

Intensified Reticon TO CAM

Spectrograph ECHELLE Log Sheet RAW RET

Grating 300L Observer Alexander + Rodriguez

Telescope 61" Wyeth Date Nov 1-2, 1987 Disk ORO 1814

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60s	
		2		0 ^h HA +30°		3m	SKY exp. in meridian.
		3			↑	60s	
		4			↓	60s	
		5		4 ^h W, HA +30°		5m	SKY exp, 4 ^h W
		6			↑	60s	
		7			↓	60s	
		8	H166281	18:06:54 24:33:56		10m	8.1 F stars
		9			↑	60s	
		10			↓	60s	
		11	H171275	18:30:32 38:23:16		7m	7.7 F stars
		12			↑	60s	
		13			↓	60s	
		14	H182785	19:23:39 07:05:48		7m	8.0 F stars
		15			↑	60s	8.0 F stars clouds getting thicker!
		16			↓	60s	
		17	H192327	20:11:46 -00:00:28		15m	8.3 F stars
		18			↑	60s	
		19			↓	60s	
		20	H195511	20:29:18 -03:36:35		20m	8.2 -1-
		21			↑	60s	
		22			↓	60	
		23	H195776	20:30:40 06:39:35		8m	8.1 -1-
		24			↑	60s	
		25			↓	60s	
		26	H197466	20:41:34 -09:13:50		15m	7.7 -1-
		27			↑	60s	7.7
		28			↓	60s	
		29	H200747	21:02:46 00:31:36		10m	
		30			↑	60s	
		31					
		32					

Intensified Reticon TO CAM

Spectrograph ECHELLE Log Sheet RAW RET

Grating 3002 Observer Andersen + Rodrigues

Telescope 61" Wyeth Date Nov. 1-2, 1987 Disk ORO 1815

Change....	File	ID	1950.0 RA	Dec	L/R +/-	Exposure	Comments
		Th-Ar			↓	60s	
	HD 217855		23:00:58	08:41:31		8min	8.2 F STARS
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	HD 218453		23:05:27	39:31:35		7m	7.5
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	HD 219712		23:15:17	33:46:25		5m	7.0
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	HD 219669		23:15:01	16:35:12		6m	8.0
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	V1061 CYG		21:05:45	51:50:48		10min	9.4
		Th-Al			↑	60s	
		Th-Al			↓	60s	
	HD 221972		23:33:56	20:23:18		5m	7.7
		Th-Al			↑	60s	
		Th-Ar			↓	60s	
	HD 222995		23:43:04	12:52:28		5m	7.2
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	HD 224033		25:32:29	-09:44:21		3m	6.8
		Th-Al			↑	60s	
		Th-Al			↓	60s	
	HD 852		00:10:25	12:03:04		10m	7.8
		Th-Al			↑	60s	
		Th-Ar			↓	60s	
	HD 4086		00:40:43	01:46:47		20m	7.8
		Th-Ar			↑	60s	

Intensified Reticon TO CAM

Spectrograph ECHELLE Log Sheet RAW RET

Grating 300L Observer Andersen, Rodrigues

Telescope 61" Wyeth Date Nov 1-2, 1987 Disk ORO 1816

Change....	File	ID	1950.0 RA	Dec	L/R +/-	Exposure	Comments
		1			↓	60s	
		2	G32-49	00:44:59	14:22:12	10m	10.9 HALOFIN
		3	Th-Ar		↑	60s	
		4	Th-Ar		↓	60s	HF
		5	-18271	01:34:54	-19:44:12	10m	9.8 HALOS
		6	Th-Ar		↑	60s	
		7	Th-Ar		↓	60s	F
		8	HD 9024	01:26:26	03:02:15	8m	6.7 FSTAR
		9	Th-Ar		↑	60s	
		10	Th-Ar		↓	60s	
		11	HD 8779	01:23:54	-00:39:29	4m	6.7 JAU
		12	Th-Ar		↑	60s	
		13	Th-Ar		↓	60s	
		14	DL Cas	02:27:11	59:56:12	6m	9.7 CEPH
		15	Th-Ar		↑	60s	
		16	Th-Ar		↓	60s	
		17	G243-63	01:06:30	01:16:48	4m	7.7 HALOS
		18	Th-Ar		↑	60s	
		19	Th-Ar		↓	60s	
		20	G243-62	01:05:10	03:15:00	20m	11.5 -H-
		21	Th-Ar		↑	60s	
		22	Th-Ar		↓	60s	
		23	G172-38	01:02:41	49:11:18	15m	11.1 -H-
		24	Th-Ar		↑	60s	
		25	Th-Ar		↓	60s	
		26	G172-46	01:13:37	51:35:48	20m	11.1 -H-
		27	Th-Ar		↑	60s	
		28	Th-Ar		↓	60s	
		29	G134-40	02:34:26	43:46:42	6m	10.2 HALOFIN
		30	Th-Ar		↑	60s	
		31					
		32					

Intensified Reticon TO CAM

Spectrograph ECHELLE Log Sheet RAWRET

Grating 300L Observer Andersen

Telescope 61" Wyeth Date Nov 1-2, 1987 Disk ORO 1818

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		Th-Ar			↓	60s	
	G90-35	07:57:13	32:14:48			4.5m	10.3 HALOS/W
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	HD 69715B	08:16:20	35:12:00			3m	7.1 FSTARS
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	SKY-DWN	0 ^h MA	+35°			8.5m	Sky - Dawn; on meridian
		Th-Ar			↑	60s	
	INCANDS					120m	
	INCANDS					120m	
2-3 Nov 1987	Th-Ar				↓	60s	5187A - clear -
	SKY-EVE	φ hrs	+20°			2m	
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	SKY-EVE	4 hrs W	+20°			2m	
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	(3)	21:44:22	-13:18:26			4m	Asteroid
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	GL 699	17:55:23	04:33:18			8.5m	9.5 Nearby & Space Motion
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	GL 820a	21:04:40	38:30:00			2m	5.2 Nearby & M star
		Th-Ar			↑	60s	
	GL 820b	21:04:40	38:30:00			2m	6.0 " "
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	G 18-28	22:03:14	2:08:18			2.5m	9.6/30 HALOS
		Th-Ar			↑	60s	
		/					

Spectrograph ECHELLE Intensified Reticon
 Log Sheet

TO CAM 11/4

Grating 300L Observer RPS

Telescope 61" Wyeth Date 2-3 Nov 1987 Disk ORO 1821

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

Change....	File	ID	RA 1950.0	Dec	L/R	Exposure	Comments
		Th-Ar			↓	60s	
	G5-27		03:15:40	15:00:00		2.5m	7.4/15 HALOS
		Th-Ar			↑	60s	- thin cloud cover -
		Th-Ar			↓	60s	
	G173-59		02:30:30	49:17:12		3.5m	8.9/15 HALOS
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	G95-35		03:21:52	41:57:00		4m	9.4/15 "
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	G78-40		03:28:40	43:30:46		3m	8.6/15 "
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	G5-44		03:31:21	22:49:24		5m	9.2/15 "
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	H26162		04:06:15	19:28:43		2m	5.5 IAU standard
		Th-Ar			↑	60s	- stopped by clouds -
		Th-Ar			↓	60s	- light rain -
	SKY-DOWN	φ hrs	-15°			2m	
		Th-Ar			↑	60s	
		INCLIN				120	
		INCLIN				120	
4-5	NOV. 1987	Th-Ar			↓	60s	5187A sky cloudy
		SKYVIEW	0h	+31°		2m	(3-4 Nov cloudy) unjust
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	SKYVIEW	4" W	+31°			1m	
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	H182572		19:22:35.1	11:50:09		2m	3AU Rad. Vol. Std.
		Th-Ar			↑	60s	

TO CAM 11/4

Intensified Reticon

Spectrograph ECHELLE Log Sheet RAW/RET

Grating 3002 Observer RJD

Telescope 61" Wyeth Date 11/4-5/87 Disk ORO 1823

Change....	File	ID	RA	Dec	1950.0 L/R ↑/↓	Exposure	Comments
		Th Ar			↓	90 ^s	25876
	P Cyg	20:15:57	37:52:36			20 ^m	1.0 Neutral Density
	Th Ar				↑	90 ^s	Almost clear - then
	S49438	20:16:21	40:34:31			12 ^m	the clouds came back
	Th Ar				↑	90 ^s	
	Th Ar				↓	60 ^s	5187 Å. Clear again
	H4128	00:41:04.8	-18:15:39			5 ^m	IAU Rad Vel Std. 1,000
	Th Ar	(1.0	N.O.)		↑	60 ^s	But clouds in this part of sky
	Th Ar				↓	60 ^s	Clear again after 1 ^h wait
	H8779	01:23:52.6	-0:39:29			3 ^m	IAU Rad Vel Std
	Th Ar				↑	60 ^s	Cloudy almost jammed.
	Th Ar				↓	60 ^s	1/2 clear 1/2 hr later
	G69-1	00:29:55	27:55:11			3 ^m	Italo Binaries
	Th Ar				↑	60 ^s	
	Th Ar				↓	60 ^s	
	G37-10	02:49:54	35:26:06			2 1/2 ^m	
	Th Ar				↑	60 ^s	
	Th Ar				↓	60 ^s	
	G74-31	02:30:58	42:34:12			2 ^m	
	Th Ar				↑	60 ^s	
	Th Ar				↓	60 ^s	
	G78-17	03:04:29	36:25:42			2 ^m	
	Th Ar				↑	60 ^s	
	Th Ar				↓	60 ^s	
	H33798	05:11:34.8	47:06:58			5 ^m	Proj. #42 - Marschall
	Th Ar				↑	60 ^s	
	Th Ar				↓	60 ^s	Sky is clear now
	G39-43	04:54:40	34:11:12			3 ^m	Italo Binaries
	Th Ar				↑	60 ^s	
	Th Ar				↓	60 ^s	
	G217-11	23:28:58	58:53:18			2 ^m	
	Th Ar				↑	60 ^s	

Spectrograph ECHELLE Intensified Reticon
 Grating 300L Log Sheet
 Telescope 61" Wyeth Date 11/4-5/87

TO CAM 11/4

Observer RJD
 Disk ORO 1824

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		TH Ar			↓	60 ^s	5187 A
	G171-7		23:35:30	45:55:24		2 ^m	Halo Binaries
		TH Ar			↑	60 ^s	
		TH Ar			↓	60 ^s	
	G171-3		23:30:57	42:34:06		2 ^m	
		TH Ar			↑	60 ^s	
		TH Ar			↓	60 ^s	
	G172-4		01:17:59	51:43:24		2 ^m	
		TH Ar			↑	60 ^s	
		TH Ar			↓	60 ^s	
	DL CAS		00:27:11	59:56:12		11 ^m	Cepheid. 15% Moonlight
		TH Ar			↑	60 ^s	
		TH Ar			↓	60 ^s	
	G39-1		04:04:14	37:56:42		2 ^m	Halo Binaries
		TH Ar			↑	60 ^s	
		TH Ar			↓	60 ^s	
	G81-19		04:23:46	46:44:48		2 ^{1/2} ^m	
		TH Ar			↑	60 ^s	
		TH Ar			↓	60 ^s	
	T MON		06:22:31	07:06:53		2 ^m	Cepheid
		TH Ar			↑	60 ^s	
		TH Ar			↓	60 ^s	
	558912		06:12:35.8	37:44:38		4 ^m	Halo Binaries
		TH Ar			↑	60 ^s	
		TH Ar			↓	60 ^s	
	G101-31		06:13:11	44:43:42		2 ^m	
		TH Ar			↑	60 ^s	
		TH Ar			↓	60 ^s	
	G103-44		06:33:22	37:53:48		3 ^m	
		TH Ar			↑↓	60 ^s	
	G103-58		06:43:09	35:55:48		6 ^m	
		TH Ar			↑	60 ^s	

Spectrograph ECHELLE
 Grating 300L
 Telescope 61" Wyeth

Intensified Reticon
 Log Sheet
 Date 11/4-5/87

TO CAM 11/4
RAW/RET
 Observer RJD
 Disk ORO 1825

Change....	File	ID	RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 ^s	2 6567 H α
		2	Alph Ori	05:52:28	07:23:58	8 ^m	2.0 N.D. Balinas H α
		3	Th Ar		↑	90 ^s	
		4	Th Ar		↓	60 ^s	2 5187
		5	H66141	07:52:359	02:28:24	2 ^{1/2} ^m	TAU Rad Vel Std
		6	Th Ar		↑	60 ^s	
		7	Th Ar		↓	60 ^s	
		8	(4)	08:30:37.4	18:49:36	5 ^m	Asteroid
		9	Th Ar		↑	60 ^s	light overcast
		10	Th Ar		↓	60 ^s	
		11	Gls 380	10:08:13	49:42:09	3 ^m	M Stars Mazeh
		12	Th Ar		↑	60 ^s	
		13	S043285	10:16:21	48:38:52	2 ^{1/2} ^m	
		14	Th Ar		↑	60 ^s	
		15	Th Ar		↓	60 ^s	
		16	Gls 397	10:28:25	45:47:06	10 ^m	
		17	Th Ar		↑	60 ^s	
		18	Th Ar		↓	60 ^s	
		19	S043627	11:06:51	43:28:44	2 ^m	
		20	Th Ar		↑	60 ^s	
		21	Gls 412A	11:02:43	43:47:39	10 ^m	Citrus
		22	Th Ar		↑	60 ^s	
		23	Th Ar		↓	60 ^s	
		24	H100018	11:28:07	41:33:50	5 ^m	
		25	Th Ar		↑	60 ^s	
		26	Th Ar		↓	60 ^s	
		27	H085217	09:47:54	04:34:42	2 ^m	
		28	Th Ar		↑	60 ^s	
		29	Th Ar		↓	60 ^s	
		30	H181797	09:25:02.8	-8:26:28	2 ^m	IAU Rad Vel Std 1.0
		31	Th Ar		↑	60 ^s	
		32					

TO CAM 11/5

Spectrograph ECHELLE Intensified Reticon
 Grating 300L Log Sheet
 Telescope 61" Wyeth Date 11/4-5/87 Observer RAW/RET
 Disk ORO 1826

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		Th Ar			↓	60 ^s	5187.A
		SKYDOME	3 ^h E	+31°		3 ^m	
		Th Ar			↑	60 ^s	
		Th Ar			↓	60 ^s	
		SKYDOME	Stow	posit		2 ^m	Meridian, +31°
		Th Ar			↑	60 ^s	
		INCANOS				120 ^m	
		INCANOS				90 ^m	
11/5-6/87		Th Ar			↓	60 ^s	
		SKYEVEN	Stow	posit		2 ^m	Meridian, +31°
		Th Ar			↑	60 ^s	
		Th Ar			↓	60 ^s	
		SKYEVEN	3 ^h W	+31°		2 ^m	
		Th Ar			↑	60 ^s	
		Th Ar			↓	60 ^s	
	H182572		19:22:35.1	11:50:09		2½ ^m	3Au Rad Vel Syd.
		Th Ar			↑	60 ^s	
		Th Ar			↓	60 ^s	½ ^m wait for clouds to pass
	G170-47		17:30:38	23:46:18		11 ^m	Halo Binaries
		Th Ar			↑	60 ^s	
		Th Ar			↓	60 ^s	Mostly clear, now
	G183-11		17:52:35	20:16:54		7 ^m	
		Th Ar			↑	60 ^s	
		Th Ar			↓	60 ^s	
	G142-2		18:59:36	15:59:36		8 ^m	
		Th Ar			↑	60 ^s	
		Th Ar			↓	60 ^s	
	S162947		19:42:21	-17:37:42		7½ ^m	
		Th Ar			↑	60 ^s	
		Th Ar			↓	60 ^s	
	206797		21:42:15.6	-22:47:36		8 ^m	F Stars - Andersen
		Th Ar			↑	60 ^s	Mostly Cloudy Again

Spectrograph ECHELLE Intensified Reticon
 Grating 300L Log Sheet

TO CAM 11/5

Telescope 61" Wyeth

Date 11/5-6/87

Observer RJO

Disk ORO 1829

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		ThAr			↓	60 ^s	5187 A
	G15 176	04:40:00	18:52:06			12 ^m	M Stars
		ThAr			↑	60 ^s	
		ThAr			↓	60 ^s	
	G111-33	07:45:13	46:44:12			3 ^m	Halo Binaries
		ThAr			↑	60 ^s	
		ThAr			↓	60 ^s	
	G111-38	07:46:05	46:35:54			2 ^m	
		ThAr			↑	60 ^s	
		ThAr			↓	60 ^s	
	G115-52	09:03:27	47:19:06			2 ^m	
		ThAr			↑	60 ^s	
		ThAr			↓	60 ^s	
	G115-64	09:11:51	44:15:36			2 ^m	
		ThAr			↑	60 ^s	
		ThAr			↓	60 ^s	
	G111-68	08:14:46	44:46:18			3 ^m	
		ThAr			↑	60 ^s	
		ThAr			↓	60 ^s	
	(4)	08:31:23.1	18:48:47			3 ^m	Asteroid
		ThAr			↑	60 ^s	
		ThAr			↓	60 ^s	
	G9-13	08:37:07	11:42:30			2 ^m	Halo Binaries
		ThAr			↑	60 ^s	
		ThAr			↓	60 ^s	
	G15338A	09:10:52	52:53:43			3 ^m	M Stars - Mazeh
		ThAr			↑↓	60 ^s	
	G15338B	09:10:54	52:53:46			4 ^m	
		ThAr			↑	60 ^s	
		ThAr			↓	60 ^s	
	G15301	08:10:50	-13:45:48			12 ^m	
		ThAr			↑	60 ^s	

Intensified Reticon TO CAM 11/5

Spectrograph ECHELLE Log Sheet RAW/RET

Grating 300 l Observer RJD

Telescope 61" Wye th Date 11/5-6/87 Disk ORO 1830

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1	Th Ar		↓	60 ^s	5187 A
		2	G15 334	09:04:19 -8:36:20		15 ^m	M Stars
		3	Th Ar		↑	60 ^s	
		4	Th Ar		↓	60 ^s	
		5	G112-43	07:41:11 00:03:18		9 ^m	Halo Binaries
		6	Th Ar		↑	60 ^s	
		7	Th Ar		↓	60 ^s	
		8	T Mon	06:22:31 07:06:53		2 ^m	Cepheid
		9	Th Ar		↑	60 ^s	
		10	Th Ar		↓	60 ^s	
		11	G88-8	07:06:14 15:30:18		2 ^m	Halo Binaries
		12	Th Ar		↑	60 ^s	
		13	Th Ar		↓	60 ^s	
		14	G103-34	06:25:59 22:02:42		3 ^m	
		15	Th Ar		↑	60 ^s	
		16	Th Ar		↓	60 ^s	
		17	H33798	05:11:50.8 47:06:58		5 ^m	Marshall Binary
		18	Th Ar		↑	60 ^s	
		19	Th Ar		↓	60 ^s	
		20	G192-23	06:11:57 56:57:18		3 ^m	Halo Binaries
		21	Th Ar		↑	60 ^s	
		22	Th Ar		↓	60 ^s	
		23	39166	05:49:48.7 57:02:04		4 ^m	F Stars
		24	Th Ar		↑	60 ^s	
		25	Th Ar		↓	60 ^s	
		26	60063	07:36:24 48:47:24		8 ^{1/2} ^m	
		27	Th Ar		↑	60 ^s	390 down contamination
		28	Th Ar		↓	60 ^s	
		29	SKYDOME	3" E +31°		3 ^m	
		30	Th Ar		↑	60 ^s	
		31					
		32					

Spectrograph ECHELLE Intensified Reticon TO CAM 11/6
 Grating 300L Log Sheet RAWRET
 Telescope 61" Wyeth Date 11/5-6/87 Observer RJD
 Disk 0120 1831

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

1	Th Ar			↓	60 ^s	5187 Å
2	SKYDMM	slow	posit		2 ^m	Meridian, +31°
3	Th Ar			↑	60 ^s	
4	INCANOS				120 ^m	
5	INCANOS				105m	
6	Th Ar			↓	60 ^s	5187 Å
7	SKYEVEN	slow	posit		2 ^m	Meridian, +31°
8	Th Ar			↑	60 ^s	
9	Th Ar			↓	60 ^s	
10	SKYEVEN	3 ^h W	+31°		2 ^m	
11	Th Ar			↑	60 ^s	
12	Th Ar			↓	60 ^s	
13	H182572	19:22:35.1	11:50:09		2 ^m	IAU Rad Vel Std
14	Th Ar			↑	60 ^s	
15	Th Ar			↓	60 ^s	
16	G170-38	17:25:35	26:49:50		2 ^m	Hal. Binaries
17	Th Ar			↑	60 ^s	
18	G170-39	17:25:35	27:03:40		2 ^m	
19	Th Ar			↑	60 ^s	
20	Th Ar			↓	60 ^s	
21	S66051	17:24:50.7	31:07:03		2 ^m	
22	Th Ar			↑	60 ^s	
23	Th Ar			↓	60 ^s	
24	G182-19	17:32:55	37:13:00		2 ^m	
25	Th Ar			↑	60 ^s	
26	Th Ar			↓	60 ^s	
27	G142-15	19:10:33	18:45:24		5 ^m	
28	Th Ar			↑	60 ^s	
29	Th Ar			↓	60 ^s	
30	(3)	21:47:42.3	-18:23:07		10 ^m	Asteroid
31	Th Ar			↑	60 ^s	
32						

11/6-7/87

Intensified Reticon TO CAM 11/6

Spectrograph ECHELLE Log Sheet RAW/RET

Grating 300 l Observer RJD

Telescope 61" W. O. H. Date 11/6-7/87 Disk ORO 1832

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 ^s	6563 Å Hα
		2	P Cyg 20:15:57	37:52:36		20 ^m	P Cyg Balmeras Hα
		3			↓	90 ^s	
		4	549438 20:16:21	40:34:31		5 ^m	6563 Å Hα
		5			↑	90 ^s	
		6			↓	90 ^s	5754 Å
		7	549438 20:16:21	40:34:31		3 ^m	
		8			↑	90 ^s	
		9	P Cyg 20:15:57	37:52:36		6 ^{1/2} ^m	
		10			↑	90 ^s	
		11			↓	90 ^s	5163 Å
		12	P Cyg 20:15:57	37:52:36		8 ^m	
		13			↓	90 ^s	
		14	549438 20:16:21	40:34:31		4 ^{1/2} ^m	
		15			↑	90 ^s	
		16			↓	90 ^s	5127 Å
		17	549438 20:16:21	40:34:31		3 ^m	
		18			↓	90 ^s	
		19	P Cyg 20:15:57	37:52:36		6 ^{1/2} ^m	
		20			↑	90 ^s	
		21			↓	90 ^s	5056 Å
		22	P Cyg 20:15:57	37:52:36		5 ^m	
		23			↓	90 ^s	
		24	549438 20:16:21	40:34:31		3 ^m	
		25			↑	90 ^s	5187 Å
		26			↓	60 ^s	5187 Å
		27	H8779 01:23:52.6	-0:39:29		2 ^m	SAU Rad Vel Std
		28			↑	60 ^s	
		29			↓	60 ^s	
		30	G32-49 00:44:59	14:22:02		7 ^m	Halo Binaries
		31			↑	60 ^s	
		32					

Intensified Reticon TO CAM LM

Spectrograph ECHELLE Log Sheet RAWRET

Grating 300L Observer RJD/LAM

Telescope 61" Wyeath Date 11/6-7/87 Disk ORO 1833

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1	ThAr	00:58:27	↓	60 ^s	5187 Å
	G33-30	2	ThAr	16:06:18		9 ^m	Halo Binaries
		3	ThAr		↑	60 ^s	
		4	ThAr		↓	60 ^s	
	G72-58	5	02:05:31	28:04:36		3 ^m	
		6	ThAr		↕	60 ^s	
	G72-59	7	02:05:31	28:04:18		4 ^m	
		8	ThAr		↑	60 ^s	
		9	ThAr		↓	60 ^s	
	G18-54	10	22:29:03	01:54:24		14 ^m	
		11	ThAr		↑	60 ^s	
		12	ThAr		↓	60 ^s	
	-18271	13	01:34:54	-17:44:12		4 ^m	
		14	ThAr		↑	60 ^s	
		15	ThAr		↓	60 ^s	
	G37-10	16	02:48:54	35:26:06		2 ^m	
		17	ThAr		↑	60 ^s	
		18	ThAr		↓	60 ^s	
	G134-40	19	02:34:26	43:46:42		3 ^m	
		20	ThAr		↑	60 ^s	
		21	ThAr		↓	60 ^s	
	G83-34	22	04:45:46	18:37:36		2 ^m	ID by Chart; m _v is BR17E
		23	ThAr		↑	60 ^s	
		24	ThAr		↓	60 ^s	
	G249-37	25	06:01:35	63:50:36		2 ^m 5	
		26	ThAr		↑	60 ^s	
	G191-55	28	05:53:04	58:40:24		9 ^m	
		28	ThAr		↑	60 ^s	
		30					
		30					
		32					
		33					

27 ThAr

Spectrograph ECHELLE
 Grating 300L
 Telescope 61" WYETH

Intensified Reticon
 Log Sheet
 Date 11/6-11/7 1987

TO CAM 11/7
RAW/RET
 Observer LHM
 Disk 1236

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

Change....	File	ID	1950.0	RA	Dec	L/R	↑/↓	Exposure	Comments
		TH-AR					↓	60 ^s	
	G54-7		9 56 25.0	22 45 40			↓	90 ^s	MAY BE SLIGHT VIGNETING BY DOME
	TH-AR						↑	60 ^s	
	TH-AR						↓	60 ^s	
	SKYDOWN	3" F		31°				3	
	TH-AR						↑	60 ^s	
	TH-AR						↓	60 ^s	
	SKYDOWN	0" H		31°				2" m	SLOW POSITION.
	TH-AR						↑	60 ^s	
	INCAUDS							120m	
	INCAUDS							120m	
11/7-8/87 RJD	TH-AR						↓	60 ^s	2 5187
	SKYVIEW	STOW		Posit				2" m	Meridian, +33°
	TH-AR						↑	60 ^s	
	TH-AR						↓	60 ^s	
	SKYVIEW	3" W		+33°				3" m	
	TH-AR						↑	60 ^s	
	TH-AR						↓	60 ^s	
	H182572		19:22:35.1	11:50:09				2" m	IAY Rad Vel Std
	TH-AR						↑	60 ^s	
	TH-AR						↓	60 ^s	
	G140-10		17:44:29	10:08:18				2" m	Halo Binaries
	TH-AR						↑	60 ^s	
	TH-AR						↓	60 ^s	
	G141-39		18:47:20	13:09:48				2" m	
	TH-AR						↑	60 ^s	
	TH-AR						↓	60 ^s	
	G23-3		19:30:28	07:18:00				2" m	
	TH-AR						↑	60 ^s	
	TH-AR						↓	60 ^s	
	G92-16		19:35:19	04:11:54				3" m	
	TH-AR						↑	60 ^s	

Intensified Reticon

TO CAM 11/7

Spectrograph ECHELLE

Log Sheet

RAWRET

Grating 300 l

Observer RJD

Telescope 61" wyeth

Date 11/7-8/87

Disk ORO 1837

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

Change....	File	ID	1950.0	RA	Dec	L/R	Exposure	Comments
		1				↓	60 ^s	2 5187
	G169-13		16:27:49	30:48:06			4 1/2 ^m	Halo Binaries
		3				↑	60 ^s	
		4				↓	60 ^s	
	G202-25		15:58:22	45:52:48			8 ^m	
		6				↑	60 ^s	
		7				↓	60 ^s	
	G21-22		18:36:36	00:04:30			13 ^m	
		9				↑	60 ^s	
		10				↓	60 ^s	
	(8)		21:37:49.9	-20:49:22			8 ^m	Asteroid
		12				↑	60 ^s	
		13				↓	60 ^s	
	G24-13		20:17:56	05:52:42			5 1/2 ^m	Halo Binaries
		15				↑	60 ^s	
		16				↓	60 ^s	
	G2876		14:31:12	-14:31:12			10 ^m	Nearby - Kenyon
		18				↑	60 ^s	
		19				↓	60 ^s	
	G32-49		00:44:59	14:22:12			7 ^m	Halo Binaries
		21				↑	60 ^s	
		22				↓	60 ^s	
	G173-2		01:27:49	52:29:18			3 ^m	
		24				↑	60 ^s	
		25				↓	60 ^s	
	G134-40		02:34:26	43:46:42			3 ^m	
		27				↑	60 ^s	
		28				↓	60 ^s	
	G37-10		02:49:54	35:26:06			2 ^m	
		30				↑	60 ^s	
		31						
		32						

Intensified Reticon

TO CAM 11/7

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 300 l

Observer RJD

Telescope 61" Wyeth

Date 11/7-8/87

Disk ORU 1838

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

Change....	File	ID	RA	Dec	L/R	Exposure	Comments
		1	ThAr		↓	60 ^s	2518.7
	G173-56	02:21:53	46:16:36			2 ^m	Italo Binaries
		3	ThAr		↑	60 ^s	
		4	ThAr		↓	60 ^s	
	H8779	01:23:53.6	-0:39:29			2 ^m	IAU Rad Vel Std
		6	ThAr		↑	60 ^s	
		7	ThAr		↓	60 ^s	
	214-18A	22:13:08	39:31:36			2 ^m	Italo Binaries
		9	ThAr		↑	60 ^s	
	214-18B	22:13:08	39:31:36			20 ^m	~30% moonlight
		11	ThAr		↑	60 ^s	
	214-18B	"	"			20 ^m	~30% moonlight
		13	ThAr		↑	60 ^s	Computer Crash:
		14	ThAr		↓	60 ^s	Wrong Date & Time
* →	G175-15	04:03:08	54:03:12			3 ^m	Time 1 hour fast
		16	ThAr		↑	60 ^s	Time 1 hour fast
		17	ThAr		↓	60 ^s	Fixed Date & Time Now
	G175-24	04:11:21	58:24:06			2 ^m	
		19	ThAr		↑	60 ^s	
	G175-26	04:13:19	57:04:48			2 ^m	
		21	ThAr		↑	60 ^s	
		22	ThAr		↓	60 ^s	
	G247-42	04:53:31	62:57:24			2 ^m	
		24	ThAr		↑	60 ^s	
		25	ThAr		↓	60 ^s	
	G249-8	05:21:33	61:12:00			2 ^m	
		27	ThAr		↑	60 ^s	
	G191-34	05:17:54	58:13:54			2 ^m	
		29	ThAr		↑	60 ^s	
		30	ThAr		↓	60 ^s	
	G191-23	05:04:19	55:21:30			2 ^m	
		32	ThAr		↑	60 ^s	

Intensified Reticon

TO CAM 11/7

Spectrograph ECHELLE

Log Sheet

Grating 300LObserver RAWRET
RJDTelescope 61" Wye ThDate 11/7-8/87Disk ORO 1839

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60 ^s	λ 5187
	G175-47		04:40:06	52:53:36		2 ^m	Halo Binaries
		3			↑	60 ^s	
		4			↓	60 ^s	
	G81-8		04:09:02	41:51:54		6 ^m	
		6			↑	60 ^s	
		7			↓	60 ^s	
	G2-19		01:03:29	01:26:30		3 ^m	
		9			↑	60 ^s	
		10			↓	60 ^s	
	GL15c		00:15:31	43:44:16		2 ^m 3	Nearby — Kenson
		12			↑	60 ^s	
	GL15b		00:15:31	43:44:16		10 ^m	
		14			↑	60 ^s	
		15			↓	60 ^s	
	MVASSO		21:37:18.7	57:26:15		20 ^m	Marschall Binary
		17			↑	60 ^s	
		18			↓	60 ^s	
	DL CAS		00:27:11	59:56:12		3 ^m	Cepheid — Huchra
		20			↑	60 ^s	
		21			↓	60 ^s	
	G78-41		03:31:41	38:08:30		7 ^m	Halo Binaries
		23			↑	60 ^s	
		24			↓	60 ^s	
	G7-6		03:47:31	17:19:42		2 ^m	
		26			↑	60 ^s	
		27			↓	60 ^s	
	H26162		04:06:14.9	19:28:43		2 ^m	IAU Rad Vel Std
		29			↑	60 ^s	
		30			↓	60 ^s	
	T MON		06:22:31	07:06:53		2 ^m	Cepheid — Huchra
		32			↑	60 ^s	

TO CAM 11/7

Spectrograph ECHELLE Intensified Reticon
 Log Sheet
 Grating 300 l Observer RJD
 Telescope 61" Wyeth Date 11/7-8/87 Disk ORO 184φ

Change....	File	ID	1950.0 RA	Dec	L/R +/-	Exposure	Comments	
		1			↓	60 ^s	5187A	
		2	H33798	05:41:30.8	47:06:56		2 ^m	Marschall Binary
		3			↑	60 ^s		
		4			↓	60 ^s		
		5	G97-45	05:28:22	15:44:30		2 ^m	Italo Binaries
		6			↑	60 ^s		
		7			↓	60 ^s		
		8	G102-27	05:42:49	14:40:18		2 ^m	
		9			↑	60 ^s		
		10			↓	60 ^s		
		11	G102-42	05:54:09	15:44:24		2 ^m	
		12			↑	60 ^s		
		13			↓	60 ^s		
		14	G99-22	05:37:21	06:02:12		3 1/2 ^m	Cirrus
		15			↑	60 ^s		
		16			↓	60 ^s		
		17	G8-36	04:24:50	24:20:00		4 ^m	
		18			↑	60 ^s		
		19			↓	60 ^s		
		20	23822	03:45:58.4	23:42:19		6 ^m	F Stars - Anderson
		21			↑	60 ^s		
		22			↓	60 ^s	Much Cirrus	
		23	37038	05:33:01.1	-1:52:39		16 1/2 ^m	
		24			↑	60 ^s		
		25	37038	"	"		6 ^m	
		26			↑	60 ^s		
		27			↓	60 ^s		
		28	H66141	07:58:39.9	02:28:24		5 ^m	1.0 N.D.; IAU R.V. Std
		29			↑	60 ^s		
		30			↓	60 ^s		
		31	H81797	09:25:07.8	-8:26:28		3 ^m	clouds work as N.D. filter
		32			↑	60 ^s		

11/13

Spectrograph ECHELLE Intensified Reticon TO CAM
 Grating 300 L Log Sheet RAW/RET
 Telescope 61" Wye eth Date 11/7-8/87 Observer RVD
 Disk ORO 1841

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments	
		1				120 ^m	Clouded Out	
		2						
		3				120		
9-10 Nov. 1987		4			↓	60s	5187A - overcast -	
		5	SKY-EVE	φ hrs +30°		2m		
		6	Th-Ar		↑	60s		
		7	Th-Ar	1 1/2 hrs W 1300	↓	60s		
		8	SKY-EVE	4 1/2 hrs W +30°		2m		
		9	Th-Ar		↑	60s		
12-13 Nov 1987		10			↓	60s	- clear -	
		11	SKY-EVE	φ hrs +32°		2 1/4 m	2 1/4 m	
		12	Th-Ar		↑	60s	- cooling lines frozen to plot form!	
		13	Th-Ar		↓	60s		
		14	H8779	01:23:54	-00:39:29		2m	IAU no pt. done!
		15	Th-Ar		↑	60s		
		16	Th-Ar		↓	60s		
		17	G32-49	00:44:59	14:22:12		9.5m	10.9/15 HALOS
		18	Th-Ar		↑	60s		
		19	Th-Ar		↓	60s		
		20	G33-30	00:58:27	16:06:18		9m	10.7/30 "
		21	Th-Ar		↑	60s		
		22	Th-Ar		↓	60s		
		23	-18271	01:34:54	-17:47:0		7m	98/20 "
		24	Th-Ar		↑	60s		
		25	Th-Ar		↓	60s		
		26	G33-48	01:13:53	09:21:42		3m	8.8/15 "
		27	Th-Ar		↑	60s		
	28	Th-Ar		↓	60s			
	29	G72-58	02:05:31	28:04:36		5m	10.0/15 "	
	30	Th-Ar		↑↓	60s			
	31	G72-59	02:05:31	28:04:18		7m	10.6/15 "	
	32	Th-Ar		↑	60s			

Spectrograph ECHELLE Intensified Reticon TO CAM 11/12
 Grating 300 l Log Sheet RAW/RET
 Telescope 61" Wyeth Date 12-13 NOV 1987 Observer RPS
 Disk ORO 1842

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1	Th-Ar		↓	60s	
		2	GL166C	04:12:58	-07:43:48	20m	11.2 Nearby - Kenyon
		3	Th-Ar		↑	60s	
		4	GL166C	"	"	10m	"
		5	Th-Ar		↑↓	60s	
		6	GL166a	04:12:58	-07:43:48	2m	4.4 " 1.0 ND
		7	Th-Ar		↑	60s	
		8	Th-Ar		↓	60s	
		9	G37-10	02:49:54	45:26:16	2m	8.4/15 HALOS
		10	Th-Ar		↑	60s	
		11	Th-Ar		↓	60s	
		12	G134-40	02:34:26	43:46:42	4m	10.2/15 "
		13	Th-Ar		↑	60s	
		14	Th-Ar		↓	60s	
		15	G6-20	03:34:10	25:49:48	3.5	9.1/50 "
		16	Th-Ar		↑	60s	
		17	Th-Ar		↓	60s	
		18	L81	04:38:41	13:07:54	14m	11.2 Hypo. BINARY
		19	Th-Ar		↑	60s	
		20	Th-Ar		↓	60s	
		21	G83-34	04:45:46	18:37:36	3m	9.7/15 HALOS - This is G83-34
		22	Th-Ar		↑	60s	but it is much brighter than
		23	Th-Ar		↓	60s	9.7. Is the name correct?
		24	G25234a	06:26:52	-02:46:42	19m	11/20 Nearby + M stars
		25	Th-Ar		↑	60s	
		26	Th-Ar		↓	60s	
		27	H245312	05:33:08	09:29:58	4.5m	10.0/20 λ On. m.
		28	Th-Ar		↑	60s	
		29	Th-Ar		↓	60s	
		30	H245458	05:33:49	10:01:56	5m	10.2/20 λ On. m.
		31	Th-Ar		↑	60s	
		32	/				

Spectrograph ECHELLE Intensified Reticon TO CAM 11/14
 Grating 300 R Log Sheet RAW/RET
 Telescope 61" Wyeth Date 12-13 NOV 1987 Observer RPS
 Disk ORO 1843

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

Change....	File	ID	1950.0	RA	Dec	L/R	Exposure	Comments
		Th-Ar				↓	60s	
	F		05:32:38	09:56:01			7.5m	11.0/20 λ Ori. - cut short by clouds
		Th-Ar				↑	60s	
		Th-Ar				↓	60s	
	GL273		07:24:43	05:22:42			2.0m	9.8 Nearby S' Space Motion (stop '90) clouds
		Th-Ar				↑	60s	
		Th-Ar				↓	60s	
	GL380		10:08:19	49:42:30			2.5m	6.6 Nearby: M stars
		Th-Ar				↑	60s	- clouds -
		Th-Ar				↓	60s	
	SΦ4 3396		10:32:32	45:54:46			3.5m	7.5 M stars
		Th-Ar				↑	60s	(could not get program start
		Th-Ar				↓	60s	- clouds)
	SKY-DWN		4hrs. E	+20°			2m	- overcast -
		Th-Ar				↑	60s	
		Th-Ar				↓	60s	
	SKY-DWN		φ hrs	+20°			2m	
		Th-Ar				↑	60s	
	INCAN					↑	120	use ONLY for ↑
	INCAN					↑	120	
		Th-Ar				↓	60s	
	H8 779		01:23:53.6	-0:39:29			3m	IAU RV54 CHANGE!
		Th-Ar				↑	60s	Change to different
		Th-Ar				↓	60s	Reticon Package.
	G130-29		23:58:16	33:27:54			2m	Halo (High Dark counts in other package)
		Th-Ar				↑	60s	
		Th-Ar				↓	60s	Use ↓ INCANDS.
	G32-49		00:44:59	14:22:12			15m	Discriminator at 1.05.
		Th-Ar				↑	60s	
		Th-Ar				↓	60s	
	G67-1		00:29:55	27:55:18			2m	
		Th-Ar				↑	60s	

11/13-14/87
11/14-15/87

Spectrograph ECHELLE Intensified Reticon TO CAM 11/14
 Grating 3002 Log Sheet RAW/RET
 Telescope 61" Wyeth Date 11/14-15/67 Observer RJD
 Disk ORO 1844

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60 ^s	
		2	22:38:53	56:34:05		5 ^m	Cepheid - Hechira
		3			↑	60 ^s	
		4			↓	60 ^s	
		5	22:26:13	57:16:48		10 ^m	Nearby - Kenyon
		6			↑	60 ^s	
		7			↓	60 ^s	
		8	00:20:23	22:06:00		2 ^m	Halo Binaries
		9			↑	60 ^s	
		10			↓	60 ^s	
		11	12:12:45	12:09:00		2 ^m	
		12			↑	60 ^s	
		13			↓	60 ^s	
		14	04:36:48	13:01:36		3 ^m	
		15			↑	60 ^s	
		16			↓	60 ^s	
		17	05:41:30.8	47:06:58		2 ^m	Marschall Binary
		18			↑	60 ^s	
		19			↓	60 ^s	
		20	04:29:34	46:35:48		2 ^{1/2} ^m	Halo Binaries
		21			↑	60 ^s	
		22			↓	60 ^s	
		23	05:32:35.4	09:58:01		16 ^m	2 Ori - Mathieu
		24			↑	60 ^s	
		25			↓	60 ^s	
		26	04:48:32	19:16:48		11 ^m	Halo Binaries
		27			↑	60 ^s	
		28			↓	60 ^s	
		29	02:49:54	35:26:06		2 ^m	
		30			↑	60 ^s	
		31					
		32					

Spectrograph ECHELLE Intensified Reticon TO CAM 11/14
 Grating 300 l Log Sheet RAW RET
 Telescope 61" Wyeth Date 11/14-15/87 Observer RJD
 Disk ORO 1845

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments	
		1			↓	60 ^s	2 5187	
		2	G124-40	02:34:26	43:46:42		6 ^m	Hydro Binaries
		3	Th Ar		↑	60 ^s		
		4	Th Ar		↓	60 ^s		
		5	G5-40	03:24:46	20:52:24		10 ^m	
		6	Th Ar		↑	60 ^s		
		7	Th Ar		↓	60 ^s		
		8	G5-35	03:22:04	12:05:18		12 ^m	
		9	Th Ar		↑	60 ^s		
		10	Th Ar		↓	60 ^s		
		11	H2 6112	04:06:14.9	19:28:43		2 ^m	JAU Red Vel Std
		12	Th Ar		↑	60 ^s		
		13	Th Ar		↓	60 ^s		
		14	G84-39	05:10:06	04:15:48		12 ^m	Hydro Binaries
		15	Th Ar		↑	60 ^s		
		16	Th Ar		↓	60 ^s		
		17	G102-44	05:57:54	13:04:48		10 ^m	
		18	Th Ar		↑	60 ^s		
		19	Th Ar		↓	60 ^s		
		20	G99-54	06:02:28	06:27:18		10 ^m	
		21	Th Ar		↑↓	60 ^s		
		22	G102-47	06:03:15	07:12:36		7 ^m	
		23	Th Ar		↑	60 ^s		
		24	Th Ar		↓	60 ^s		
		25	G102-49	06:05:33	11:28:12		5 ^m	
		26	Th Ar		↑	60 ^s		
		27	Th Ar		↓	60 ^s		
		28	G98-51	06:08:22	32:51:30		5 ^m	
		29	Th Ar		↑↓	60 ^s		
		30	G103-31	06:18:15	33:59:24		6 ^m	
		31	Th Ar		↑	60 ^s		
		32						

Spectrograph ECHELLE

Intensified Reticon

TO CAM 11/14

Grating 3002

Log Sheet

RAW/RET

Telescope 61" WyethDate 11/14-15/87Observer RJDDisk ORO 1846

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		TH Ar			↓	60 ^s	25187
	G15301	08:10:50	-18:45:48			20 ^m	M Stars - Mazeh
		TH Ar			↑	60 ^s	
		TH Ar			↓	60 ^s	
	(41)	08:27:42.8	18:45:05			2 ^m	Asteroid
		TH Ar			↑	60 ^s	
		TH Ar			↓	60 ^s	
	S015472	11:16:06.7	62:27:22			2 ^m	M Stars - Mazeh
		TH Ar			↑	60 ^s	
		TH Ar			↓	60 ^s	
	G15430	11:28:22	63:26:00			12 ^m	
		TH Ar			↑	60 ^s	
		TH Ar			↓	60 ^s	
	S043396	10:32:32.2	45:54:46			2 ^m	
		TH Ar			↓	60 ^s	
	G15397	10:28:25	45:47:06			7 ^m	
		TH Ar			↑	60 ^s	
		TH Ar			↓	60 ^s	
	H085217	09:47:54	04:34:42			2 ^m	
		TH Ar			↑	60 ^s	
		TH Ar			↓	60 ^s	
	SV MON	06:18:45	06:28:41			3 ^m	Cepheid - Huchra
		TH Ar			↑	60 ^s	
		TH Ar			↓	60 ^s	
	G15334	09:04:19	-8:35:20			10 ^m	M Stars - Mazeh
		TH Ar			↑	60 ^s	
		TH Ar			↓	60 ^s	
	H085217	09:47:54	04:34:42			2 ^m	I.D. Checked by offset
		TH Ar			↑	60 ^s	
		TH Ar			↓	60 ^s	
	G19155	05:53:04	58:40:24			20 ^m	Halo Binaries
		TH Ar			↑	60 ^s	

Spectrograph ECHELLE Intensified Reticon TO CAM 11/15
 Grating 300 l Log Sheet RAW RET
 Telescope 61" Wyeth Date 11/14-15/87 Observer RJD
 Disk ORO 1847

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		TH Ar			↓	60 ^s	25187
	9214-57		06:01:35	12:50:36		2 ^m	Halo Binaries
		TH Ar			↑	60 ^s	
		TH Ar			↓	60 ^s	
	951-21		10:14:08	26:06:54		2 ^m	
		TH Ar			↑	60 ^s	
		TH Ar			↓	60 ^s	
	H81797		08:25:27.8	-8:26:28		2 ^m	IAU Rad Vel Std. 1,000
		TH Ar			↑	60 ^s	
		TH Ar			↓	60 ^s	
	SKYVIEW	3 ^h E	+31 ^o			3 ^m	
		TH Ar			↑	60 ^s	
		TH Ar			↓	60 ^s	
	SKYVIEW	STOW	POSIT			2 ^m	Meridian, +31 ^o
		TH Ar			↑	60 ^s	
	IMANOS					120 ^m	
	INCAMP					120	
11/15-16/87		TH Ar			↓	60 ^s	
	SKYVIEW	STOW	POSIT			2 ^m	Meridian, +31 ^o
		TH Ar			↑	60 ^s	
		TH Ar			↓	60 ^s	
	SKYVIEW	3 ^h W	+31 ^o			3 ^m	
		TH Ar			↑	60 ^s	
		TH Ar			↓	60 ^s	
	H182572		19:22:35.1	11:50:09		2 ^m	IAU Rad Vel Std
		TH Ar			↑	60 ^s	
		TH Ar			↓	60 ^s	
	925-15		21:01:37	02:48:00		2 ^m	Halo Binaries
		TH Ar			↑	60 ^s	
		TH Ar			↓	60 ^s	
	U SGR		18:20:57	-19:09:42		4 ^{1/2} ^m	Cepheid - Huchra
		TH Ar			↑	60 ^s	

Spectrograph ECHELLE

Intensified Reticon

TO CAM 11/15

Grating 300 R

Log Sheet

Observer RAW/RET
RJDTelescope 61" WyethDate 11/15-16/87Disk ORO 1848

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments	
		1			↓	60 ^s	λ 5187	
		2	GL820a	21:04:52.2	38:31:51		2 ^m	Nearby - Kenyon
		3	Th Ar		↑	60 ^s	M-stars - 1122 eh	
		4	GL820b	21:04:52.2	38:31:51		2 ^m	
		5	Th Ar		↑	60 ^s		
		6	Th Ar		↓	60 ^s		
		7	GL725a	18:42:12	59:33:18		7 ^m	
		8	Th Ar		↑	60 ^s		
		9	GL725b	18:42:12	59:33:18		12 ^m	
		10	Th Ar		↑	60 ^s		
		11	Th Ar		↓	60 ^s		
		12	G92-15	19:33:47	04:39:18		3 ^m	Halo Binaries
		13	Th Ar		↑	60 ^s		
		14	Th Ar		↓	60 ^s		
		15	(8)	21:48:59.3	-19:44:55		10 ^m	Asteroid
		16	Th Ar		↑	60 ^s		
		17	Th Ar		↓	60 ^s		
		18	(3)	21:56:32.7	-13:22:45		10 ^m	
		19	Th Ar		↑	60 ^s		
		20	Th Ar		↓	60 ^s		
		21	S191333	22:39:17	-21:02:48		11 ^m	Halo Binaries
		22	Th Ar		↑	60 ^s		
		23	Th Ar		↓	60 ^s		
		24	G19-54	22:29:03	01:54:24		22 ^m	
		25	Th Ar		↑	60 ^s		
		26	Th Ar		↓	60 ^s		
		27	G19-55	22:30:20	10:09:00		24 ^m	
		28	Th Ar		↑	60 ^s		
		29	Th Ar		↓	60 ^s		
		30	G246-41	03:29:22	59:15:06		2 ^m	
		31	Th Ar		↑	60 ^s		
		32						

Spectrograph ECHELLE

Intensified Reticon

TO CAM 11/15Grating 300 2

Log Sheet

RAW/RETTelescope 61" WyethDate 11/15-16/87Observer RJDDisk ORO 1849

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
					↓	60 ^s	25187
	G246-52	03:50:45	61:01:18			2 ^m	Halo Binaries
	ThAr				↑	60 ^s	
	ThAr				↓	60 ^s	
	G247-9	02:54:17	64:57:36			4 ^m	
	ThAr				↑	60 ^s	
	ThAr				↓	60 ^s	
	G134-40	02:34:26	43:46:42			10 ^m	
	ThAr				↑	60 ^s	
	ThAr				↓	60 ^s	
	G37-10	02:49:54	35:26:06			2 ^m	
	ThAr				↑	60 ^s	
	ThAr				↓	60 ^s	
	G72-58	02:05:31	28:04:36			4 ^m	
	ThAr				↑↓	60 ^s	
	G72-59	02:05:31	28:04:18			7 ^m	
	ThAr				↑	60 ^s	
	ThAr				↓	60 ^s	
	G33-49	01:13:53	09:21:42			2 ^m	
	ThAr				↑	60 ^s	
	ThAr				↓	60 ^s	
	G33-30	00:58:27	16:06:18			5 ^m	Under exposed - G, for Nova
	ThAr				↑	60 ^s	
	ThAr				↓	60 ^s	Nova too far down in
	G33-30	"	"			14 ^m	trees - couldn't find.
	ThAr				↑	60 ^s	Resume Exposure
	ThAr				↓	60 ^s	
	G32-49	00:44:59	14:22:12			15 ^m	
	ThAr				↑	60 ^s	
	ThAr				↓	60 ^s	
	-18271	01:34:54	-17:44:12			17 ^m	Cirrus Interfering
	ThAr				↑	60 ^s	Slightly Underexposed

Intensified Reticon

TO CAM 11/15

Spectrograph ECHELLE

Log Sheet

RAW/RETGrating 300 2Observer RJDTelescope 61" WyethDate 11/15-16/87Disk ORO 1850

Change....	File	ID	1950.0 RA	Dec	L/R +/-	Exposure	Comments
		1			↓	60 ^s	25187
	G1-51		01:03:17	07:17:48		6 ^m	Halo Binaries. Heavy Haze
		3			↑	60 ^s	
		4			↓	60 ^s	
	G91-48		02:12:34	27:07:36		3 ^m	
		6			↑	60 ^s	
		7			↓	60 ^s	
	G78-47		03:40:22	41:27:00		2 ^m	
		9			↑↓	60 ^s	
	G78-44		03:35:31	42:14:06		4 ^m	
		11			↑	60 ^s	Stop - Clouds
		12			↓	60 ^s	Resume 1 hour later
	H26102		04:06:14.9	19:28:43		4 ^m	IAU Rad Vel Std
		14			↑	60 ^s	Thick Cirrus
		15			↓	60 ^s	
	SV Mon		06:18:45	06:28:41		7 ^m	Cepheid - Hechra
		17			↑	60 ^s	
		18			↓	60 ^s	
	G100-52		05:59:26	27:24:18		12 ^m	Halo Binaries
		20			↑	60 ^s	Too Many Clouds
		21			↓	60 ^s	Resume 2h Later
	G88-41		07:31:48	25:04:06		2.5 ^m	
		23			↑	60 ^s	
		24			↓	60 ^s	
	H66141		07:58:39.9	22:28:24		2 ^m	IAU Rad Vel Std
		26			↑	60 ^s	
		27			↓	60 ^s	
	G40-2		07:56:38	20:59:18		2 ^m	Halo Binaries
		29			↑	60 ^s	
		30			↓	60 ^s	
	G98-42		06:02:49	26:33:48		5 ^m	
		32			↑	60 ^s	

Spectrograph ECHELLE Intensified Reticon TO CAM 11/15
 Grating 300 l Log Sheet RAW/RET
 Telescope 61" Wyeth Date 11/15-16/87 Observer RJD
 Disk ORO 1851

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
					↓	60 ^s	25187
	G99-40		08:50:28	-3:30:00		5 ^m	Halo Binaries
					↑	60 ^s	
					↓	60 ^s	
	20933		03:20:29.9	32:41:58		9 ^m	F Stars - Andersen
					↑	60 ^s	
					↓	60 ^s	
	16-87A		01:46:08.8	47:38:56		2 ^m	Wide Pairs - Latham
					↑	60 ^s	
					↓	60 ^s	
	16-87B		01:46:08.7	47:38:35		10 ^m	
					↑	60 ^s	
					↓	60 ^s	
	G122-21		06:06:06	50:09:48		2 ^m	Halo Binaries
					↑	60 ^s	
					↓	60 ^s	
	G101-30		06:12:57	47:05:06		5 ^m	
					↑	60 ^s	
					↓	60 ^s	
	G101-47		06:34:36	48:50:48		7 ^m	
					↑	60 ^s	
					↓	60 ^s	
	G97-2		06:42:01	38:35:24		3 ^m	
					↑	60 ^s	
					↓	60 ^s	
	G108-29		06:45:57	07:41:00		22 ^m	
					↑	60 ^s	
					↓	60 ^s	
	G8550		09:17:55	-9:23:49		5 ^m	F Stars - Andersen
					↑	60 ^s	
					↓	60 ^s	
	G4388		10:16:54	20:07:18		6 ^m	Nearby - Kenyon
					↑	60 ^s	

11/28

Spectrograph ECHELLE

Intensified Reticon

TO CAM1

Grating 300 R

Log Sheet

RAW/RET

Telescope 61" Wyeth

Date 27-28 NOV. 1987

Observer PDS

Disk ORO 1854

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
					↓	90s	6562Å
	Lam And		23:35:06	46:11:14		135m	0.0ND SALLY - H α profiles
					↑	90s	
					↓	60s	5187Å - checked rotation
	G72-59	02:05:31	28:04:16			5m	10.6/15 HALO - far off!! Reset
					↑↓	60s	
	G72-58	02:05:31	28:04:36			3m	10.0/15 HALO
					↑	60s	
					↓	60s	
	G33-30	00:58:27	16:06:18			12m	10.7/30 "
					↑	60s	
					↓	60s	
	G37-10	02:49:54	35:26:06			3m	8.7/50 "
					↑	60s	
					↓	60s	
	G6-20	03:34:10	25:49:48			3m	9.1/110 " (Appears brighter than 9.1!)
					↑	60s	
					↓	60s	
	G78-41	03:31:41	38:08:30			4.5m	10.2/15 "
					↑	60s	
					↓	60s	
	G83-34	04:45:46	18:37:36			2m	6.7/15 " (Not 9.7', mag = 6.6)
					↑	60s	
					↓	90s	6567Å
	Alph Ori	05:52:28	07:23:58			4m	0.8 SALLY H α -profiles 2.0ND
					↑	90s	
					↓	60s	5187Å
	G102-42	05:54:09	15:44:24			2.5m	8.2/15 HALO
					↑	60s	
	/						
	/						
	/						
	/						

11/27

Spectrograph ECHELLE Intensified Reticon TO CAM
 Grating 300 l Log Sheet RAW/RET
 Telescope 61" Wyeth Date 27-28 NOV. 1987 Observer RPS
 Disk ORO 1855

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		Th-Ar			↓	60s	
		UV Aur	05:18:33	32:27:48		11m	10.4 Kanyan - Symb. stars
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		(4)	08:43:27	18:55:30		2m	8.2 Asteroid
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		H66141	07:59:40	02:28:24		2m	4.4 IAU Standard
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		G104-38	06:24:42	24:21:18		3.0m	9.3/15 HALOS
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		G90-4	07:27:17	27:27:36		18m	18.9/15 "
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		G90-38	07:59:36	36:10:36		9m	11.25/15 "
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		G40-5	08:01:46	15:30:36		3m	8.5/15 "
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	- overcast -
		H89449	10:17:01	19:43:31		4m	4.8 IAU standard
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		G43-30	10:07:24	18:26:06		2m	8.0/15 HALOS
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
		G43-33	10:09:36	17:32:54		2m	7.9/15 "
		Th-Ar			↑	60s	
		/					
		/					

Spectrograph ECHELLE Intensified Reticon TO CAM 11/28
 Grating 300 l Log Sheet RAW RET
 Telescope 61" Wyeth Date 27-28 NOV. 1987 Observer RDS
 Disk ORO 1856

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

Change....	File	ID	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	INCANAS			60m	Date/Time ok.
		8	↓			60m	Wrong Date/EST
		9	↓			23m12s	Date/Time ok.
		10	Th Ar		↓	60s	
		11	SKYEVEN	STOW	posit	2m	0°, +30°
		12	Th Ar		↑	60s	
		13	Th Ar		↓	60s	
		14	SKYEVEN	3h W	+10°	2m	Forgot 2nd Th-Ar
		15	Th Ar		↓	60s	
		16	H182572	19:22:35.1	11:50:09	2m	JAU Rad Vel Std
		17	Th Ar		↑	60s	
		18	Th Ar		↓	60s	
		19	G25-15	21:01:37	02:48:00	2m	Halos Binaries
		20	Th Ar		↑	60s	
		21	Th Ar		↓	60s	
		22	G130-29	23:56:16	33:27:54	2m	
		23	Th Ar		↑	60s	
		24	Th Ar		↓	60s	
		25	G69-1	00:29:55	27:55:18	5m	
		26	Th Ar		↑	60s	
		27	Th Ar		↓	60s	
		28	S191333	22:39:17	-21:02:48	5 1/2 m	
		29	Th Ar		↑	60s	
		30	Th Ar		↓	60s	
		31	G92-15	19:33:47	04:39:18	2m	
		32	Th Ar		↑	60s	

Crash?
 look ok
 27-29 Nov 87
 RJD

Spectrograph ECHELLE

Intensified Reticon

TO CAM 11/28

Grating 300 R

Log Sheet

RAW/RET

Telescope 61" WyethDate 11/28-29/87Observer RJODisk ORO 1857

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60 ^s	5187 Å
	V433Her	2	18:20:03	23:25:47		20 ^m	Kenyon Sympiotics
	ThAr	3			↑	60 ^s	See Comment Field.
	ThAr	4			↓	60 ^s	
	1016 Cyg	5	19:55:20	39:41:30		20 ^m	
	ThAr	6			↑	60 ^s	
	ThAr	7			↓	60 ^s	
	CH Cyg	8	19:23:14	50:08:31		2 ^m	
	ThAr	9			↑	60 ^s	
	ThAr	10			↓	60 ^s	5175 Å
	CH Cyg	11	19:23:14	50:08:31		2 ^m	
	ThAr	12			↑	60 ^s	
	ThAr	13			↓	60 ^s	5187 Å
	GL725a	14	18:42:12	59:33:18		3 ^m	Nearby / M Stars
	ThAr	15			↑↓	60 ^s	
	GL725b	16	18:42:12	59:33:18		7 ^m	
	ThAr	17			↑	60 ^s	
	ThAr	18			↓	60 ^s	
	G262-32	19	20:58:10	14:51:00		7 ^m	Halo Binaries
	ThAr	20			↑	60 ^s	
	ThAr	21			↓	60 ^s	
	GLS 809	22	20:52:18	61:58:30		3 ^m	M Stars - Maze
	ThAr	23			↑	60 ^s	
	ThAr	24			↓	60 ^s	
	MVASSO	25	21:37:18.7	57:26:15		10 ^m	Marschall Binary
	ThAr	26			↑	60 ^s	
	ThAr	27			↓	60 ^s	
	Z LAC	28	22:38:53	56:34:05		2 ^m	Cepheid - Huchra
	ThAr	29			↑	60 ^s	
	ThAr	30			↓	60 ^s	
	G32-49	31	00:44:59	14:22:12		7 ^m	Halo Binaries
	ThAr	32			↑	60 ^s	

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	
	/						