↑	60s	
					↓	60s	
					↓	2m	7.6/20      "
					↑	60s	
					↓	60s	
					↓	60s	
					↑	60s	
					↓	60s	
					↓	17m	11.2/20      "
					↑	60s	
					↓	60s	
					↑	7m	10.1/15      "
					↑	60s	
					↓	60s	
					↓	60s	
					↓	10m	10.2/30      "
					↑	60s	
					↓	60s	
					↓	15m	11.0/20      "
					↑	60s	
					↓	60s	
					↓	2m	7.2/15      "
					↑	60s	
					↓	60s	
					↓	3m	6.5      Hyades Binary
					↑	60s	

TO CAM 10/4

Intensified      Reticon

Spectrograph ECHELLE      Log Sheet      RAW/RET

Grating 300L      Observer RPS

Telescope 61" Wyeth      Date 1-2 Oct. 1987      Disk ORO 1755

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60s	
		2	H26162	04:06:15	19:28:43		2m IAU Standard
		3			↑	60s	
		4			↓	60s	
		5	SKY-DWN	4hrs E	+20°	2.5m	
		6			↑	60s	
		7			↓	60s	
		8	SKY-DWN	φhrs	+20°	2m	
		9			↑	60s	
		10	INCANDS			120m	
		11	INCANDS			120m	
		12	INCANDS			120m	ice on detector??
2-3 Oct 1987		13			↓	60s	System would not boot
		14	H182572	19:22:35	11:50:09	2.5m	5.2 IAU - bad Boot Disk.
		15			↑	60s	
		16			↓	60s	
		17	V433Her	18:20:03	23:25:47	20m	10.5 Kenyon - Symbiotics
		18			↑	60s	
		19			↓	60s	
		20	190994	20:04:55	10:54:27	6m	7.0 Fstars
		21			↑	60s	
		22			↓	60s	
		23	194032	20:20:17	28:55:41	12.5	8.2 "
		24			↑	60s	- clouds & ice on detector -
3-4 Oct 1987		25			↓	60s	- turning off cooler -
		26	SKYEVIEW	4 <sup>h</sup> W	+29°	4 <sup>m</sup>	RAIN ↑ use previous
		27			↑	60s	INCANDS
4-5 Oct 1987		28			↓	60s	
		29	SKYEVIEW	Star	Posit	3 <sup>m</sup>	Meridian, +31° ↓ use
		30			↑	60s	following
		31					INCANDS
		32					

Intensified      Reticon      TO CAM 10/4

Spectrograph ECHELLE      Log Sheet      RAW/RET

Grating 3002      Observer RJD

Telescope 61" Wyeth      Date 10/4-5/87      Disk ORO 1756

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1	ThAr		↓	60"	5187 A
		2	SKYEVIEW	3' W		3"	
		3	ThAr		↑	60"	
		4	ThAr		↓	60"	
		5	H146051	16:11:43		2"	IAU R.V. Standard
		6	ThAr		↑	60"	
		7	ThAr		↓	60"	
		8	G141-8	18:23:47		2"	Italo Binaries
		9	ThAr		↑	60"	
		10	ThAr		↓	60"	
		11	G140-30	17:58:41		2"	
		12	ThAr		↑	60"	
		13	ThAr		↓	60"	
		14	G2699	17:55:23		12"	Nearby Kenyon
		15	ThAr		↑	60"	
		16	ThAr		↓	60"	
		17	G25-15	21:01:37		2"	Italo Binaries
		18	ThAr		↑	60"	
		19	ThAr		↓	90"	Hα - 6562 A
		20	P Cyg	20:15:57		20"	Hα Profiles - Balunas, 1901
		21	ThAr		↑	90"	
		22	ThAr		↓	90"	
		23	Beta Ayr	21:28:56		5"	
		24	ThAr		↑	90"	
		25	ThAr		↓	90"	
		26	Alph Ayr	22:03:13		5"	De-focussed to decrease counts
		27	ThAr		↑	90"	
		28	ThAr		↓	90"	
		29	Lam And	23:35:06		10"	
		30	ThAr		↑	90"	
		31					
		32					

Intensified      Reticon  
TO CAM 10/4

Spectrograph ECHELLE      Log Sheet      RAWRET

Grating 300L      Observer RJD

Telescope 61" Wyoth      Date 10/4-5/87      Disk ORO 1757

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments	
		1			↓	60 <sup>s</sup>	5187 A	
		2	G15a	00:15:31	43:44:16		3 <sup>m</sup>	Nearby - Kenyon
		3			↑↓	60 <sup>s</sup>		
		4	G15b	00:15:31	43:44:16		20 <sup>m</sup>	
		5			↑	60 <sup>s</sup>		
		6			↓	60 <sup>s</sup>		
		7	H8779	01:23:53.6	-0:39:29		2 <sup>m</sup>	IAU Rad Vel Std
		8			↑	60 <sup>s</sup>		
		9			↓	60 <sup>s</sup>		
		10	G130-29	23:56:16	33:27:54		2 <sup>m</sup>	Halo Binaries
		11			↑	60 <sup>s</sup>		
		12			↓	60 <sup>s</sup>		
		13	G130-7	23:42:28	30:03:36		20 <sup>m</sup>	10% Moonlight
		14			↑	60 <sup>s</sup>		
		15			↓	60 <sup>s</sup>		
		16	G72-25	01:38:52	27:25:36		2 <sup>m</sup>	
		17			↑	60 <sup>s</sup>		
		18			↓	60 <sup>s</sup>		
		19	-18271	01:34:54	-17:44:12		10 <sup>m</sup>	5% Moonlight
		20			↑	60 <sup>s</sup>		
		21			↓	60 <sup>s</sup>		
		22	G33-30	00:58:27	16:06:18		12 <sup>1/2</sup> <sup>m</sup>	
		23			↑	60 <sup>s</sup>		
		24			↓	60 <sup>s</sup>		
		25	G173-56	02:21:53	46:16:36		3 <sup>m</sup>	
		26			↑	60 <sup>s</sup>		
		27			↓	60 <sup>s</sup>		
		28	G78-14	03:02:24	44:53:54		2 <sup>1/2</sup> <sup>m</sup>	
		29			↑	60 <sup>s</sup>		
		30			↓	60 <sup>s</sup>		
		31	G37-10	02:49:54	35:26:06		2 <sup>m</sup>	
		32			↑	60 <sup>s</sup>		



Intensified      Reticon  
TO CAM 10/4

Spectrograph ECHELLE      Log Sheet  
Grating 300P      Observer RAWRET  
Telescope 61" Wyeth      Date 10/4-5/86      Disk ORO 1758

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1	ThAr		↓	60 <sup>s</sup>	5187. A
	G36-44	2	02:52:41	26:40:24		2 <sup>m</sup>	Halo Binaries
		3	ThAr		↑	60 <sup>s</sup>	
		4	ThAr		↓	60 <sup>s</sup>	
	G133-57	5	01:54:31	41:50:06		2 <sup>m</sup>	
		6	ThAr		↑	60 <sup>s</sup>	
		7	ThAr		↓	60 <sup>s</sup>	
	G72-50	8	01:56:11	32:58:18		2 <sup>m</sup>	
		9	ThAr		↑	60 <sup>s</sup>	
		10	ThAr		↓	60 <sup>s</sup>	
	G35-24	11	02:02:10	22:34:00		7 <sup>m</sup>	
		12	ThAr		↑	60 <sup>s</sup>	
		13	ThAr		↓	60 <sup>s</sup>	
	G5-27	14	03:15:40	15:00:00		2 <sup>m</sup>	
		15	ThAr		↑	60 <sup>s</sup>	
		16	ThAr		↓	60 <sup>s</sup>	
	G77-35	17	03:12:29	00:51:06		6 <sup>m</sup>	
		18	ThAr		↑	60 <sup>s</sup>	
		19	ThAr		↓	60 <sup>s</sup>	
	G37-34	20	03:16:31	33:25:36		3 <sup>m</sup>	
		21	ThAr		↑	60 <sup>s</sup>	
		22	ThAr		↓	60 <sup>s</sup>	
	G95-35	23	03:21:52	41:57:00		2 <sup>1/2</sup> <sup>m</sup>	
		24	ThAr		↑	60 <sup>s</sup>	
		25	ThAr		↓	60 <sup>s</sup>	
	G5-36	26	03:24:02	23:36:30		6 <sup>m</sup>	
		27	ThAr		↑	60 <sup>s</sup>	
	G5-40	28	03:24:46	20:52:24		7 <sup>m</sup>	
		29	ThAr		↑	60 <sup>s</sup>	
		30	ThAr		↓	60 <sup>s</sup>	
	G5-35	31	03:22:04	12:05:18		7 <sup>1/2</sup> <sup>m</sup>	
		32	ThAr		↑	60 <sup>s</sup>	

Intensified Reticon

TO CAM 10/4

Spectrograph ECHELLE

Log Sheet

RAW/RETGrating 300lObserver RJDTelescope 61" WyethDate 10/4-5/87Disk ORO 1759

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1	ThAr		↓	60 <sup>s</sup>	5187 A
	G77-58	03:26:43	01:48:24			7 <sup>m</sup>	Halo Binaries
		3	ThAr		↑	60 <sup>s</sup>	
		4	ThAr		↓	60 <sup>s</sup>	
	H26162	04:06:14.9	19:28:43			2 <sup>m</sup>	IAU Red Vet Std
		6	ThAr		↑	60 <sup>s</sup>	
		7	ThAr		↓	60 <sup>s</sup>	
	GL166a	04:12:58	-7:43:48			2 <sup>m</sup>	Nearby - Kenyon
		9	ThAr		↑↓	60 <sup>s</sup>	
	GL166b	04:12:58	-7:43:48			7 <sup>m</sup>	Brighter, Southerly *, 6" pair
		11	ThAr		↑↓	60 <sup>s</sup>	
	GL166c	04:12:58	-7:43:48			2.0 <sup>m</sup>	Fainter, Northerly *, 6" pair
		13	ThAr		↑	60 <sup>s</sup>	
		14	ThAr		↓	60 <sup>s</sup>	
	G74-31	02:30:58	42:34:12			2 <sup>m</sup>	Halo Binaries
		16	ThAr		↑↓	60 <sup>s</sup>	
	G134-40	02:34:26	43:46:42			3 <sup>1/2</sup> <sup>m</sup>	
		18	ThAr		↑↓	60 <sup>s</sup>	
	G74-38	02:37:13	42:03:06			3 <sup>m</sup>	
		20	ThAr		↑	60 <sup>s</sup>	
		21	ThAr		↓	60 <sup>s</sup>	
	G173-59	02:30:30	49:17:12			2 <sup>m</sup>	
		23	ThAr		↑	60 <sup>s</sup>	
		24	ThAr		↓	60 <sup>s</sup>	
	G243-58	01:02:15	63:27:18			2 <sup>m</sup>	
		26	ThAr		↑	60 <sup>s</sup>	
		27	ThAr		↓	60 <sup>s</sup>	
	G78-40	03:28:40	13:30:06			2 <sup>m</sup>	
		29	ThAr		↑	60 <sup>s</sup>	
		30	ThAr		↓	60 <sup>s</sup>	
	GL273	07:24:43	05:22:42			7 <sup>m</sup>	Nearby - Kenyon
		32	ThAr		↑	60 <sup>s</sup>	

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Intensified Reticon TO CAM  
 Spectrograph ECHELLE  
 Log Sheet RAW/RET  
 Grating 300L Observer RJD  
 Telescope 61" Wyeth Date 10/4-5/87 Disk ORO 176φ

Change.... File ID 1950.0 RA Dec L/R Exposure Comments

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60 <sup>s</sup>	5187A
		2	(4) 07:57:18	19:41:04		3 <sup>m</sup>	Asteroid
		3			↑	60 <sup>s</sup>	
		4			↓	60 <sup>s</sup>	
		5	G6-40 03:53:31	22:32:00		2 <sup>m</sup>	Halo Binaries
		6			↑	60 <sup>s</sup>	
		7			↓	60 <sup>s</sup>	
		8	G7-6 03:47:31	17:19:42		2 <sup>m</sup>	
		9			↑	60 <sup>s</sup>	
		10			↓	60 <sup>s</sup>	
		11	G78-47 03:40:22	42:27:00		2 <sup>m</sup>	
		12			↑	60 <sup>s</sup>	
		13			↓	60 <sup>s</sup>	
		14	H66141 07:59:399	02:28:24		2 <sup>m</sup>	IAU Rad Vel Std
		15			↑	60 <sup>s</sup>	
		16			↓	60 <sup>s</sup>	
		17	SKYDOME 3 <sup>h</sup> E	+31°		3 <sup>m</sup>	
		18			↑	60 <sup>s</sup>	
		19			↓	60 <sup>s</sup>	
		20	SKYDOME 5 Tow	Posit		2 <sup>m</sup>	Meridian, +31°
		21			↑	60 <sup>s</sup>	
		22				120 <sup>m</sup>	
		23				120 <sup>m</sup>	
		24				120 <sup>m</sup>	
5-6 Oct 1987		25			↓	60s	5187A - clear -
		26	SKY-EVE φhrs	+30°		2m	
		27			↑	60s	
		28			↓	60s	
		29	SKY-EVE 4 1/2 hrs W	+30°		2.5m	
		30			↑	60s	
		31	/				
		32	/				

TO CAM 10/5

Spectrograph ECHELLE Intensified Reticon  
 Grating 3002 Log Sheet RAWRET  
 Telescope 61" Wyeth Date 5-6 OCT. 1987 Observer RPS  
 Disk ORO 1761

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
					↓	60s	- waiting for mirror to dry -
		H182572	19:22:35	11:50:09		2m	5.2 IAU standard
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		X CVG	20:41:27	35:24:24		2m	6.4 Cepheids
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		DLCAS	00:27:11	59:56:12		90m	10.6 "
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		210607	22:08:31	40:00:55		16m	8.1/250 Fstars Binary?
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		206915	21:42:34	24:37:54		9m	7.8/- " Binary?
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		206966	21:42:51	22:39:53		12m	8.3 "
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		205851	21:35:07	29:14:45		10 <sup>m</sup>	8.0 "
		Th-Ar			↑	60 <sup>s</sup>	
		Th-Ar			↓	60 <sup>s</sup>	
		205798	21:34:45.9	33:29:28		10 <sup>m</sup>	
		Th-Ar			↑	60 <sup>s</sup>	
		Th-Ar			↓	60 <sup>s</sup>	
		204813	21:27:47.5	45:54:43		10 <sup>m</sup>	
		Th-Ar			↑	60 <sup>s</sup>	
		Th-Ar			↓	60 <sup>s</sup>	
		211244	22:13:02.6	18:21:14		10 <sup>m</sup>	
		Th-Ar			↑↓	60 <sup>s</sup>	
		212048	22:18:46.3	17:43:02		10 <sup>m</sup>	
		Th-Ar			↑	60 <sup>s</sup>	

TO CAM 10/5

Intensified      Reticon

Spectrograph ECHELLE      Log Sheet      RAWRET

Grating 300 l      Observer RJD

Telescope 61" Wyeth      Date 10/5-6/87      Disk ORO 1762

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60 <sup>s</sup>	
		2	21:33:15	22:27:51.2	22:12:36	25 <sup>m</sup>	F Stars -- Andersen
		3			↑	60 <sup>s</sup>	
		4			↓	60 <sup>s</sup>	
		5	H213014	22:25:45.8	17:00:28	4 <sup>m</sup>	IAU Rad Vel Std.
		6			↑	60 <sup>s</sup>	
		7			↓	60 <sup>s</sup>	
		8	Z LAC	22:38:53	58:34:05	5 <sup>m</sup>	Cepheid
		9			↑	60 <sup>s</sup>	
		10			↓	60 <sup>s</sup>	
		11	S129772	02:12:04	-1:25:59	3 1/2 <sup>m</sup>	Italo Binaries
		12			↑	60 <sup>s</sup>	
		13			↓	60 <sup>s</sup>	
		14	G247-42	04:53:31	62:57:24	2 <sup>m</sup>	
		15			↑	60 <sup>s</sup>	
		16			↓	60 <sup>s</sup>	
		17	G247-8	05:21:33	61:12:00	2 <sup>m</sup>	
		18			↑↓	60 <sup>s</sup>	
		19	G191-34	05:17:54	58:13:54	2 <sup>m</sup>	
		20			↑	60 <sup>s</sup>	
		21			↓	60 <sup>s</sup>	
		22	G191-23	05:04:19	55:21:30	3 1/2 <sup>m</sup>	
		23			↑	60 <sup>s</sup>	
		24			↓	60 <sup>s</sup>	
		25	H33798	05:11:30.8	47:06:56	2 <sup>m</sup>	Marschall
		26			↑	60 <sup>s</sup>	
		27			↓	60 <sup>s</sup>	
		28	G192-21	06:06:06	50:09:48	2 1/2 <sup>m</sup>	Italo Binaries
		29			↑	60 <sup>s</sup>	
		30			↓	60 <sup>s</sup>	
		31	G101-30	06:12:57	47:05:06	3 <sup>m</sup>	
		32			↑	60 <sup>s</sup>	



TO CAM 10/5

Spectrograph ECHELLE Intensified Reticon  
 Grating 3002 Log Sheet  
 Observer RAWRET  
 Telescope 61" Wyeth Date 10/5-6/87 Disk ORO 1764

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
					↓	60 <sup>s</sup>	
	G83-50		04:59:20	14:00:54		2 <sup>m</sup>	Italo Binaries
	ThAr				↑	60 <sup>s</sup>	
	ThAr				↓	60 <sup>s</sup>	
	G97-43		05:26:08	04:45:18		4 <sup>m</sup>	
	ThAr				↑	60 <sup>s</sup>	
	ThAr				↓	60 <sup>s</sup>	
	G97-45		05:28:22	15:44:30		2 <sup>m</sup>	
	ThAr				↑	60 <sup>s</sup>	
	ThAr				↓	60 <sup>s</sup>	
	(4)		07:58:347	19:41:51		3 <sup>m</sup>	Asteroid
	ThAr				↑	60 <sup>s</sup>	
	ThAr				↓	60 <sup>s</sup>	
	G102-27		05:42:49	14:40:18		2 <sup>m</sup>	Italo Binaries
	ThAr				↑	60 <sup>s</sup>	
	G102-33		05:47:29	17:18:48		5 <sup>m</sup>	I.O. Questionable
	ThAr				↑	60 <sup>s</sup>	
	G102-42		05:51:09	15:44:24		3 <sup>m</sup>	
	ThAr				↑	60 <sup>s</sup>	
	ThAr				↓	60 <sup>s</sup>	
	G81-19		04:23:46	46:44:48		2 <sup>m</sup>	
	ThAr				↑	60 <sup>s</sup>	
	ThAr				↓	60 <sup>s</sup>	
	H66141		07:59:389	02:28:24		2 <sup>m</sup>	IAU Rad Vel Syd
	ThAr				↑	60 <sup>s</sup>	
	ThAr				↓	60 <sup>s</sup>	
	SKYDOWN		4 <sup>h</sup> E	+31°		3 <sup>m</sup>	
	ThAr				↑	60 <sup>s</sup>	
	ThAr				↓	60 <sup>s</sup>	
	SKYDOWN		5 <sup>h</sup> W	Posit		3 <sup>m</sup>	Meridian +31°
	ThAr				↑	60 <sup>s</sup>	

Intensified      Reticon  
TO CAM 10/6

Spectrograph ECHELLE  
 Grating 3002  
 Telescope 61" Walth

Log Sheet  
 Observer RJD

Date 10/5-6/87  
 Disk ORO 1765

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1				120 <sup>m</sup>	↑ Use these INRANDS
		2				94 <sup>m</sup>	↑ For previous observations
16-7/87		3			↓	60 <sup>s</sup>	25187 Echelle Removed for
		4	H182572	17:22:35.1	11:50:09	5 <sup>m</sup>	JAN std Film Testing
		5			↑	60 <sup>s</sup>	About 1 mag clouds
		6			↓	60 <sup>s</sup>	
		7	202586	21:14:11.9	07:18:14	10 <sup>m</sup>	F Stars - Andersen
		8			↑	60 <sup>s</sup>	
		9			↓	60 <sup>s</sup>	
		10	206751	21:41:38.8	06:55:37	7½ <sup>m</sup>	
		11			↑	60 <sup>s</sup>	
		12			↓	60 <sup>s</sup>	
		13	207136	21:44:20.3	00:37:03	10 <sup>m</sup>	
		14			↑	60 <sup>s</sup>	
		15			↓	60 <sup>s</sup>	
		16	210719	22:09:45.2	02:29:11	10 <sup>m</sup>	
		17			↑	60 <sup>s</sup>	
		18	211231	22:13:07	04:01:20	5 <sup>m</sup>	
		19			↑	60 <sup>s</sup>	
		20			↓	60 <sup>s</sup>	
		21	211461	22:14:37	08:07:24	5 <sup>m</sup>	
		22			↑	60 <sup>s</sup>	
		23			↓	60 <sup>s</sup>	overcast has dissipated
		24	213051	22:26:15.3	-0:16:34	3 <sup>m</sup>	ND 1.0 Filter
		25			↑	60 <sup>s</sup>	
		26			↓	60 <sup>s</sup>	
		27	(3)	21:33:13.7	-11:25:46	5 <sup>m</sup>	Asteroid
		28			↑	60 <sup>s</sup>	
		29			↓	60 <sup>s</sup>	
		30	204813	21:27:47.5	45:54:43	10 <sup>m</sup>	F Stars - Andersen
		31			↑	60 <sup>s</sup>	
		32					



Intensified      Reticon      TO CAM 10/7

Spectrograph ECHELLE      Log Sheet      RAWRET

Grating 300L      Observer RJD

Telescope 61" Wyeth      Date 10/6-7/87      Disk ORO 1766

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60 <sup>s</sup>	5187 A
		2	200828	21:02:17.9	54:08:38	7 <sup>m</sup>	F Stais Andersen
		3			↑	60 <sup>s</sup>	
		4			↓	60 <sup>s</sup>	
		5	199306	22:52:29	59:07:05	10 <sup>m</sup>	
		6			↑↓	60 <sup>s</sup>	
		7	198224	20:45:06.7	56:38:59	8 <sup>m</sup>	Clouds are worse
		8			↑	60 <sup>s</sup>	Clouded out
		9				120 <sup>m</sup>	
		10					
		11					
		12					
10/7-8/87		13			↓	60 <sup>s</sup>	Cloudy at sunset
		14	H182572	19:22:35.1	11:50:09	2 1/2 <sup>m</sup>	IAU Rad Vel Star
		15			↑	60 <sup>s</sup>	clearing at 20:30 EST
		16			↓	60 <sup>s</sup>	
		17	G18-55	22:30:20	10:09:00	3 <sup>m</sup>	Halo Binaries
		18			↑	60 <sup>s</sup>	
		19			↓	60 <sup>s</sup>	
		20	G130-29	23:56:16	33:27:54	2 <sup>m</sup>	
		21			↑	60 <sup>s</sup>	
		22			↓	60 <sup>s</sup>	
		23	VX Per	02:04:18	58:12:22	5 <sup>m</sup>	Cepheid
		24			↑	60 <sup>s</sup>	
		25			↓	60 <sup>s</sup>	
		26	G2876	22:50:35	14:31:12	16 <sup>m</sup>	Nearby - Kenyon
		27			↑	60 <sup>s</sup>	
		28			↓	60 <sup>s</sup>	
		29	G18-54	22:29:03	01:54:24	12 <sup>m</sup>	Halo Binaries
		30			↑	60 <sup>s</sup>	
		31					
		32					

Intensified      Reticon

TO CAM 10/7

Spectrograph ECHELLE      Log Sheet

Grating 3002      Observer RAW RET

Telescope 61" wye th      Date 10/7-8/87      Disk ORO 1767

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1	THAr		↓	60 <sup>s</sup>	5187 Å
		2	S191333	22:39:17	-21:02:48		9 <sup>m</sup> Halo Binaries
		3	THAr		↑	60 <sup>s</sup>	
		4	THAr		↓	60 <sup>s</sup>	
		5	G246-41	03:29:22	59:15:06		2 <sup>m</sup>
		6	THAr		↑	60 <sup>s</sup>	
		7	THAr		↓	60 <sup>s</sup>	
		8	G246-53	03:50:45	61:01:18		2 <sup>m</sup>
		9	THAr		↑	60 <sup>s</sup>	
		10	THAr		↓	60 <sup>s</sup>	
		11	G247-9	03:51:17	64:57:36		3 <sup>m</sup>
		12	THAr		↑	60 <sup>s</sup>	
		13	THAr		↓	60 <sup>s</sup>	
		14	G175-24	04:11:21	58:24:06		2 <sup>m</sup>
		15	THAr		↑	60 <sup>s</sup>	
		16	THAr		↓	60 <sup>s</sup>	
		17	G175-15	04:03:08	54:03:12		3 <sup>m</sup>
		18	THAr		↑	60 <sup>s</sup>	
		19	THAr		↓	60 <sup>s</sup>	
		20	G134-3	02:05:34	44:51:42		5 <sup>m</sup> 10% Moonlight
		21	THAr		↑	60 <sup>s</sup>	
		22	THAr		↓	60 <sup>s</sup>	
		23	H4128	00:41:04.8	-18:15:39		2 <sup>m</sup> IAU Rad Vel StG. 1.0V?
		24	THAr		↑	60 <sup>s</sup>	Clouds came fast after exp.
		25	THAr		↓	60 <sup>s</sup>	Clear Again 20 <sup>m</sup> later
		26	6478	01:03:17.6	15:06:52		7 <sup>m</sup> F Stars - Andersen
		27	THAr		↑	60 <sup>s</sup>	Clouds keep coming & going
		28	THAr		↓	60 <sup>s</sup>	
		29	Z Lac	22:38:53	56:34:05		4 <sup>m</sup> Cepheids - Huchra
		30	THAr		↑	60 <sup>s</sup>	
		31					
		32					

Intensified      Reticon      TO CAM 10/7

Spectrograph ECHELLE      Log Sheet      RAWRET

Grating 300      Observer RVD

Telescope 61" Wyeth      Date 10/7-8/87      Disk ORO 1768

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60 <sup>s</sup>	5187 A
		2	217160	22:55:32.9	55:43:46		5 <sup>m</sup> F Stars - Anderson
		3			↑	60 <sup>s</sup>	Perfectly clear again
		4			↓	60 <sup>s</sup>	
		5	G94-48	02:12:34	27:07:36		2 <sup>m</sup> Halo Binaries
		6			↑	60 <sup>s</sup>	
		7			↓	60 <sup>s</sup>	
		8	G4-9	02:13:45	12:09:00		2 <sup>m</sup>
		9			↑	60 <sup>s</sup>	
		10			↓	60 <sup>s</sup>	
		11	G74-13	02:14:53	37:51:12		2 <sup>m</sup>
		12			↑	60 <sup>s</sup>	
		13			↓	60 <sup>s</sup>	
		14	G74-17	02:17:35	42:32:54		2 <sup>m</sup>
		15			↑	60 <sup>s</sup>	
		16			↓	60 <sup>s</sup>	
		17	DL Cas	00:27:11	59:56:12		9 <sup>m</sup> Cepheid - Huchra
		18			↑	60 <sup>s</sup>	
		19			↓	60 <sup>s</sup>	
		20	218010	23:06:42.7	56:29:43		15 <sup>m</sup> F Stars - Anderson
		21			↑↓	60 <sup>s</sup>	
		22	217475	22:57:54.8	57:30:15		7 <sup>1/2</sup> <sup>m</sup>
		23			↑↓	60 <sup>s</sup>	
		24	217160	22:55:32.9	55:43:36		10 <sup>m</sup>
		25			↑	60 <sup>s</sup>	
		26			↓	60 <sup>s</sup>	
		27	223661	22:49:02.6	47:12:27		10 <sup>m</sup>
		28			↑	60 <sup>s</sup>	
		29			↓	60 <sup>s</sup>	
		30	15717	02:29:21.7	21:47:11		10 <sup>m</sup>
		31			↑	60 <sup>s</sup>	
		32					

TO CAM 10/7

Spectrograph ECHELLE Intensified Reticon  
 Grating 300L Log Sheet RAW/RET  
 Telescope 61" Wyeth Date 10/7-8/87 Observer RJD  
 Disk ORO 1769

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
					↓	60 <sup>s</sup>	5187 Å
						10 <sup>m</sup>	F Stars - Andersen
					↑	60 <sup>s</sup>	
						10 <sup>m</sup>	
					↑	60 <sup>s</sup>	
					↓	60 <sup>s</sup>	
						3 <sup>m</sup>	Italo Binaries
					↑	60 <sup>s</sup>	
					↓	60 <sup>s</sup>	
						4 <sup>m</sup>	Asteroid
					↑	60 <sup>s</sup>	
					↓	60 <sup>s</sup>	
						2 <sup>m</sup>	M Stars - March
					↑	60 <sup>s</sup>	
					↓	60 <sup>s</sup>	
						9 <sup>m</sup>	About 59. Dawn Sky
					↑	60 <sup>s</sup>	
					↓	60 <sup>s</sup>	
						2 <sup>m</sup>	Italo Binaries
					↑	60 <sup>s</sup>	
					↓	60 <sup>s</sup>	
						2 <sup>m</sup>	
					↑	60 <sup>s</sup>	
					↓	60 <sup>s</sup>	
						2 <sup>m</sup>	IAU Rad Vel Std
					↑	60 <sup>s</sup>	
					↓	60 <sup>s</sup>	
						3 <sup>m</sup>	
					↑	60 <sup>s</sup>	
					↓	60 <sup>s</sup>	
						2 <sup>m</sup>	Meridian, +31°
					↑	60 <sup>s</sup>	

TO CAM 10/8

Spectrograph ECHELLE Intensified Reticon  
 Grating 300L Log Sheet  
 Observer RAWRET  
 Telescope 61" Wye th Date 10/7-8/87 Disk ORO 177φ

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1				120 <sup>m</sup>	
		2				120	
10/8-9/87		3			↓	60 <sup>s</sup>	
		4	SKYOSKM	STOW	Posit	2 <sup>m</sup>	+31° Meridian
		5			↑	60 <sup>s</sup>	
		6			↓	60 <sup>s</sup>	
		7	SKYOSKW	3 <sup>h</sup> W	+31°	3 <sup>m</sup>	
		8			↑	60 <sup>s</sup>	
		9			↓	60 <sup>s</sup>	
		10	H146051	16:11:43	-3:34:01	3 <sup>m</sup>	IAU Rad Vel Std, 1.040.
		11			↑	60 <sup>s</sup>	
		12			↓	60 <sup>s</sup>	
		13	G141-8	18:23:47	05:45:06	2 <sup>m</sup>	Halo Binaries
		14			↑	60 <sup>s</sup>	
		15			↓	60 <sup>s</sup>	
		16	G140-30	17:58:41	11:04:18	2 <sup>m</sup>	
		17			↑	60 <sup>s</sup>	
		18			↓	60 <sup>s</sup>	
		19	G138-66	16:50:02	15:44:00	2 <sup>1/2</sup> <sup>m</sup>	
		20			↑	60 <sup>s</sup>	
		21			↓	60 <sup>s</sup>	
		22	G17-35	16:42:34	6:10:54	2 <sup>m</sup>	
		23			↑	60 <sup>s</sup>	
		24	G17-31	16:37:22	05:36:30	2 <sup>m</sup>	
		25			↑	60 <sup>s</sup>	
		26			↓	60 <sup>s</sup>	
		27	G138-42	16:32:59	08:55:12	3 <sup>m</sup>	
		28			↑	60 <sup>s</sup>	
		29			↓	60 <sup>s</sup>	
		30	G19-4	16:50:27	00:04:18	2 <sup>m</sup>	
		31			↑	60 <sup>s</sup>	
		32					



Intensified      Reticon      TO CAM 10/8

Spectrograph ECHELLE      Log Sheet      RAW/RET

Grating 3002      Observer RJD

Telescope 61" Wye th      Date 10/8-9/87      Disk ORO 1772

Change....      File      ID      1950.0 RA      Dec      L/R ↑/↓      Exposure      Comments

1	ThAr				↓	60 <sup>s</sup>	5187.A
2	215306	22:41:26.7	27:25:20			18 <sup>m</sup>	F Stars
3	ThAr				↑	60 <sup>s</sup>	
4	ThAr				↓	60 <sup>s</sup>	
5	214132	22:33:39.7	-7:55:28			5 <sup>m</sup>	
6	ThAr				↑	60 <sup>s</sup>	
7	ThAr				↓	60 <sup>s</sup>	
8	213597	22:29:58.2	01:19:35			9 <sup>m</sup>	
9	ThAr				↕	60 <sup>s</sup>	
10	214183	22:34:06.3	00:06:07			12 <sup>m</sup>	
11	ThAr				↑	60 <sup>s</sup>	
12	ThAr				↓	60 <sup>s</sup>	
13	216296	22:49:09.3	04:31:14			4 <sup>m</sup>	
14	ThAr				↑	60 <sup>s</sup>	
15	ThAr				↓	60 <sup>s</sup>	
16	H8779	01:23:53.6	-0:39:29			3 <sup>m</sup>	IAU Rad Vel Std
17	ThAr				↑	60 <sup>s</sup>	
18	ThAr				↓	60 <sup>s</sup>	
19	G175-39	04:31:59.3	55:18:52			2½ <sup>m</sup>	Halo Binaries
20	ThAr				↑	60 <sup>s</sup>	
21	ThAr				↓	60 <sup>s</sup>	
22	G96-35	05:19:01	47:52:06			2½ <sup>m</sup>	
23	ThAr				↑	60 <sup>s</sup>	
24	ThAr				↓	60 <sup>s</sup>	
25	G37-4	02:43:20	25:26:36			2 <sup>m</sup>	
26	ThAr				↕	60 <sup>s</sup>	
27	G36-33	02:45:12	26:51:42			2 <sup>m</sup>	
28	ThAr				↑	60 <sup>s</sup>	
29	ThAr				↓	60 <sup>s</sup>	
30	G78-17	03:04:29	36:25:42			2 <sup>m</sup>	
31	ThAr				↕	60 <sup>s</sup>	
32							

Intensified Reticon TO CAM 10/8

Spectrograph ECHELLE Log Sheet RAW RET

Grating 300 l Observer RJD

Telescope 61" Wyoth Date 10/8-9/87 Disk ORO 1773

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments	
		1	G 95-4	02:01:50	34:34:42		2 <sup>m</sup>	Italo Binaries
		2	ThAr			↑	60 <sup>s</sup>	
		3	ThAr			↓	60 <sup>s</sup>	
		4	G 78-44	02:35:31	42:14:06		2 <sup>m</sup>	
		5	ThAr			↑	60 <sup>s</sup>	
		6	ThAr			↓	60 <sup>s</sup>	
		7	G 6-20	03:34:10	25:49:48		2 <sup>m</sup>	
		8	ThAr			↑	60 <sup>s</sup>	
		9	ThAr			↓	60 <sup>s</sup>	
		10	G 81-15	04:17:22	45:42:18		7 <sup>m</sup>	
		11	ThAr			↑	60 <sup>s</sup>	
		12	ThAr			↓	60 <sup>s</sup>	
		13	G 175-35	04:29:34	46:35:08		2 1/2 <sup>m</sup>	
		14	ThAr			↑	60 <sup>s</sup>	
		15	ThAr			↓	60 <sup>s</sup>	
		16	G 78-41	03:31:41	38:08:30		5 <sup>m</sup>	
		17	ThAr			↑	60 <sup>s</sup>	
		18	ThAr			↓	60 <sup>s</sup>	
		19	G 83-27	04:36:48	13:01:36		3 <sup>m</sup>	
		20	ThAr			↑↓	60 <sup>s</sup>	
		21	G 83-18	04:31:38	12:38:06		5 <sup>m</sup>	
		22	ThAr			↑	60 <sup>s</sup>	
		23	ThAr			↓	60 <sup>s</sup>	
		24	G 73-57	02:23:23	05:33:12		2 <sup>m</sup>	
		25	ThAr			↑	60 <sup>s</sup>	
		26	ThAr			↓	60 <sup>s</sup>	
		27	G 94-70	02:25:20	25:37:20		3 <sup>m</sup>	5% Moonlight
		28	ThAr			↑	60 <sup>s</sup>	
		29	ThAr			↓	60 <sup>s</sup>	
		30	G 99-22	05:37:21	06:02:12		2 1/2 <sup>m</sup>	
		31	ThAr			↑↓	60 <sup>s</sup>	
		32						



Intensified      Reticon      TO CAM 10/8

Spectrograph ECHELLE      Log Sheet      RAW RET

Grating 300 l      Observer RJD

Telescope 61" Wyeth      Date 10/8-9/87      Disk ORO 1774

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
	1	G99-21	05:36:48	03:55:36		8 <sup>m</sup>	Halo Binaries. 10% Moon
	2	ThAr			↑	60 <sup>s</sup>	
	3	ThAr			↓	60 <sup>s</sup>	
	4	G100-52	05:59:26	27:24:18		3 <sup>m</sup>	
	5	ThAr			↑	60 <sup>s</sup>	
	6	ThAr			↓	60 <sup>s</sup>	
	7	G102-51	06:07:05	17:56:48		2 <sup>m</sup>	
	8	ThAr			↑	60 <sup>s</sup>	
	9	ThAr			↓	60 <sup>s</sup>	
	10	G104-38	06:24:32	24:21:18		16 <sup>m</sup>	Weak Lines
	11	ThAr			↑	60 <sup>s</sup>	
	12	ThAr			↓	60 <sup>s</sup>	
	13	G87-2	06:42:01	35:35:24		2 <sup>m</sup>	
	14	ThAr			↑	60 <sup>s</sup>	
	15	ThAr			↓	60 <sup>s</sup>	
	16	G106-46	06:22:34	00:40:48		3 <sup>m</sup>	
	17	ThAr			↑	60 <sup>s</sup>	
	18	ThAr			↓	60 <sup>s</sup>	
	19	G108-29	06:45:57	07:41:00		2 <sup>m</sup>	
	20	ThAr			↑	60 <sup>s</sup>	
	21	ThAr			↓	60 <sup>s</sup>	
	22	G87-20	06:58:40	38:13:12		3 <sup>m</sup>	
	23	ThAr			↕	60 <sup>s</sup>	
	24	G87-27	07:06:46	37:21:36		4 <sup>m</sup>	
	25	ThAr			↑	60 <sup>s</sup>	
	26	ThAr			↓	60 <sup>s</sup>	
	27	G88-11	07:07:39	20:31:36		2½ <sup>m</sup>	
	28	ThAr			↑	60 <sup>s</sup>	
	29	ThAr			↓	60 <sup>s</sup>	
	30	G88-31	07:27:34	19:04:18		2 <sup>m</sup>	
	31	ThAr			↕	60 <sup>s</sup>	
	32						

10/9

Spectrograph ECHELLE Intensified Reticon TO CAM  
 Grating 300 l Log Sheet RAW/RET  
 Telescope 61" Wyeth Date 10/8-9/87 Observer RJD  
 Disk 0120 1775

Change.... File ID 1950.0 RA Dec L/R Exposure Comments

Change....	File	ID	1950.0 RA	Dec	L/R	Exposure	Comments
		1	G88-40	07:31:43	17:00:48		3 <sup>m</sup> Halo Binaries
		2	ThAr			↑ 60 <sup>s</sup>	
		3	ThAr			↓ 60 <sup>s</sup>	
		4	(4)	08:02:22.4	17:35:12		5 <sup>m</sup> Asteroid
		5	ThAr			↑ 60 <sup>s</sup>	
		6	ThAr			↓ 60 <sup>s</sup>	
		7	G40-5	08:01:46	15:30:36		3 1/2 <sup>m</sup> Halo Binaries
		8	ThAr			↑ 60 <sup>s</sup>	
		9	ThAr			↓ 60 <sup>s</sup>	
		10	G105-38	06:26:09	17:46:54		2 <sup>m</sup>
		11	ThAr			↑ 60 <sup>s</sup>	
		12	ThAr			↓ 60 <sup>s</sup>	
		13	S113885	06:24:03	03:27:24		2 1/2 <sup>m</sup>
		14	ThAr			↑ 60 <sup>s</sup>	
		15	ThAr			↓ 60 <sup>s</sup>	
		16	S150655	05:38:34	-11:13:24		2 <sup>m</sup>
		17	ThAr			↑ 60 <sup>s</sup>	
		18	ThAr			↓ 60 <sup>s</sup>	
		19	S7769	07:20:57.2	36:24:31		16 <sup>m</sup> F Stars - Anderson
		20	ThAr			↑ 60 <sup>s</sup>	
		21	ThAr			↓ 60 <sup>s</sup>	
		22	H66141	07:58:39.9	02:28:24		2 <sup>m</sup> IAU Rad Vel Std
		23	ThAr			↑ 60 <sup>s</sup>	5% Dawn Contamination
		24	ThAr			↓ 60 <sup>s</sup>	
		25	SKYDOME	3 <sup>h</sup> E	+31°		3 <sup>m</sup>
		26	ThAr			↑ 60 <sup>s</sup>	
		27	ThAr			↓ 60 <sup>s</sup>	
		28	SKYDOME	Stow	Posit		2 <sup>m</sup> Meridian, +31°
		29	ThAr			↑ 60 <sup>s</sup>	
		30	INCAUS				120 <sup>m</sup>
		31	INCAUS				120 <sup>m</sup>
		32	/				

TO CAM 10/10

Spectrograph ECHELLE Intensified Reticon  
 Grating 300L Log Sheet RAW/RET  
 Telescope 61" Wyeth Date 10/9-10/87 Observer RJD  
 Disk ORO 1776

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60 <sup>s</sup>	5187A
		2	SKYEVEN	STOW	Posit.	2 <sup>m</sup>	Meridian +31°
		3			↑	60 <sup>s</sup>	
		4			↓	60 <sup>s</sup>	
		5	SKYEVEN	3 <sup>h</sup> W	+31°	2 <sup>m</sup>	
		6			↑	60 <sup>s</sup>	
		7			↓	60 <sup>s</sup>	
		8	H146051	16:11:43	-3:34:01	2 <sup>m</sup>	IAU Rad Vel Std. 1.0N.O.
		9			↑	60 <sup>s</sup>	
		10			↓	60 <sup>s</sup>	
		11	182768	19:23:50.3	-8:15:43	10 <sup>m</sup>	F Stars - Andersen
		12			↑↓	60 <sup>s</sup>	Much Cirrus.
		13	183017E	19:25:28.5	-9:38:22	12 <sup>m</sup>	SE * of 10" = pair
		14			↑↓	60 <sup>s</sup>	
		15	183017W	19:25:28.5	-9:38:22	13 <sup>m</sup> 42 <sup>s</sup>	NW * of 10" = pair <sup>clouded out</sup>
		16			↑	60 <sup>s</sup>	underexposed - clouds
10/10-11/1987		17			↓	60 <sup>s</sup>	
		18	SKYEVEN	STOW	Posit.	2 <sup>m</sup>	Meridian +31°
		19			↑	60 <sup>s</sup>	
		20			↓	60 <sup>s</sup>	
		21	SKYEVEN	3 <sup>h</sup> W	+31°	2 <sup>m</sup>	
		22			↑	60 <sup>s</sup>	
		23			↓	60 <sup>s</sup>	
		24	H182572	19:22:35.1	11:50:09	2 <sup>m</sup>	IAU Rad Vel Std
		25			↑	60 <sup>s</sup>	
		26			↓	60 <sup>s</sup>	
		27	128901	14:36:07	52:14:47	13 <sup>m</sup>	F Stars - Andersen
		28			↑	60 <sup>s</sup>	underexposed - clouds
		29			↓	60 <sup>s</sup>	
		30	183107W	19:25:28.5	-09:38:22	12 <sup>m</sup>	NW * of 10" = pair
		31			↑	60 <sup>s</sup>	
		32					

10/12

Spectrograph ECHELLE Intensified Reticon TO CAM1  
 Grating 300 P Log Sheet RAW/RET  
 Telescope 61" Wyeath Date 10/10-11/87 Observer P.S.D.  
 Disk DR0 1777

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		thAr			↓	60 <sup>s</sup>	λ 5187
	189478		14.57.32.6	06.48.1		14 <sup>m</sup>	F Stars - Anderson
		thAr			↑	60 <sup>s</sup>	
		thAr			↓	60 <sup>s</sup>	
	189578		14.57.54.9	14.45.52		7 1/2 <sup>m</sup>	
		thAr			↑	60 <sup>s</sup>	
		thAr			↓	60 <sup>s</sup>	
	186981		18.44.39.3	18.45.24		8 <sup>m</sup>	
		thAr			↑	60 <sup>s</sup>	
		thAr			↓	60 <sup>s</sup>	
	192327		20.11.46.2	-00.00.20		15 <sup>m</sup>	
		thAr			↑	60 <sup>s</sup>	
		thAr			↓	60 <sup>s</sup>	
	193209		20.16.40	-12.57.37		15 <sup>m</sup>	
		thAr			↑	60 <sup>s</sup>	
		thAr			↓	60 <sup>s</sup>	
	(3)		21.33.32.9	-11.51.15		6 <sup>m</sup>	Asteroid
		thAr			↑	60 <sup>s</sup>	
		thAr			↓	60 <sup>s</sup>	
	G27-29		22.25.20	-5.32.00		16 <sup>m</sup>	Halo Binaries
		thAr			↑	60 <sup>s</sup>	10% Moonlight. Some Cirrus
		thAr			↓	60 <sup>s</sup>	Much Cirrus. Long Wait
	755		00.09.26.2	28.19.39		5 <sup>m</sup>	F Stars
		thAr			↑	60 <sup>s</sup>	
		thAr			↓	60 <sup>s</sup>	
	949		00.11.25.3	44.13.58		9 <sup>m</sup>	
		thAr			↑	60 <sup>s</sup>	
		<del>thAr</del>				<del>120<sup>s</sup></del>	Clouded Out
		INCANDS				120 <sup>s</sup>	
		"				"	
		"				"	
		INCAND				120	

Intensified Reticon

TO CAM 10/12

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 302L

Observer RL

Telescope SH

Date 10/12-13/87

Disk 0190 1778

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1	TH-AR		↓	80	5187
		2	SKIEVEN	0 H 9	-15	2m	OVERCAST
		3	TH-AR		↑	60s	
		4	Th-Ar		↓	60s	
		5	H213014	22:25:46	17:00:28	5m	7.7 IAU standard heavy cds
		6	Th-Ar		↑	60s	
		7	Th-Ar		↓	60s	
		8	H2128	00:41:05	-18:15:37	2m	2.0 IAU standard 0.1ND
		9	Th-Ar		↑	60s	(forgot to remove filter!)
		10	Th-Ar		↓	60s	-clearing-
		11	G78-1	2:38:26	47:08:36	2.5	9.2/15 HALOS
		12	Th-Ar		↑	60s	
		13	Th-Ar		↓	60s	
		14	-18271	21:34:54	-17:44:12	12m	9.8/20 "
		15	Th-Ar		↑	60s	
		16	Th-Ar		↓	60s	
		17	H15061	02:23:16	17:45:48	4m	9.4/15 "
		18	Th-Ar		↑	60s	
		19	Th-Ar		↓	60s	
		20	H25329	03:57:53	35:09:18	2m	8.5/20 "
		21	Th-Ar		↑	60s	
		22	Th-Ar		↓	60s	
		23	G191-55	05:53:04	58:40:24	19.5m	10.5/40 "
		24	Th-Ar		↑	60s	
		25	Th-Ar		↓	60s	
		26	G249-37	06:01:35	63:50:36	5m	9.2/15 "
		27	Th-Ar		↑	60s	
		28	Th-Ar		↓	60s	
		29	-22395	02:19:39	-21:44:38	15m	10.5/20 "
		30	Th-Ar		↑	60s	
		31					
		32					

↑ use  
↓ follow  
INCRAN

10/12

Spectrograph ECHELLE Intensified Reticon TO CAM  
 Grating 3002 Log Sheet RAW/RET  
 Telescope 61" Wyeth Date 12-13 OCT 1987 Observer RDS  
 Disk OR01779

Change....	File	ID	RA	1950.0 Dec	L/R ↑/↓	Exposure	Comments
		Th-Ar			↓	60s	
	AX Pen	01:33:06	54:00:19			21m	11.0 Synthetic - Kenyon
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	DL CAS	00:27:11	59:56:12			7m	10.6 Cepheids
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	11737-98	05:11:31	47:06:18			37m	6.9 Larry Marshall
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	G76-21	02:38:32	69:33:24			7m	10.2/15 HALOS
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	G155-13	04:41:37	25:50:42			5m	10.1/15 "
		Th-Ar			↑	60s	
		Th-Ar	04:45:46		↓	60s	
	G83-34	<del>18:37:36</del>	18:37:36			3m	9.7/15 "
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	L97φ	04:40:22	16:58:36			5m	9.7/ HYADES BINARY
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	G25176	04:46:00	18:52:06			16m	9.9/40 M stars
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	G158-27	07:24:07	19:12:12			8m	10.7/15 HALOS
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	(4)	08:07:17	19:26:34			3.5m	Asteroid
		Th-Ar			↑	60s	
		/					
		/					

TO CAM 10/13

Spectrograph ECHELLE Intensified Reticon  
 Grating 300L Log Sheet RAW/RET  
 Telescope 61" Wye Date 12-13 OCT 1987 Observer RPS  
 Disk 0601780

Change....	File	ID	RA	Dec	1950.0 L/R ↑/↓	Exposure	Comments
		1			↓	60s	
		2	595160	06:00:15	19:22:17	4m	10/30 HALOS
		3			↑	60s	
		4			↓	60s	
		5	1126162	04:06:15	19:18:43	2m	5.5 IAU
		6			↑	60s	
		7			↓	60s	
		8	SKY-DWN	4 hrs E	+20°	2m	
		9			↑	60s	
		10			↓	60s	
		11	SKY-DWN	φ hrs	+20°	2m	
		12			↑	60s	
		13	INCANBS			120m	
		14	INCANBS			120m	
13-14 OCT. 1987		15			↓	60s	S187A -clear-
		16	SKY-EVE	φ hrs	+25°	2m	
		17			↑	60s	
		18			↓	60s	
		19	SKY-EVE	4 1/2 hrs W	+25°	2m	
		20			↑	60s	
		21			↓	60s	
		22	H182572	19:22:35	11:50:09	2m	5.2 IAU standard Power outage!
		23			↑	60s	
		24			↓	60s	Another power outage!!
		25	1 Sgr	18:28:57	-19:09:42	8m	6.5 Cepheid // WRONG DATE! //
		26			↑	60s	10.13.87
		27			↓	60s	<del>Date corrected</del>
		28	Astronid (G)	19:38:07.7	-22:27:19	20m	10.3 Astronid
		29			↑	60s	
		30			↓	60s	
		31	Astronid (7)	19:30:50.4	-16:19:23	20m	10.4 Astronid
		32			↑	60s	





10/13

Intensified Reticon TO CAM  
 Spectrograph ECHELLE Log Sheet RAW RET  
 Grating 3002 Observer RPS  
 Telescope 61" Wyeath Date 13-14 Oct. 1987 Disk ORD 1782

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60s	
		2	G160-3	03:33:21	09:13:24	3.5m	8.6/15 HALOS
		3			↑	60s	
		4			↓	60s	
		5	G160-13	03:39:25	06:06:06	5.25m	10.0/15 "
		6			↑	60s	
		7			↓	60s	
		8	G1-14	02:49:16	11:10:12	3.5m	8.4/15 "
		9			↑	60s	
		10			↓	60s	
		11	G77-42	03:26:54	10:23:48	7m	10.8/15 "
		12			↑	60s	
		13			↓	60s	
		14	G6-22	03:34:59	19:39:48	8m	11.1/15 "
		15			↑	60s	
		16			↓	60s	
		17	G82-47	04:47:05	04:41:42	6m	10.0/15 "
		18			↑	60s	
		19			↓	60s	
		20	L81	04:38:41	13:07:34	16m	11.2 Hyades Binary
		21			↑	60s	
		22			↓	60s	
		23	G8-46	04:34:53	19:58:12	9m	11.0/15 HALOS
		24			↑	60s	
		25			↓	60s	
		26	G210-13	02:31:47	59:34:30	4m	8.9/30 HALOS
		27			↑	60s	
		28			↓	60s	
		29	G217-20	01:42:24	57:35:54	3.5m	9.5/15 "
		30			↑	60s	
		31					
		32					

10/14

Intensified Reticon TO CAM  
 Spectrograph ECHELLE Log Sheet RAW/RET  
 Grating 3002 Observer RPS  
 Telescope 61" Wyeth Date 13-14 OCT 1987 Disk GRO 1783

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60s	
		2	VXPER 02:04:48	53:12:22		5.5m	P.7 Capricorn
		3	Th-Ar		↑	60s	
		4	Th-Ar		↓	60s	
		5	GRO 234 06:26:52	-02:46:42		20m	11/20 Mstars
		6	Th-Ar		↑	60s	
		7	Th-Ar		↓	60s	
		8	G133124 06:31:51	-03:02:13		2m	7.1/1m Mstars
		9	Th-Ar		↑	60s	
		10	Th-Ar		↓	60s	
		11	H33798 05:11:31	47:06:56		3.5m	127 L. Mitchell DSB
		12	Th-Ar		↑	60s	
		13	Th-Ar		↓	60s	
		14	H26162 04:06:15	19:28:43		2m	5.5 IAU standard
		15	Th-Ar		↑	60s	
		16	Th-Ar		↓	60s	
		17	SKY-DWN 4 1/2 hrs E	+30°		2m	
		18	Th-Ar		↑	60s	
		19	Th-Ar		↓	60s	
		20	SKY-DWN φ hrs	+30°		2m	
		21	Th-Ar		↑	60s	
		22	INCANDS			120m	
		23	INCANDS			120m	
		24	Th-Ar		↓	60s	5187 Å - clear -
		25	SKY-EVE φ hrs	+30°		2m	
		26	Th-Ar		↑	60s	
		27	Th-Ar		↓	60s	
		28	SKY-EVE 4 1/2 hrs W	+30°		4m	
		29	Th-Ar		↑	60s	
		30					
		31					
		32					

14-15  
OCT.  
1987

10/14

Spectrograph ECHELLE Intensified Reticon TO CAMI  
 Grating \_\_\_\_\_ Log Sheet RAW/RET  
 Observer RPS  
 Telescope \_\_\_\_\_ Date 14-15 OCT, 1987 Disk ORO 1784

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1	Th-Ar		↓	60s	5187 Å
	H182572	2	19:22:35	11:50:09		2m	IAU standard
		3	Th-Ar		↑	60s	
		4	Th-Ar		↓	60s	
	G140-30	5	17:58:41	11:04:18		3.5m	9.4/15 HALO
		6	Th-Ar		↑	60s	
		7	Th-Ar		↓	60s	
	GL699	8	17:55:23	04:33:18		7m	9.5 Nearby s' Space Motion (V 384) Barnard's Star
		9	Th-Ar		↑	60s	
		10	Th-Ar		↓	60s	
	G141-8	11	18:23:47	08:45:06		2m	7.9/15 HALO
		12	Th-Ar		↑	60s	
		13	Th-Ar		↓	90s	↓ 6562 Å ↓
	PCyg	14	20:15:57	37:52:36		20m	4.8 Hα: SALLIE 0.1ND
		15	Th-Ar		↑	90s	
		16	Th-Ar		↓	90s	
	S49438	17	20:16:21	40:34:31		7m	5.8 "
		18	Th-Ar		↑	90s	
		19	Th-Ar		↓	90s	
	Beta Agr	20	21:28:56	-05:47:32		13m	2.9 " 0.1ND
		21	Th-Ar		↑	90s	
		22	Th-Ar		↓	90s	
	FF Agr	23	21:58:01	-02:59:00		20m	8.7 "
		24	Th-Ar		↑	90s	
		25	Th-Ar		↓	90s	
	Alpha Agr	26	22:03:13	-00:33:49		6m	2.9 " 0.1ND
		27	Th-Ar		↑	90s	
		28	Th-Ar		↓	90s	
	Lam And	29	23:35:06	46:11:14		9m	3.9 "
		30	Th-Ar		↑	90s	
		31					
		32					



Intensified Reticon

TO CAM 10/14

Spectrograph ECHELLE

Log Sheet

RAW RET

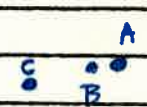

Grating 300L

Observer RPS

Telescope 61" Wyeth

Date 14-15 OCT 1987

Disk ORO 1786

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60s	5187 Å
	G73A	2	03:58:18	11:57:00		20m	Hyades Binary
	Th-Ar	3			↑↓	60s	
	G73C	4	03:58:18	11:57:00		15m	"
	Th-Ar	5			↑↓	60s	
	G73B	6	"	"		20m	"
	Th-Ar	7			↑	60s	
	Th-Ar	8			↓	60s	
	GL166B	9	04:12:58	-07:43:48		10m	Nearby Southern Object
	Th-Ar	10			↓	60s	
	GL166C	11	04:12:58	-07:43:48		20m	Northern Fainter 
	Th-Ar	12			↑↓	60s	
	GL166A	13	"	"		2.5m	"
	Th-Ar	14			↑	60s	
	Th-Ar	15			↓	90s	6563 Å H $\alpha$
	Alph Ori	16	05:52:28	07:23:58		5.5m	6.8 SALLY 2.0 WD
	Th-Ar	17			↑	90s	
	Th-Ar	18			↓	60s	5187 Å
	H33798	19	05:11:31	47:06:56		2m	6.9 Marschaell
	Th-Ar	20			↑	60s	
	Th-Ar	21			↓	60s	
	G103-53	22	06:40:41	25:34:48		3m	10.2/15 HALO
	Th-Ar	23			↑	60s	
	Th-Ar	24			↓	60s	
	G102-51	25	06:07:05	17:56:48		2m	8.5/15 HALO
	Th-Ar	26			↑	60s	
	Th-Ar	27			↓	60s	
	H66141	28	07:59:40	02:28:24		2m	4.4 IAU standard
	Th-Ar	29			↑	60s	
		30					
		31					
		32					

19/15

Spectrograph ECHELLE Intensified Reticon TO CAMI  
 Log Sheet RAW/RET  
 Grating 300L Observer RPS  
 Telescope 61" Wyeth Date 14-15 OCT 1987 Disk ORO 1787

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60s	
		2	SKY-DWN	4 hrs E	+10°	2m	
		3	Th-Ar		↑	60s	
		4	Th-Ar		↓	60s	
		5	SKY-DWN	φ hrs	+10°	2m	
		6	Th-Ar		↑	60s	
		7	IN CAND			120	
		8	IN CAND			70	
		9	Th-Ar		↓	60s	5187A
		10	SKY-EVE	φ hrs	+30°	2m	
		11	Th-Ar		↑	60s	
		12	Th-Ar		↓	60s	
		13	SKY-EVE	4 1/2 hrs W	+30°	2m	
		14	Th-Ar		↑	60s	
		15	Th-Ar		↓	60s	
		16	H146051	16:11:43	-03:34:01	2m	IAU standard
		17	Th-Ar		↑	60s	
		18	Th-Ar		↓	60s	
		19	(6)	19:40:46	-22:27:37	6m	10.5 Asteroid? - brightest obj in field
		20	Th-Ar		↑	60s	
		21	Th-Ar		↓	60s	
		22	(7)	19:32:59.8	-16:16:26	7m	10.6 Asteroid
		23	Th-Ar		↑	60s	
		24	Th-Ar		↓	60s	
		25	G 92-15	19:33:47	04:39:18	4m	9.2/15 HALO
		26	Th-Ar		↑	60s	
		27	Th-Ar		↓	60s	
		28	S 92-16	19:35:19	04:11:54	8m	10.2/15 HALO
		29	Th-Ar		↑	60s	
		30					
		31					
		32					

15-16  
OCT.  
1987



10/15

Intensified Reticon TO CAM  
 Spectrograph ECHELLE Log Sheet RAW RET  
 Grating 3002 Observer RPS  
 Telescope 61" Wyeth Date 15-16 Oct 1987 Disk ORO 1789

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60s	6482Å SALLIE
		2	549438	20:16:21	40:34:31		60m ↓
		3			↑	60s	
		4			↓	60s	
		5	PCyg	20:15:57	37:52:36		5m Exposure cut short; telescope
		6			↑	60s	too far to the west.
		7			↓	60s	5187Å
		8	H8779	01:23:54	-00:39:29		3m 6.4 IAU standard
		9			↑	60s	
		10			↓	60s	
		11	-19271	01:34:54	-17:44:12		10m 9.8/20 HALO
		12			↑	60s	
		13			↓	60s	
		14	4267	00:42:43	13:07:36		10m 8.0 Fstars
		15			↑	60s	
		16			↓	60s	
		17	DL CAS	00:27:11	59:56:12		4.5m 10.6 Cybicides
		18			↑	60s	
		19			↓	60s	
		20	G79-63	03:41:21	09:47:00		18.5m 11.6/15 HALOS
		21			↑	60s	
		22			↓	60s	
		23	G7-20	04:02:47	10:54:54		20m 11.6/15 "
		24			↑	60s	
		25			↓	60s	
		26	H270	04:19:52	16:40:32		2m 7.9 Hyades Binary Candidate
		27			↑	60s	
		28			↓	60s	
		29	H246	04:18:45	14:17:34		3m 7.0 "
		30			↑	60s	
		31					
		32					



10/15

Spectrograph ECHELLE Intensified Reticon TO CAM  
 Grating 300R Log Sheet RAW/RET  
 Telescope 61" Wyeath Date 15-16 Oct. 1987 Observer RPS  
 Disk ORO ~~1132~~ 1790

Change.... File ID 1950.0 RA Dec L/R Exposure Comments

Change....	File	ID	1950.0 RA	Dec	L/R	Exposure	Comments
		1			↓	60s	
		2	H27819	04:21:12.6	17:19:47	↓	4m VB47 Hydros Binary?
		3			↑	60s	
		4			↓	60s	
		5	H316	04:21:29	16:57:54	↓	4m "
		6			↑	60s	
		7			↓	60s	
		8	H336	04:21:57	15:45:41	↓	20m "
		9			↑	60s	
		10			↓	60s	
		11	H357	04:22:46	15:49:13	↓	3m "
		12			↑	60s	
		13			↓	60s	
		14	H379	04:23:15	15:24:44	↓	2m "
		15			↑	60s	
		16			↓	60s	
		17	H411	04:24:36	14:09:00	↓	9m "
		18			↑	60s	
		19			↓	60s	
		20	L59	04:24:02	10:45:36	↓	4m "
		21			↑	60s	
		22			↓	60s	
		23	VX Per	02:04:18	58:12:22	↓	4m 9.7 Cepheids
		24			↑	60s	
		25			↓	60s	
		26	RX Aur	04:57:55	39:53:17	↓	3m 9.2 "
		27			↑	60s	
		28			↓	60s	
		29	H33798	05:11:31	47:06:56	↓	3.5m 6.9 Marschall
		30			↑	60s	
		31					
		32					

10/16

Intensified      Reticon

TO CAM

Spectrograph ECHELLE      Log Sheet

Grating 3002      Observer RPS

Telescope 61" Wye th      Date 15-16 Oct. 1987      Disk ORA 1791

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1h-Ar			↓	60s	
		G 84-37	05:07:06	05:29:42		5m	9.7/15 HALOS
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		S94288	05:01:11	17:03:24		2.5m	8.8/15 "
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		H66141	07:59:40	02:28:24		2m	4.7 IAU standard
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		SKY-DWN	4 hrs. E	+20°		2m	
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		SKY-DWN	φ hrs	+20°		2m	
		Th-Ar			↑	60s	
		INCANDS				120m	
		INCANDS				120m	
16-17 OCT. 1987		Th-Ar			↓	60s	5187A -clear-
		SKY-EVE	φ hrs	+20°		2m	
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		SKY-EVE	4 1/2 hrs W	+20°		2m	
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		H182572	19:22:35	11:50:09		2m	52 IAU standard
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		U SGR	18:28:57	-19:09:42		3m	7.1 Cepheid
		Th-Ar			↑	60s	
		/					
		/					
		/					
		/					



10/17

Spectrograph ECHELLE Intensified Reticon TO CAM  
 Grating 3002 Log Sheet RAW RET  
 Telescope 61" Wyath Date 16-17 Oct. 1987 Observer RPS  
 Disk ORO 1793

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1				90s	7165Å SALLIE
		2	P Cyg 20:15:57	37:52:36		8m	
		3			↑	90s	"
		4			↓	90s	
		5	S 49438 20:16:21	40:31:31		9m	"
		6			↓	90s	
		7			↓	60s	5187Å
		8	G 130-29 23 36 16.0	33 27 54		2m	HALOS
		9			↑	60s	
		10			↓	60s	
		11	F 33-30 00 52 27.0	6 06 12		10m	"
		12			↓	60s	
		13			↓	60s	
		14	MVA 550 37 12.7	57 26 15		22m	MARSHALL TR 37
		15			↑	60s	
		16			↓	60s	
		17	G 37-10 2 49 34	35 26 06		2m	HALOS
		18					Stopped by Fog
		19				120m	
		20				120m	
		21				120m	
		22				120m	
17-18 OCT 1987		23			↓	60s	5187Å - pretty cloudy -
		24	SKY-EVE φ hrs.	+35°		2m	
		25			↑	60s	
		26			↓	60s	
		27	SKY-EVE 4.5 hrs W	+35°		2.5m	
		28			↑	60s	
		29			↓	60s	
		30	H 182572 18:22:35	11:50:09		35m	IAU standard
		31			↑	60s	
		32					- stopped for clouds -

End of Run

10/25

Spectrograph ECHELLE Intensified Reticon TO CAM  
 Grating 3002 Log Sheet RAW RET  
 Telescope 61" Wyeth Date OCT 25-26, 1987 Observer RPS  
 Disk ORD 1794

Change.... File ID 1950.0 RA Dec L/R Exposure Comments Start of Oct-Nov Run

Change....	File	ID	1950.0 RA	Dec	L/R	Exposure	Comments
		1			↓	60s	5187A -clear-
		2		+30°		2m	
		3			↑	60s	
		4			↓	60s	
		5		+30°		2.5m	
		6			↑	60s	
		7			↓	60s	
		8	H182572	19:22:35	11:50:09	2.5m	5.2 IAU standard
		9			↑	60s	
		10			↓	60s	
		11	(6)	19:55:26	-22:45:16	9m	10.6 Asteroid (Northern obj. t)
		12			↑	60s	
		13			↓	60s	
		14	(7)	19:45:11	-15:56:24	9m	10.7 Asteroid
		15			↑	60s	
		16			↓	60s	
		17	G92-15	19:33:47	04:39:18	4m	9.2/15 HALO
		18			↑	60s	
		19			↓	60s	
		20	G92-16	19:35:19	04:4:54	6m	10.2/15 "
		21			↑	60s	
		22			↓	60s	
		23	G25-15	21:01:37	22:48:00	2m	9.4/50 "
		24			↑	60s	
		25			↓	60s	
		26	G26-38	21:56:12	00:34:18	6.5m	10.3/15 "
		27			↑	80s	
		28			↓	60s	
		29	G24-25	20:37:42	00:22:42	18m	10.6/50 "
		30			↑	60s	
		31	/				
		32	/				

10/25

Spectrograph ECHELLE Intensified Reticon TO CAM  
 Grating 300L Log Sheet RAW/RET  
 Telescope 61" Wyeth Date 25-26 OCT. 1987 Observer RPS  
 Disk ORO 1795

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60s	
	G18-55	2	22:30:20	16:07:00		3.5m	9.4/15 HALOS
	Th-Ar	3			↑	60s	
	Th-Ar	4			↓	60s	
	G18-54	5	22:29:03	01:54:24		13m	10.7/30 " "
	Th-Ar	6			↑	60s	
	Th-Ar	7			↓	60s	
	S191333	8	22:39:17	-21:02:48		9m	9.3/30 "
	Th-Ar	9			↑	60s	
	Th-Ar	10			↓	60s	
	G127-33	11	22:25:10	24:41:00		4m	10.0/15 "
	Th-Ar	12			↑	60s	
	Th-Ar	13			↓	60s	
	GL876	14	22:50:35	-14:31:12		17m	10.2 Kenyon - Noonby
	Th-Ar	15			↑	60s	
	Th-Ar	16			↓	60s	
	G130-29	17	23:56:16	33:27:54		2.5m	7.8/15 HALOS
	Th-Ar	18			↑	60s	
	Th-Ar	19			↓	60s	
	G130-32	20	23:57:31	33:54:42		2m	8.5/20 "
	Th-Ar	21			↑	60s	
	Th-Ar	22			↓	60s	
	G130-10	23	23:43:38	34:58:12		4m	9.1/20 "
	Th-Ar	24			↑	60s	
	Th-Ar	25			↓	60s	
	G69-1	26	00:29:55	27:55:18		4m	8.7/15 "
	Th-Ar	27			↑	60s	
	Th-Ar	28			↓	60s	
	G32-49	29	00:44:59	14:22:12		11.5m	10.9/15 "
	Th-Ar	30			↑	60s	
	/	31					
	/	32					

10/25

Spectrograph ECHELLE Intensified Reticon TO CAM  
 Grating 300l Log Sheet RAW/RET  
 Telescope 61" Wyle Date 25-26 Oct. 1987 Observer RPS  
 Disk ORO 1796

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60s	
	G33-30	00:58:27	16:06:18			12.5m	10.7/30 HALOS
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	-19271	01:34:54	-17:44:12			10m	9.8/20 "
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G33-48	01:13:53	09:21:42			4m	8.8/15 "
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G72-58	02:05:31	28:04:36			5.5m	10.0/15 "
	Th-Ar				↓	60s	
	G72-59	02:05:31	28:04:18			7m	10.6/15 "
	Th-Ar				↑	60s	<del>10.6/15</del> "
	Th-Ar				↓	60s	
	EG And	00:41:53	40:24:22			3.5m	7.5 Kenyon - Symbiotics
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G37-10	02:49:54	35:26:06			3m	8.4/15 HALOS.
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G134-40	02:34:26	43:46:42			5m	10.2/15 "
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	Dh Cas	00:27:11	59:56:12			4m	10.6 Capella
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	Grs 15A	00:15:41	43:44:37			3.5m	8.1 Mstars & Neby
	Th-Ar				↓	60s	
*	Grs 15B	00:15:14	43:44:37			20m	11.0 "
	Th-Ar				↑	60s	
	/						

\* Combine with observation on next page.

10/25

Spectrograph ECHELLE Intensified Reticon TO CAM  
 Grating 3002 Log Sheet RAW/RET  
 Telescope 61" Wyath Date 25-26 OCT. 1987 Observer RPS  
 Disk ORO 1797

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		Th-Ar			↓	60s	
	G2s15B	00:15:14	43:46:37			12m	Mstars & Newby
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	G6-20	03:34:10	25:49:48			2m	9.1/50 HALOS
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	G83-34	04:45:46	18:37:36			2.15m	HALOS V=6.8 not 9.7!
		Th-Ar			↑	60s	Is ID ok?
		Th-Ar			↓	60s	
	S476588	04:24:45	22:50:59			2m	7.2/ Mstars
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	G2s169	04:26:02	21:48:47			4m	8.3/ "
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	S130860	03:56:24	-05:26:40			2m	6.0 "
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	G2s156	03:52:09	-06:58:14			6m	9.0 "
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	G2s176	04:40:00	18:52:06			12.5m	9.9/40 "
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	UV Aur	05:18:33	32:27:48			8m	10.0 Kanyon - Symbiotics.
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	VX Per	02:04:18	58:12:22			5m	Hucha - Cepheids
		Th-Ar			↑	60s	
	/						
	/						



10/26

Intensified      Reticon  
TO CAM

Spectrograph ECHELLE      Log Sheet      RAW/RET

Grating 300L      Observer RDS

Telescope 61" Wyeth      Date 25-26 OCT. 1987      Disk ORO 1798

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60s	
		2	G102-44	05:59:54	13:04:18	10m	10.8/15 HALO
		3			↑	60s	
		4			↓	60s	
		5	G101-25	06:09:35	38:55:26	6m	10.8/15 "
		6			↑	60s	
		7			↓	60s	
		8	G101-33	06:15:34	38:33:8	4m	10.2/15 "
		9			↓	60s	
		10	G101-34	06:16:37	38:22:12	6m	10.8/15 "
		11			↑	60s	
		12			↓	60s	
		13	GL273	07:24:43	05:22:42	5m	98 Nearby: Space Motion U135
		14			↑	60s	
		15			↓	60s	
		16	(4)	08:21:35	19:02:09	2m	87 Asteroid
		17			↑	60sec	
		18			↓	60s	
		19	H66141	07:59:40	02:28:24	2m	44 IAU standard
		20			↑	60s	
		21			↓	60s	
		22	SKY-DOWN	4 1/2 hrs E	+30°	2m	
		23			↑	60s	
		24			↓	60s	
		25	SKY-DOWN	φ hrs	+30°	2m	
		26			↑	60s	
		27	11/CAND			120	
		28	11/CAND			120	
		29	11/CAND			75	
		30					
		31					
		32					

10/26

Intensified      Reticon

TO CAM

Spectrograph ECHELLE      Log Sheet

Grating 300L      Observer RPS

Telescope 61" Wyeth      Date 26-27 OCT. 1987      Disk ORO 1799

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		Th-Ar			↓	60s	5137A° -clear-
		SKY-EVE	φ hrs.	+30°		2m	
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		SKY-EVE	4 1/2 hrs. W	+30°		2m	
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		H182572	19:22:35	11:50:09		2m	5.2 IAU standard
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		1016Cyg	19:55:20	39:41:30		6m	10.0 Kenyon-Symbiotics
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		V433Her	18:20:03	23:25:17		17m	10.5 "
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		HM-Sge	19:39:41	16:37:26		10m	10 "
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		C7-Cyg	19:48:21	35:33:24		15m	11.0 "
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		CH Cyg	19:23:14	50:08:31		2m	7.0 "
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		G126-52	22:01:51	19:18:36		10m	11.0/15 HALOS
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		GRS 781	20:03:55	54:18:12		22m	11.9/100(?) Mstars
		Th-Ar			↑	60s	
		GRS 781	"	"		20m	"
		Th-Ar			↑	60s	

10/26

Intensified      Reticon  
TO CAM

Spectrograph ECHELLE      Log Sheet      RAW RET

Grating 300L      Observer RPS

Telescope 61" Wyeth      Date 26-27 Oct 1987      Disk ORO 1800

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		Th-Ar			↓	60s	
	G15866	22:35:45	15:36			15 <sup>m</sup>	12.1/15 <u>MSTAR</u>
	711-Ar				↓	60 <sup>s</sup>	also Newby
	G15866	"	"			20m	Note: GDS 781 & 566 should be done at FLWO!!
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G27-29	22:25:20	05:32:06			11.5m	11.2/15 <u>HALOS</u>
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G128-45	23:15:33	31:15:30			16m	11.7/15      "
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G128-64	23:23:52	32:54:14			2m	9.6/15      "
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G29-25	23:19:46	11:53:06			8m	10.8/15      "
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	29nd	23:31:15	48:32:32			12m	10.0 <u>Kanyon - Symbiotic</u>
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G216-45	23:25:02	49:59:12			6 1/4 m	11.1/15 <u>HALOS</u>
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G32-49	00:44:59	14:22:12			10.5m	10.9/15      "
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G4-19	02:20:47	17:52:24			10m	11.7/15      "
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G37-10	02:49:54	35:26:06			3m	8.4/15      "
	Th-Ar				↑	60s	

10/29

Intensified Reticon

TO CAM

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 3002

Observer RPS

Telescope 61" Wye/Wh

Date 26-27 Oct 1987

Disk ORO 1801

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60s	
		2	213014B	22:25:46	17:00:28	7m	IAU standard
		3			↑↓	60s	
		4	H213014	22:25:45	17:00:28	2m	"
		5			↑	60s	
		6			↓	60s	
		7	G172-61	01:31:18	48:29:06	8m	11.0/20 HALOS
		8			↑	60s	
		9			↓	60s	
		10	G172-58	01:28:13	47:44:54	5m	10.2/30 "
		11			↑	60s	
		12			↓	60s	
		13	AX Per	01:33:06	54:00:19	10m	11.0 Kanyon - Superlatrics
		14			↑	60s	
		15			↓	60s	
		16	G134-40	02:34:26	43:46:42	3m	10.2/15 HALOS
		17			↑	60s	
		18			↓	60s	
		19	L81	04:38:41	13:07:34	11m	11.2 Hyalos Binary
		20			↑	60s	
		21			↓	60s	
		22	G79-43	03:27:18	09:16:06	11m	11.6/15 HALOS
		23			↑	60s	
		24			↓	60s	
		25	G5-35	03:22:04	12:05:18	5.5m	10.8/15 "
		26			↑	60s	
		27			↓	60s	
		28	G5-40	03:24:26	20:52:24	5m	10.8/15 "
		29			↑	60s	
		30					
		31					
		32					

10/24

Intensified      Reticon  
TO CAM

Spectrograph ECHELLE      Log Sheet      RAW/RET

Grating 3002      Observer RPS

Telescope 61" Wyeth      Date 26-27 Oct. 1987      Disk OR01802

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		Th-Ar			↓	60s	
	G38-13		03:42:21	28:53:48		6m	11.5/15      HALOS
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	G85-21		04:48:32	19:16:48		5m	10.9/15
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	GPs 206		05:29:30	09:47:18		20m	11.5      Mstars
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	36643		05:31:14	27:17:17		20m	7.8      Fstars - Template *
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	GPs 234		06:26:52	02:46:42		20m	11.1/20      Mstars
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	S133424		06:31:51	03:02:03		2m	7.1/100      "
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	GPs 172		04:33:43	52:48:00		3.5m	8.6      "
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	G107-50		07:06:21	42:44:18		10m	2.0/15      HALOS
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	(4)		08:22:34	9:00:37		2m	8.7      Asteroid
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	G88-31		07:27:34	9:04:18		2m	8.5/15      HALOS
		Th-Ar			↑	60s	
		/					
		/					

Intensified Reticon

TO CAM 10/28

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 300 R

Observer RPS

Telescope 61 Wyeth

Date 26-27 OCT. 1987

Disk ORO 1803

Change.... File ID 1950.0 RA Dec L/R Exposure Comments

Oct 22-29

Change....	File	ID	1950.0	RA	Dec	L/R	Exposure	Comments
		1				↓	60S	
		2	G88-40	07:51:43	17:00:08		2m	8.9/11 HALOS
		3				↑	60S	
		4				↓	60S	
		5	H66141	07:59:40	02:28:14		2m	44 IAU standard 1.0 ND
		6				↑	60S	
		7				↓	60S	
		8	SKY-DWN	4 hrs E	+20°		2m	
		9				↑	60S	
		10				↓	60S	
		11	SKY-DWN	4 hrs.	+20°		2m	
		12				↑	60S	
		13	INCAN				120	
		14	INCAN				120	
		15	TH-AR			↑	60S	- cloudy -
		16	SKY/EVEN	0 h	-15		2m	EST: 17:00:00 10/28/87
		17	TH-AR			↑	60S	} No date or time
		18	TH-AR			↓	60S	
		19	SKY/EVEN	3 h W	-15		2m	EST: 17:12:00
		20	TH-AR			↑	60S	- clearing -
		21				↓	60S	
		22	H4128	00:41:05	-18:15:59		2m	2.0 IAU standard 1.0 ND
		23				↑	60S	
		24				↓	60S	
		25	G32-49	00:44:59	14:22:12		17m	10.9/15 HALOS
		26				↑	60S	
		27				↓	60S	
		28	G71-27	01:59:22	01:59:00		4m	8.9/20 "
		29				↑	60S	
		30				↓	60S	
		31	G2-46	01:52:14	00:41:36		2m	6.9/15 "
		32				↑	60S	

Spectrograph ECHELLE Intensified Reticon  
 Grating 300L Log Sheet  
 Telescope 61" Wyeth Date 28-29 OCT. 1987

TO CAM 10/28  
RAW/RET

Observer RPS  
 Disk ORO 1804

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1h-Ar			↓	60s	
	G191-55	05:53:04	58:40:24			18m	0.5/40 HALO
		1h-Ar			↑	60s	
		1h-Ar			↓	60s	
	G 81-38	04:48:03	45:45:24			2m	7.0/15 " "
		1h-Ar			↑	60s	
		1h-Ar			↓	60s	
	G 96-1	04:43:38	45:53:54			8m	10.2/15 " (faint companion)
		1h-Ar			↑	60s	
		1h-Ar			↓	60s	
	G 37-10	02:47:54	35:26:06			3.5m	8.4/15 " "
		1h-Ar			↑	60s	
		1h-Ar			↓	60s	
	G 134-40	02:34:26	43:46:42			5m	10.2/15 " "
		1h-Ar			↑	60s	
		1h-Ar			↓	60s	
	G 74-38	02:37:13	42:03:06			4m	7.6/15 " "
		1h-Ar			↑	60s	
		1h-Ar			↓	60s	
	G 6-B3A	01:44:48.8	44:25:07			5m	9.3/15 PAIRS (unresolved pair) these will be difficult!
		1h-Ar			↑	60s	
		1h-Ar			↓	60s	
	G 173-56	02:21:53	46:16:36			3m	10.9/15 HALOS (not 10.9; brighter)
		1h-Ar			↑	60s	
		1h-Ar			↓	60s	
	G 84-39	05:10:06	64:15:48			10m	10.6/15 " "
		1h-Ar			↑	60s	
		1h-Ar			↓	60s	
	G 94-54	06:02:28	06:27:18			10m	0.5/15 " "
		1h-Ar			↑	60s	
	/						





Spectrograph ECHELLE Intensified Reticon  
 Grating 300L Log Sheet

TO CAM 10/29

RAW/RET

Telescope 61" Wyeth

Date 28-29 Oct. 1987

Observer RPS

Disk ORO 1866

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		Th-Ar			↓	60s	
		H81747	09:25:08	-08:26:18		2m	2.0 IAU standard 1.0 ND
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		SKY-DWN	4 hrs. E	+10°		2m	
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		SKY-DWN	φ hrs	+10°		2m	
		Th-Ar			↑	60s	
		IN CANON				120	
		IN CANON				120	
		TH-AR			↓	60s	
		SKYVIEW	0 MA	+30		2m	
		TH-AR			↑	60s	
		TH-AR			↓	60s	
		SKYVIEW	4 <sup>h</sup> W	+30		2m	
		TH-AR			↑	60s	
		TH-AR			↓	60s	
		P Cyg	20 17 18	37 59		10m	ND = 2 (1) FILTER SA 11 1/2
		Th-Ar			↑	60s	
		P Cyg	"	"		20m	ND = 1 + CLDS
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		S49438	20:16:21	40:34:31		17m	5.8 off-setter not working correctly - Robert. UK
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		Beta Agr	21:28:56	-05:47:32		9m	2.9 ND=10
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		FF Agr	21:58:01	-02:59:00		20m	3.7 (clouds) SALLIE
		Th-Ar			↑	60s	spectrum doesn't look right! but * o.k.

10/29-30

6563A°

Spectrograph ECHELLE Intensified Reticon  
 Log Sheet

TO CAM 10/29

Grating 300L

RAW/RET

Telescope 61" Wyeth

Date 29-30 OCT 1987

Observer RPS

Disk ORO 1807

Change....	File	ID	1950.0 RA	Dec	L/R +/-	Exposure	Comments
		Th-Ar			↓	60s	6562 Å SALLIE
		Alu&Ar	27:03:13	-00:33:49		6.5m	2.9 NO=1.0
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		Lam&Ar	23:35:06	46:11:14		10m	3.9 NO=1.0
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	5187Å
		AG Pag	21:48:36	12:23:23		10m	8.5 Kanyon - Synbiotic
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		G17-38	22:56:49	11:55:36		5.25m	8.4/100 HALOS
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		G179-42	23:52:30	20:06:24		3.5m	9.0/20 "
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		S166200	00:18:13	-25:44:30		5m	8.3/20 "
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		H3008	00:30:42	-11:00:00		5m	9.5/15 "
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		G32-49	00:44:59	14:21:12		10.5m	10.9/15 "
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		H15061	02:23:16	+17:45:48		5m	9.4/15 "
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		G76-21	02:38:32	09:33:21		7m	10.2/30 "
		Th-Ar			↑	60s	
		/					
		/					



Spectrograph ECHELLE Intensified Reticon  
 Log Sheet

TO CAM 10/28

Grating 300L

Observer RPS

Telescope 61" Wyeth

Date 29-30 OCT. 1987

Disk ORO 1809

Change....	File	ID	RA	Dec	1950.0 L/R +/-	Exposure	Comments
					↓	60s	S187A
	G1166C	04.12.58	07.43.18		↓	20m	11.2 Kanger Nearby
	Th-Ar				↑	60s	
	G1166a	04.12.58	07.43.48		↓	2m	4+ "
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G1162	04.06.15	17.28.43		↓	4m	5.5 IAU Standard
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	0024	04.14.25	20.27.51		↓	7m	5.7 Hyades Binary
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	H498	04.26.08	16.09.00		↓	8m	6.6 "
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	6562A
	Alpha Ori	05.12.23	07.23.58		↓	4m	4
	Th-Ar				↑	60s	0.8 10.2.0 " x SALLY
	Th-Ar				↓	60s	S187A
	G107-13	06.58.43	37.01.30		↓	6m	11.1/15 HALOS
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G87-55	07.17.35	29.26.30		↓	9.5m	11.1/15 "
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G88-5	07.03.12	18.42.54		↓	7.5m	10.2/20 "
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G112-40	07.16.04	03.17.2		↓	10.5m	11.1/15 "
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G108-53	07.02.29	01.28.30		↓	2m	9.5/15 "
	Th-Ar				↑	60s	

Intensified      Reticon  
TO CAM

Spectrograph ECHELLE      Log      Sheet

Grating 300R      Observer RDS

Telescope 61" Wyeth      Date 29-30 OCT. 1987      Disk ORO 1810  
+ 31 Oct - 1. hour

Change....	File	ID	RA	Dec	1950.0	L/R	Exposure	Comments
						+/-		
		1				↓	60s	
		2	G 89-33	07:55:12	05:50:12		5m	10.4/15 HALOS
		3	Th-Ar			↑	60s	
		4	Th-Ar			↓	60s	
		5	(4)	08:25:26	18:56:19		2m	87 Asteroid
		6	Th-Ar			↑	60s	
		7	Th-Ar			↓	60s	
		8	H 66141	07:59:40	02:28:24		2m	44 IAU standard
		9	Th-Ar			↑	60s	
		10	Th-Ar			↓	60s	
		11	SKY DOWN	4 1/2 hrs E	+40°		2m	
		12	Th-Ar			↑	60s	
		13	Th-Ar			↓	60s	
		14	SKY-DOWN	φ hrs	+40°		2m	
		15	Th-Ar			↑	60s	
		16	incand				120m	
		17	incand				120m	
18 INCANDS		18/9	Th-Ar			↓	60s	
		19/20	SKY-EVEN	φ hrs	+30°		5m	Sky etc; in margin
		20/21	Th-Ar			↑	60s	
		21/22	Th-Ar			↓	60s	
		22/23	H 182572	19:22:35	+11:50:09		2.5m	5.2 IAU std.
		23/24	Th-Ar			↑	60s	
		24/25	Th-Ar			↓	60	
		25/26	(6)	20:05:09	-22:48:19		18m	10.5 Asteroid
		26/27	Th-Ar			↑	60s	
		27/28	Th-Ar			↓	60s	
		28/29	(7)	19:53:24	-15:40:02		20m	10.7 Asteroid
		29/30	Th-Ar			↑	60s	
		30/31	Th-Ar			↓	60s	
		31/32	(8)	21:29:06	-21:38:37		15m	10.4 Asteroid
		32/33	Th-Ar			↑	60s	

Intensified      Reticon      TO CAM

Spectrograph ECHELLE      Log Sheet      RAW RET

Grating 300L      Observer ANDERSEN

Telescope 61" Wyeth      Date Oct 31, 1987      Disk ORO 1811

Nov 1

Change....    File    ID    RA    Dec    L/R    Exposure    Comments

1950.0

↑/↓

1		Th-Av			↓	60s	
2	(2)		21:42:54	-13:15:05		10m	10.1 Asteroid
3		Th-Av			↑	60s	
4		Th-Av			↓	60s	9
5	G 92-15		17:33:47	04:39:18		25m	9.2 HALO FIN - BIN
6		Th-Av			↑	60s	
7		Th-Av			↓	60s	
8	G 18-54		22:27:03	+1:54:24		12m	10.7 HALO FIN
9		Th-Av			↑	60s	
10		Th-Av			↓	60s	
11	G 30-29		23:56:16	+33:27:58		2m	7.8 HALO FIN
12		Th-Av			↑	60s	
13		Th-Av			↓	60s	
14	H 210733		22:09:57	-08:15:37		7m	7 F STARS
15		Th-Av			↑	60s	
16		Th-Av		+07:23:32	↓	60s	
17	H 216419		22:50:02	<del>-21:51:11</del>		15m	7.9 —
18		Th-Av			↑	60s	Clouded out!
19		Th-Av			↓	60s	
20	7 Lac		22:38:53	56:34:05		5m	8.9 CEPHEID
21		Th-Av			↑	60s	
22		Th-Av			↓	60s	
23	H 221439		23:25:53	+17:07:31		18m	7.8 F STARS, Thick clouds
24		Th-Av			↑	60s	
25		Th-Av			↓	60s	—
26	H 221972		23:33:57	+20:23:18		6m	7.7 —
27		Th-Av			↑	60s	
28		Th-Av			↓	60s	
29	G 72-58		02:05:31	+28:04:36		4m	10.0 HALO FIN
30		Th-Av			↑	60s	
31							
32							

Spectrograph ECHELLE Intensified Reticon TO CAM  
 Grating 300L Log Sheet RAW RET  
 Telescope 61" Wyeth Date Oct 31, 1987 Observer Andersen  
 Disk ORO 1812  
 - NOV 1

Change....	File	ID	RA	Dec	1950.0	L/R	Exposure	Comments
						↑/↓		
		1				↓	60s	
		2	G 72-S9	02:05:31	28:04:19		8m	10.6 HALOFIN
		3	Th-Av			↑	60s	
		4	Th-Av			↓	60s	
		5	G 32-49	00:44:59	14:22:12		8m	10.7 HALOFIN
		6	Th-Av			↑	60s	
		7	Th-Av			↓	60s	
		8	G 33-30	00:58:24	16:06:18		12m	10.7 -L-
		9	Th-Av			↑	60s	
		10	Th-Av			↓	60s	
		11	G 33-48	01:13:53	09:21:42		4m	8.8 -L-
		12	Th-Av			↑	60s	
		13	Th-Av			↓	60s	
		14	DL CAS	00:27:11	59:56:12		6min	10.0 CEPHEID
		15	Th-Av			↑	60s	
		16	Th-Av			↓	60s	
		17	G 134-40	02:34:26	43:46:42		5m	10.2 HALOFIN
		18	Th-Av			↑	60s	
		19	Th-Av			↓	60s	
		20	G 37-10	02:49:54	35:26:06		7m	8.4 -L-
		21	Th-Av			↑	60s	
		22	Th-Av			↓	60s	
		23	G 6-20	03:34:10	25:49:48		5m	9.1 -L-
		24	Th-Av			↑	60s	
		25	Th-Av			↓	60s	
		26	G 83-34	04:45:46	18:37:36		4m	9.7 ??? -L- clouding up again!!
		27	Th-Av			↑	60s	
		28	Th-Av			↓	60s	
		29	SV Mon	06:18:45	06:29:41		9m	~8.0 CEPHEID CLOUDS
		30	Th-Av			↑	60s	
		31						
		32						

Intensified      Reticon      TO CAM1

Spectrograph ECHELLE      Log Sheet      RAW RET

Grating 300L      Observer Andersen

Telescope 61" Wyeth      Date Oct 31 - Nov 1, '87      Disk ORO 1813

Change....	File	ID	RA	Dec	1950.0 L/R +/-	Exposure	Comments
		1	Th-Ar		↓	60s	
		2	H 34040	05:12:59	+42:36:44	10m	7.9 FSTARS
		3	Th-Ar		↑	60s	
		4	Th-Ar		↓	60s	
		5	H 36292	05:28:56	+35:35:42	6m	8.2
		6	Th-Ar		↑	60s	
		7	Th-Ar		↓	60s	
		8	H 38753	05:45:49	18:13:37	15m	7.2 FSTARS
		9	Th-Ar		↑	60s	
		10	Th-Ar		↓	60s	
		11	V 6430	06:04:31	-02:54:36	10m	10.7
		12	Th-Ar		↑	60s	
		13	Th-Ar		↓	60s	
		14	H 33798	05:11:31	47:06:56	6.5m	8.0 ?? MARSHALL
		15	Th-Ar		↑	60s	
		16	Th-Ar		↓	60s	
		17	GM Hyg	08:41:08	06:02:12	16m	11.0 FSTARS
		18	Th-Ar		↑	60s	
		19	Th-Ar		↓	60s	
		20	H 70825	08:21:57	24:06:22	3m	7.3
		21	Th-Ar		↑	60s	
		22	Th-Ar		↓	60s	*
		23	Sky-down	HA 4 <sup>h</sup> E	+30°00'	5m	Sky down, 4 <sup>h</sup> E
		24	Th-Ar		↑	60s	
		25	Th-Ar		↓	60s	
		26	Sky-down	HA 6 <sup>h</sup>	+30°00'	3m	Sky down, 0 <sup>h</sup> HA
		27	Th-Ar		↑	60s	
		28	INCAMM			120m	
		29	INCAMM			120m	
		30					
		31					
		32					