

12/1

Intensified Reticon

TO CAM

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 300L

Observer RJD

Telescope 61" Wyeth

Date 11/28-29/87

Disk ORO 1860

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		ThAr			↓	60 ^s	5187A
	HD37148	05:34:00.7	09:51:21			3 1/2 ^m	λ Ori - Mathieu
	ThAr				↑	60 ^s	Increasing Clouds
	ThAr				↓	60 ^s	
	H33798	05:11:30.8	47:06:56			2 ^m	Marschall Binary
	ThAr				↑	60 ^s	
	ThAr				↓	60 ^s	
	G2273	07:24:43	05:22:42			10 ^m	Nearby - Kenyon
	ThAr				↑	60 ^s	Mod. Haze - No Clouds
	ThAr				↓	60 ^s	
	S56455	03:23:53	34:15:18			3 ^m	Halo Binaries
	ThAr				↑	60 ^s	
	ThAr				↓	60 ^s	
	G220-13	02:31:47	59:34:30			5 ^m	
	ThAr				↑	60 ^s	
	ThAr				↓	60 ^s	
	G175-39	04:31:59.3	55:18:52			7 ^m	Increasing Clouds
	ThAr				↑	60 ^s	
	ThAr				↓	60 ^s	
	H66141	07:59:39.9	02:28:24			4 ^m	IAU Rad Vel Std
	ThAr				↑	60 ^s	Increasing Overcast
	INCANDS					120 ^m	Clouded Out
	INCANDS					120 ^m	
	INCANDS					120 ^m	
	INCANDS					120 ^m	
1-2 DEC 1987	ThAr				↓	60s	5187A - overcast-
	SKY-EVE	φ hrs	+25°			3.0m	
	ThAr				↑	60s	
	ThAr				↓	60s	
	SKY-EVE	4.5 hrs W	+25°			2.5m	
	ThAr				↑	60s	
	/						

Spectrograph ECHELLE
 Grating 300 l
 Telescope 61" Wyeth

Intensified Reticon
 Log Sheet
 Date 12/2-3/87

TO CAM 12/2
RAW/RET
 Observer JC + RJD
 Disk ORO 1862

Change....	File	ID	RA	Dec	1950.0 L/R ↑/↓	Exposure	Comments
	1	S108170	22:44:35.2	16:58:10		20"	Duplicate Local Cloud NaO
	2	Th Ar			↑↓	90°	25893
	3	S108170	"	"		20"	
	4	Th Ar			↑	90°	
	5	Th Ar			↓	90°	
	6	S108392	23:02:03	14:41:20		17"	
	7	Th Ar			↑↓	90°	
	8	S108392	"	"		17"	
	9	Th Ar			↑	90°	
	10	Th Ar			↓	60°	25187
	11	H4128	00:41:04	-18:15:39		2 ^m	FAN STD. Neutral density 1.0
	12	Th Ar			↑	60°	
	13	Th Ar			↓	60°	
	14	16-1428	01:41:14.8	42:05:30		15"	Wide Pairs in And
	15	Th Ar			↑↓	60°	
	16	16-1428	"	"		10"	South, fainter *
	17	Th Ar			↑↓	60°	
	18	16-1427	01:41:14.8	42:05:48		10"	North, brighter *
	19	Th Ar			↑↓	60°	
	20	16-2080	01:46:27.9	46:02:41		20"	South brighter *
	21	Th Ar			↑↓	60°	
	22	16-2079	01:46:27.9	46:02:56		16"	
	23	Th Ar			↑↓	60°	
Th Ar	24	15-1112	01:45:36	45:33:50	↓	60°	Northern *
	25	G6-20	03:34:10	25:49:48		3"	Halo Binaries
	26	Th Ar			↑	60°	
	27	Th Ar			↓	60°	
	28	183-34	04:45:46	18:37:36		2 ^m	
	29	Th Ar			↑	60°	
	30	Th Ar			↓	60°	
	31	(20)	04:28:55.2	20:52:16		2 ^m	Asteroid
	32	Th Ar			↑	60°	

Intensified Reticon

TO CAM 12/2

Spectrograph ECHELLE

Log Sheet

RAW/RETGrating 3002Observer RJDTelescope 61" WyethDate 12/2-3/87Disk ORO 1863

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60 ^s	2 5187
	(44)	2	04:42:56.4	16:13:26		4 ^m	Asteroid
		3			↑	60 ^s	
		4			↓	60 ^s	
	G172-49	5	01:17:59	51:43:24		2 ^m	Italo Binaries
		6			↑↓	60 ^s	
	G172-46	7	01:18:37	51:35:48		11 ^m	15% Moonlight
		8			↑	60 ^s	
		9			↓	60 ^s	
	G172-61	10	01:31:18	48:29:06		10 ^m	10% Moonlight
		11			↑	60 ^s	
		12			↓	60 ^s	
	G173-2	13	01:27:49	52:29:18		3½ ^m	
		14			↑↓	60 ^s	
	AX Per	15	01:33:06	54:00:19		13 ^m	Kenyon Symbiotic
		16			↑	60 ^s	15% Moonlight
		17			↓	60 ^s	
	G96-1	18	04:43:38	45:53:54		4 ^m	Fainter companion, 5" NE
		19			↑	60 ^s	Italo Binaries
		20			↓	60 ^s	
	H33798	21	05:11:30.8	47:06:56		2 ^m	Marshall Binary
		22			↑	60 ^s	
		23			↓	60 ^s	
	T MON	24	06:22:31	07:06:53		2 ^m	Cepheid
		25			↑	60 ^s	
		26			↓	60 ^s	
	G106-46	27	06:22:34	00:40:48		2 ^m	Italo Binaries
		28			↑	60 ^s	
		29			↓	60 ^s	
	G103-53	30	06:40:41	25:34:48		3½ ^m	
		31			↑	60 ^s	
		32					

12/5

Intensified Reticon

TO CAM

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 300 l

Observer RJD

Telescope 61" Wyeth

Date 12/2-3/87

Disk ORO 1866

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

	1	ThAr			↓	60 ^s	λ 5187
	2	SKYDOME	3 ^h E	+10°		3 ^m	
	3	ThAr			↑	60 ^s	
	4	ThAr			↓	60 ^s	
	5	SKYDOME	Stow	Posit		2 ^m	Meridian +31°
	6	ThAr			↑	60 ^s	
	7	INCANDS				120 ^m	
	8	INCANDS				120 ^m	
	9	INCANDS				120 ^m	
12-3/4-87	10	Th-Ar	STOW		↓	60 ^s	
	11	SKYDOME	0 ^h	+31°		2.5 ^m	
	12	Th-Ar			↑	60 ^s	
	13	Th-Ar			↓	60 ^s	
	14	SKYDOME	4 hrs West	+31°		2 ^m	
	15	ThAr			↑	60 ^s	
	16	ThAr			↓	60 ^s	
	17	H213014	22:25:46	17:00:28		4.5 ^m	
	18	ThAr			↑	60 ^s	
	19	Th-Ar			↓	90s	5893Å 40 μ slit
	20	S108478	23:11:47.2	19:29:35		10m	7.7 Dupree - Local Cloud
	21	Th-Ar			↑	90s	Na D line
	22	INCANDS				120M	No Good; Too few counts; clouds
	23	"					changed to 5187Å, Clouded out
	24	"					
	25	"					
	26	"					
	27	"					
	28	INCAN					
	29						
	30						
	31						
	32						

Intensified Reticon

TO CAM 12-5-87

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating _____

Observer _____

Telescope 5H

Date 12/5-6/87

Disk ORO 1767

Change....	File	ID	1950.0 RA	Dec	L/R +/-	Exposure	Comments
		1			↓	60 ^s	
		2		+20°		2.5 ^m	
		3			↑	60 ^s	
		4			↓	60 ^s	
		5		+10°		2.5 ^m	
		6			↑	60 ^s	
		7			↓	60 ^s	
		8	H213014	11 25 46	17 20 28	4 ^m	7.7/ IAU standard
		9			↑	60 ^s	
		10			↓	60 ^s	
		11	H213014B	22 25 46	17 20 28	4 ^m	IAU standard Binary
		12			↑	60 ^s	
		13			↓	60 ^s	
		14	ELR 76	22 50 36	-14 31 12	13 ^m	102. Kenyon / Nearby
		15			↑		
		16			↓	60 ^s	- stopped clouds
		17	H4128	00 41 05	-18 15 29	3	2.0 IAU STD. 10 ND
		18			↑	60 ^s	forgot to remove filter
		19			↓	60 ^s	
		20	3081	00 31 31	+71 22 02	10 ^m	765 F-STARS
		21			↑	60 ^s	
		22			↓	60 ^s	
		23	3626	00 36 53	136 30 58	13 ^m	F-STARS double star
		24			↑	60 ^s	
		25			↓	60 ^s	
		26	5843	00 57 36	11 39 55	5 ^m	F-STARS cut short by clouds
		27			↑	60 ^s	
		28			↓	60 ^s	- stopped clouds
		29	683-2A	04 45 46	118 27 36	6 ^m	6.5 HALO FIN
		30			↑	60 ^s	heavy clouds
		31					ID?
		32					

Intensified Reticon

TO CAM 12-6-87

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 300 ℓ

Observer JC + RJD

Telescope 61" Wyeth

Date 5-6 Dec. 1987

Disk ORO 1868

Change....	File	ID	RA	Dec	1950.0	L/R	Exposure	Comments
						+/-		
		1	L NCAVD				120 ^m	
		2	"				120 ^m	
		3	"				120 ^m	
		4	THAr			↓	60 ^s	
		5	SKYEVEM	Stow	posit		2 ^m	Meridian, +31°
		6	THAr			↑	60 ^s	
		7	THAr			↓	60 ^s	
		8	SKYEVEM	9 hrs West	+26		2 ^m	
		9	THAr			↑	60 ^s	
		10	THAr			↓	60 ^s	
		11	H18252a	19:22:35.1	H 50 09		2.5 ^m	IAN STD
		12	THAr			↑	60 ^s	
		13	THAr			↓	60 ^s	
		14	G130-29	23:56:16	33:27:54		3 ^m	HALO BINARIES
		15	THAr			↑	60 ^s	
		16	THAr			↓	60 ^s	
		17	G126-52	22:01:51	49:18:36		17 ^m	HALO BINARIES
		18	THAr			↑	60 ^s	
		19	THAr			↓	60 ^s	
		20	SV VUL	19:49:28	27:19:53		2 ^m	
		21	THAr			↑	60 ^s	Cepheid
		22	THAr			↓	60 ^s	
		23	S166200	00:18:13	-25:44:36		3 ^m	Italo Binaries
		24	THAr			↑	60 ^s	
		25	THAr			↓	60 ^s	
		26	H3008	00:30:42	-11:00:00		3 1/2 ^m	
		27	THAr			↑	60 ^s	
		28	THAr			↓	60 ^s	
		29	MVA 550	21:37:19	47:26:15		14.5 ^m	MARSHALL BINARIES 10% MOON
		30	THAr			↑	60 ^s	
		31						
		32						

TO CAM 12/6

Intensified Reticon

Spectrograph ECHELLE Log Sheet RAW/RET

Grating 300L Observer JC + RJD

Telescope 61" Wyeth Date Dec 6/7 1987 Disk ORD 1869

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1	thAr		↓	60 ^s	
		2	G70-35	01:01:54	-02:38:00	6 ^m	HALO BINARIES
		3	thAr		↑	60 ^s	
		4	thAr		↓	60 ^s	
		5	G28-17	22:48:13	+01:36:18	3 ^m	HALO BINARIES
		6	thAr		↓	60 ^s	
7 thAr → ↓		8	214-18A	22:13:08	+39:31:36	3 ^m	
		9	thAr		↓	60 ^s	
		10	214-18B	22:13:08	+39:31:36	20 ^m	15% Moon light
		11	thAr		↓	60 ^s	
		12	214-18B	"	"	15 ^m	This * is ~ 12.5 mag.
		13	thAr		↑	60 ^s	
		14	thAr		↓	60 ^s	
		15	G6-20	03:34:10	25:49:48	2.5 ^m	HALO BINARIES
		16	thAr		↑	60 ^s	
		17	thAr		↓	60 ^s	
		18	G83-38	04:45:46	+18:13:36	2 ^m	HALO BINARIES
		19	thAr		↑	60 ^s	
		20	thAr		↓	60 ^s	
		21	(20X)	04:24:52	+20:41:57	2 ^m	Asteroid
		22	thAr		↑	60 ^s	
		23	thAr		↓	60 ^s	
		24	G82-5	04:12:29	-5:45:24	8.5 ^m	HALO BINARIES
		25	thAr		↑	60 ^s	
		26	thAr		↓	90 ^s	25893 Na D
		27	S021379	03:24:33	12:33:43	17 ^m	Dupree local Cloud Na D
		28	thAr		↑	80 ^s	
		29	thAr		↓	90 ^s	Change Rotation: .580
		30	S093422	03:22:25.3	12:18:37	21.5 ^m	
		31	thAr		↓	80 ^s	
		32					

Intensified Reticon TO CAM 12/6

Spectrograph ECHELLE Log Sheet RAW/RET

Grating 300L Observer JC & RJD

Telescope 61" Wyeth Date Dec 6/7 1987 Disk ORO 1870

Change...	File	ID	RA	Dec	1950.0	L/R	Exposure	Comments
						+/-		
L		5093422	03:22:25	12:18:37			24 ^m	λ 5893. NaD Dupree
		THAr				↑	90 ^s	
		THAr				↓	90 ^s	
[5093479	03:29:27.4	11:22:28			16 ^m	Dupree STD X, Aφ, v=6.7
		THAr				↓	90 ^s	
		5093479	"	"			16 ^m	
		THAr				↓	90 ^s	
[5893421	03:22:20.8	10:08:04			22 ^m	
		THAr				↓	90 ^s	
		5093421	"	"			25 ^m	
		THAr				↑	90 ^s	
		THAr				↓	60 ^s	
		H26162	04:06:14.9	19:28:43			3 ^m	IAU STD 5187A
		THAr				↑	60 ^s	
		THAr				↓	60 ^s	
		H33798	05:09:30.6	147:06:56			2 ^m	MARSHALL BINARY
		THAr				↑	60 ^s	
		THAr				↓	60 ^s	
		G-87-20	06:59:40	38:13:12			2 ^m	HALO BINARY
		THAr				↑	60 ^s	
		THAr				↓	60 ^s	
		G-L380	10:08:19	44:42:30			2 ^m	KENYON NEARBY
		THAr				↑	60 ^s	
		THAr				↓	60 ^s	
		G49-19	9:35:56	28:38:08			7 ^m	HALO BINARY
		THAr				↑	60 ^s	
		THAr				↓	60 ^s	
		G116-15	09:12:44	140:27:18			5 ^m	HALO BINARY
		THAr				↑	60 ^s	
		THAr				↓	60 ^s	
		G9-31	8:49:51	22:45:00			6 ^{1/2} ^m	
		THAr				↑	60 ^s	

Intensified Reticon TO CAM 12/6
 Spectrograph ECHELLE Log Sheet RAW/RET
 Grating 300L Observer JC + RJO
 Telescope 61" Wyeth Date 12/6-7/87 Disk ORO 1872

Change....	File	ID	RA	Dec	1950.0	L/R	Exposure	Comments
						+/-		
		THAr				↓	60 ^s	25787
	5159010		12:39:48	-0:39:39			2 ^m	M STARS
		THAr				↕	60 ^s	
	6L488		12:46:10	00:29:42			3 ^m	M STARS
		THAr				↑	60 ^s	
		THAr				↓	60 ^s	
	958-23		10:47:12	20:45:30			3 ^m	Halo Binaries
		THAr				↑	60 ^s	
		THAr				↓	60 ^s	
	G44-44		10:50:00	+5:16:06				HALO BINARIES
		THAr				↑	60 ^s	
		THAr				↓	60 ^s	
	G45-18		10:53:38	+2:19:42			6 ^m	HALO BINARIES
		THAr				↑	60 ^s	
		THAr				↓	60 ^s	
	G58-30		10:54:29	+2:04:30			2 ^m	HALO BINARIES
		THAr				↑	60 ^s	
		THAr				↓	60 ^s	
	G54-21		0:14:08	+26:06:54			2 ^m	HALO BINARIES
		THAr				↑	60 ^s	
		THAr				↓	60 ^s	
	H106516		2:12:36	-10:01:14			2 ^m	HALO BINARY
		THAr				↑	60 ^s	
		THAr				↓	60 ^s	
	481797		09:25:07.8	-8:26:28			2 ^m	TAU R.V. S.H. 1.0 NO.
		THAr				↑	60 ^s	
		THAr				↓	60 ^s	
	SKYDOME	4 ^h E		+10°			2 ^m	
		THAr				↑	60 ^s	
		THAr				↓	60 ^s	
	SKYDOME	STOW		PASS			2 ^m	Meridian +31°
		THAr				↑	60 ^s	

Intensified Reticon

TO CAM 12-7-87

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 300L

Observer JC & RPS

Telescope 61" Wye Hk

Date 12/6-7/87

Disk ORO 1873

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

Change....	File	ID	RA	1950.0	Dec	L/R	Exposure	Comments
		1					120m	
		2					120m	
7-8 Dec 1987		3				↓	60s	5187 Å - clear -
		4			+31°		2m	0° hrs +31°
		5				↑	60s	
		6				↓	60s	
		7				+31°	3m	4 hrs West
		8				↑	60s	
		9				↓	60s	
		10					4m	TAN STD
		11				↑	60s	
	Th-Ar →	12					↓	90s
	13				+37:52:36		20.5m	SALLIE H ₂ 26562 Å 1.0 ND FIL
	14					↑	90s	
	15					↓	90s	
	16				40:34:31		11m	SALLIE H ₂ 26562 Å
	17					↑	90s	
	18					↓	90s	
	19				-05:47:32		10.5m	SALLIE H ₂ 1.0 ND Filter
	20					↑	90s	
	21					↓	90s	
	22				-02:59:00		20m	SALLIE H ₂
	23					↑	90s	
	24					↓	90s	
	25				-00:33:49		10m	2.9 H ₂ -profiles 1.0 ND
	26					↑	90s	
	27					↓	90s	
	28				46:11:14		11m	3.9 H ₂ -profiles 1.0 ND
	29					↑	90s	
	30					↓	90s	
	31				07:23:58		7.5m	0.8 H ₂ profiles 2.0 ND
	32					↑	90s	

Intensified Reticon

TO CAM 12/9

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 3002

Observer JRC

Telescope 61" Wyoth

Date Dec 8-9 1987

Disk ORO 1877

Change....	File	ID	RA	Dec	L/R ↑/↓	Exposure	Comments
			1950.0				
		1			↓	60s	
	G65319		8:40:02	+9:44:18		10 ^m	971 MSTRALS
		3			↑	60s	
		4			↓	60s	
	S155275		9:30:9	-17:12:42		9.5 ^m	HALO BINARIES 9.41/20 CLOUDY 2h47 5am
		6			↑	60s	
		7			↓	60s	
	G61-24		12:55:04	+8:57:48		20 ^m	HALO BINARIES 8.9/100
		9			↑	60s	
	Th-Ar		4hr SE	+20°	↓	60s	(Th-Ar)
	SKYDIVER		4hr SE	+20°		3 ^m	(sky)
		12			↑	60s	(Th-Ar)
	Th-Ar		4hr SE	+20°	↓	60s	(Th-Ar)
	SKYDIVER		0 h.	+20°	↑	2 M	(sky)
		15			↑	60s	(Th-Ar)
	INCOMP	16				120	
	"	17				120	
12/9-10/87 RJD		18			↓	60s	Cloudy until 9 P.M.
	H26162		4:06:149	19:28:43		4 ^m	IAU Rad Vel Std
		20			↑	60s	
		21			↓	60s	
	S69-1		00:29:55	27:55:18		20 ^m	HALO Binaries
		23			↑	60s	
		24			↓	60s	Dew on Mirror. Turn on Heater
	G37-10		02:49:54	35:26:06		11 ^m	
		26			↑	60s	
		27			↓	60s	
	G6-2.0		03:34:10	25:49:48		10 ^{1/2} m	
		29			↑	60s	
		30			↓	60s	Long Wait - dry off mirror
	S83-34		04:45:46	18:37:36		2 ^m	
		32			↑	60s	

Spectrograph ECHELLE

Intensified Reticon

TO CAM 12/9Grating 300 l

Log Sheet

RAW/RETTelescope 61" WyathDate 12/9-10/87Observer JC + RJDDisk ORO 1878

Change....	File	ID	1950.0 RA	Dec	L/R +/-	Exposure	Comments
		ThAr			↓	60 ^s	25187
	G88-31		07:27:34	19:04:18		2 ^m	Halo Binaries
		ThAr			↑	60 ^s	
		ThAr			↓	60 ^s	
	G87-2		06:42:01	35:35:24		3 ^m	
		ThAr			↑	60 ^s	
		ThAr			↓	60 ^s	
	H33778		05:11:30.8	49:06:56		3 ^m	Marshall Binary
		ThAr			↑	60 ^s	
		ThAr			↓	60 ^s	
	G175-37		04:31:57.3	55:18:52		5 ^m	Halo Binaries
		ThAr			↑	60 ^s	
		ThAr			↓	60 ^s	
	G175-15		04:03:08	54:03:12		9 ^m	
		ThAr			↑	60 ^s	
		ThAr			↓	60 ^s	
	G78-40		03:28:40	43:30:06		6 ^m	
		ThAr			↑	60 ^s	
		ThAr			↓	60 ^s	Turn off mirror heaters
	G246-41		03:29:22	59:15:06		4 ^{1/2} ^m	
		ThAr			↑	60 ^s	
		ThAr			↓	60 ^s	
	G246-53		03:50:45	61:01:18		2 ^{1/2} ^m	
		ThAr			↑	60 ^s	
		ThAr			↓	60 ^s	
	G247-9		03:54:17	64:57:36		8 ^m	
		ThAr			↑	60 ^s	
		ThAr			↓	60 ^s	
	G175-24		04:11:21	58:24:06		4 ^{1/2} ^m	
		ThAr			↓	60 ^s	
	G175-26		04:13:19	57:04:48		10 ^m	
		ThAr			↑	60 ^s	

Intensified Reticon TO CAM 12/9

Spectrograph ECHELLE Log Sheet RAW/RET

Grating 3002 Observer RJD.

Telescope 61" Wyeth Date 12/9-10/87 Disk ORO 1879

Change....	File	ID	RA	1950.0 Dec	L/R ↑/↓	Exposure	Comments
		1	ThAr		↓	60 ^s	25187
	G247-42	04:53:31	62:57:24			2 ^m	Halo Binaries
	ThAr				↑	60 ^s	
	ThAr				↓	60 ^s	
	G191-34	05:17:54	59:13:54			2 ^m	
	ThAr				↑	60 ^s	
	G247-8	05:21:33	61:12:00			2 ^m	
	ThAr				↑	60 ^s	
	ThAr				↓	60 ^s	
	G244-37	06:01:35	63:50:36			2 ^m	
	ThAr				↑	60 ^s	
	ThAr				↓	60 ^s	
	G192-43	06:43:24	58:42:12			17 ^m	
	ThAr				↑	60 ^s	
	ThAr				↓	60 ^s	
	G107-25	06:47:18	48:06:54			7 ^m	
	ThAr				↑	60 ^s	
	ThAr				↓	60 ^s	
	G111-38	07:46:05	41:35:54			4 ^m	
	ThAr				↑	60 ^s	
	ThAr				↓	60 ^s	
	(4)	08:44:40.6	19:25:14			3 ^m	
	ThAr				↑	60 ^s	
	ThAr				↓	60 ^s	
	G9-13	08:37:07	11:42:30			2 ^m	
	ThAr				↑	60 ^s	
	ThAr				↓	60 ^s	
	G115-52	09:03:27	47:19:06			2 ^m	
	ThAr				↑	60 ^s	
	ThAr				↓	60 ^s	
	G111-68	08:14:46	44:46:18			6 ^m	
	ThAr				↑	60 ^s	

Intensified Reticon

TO CAM 12/10/87

Spectrograph ECHELLE

Log Sheet

RAW RET

Grating 300L

Observer RJD

Telescope 61" Wyeth

Date 12/9-10/87

Disk ORO 188φ

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60 ^s	25187
	G195-30	09:26:52	52:22:24			3 1/2 ^m	Halo Binaries
		3			↑	60 ^s	
		4			↓	60 ^s	
	G116-76	09:59:23	44:49:18			3 ^m	
		6			↑	60 ^s	
		7			↓	60 ^s	
	G120-47	11:22:20	29:13:06			2 ^m	
		9			↑	60 ^s	
		10			↓	60 ^s	
	G61-14	12:44:05	24:25:12			2 ^m	
		12			↑	60 ^s	
		13			↓	60 ^s	
	H92588	10:38:51.5	-1:28:41			2 ^m	IAC Rad Vel Std
		15			↑	60 ^s	
		16			↓	60 ^s	
	SKYDOME	3 1/2 ^h E	+10 ^o			3 ^m	
		18			↑	60 ^s	
		19			↓	60 ^s	
	SKYDOME	Stars	Posit			3 ^m	Meridian +31 ^o
		21			↑	60 ^s	
	INCANOS					120 ^m	
	"					120	
	"					80	
10-11 Dec. 1987		25			↓	60 ^s	
	SKYDOME	0hr	+31 ^o			2 ^m	CLUMP
		27			↑	60 ^s	
		28			↓	60 ^s	
	SKYDOME	4.5 hrs West	+31 ^o			2 ^m	CLUMP
		30			↑	60 ^s	
		31					
		32					

Intensified Reticon

TO CAM 12/11

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 300l

Observer JC / RPS

Telescope 61" Mydd

Date Dec 10, 1987

Disk 000 1987

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60s	
	H4128		01:41:04.8	-18:15:39		3m	IAU STD 91. CLONM
		3			↑	60s	
		4			↓	60s	
	G170-29		23:56:16	93:27:59		4.5m	HALO BINARIES 7.8/15
		6			↑	60s	
11-12 Dec. 1987		7			↓	60s	5187A -clearing-
	H213014		22:25:46	17:00:28		2.5m	7.7 IAU standard
		9			↑	60s	
		10			↓	60s	
	S128427		23:49:24	02:39:09		2m	5.9 M-stars
		12			↑	60s	
		13			↓	60s	
	G25908		23:46:38	02:07:32		12m	9.0 "
		15			↑	60s	
		16			↓	60s	
	G254B		00:03:05.0	45:32:00		4m	9.0 S-component M stars
		18			↑↓	60s	
	G254A		00:03:05.0	45:32:06		15m	8.9 N-component M-stars
		20			↑	60s	
	G252		00:02:35	45:30:30		17m	9.9 M stars
		22			↑	60s	
		23			↓	60s	
	G2514		00:14:28	40:40:18		6m	9.0 "
		25			↑	60s	
		26			↓	60s	
	S036250		00:15:41.2	44:16:52		3m	7.6 "
		28			↑	60s	
		29			↓	60s	
	G2515A		00:15:40.5	43:44:37		6m	8.1 " & Space Motion
		31			↑	60s	& Nearby
		32					

Spectrograph ECHELLE Intensified Reticon
 Grating 300L Log Sheet
 Telescope 61" Wyeth Date 11-12 Dec. 1987

TO CAM 12/11
RAW/RET
 Observer RDS
 Disk ORO 1882

Change....	File	ID	RA	1950.0 Dec	L/R ↑/↓	Exposure	Comments
		1	Th-Ar		↓	60s	
		2	GDS15B	00:15:14	43:44:37	20m	11.0 Mstars, Space Motion & Nearby
		3	Th-Ar		↑	60s	RA should be 00 15 41, catalog wrong. Fixed.
		4	Th-Ar		↓	60s	
		5	G6-20	03:34:10	25:49:48	4.5m	9.1/100 HALO - cloudy -
		6	Th-Ar		↑	60s	
		7	Th-Ar		↓	60s	
		8	S076206	03:45:07	24:50:08	2.5m	6.8/100 Mstars
		9	Th-Ar		↑	60s	
		10	Th-Ar		↓	60s	- clear -
		11	G25154	03:43:19	26:03:42	9m	9.6/40 "
		12	Th-Ar		↑	60s	
		13	Th-Ar		↓	60s	
		14	S076886	04:20:44.7	22:50:59	4m	7.2 "
		15	Th-Ar		↑	60s	
		16	Th-Ar		↓	60s	
		17	G25169	04:26:02	21:48:47	3.5m	8.3 "
		18	Th-Ar		↑	60s	
		19	Th-Ar		↓	60s	
		20	G25176	04:40:00	18:52:06	12.5m	9.9/40 "
		21	Th-Ar		↑	60s	
		22	Th-Ar		↓	60s	
		23	G83-34	04:45:46	18:37:36	3m	6.7/15 HALOS
		24	Th-Ar		↑	60s	
		25	th-Ar		↓	60s	
		26	H361	4:22:33.5	+17:54:18	3m	8.0 HYADES
		27	th-Ar		↑	60s	
		28	th-Ar		↓	60s	
		29	G129	4:11:24	+9:16:54	11m	11.1 HYADES
		30	Th-Ar		↑	60s	
		31	/				
		32	/				

Spectrograph ECHELLE Intensified Reticon TO CAM
 Grating 300 l Log Sheet RAW RET
 Telescope 61" Wynth Date Dec 13, 1987 Observer JRL & REM
 Disk 1886 DCO

Change....	File	ID	RA	Dec	1950.0 L/R +/-	Exposure	Comments
		1	TH-AR			60 ^s	6563A ⁰
		2	P CYG	20 15 57	+39 53	20 ^m	ND=1 FILTER
		3	th Ar			60 ^s	
		4	th Ar			60 ^s	
		5	β Agr	21:28:56	-5:47:32	15 20 M	BALUNAS ND=1 FILTER
		6	th Ar			60 ^s	
		7	th Ar			60 ^s	
		8	PF Agr	21:58:01	-2:59:00	20 M	BALUNAS
		9	th Ar			60 ^s	
		10	th Ar			60 ^s	
		11	α Agr	22:03:13	-0:33:49	15.5 M	BALUNAS ND=1 FILTER CLDS INTERMIT
		12	th Ar			60 ^s	
		13	th Ar			60 ^s	
		14	Alphori	5:52:28	07:23:58	7.5 m	" Hx-profiles 20ND
		15	th Ar			60 ^s	
		16	th Ar			60 ^s	5187Å -cloudy-
		17	G83-34	4:45:46	+18:37:36	3.5 M	HALO BINARIES
		18	th Ar			60 ^s	
		19	th Ar			60 ^s	N
		20	G6-20	3:34:10	+25:49:48	6 M	HALO BINARIES
		21	th Ar			60 ^s	
		22	th Ar			60 ^s	
		23	G37-10	2:49:54	+35:26:06	3 M	HALO BINARY
		24	th Ar			60 ^s	
		25	th Ar			60 ^s	
		26	G72-59	2:05:31	+28:04:18	10.5 M	HALO BINARY - S. object
		27	th Ar			60 ^s	
		28	G72-58	2:05:31	+28:04:36	5 M	HALO BINARY - N. object
		29	th Ar			60 ^s	
		30	th Ar			60 ^s	
		31	P2445	05:34:23	-05:01:20	20 M	11.0/15 Larry / Trapezium
		32	th Ar			60 ^s	

Intensified Reticon

TO CAM 12/14

Spectrograph ECHELLE

Log Sheet

RAW RET

Grating 300L

Observer JRC

Telescope 61" Wyeth

Date Dec 13, 1987

Disk 020 1888

Change....	File	ID	1950.0 RA	Dec	L/R +/-	Exposure	Comments
					↓	60s	
	G9-31	8:49:51	22:45:00			10m	10.53/15 HALOS
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	H8949	10:17:01	19:32:15			2m	IRK STD 1.0 ND FILTER
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G53-41	10:24:50	1:39:30			10m	11.04/15 HALOS
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G44-30	10:37:43	11:27:24			12m	11.3/15 HALOS
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G10-4	11:08:26	06:41:48			17m	11.4/15 " double??
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G193-80	07:52:43	56:20:30			3m	10.3/15 "
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G194-22	08:15:33	54:15:00			3m	9.6/15 "
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	Grs 338A	09:10:52	52:53:43			3.5	7.6 Mstars Western *
	Th-Ar				↑	60s	
	Grs 338B	09:10:54	52:53:46			3.5	7.7 " Eastern *
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	Grs 380	10:08:13	49:42:09			2m	6.6 "
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	SP43285	10:16:21	48:38:52			2m	6.1 "
	Th-Ar				↑	60s	

Intensified Reticon

TO CAM 12/14

Spectrograph ECHELLE

Log Sheet

RAW RET

Grating 300L

Observer JCS RPS

Telescope 61" Wyeth

Date 13-14 Dec. 1987

Disk ORO 1889

Change....	File	ID	RA	Dec	1950.0	L/R	Exposure	Comments
						+/-		
		1	↑-AR	↑ hrs East	+31°	↓	60s	
		2	SKYDWN	↓	↓		2M	4 hrs East
		3	Th-Ar			↑	60s	
		4	Th-Ar			↓	60s	
		5	SKYDWN	0 hrs	+31°		2M	0 hrs.
		6	Th-Ar			↑	60s	
		7	ILCAN				120	
		8	ILCAN				90	
		9	Th-Ar			↓	60s	
14-15 DEC RJD + JRC		10	SKYEVG	0 hrs	+31°		2M	
		11	Th-Ar			↑	60s	
		12	Th-Ar			↓	60s	
		13	SKYEVG WEST	4 hrs	+31°		2M	
		14	Th-Ar			↑	60s	
		15	Th-Ar			↓	60s	
		16	H4128	04:41:8 ^s	16:15:39		2M	IR 511) 1.0 ND Filter
		17	Th-Ar			↑	60s	
		18	Th-Ar			↓	60s	
		19	G130-29	23:56:16	33:27:54		2M	HAZOS 752/15
		20	Th-Ar			↑	60s	
		21	Th-Ar			↓	90s	
		22	G42-15	19:31:47	+4:59:18		3M	" 9.2/15
		23	Th-Ar			↑	90s	
		24	Th-Ar			↓	60s	
		25	S127114	21:49:00	00:32:08		3M	M STARS 6.9
		26	Th-Ar			↑	60s	
		27	Th-Ar			↓	60s	
		28	S127114	21:49:00	00:32:08		6M	G1s 846-21:59:38 - 701.09.50
		29	Th-Ar			↑	60s	
		30	Th-Ar			↓	60s	
		31	G262-32	20:58:10	64:51:00		9M	Halo Binaries
		32	Th-Ar			↑	60s	

Intensified Reticon

TO CAM 12/14

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 300L

Observer JRC + RJD

Telescope 61" Wyeth

Date 14-15 DEC 1987

Disk ORO 1890

Change....	File	ID	1950.0 RA	Dec	L/R +/-	Exposure	Comments
		1	ThAr		↓	60s	
		2	GL660b	22:26:13	57:26:48	12 ^m	Nearby
		3	ThAr		↕	60s	
		4	GL660a	22:26:13	57:26:48	5 ^m	Nearby
		5	ThAr		↑	60s	
		6	ThAr		↓	60s	
		7	G33-30	0:58:27	16:06:18	15 ^m	HALOS 10.65/30
		8	ThAr		↑	60s	
		9	ThAr		↓	90s	λ 5893 Å
		10	S108216	22:49:17.6	14:49:12	20 ^m	NaD Dupree STD
		11	ThAr		↕	90s	
		12	S108216	22:49:17.6	14:48:12	25 ^m	" " STD
		13	ThAr		↑	90s	
		14	ThAr		↓	90s	" "
		15	S108478	23:11:47.2	49:29:35	20 ^m	
		16	ThAr		↕	90s	
		17	S108478	"	"	20 ^m	Sky too hazy to try 3 rd opp.
		18	ThAr		↑	90s	this low in sky.
		19	ThAr		↓	90s	
		20	S149831	4:39:27.2	12:34:12.8	21 ^m	NaD Dupree
		21	ThAr		↕	90s	
		22	S149831	"	"	18 ^m	" "
		23	ThAr		↕	90s	
		24	S149776	04:35:40.3	-13:07:40	21 ^m	" "
		25	ThAr		↕	90s	
		26	S149776	"	"	20 ^m	" "
		27	ThAr		↕	90s	
		28	S149776	"	"	20 ^m	" "
		29	ThAr		↑	90s	
		30					
		31					
		32					

Intensified Reticon

TO CAM 12-14-87

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 300 l

Observer JRC + RJD

Telescope 61" Wyeth

Date 12/14-15/87

Disk ARO 1891

Change....	File	ID	1950.0 RA	Dec	L/R +/-	Exposure	Comments
		1	ThAr		↓	60 ^s	25187 Å ← CHANGE
		2	G72-59	2:04:31	128:04:18	10 ^m	10.55/15 Halo Binaries
		3	ThAr		⊕	60 ^s	
		4	G72-58	2:04:31	128:04:36	5 ^m	9.99/15 " "
		5	ThAr		↑	60 ^s	
		6	ThAr		↓	60 ^s	
		7	G6-20	03:34:10	25:49:48	2 ^m	
		8	ThAr		↑	60 ^s	
		9	ThAr		↓	60 ^s	
		10	G83-34	04:45:46	18:37:36	2 ^m	
		11	ThAr		↑	60 ^s	
		12	ThAr		↓	60 ^s	
(29)		13	G83-34	08:08:33	29:24:28	3 ^m	Asteroid
		14	ThAr		↑	60 ^s	
		15	ThAr		↓	60 ^s	
		16	S015472	11:16:06.7	62:27:22	2 ^m	M Stars
		17	ThAr		↑	60 ^s	
		18	ThAr		↓	60 ^s	
		19	G15430	11:28:22	63:26:00	5 ^m	
		20	ThAr		↑	60 ^s	
		21	ThAr		↓	60 ^s	
		22	S043396	10:32:32.2	45:51:46	2 ^m	
		23	ThAr		↑	60 ^s	
		24	ThAr		↓	60 ^s	
		25	G15397	10:28:25	45:47:06	3 ^m	
		26	ThAr		↑	60 ^s	
		27	ThAr		↓	60 ^s	
G49-19		28	G72-58	09:35:56	28:38:06	5 ^m	Halo Binaries
		29	ThAr		↑	60 ^s	
		30	ThAr		↓	60 ^s	
		31	G46-31	09:14:28	03:14:12	7 ^m	" "
		32	ThAr		↑	60 ^s	

Intensified Reticon

TO CAM 12/14

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 3002

115

Observer JAC & RJD

Telescope 61" Nymth

Date 12-14-87

Disk ORO 1892

Change....	File	ID	1950.0 RA	Dec	L/R +/-	Exposure	Comments
		1			↓	60s	
	G112-6	2	7:16:04	+3:47:24		9m	HALO BINNIES
		3			↑	60s	
		4			↓	60s	
	G108-46	5	6:56:55	+9:9:48		7m	" "
		6			↑	60s	
		7			↓	60s	
	G105-50	8	6:34:52	12:07:06		8m	" "
		9			↑	60s	
		10			↓	60s	
	G98-53	11	06:10:32	33:26:12		6m	" "
		12			↑	60s	
		13			↓	60s	
	G98-56	14	06:11:31	37:53:30		9m	" "
		15			↑↓	60s	
	G101-34	16	06:16:37	38:22:12		5m	" "
		17			↑	60s	
		18			↓	60s	
	G249-37	19	06:01:35	63:50:36		2m	" "
		20			↑	60s	
		21			↓	60s	
	G107-43	22	06:58:45	37:01:30		5m	" "
		23			↑	60s	
		24			↓	60s	
	G87-19	25	06:59:23	31:38:36		6m	" "
		26			↑	60s	
		27			↓	60s	
	G87-27	28	7:6:46	37:21:36		4m	" "
		29			↑	60s	
		30			↓	60s	
	G9-42	31	8:57:54	21:39:12		2m	" "
		32			↑	60s	

Intensified Reticon

TO CAM 12/14

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 300 l

Observer JRC + RJD

Telescope 61" Wyeth

Date 12/14-15/87

Disk ORO 1894

Change....	File	ID	1950.0 RA	Dec	L/R +/-	Exposure	Comments
		1			↓	60 ^s	25187
		2	H92588	10:36:51	-1:28:41	2 ^m	THAR STDS.
		3			↑	60 ^s	
		4			↓	60 ^s	
		5	G60-67	13:06:19	05:28:54	2 ^m	Halo Binaries
		6			↑	60 ^s	
		7			↓	60 ^s	
		8	SKYDOME			2 ^m	4 ^h E, +31°
		9			↑	60 ^s	
		10			↓	60 ^s	
		11	SKYDOME			2 ^m	
		12			↑	60 ^s	No INCANDS.
		13					Take Tape to
		14					Cambridge
		15					
		16					
		17					
		18					End of Nov-Dec. Run
		19					
		20					
		21					
		22					
		23					
		24					
		25					
		26					
		27					
		28					
		29					
		30					
		31					
		32					

Intensified Reticon

TO CAM 12/26/87

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 3002

Observer

JRC

Telescope 61" Wyeath

Date 12/26/87

Disk

020 1896

Change....	File	ID	RA	1950.0 Dec	L/R +/-	Exposure	Comments
					↓	60 ^s	
		thAr			↓	60 ^s	
		(20)	04:07:43	+9:56:29		3 ^m	ASTEROID
		thAr			↑	60 ^s	
		thAr			↓	60 ^s	
		G103-49	6:36:55	+30:04:54		8 ^m	HALOFIN 10.8/15
		thAr			↑	60 ^s	
		thAr			↓	60 ^s	
		G87-20	6:59:40	+38:13:12		2 ^m	HALOFIN 9.45/15
		thAr			↓	60 ^s	
thAr →		thAr	thAr	thAr	↓	60 ^s	thAr
		G88-5	7:03:12	+19:42:54		10 ^m	HALOFIN 10.2/20
		thAr			↑	60 ^s	
		thAr			↓	60 ^s	
		G84-39	5:14:02	+5:08:33		8 ^m	HALOFIN 10.6/15
		thAr			↑	60 ^s	
		thAr			↓	60 ^s	
		G99-21	5:36:48	+3:55:36		7 ^m	HALOFIN 10.3/15
		thAr			↑	60 ^s	
		thAr			↓	60 ^s	
		G102-20	5:37:21	+12:09:11		5 ^m	HALOS 10.2/
		thAr			↑	60 ^s	
		thAr			↓	60 ^s	
		G40-E	08:01:46	+15:30:28		2 ^m	HALOFIN 8.5/15
		thAr			↑	60 ^s	
		thAr			↓	60 ^s	
		G100-60	6:05:26	+22:26:48		13 ^m	HALOFIN 11.5/15
		thAr			↑	60 ^s	
		thAr			↓	60 ^s	
		G98-53	6:10:32	+33:26:12		9 ^m	HALOFIN 11.14/15
		thAr			↑	60 ^s	

Intensified Reticon

TO CAM 12/27/87

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 3002

Observer JRC

Telescope 61" Wyeth

Date 12-26-87

Disk 020 1897

Change....	File	ID	RA	Dec	1950.0	L/R	Exposure	Comments
						↑/↓		
		1				↓	60s	5187A
		2	H66141	7:59:39	+2:28:23		2m	1.0 ND FILTER 4x MAG
		3				↑	60s	
		4				↓	60s	
		5	G46-31	9:14:28	+3:14:12		10m	HALOFIN 10.8/15
		6				↑	60s	
		7				↓	60s	
		8	G47-44	7:35:03	+3:49:00		5m	HALOFIN 10.16/15
		9				↑	60s	
		10				↓	60s	
		11	G41-3A	9:20:06	+1:29:16		4m	HALOS 9.65/15
		12				↑	60s	
		13				↓	60s	
		14	(29)	7:59:53	+30:3:12		3m	ASTEROID
		15				↑	60s	
16 thAr		16-17	G58-23	10:47:12	20:45:30		3m	HALOFIN 9.96/14
		17-18				↑	60s	
		18-19				↓	60s	
		19-20	G48-38	7:30:03	+17:11:46		8m	HALOFIN 11.09/15
		20-21				↑	60s	
		21-22				↓	60s	
		22-23	G111-38	7:46:05	+41:35:59		2m	HALOFIN 9.5/15
		23-24				↑	60s	
25-27, 1947 (2m)		24-25	INCANS					(0225am RA slow not operating)
		25-26	INCANS					
		26-27	INCANS					
		27-28	INCANS					
		28-29						
		29						
		30						
		31						
		32						

Intensified Reticon

TO CAM 12/30/87

Spectrograph ECHELLE

Log Sheet

RAW RET

Grating 300 L

Observer JRC

Telescope 61' Wyeth

Date 12-27-87

Disk 020 1899

Change....	File	ID	RA	1950.0 Dec	L/R ↑/↓	Exposure	Comments
		THAR			↓	60 ^s	5187 R
	G6-20		3:34:10	+25:49:46		2 ^m	HALOFIN 9.1/100
		THAR			↑	60 ^s	
		THAR			↓	60 ^s	
	G6-26		3:36:43	+14:13:36		2 ^m	HALOFIN 9.0/15
		THAR			↑	60 ^s	
		THAR			↓	60 ^s	
	G71-27		1:39:22	+1:39:00		2 ^m	HALOS 8.6/70
		THAR			↑	60 ^s	
		THAR			↓	60 ^s	
	S129772		2:12:04	+1:25:59		3 ^m	HALOS 9.09/20
		THAR			↑	60 ^s	
		THAR			↓	60 ^s	
	G73-57		2:23:23	+5:33:12		2 ^m	HALOS 7.95/15
		THAR			↑	60 ^s	
		THAR			↓	60 ^s	
	G62-5		4:12:29	-5:45:24		15 ^m	HALOS 10.6/15 CLOUDING OVER INTER. BY CLOUDS
		THAR			↑	60 ^s	
		THAR			↓	60 ^s	
	G105-30		6:29:52	+12:07:06		11 ^m	HALOFIN 11.7/15 10 CTS ONLY CLOUDED OUT
		THAR			↑	60 ^s	CLOUDED OUT
		INCANS					
		INCANS					
		INCANS					
		INCANS					
		INCANS					
		THAR			↓	60 ^s	5187 R
	THAR	Meridiam		+20°		35 ^m	
		THAR			↑	60 ^s	
						60 ^s	
						60 ^s	
						60 ^s	

Dec 30th 1987

Intensified Reticon

TO CAM 12/30/67

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 3002

Observer JRC

Telescope 61" Winkler

Date Dec 30, 1967

Disk 020 1900

Change....	File	ID	RA	Dec	1950.0	L/R	Exposure	Comments
						+/-		
		1	THAR			↓	60s	5187A
		2	SKYEVER	4	4m. W. + 20°		3m	
		3	THAR			↑	60s	
		4	THAR			↓	50s	
		5	H4128	0:41:04	-18:15:39		2"	LAN STD 1.0 MV Filter
		6	THAR			↑	60s	
		7	THAR			↓	60s	5187A 5187R
		8	THAR	5:24:10	+16:25:16		8m	F-STARS 7.26/300
		9	THAR			↑	60s	
		10	THAR			↓	60s	
		11	16199	2:31:32	+8:46:7		20"	F-STARS 7.9/300
		12	THAR			↑	60s	
		13	THAR			↓	60s	
		14	16453	2:35:52	-1:37:22		20"	F-STARS 9.0/200
		15	THAR			↑	60s	
		16	THAR			↓	60s	
		17	24623	3:52:10	-9:37:59		7m	F-STARS 7.06/200
		18	THAR			↑	60s	
		19	THAR			↓	60s	
		20	27650	4:21:08	-4:14:4		25"	FSTARS 8.1/368
		21	THAR			↑	60s	
		22	THAR			↓	60s	
		23	32684	5:03:01	+29:11:52		22"	F-STARS 9.0/300
		24	THAR			↑	60s	
		25	THAR			↓	60s	
		26	34040	5:12:58	+42:36:44		11"	F-STARS 7.89/200
		27	THAR			↓	60s	
		28	34040	5:12:58	+42:36:44		11"	F-STARS 7.89/200
		29	THAR			↑	60s	
		30	THAR			↓	60s	
		31	(20)				4"	Asteroid
		32	THAR			↑	60s	

Intensified Reticon

TO CAM 12/30/87

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 300L

Observer JRC

Telescope 61" Wyeth

Date 12/30/87

Disk 020 1901

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		thAr			↓	60s	λ 5187 Å
	36845		5:31:32	-18:42:42		12M	F-STARS 8.0/150
		thAr			↑	60s	} 300
	36845		5:31:32	-18:42:42	↓	12M	
		thAr			↑	60s	
		thAr			↓	60s	λ 6562 Å
	2021		5:52:24	+7:24:54		8M	H-Alpha Profiles 20 ND Filter
		thAr			↑	60s	
		thAr			↓	60s	5187 Å
	+ MON		6:22:31	+7:6:53		4M	Ceph filter/OND Phase 956
		thAr			↑	60s	
		thAr			↓	60s	
	SV MON		6:18:45	+6:29:41		4M	Ceph Phase 982
		thAr			↑	60s	
		thAr			↓	60s	
	57769		7:20:57	+36:24:31		12M	FSTARS 6.97/700
		thAr			↑	60s	
	57769		7:20:57	+36:24:31		12M	FSTARS 6.97/700
		thAr			↑	60s	
		thAr			↓	60s	
	71277		8:24:30	+30:42:57		5.5M	FSTARS 8.0/80
		thAr			↑	60s	
		thAr			↓	60s	
	71499		8:25:10	-4:14:50		13M	F-STARS 6.6/600
		thAr			⊙	60s	
	71615		8:25:53	-4:07:06		6M	F-STARS 7.95/80
		thAr			↑	60s	
		thAr			↓	60s	
	75638		8:48:42	+12:18:49		12M	F-STARS 7.8/400
		thAr			↑	60s	
	75638		8:48:42	+12:18:49		12M	F-STARS 7.8/400
		thAr			↑	60s	

Intensified Reticon

TO CAM 12/30/87

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 300 L

Observer JRC

Telescope 61" Wlyth

Date 12/30/87

Disk 020 1902

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
					↓	60s	
		39166	5:44:46	+57:02:04		65M	F-STARS 7.8/150
					↑	60s	
					↓	60s	
		H81797	4:25:7.8	-8:16:28		2M	THA STD 1.0 ND Filter
					↑	60s	
					↓	60s	
		80851	9:19:25	+10:12:48		19M	F-STARS 7.96/500
					↑	60s	
		80851	9:19:25	+10:12:48		19M	F-STARS 7.96/500
					↑	60s	
					↓	60s	
		87810	10:04:46	+21:00:36		5M	FSTARS 6.6/300
					↑	60s	
					↓	60s	
		86788	10:11:53	+17:20:06		20M	F-STARS 8.56/400
					↑	60s	
		86788	10:11:53	+17:20:06		20M	F-STARS 8.56/400
					↑	60s	
					↓	60s	
		92800	10:40:13	+17:28:00		13M	F-STARS 7.99/300
					↑	60s	
		92800	10:40:13	+17:28:00		13M	F-STARS 7.99/300
					↑	60s	
					↓	60s	
		109034	12:29:12	+15:26:13		16M	F-STARS 7.46/350
					↑	60s	
					↓	60s	
		102284	11:43:47	+5:4:10		20M	F-STARS 8.1/500
					↑	60s	
					↓	60s	
					↑	60s	
					↓	60s	
					↑	60s	
					↓	60s	
					↑	60s	
					↓	60s	

300

Intensified Reticon

TO CAM 11/1/88

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 3002

Observer JRC

Telescope 61"

Date 12/31/87

Disk 020 1903

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
↑	102284		11:43:47	-5:4:10		20 ^m	F-STAR 5.1/500 maybe 10 ^h day
	thAr				↑	60 ^s	
	thAr				↓	10 ^s	
	H146051		16:12:39	-3:39:44		2 ^m	IAM 510 1.0 ND filter
	thAr				↑	60 ^s	
	thAr				↓	60 ^s	
	SKYDOWN	4 hrs east		+20°		2 ^m	
	thAr				↑	60 ^s	
	thAr				↓	60 ^s	
	SKYDOWN	Meridian		+20°		2 ^m	
	thAr				↑	60 ^s	
	INCRANS						
	INCRANS						
	INCRANS						
	INCRANS						
	thAr				↓	60 ^s	60 ^s 5187A
	H6779		1:23:53	-0:39:29		7.5 ^m	IAM 510 6.4 Partly CLM
	thAr				↑	60 ^s	
	thAr				↓	60 ^s	
	G32-99		0:44:59	+14:22:42		20 ^m	HALOFIN 10.9/15 cloudy & hazy
	thAr				↑	60 ^s	
	thAr				↓	60 ^s	
	G6-20		3:34:10	+25:49:48		3 ^m	HALOFIN 0.1/100
	thAr				↑	60 ^s	
	thAr				↓	60 ^s	
	G6-2-6		3:36:43	+26:13:36		2 ^m	HALOFIN 7.0/15
	thAr				↑	60 ^s	
	thAr				↓	60 ^s	
	G130-29		23:56:16	+33:27:54		2 ^m	HALOFIN 7.82/15
	thAr				↑	60 ^s	

Jan 1, 1988
late start due
to clouds.