

Intensified Reticon

TO CAM 115

Spectrograph ECHELLE

Log Sheet

RAW/RET 15

Grating 300L

Observer RPS

Telescope 61" Wyeth

Date 05 JAN 1987

Disk ORO 1360

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90s	
		2	H66141	07:59:40	02:28:24	3m	4.4 IAU standard 0.3 ND
		3			↑	90s	
		4			↓	90s	
		5	G89-11	07:19:48	08:55:12	14m	10.4/40 HALOS
		6			↑	90s	
		7			↓	90s	
		8	G112-43	07:41:11	04:03:18	11m	10.2/30 "
		9			↑	90s	
		10			↓	90s	
		11	G112-54	07:52:02	-01:16:54	3m	7.4/30 "
		12			↑	90s	
		13			↓	90s	
		14	RX AUR	04:57:55	39:53:17	4m	9.2 Cepheids
		15			↑	90s	
		16			↓	90s	
		17	SV MON	06:18:45	06:29:41	3m	8.9 "
		18			↑	90s	
		19			↓	90s	
		20	T MON	06:22:31	07:06:51	2m	6.6 "
		21			↑	90s	
		22			↓	90s	
		23	G41-34	09:20:06	11:29:06	3m	9.7/15 HALOS
		24			↑	90s	
		25			↓	90s	
		26	G25319	08:40:02	09:44:18	11.5m	9.7/40 M stars
		27			↑	90s	
		28			↓	90s	-offsetter not working-
		29	G25334	09:04:19	-08:36:20	14m	9.5/40 -reboot seems to have
		30			↑	90s	fixed problem-
		31	/				
		32	/				

Spectrograph ECHELLE

Intensified Reticon

TO CAM 15Grating 300R

Log Sheet

RAW/RET 15Telescope 61' WyethDate 05 JAN. 1987Observer RPSDisk ORO 1361

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90s	
		2	G191-55	05:53:04	58:40:24	17m	10.5/40 HALOS
		3	Th-Ar		↑	90s	- very bad seeing -
		4	Th-Ar		↓	90s	
		5	H92588	10:38:52	-01:28:41	3.5m	6.3 IAU standard
		6	Th-Ar		↑	90s	
		7	Th-Ar		↓	90s	
		8	+222411	11:48:59	22:23:36	10m	9.3/30 HALO
		9	Th-Ar		↑	90s	
		10	Th-Ar		↓	90s	
		11	G59-5	12:10:56	23:32:36	3.5m	9.4/15 "
		12	Th-Ar		↑	90s	
		13	Th-Ar		↓	90s	
		14	S63020	12:26:38	31:40:00	4m	7.9/50 "
		15	Th-Ar		↑	90s	
		16	Th-Ar		↓	90s	
		17	H106516	12:12:36	-10:01:14	3m	6.1/20 "
		18	Th-Ar		↑	90s	
		19	Th-Ar		↓	90s	
		20	G25338A	09:10:52	52:53:43	7.5m	7.6/100 M stars
		21	Th-Ar		↑	90s	
		22	G25338B	09:10:54	52:53:46	6.5m	7.7/100 "
		23	Th-Ar		↑	90s	
		24	Th-Ar		↓	90s	
		25	S043285	10:16:21	48:38:52	3m	6.1/100 "
		26	Th-Ar		↑	90s	
		27	Th-Ar		↓	90s	
		28	G25380	10:08:13	49:42:09	3m	6.6/100 "
		29	Th-Ar		↑	90s	
		30					
		31					
		32					

Spectrograph ECHELLE

Intensified Reticon

TO CAM 1/5

Grating 3002

Log Sheet

RAW RET 15

Telescope 61" Wyeth

Date 05 JAN 1987

Observer RPS

Disk ORO 1362

Change....	File	ID	RA	1950.0 Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90s	
		2	Sφ43396	10:32:32	45:54:46	2.5m	7.5/100 Mstars
		3			↑	90s	
		4			↓	90s	
		5	60s 397	10:28:25	45:47:06	5m	8.9/40 "
		6			↑	90s	
		7			↓	90s	
		8	H136202	15:16:45	01:57:12	2m	IAU standard
		9			↑	90s	(watch for sky)
		10			↓	90s	
		11	SKY-DWN	4 hrs EAST	+10°	2m	sky
		12			↑	90s	
		13			↓	90s	
		14	SKY-DWN	φ hrs.	+10°	2m	"
		15			↑	90s	
		16	INCA11			120h	
		17	INCA10			110h	
1/5-6/87		18	TH-AR		↓	90s	
		19	SKYEVEM	0 hrs	0°	2h	
		20			↑	90s	
		21			↓	90s	
		22	SKYEVEM	4 ^{hh} W	0°	2m	
		23			↑	90s	
		24			↓	90s	
		25	H 4128	00 41 05	-18 16	2m	ND = 0.8 FILTER (IAU)
		26			↑	90s	
		27			↓	90s	6563 A
		28	R AGR	21 27 51-05 48		5h	ND = 0.8 FILTER (SALLY)
		29			↑	90s	
		30			↓	90s	
		31	L AGR	22 03 13	-00 34	4h	ND = 0.8 FILTER
		32			↑	90s	

Spectrograph ECHELLE

Intensified Reticon

TO CAM 1/7Grating 300 L

Log Sheet

RAW RET 15Telescope SHDate 12/5-6/88Observer DonDisk ORO 1363

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1	TH-AR		↓	90 ^s	6563A
		2	FF AQU	21 59 01 - 02 59		20 ^m	SALLY
		3	TH-AR		↑	90 ^s	
		4	TH-AR		↓	90 ^s	
		5	λ AND	23 35 06 46 11		5 ^m	ND = 0.6 FILTER "
		6	TH-AR		↑	90 ^s	
		7	TH-AR		↓	90 ^s	
		8	λ ORI	05 52 28 07 24		3 ^m 20 ^s	ND = 2.0 FILTER "
		9	TH-AR		↑	90 ^s	
		10	TH-AR		↓	90 ^s	5893 A ^o
		11	H200776	21 02 09 46 08		20 ^m	MICROSKY
		12	TH-AR		↑	90 ^s	
		13	H200776	" "		20 ^m	"
		14	TH-AR		↑	90 ^s	
		15	TH-AR		↓	90 ^s	5187
		16	λ LAC	22 22 53 56 34		5 ^m	
		17	TH-AR		↑	90 ^s	
		18	TH-AR		↓	90 ^s	
		19	EG AND	00 41 53 40 24		2 ^{1/2} m	
		20	TH-AR		↑	90 ^s	
		21	TH-AR		↓	90 ^s	
		22	λ AND	23 31 15 48 33		5 ^m	
		23	TH-AR		↑	90 ^s	
		24	TH-AR		↓	90 ^s	
		25	AX PER	01 33 06 54 00		13 ^m	
		26	TH-AR		↑	90 ^s	NO OIS - SLOW PROBLEMS
		27					
		28					
		29					
		30					
		31					
		32					

Spectrograph ECHELLE

Intensified Reticon

TO CAM 1/7

Grating 500L

Log Sheet

RAW RET 15

Telescope 6" W/ETHDate JAN 6/7 1987

Observer _____

Disk ORO 1764

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90	5187A, 60μ SLIT
		2	SKYVIEW	0 ^{HR} 41 ^A	+35°	2 ^{MIN}	OVERCAST
		3	TH-AR		↑	90°	
		4	TH-AR		↓	90°	
		5	SKYVIEW	4 ^{HR} WEST	+35	2 ^{MIN}	← SKYVIEW
		6	TH-AR		↑	90°	
42/3-7/1		7	TH-AR		↓	90°	
		8	SKYVIEW	0 ^{hr}	+20	2 ^{hr}	OVERCAST
		9	TH-AR		↑	90°	
		10	TH-AR		↓	90°	
		11	SKYVIEW	3 ^{hr} W	+20	2 ^{hr}	
		12	TH-AR		↑	90°	
		13	TH-AR		↓	90°	CEPH
		14	Z LAC	22 32 53	56 34	2 ^{hr}	
		15	TH-AR		↑	90°	
		16	TH-AR		↓	90°	
		17	VX PER	02 04 18	58 12	9 ^{hr}	"
		18	TH-AR		↑	90°	
		19	TH-AR		↓	90°	
		20	UV AUR	05 18 33	32 28	14 ^{hr}	SYMBIOTIC
		21	TH-AR		↑	90°	
		22	TH-AR		↓	90°	CEPH
		23	SU MON	06 18 45	06 30	6 ^{hr}	
		24	TH-AR		↑	90°	
		25	T MON	06 22 31	07 07	2 ^{hr}	"
		26	TH-AR		↑	90°	
		27	TH-AR		↓	90°	
		28	RX AUR	04 57 55	39 53	2 ^{hr}	"
		29	TH-AR		↑	90°	
		30	TH-AR		↓	90°	
		31	S076588	04 20 45	22 51	4 ^{hr}	
		32	TH-AR		↑	90°	

Spectrograph ECHELLE Intensified Reticon TO CAM 1/7
 Grating 300L Log Sheet RAW/RET 15
 Telescope SH Date 1/7-8/87 Observer ORU-1365
 Disk

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments	
		1	GLS 169	04 26 02	21 49	↑	5 ^s 51/20	M STARS
		2	TH-AR			↓	90 ^s	
		3	TH-AR			↓	90 ^s	
		4	GLS 176	04 40 00	12 52	↑	20 MIN	NOON CRASHED
		5	TH-AR			↓	90 ^s	
		6	TH-AR			↓	90 ^s	
		7	G 37-26	05 09 28	26 07 06	↑	22 MIN	8.1/100 (LUB) M STARS
		8	TH-AR			↓	90 ^s	
		9	TH-AR			↓	90 ^s	
		10	G 88-5	07 03 12	18 42 54	↑	5 MIN	10.2/20
		11	TH-AR			↓	90 ^s	
		12	TH-AR			↓	90 ^s	
		13	S 135 424	06 31 51	03 02 03	↑	2 MIN	7.1/100 M STARS
		14	TH-AR			↓	90 ^s	
		15	GLS 294	06 26 52	02 46 27	↑	20 MIN	11.4/20
		16	TH-AR			↓	90 ^s	
		17	TH-AR			↓	90 ^s	
		18	GLS 301	08 10 50	13 43 48	↑	12 MIN	7.1/40
		19	TH-AR			↓	90 ^s	
		20	TH-AR			↓	90 ^s	
		21	U 135	07 25 43	05 22 42	↑	6 MIN	9.5/ (GL 273 (ALSO NEARBY)) SPAN MOTION
		22	TH-AR			↓	90 ^s	
		23	TH-AR			↓	90 ^s	
		24	W 085 07	09 17 54	04 34 02	↑	2 MIN	6.2/200 M STARS
		25	TH-AR			↓	90 ^s	
		26	TH-AR			↓	90 ^s	
		27	S 043 627	11 06 51	43 28 44	↑	2 MIN	6.0/100
		28	TH-AR			↓	90 ^s	
		29	GLS 4129	11 02 43	43 47 39	↑	5 MIN	8.0/40
		30	TH-AR			↓	90 ^s	
		31						
		32						

Spectrograph ECHELLE

Intensified Reticon

TO CAM 17

Log Sheet

RAW RET 15Grating 300Observer SSTelescope 6" WYETHDate JAN 7-8 1987Disk ORO 1366

Change....	File	ID	1950.0 RA	Dec	L/R +/-	Exposure	Comments
		1			↓	90°	5187A. 80μ SLIT
	H100018	2	11:28:07	41:33:50		3 MIN	7.0/ M STARS
		3			↑	90°	
		4			↓	90°	
	GL 508	5	13:17:36	48:02:24		4 MIN	9.0/50
		6			↑	90°	
		7			↓	90°	
	GL 388	8	10:16:54	20:07:18		4 MIN	9.4/ NEAR BY
		9			↑	90°	
		10			↓	90°	
	GL 411	11	11:00:37	36:18:18		2 MIN	7.5/
		12			↑	90°	
		13			↓	90°	
	U223	14	11:45:09	01:06:00		17 MIN	11.1/ ALSO NEARBY G 447 SPACE MOTION
		15			↑	90°	
		16			↓	90°	
	U219	17	11:39:31	26:59:42		9 1/2 MIN	10.7/
		18			↑	90°	
		19			↓	90°	
	U234	20	12:16:56	28:39:30		9 MIN	10.6/
		21			↑	90°	
		22			↓	90°	
	U237	23	12:27:49	31:16:12		3 MIN	9.1/
		24			↑	90°	
		25			↓	90°	
	U241	26	12:38:36	15:59:24		2 MIN	7.9/
		27			↑	90°	
		28			↓	90°	
	U250	29	12:58:19	12:38:42		16 MIN	9.8/50
		30			↑	90°	
		31					
		32					

Intensified Reticon

TO CAM 1/8

Spectrograph ECHELLE

Log Sheet

RAW RET 15

Grating 3002

Observer GS

Telescope 6" WYTH

Date JAN 7/8 1987

Disk ORO 1367

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 ^s	5.87A 80μ SLIT
		2	3:21:14	29:29:42		3 MIN	8.9/ SPACE MOTION
		3			↑	90 ^s	
		4			↓	90 ^s	
		5	3:42:39	18:03:42		10 MIN	7.7/30
		6			↑	90 ^s	
		7			↓	90 ^s	
		8	3:57:00	23:06:42		2 1/2 MIN	8.4/
		9			↑	90 ^s	
		10			↓	90 ^s	
		11	4:29:53	17:38:12		6 1/2 MIN	9.8/30 HALOS
		12			↑	90 ^s	
		13			↓	90 ^s	
		14	5:11:37	00:49:43		5 MIN	10.0/ (NOT SURE) ASTEROID
		15			↑	90 ^s	
		16			↓	90 ^s	
		17	15:16:45	01:57:11		2 MIN	8.1/ IAU STND
		18			↑	90 ^s	
		19			↓	90 ^s	
		20	16:20:52	17:34:54		2 MIN	8.5/20 HALOS
		21			↓	90 ^s	
		22	16:26:40	18:31:06		2 MIN	7.0/20
		23			↑	90 ^s	
		24			↓	90 ^s	
		25	4 HRS E	+30°		3 MIN	
		26			↑	90 ^s	
		27			↓	90 ^s	
		28	0 HRS	+30		2 MIN	
		29			↑	90 ^s	
		30				120 MIN	
		31				90 ^s	
		32					

Intensified Reticon

TO CAM 1/8

Spectrograph ECHELLE Log Sheet RAW/RET 15

Grating 300L Observer DM

Telescope CH Date 1/8-9/77 Disk ORO 1362

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 ^s	5127
		2		+30		2 ^h	
		3			↑	90 ^s	
		4		+30	↓	90 ^s	
		5				2 ^h	
		6			↑	90 ^s	
		7			↓	90 ^s	
		8	H4127	00 12 56	-18 03	4 ^h	ND = 2 FILTER 1A4
		9			↑	90 ^s	
		10			↓	90 ^s	
		11	X CYG	20 41 27	35 24	2 ^h	CEPH
		12			↑	90 ^s	
		13			↓	90 ^s	
		14	AG PEG	21 47 36	12 23	2 ^h	SYMBIOTIC
		15			↑	90 ^s	
		16			↓	90 ^s	
		17	CJ CYG	19 47 21	35 33	13 ^h	"
		18			↑	90 ^s	
		19	1016 cyc	19 55 20	39 42	13 ^h	"
		20			↑	90 ^s	
		21			↓	90 ^s	
		22	CH-CYG	19 22 05	50 10	4 ^h	"
		23			↑	90 ^s	
		24			↓	90 ^s	
		25	G190-10	23 05 39	41 35	12 ^h	HALO
		26			↑	90 ^s	
		27			↓	90 ^s	
		28	G217-2	23 17 20	58 20	20 ^h	"
		29			↑	90 ^s	
		30			↓	90 ^s	
		31	Z LAC	22 27 53	56 34	4 ^h	
		32			↑	90 ^s	

Spectrograph ECHELLE
 Grating 300L
 Telescope 5H

Intensified Reticon
 Log Sheet
 Date 1/8-9/89

TO CAM 1/8
RAW RET 15
 Observer Tom
 Disk OKO 1369

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90	STAR
		2	G111-58	00 22 26	97 46	2"	HALO
		3	TH-AR		↑	90	
		4	TH-AR		↓	90 ^s	MSTAR
		5	G152	00 02 35	45 30	11"	
		6	TH-AR		↓	90 ^s	
		7	G157A	00 03 05	45 32α	62"	"
		8	TH-AR		↑	90 ^s	
		9	G157B	00 03 05	45 32α	62"	"
		10	TH-AR		↓	90 ^s	
		11	SP36250	00 05 41	44 17	5 1/2"	"
		12	TH-AR		↓	90 ^s	
		13	G1515A	00 15 40	43 45	4"	"
		14	TH-AR		↑	90 ^s	
		15	G1514	00 14 28	40 40	8"	"
		16	TH-AR		↑	90 ^s	
		17	TH-AR		↓	90 ^s	
		18	SP21738	00 34 45	56 28	5 1/2"	"
		19	TH-AR		↑	90 ^s	
		20	G1534B	00 46 08	57 33	42"	"
		21	TH-AR		↑	90 ^s	
		22	TH-AR		↓	90 ^s	
		23	G1569	01 40 10	63 39	4"	"
		24	TH-AR		↓	90 ^s	
		25	SP11983	01 44 10	63 36	2"	"
		26	TH-AR		↑	90 ^s	
		27	TH-AR		↓	90 ^s	
		28	S130860	03 56 24	-05 57	2"	"
		29	TH-AR		↑	90 ^s	
		30	G15156	03 52 01	-06 58	11"	"
		31	TH-AR		↑	90 ^s	
		32					

Intensified Reticon

TO CAM 118

Spectrograph ECHELLE

Log Sheet

RAW RET 15

Grating 3000

Observer CS

Telescope 61" WYETH

Date JAN 8/9 1986

Disk ORD 1371

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 ^s	5187A 80μSLIT
		2	77214	08:58:24 -04:18:54		18 ^{MIN}	7.64/1000 F STARS
		3			↑	90 ^s	
		4			↓	90 ^s	
		5	78257	09:04:18 -23:57:18		20 ^{MIN}	8.1/500
		6			↕	90 ^s	
		7	78257	" "		10 ^{MIN}	8.1/500
		8			↑	90 ^s	
		9			↓	90 ^s	
		10	87810	10:04:46 -21:00:36		3 ^{MIN}	6.6/
		11			↑	90 ^s	
		12			↓	90 ^s	
		13	89322	10:15:43 -00:59:30		5 ^{MIN}	8.1/
		14			↑	90 ^s	
		15			↓	90 ^s	
		16	89507	10:17:05 -04:58:30		4 ^{MIN}	7.7/
		17			↑	90 ^s	
		18			↓	90 ^s	
		19	90387	10:23:25 -12:52:42		4 ^{MIN}	7.5/
		20			↕	90 ^s	
		21	91248	10:29:33 -11:09:55		4 ^{MIN}	7.4/
		22			↕	90 ^s	
		23	91728	10:32:54 -12:35:55		4 ^{MIN}	6.7/
		24			↕	90 ^s	
		25	92577	10:38:38 -14:05:49		5 ^{MIN}	8.0/
		26			↑	90 ^s	
		27			↓	90 ^s	
		28	92800	10:40:13 -17:28:00		6 ^{MIN}	7.9/
		29			↕	90 ^s	
		30	93589	10:45:28 -20:04:30		7 ^{MIN}	7.9/
		31			↑	90 ^s	
		32					

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Spectrograph ECHELLE Intensified Reticon TO CAM
 Grating 300L Log Sheet RAW/RET 15
 Telescope 61" WYETH Date JAN 8/9 1987 Observer GS
 Disk ORD 1372

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90°	5187A 80μ slit
		2	97358	11:09:41	-09:12:42	4 MIN	7.5/ F STARS
		3			↑	90°	
		4			↓	90°	
		5	99507	11:24:20	-09:39:54	6 MIN	8.2/
		6			↑	90°	HOLD FOR OVERCAST
		7			↓	90°	
		8	SKYDUNE	4 HRS E	+30°	2 MIN	OVERCAST
		9			↑	90°	
		10		0 HRS	+30°	↓	90°
		11	SKYDOWNH	0 HRS	+30	2 MIN	
		12			↑	90°	
		13				120 MIN	
		14	//			120 MIN	
JAN 9/10		15			↓	90s	5187A 80μ slit - pretty cloudy
		16	SKY-EVE	φ hrs	+30°	2m	
		17			↑	90s	
		18			↓	30s	
		19	SKY-EVE	φ hrs	+30°	2m	30sec Th-Ar test
		20			↑	30s	
		21			↓	90s	
		22	SKY-EVE	4 1/2 hrs W	+30°	2m	
		23			↑	90s	
		24			↓	30s	
		25	SKY-EVE	4 1/2 hrs W	+30°	2m	30sec Th-Ar Test
		26			↑	30s	
		27			↓	90s	
		28	H 4128	04:41:09	-18:15:39	2m	2.2 IAU standard 0.3 ND
		29			↑	90s	
		30					
		31					
		32					

Intensified Reticon

TO CAM 11/9

Spectrograph ECHELLE

Log Sheet

Grating 300 L

Observer RPS RAW/RET 15

Telescope 61" Wyeth

Date 09-10 JAN 1987

Disk ORO 1373

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

Change....	File	ID	RA 1950.0	Dec	L/R	Exposure	Comments
		Th-Ar			↓	90s	Dec. offset very erratic
	S 165532		23:07:48	-13:34:54		8m	8.9/100 HALO robot corrected problem
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
	G 190-10		23:05:39	41:35:12		8m	11.2/20 HALO
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
	H3φφ8		φφ:30:42	-11:00:00		2.5m	9.5/15 "
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
	(4)		φφ:50:08	-02:05:16		2m	Asteroid
		Th-Ar			↑	90s	
		Th-Ar			↓	30s	
	(4)		"	"		2m	Asteroid 30sec Th-Ar test
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
	G 34-16		01:13:55	18:15:30		3m	8.5/30 HALOS
		Th-Ar			φ	90s	
		Th-Ar			↓	90s	
	G 171-58		φφ:22:26	47:46:12		2m	7.5/50 "
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
	S 56455		φ3:23:53	34:15:18		5m	6.7/50 " Moon nearby ±10°
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
	S 129772		φ2:12:04	-01:25:11		4m	9.1/20 " No chart - spectrum doesn't look right?
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	Only object in field
	G 73-54		φ2:23:23	+05:33:12		2m	8.0/15 "
		Th-Ar			↑	90s	
		/					
		/					

1/9

TO CAM

Spectrograph ECHELLE Intensified Reticon

Grating 3002 Log Sheet RAW/RET 15

Telescope 61" Wyeth Date 09-10 JAN 1987 Observer RPS

Disk ORO 1374

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		Tk-Ar			↓	90s	
	VB1		03:14:45	07:28:25		2.5m	7.4 Hypoclos Binary
		Tk-Ar			↕	90s	
	VB2		03:14:52	07:30:28		2.5m	7.8 "
		Tk-Ar			↑	90s	
		Tk-Ar			↓	90s	
	G15		03:45:18	06:58:00		10m	10.9 "
		Tk-Ar			↑	90s	
		Tk-Ar			↓	90s	
	VB24		04:15:25	21:27:31		3m	5.7 "
		Tk-Ar			↑	90s	
		Tk-Ar			↓	90s	
	H379		04:23:15	15:24:44		2m	7.5 "
		Tk-Ar			↑	90s	
		Tk-Ar			↓	90s	
	H361		04:22:54	17:54:18		4m	"
		Tk-Ar			↑	90s	
		Tk-Ar			↓	90s	
	H411		04:24:36	14:09:00		5m	10.4
		Tk-Ar			↑	90s	"
		Tk-Ar			↓	90s	
	H448		04:26:08	16:03:00		5m	"
		Tk-Ar			↑	90s	
		Tk-Ar			↓	90s	
	L81		04:38:41	13:07:34		10m	11.2 " high thin clouds moving in - probably no good
		Tk-Ar			↑	90s	
		Tk-Ar			↓	90s	
	VB132		05:06:37	27:58:48		4m	6.0
		Tk-Ar			↕	90s	- lost computer ?
	VB133		05:06:36	27:58:08		2.5m	Reboot
		Tk-Ar			↑	90s	
		/					

Spectrograph ECHELLE

Intensified Reticon

TO CAM 11/11Grating 3002

Log Sheet

RAW RET 15Telescope 61" WyethDate 09-14 JAN 1987Observer RPSDisk DRO 1375

Change....	File	ID	1950.0 RA	Dec	L/R +/-	Exposure	Comments
		1			↓	90s	
	H26162	2	04:06:15	19:28:43		2m	5.5 IAU standard
	TA-AR	3			↑	90s	
	TA-AR	4			↓	30s	
	H26162	5	"	"		2m	" 30 sec th-AR test
	TA-AR	6			↑	30s	
	TA-AR	7			↓	90s	
	RX AUR	8	04:57:55	39:53:17		5m	9.2 Cepheid
	TA-AR	9			↑	90s	
	TA-AR	10			↓	90s	
	VX PER	11	02:04:18	58:12:22		11m	9.7 " } Increasing clouds
	TA-AR	12			↑	90s	-bright sky- careful of this one. lost in clouds.
	TA-AR	13			↓	90s	
	G175-39	14	04:31:59	55:18:52		9m	8.3/20 HALOS
	TA-AR	15			↑	90s	No chart
	TA-AR	16			↓	90s	
	H66141	17	07:59:40	02:28:24		2m	4.4 IAU standard
	TA-AR	18			↑	90s	
	TA-AR	19			↓	30s	
	H66141	20	"	"		2m	" 30 sec Th-AR
	TA-AR	21			↑	30s	
	TA-AR	22			↓	15s	
	H66141	23	"	"		2m	" 15 sec Th-AR
	TA-AR	24			↑	15s	- OVERCAST -
	IN CAM	25				120	
	"	26				"	
	"	27				"	
	"	28				"	
	IN CAM	29				61	
		30					
		31					
		32					

Spectrograph ECHELLE

Intensified Reticon

TO CAM 1/12

Log Sheet

RAW/RET 15

Grating 200

Observer DA IRID

Telescope CIT

Date 12/11-12/8

Disk ORD 1376

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments	
		1	TH-AR		↓	90 ^s	5120-1°	
		2	SKYVIEW	0 ^h NA	↓	24		
		3	TH-AR		↑	90 ^s		
		4	TH-AR		↓	90 ^s		
		5	SKYVIEW	4 ^h W	↓	24		
		6	TH-AR		↑	90 ^s	Earlier attempts failed	
		7	TH-AR	04:08:14.9	19:28:43	↓	90 ^s	by clouds
H26162		8	TAU	05:39:41.5	-	2 ^m	TAU Rad Vel Standard	
		9	TH-AR		↑	90 ^s		
		10	TH-AR		↓	90 ^s		
		11	T Mon	06:22:31	07:06:53		2 ^m	Cepheid
		12	TH-AR		↑	90 ^s		
		13	SV Mon	06:18:45	06:29:41		5 ^m	
		14	TH-AR		↑	90 ^s		
		15	TH-AR		↓	90 ^s		
		16	GR 166a	04:12:58	-7:43:48		2 ^m	Nearby Stars
		17	TH-AR		↑	90 ^s		
TH-AR		18	TAU	05:39:41.5	19:28:43	↓	90 ^s	failed by clouds
		19	G220-13	02:31:47	59:34:30		2 ^m	Halo Binaries
		20	TH-AR		↑	90 ^s		
		21	TH-AR		↓	90 ^s		
		22	G243-63	01:06:30	61:16:48		2 ^m	
		23	TH-AR		↑	90 ^s		
		24	TH-AR		↓	90 ^s		
		25	G172-49	01:17:59	51:43:24		2 ^m	
		26	TH-AR		↑	90 ^s		
		27	G172-46	01:13:37	51:35:48		15 ^m	
		28	TH-AR		↑	90 ^s		
Incand's		29	TH-AR	INCANDS	↓	90 ^s	Clouded out	
↓		30	G172-49	01:17:59	51:43:24			
		31	INCANDS					
		32	INCANDS					

Spectrograph ECHELLE Intensified Reticon TO CAM 1/13
 Grating 3002 Log Sheet RAW RET 15
 Telescope 61 WYK71 Date JAN 12/13 1987 Observer nom
 Disk 000 1377

Change....	File	ID	RA	Dec	1950.0 L/R ↑/↓	Exposure	Comments
		1			↓	90 ^s	5127
		2				2 ^m	
		3			↑	90 ^s	
		4			↓	90 ^s	
		5				2 ^m	
		6			↑	90 ^s	
		7			↓	90 ^s	6563A 80μ SLIT
		8	ABRUR	04:52:34	30:28:22	4 ^m	7.2/ LEUREAULT
		9			↑	90 ^s	
		10			↓	90 ^s	
		11	V370 OKI	05:34:00	-06:44:26	10 ^m	10.3/ "
		12			↑	90 ^s	"
		13			↓	90 ^s	
		14	R MON	06:36:26	08:46:59	12 ^m 24 ^s	11.8/ (END IN OVERCAST) "
		15			↑	90 ^s	
		16			↓	90 ^s	
		17	ALPH ORI	05:52:28	07:27:58	7 ^{min}	0.8/ (ND 2.0 FILT) H ALPHA
		18			↑	90 ^s	
		19			↓	90 ^s	5187A 80μ SLIT.
		20	H89449	10:17:01	19:43:31	3 ^{min}	4.8/ (ND 1.0 FID) IAU SIND
		21			↑	90 ^s	
		22			↓	90 ^s	
		23	G191-55	05:53:04	58:40:24	4 ^{min}	10.5/40 (OVERCAST) HALOS
		24			↑	90 ^s	(REBOOT)
		25			↓	90 ^s	
		26	G114-26	08:56:39	-03:49:36	7 ^{min}	9.6/50
		27			↑	90 ^s	
		28	TNCAND			120 ^m	
		29	"			"	
		30	"			" min	
		31	"			" min	
		32					

NO 10 →

Intensified Reticon

TO CAM 1/13

Spectrograph ECHELLE Log Sheet RAW/RET 15

Grating 3008 Observer _____

Telescope 61 WYJTH Date JAN 13-14 1987 Disk DDO 1378

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1	TH-AR		↓	90 ^s	5187 A ⁰ 80W
		2	SKYEVEN	0 ^h 14	+35	2 ^h	
		3	TH-AR		↑	90 ^s	
		4	TH-AR		↓	90 ^s	
		5	SKYEVEN	4 ^h 2 ^m W	+35	2 ^h	
		6	TH-AR		↑	90 ^s	6
		7	TH-AR		↓	90 ^s	6563 A
		8	λ AND	21 27 56	-05 40 30	2 ^h	SALTY
		9	TH-AR		↑	90 ^s	
		10	TH-AR		↓	90 ^s	
		11	λ AND	22 03 13	-00 34	3 ^h	ND = 0.8 FILTER "
		12	TH-AR		↑	90 ^s	
		13	FF AND	21 58 01	-02 59	20 ^m	"
		14	TH-AR		↑	90 ^s	
		15	TH-AR		↓	90 ^s	
		16	λ AND	23 35 06	46 11	4 ^h 2 ^m	ND = 0.8 FILTER "
		17	TH-AR		↑	90 ^s	
		18	TH-AR		↓	90 ^s	
		19	T TAU	04 19 04	19 25	8 ^h	LEVERAULT
		20	TH-AR		↑	90 ^s	
		21	TH-AR		↓	90 ^s	
		22	H200976	21 02 09	46 08	19 ^h	352° from minve (M) CROSSY
		23	TH-AR		↑	90 ^s	
		24	TH-AR		↓	90 ^s	
		25	Z CMA	07 01 23	-11 29	5 ^h	LEVERAULT
		26	TH-AR		↑	90 ^s	
		27	TH-AR		↓	90 ^s	5187 A
		28	HD 27147	05 34 01	09 51	5 ^h 2 ^m	λ ORI MATHIEU
		29	TH-AR		↑	90 ^s	
		30	TH-AR		↓	90 ^s	
		31	2851	00 29 33	58 04	9 ^m	FSTARS
		32	TH-AR		↑	90 ^s	

1113

Spectrograph ECHELLE Intensified Reticon TO CAM
 Grating 300L Log Sheet RAW RET 15
 Telescope 5H Date 1/13-14/87 Observer ra
 Disk ORO 1379

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments	
		1			↓	70	5107	
		2	ULCAS	00 27 11	59 56		15'	CEPH
		3	TH-AR			↑	70 ^s	
		4	TH-AR			↓	70 ^s	
		5	8026	01 17 42	55 57		13 ^h	FSI-IRS
		6	TH-AR			↑	70 ^s	
		7	TH-AR			↓	70 ^s	
		8	SV MON	06 18 45	06 30		4 ^h	CEPH
		9	TH-AR			↓	70 ^s	
		10	T MON	06 22 31	07 07		2 ^h	"
		11	TH-AR			↑	70 ^s	
		12	TH-AR			↓	70 ^s	6563 A ⁰
		13	MWC 1000	23 15 15	60 34		19 ^h	LEVERAULT
		14	TH-AR			↑	90 ^s	
		15	TH-AR			↓	90 ^s	5187 A ⁰
		16	P2445	05 34 23	-05 01		15 ^h	HYADES
		17	TH-AR			↑	90 ^s	
		18	TH-AR			↓	90 ^s	
		19	21599	03 28 00	56 16		6 ^h	FSI-IRS
		20	TH-AR			↑	90 ^s	
		21	TH-AR			↓	90 ^s	
		22	G175-39	04:31.59	55:18.50		2 ^h	8.3/20 HALOS
		23	TH-AR			↑	90 ^s	
		24	TH-AR			↓	90 ^s	
		25	26746	04:12.08	41:44.38		6 ^h	80/ F STAR
		26	TH-AR			↑	90 ^s	
		27	TH-AR			↓	90 ^s	
		28	27730	04:20:44	33:43:07		10 ^h	8.0/ WEAK LINES F STAR
		29	TH-AR			↑	90 ^s	
		30	TH-AR			↓	90 ^s	
		31	29337	04:31:12	29:32:00		4 ^h	0.9/ WEAK LINES F STAR
		32	TH-AR			↑	90 ^s	

Spectrograph ECHELLE

Intensified Reticon

TO CAM 1/13Grating 300L

Log Sheet

RAW RET 15Telescope 6" WYETHDate JAN 13-14 1987Observer GSDisk ORD 1381

Change....	File	ID	1950.0 RA	Dec	L/R +/-	Exposure	Comments
		1	TH-AR		↓	90°	5187A 80μ SLIT
	5138815	2	12:27:09	03:02:57		2 MIN	9.0/15 HALOS
		3	TH-AR		↑	90°	
		4	TH-AR		↓	90°	
	GS9-32	5	12:37:37	21:05:12		4 1/2 MIN	9.0/60 HALOS
		6	TH-AR		↑	90°	
		7	TH-AR		↓	90°	
	G61-24	8	12:55:04	18:57:48		6 MIN	8.9/100 HALOS
		9	TH-AR		↑	90°	
		10	TH-AR		↓	90°	
	+102495	11	12:56:49	09:30:42		4 1/2 MIN	9.7/30 HALOS
		12	TH-AR		↑	90°	
		13	TH-AR		↓	90°	
	G60-47	14	12:52:44	08:06:12		4 MIN	9.9/20 HALOS
		15	TH-AR		↑	90°	
		16	TH-AR		↓	90°	
	+182757	17	13:34:07	08:24:21		3 MIN	9.8/20 NO CHART HALOS
		18	TH-AR		↑	90°	
		19	TH-AR		↓	90°	
	G65-22	20	13:59:16	09:10:18		13 MIN	11.6/20 HALOS
		21	TH-AR		↑	90°	
		22	TH-AR		↓	90°	
	G135-16	23	14:01:42	22:46:00		3 MIN	10.2/15 HALOS
		24	TH-AR		↑	90°	
		25	TH-AR		↓	90°	
	5101380	26	15:05:06	17:38:30		4 MIN	9.2/30 HALOS
		27	TH-AR		↑	90°	
		28	TH-AR		↓	90°	
	H135148	29	15:10:55	12:38:36		2 1/2 MIN	9.5/15 HALOS
		30	TH-AR		↑	90°	
		31					
		32					

Intensified Reticon
TO CAM 1/13

Spectrograph ECHELLE Log Sheet RAW/RET 15

Grating 300P Observer GS

Telescope 6" WYTH Date JAN 13-14 1987 Disk 000 1382

Change....	File	ID	RA	Dec	1950.0 L/R ↑/↓	Exposure	Comments
		1			↓	90 ^s	5187A 80μ SLIT
		2	5139010	12:49:38	-00:39:39	6 MIN	7.8/100 (THINCLD) M STARS
		3			↑	90 ^s	
		4	GLC 488	12:48:09	-00:29:42	5 MIN	8.5/40 M STARS
		5			↑	90 ^s	
		6			↓	90 ^s	
		7	GLC 499	13:03:49	20:59:42	6 MIN	9.9/20 M STARS
		8			↑	90 ^s	
		9	S082651	13:03:56	22:53:00	2 MIN	5.9/100 M STARS
		10			↑	90 ^s	
		11			↓	90 ^s	
		12	S063499	13:19:54	30:33:12	2 MIN	6.9/100 M STARS
		13			↑	90 ^s	
		14	GLC 509A	13:21:12	29:29:52	4 MIN	9.7/30 M STARS
		15			↑	90 ^s	
		16			↓	90 ^s	
		17	S100592	13:26:44	11:04:35	2 MIN	5.8/100 M STARS
		18			↑	90 ^s	
		19	GLC 514	13:27:27	10:39:0	7 MIN	9.1/40 M STARS
		20			↑	90 ^s	
		21			↓	90 ^s	
		22	LAMVIR	14:16:24	-13:08:31	3 MIN	4.6/700 M STAR
		23			↑	90 ^s	
		24			↓	90 ^s	
		25	H136202	15:16:45	01:57:11	2 MIN	5.1/ IAU STAND.
		26			↑	90 ^s	
		27			↓	90 ^s	
		28	SKYDWNK	4 HRS E	+35°	2 MIN	
		29			↑	90 ^s	
		30			↓	90 ^s	
		31	SKYDWNM	0 HR WA	+35°	2 MIN	
		32			↑	90 ^s	

Spectrograph ECHELLE

Intensified Reticon

TO CAM 1/15

Log Sheet

RAW RET 15

Grating 300LObserver GSTelescope 61" WYETHDate JAN 13-14 1987Disk ORD 1383

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1				120 ^{MIN}	5187A 80μ SLIT
		2				120	
1/14-15/87		3			↓	90 ^S	
		4	0 ^H 11A	+35		2 ^W	
		5			↑	90 ^S	
		6			↓	90 ^S	
		7	9 ^H 1/2 W	+35		2 ^W	
		8			↑	90 ^S	
		9			↓	90 ^S	
		10	G191-55 05 53 04	58 40		5 1/2 ^W	!! MOON + CLOUDS !! HALO
		11			↑	90 ^S	BEWARE
JAN 15/16		12			↓	90 ^S	5187A 80μ SLIT
		13	SKYEVIEW 04 ^H 11A	+30°		2 ^{MIN}	OVERCAST
		14			↑	90 ^S	
		15			↓	90 ^S	
		16	SKYEVIEW 4 ^H WEST	+30°		2 ^{MIN}	
		17			↑	90 ^S	
		18			↓	90 ^S	
		19	HD 37148 05:34:00	09:51:21		4 ^{MIN}	8.5/ LAMORI
		20			↑	90 ^S	
		21			↓	90 ^S	
		22	46318 06:31:49	56:25:35		8 ^{MIN}	6.5/ (HOLDS FOR CLOS) F STARS
		23			↑	90 ^S	
		24			↓	90 ^S	
		25	54269 07:07:23	57:46:51		6 ^{MIN}	8.0/ F STAR
		26			↑	90 ^S	
		27			↓	90 ^S	
		28	G191-55 05:53:04	58:40:24		15 ^{MIN}	10.5/40 HALOS
		29			↑	90 ^S	
		30			↓	90 ^S	
		31	55700 07:13:04	58:08:15		8 ^{MIN}	7.3/ F STARS
		32			↑	90 ^S	

Intensified Reticon

TO CAM 1/16

Spectrograph ECHELLE

Log Sheet

RAW RET 15

Grating 300L

Observer GS

Telescope 61" WYETH

Date JAN 15-16 1987

Disk ORO 1384

Change....	File	ID	1950.0 RA	Dec	L/R +/-	Exposure	Comments
		1			↓	90 ^s	5187A. 80μ SLIT
	92197		10:36:18	16:14:36		8 MIN	8.0/ (HOLD CLDS) F STARS
		3			↑	90 ^s	
		4			↓	90 ^s	
	94120		10:49:23	16:21:33		6 MIN	7.9/ F STARS
		6			↑	90 ^s	
		7			↓	90 ^s	
	99946		11:27:25	30:14:34		4 MIN	6.7/ (SWONTV SCREEN) F STARS
		9			↑	90 ^s	
		10			↓	90 ^s	
	101841		11:40:46	28:19:55		6 MIN	7.4/ F STAR
		12			↑	90 ^s	
		13			↓	90 ^s	
	103846		11:55:00	28:50:03		10 MIN	8.0/ SEVERAL CLD WINGS F STAR
		15			↑	90 ^s	
		16			↓	90 ^s	
	H136202		15:16:45	01:57:11		3 MIN	5.1/ (H1 CLDS) 1 AU STND
		18			↑	90 ^s	
		19			↓	90 ^s	
	SKYDWN		4 HR HA	+30		2 MIN	MOSTLY CLDY
TH-AR →		21			↑	90 ^s	
	SKYDWN		0 HR HA	+30	↓	90 ^s 2 MIN	
	SKYDWN		0 HR HA	+30		2 MIN	
		24			↑	90 ^s	
		25				120 MIN	
		26				120 MIN	
		27				120 MIN	
		28					
		29					
		30					
		31					
		32					

Spectrograph ECHELLE Intensified Reticon TO CAM 1/16
 Grating 300l Log Sheet RAW/RET 15
 Telescope 61" WYETH Date JAN 16-17 1987 Observer RJD
 Disk ORO 1385

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1	TH-AR		↓	90"	5187A 80 μ slit
		2	KYENLM	04R 4A +35°		2 MIN	CLEAR
		3	TH-AR		↑	90"	
		4	TH-AR		↓	90"	
		5	KYENLM	4HRS W +35		2 MIN	
		6	TH-AR		↑	90"	
		7	THAr		↓	90"	
		8	H4128	00:41:048 -18:15:39		5"	ND2. IAU Rad Vel Std.
		9	THAr		↑	90"	
		10	THAr		↓	90"	
		11	558455	03:23:53 34:15:18		2"	Halo Binaries
		12	THAr		↑	90"	
		13	THAr		↓	90"	
		14	G37-26	03:05:28 26:09:06		20"	
		15	THAr		↑	90"	
		16	THAr		↓	90"	
		17	G175-39	04:31:59.3 55:18:52		6"	Heavy Cirrus
		18	THAr		↑	90"	
		19	THAr		↓	90"	
		20	G191-55	05:53:04 58:40:24		15"	
		21	THAr		↓	90"	
		22	G191-55	" "		15"	
		23	THAr		↑	90"	
		24	THAr		↓	90"	
		25	U006	00:15:40.8 43:44:40		4"	= G1 15a Nearby/QBD
		26	THAr		↑↓	90"	
		27	U007	00:15:34 43:44:42		20"	= G1 15b Nearby
		28	THAr		↑	90"	
		29	THAr		↓	90"	
		30	H26162	04:06:14.9 19:28:43		3"	IAU Rad Vel Std
		31	THAr		↑	90"	
		32					

Intensified Reticon
TO CAM 1/17

Spectrograph ECHELLE Log Sheet RAW/RET 15

Grating 300 l Observer RJD

Telescope 61" Wyeth Date 1/16-17/87 Disk ORO 1386

Change....	File	ID	RA	1950.0 Dec	L/R ↑/↓	Exposure	Comments
		1	ThAr		↓	90 ^s	after 2 ^h delay - clouds
		2	T Mon	06:22:31	07:06:55		2 ^m Cepheid
		3	ThAr		↑	90 ^s	
		4	ThAr		↓	90 ^s	2 Ori Program
		5	HD37148	05:34:00.7	07:51:21		7 ^m
		6	ThAr		↑	90 ^s	
		7	ThAr		↓	90 ^s	
		8	P2445	05:34:22.8	-5:01:20		21 ^m Trapezium Binary
		9	ThAr		↑	90 ^s	Maybe some moonlight contamination
		10	ThAr		↓	90 ^s	Mostly cloudy again
		11	H66141	07:59:39.9	02:28:29		2 ^m IAU Rad Vel Std.
		12	ThAr		↑	90 ^s	
		13	ThAr		↓	90 ^s	75 ^m Wait for Clouds
		14	H085217	09:47:54	04:34:42		2 ^m M Stars
		15	ThAr		↑	90 ^s	Much clearer now
		16	ThAr		↓	90 ^s	Halos Binaries
		17	G114-26	08:58:39	-3:49:36		8 ^m
		18	ThAr		↑	90 ^s	
		19	ThAr		↓	90 ^s	
		20	G89-14	07:19:48	08:55:12		14 ^m
		21	ThAr		↑	90 ^s	
		22	ThAr		↓	90 ^s	
		23	G112-54	07:52:02	-1:16:54		2 ^m
		24	ThAr		↑	90 ^s	
		25	ThAr		↓	90 ^s	
		26	RX Aur	04:57:55	39:53:17		3 ^m Cepheid
		27	ThAr		↑	90 ^s	
		28	ThAr		↓	90 ^s	
		29	G41-34	09:20:06	11:29:06		4 ^m Halo-Binaries
		30	ThAr		↑	90 ^s	
		31					
		32					

Intensified Reticon
TO CAM 1/17

Spectrograph ECHELLE Log Sheet RAWRET 15

Grating 300 l Observer RJD

Telescope 61" Wyeth Date 1/16-17/87 Disk ORO 1387

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
					↓	90 ^s	
						16 ^m	Italo Binaries
					↑	90 ^s	
					↓	90 ^s	
						3 ^m	
					↑	90 ^s	
					↓	90 ^s	
						4 ^m	Cepheid
					↑	90 ^s	
					↓	90 ^s	
						2 ^m	IAU Rad Vol Standard
					↑	90 ^s	
					↓	90 ^s	
						3 ^m	M Stars
					↑	90 ^s	
					↓	90 ^s	
						2 ^{1/2} ^m	Italo Binaries
					↑	90 ^s	
					↓	90 ^s	
						3 ^m	
					↑	90 ^s	
					↓	90 ^s	
						8 ^m	
					↑	90 ^s	
					↓	90 ^s	
						3 ^m	
					↑	90 ^s	
					↓	90 ^s	
						2 ^m	SA 57
					↑	90 ^s	
					↓	90 ^s	
						2 ^m	
					↑	90 ^s	

Intensified Reticon

TO CAM 1/17

Spectrograph ECHELLE Log Sheet

Grating 300 l Observer RVD

Telescope 61" Wyeth Date 1/16-17/87 Disk ORO 1388

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments	
		1	W13233	13:09:52.8	30:14:29		3 ^m	SA 57
		2	ThAr			↕	90 ^s	
		3	W20942	13:04:37.4	31:22:22		3½ ^m	
		4	ThAr			↕	90 ^s	
		5	W22389	13:07:06.9	30:42:04		9 ^m	
		6	ThAr			↕	90 ^s	
		7	W23375	13:06:44.1	30:30:36		8 ^m	
		8	ThAr			↕	90 ^s	
		9	W32007	13:01:28.5	31:01:30		3 ^m	
		10	ThAr			↕	90 ^s	
		11	W33111	13:00:15.1	30:32:57		2 ^m	
		12	ThAr			↕	90 ^s	
		13	W41124	13:08:25.0	28:48:39		8 ^m	
		14	ThAr			↕	90 ^s	
		15	W52584	13:06:19.7	27:52:25		2 ^m	
		16	ThAr			↕	90 ^s	
		17	W60243	12:59:40.6	29:15:37		2 ^m	
		18	ThAr			↕	90 ^s	
		19	W61735	13:02:50.1	28:39:41		4½ ^m	
		20	ThAr			↕	90 ^s	
		21	W61774	13:01:14.9	28:43:08		14 ^m	
		22	ThAr			↕	90 ^s	
		23	W62717	13:01:54.1	28:22:31		8 ^m	
		24	ThAr			↑	90 ^s	
		25	ThAr			↓	90 ^s	
		26	H114762	13:09:54.5	17:46:55		4 ^m	IAU Rad Vel Std
		27	ThAr			↑	90 ^s	
		28	ThAr			↓	90 ^s	Computer Crash; Reboot
		29	(2)	15:24:38.6	01:38:54		10 ^m	Asteroid
		30	ThAr			↕	90 ^s	
		31	+013070	15:20:08	01:26:30		14 ^m	Halo Binaries
		32	ThAr			↑	90 ^s	

1/17

Spectrograph ECHELLE Intensified Reticon TO CAM
 Grating 300l Log Sheet RAW/RET 15
 Telescope 61" Wyeth Date 1/16-17/87 Observer RJD
 Disk ORO 1389

Change....	File	ID	RA	1950.0 Dec	L/R ↑/↓	Exposure	Comments
		1	Th Ar		↓	90s	
		2	G182-7	17:23:01	38:04:54	5 ^m	Halo Binaries
		3	Th Ar		↑	90s	
		4	Th Ar		↓	90s	
		5	G169-18	16:34:30	31:02:48	2 ^m	"
		6	Th Ar		↑	90s	
		7	Th Ar		↓	90s	
		8	H146051	16:11:43	-3:34:01	2 ^m	IAU Rad Vel Std, ND 1
		9	Th Ar		↑	90s	
		10	Th Ar		↓	90s	
		11	SKYDOWNE			3 ^m	3 1/2" E, +10°
		12	Th Ar		↑	90s	
		13	SKYDOWNE Th Ar		↓	90s	[+31° Meridian]
		14	Th Ar SKYDOWNM			3 ^m	
		15	Th Ar		↑	90s	
		16	INCANOS			120	
		17	"			120	
		18	INCAN			91	
17-18 JAN 1987		19	Th-Ar		↓	90s	
		20	SKY-EVE	φh	+15°	2m	SKY
		21	Th-Ar		↑	90s	
		22	Th-Ar		↓	30s	
		23	SKY-EVE	φh	+15°	2m	30 sec. Th-Ar test
		24	Th-Ar		↑	30s	
		25	Th-Ar	4h W +15°	↓	90s	
		26	SKY-EVE	4h W	+15°	2m	
		27	Th-Ar		↑	90s	
		28	Th-Ar		↓	30s	
		29	SKY-EVE	4h W	+15°	2m	30 sec. Th-Ar-test
		30	Th-Ar		↑	30s	
		31	/				
		32	/				

1/17

TO CAM

Intensified Reticon

Spectrograph ECHELLE

Log Sheet

RAW RET 15

Grating 300R

Observer RPS

Telescope 61" Wyeth

Date 17-18 JAN. 1987

Disk ORO 1391

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

1		Th-Ar			↓	90s	
2	G173-2		01:27:49	52:29:18		5m	10.1/15 HALOS
3		Th-Ar			↑	90s	
4		Th-Ar			↓	90s	
5	(9)		03:49:30	22:15:03		10m	102 Asteroid
6		Th-Ar			↑	90s	
7	G173-2	Th-Ar	03:49:30	22:15:03	↓	90s	(Th-Ar)
8	G79-63		03:41:21	09:47:00		13m	11.6/15 HALOS
9		Th-Ar			↑	90s	
10		Th-Ar			↓	90s	
11	G7-20		04:02:47	10:54:54		13m	11.6/15 "
12		Th-Ar			↑	90s	
13		Th-Ar			↓	90s	
14	VB11		04:04:52	15:01:50		2m	HYADES
15		Th-Ar			↑	90s	
16		Th-Ar			↓	90s	
17	H336		04:21:57	15:45:41		15m	"
18		Th-Ar			↑	90s	
19		Th-Ar			↓	90s	
20	L59		04:24:02	10:45:36		3m	"
21		Th-Ar			↑	90s	
22		Th-Ar			↓	90s	
23	L81		04:38:41	13:07:34		15m	"
24		Th-Ar			↑	90s	
25		Th-Ar			↓	90s	
26	RX AUR		04:57:55	39:53:17		3.5m	9.2 Cepheid
27		Th-Ar			↑	90s	
28		Th-Ar			↓	90s	
29	GES 268		07:06:37	38:36:48		20m	11.5/20 M stars
30		Th-Ar			↑	90s	
31		/					
32		/					

Spectrograph ECHELLE Intensified Reticon
 Grating 300 L Log Sheet
 Telescope 61" Wyeth Date 17-18 JAN 1987

TO CAM 17

Observer RIS
 Disk ORO 1392

RAW RET 15

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1h-Ar			↓	90s	- thin clouds -
		H 66141	07:59:40	02:28:24		2m	IAU Standard
		Th-Ar			↑	90s	
		Th-Ar			↓	30s	
		H 66141	"	"		2m	" -30 sec Th-Ar
		Th-Ar			↑	30s	
		Th-Ar			↓	90s	
		54777	07:08:18	30:33:17		5m	F stars
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
		54901	07:08:26	15:24:53		5m	"
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
		55437	07:10:20	03:00:09		8m	8.2 "
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
		G 25319	08:40:02	09:41:18		17m	9.7/40 M stars - clouds to the East -
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
		71713	08:26:03	-13:23:13		10m	8.0 F stars
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
		G 123-9	12:08:25	44:16:54		12m	10.1/15 HALOS - watch for ↑ - clouds moving in -
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
		S 17727	09:34:01	-20:39:46		6m	8.3/15 " cut short by clouds - probably no good
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
		H 81797	09:25:08	-08:26:28		2m	IAU Standard
		Th-Ar			↑	90s	
		/					
		/					

Spectrograph ECHELLE Intensified Reticon TO CAM 1/20
 Grating 300 L Log Sheet RAW RET 15
 Telescope 61" Wyeth Date 17-18 JAN 1987 Observer RPS/Jan
 Disk ORO 1393

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	30s	
		2	H81797	09:25:08 -08:26:28		2m	IAU 30sec Th-Ar
		3			↑	30s	(+ clouds → sky: 15cts!)
		4			↓	90s	
		5	111271	12:45:23 29:48:11		17m	7.1 F stars
		6			↑	90s	
		7			↓	90s	
		8	108100	12:22:30 43:07:48		20m	7.0 "
		9			↑	90s	
		10			↓	90s	
		11	H114762	13:09:54 17:46:54		10m	7.3/30 HALOS
		12			↑	90s	
		13			↓	90s	
		14	H100018	11:28:07 41:33:50		20m	7.0/200 M stars
		15			↑	90s	- stopped by clouds -
		16	INCANDS			120 MIN	
		17	INCANDS			120 MIN	
		18	INCANDS			67 MIN	
1/20-24/27	TH-AR	19	SKYEVEN	05 RA +30	↓	90s	
	SKYEVEN	20	0h MIN +30			2m	
	TH-AR	21			↑	90s	
	TH-AR	22			↓	90s	
	SKYEVEN	23	5 ^h W +30			2m	
	TH-AR	24			↑	90s	
	TH-AR	25			↓	90s	
	VX PER	26	02 04 18 58 12			8 ^h	CEPH
	TH-AR	27			↑	90s	
	TH-AR	28			↓	90s	
	G190-10	29	23 05 39 41 35			17 ^h	HALO
	TH-AR	30			↑	90s	
		31					
		32					

Intensified Reticon
TO CAM 1/20

Spectrograph ECHELLE Log Sheet RAW RET 15

Grating _____ Observer AG

Telescope 61" Date JAN 20-21 1987 Disk ORO 1394

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 ^s	
		2	RX AM 04 59 55	29 52		2 ^m	CAMI
		3			↑	90 ^s	
		4			↓	90 ^s	
		5	SV MON 06 18 45	06 30		3 ^m	"
		6			↑↓	90 ^s	
		7	T MON 06 22 31	07 07		3 ^m	
		8			↑	90 ^s	
		9			↓	90 ^s	
		10	29789 04 39 02	-00 50		5 ^m	F STAR
		11			↑↓	90 ^s	
		12	30436 04 45 08	-00 11		20 ^m	
		13			↑↓	90 ^s	
		14	33007 05 04 42	00 56		8 ^m	
		15			↑	90 ^s	
		16			↓	90 ^s	
		17	39268 05 25 32	35 02		15 ^m	
		18			↑↓	90 ^s	
		19	39224 05 49 20	24 15		15 ^m	
		20			↑	90 ^s	
		21			↓	90 ^s	
		22	P2445 05 34 23	-05 01		20 ^m	HALOS
		23			↑	90 ^s	
		24			↓	90 ^s	
		25	4039149 05 24 01	09 51		4 ^m	A OR 1 + (21971164)
		26			↑	90 ^s	
		27			↓	90 ^s	
		28	48568 06 41 44	06 20		10 ^{min}	7.9/ F STARS
		29			↑	90 ^s	
		30			↓	90 ^s	
		31	G191-55 05:53:01	58:40:24		15 ^{min}	10.5/40 HALOS
		32			↑	90 ^s	

Intensified Reticon

TO CAM 1/20

Spectrograph ECHELLE Log Sheet RAW RET 15

Grating 3002 Observer GS

Telescope 61" WYETH Date JAN 20/1 1987 Disk OR0 1395

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 ^s	5187A 80μ SLIT
		2	42 313	06:08:06	30:41:07	12 ^{MIN}	8.0/ (SW ON TV) F STAR
		3			↑	90 ^s	
		4			↓	90 ^s	
		5	688-5	07:03:12	18:42:54	10 ^{MIN}	10.2/20 HALOS
		6			↑	90 ^s	
		7			↓	90 ^s	
		8	56649	07:15:50	26:02:02	6 ^{MIN}	8.0/ F STAR
		9			↑	90 ^s	
		10			↓	90 ^s	
		11	57769	07:20:57	36:24:31	10 ^{MIN}	7.0/ F STAR
		12			↑	90 ^s	
		13			↓	90 ^s	
		14	653-30	10:09:56	-00:23:12	5 ^{MIN}	10.2/15 HALOS
		15			↑	90 ^s	
		16			↓	90 ^s	
		17	11085217	09:47:54	04:34:42	3 ^{MIN}	6.2/200 M STARS
		18			↑	90 ^s	
		19			↓	90 ^s	
		20	644-45	10:50:48	10:00:24	7 ^{MIN}	10.2/30 HALOS
		21			↑	90 ^s	
		22			↓	90 ^s	
		23	80678	09:18:33	03:09:10	10 ^{MIN}	7.0/ F STAR
		24			↑	90 ^s	
		25			↓	90 ^s	
		26	81566	09:23:56	06:44:48	10 ^{MIN}	7.9/ F STAR
		27			↑	90 ^s	
		28			↓	90 ^s	
		29	84078	09:40:06	02:01:22	10 ^{MIN}	7.9/ F STAR
		30			↑	90 ^s	
		31					
		32					

Spectrograph ECHELLE Intensified Reticon TO CAM 1/24
 Grating 300 Log Sheet RAW RET 15
 Telescope 6" WYETH Date JAN 20-21 1987 Observer GS
 Disk ORO 1397

Change....	File	ID	RA	1950.0 Dec	L/R ↑/↓	Exposure	Comments
		1	TH-AR		↓	90 ^s	5187A 80μ SLIT
		2	SKYDOWNM	0 HRS	+30	2 MIN	OVERCAST
		3	TH-AR		↑	90 ^s	
		4	INLANDS			120 MIN	
1/21-22		5	TH-AR INLANDS		↓	90 ^s	
		6	SKYEVEN	oh	+10 ^o	2m	
		7	TH-AR		↑	90 ^s	
		8	TH-AR		↓	90 ^s	
		9	SKYEVEN	4 hr W	+10	2m	
		10	TH-AR		↑	90 ^s	
		11	TH-AR		↓	90 ^s	6563A
		12	B AQR	21 28 56	-05 48	4m	ND = 0.8 FILTER H ₂
		13	TH-AR		↑	90 ^s	SALLY
		14	TH-AR		↓	90 ^s	
		15	L AQR	22 03 13	-00 34	4 1/2 m	ND = 0.8 FILTER
		16	TH-AR		↑	90 ^s	
		17	TH-AR		↓	90 ^s	
		18	λ AND	23 35 06	46 11	4 1/2 m	ND = 0.8 FILTER
		19	TH-AR		↑	90 ^s	
		20	TH-AR		↓	90 ^s	
		21	α ORI	05 32 28	07 24	3m	ND = 2.0 FILTER
		22	TH-AR		↑	90 ^s	
		23	TH-AR		↓	90 ^s	5187A ^o
		24	G191-55	05 53 04	58 40	14m	HALO
		25	TH-AR		↑	90 ^s	
		26	TH-AR		↓	90 ^s	
		27	H 300 E	00 30 42	-11 00 W	7m	
		28	TH-AR		↑	90 ^s	
		29	TH-AR		↓	90 ^s	
		30	G34-16	01 13 55	17 16	3m	
		31	TH-AR		↑	90 ^s	
		32					

Spectrograph ECHELLE Intensified Reticon TO CAM 1/21
 Grating 300L Log Sheet RAW/RET 15
 Telescope SH Date 1/21-22/87 Observer DM / GS
 Disk ORO 1398

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1	TH-AR		↓	90 ^s	SIEBA 80M SLIT
		2	G171-58	00:22:26	47:46:12		3 MIN HALOS
		3	TH-AR		↑	90 ^s	
		4	TH-AR		↓	90 ^s	
		5	44300	06:19:14	30:58:13		20 MIN 7.8/ F STAR
		6	TH-AR		↑	90 ^s	
		7	TH-AR		↓	90 ^s	
		8	45311	06:25:03	39:08:32		13 MIN 7.6/ F STAR
		9	TH-AR		↑	90 ^s	
		10	TH-AR		↓	90 ^s	
		11	69715	08:16:19	35:12:00		12 MIN 7.0/ F STAR
		12	TH-AR		↑	90 ^s	
		13	TH-AR		↓	90 ^s	
		14	70825	08:21:57	24:06:22		5 MIN 7.3/ F STAR
		15	TH-AR		↑	90 ^s	
		16	TH-AR		↓	90 ^s	
		17	71277	08:24:30	30:42:56		13 MIN 8.0/ F STAR
		18	TH-AR		↑	90 ^s	
		19	TH-AR		↓	90 ^s	
		20	76318	08:53:12	26:33:08		12 MIN 8.2/ F STAR
		21	TH-AR		↑	90 ^s	
		22	76333	08:53:17	24:38:27		5 MIN 6.7/ F STAR
		23	TH-AR		↑	90 ^s	
		24	TH-AR		↓	90 ^s	
		25	79725	09:13:44	37:14:52		15 MIN 8.2/ F STAR
		26	TH-AR		↑	90 ^s	
		27	TH-AR		↓	90 ^s	
		28	80649	09:18:46	28:42:47		9 MIN 7.9/ F STAR
		29	TH-AR		↑	90 ^s	
		30	TH-AR		↓	90 ^s	
		31	81725	09:25:11	23:30:14		17 MIN 8.1/ (END RN OVERCAST) F STAR
		32	TH-AR		↑	90 ^s	

TO CAM 1/23

Intensified Reticon

Spectrograph ECHELLE Log Sheet RAW/RET 15

Grating 3002 Observer RJD

Telescope 6" WYETH Date + Jan 23-24 1987 Disk DR01399

Change....	File	ID	RA	Dec	1950.0 L/R ↑/↓	Exposure	Comments
		1				120 ^m	5187A 80μSLIT
		2				120 ^m	
21-22 Jan		3				120 ^m	
23-24 Jan		4			↓	90 ^s	
		5				3 ^m	-10° Meridian, Snowing
		6			↑	90 ^s	
		7			↓	90 ^s	6563A ⁰
		8	α ORI 5 52 22	07 24		8 ^m	MD = 2.0 SALLY
		9			↑	90 ^s	
		10			↓	90 ^s	5127A ⁰
		11	RX Aur 04:57:55	39:53:17		5 ^m	Cepheid
		12			↑	90 ^s	
		13	Th Ar 02:04:18	58:12:22	↓	90 ^s	
Vx Per		14	DL Cap 20:27:16	59:56:12		10 ^m	
		15			↑	90 ^s	
		16			↓	90 ^s	
		17	S37-26 03:05:28	26:09:06		11 ^m	Halo Binaries
		18			↑	90 ^s	
		19			↓	90 ^s	
		20	S56455 03:23:53	34:15:18		2 ^m	
		21			↑	90 ^s	
		22			↓	90 ^s	
		23	H26162 04:06:14.9	19:28:43		2 ^m	IAC Rad Vel Std
		24			↑	90 ^s	
		25			↓	90 ^s	
		26	T Mon 06:22:31	07:06:53		2 ^m	Cepheid
		27			↑	90 ^s	
		28			↓	90 ^s	
		29	SV Mon 06:18:45	06:29:41		7 ^m	
		30			↑	90 ^s	
		31					
		32					

Spectrograph ECHELLE Intensified Reticon TO CAM 1/24
 Grating 300 l Log Sheet RAW/RET 15
 Telescope 61" Wyeth Date 1/23-24/87 Observer RJD
 Disk ORO 1400

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 ^s	
		2	G116-26	09:20:43	40:12:18		9 ^m Halo Binaries
		3	ThAr			↑	90 ^s
		4	ThAr			↓	90 ^s
		5	S015472	11:16:06.7	62:27:22		4 ^m M Stars
		6	ThAr			↑	90 ^s
		7	G15430	11:28:22	63:26:00		16 ^m
		8	ThAr			↑	90 ^s
		9	G15430	"	"		13 ^m
		10	ThAr			↑	90 ^s
		11	ThAr			↓	90 ^s
		12	H100018	11:28:07	41:33:50		6 ^m
		13	ThAr			↑	90 ^s
		14	ThAr			↓	90 ^s
		15	G146-60	10:40:36	48:28:30		2 ^m Halo Binaries
		16	ThAr			↑	90 ^s
		17	ThAr			↓	90 ^s
		18	G54-33	10:33:58	21:51:54		2 ^m
		19	ThAr			↑	90 ^s
		20	ThAr			↓	90 ^s
		21	G44-28	10:33:30	16:08:06		3 ^m
		22	ThAr			↑	90 ^s
		23	ThAr			↓	90 ^s
		24	G114-48	09:11:12	-3:41:18		12 ^m
		25	ThAr			↑	90 ^s
		26	ThAr			↓	90 ^s
		27	G114-26	08:56:39	-3:49:36		15 ^m
		28	ThAr			↑	90 ^s
		29	ThAr			↓	90 ^s
		30	G175-39	04:31:59.3	55:18:52		2 1/2 ^m
		31	ThAr			↑	90 ^s
		32					

Intensified Reticon TO CAM 1/24

Spectrograph ECHELLE Log Sheet RAW RET 15

Grating 300l Observer RJP

Telescope 61" wyeth Date 1/23-24/87 Disk ORO 14φ1

Change....	File	ID	RA	Dec	1950.0 L/R ↑/↓	Exposure	Comments
		1			↓	90 ^s	
		2	G191-55	05:53:04 58:40:24		13 ^m	Halo Binaries
		3	THAr		↑↓	90 ^s	
		4	G191-55	" "		11 ^m	
		5	THAr		↑	90 ^s	
		6	THAr		↓	90 ^s	
		7	T Mon	06:21:31 07:06:53		2 ^m	Cepheid
		8	THAr		↑	90 ^s	
		9	THAr		↓	90 ^s	
		10	H92588	10:38:515 -1:28:41		2 ^m	IAU Rad Vel Std
		11	THAr		↑	90 ^s	
		12	THAr		↓	90 ^s	
		13	G61-24	12:55:04 18:57:48		15 ^m	Halo Binaries
		14	THAr		↑	90 ^s	
		15	THAr		↓	90 ^s	
		16	G59-32	12:37:37 21:05:12		9 ^m	
		17	THAr		↑	90 ^s	
		18	THAr		↓	90 ^s	
		19	+102495	12:58:49 9:30:42		9 ^m	
		20	THAr		↑	90 ^s	
		21	THAr		↓	90 ^s	
		22	S138815	12:27:09.6 -3:02:57		5 ^m	
		23	THAr		↑	90 ^s	
		24	THAr		↓	90 ^s	
		25	S045246	14:50:17.4 46:40:54		3 ^m	M Stars
		26	THAr		↑↓	90 ^s	
		27	G1572	14:59:10 45:37:21		10 ^m	
		28	THAr		↑	90 ^s	
		29	THAr		↓	90 ^s	
		30	+182890	14:29:53 17:38:12		11 ^m	Halo Binaries
		31	THAr		↑	90 ^s	
		32					

Spectrograph ECHELLE Intensified Reticon TO CAM 1/24
 Grating 3002 Log Sheet RAW/RET 15
 Telescope 61" Wyeth Date 1/23-24/87 Observer RJD
 Disk ORO 1403

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 ^s	
	W52699		3:04:46.8	27:53:33		2 ^m	Standard Area 57
		3			↓	90 ^s	
	W44447		3:09:32.4	28:07:52		2 ^m	
		5			↓	90 ^s	
		6			↓	90 ^s	
		7				4 ^m	3 ^h E, Equator
		8			↑	90 ^s	
		9			↓	90 ^s	
		10				4 ^m	31 ^o N, Meridian
		11			↑	90 ^s	
		12				120 ^{MIN}	
		13				120 ^{MIN}	
		14				83	
JAN 24/25		15			↓	90 ^s	5187A 80μ SLIT
		16	0 ^{HR} HA	+30 ^o		2 ^{MIN}	CLEAR
		17			↑	90 ^s	
		18			↓	90 ^s	
		19	4 ^{HR} W HA	+30 ^o		2 ^{MIN}	
		20			↑	90 ^s	
		21			↓	90 ^s	6563A 80μ SLIT
		22	ALPHA AQR	22:03:13	00:33:49	7 ^{MIN}	29/ (.3ND FILT) H ALPHA
		23			↑	90 ^s	
		24			↓	90 ^s	
		25	CAM AND	23:35:06	46:11:14	7 ^{MIN}	3.9/ 1.1 H ALPHA
		26			↑	90 ^s	
		27			↓	90 ^s	5187A 80μ SLIT
		28	127141	31:51:28	06:37:42	2 ^{MIN}	2/20 HALOS
		29			↑	90 ^s	
		30			↓	90 ^s	
		31	518-55	22:30:20	0:09:00	4 1/2 ^{MIN}	9.3/15 HALOS
		32			↑	90 ^s	

Intensified Reticon

TO CAM 1/24

Spectrograph ECHELLE

Log Sheet

RAW RET 15

Grating 300P

Observer GS

Telescope 6"

Date JAN 24-25 1987

Disk ORD 1404

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1	TH-AR		↓	90°	5187A 80 μsec
		2	5128427	23:49:24 02:39:09		3 min	5.9/100 M STAR
		3	TH-AR		↓	90°	
		4	GLS 908	23:46:37 02:07:37		10 min	9.0/40 M STAR
		5	TH-AR		↑	90°	
		6	TH-AR		↓	90°	
		7	X CYG	20:41:27 35:24:24		4 min	6.4/ CEPH
		8	TH-AR		↑	90°	
		9	TH-AR		↓	90°	
		10	U483	22:26:12 57:26:42		8 min	9.6/ (ALSO NEARBY) SPACE MOTION
		11	TH-AR		↑	90°	
		12	TH-AR		↓	90°	
		13	Z14764	22:37:09 58:39:59		4 min	6.9/ F STARS
		14	TH-AR		↑	90°	
		15	TH-AR		↓	90°	
		16	Z LAC	22:38:53 56:34:05		9 min	8.9/ CEPH
		17	TH-AR		↑	90°	
		18	TH-AR		↓	90°	
		19	DL CAS	00:27:11 59:56:12		10 min	10.6/ CEPH
		20	TH-AR		↑	90°	
		21	TH-AR		↓	90°	
		22	GL 166a	04:12:58 -07:43:48		3 min	4.9/ NEARBY
		23	TH-AR		↑	90°	
		24	TH-AR		↓	90°	
		25	U116	06:28:33 40:26:30		20 min	7.3/ (NE ON SCREEN) SPACE MOTION
		26	TH-AR		↑	90°	
		27	TH-AR		↓	90°	
		28	SU MON	06:16:45 06:29:41		10 min	8.9/ CEPH
		29	TH-AR		↑	90°	
		30	TH-AR		↓	90°	
		31	P2445	05:34:22 -05:01:20		15 min	11.0/ HYADES
		32	TH-AR		↑	90°	

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Spectrograph ECHELLE Intensified Reticon TO CAMI
 Grating 300 Log Sheet RAW/RET 15
 Telescope 6' WYATPI Date JAN 24-25 1987 Observer GS
 Disk ORD 1405

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90°	5187A 80μ SLIT
		2				3 MIN	6.6/ Ceph
		3			↑	90°	
		4			↓	90°	
		5	06:22:31	07:06:53		20 MIN	11.5/20 M STAR
		6			↑	90°	
		7			↓	90°	
		8	06:26:8	07:06:37		10 MIN	8.1/ F STAR
		9			↑	90°	
		10	05:13:48	16:57:57		5"	
		11			↑	90°	
		12	05:14:51	13:35		5"	"
		13			↑	90°	
		14			↓	90°	
		15	05:18:25	11:04		4"	"
		16			↑	90°	
		17	05:34:29	15:19		20m	"
		18			↑↓	90s	
		19	05:45:49	18:14		4m	7.9 "
		20			↑	90s	
		21			↓	90s	
		22	05:43:48	20:09:20		4m	9.2 Cepheids
		23			↑	90s	
		24			↓	90s	
		25	02:04:18	58:12:22		13m	9.7 "
		26			↑	90s	
		27			↓	90s	
		28	05:53:04	58:40:24		18m	10.1/40 HALOS
		29			↑	90s	
		30					
		31					
		32					

1/24

Intensified Reticon

TO CAM

Spectrograph ECHELLE

Log Sheet

RAW RET 15

Grating 300 L

Observer RPS

Telescope 61" Wyeth

Date 24-25 JAN 1987

Disk ORO 1406

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90s	
		2	G161-73	09:43:07 - 04:26:30		20m	10.8/40 HALOS
		3			↓	90s	
		4	G161-73	" "		10m	"
		5			↑	90s	
		6			↓	90s	
		7	H92588	10:38:52 - 01:28:41		2.5m	6.3 IAU standard
		8			↑	90s	
		9			↓	30s	
		10	H92588	" "		2m	" 30sec Th-Ar
		11			↑	30s	
		12			↓	90s	
		13	G163-39	11:00:25 - 03:06:48		3.5m	8.9/- HALO South-Component
		14			↑	90s	
		15			↓	90s	
		16	G45-30	01:01:45 06:03:54		2m	8.2/15 "
		17			↑	90s	
		18			↓	90s	
		19	G10-12	11:16:40 05:57:18		5m	9.3/20 "
		20			↑	90s	
		21	G45-48	11:17:55 05:46:36		7m	10.2/15 "
		22			↑	90s	
		23			↓	90s	
		24	G163-54	11:07:06 02:43:36		2.5m	7.7/15 "
		25			↑	90s	
		26			↓	90s	
		27	G10-26	11:26:25 01:22:12		5m	9.8/15 "
		28			↑	90s	
		29			↓	90s	
		30	G57-11	11:36:28 06:20:12		4m	7.6/15 " -4°F!
		31			↑	90s	
		32					

1/24

TO CAM

Spectrograph ECHELLE

Intensified Reticon

Grating 3002

Log Sheet

RAW/RET 15

Telescope 61" Wyeth

Date 24-25 JAN 1967

Observer RPS

Disk ORO 1407

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90s	
	G56-40	2	11:23:51	16:41:54		3m	8.7/15 HALO
	Th-Ar	3			↑	90s	
	Th-Ar	4			↓	90s	
	S99624	5	11:26:33	16:39:24		2m	7.7/15 "
	Th-Ar	6			↑	90s	
	Th-Ar	7			↓	90s	
	G58-41	8	11:02:35	25:28:24		4m	7.6/15 "
	Th-Ar	9			↑	90s	
	Th-Ar	10			↓	90s	
	G147-19	11	11:02:47	38:32:42		2 1/2 m	8.7/15 "
	Th-Ar	12			↑	90s	
	Th-Ar	13			↓	90s	
	G10-56	14	11:47:49	-04:58:30		4.5 m	9.2/15 "
	Th-Ar	15			↑	90s	
	Th-Ar	16			↓	90s	
	-012582	17	11:51:04	-01:43:48		10m	9.7/30 "
	Th-Ar	18			↑	90s	
	Th-Ar	19			↓	90s	
	G13-1	20	11:56:29	-04:29:48		3.5m	9.0/15 "
	Th-Ar	21			↑	90s	
	Th-Ar	22			↓	90s	
	G11-37	23	12:02:41	-01:13:54		3m	8.2/15 "
	Th-Ar	24			↑	90s	
	Th-Ar	25			↓	90s	
	S119116	26	11:52:53	09:24:30		5m	9.4/20 "
	Th-Ar	27			↑	90s	
	Th-Ar	28			↓	90s	
	+092574	29	11:59:30	09:17:30		14m	10.5/20 "
	Th-Ar	30			↑	90s	
	/	31					
	/	32					

Spectrograph ECHELLE Intensified Reticon
 Grating 300R Log Sheet
 Telescope 61" Wyeth Date 24-25 JAN 1987

TO CAM 1/25

RAW RET 15

Observer RPS
 Disk ORO 1408

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90s	
		2	TXC Ven	12:42:18	37:02:15	18m	9.4 KENYON
		3	Th-Ar		↑	90s	
		4	Th-Ar		↓	90s	
		5	G122-45	11:42:53	47:56:54	2m	8.0/15 HALOS
		6	Th-Ar		↑	90s	
		7	Th-Ar		↓	90s	
		8	G122-57	11:55:27	48:29:00	2m	8.4 "
		9	Th-Ar		φ	90s	
		10	Th-Ar		↓	90s	
		11	H136202	15:16:45	01:57:12	2m	IAU standard
		12	Th-Ar		↑	90s	
		13	Th-Ar		↓	30s	
		14	H136202	"	"	2m	" 30 sec Th-Ar.
		15	Th-Ar		↑	30s	(watch for SKY)
		16	Th-Ar		↓	90s	
		17	SKY DWN	4 hrs E	+25°	2m	
		18	Th-Ar		↑	90s	
		19	Th-Ar		↓	90s	
		20	SKY-DWN	φ hrs	+25°	2m	(-3°F)
		21	Th-Ar		φ	90s	
		22	INCAND			120 ^{MIN}	
		23	INCAND			120 ^{MIN}	
JAN 25/26		24	TH-AR		↓	90	5187A 80 μ slit
		25	SKY/EVEN	0 ^h 14 ^m	+25°	2 ^h	
		26	TH-AR		↑	90s	
		27	TH-AR		↓	90 ^s	
		28	SKY/EVEN	4 ^h 1 ^m W	+25	2 ^h	
		29	TH-AR		↑	90s	
		30	TH-AR		↓	90s	
		31	X CYG	20 41 27	35 24	2 1/2 ^h	CEPH
		32	TH-AR		↑	90 ^s	

Spectrograph ECHELLE Intensified Reticon TO CAM 1/25
 Grating 300 Log Sheet RAW/RET 15
 Telescope S14 Date 1/25-26/87 Observer M
 Disk ORO 1407

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	70 ^s	S14?
		2	U469	21 27 45	23 07	20 ^h	UPGREEN
		3	TH-AR		↑	90 ^s	
		4	U469	"	"	20 ^h	
		5	TH-AR		↑	90 ^s	
		6	TH-AR		↓	90 ^s	
		7	OLCAS	00 27 11	59 56	5 ^h	CEPH
		8	TH-AR		↑	90 ^s	
		9	TH-AR		↓	90 ^s	HALO
		10	G217-8	23 24 15	60 21	17 ^h	
		11	TH-AR		↑	90 ^s	
		12	TH-AR		↓	90 ^s	
		13	G216-45	23 25 02	49 59	2 ^h	
		14	TH-AR		↑	90 ^s	
		15	TH-AR		↓	90 ^s	
		16	G171-3	23 30 57	42 34	2 ^h	
		17	TH-AR		↑	90 ^s	
		18	TH-AR		↓	90 ^s	
		19	G130-10	23 43 38	34 58	3 1/2 ^h	
		20	TH-AR		↑↓	90 ^s	
		21	G120-32	23 57 31	33 55	2 ^h	
		22	TH-AR		↑	90 ^s	
		23	TH-AR		↓	90 ^s	
		24	G190-10	23 05 39	41 35	20 ^h	CLDS
		25	TH-AR		↑	90 ^s	
		26	TH-AR		↓	90 ^s	CEPH
		27	T Mon	06 22 31	07 07	2 ^h	
		28	TH-AR		↑	90 ^s	
		29	TH-AR		↓	90 ^s	
		30	38779	05 45 48	07 32	7 ^h	FSTAR
		31	TH-AR			90 ^s	
		32					

