

Spectrograph ECHELLE Intensified Reticon  
 Log Sheet  
 Grating 3002  
 Telescope 6" WYETV Date Feb 3-4 1987

TO CAM 2/3

RAW RET 15

Observer GS/um

Disk ORD 1411

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 <sup>s</sup>	5187A. 80μ SLIT
		2		+30		2 <sup>h</sup>	OVERCAST
		3			↑	90 <sup>s</sup>	
		4			↓	90 <sup>s</sup>	
		5	22 37 5	+5634		5 <sup>h</sup>	CEPTI
		6			↑	90 <sup>s</sup>	
		7			↓	90 <sup>s</sup>	
		8	02 27 11	59 56		7 <sup>h</sup>	
		9			↑	90 <sup>s</sup>	
		10			↑	90 <sup>s</sup>	
		11	04 57 55	39 53		2 <sup>h</sup>	
		12			↑	90 <sup>s</sup>	
		13			↑	90 <sup>s</sup>	
		14	06 12 45	06 30		3 <sup>h</sup>	
		15			↑	90 <sup>s</sup>	
		16			↑	90 <sup>s</sup>	6563A <sup>0</sup>
		17	05 52 28	07 24		5 <sup>h</sup>	ND = 2.0 FILTER SALLY
		18			↑	90 <sup>s</sup>	
		19			↓	90 <sup>s</sup>	5187A <sup>0</sup>
		20	02 04 18	58 12		7 <sup>h</sup>	CEPH
		21			↑	90 <sup>s</sup>	
		22			↑	90 <sup>s</sup>	
		23	02 15 41	60 15		15 <sup>h</sup>	F STARS
		24			↑	90 <sup>s</sup>	
		25			↓	90 <sup>s</sup>	SYMBIOTIC
		26	05 17 19	33 22		12 <sup>MIN</sup>	10.0/
		27			↑	90 <sup>s</sup>	
		28			↓	90 <sup>s</sup>	
		29	05:31:13	27:17:47		5 <sup>MIN</sup>	78/ F STAR
		30			↑	90 <sup>s</sup>	
		31					
		32					

Intensified      Reticon  
TO CAMI 2/4

Spectrograph ECHELLE      Log Sheet      RAW/RET 15

Grating 300l      Observer GS

Telescope 61"      WYETH      Date FEB 3-4 1987      Disk ORO 1412

Change....	File	ID	RA	1950.0 Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 <sup>s</sup>	5187A 80μ SLIT
		2	63675	07:47:44	09:53:36	10 <sup>min</sup>	7.9/ F STAR
		3			↑	90 <sup>s</sup>	
		4			↓	90 <sup>s</sup>	
		5	64021	07:49:19	05:28:45	8 <sup>min</sup>	7.8/ F STAR
		6			↑	90 <sup>s</sup>	
		7			↓	90 <sup>s</sup>	
		8	66302	08:00:35	11:29:19	10 <sup>min</sup>	8.1/ F STAR
		9			↑	90 <sup>s</sup>	
		10			↓	90 <sup>s</sup>	
		11	70499	08:19:33	-10:35:12	10 <sup>min</sup>	6.7/ (CLDS) F STAR
		12			↑	90 <sup>s</sup>	
		13				120 <sup>min</sup>	
		14				120 <sup>m</sup>	
		15				120 <sup>m</sup>	
FEB 4-5		16			↓	90 <sup>s</sup>	5187A 80μ
		17		0 <sup>h</sup>	+30	2 <sup>h</sup>	
		18			↑	90 <sup>s</sup>	
		19		+1 <sup>h</sup>	+30	90 <sup>s</sup>	
		20			→	2 <sup>h</sup>	
		21			↑	90 <sup>s</sup>	
		22			↓	90 <sup>s</sup>	6563A <sup>o</sup>
		23	λ AND	23 35 06	46 11	7 <sup>min</sup>	ND = 1.0 FILTER SALLY
		24			↑	90 <sup>s</sup>	
		25			↓	90 <sup>s</sup>	5187A
		26	G130-32	23 57 31	33 55	4 <sup>h</sup>	HALO
		27			↑	90 <sup>s</sup>	
		28			↓	90 <sup>s</sup>	
		29	G171-52	00 22 26	47 46	2 <sup>h</sup>	
		30				90 <sup>s</sup>	
		31					
		32					



Spectrograph ECHELLE Intensified Reticon TO CAM ✓  
 Grating 300L Log Sheet RAW/RET 15  
 Telescope 5H Date 2/4-5/87 Observer RM  
 Disk ORO 1413

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 <sup>s</sup>	5127A
		2	G190-10	23 05 39 41 35		15 <sup>m</sup>	HAZO
		3			↑	90 <sup>s</sup>	
		4			↓	90 <sup>s</sup>	
		5	G192-46	01 13 37 51 36		15 <sup>m</sup>	
		6			↑	90 <sup>s</sup>	
		7			↓	90 <sup>s</sup>	
		8	G192-57	01 27 13 47 45		6 <sup>m</sup>	
		9			↑	90 <sup>s</sup>	
		10			↓	90 <sup>s</sup>	
		11	G192-61	01 37 11 48 34		11 <sup>m</sup>	
		12			↑	90 <sup>s</sup>	
		13	G192-49	01 17 59 51 43		2 <sup>m</sup> 2 <sup>m</sup>	
		14			↑	90 <sup>s</sup>	
		15	G193-2	01 27 49 52 29		7 <sup>m</sup>	
		16			↑	90 <sup>s</sup>	
		17			↑	90 <sup>s</sup>	
		18	G220-13	02 31 41 59 34		3 <sup>m</sup>	
		19			↑	90 <sup>s</sup>	
		20			↓	90 <sup>s</sup>	
		21	KX AVK	04 57 53 39 53		2 <sup>m</sup>	CEPH
		22			↑	90 <sup>s</sup>	
		23			↓	90 <sup>s</sup>	
		24	SV MON	06 12 45 06 30		7 <sup>m</sup>	
		25			↑	90 <sup>s</sup>	
		26			↑	90 <sup>s</sup>	
		27	G37-26	03 05 28 26 09		18 <sup>m</sup>	HAZO
		28			↑	90 <sup>s</sup>	
		29			↓	90 <sup>s</sup>	
		30	G112-54	07 52 02 -01 17		3 <sup>m</sup>	
		31				90	
		32					





Spectrograph ECHELLE Intensified Reticon TO CAMI 2/5  
 Grating 300L Log Sheet RAW/RET 15  
 Telescope 61" WYETH Date FEB 4-5 1987 Observer GS  
 Disk ORD 1415

Change....	File	ID	RA	Dec	1950.0	L/R	Exposure	Comments
						↑/↓		
		1	TH-AR			✓	90°	5187 A 90° SLIT
	13070	15:20:08	01:26:30				14 MIN	9.5/90 HALO S
		3	TH-AR			↑	90°	
		4	TH-AR			↓	90°	
	H136202	15:16:45	01:57:11				2 MIN	5.1 IAU STARD STAR
		6	TH-AR			↑	90°	
		7	TH-AR			↓	90°	
	G182-7	17:23:01	38:04:41				7 MIN	8.1/100 HALOS
		9	TH-AR			↑	90°	
		10	TH-AR			↓	90°	
	G182-19	17:37:55	37:13:00				2 MIN	8.4/15 HALOS
		12	TH-AR			↑	90°	
		13	TH-AR			↓	90°	
	SKYDWN E	4 HR HA	+35°				3 MIN	CLEAR
		15	TH-AR			↑	90°	
		16	TH-AR			↓	90°	
	SKYDWN M	0 HR HA	+35°				2 MIN	
		18	TH-AR			↑	90°	
	IN CAMS						120 MIN	
	"						120	
	1 IN CAMS						120	
		22	TH-AR			↓	90	
2/5-6/87		23	SKYEVEN	0 HR HA	+35		2 MIN	
		24	TH-AR			↑	90	
		25	TH-AR			↓	90	
	SKYEVEN	4 1/2 W	+35				2 MIN	
		27	TH-AR			↑	90°	
		28	TH-AR			↓	90°	
	H4128	0041 04	-12 16				2 MIN	ND = 1.0 FIBERBALL
		30	TH-AR			↑	90°	STARDMID
		31						
		32						







Spectrograph ECHELLE Intensified Reticon  
 Log Sheet

TO CAM 2/5  
RAW RET 15

Grating 3008 Observer GS  
 Telescope 6" WYETH Date FEB 5-6 1987 Disk ORO 1418

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1	TH-AR		↓	90°	5187A 80μ SLIT
		2	S100592	13:26:44	11:04:35	2 MIN	5.8/100 M STAR
		3	TH-AR		↑	90°	
		4	GL5514	13:27:27	10:39:0	8 MIN	9.1/40 M STAR
		5	TH-AR		↑	90°	
		6	TH-AR		↓	90°	
		7	G65-22	13:59:16	09:10:18	20 MIN	11.6/20 (SW ON TV) HALO
		8	TH-AR		↑	90°	
		9	TH-AR		↓	90°	
		10	+182757	13:34:07	18:24:24	7 MIN	7.8/20 NO * CHART HALO
		11	TH-AR		↑	90°	
		12	TH-AR		↓	90°	
		13	G135-16	14:01:42	22:46:00	5 MIN	10.2/15 HALO
		14	TH-AR		↑	90°	
		15	TH-AR		↓	90°	
		16	G178-56	14:53:12	43:13:42	15 MIN	11.9/15 HALO
		17	TH-AR		↑	90°	
		18	TH-AR		↓	90°	
		19	H114762	13:09:54	17:46:55	3 MIN	7.3/ IAU STD STAR
		20	TH-AR		↑	90°	
		21	TH-AR		↓	90°	
		22	145184	16:06:52	13:03:36	5 MIN	7.7/ F STAR
		23	TH-AR		↑	90°	
		24	TH-AR		↓	90°	
		25	150017	16:36:53	-07:24:48	5 MIN	7.5/ F STAR
		26	TH-AR		↑	90°	
		27	TH-AR		↓	90°	
		28	SKYDWN E	4 <sup>HR</sup> HA	+30°	3 MIN	
		29	TH-AR		↑	90°	
		30	TH-AR		↓	90°	
		31	SKYDWN M	0 <sup>HR</sup> HA	+30°	2 MIN	
		32	TH-AR		↑	90°	



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Spectrograph ECHELLE Intensified Reticon TO CAMI  
 Grating 300 Log Sheet RAW/RET 15  
 Telescope 6" WYETH Date FEB 5-6 1987 Observer RPS  
 Disk ORO 1419

Change....	File	ID	RA	Dec	L/R ↑/↓	Exposure	Comments
		1		1950.0		120 <sup>MIN</sup>	5187A 80 μ SLIT
		2				120	
2/6-7/77		3			↓	90s	
		4		+30°		2½m	
		5			↑	90s	
		6		<del>+30</del>	↓	90s	
		7		+30°		2m	-clouds increasing-
		8			↑	90s	
		9			↓	90s	
		10	φ1: 23: 54	-φ1: 39: 29		2½m	6.4 IAU standard
		11			↑	90s	
		12			↓	30s	
		13	"	"		2½m	IAU - 30 sec Th-Ar
		14			↑	30s	
		15			↓	90s	
		16	φ1: 22: 13.0	φ2: 29: 49		2½m	9.0 Asteroid
		17			↑	90s	
		18			↓	30s	
		19	"	"		2½m	" 30sec Th-Ar
		20			↑	30s	
		21			↓	90s	
		22	φ1: 13: 55	18: 15: 30		2½m	8.5/30 HALOS
		23			↑	90s	
		24			↓	90s	
		25	φ2: 12: 04	-φ1: 25: 59		2m	9.1/20 "
		26			↑	90s	
		27			↓	90s	
		28	φ4: 15: 25	21: 27: 31		4m	5.7 HYADES BINARY
		29			↑	90s	
		30					
		31					
		32					

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Spectrograph ECHELLE Intensified Reticon TO CAM1  
 Grating 300L Log Sheet RAW RET 15  
 Telescope 61" Wyeth Date 6-7 FEB 1987 Observer RPS  
 Disk ORO 142φ

Change....	File	ID	RA	Dec	1950.0 L/R ↑/↓	Exposure	Comments
		Th-Ar			↓	90s	
	GDS 176	04:40:04	18:52:06			10m	9.9/40 Mstars
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
	L81	04:38:41	13:07:34			6m	11.2 HYADES BINARY
		Th-Ar			↑	90s	↳ forced to cut short by clouds
		Th-Ar			↓	90s	
	H448	04:26:08	16:03:00			3m	6.7 "
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
	L81	04:38:41	13:07:34			13m	11.2 "
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
	Sφ 11983	01:44:10	63:36:14			2m	5.7/100 Mstars
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
	GDS 69	01:40:10	63:34:24			11m	8.4/40 { stop-go - almost complete cloud cover -
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
	Alph Ori	05:52:28	07:23:56			10m	6563 Å H $\alpha$ SALLY
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
	H66141	07:59:40	02:28:24			3m	4.4 IAU standard
		Th-Ar			↑	90s	
		Th-Ar			↓	30s	
	H66141	"	"			3m	IAU 30sec Th-Ar
		Th-Ar			↑	30s	
		Th-Ar			↓	90s	- big hole to the S -
	SV MON	06:18:45	06:29:41			4m	8.9 CEPHEID
		Th-Ar			↑	90s	
	/						
	/						











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Intensified Reticon TO CAMI  
 Spectrograph ECHELLE Log Sheet RAW RET 16  
 Grating 300 l Observer D.W. Latham  
 Telescope SH Date 7-8 Feb 1987 Disk 1423

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90s	
		2	G217-11	23:28:58	58:53:18	2m	8.6/30 Halo
		3			↑↓	90s	
		4	G217-15	23:37:56	58:59:00	5m	10.5/15 Halo
		5			↑	90s	
		6			↓	90s	
		7	G243-21	00:19:28	61:44:54	2.5m	9.7/15 Halo
		8			↑	90s	
		9			↓	90s	
		10	G243-63	01:06:30	61:16:48	3m	7.7/100 Halo
		11			↑	90s	
		12			↓	90s	
		13	G172-38	01:02:41	49:11:18	8m	11.1/15 Halo
		14			↑	90s	
		15			↓	90s	
		16	G81-8	04:09:02	41:51:54	5m	10.6/15 Halo
		17			↑	90s	
		18			↓	90s	
		19	G7-20	04:02:47	10:54:54	14m	11.6/15 Halo
		20			↑	90s	
		21			↓	90s	clouds
		22	G79-63	03:41:21	09:47:00	15m	11.6/15 Halo coming watch for noon ... in West
		23			↑	90s	
		24			↓	90s	
		25	G175-39	04:31:59	55:18:52	2m	8.3/20 Halo
		26			↑	90s	
		27			↓	90s	
		28	H74000	08:38:31	-16:09:35	12m	9.6/60 Halo
		29			↑	90s	
		30			↓	90s	
		31	G114-48	09:11:12	-03:41:18	6m	10.7/15 Halo
		32			↑		

217

Intensified Reticon TO CAMI  
 Spectrograph ECHELLE Log Sheet RAW/RET 16  
 Grating 300 Observer D. W. Latham  
 Telescope SH WYETH Date 7-8 Feb 1987 Disk 1424

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90s	5187
		2	G52-19	08:31:57	09:32:48	3m	9.0/15 Halo
		3			↑	90s	
		4			↓	90s	
		5	G41-5	08:50:33	09:36:48	11m	11.2/15 Halo
		6			↑	90s	
		7			↓	90s	
		8	G43-7	09:47:36	05:23:06	15m	11.8/15 Halo
		9			↑	90s	
		10			↓	90s	
		11	G14-59	09:38:09	-04:03:18	12m	11.5/15 Halo
		12			↑	90s	
		13			↓	90s	
		14	S155275	09:30:09	-17:12:42	5m	9.4/20 Halo
		15			↑	90s	
		16			↓	90s	
		17	G162-16	10:01:29	00:50:00	3m	9.8/15 Halo
		18			↑	90s	
		19			↓	90s	
		20	G44-6	10:11:32	03:24:18	2m	7.7/15 Halo
		21			↑	90s	
		22			↓	90s	
		23	G162-53	10:22:50	-02:20:48	15m	11.7/15 Halo 62
		24			↑	90s	
		25			↓	90s	
		26	G162-51	10:22:05	-05:15:54	5m	9.8/20 Halo
*		27			↓	90s	
		28	G55-22	10:25:42	-06:20:36	2m	7.9/15 Halo
		29			↑	90s	
		30			↓	90s	
		31	G162-68	10:32:14	-09:57:06	6m	10.5/15 Halo 32/60
		32			↑	90s	



Intensified Reticon

TO CAM

Spectrograph ECHELLE

Log Sheet

RAW RET 16

Grating 300

Observer D.W. Latham

Telescope WYETH

Date 7-8 Feb 1987

Disk 1425

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90s	
		2	S179228	10:45:05	-25:10:24	5m	9.3/30 Halo 33/66
		3			↑	90s	
		4			↓	90s	
		5	+222411	11:48:59	22:23:36	5m	9.3/30 Halo
		6			↑	90s	
		7			↓	90s	
		8	G44-45	10:50:48	10:00:24	5m	10.2/30 Halo
		9			↑	90s	
		10			↓	90s	
		11	-012582	11:57:04	-01:43:48	7m	9.7/30 Halo
		12			↑	90s	
		13			↓	90s	
		14	H106516	12:12:36	-10:01:14	1m	6.1/20 Halo
		15			↑	90s	
		16			↓	90s	
		17	S138815	12:27:09	-03:02:57	3m	9.0/15 Halo
		18			↑	90s	
		19			↓	90s	
		20	G59-5	12:10:56	23:32:36	2m	9.4/15 Halo
		21			↑	90s	
		22			↓	90s	
		23	G12-16	12:03:27	14:55:48	3m	10.1/15 Halo
		24			↑	90s	
		25			↓	90s	
		26	G121-56	12:03:40	27:46:36	2m	10.0/15 Halo
		27			↑	90s	
		28			↓	90s	
		29	S82207	12:13:18	29:04:36	2.5m	9.3/15 Halo 42/75
*		30			↑	90s	
		31	S82247	12:17:35	28:11:06	4m	10.3/20 Halo
		32			↑	90s	

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Intensified Reticon TO CAM  
 Spectrograph ECHELLE Log Sheet RAW/RET 16  
 Grating 300 Observer DW LaMan  
 Telescope WYETH Date 7-8 Feb 1987 Disk 1426

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90s	
		2	H107363	12:18:02	14:01:18		3m 9.9/15 Halo 44/77
*		3			↑↓	90s	
		4	H10757	12:20:21	11:52:54		7m 10.0/30 Halo
		5			↑	90s	
		6			↓	90s	
		7	G60-6	12:25:29	07:43:54		7m 11.1/15 Halo
		8			↑	90s	
		9			↓	90s	
		10	G62-9	13:00:46	04:23:24		8m 11.3/15 Halo
		11			↑	90s	
		12			↓	90s	
		13	G14-33	13:06:14	-03:42:24		8m 11.2/20 Halo
*		14			↑	90s	
		15	G14-38	13:08:44	-04:38:42		6m 10.9/15 Halo
*		16			↑↓	90s	
		17	G14-41	13:13:32	-03:05:42		4m 10.2/15 Halo
		18			↑	90s	
		19			↓	90s	
		20	G63-27	13:22:10	15:07:00		8m 11.1/15 Halo
		21			↑	90s	
		22			↓	90s	
		23	G150-31	13:40:43	28:32:12		15m 12.0/15 Halo
		24			↑	90s	
		25			↓	90s	
		26	+092860	14:10:48	08:51:00		7m 10.8/20 Halo
*		27			↑↓	90s	
		28	+092870	14:14:02	08:41:48		3m 9.4/30 Halo
*		29			↑↓	90s	
		30	+082856	14:21:30	08:15:12		3m 10.1/20 Halo 55/88
		31			↑	90s	
		32					



Intensified      Reticon

TO CAM 2/10

Spectrograph ECHELLE      Log Sheet      RAW/RET 16

Grating 300      Observer DW Latham

Telescope WYETH      Date 7-8 Feb 1987      Disk 1427

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90s	
		2	G124-45	14:25:27	-00:55:12	6m	11.2/15 Halo 56/89
		3			↑	90s	
		4			↓	90s	
		5	G66-16	14:34:58	11:15:06	5m	10.8/15 Halo
		6			↑	90s	
		7			↓	90s	
		8	-204124	14:54:25	-21:22:00	6m	10.4/15 Halo
		9			↑↓	90s	
		10	S183072	14:56:59	-21:48:27	3m	8.6/20 Halo
		11			↑	90s	
		12			↓	90s	
		13	H134439	15:07:29	-16:08:27	2m	9.1/20 Halo
*		14			↑↓	90s	
		15	H134440	15:07:28	-16:13:29	3m	
		16			↑	90s	9.5/20 Halo
		17			↓	90s	
		18	H136202	15:16:45	01:57:12	2m	5.1 IAU
		19			↑	90s	
		20			↓	90s	no
		21	H146051	16:11:43	-03:34:01	2m	ND 1 IAU
		22			↑	90s	no
		23			↓	90s	
		24	SKY	4 E	+20	1m	
		25			↑	90s	
		26			↓	90s	
		27	SKY			2m	
		28			↑	90s	
		29	INCANDS			120 min	
		30	INCANDS			120 min	
		31					
		32					

TO CAM 410

Intensified      Reticon

Spectrograph ECHELLE      Log Sheet      RAW RET 16

Grating 3000      Observer Norm

Telescope 61"      WYETH      Date FEB 10-11 1987      Disk ORO 1428

Change....	File	ID	1950.0 RA	Dec	L/R +/-	Exposure	Comments	
		1	TH-AR	10 <sup>h</sup> 14 <sup>m</sup>	+20	↓	90 <sup>s</sup>	5187A 80μ SLIT
		2	SKYEVE			↓	2 <sup>m</sup>	
		3	TH-AR			↑	90 <sup>s</sup>	
		4	TH-AR			↓	90 <sup>s</sup>	
		5	SKYEVE	4 <sup>h</sup> 2 <sup>m</sup> W	+20		2 <sup>m</sup>	
		6	TH-AR			↑	90 <sup>s</sup>	
		7	TH-AR			↓	90 <sup>s</sup>	6563A
		8	λ ORI	05 52 28	07 24		2 <sup>m</sup>	ND = 2 FILTER SALLY
		9	TH-AR			↑	90 <sup>s</sup>	
		10	TH-AR			↓	90 <sup>s</sup>	
		11	λ AND	23 35 06	46 11		7 <sup>m</sup>	ND = 1 FILTER SALLY
		12	TH-AR			↑	90 <sup>s</sup>	
		13	TH-AR			↓	90 <sup>s</sup>	5187A
		14	λ CYG	20 41 27	35 24		2 1/2 <sup>m</sup>	CEPH
		15	TH-AR			↑	90 <sup>s</sup>	
		16	TH-AR			↓	90 <sup>s</sup>	
		17	λ LAC	22 38 53	56 34		4 <sup>m</sup>	
		18	TH-AR			↑	90 <sup>s</sup>	
		19	TH-AR			↓	90 <sup>s</sup>	
		20	RX AUR	04 57 59	39 53		2 <sup>m</sup>	
		21	TH-AR			↑	90 <sup>s</sup>	
		22	TH-AR			↓	90 <sup>s</sup>	
		23	SV MON	06 12 45	06 30		4 <sup>m</sup>	
		24	TH-AR			↑	90 <sup>s</sup>	
		25	T MON	06 22 31	07 07		2 <sup>m</sup>	
		26	TH-AR			↑	90 <sup>s</sup>	
		27	TH-AR			↓	90 <sup>s</sup>	
		28	VX PER	02 04 18	57 12		4 1/2 <sup>m</sup>	
		29	TH-AR			↑	90 <sup>s</sup>	
		30	TH-AR			↓	90 <sup>s</sup>	DI HAKOS
		31	G190-N	23 05 39	41 35		10 <sup>m</sup>	
		32	TH-AR			↑	90 <sup>s</sup>	





Intensified Reticon TO CAM 2/10

Spectrograph ECHELLE Log Sheet RAW RET 16

Grating 200L Observer JA

Telescope S17 Date 2/10-11/87 Disk ORO 1430

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 <sup>s</sup>	5187
		2	U103	05 28 39	-03 22	2 <sup>h</sup>	UP GREN
		3			↑	90 <sup>s</sup>	
		4	U104	05 28 55	-03 41	2 <sup>h</sup>	
		5			↑	90 <sup>s</sup>	
		6			↓	90 <sup>s</sup>	
		7	U118	06 38 12	24 01	2 <sup>h</sup>	
		8			↑	90 <sup>s</sup>	
		9			↓	90 <sup>s</sup>	
		10	U106	05 37 27	53 27	4 <sup>h</sup>	
		11			↑	90 <sup>s</sup>	
		12			↓	90 <sup>s</sup>	
		13	U116	06 28 33	40 26	4 <sup>h</sup>	
		14			↑	90 <sup>s</sup>	
		15			↓	90 <sup>s</sup>	
		16	U117	06 34 06	19 49	10 <sup>min</sup>	
		17			↑	90 <sup>s</sup>	
		18			↓	90 <sup>s</sup>	
		19	U123	06 52 59	40 09	3 1/2 <sup>h</sup>	
		20			↑	90 <sup>s</sup>	
		21	U124	06 52 59	40 10	15 <sup>h</sup>	
		22			↑	90 <sup>s</sup>	
		23			↓	90 <sup>s</sup>	
		24	U119	06:43:24	58:42:12	10 <sup>min</sup>	10.3/50
		25			↑	90 <sup>s</sup>	
		26			↓	90 <sup>s</sup>	
		27	U121	06:45:27	60:23:12	4 <sup>min</sup>	8.6/30
		28			↓	90 <sup>s</sup>	
		29	U122	06:46:50	60:22:00	4 <sup>min</sup>	9.5/20
		30			↑	90 <sup>s</sup>	
		31					
		32					



Intensified Reticon

TO CAM 2/10

Spectrograph ECHELLE

Log Sheet

RAW RET 16

Grating 3002

Observer CS

Telescope 6'

W/ETH

Date FEB 10-11 1987

Disk ORO 1431

Change....	File	ID	1950.0 RA	Dec	L/R +/-	Exposure	Comments
		1	TH-AR		↓	90°	5187A 80 μ SLIT
	G191-55	2	05:53:04	58:40:24		11 MIN	10.5/40 HALOS
	TH-AR	3			↑	90°	
	TH-AR	4			↓	90°	
	GLS 268	5	07:06:37	38:36:48		15 MIN	11.5/20 15% MOD COUNT M STAR
	TH-AR	6			↑	90°	
	TH-AR	7			↓	90°	
	U132	8	07:16:15	32:55:42		8 MIN	9.1/30 SPACE MOT.
	TH-AR	9			↑	90°	
	TH-AR	10			↓	90°	
	U173	11	08:55:44	20:44:36		4 MIN	9.3/ SPACE MOT.
	TH-AR	12			↑	90°	
	TH-AR	13			↓	90°	
	U178	14	09:18:16	-05:32:29		4 MIN	9.1/ SPACE MOT.
	TH-AR	15			↑	90°	
	TH-AR	16			↓	90°	
	U184	17	09:49:37	03:27:24		4 MIN	8.8/25 SPACE MOT.
	TH-AR	18			↑	90°	
	TH-AR	19			↓	90°	
	U186	20	09:50:04	03:22:00		8 MIN	10.7/ SPACE MOT.
	TH-AR	21			↑	90°	
	TH-AR	22			↓	90°	
	U188	23	10:04:18	03:13:24		7 MIN	9.9/ SPACE MOT.
	TH-AR	24			↑	90°	
	TH-AR	25			↓	90°	
	U189	26	10:09:46	-03:29:42		4 MIN	9.3/ SPACE MOT.
	TH-AR	27			↑	90°	
	TH-AR	28			↓	90°	
	U192	29	10:24:07	-06:14:12		5 MIN	9.9/ SPACE MOT.
	TH-AR	30			↑	90°	
		31					
		32					

Intensified Reticon

TO CAM

Spectrograph ECHELLE

Log Sheet

RAW RET 16

Grating 300

Observer GS

Telescope 61" WYETH

Date FEB 10-11 1987

Disk ORO 1432

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90°	5187A 80μ SLIT
		2	10:26:23	01:06:24	↓	5 MIN	9.6/20 SPACE MOTION
		3			↑	90°	
		4			↓	90°	
		5	10:42:30	38:46:24	↓	4 MIN	9.3/30 SPACE MOT
		6			↑	90°	
		7			↓	90°	
		8	12:42:18	37:02:15	↓	4 MIN	9.0/ SYMBIOTIC
		9			↑	90°	
		10			↓	90°	
		11	10:16:21	48:38:52	↓	2 MIN	6.1/100 M STAR
		12			↓	90°	
		13	10:08:13	49:42:09	↓	2 MIN	6.4/100 (ALSO NEARBY) M STAR
		14			↑	90°	
		15			↓	90°	
		16	10:32:32	45:54:46	↓	2 MIN	7.5/100 M STAR
		17			↓	90°	
		18	10:28:25	45:47:1	↓	6 MIN	8.8/40 M STAR
		19			↑	90°	
		20			↓	90°	
		21	10:16:54	20:07:18	↓	5 MIN	9.4/ NEARBY
		22			↑	90°	
		23			↓	90°	
		24	11:00:37	36:18:18	↓	3 MIN	7.5/ NEARBY
		25			↑	90°	
		26			↓	90	
		27	12:27:09	-03:02:57	↓	3 MIN	9.0/15 HALO
		28			↑	90°	
		29			↓	90	
		30	12:26:38	31:40:00	↓	3 MIN	7.9/50 HALO
		31			↑	90°	
		32					



Intensified Reticon

TO CAM 2/11

Spectrograph ECHELLE

Log Sheet

RAW/RET 16

Grating 700

Observer GS

Telescope 61" WYETH

Date FEB 10-11 1987

Disk ORO 1433

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 <sup>s</sup>	5187A. 80μ SLIT
	H100018	2	11:28:07	41:33:50		4 MIN	7.0/200 M STARS
		3			↑	90 <sup>s</sup>	
		4			↓	90 <sup>s</sup>	
	5015472	5	11:16:06	62:27:22		2 MIN	7.0/100 M STAR
		6			↑	90 <sup>s</sup>	
	GLG 430	7	11:28:22	63:26:00		15 MIN	9.0/40 M STAR
		8			↑	90 <sup>s</sup>	
		9			↓	90 <sup>s</sup>	
	G146-60	10	10:40:36	48:28:30		3 MIN	8.0/30 HALOS
		11			↑	90 <sup>s</sup>	
		12			↓	90 <sup>s</sup>	
	H136202	13	15:16:45	01:57:11		2 MIN	5.1/ STD IAU
		14			↑	90 <sup>s</sup>	
		15			↓	90 <sup>s</sup>	
	SKYDWNK	16	4 HRE HA	+35 <sup>o</sup>		2 MIN	CLEAR
		17			↑	90 <sup>s</sup>	
		18			↓	90 <sup>s</sup>	
	SKYDWNM	19	0 HRS HA	+35 <sup>o</sup>		2 MIN	
		20			↑	90 <sup>s</sup>	
2/11-12		21			↓	90 <sup>s</sup>	
	SKYVIEWM	22	0	+20		2 h	
		23			↑	90 <sup>s</sup>	
		24			↓	90 <sup>s</sup>	
	SKYVIEWW	25	4 2 HRS	+20		2 h	
		26			↑	90 <sup>s</sup>	
		27			↓	90 <sup>s</sup>	
	X CYG	28	20 41 27	35 24		3 h	CEPH
		29			↑	90 <sup>s</sup>	
		30			↓	90 <sup>s</sup>	
	DL CAS	31	0 27 11	59 56		4 1/2 h	
		32			↑	90 <sup>s</sup>	

TO CAM 4"

Intensified      Reticon

Spectrograph ECHELLE      Log Sheet      RAW/RET 16

Grating 300L      Observer na

Telescope SH      Date 2/11-12/77      Disk ORO 1434

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 <sup>s</sup>	5127A
		2	SV MON 06 12 45	06 30		4 <sup>m</sup>	CEPH
		3			↑	90 <sup>s</sup>	
		4	T MON 06 27 31	07 07		2 <sup>m</sup>	
		5			↑	90 <sup>s</sup>	
		6			↓	90 <sup>s</sup>	
		7	VX PER 02 04 18	58 12		5 <sup>m</sup>	
		8			↑	90 <sup>s</sup>	
		9			↓	90 <sup>s</sup>	
		10	(4) 01 28 48	63 21		4 <sup>m</sup>	AST
		11			↑	90 <sup>s</sup>	
		12			↓	90 <sup>s</sup>	
		13	G71-27 01 39 22	01 39		3 1/2 <sup>m</sup>	HALO
		14			↑	90 <sup>s</sup>	
		15			↓	90	
		16	G73-57 02 23 23	05 33		7 <sup>m</sup>	
		17			↑	90 <sup>s</sup>	
		18			↓	90 <sup>s</sup>	
		19	U127 09 52 29	63 02		4 <sup>m</sup>	UPGREN
		20			↑	90 <sup>s</sup>	
		21			↓	90 <sup>s</sup>	
		22	U158 08 23 06	52 21		6 <sup>m</sup>	SE, brighter of pair
		23			↑	90 <sup>s</sup>	
		24	U159 08 23 06	52 21		8 <sup>m</sup>	
		25			↑	90 <sup>s</sup>	
		26			↓	90 <sup>s</sup>	
		27	Z 6870 09 59 58	64 21		3 1/2 <sup>m</sup>	FSTARS
		28			↑	90 <sup>s</sup>	
		29			↓	90 <sup>s</sup>	
		30	87482 10 03 30	55 54		5 <sup>m</sup>	
		31			↑	90 <sup>s</sup>	
		32					



Spectrograph ECHELLE Intensified Reticon TO CAM 2/11  
 Grating 300L Log Sheet RAWRET 16  
 Telescope S17 Date 2/11-12/87 Observer na  
 Disk ORU 1435

Change....	File	ID	1950.0 RA	Dec	L/R +/-	Exposure	Comments
		1			↓	90 <sup>s</sup>	
		2	93763	10 47 24	52 32	20 <sup>m</sup>	FSTAR
		3			↑	90 <sup>s</sup>	
		4			↓	90 <sup>s</sup>	
		5	U197	10 27 14	56 15	8 <sup>m</sup>	UPGRE
		6			↑	90 <sup>s</sup>	
		7			↓	90 <sup>s</sup>	HALO
		8	G196-49	16 48 59	52 32	3 <sup>l</sup>	
		9			↑	90 <sup>s</sup>	
		10	G196-42	10 43 06	56 44	5 <sup>m</sup>	
		11			↓	90 <sup>s</sup>	
		12	<del>TH-AR</del> →		↓	90 <sup>m</sup>	
		13	G197-17	11 27 45	62 09	90 <sup>s</sup>	
		14			↓↑	90 <sup>s</sup>	
		15	G197-45	12 06 59	52 13	15 <sup>m</sup>	
		16			↓	90 <sup>s</sup>	
		17	G197-51	12 11 43	53 52	4 <sup>m</sup>	
		18			↑	90 <sup>s</sup>	
		19			↓	90 <sup>s</sup>	
		20	S44104	12 14 24	45 22	3 <sup>m</sup>	
		21			↓	90 <sup>s</sup>	
		22	G123-18	12 15 07	45 27	4 <sup>m</sup>	
		23			↑	90 <sup>s</sup>	
		24			↓	90 <sup>s</sup>	
		25	G123-64	12 47 41	47 24	7 <sup>m</sup>	
		26			↑	90 <sup>s</sup>	
		27			↓	90 <sup>s</sup>	
		28	E7210	10 04 46	-21 01	8 <sup>MIN</sup>	6.6/ FSTARS
		29			↑	90 <sup>s</sup>	
		30			↓	90 <sup>s</sup>	
		31	93381	10:44:07	-27:52:36	10 <sup>MIN</sup>	8.3/
		32			↑	90 <sup>s</sup>	

Spectrograph ECHELLE

Intensified Reticon

TO CAM 2/12

Grating 300L

Log Sheet

RAW RET 16

Telescope 6" WYETH

Date FEB 11-12 1987

Observer GS

Disk ORO 1436

Change....	File	ID	RA	Dec	1950.0	L/R	Exposure	Comments
						↑/↓		
		1	TH-AR			↓	90 <sup>s</sup>	5187A 80μ SLIT
	93785	2	10:46:54	-26:33:00			10 <sup>MIN</sup>	7.4/ F STARS
		3	TH-AR			↑	90 <sup>s</sup>	
		4	TH-AR			↓	90 <sup>s</sup>	
	95422	5	10:58:21	-11:48:42			15 <sup>MIN</sup>	8.1/ F STAR
		6	TH-AR			↑	90 <sup>s</sup>	
		7	TH-AR			↓	90 <sup>s</sup>	
	<del>95626</del>	8	<del>10:47:54</del>	<del>-15:24:00</del>			8 <sup>MIN</sup>	2.2/ 6.2/ (CLOS) M STAR
		9	TH-AR			↑	90 <sup>s</sup>	
		10	TH-AR			↓	90 <sup>s</sup>	
	99207	11	11:22:36	30:02:02			8 <sup>MIN</sup>	7.5/ F STAR
		12	TH-AR			↑	90 <sup>s</sup>	
		13	TH-AR			↓	90 <sup>s</sup>	
	100066	14	11:28:31	36:30:28			12 <sup>MIN</sup>	8.2/ F STAR
		15	TH-AR			↑	90 <sup>s</sup>	
		16	TH-AR			↓	90 <sup>s</sup>	
	104622	17	12:00:19	13:05:09			12 <sup>MIN</sup>	7.4/ F STAR
		18	TH-AR			↑	90 <sup>s</sup>	OVERCAST
		19	INCANDS				120 <sup>MIN</sup>	
		20	INCANDS				120 <sup>MIN</sup>	
		21	INCANDS				120 <sup>MIN</sup>	
		22	INCANDS				108 <sup>MIN</sup>	
FEB 12-13		23	TH-AR			↓	90 <sup>s</sup>	5187A 80μ SLIT
	SKYVIEW M	24	0 <sup>HRS</sup> WHA	+30°			2 <sup>MIN</sup>	OVERCAST
		25	TH-AR			↑	90 <sup>s</sup>	
		26	TH-AR			↓	90 <sup>s</sup>	
	SKYVIEW	27	4 <sup>HRS</sup> WHA	+30°			2 <sup>MIN</sup>	
		28	TH-AR			↑	90 <sup>s</sup>	
		29	TH-AR			↓	90 <sup>s</sup>	
	H26162	30	04:06:14	19:28:43			2 <sup>MIN</sup>	5.5/ IAU STAND STAR
		31	TH-AR			↑	90 <sup>s</sup>	STAR
		32						



Intensified      Reticon

TO CAM 2/12

Spectrograph ECHELLE      Log Sheet      RAW/RET 16

Grating 300      Observer GS

Telescope 6"      WYETH      Date FEB 12-13 1987      Disk ORO 1437

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1	TH-AR		↓	90°	5187A 80μSLIT
	5076206	2	03:45:07	24:50:08		3 MIN	6.8/100 M STAR
		3	TH-AR		↑	90°	
		4	TH-AR		↓	90°	
	5036250	5	00:15:41	44:16:11		4 MIN	7.6/100
		6	TH-AR		↕	90°	
	GLS 15A	7	00:15:40	43:44:37		4 MIN	8.1/50
		8	TH-AR		↕	90°	
	GLS 14	9	00:14:28	40:40:18		6 MIN	9.0/40
		10	TH-AR		↑	90°	
		11	TH-AR		↓	90°	
	GLS 4B	12	00:03:05	45:32:00		7 MIN	9.0/40 S OBJECT
		13	TH-AR		↕	90°	
	GLS 4A	14	00:03:05	45:32:06		8 MIN	8.9/40 N OBJECT
		15	TH-AR		↑	90°	
		16	TH-AR		↓	90°	
	U 099	17	05:20:43	17:16:42		3 MIN	7.9/ SPALL MOTION
		18	TH-AR		↑	90°	
		19	TH-AR		↓	90°	
	U 105	20	05:33:44	11:17:54		5 MIN	8.8/
		21	TH-AR		↑	90°	
		22	TH-AR		↓	90°	
	U 118	23	06:38:12	24:00:36		4 MIN	8.1/
		24	TH-AR		↑	90°	
		25	TH-AR		↓	90°	
	T MON	26	06 22 31	07 07		3 MIN	CEPH
		27	TH-AR		↑	90°	
		28	TH-AR		↓	90°	
	VX PER	29	02 04 12	58 12		10 <sup>2</sup>	
		30	TH-AR		↑	90°	
		31					
		32					

LAM  
2-19

Intensified Reticon

TO CAM

Spectrograph ECHELLE

Log Sheet

RAW/RET 16

Grating 300L

Observer lam

Telescope SH

Date 2/12-13/27

Disk 0120 1438

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			*	10 <sup>s</sup>	5127
		2	G122-51	11 50 18 38 01		2 <sup>m</sup>	HALO
		3	TH-AR		↑	90 <sup>s</sup>	
		4	TH-AR		↓	90 <sup>s</sup>	
		5	46601	06 31 24 -20 06		20 <sup>m</sup>	CLDS - FSI/MS
		6	TH-AR		↑	90 <sup>s</sup>	
		7	INCAND			120 <sup>MIN</sup>	
		8	INCANDS			"	
		9	INCANDS			"	
		10	INCANDS			"	
		11	INCANDS			"	
Feb-13-14		12	TH-AR		↓	90 <sup>s</sup>	5187A 80 μS.IIT
		13	SKYVIEW			3 <sup>m</sup>	
		14	TH-AR		↑	90 <sup>s</sup>	
		15	TH-AR		↓	90 <sup>s</sup>	
		16	SKYVIEW			2 <sup>m</sup>	
		17	TH-AR		↑	90 <sup>s</sup>	
		18	TH-AR		↓	90 <sup>s</sup>	
		19	S128427	23 49 24 02 39 09		2 1/2 <sup>m</sup>	MSTARS
		20	TH-AR		↑	90 <sup>s</sup>	
		21	TH-AR		↓	90 <sup>s</sup>	
		22	G15908	23 46 39 02 07 37		20 <sup>m</sup>	
		23	TH-AR		↑	90 <sup>s</sup>	
		24	TH-AR		↓	90 <sup>s</sup>	
		25	G190-10	23 05 39 41 35 12		20 <sup>m</sup>	HALOS
		26	TH-AR		↓	90 <sup>s</sup>	
		27	G190-10	23 05 39 41 35 12		20 <sup>m</sup>	
		28	TH-AR		↑	90 <sup>s</sup>	
		29	TH-AR		↓	90 <sup>s</sup>	
		30	P2445	05 34 28 -05 01 20		20 <sup>m</sup>	
		31	TH-AR		↑	90 <sup>s</sup>	
		32					











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Spectrograph ECHELLE Intensified Reticon TO CAM  
 Grating 3001 Log Sheet RAWRET 16  
 Telescope SH Date 2/14-15/77 Observer Jan  
 Disk ORO 1442

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1	TH-AR		↓	90 <sup>s</sup>	S127
		2	G171-58	00 22 26	47 46	2 <sup>m</sup>	HALO
		3	TH-AR		↑	90 <sup>s</sup>	
		4	TH-AR		↓	90 <sup>s</sup>	
		5	G172-46	01 13 37	51 36	14 <sup>m</sup>	
		6	TH-AR		↑	90 <sup>s</sup>	
		7	TH-AR		↓	90 <sup>s</sup>	
		8	G172-58	01 26 13	47 45	4 <sup>m</sup>	
		9	TH-AR		↑	90 <sup>s</sup>	
		10	TH-AR		↓	90 <sup>s</sup>	
		11	RA AUR	04 57 55	79 53	2 <sup>m</sup>	HUCRA CEPH
		12	TH-AR		↑	90 <sup>s</sup>	
		13	TH-AR		↓	90 <sup>s</sup>	
		14	SV MON	06 12 45	06 30	2 1/2 <sup>m</sup>	
		15	TH-AR		↑	90 <sup>s</sup>	
		16	TH-AR		↓	90 <sup>s</sup>	
		17	37679	05 37 21	-25 34	10 <sup>m</sup>	FSTARS
		18	TH-AR		↑	90 <sup>s</sup>	
		19	TH-AR		↓	90 <sup>s</sup>	
		20	40501	05 56 18	-20 10	6 <sup>m</sup>	BEWARE!! SEE COM
		21	TH-AR		↑↓	90 <sup>s</sup>	
		22	41311	06 01 18	-21 47	5 <sup>m</sup>	
		23	TH-AR		↑	90 <sup>s</sup>	
		24	TH-AR		↓	90 <sup>s</sup>	
		25	40673	05 57 24	-16 47	4 <sup>m</sup>	
		26	TH-AR		↑	90 <sup>s</sup>	
INCAND		27	<del>TH-AR</del> INCAND		↑	12 <sup>m</sup>	70 <sup>m</sup> (CLEAN AGAIN)
THAR		28	<del>41928</del>	<del>06 05 32</del>	<del>-09 27</del>	↓	90 <sup>s</sup>
		29	67146	07 03 32	-30 39	10 <sup>m</sup>	
		30	THAR		↑↓	90 <sup>s</sup>	
		31	67262	07 04 05	-28 06	15 <sup>m</sup>	
		32	TH-AR		↑	90 <sup>s</sup>	
		33	67262			15 <sup>m</sup>	
		34	TH-AR		↑	90 <sup>s</sup>	



2/15

Intensified Reticon  
 Spectrograph ECHELLE Log Sheet TO CAM  
 Grating 3002 Observer RDS RAW/RET 16  
 Telescope 61" Wyeth Date 14-15 Feb. 1987 Disk ORO 1443

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90s	
		2	H92588	10:38:52	-41:28:41	2m	6.3 IAU standard
		3			↑	90s	
		4			↓	90s	
		5	G123-29	12:22:20	38:35:48	2 1/2 m	8.0/20 HALOS
		6			↑	90s	
		7			↓	90s	
		8	S82405	12:35:10	28:54:18	2 1/2 m	8.0/15 "
		9			↑	90s	
		10			↓	90s	
		11	G123-9	12:08:25	44:16:54	8m	10.5/15 "
		12			↑	90s	
		13			↓	90s	
		14	G149-10	12:46:08	26:52:12	3 1/2 m	8.8/15 "
		15			↑	90s	
		16			↓	90s	
		17	G164-34	12:56:21	33:30:54	7 1/2 m	10.2/15 "
		18			↑	90s	
		19			↓	90s	
		20	G59-38	12:44:24	22:45:36	6m	9.5/15 "
		21			↑	90s	
		22			↓	90s	
		23	S100116	12:25:45	12:37:18	15m	9.6/50
		24			↑	90s	
		25			↓	90s	
		26	S138815	12:27:10	-43:42:59	3 1/2 m	9.0/15
		27			↑	90s	
		28			↓	90s	
		29	S138910	12:38:30	-44:20:46	5m	9.4/15
		30			↑	90s	
		31					
		32					

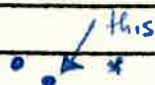
Spectrograph ECHELLE

Intensified Reticon

TO CAM <sup>2/15</sup>Grating 3002

Log Sheet

RAW RET 16Telescope 61" WyethDate 14-15 Feb. 1987Observer RPSDisk 020 1444

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
					↓	90s	
	G13-35	12:23:42	11:34:02			8m	9.7/30 HAUS
	Th-Ar				↑	90s	
	Th-Ar				↓	90s	
	S119568	12:42:46	11:19:48			6m	9.0/20 "
	Th-Ar				↑	90s	
	Th-Ar				↓	90s	
	G161-11	12:42:23	13:45:48			3 1/2 m	9.1/15 "
	Th-Ar				↑	90s	
	Th-Ar				↓	90s	
	G161-23	12:55:43	18:57:48			5m	9.8/15 " 
	Th-Ar				↑	90s	
	Th-Ar				↓	90s	
	G14-23	12:58:53	-49:11:12			5m	9.7/20 "
	Th-Ar				↑	90s	
	Th-Ar				↓	90s	
	G14-22	12:58:44	-48:10:16			4m	9.0/20 "
	Th-Ar				↑	90s	
	Th-Ar				↓	90s	
	G14-26	13:00:36	-45:51:12			6 1/2 m	9.7/20 "
	Th-Ar				↑	90s	
	Th-Ar				↓	90s	
	G164-56	13:13:52	36:49:46			2 1/2 m	8.3/20 "
	Th-Ar				↑	90s	
	Th-Ar				↓	90s	
	G165-11	13:30:16	36:17:42			2m	8.0/20 "
	Th-Ar				↑	90s	
	Th-Ar				↓	90s	
	G154-11	13:31:41	26:22:30			5m	9.9/15 "
	Th-Ar				↑	90s	



2/15

Intensified Reticon TO CAM  
 Spectrograph ECHELLE Log Sheet RAW RET 16  
 Grating 300L Observer RPS  
 Telescope 61" Wyeth Date 14-15 Feb. 1987 Disk ORO 1445

Change....	File	ID	1950.0 RA	Dec	L/R +/-	Exposure	Comments
		1			↓	90s	
		2	G63-46	13:37:32	12:50:42	5m	9.4/20 HALOS
		3			↑	90s	
		4			↓	90s	
		5	S10φ675	13:41:01	15:49:36	10m	9.1/50 "
		6			↑	90s	
		7			↓	90s	
		8	G137-69	15:54:48	20:44:06	6m	10.0/15 " (Watch for sky)
		9			↑	90s	
		10			↓	90s	
		11	G17-21	16:28:01	04:18:18	2m	7.3/30 "
		12			↑	90s	
		13			↓	90s	
		14	H146051	16:11:43	-03:34:04	2.5m	IAU standard
		15			↑	90s	
		16			↓	90s	
		17	H146051	"	"	2m	" 30 sec Th-Ar
		18			↑	30s	
		19			↓	90s	
		20	SKV-DWN	4hrs E	φ°	2m	COND (SKV's late)
		21			↑	90s	
		22			↓	90s	
		23	SKV-DWN	φ hrs	+20°	2m	"
		24			↑	90s	
		25	INCANDS			120 MIN	
		26	INCANDS			120 MIN	
		27	INCANDS			120 MIN	
15/16 FEB		28	T Th-A		↓	90s	
		29	SKV-EVE	4 hrs	+30	3m	
		30			↑		
		31					
		32					

2/15

Intensified Reticon TO CAM  
 Spectrograph ECHELLE Log Sheet RAW RET 16  
 Grating 300L Observer JA  
 Telescope 61" Wyeth Date 15-16 Feb. 1989 Disk OR01446

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

Change....	File	ID	1950.0 RA	Dec	L/R	Exposure	Comments
		1			↓	90s	
		2		+30°			Counts low
		3			↑	90s	
		4			↓		
		5	(4)	01:34:07.6	04:00:52		7m Asteroid
		6			↑	90s	
		7			↓	90s	
		8	HR779	01:23:53.6	-00:39:29		2.5m IAU star
		9			↑	90s	
		10			↓	30s	
		11	HR779	01:23:54	-00:39:29		2.5m IAU star; 30 sec Th test
		12			↑	30s	
		13			↓	90s	
		14	1081	04:38:41	+13:07:34		26.5 Hyades binary
		15			↑	90s	
		16			↓	90s	
		17	P1540	05:32:12	-05:26:23		20m P1540, Orion
		18			↑	90s	
		19			↓	90s	
		20	P2445	05:34:23	-05:01:20		20m P2445 Orion
		21			↑	90s	
		22			↓	90s	
		23	GLS154	03:43:19	+76:03:42		15m GLS M stars
		24			↑	90s	
		25			↓	90	
		26	H37038	05:33:01	-01:52:39		18m F STARS
		27			↑	90s	
		28			↓	90s	
		29	T Mon	06:22:31	+07:06:53		3m CEPH 6.6/300
		30			↑	90s	
		31					
		32					





Intensified Reticon

TO CAM 2/16

Spectrograph ECHELLE

Log Sheet

RAW RET 16

Grating 3000

Observer JF

Telescope 61" Wyeth

Date 15-16 Feb 1987

Disk ORO 1448

Change....	File	ID	1950.0 RA	Dec	L/R +/-	Exposure	Comments
		1			↓	90s	
	H99660	2	11:25:39	+44:08:22		17m	FSTARS 2
	Th-Ar	3			↑	90s	
	Th-Ar	4			↓	90s	
	H104636	5	12:00:27	+41:20:39		15	FSTARS 2
	Th-Ar	6			↑	90s	
	Th-Ar	7			↓	90s	
	G1623	8	16:22:39	+48:28:24		20m	Misc (M Stars)
	Th-Ar	9			↑	90s	
	Th-Ar	10			↓	90s	<del>Asteroid (2)</del>
	(2)	11	16:00:57	+06:03:44		10m	Asteroid (2)
	Th-Ar	12			↑	90s	
	Th-Ar	13			↓	90s	
	H136202	14	15:16:45	+01:57:12		25m	IAU Std.
	Th-Ar	15			↑	90s	
	Th-Ar	16			↓	90s	
	G16-15	17	15:51:52	-04:08:00		20m	Halos
	Th-Ar	18			↑	90s	
	Th-Ar	19			↓	90s	
	SV Vul	20	19:49:28	+27:19:53		3m	CEPH
	Th-Ar	21			↑	90s	
	Th-Ar	22		HA = 4"	↓	90s	
	Sky-down	23	20:10:00	+30:00:00		3.0m	Sky at dawn; HA = 4"E, +30°
	Th-Ar	24			↑	90s	
	Th-Ar	25		HA = 0:00 +30°	↓	90s	
	Sky-down	26	HA = 0:00:00	+30:00:00		2.5m	Sky at dawn, on meridian, +30°
	Th-Ar	27			↑	90s	
	INCAP	28				120	
	INCAP	29				120	
		30					
		31					
		32					



Spectrograph ECHELLE Intensified Reticon TO CAM 2/16  
 Grating 200P Log Sheet RAW RET 16  
 Telescope 5H 61" Date 2/16-17/77 Observer GS  
 Disk ORO 1449

Change....	File	ID	1950.0 RA	Dec	L/R +/-	Exposure	Comments
		1			↓	90 <sup>s</sup>	SIT 80μ SLIT
		2		+30°		2 MIN	CLEAR
		3			↑	90 <sup>s</sup>	
		4			↓	90 <sup>s</sup>	
		5		+30°		2 MIN	
		6			↑	90 <sup>s</sup>	
		7			↓	90 <sup>s</sup>	6563A 80μ SLIT
		8	LAMBDA 23:35:06	46:11		3 MIN	3.9/ (1.0ND FILT) H ALPHA
		9			↑	90 <sup>s</sup>	
		10			↓	90 <sup>s</sup>	
		11	ALPH ORI 05:52:28	07:23:58		2 MIN	0.8/ (2.0ND FILT) H ALPHA
		12			↑	90 <sup>s</sup>	
		13			↓	90 <sup>s</sup>	SIT 80μ SLIT
		14	RX AUR 04:57:55	39:53:17		4 MIN	9.2/ CEIV
		15			↑	90 <sup>s</sup>	
		16			↓	90 <sup>s</sup>	
		17	U 006 00:15:31	43:44:24		4 MIN	8.1/ (ALSO NEARBY) SPACE MOT
		18			↑	90 <sup>s</sup>	
		19	U 007 00:15:34	43:44:22		16 MIN	11.0/ (ALSO NEARBY) SPACE MOT
		20			↑	90 <sup>s</sup>	
		21			↓	90 <sup>s</sup>	
		22	G-190-10 23:05:39	41:35:12		18 MIN	11.2/20 HALOS
		23			↑	90 <sup>s</sup>	
		24			↓	90 <sup>s</sup>	
		25	G171-7 23:35:30	45:55:24		2 MIN	6.6/15 HALO
		26			↑	90 <sup>s</sup>	
		27			↓	90 <sup>s</sup>	
		28	27832 04:21:30	22:37:32		8 MIN	8.0/ F STAR
		29			↑	90 <sup>s</sup>	
		30			↓	90 <sup>s</sup>	
		31	29420 04:25:45	17:18:31		8 MIN	7.7/ F STAR
		32			↑	90 <sup>s</sup>	

Spectrograph ECHELLE Intensified Reticon TO CAM 417  
 Grating 3008 Log Sheet RAW/RET 16  
 Telescope 61" WYETH Date FEB 16-17 1987 Observer GS  
 Disk ORO 1450

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 <sup>s</sup>	5187A 80 μ slit
		2	29786	04:39:18	15:52:26		5 min 7.8/ F STAR
		3			↑	90 <sup>s</sup>	
		4			↓	90 <sup>s</sup>	
		5	SV MON	06:18:45	06:29:41		3 min 8.9/ CEPH
		6			↑	90 <sup>s</sup>	
		7			↓	90 <sup>s</sup>	
5915		8	<del>5915</del> 00 58	63 20		8 <sup>m</sup>	F STAR
		9			↑	90 <sup>s</sup>	
		10			↓	90 <sup>s</sup>	
		11	8528	01 22 09	45 21		20 <sup>m</sup>
		12			↓	90 <sup>s</sup>	
		13	2570	01 23 46	43 26		10 <sup>m</sup>
		14			↑	90 <sup>s</sup>	
		15			↓	90 <sup>s</sup>	
		16	10108	01 37 04	54 36		15 <sup>m</sup>
		17			↑	90 <sup>s</sup>	
		18			↓	90 <sup>s</sup>	
		19	10871	01 45 02	60 12		8 <sup>m</sup>
		20			↑	90 <sup>s</sup>	
		21			↓	90 <sup>s</sup>	
		22	T MON	06 22 31	07 07		2 <sup>m</sup> CEPH
		23			↑	90 <sup>s</sup>	
		24			↓	90 <sup>s</sup>	
		25	112311	12 52 51	58 26		15 <sup>m</sup> F STAR
		26			↑	90 <sup>s</sup>	
		27			↓	90 <sup>s</sup>	
		28	116203	13 18 57	60 31		6 <sup>m</sup>
		29			↑↓	90 <sup>s</sup>	
		30	117299	13 26 12	58.28		8 <sup>m</sup>
		31			↑	90 <sup>s</sup>	
		32					



Intensified      Reticon

TO CAM 2/16

Spectrograph ECHELLE      Log Sheet

Grating 3000      Observer DR

Telescope S11      Date 2/16-17/87      Disk ORO 1451

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1	TH-AR		↓	90 <sup>s</sup>	S18 <sup>D</sup>
		2	122967	14 01 22	62 31	20 <sup>min</sup>	FSTARS
		3	TH-AR		↑	90 <sup>s</sup>	
		4	TH-AR		↓	90 <sup>s</sup>	
		5	G223-69	4 31 16	61 39	2 1/2 <sup>min</sup>	HALO
		6	TH-AR		↓	90 <sup>s</sup>	
		7	G223-82	4 46 51	63 08	15 <sup>min</sup>	
		8	TH-AR		↑	90 <sup>s</sup>	
		9	TH-AR		↓	90 <sup>s</sup>	
		10	G223-83	14 47 00	59 07	3 1/2 <sup>min</sup>	
		11	TH-AR		↑	90 <sup>s</sup>	
		12	TH-AR		↓	90 <sup>s</sup>	
		13	G 200-62	4:53:46	53:52:30	2 <sup>min</sup>	2.8/15
		14	TH-AR		↑	90 <sup>s</sup>	
		15	TH-AR		↓	10 <sup>s</sup>	
		16	G60-66	3:05:41	04:02:36	5 <sup>min</sup>	2.7/15
		17	TH-AR		↑	90 <sup>s</sup>	
		18	TH-AR		↓	90 <sup>s</sup>	
		19	G63-5	3:08:53	09:53:18	2 <sup>min</sup>	2.8/15
		20	TH-AR		↑	90 <sup>s</sup>	
		21	TH-AR		↓	90 <sup>s</sup>	
		22	G61-38	13:09:21	18:38:48	5 <sup>min</sup>	1.9/15
		23	TH-AR		↑	90 <sup>s</sup>	
		24	TH-AR		↓	90 <sup>s</sup>	
		25	G61-45	13:13:15	12:09:30	3 <sup>min</sup>	4.3/15
		26	TH-AR		↑	90 <sup>s</sup>	
		27	TH-AR		↓	90 <sup>s</sup>	
		28	+U32782	13:27:24	03:00:54	4 1/2 <sup>min</sup>	2.7/25
		29	TH-AR		↑	90 <sup>s</sup>	
		30	TH-AR		↓	90 <sup>s</sup>	
		31	G62-44	13:29:07	-02:09:54	2 <sup>min</sup>	1.3/20
		32	TH-AR		↑	90 <sup>s</sup>	

Spectrograph ECHELLE Intensified Reticon TO CAM 2/16  
 Log Sheet RAW/RET 16  
 Grating 300 Observer G S  
 Telescope 61" WYETH Date FEB 16-17 1987 Disk ORO 1452

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1	TH-AR		↓	90 <sup>s</sup>	5187A 80μ SLIT
	5158018	2	13:31:59	-16:04:00		3 MIN	8.9/20 HALOS
		3	TH-AR		↑	90 <sup>s</sup>	
		4	TH-AR		↓	90 <sup>s</sup>	
	663-44	5	13:35:36	19:24:18		2 MIN	8.8/20
		6	TH-AR		↑	90 <sup>s</sup>	
		7	TH-AR		↓	90 <sup>s</sup>	
	665-22	8	13:59:16	09:10:18		18 MIN	11.6/20 SW STAR
		9	TH-AR		↑	90 <sup>s</sup>	
		10	TH-AR		↓	90 <sup>s</sup>	
	+102495	11	12:56:49	09:30:42		6 MIN	9.7/20
		12	TH-AR		↑	90 <sup>s</sup>	
		13	TH-AR		↓	90 <sup>s</sup>	
	663-51	14	13:41:10	14:37:00		2 MIN	6.9/20
		15	TH-AR		↑	90 <sup>s</sup>	
		16	TH-AR		↓	90 <sup>s</sup>	
	665-13	17	13:51:42	10:29:48		2 MIN	9.0/15
		18	TH-AR		↑	90 <sup>s</sup>	
		19	TH-AR		↓	90 <sup>s</sup>	
	5120155	20	13:51:01	02:56:24		2 1/2 MIN	9.4/20
		21	TH-AR		↑	90 <sup>s</sup>	
		22	TH-AR		↓	90 <sup>s</sup>	
	5158333	23	14:02:31	-14:37:06		2 MIN	7.2/30
		24	TH-AR		↑	90 <sup>s</sup>	
		25	TH-AR		↓	90 <sup>s</sup>	
	5158436	26	14:10:40	-11:55:24		4 MIN	9.5/20
		27	TH-AR		↑	90 <sup>s</sup>	
		28	TH-AR		↓	90 <sup>s</sup>	
	H126053	29	14:20:42	01:28:24		2 MIN	6.3/15
		30	TH-AR		↑	90 <sup>s</sup>	
		31					
		32					



Intensified      Reticon

TO CAM 2/16

Spectrograph ECHELLE      Log Sheet

Grating 3008      Observer G<sup>s</sup>

Telescope 61"      WYETH      Date FEB 16-17 1987      Disk ORO 1453

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 <sup>s</sup>	5187A 80μ SLIT
	G66-5	2	14:31:08	09:33:36		2 MIN	8.8/15 HALOS
		3			↑	90 <sup>s</sup>	
		4			↓	90 <sup>s</sup>	
	G66-15	5	14:34:58	11:14:36		3 MIN	9.6/15
		6			↑	90 <sup>s</sup>	
		7			↓	90 <sup>s</sup>	
	G66-33	8	14:49:07	07:56:54		2 1/2 MIN	9.5/15
		9			↑	90 <sup>s</sup>	
		10			↓	90 <sup>s</sup>	
	S140306	11	15:02:10	-08:37:18		4 MIN	9.4/20
		12			↑	90 <sup>s</sup>	
		13			↓	90 <sup>s</sup>	
	G151-59	14	15:23:19	-01:53:48		8 MIN	10.4/15
		15			↑	90 <sup>s</sup>	
		16			↓	90 <sup>s</sup>	
	S182556	17	14:24:10	-22:01:12		17 MIN	9.1/100
		18			↑	90 <sup>s</sup>	
		19			↓	90 <sup>s</sup>	
	S121207	20	15:46:52	09:45:48		2 MIN	8.9/15
		21			↑	90 <sup>s</sup>	
		22			↓	90 <sup>s</sup>	
	H136202	23	15:16:45	01:57:11		2 MIN	5.1 IAU STD STAR
		24			↑	90 <sup>s</sup>	
		25			↓	90 <sup>s</sup>	
	+ 093223	26	16:31:13	09:12:42		3 MIN	9.3/30 HALOS
		27			↑	90 <sup>s</sup>	
		28			↓	90 <sup>s</sup>	
	G138-57	29	16:39:31	13:14:48		2 MIN	7.9/15
		30			↑	90 <sup>s</sup>	
		31					
		32					

Intensified Reticon

TO CAM 2117

Spectrograph ECHELLE

Log Sheet

RAW/RET 16

Grating 300l

Observer GS

Telescope 61" WYATH

Date FEB 16-17 1987

Disk ORO 1454

Change....	File	ID	RA	Dec	1950.0 L/R +/-	Exposure	Comments
		1	TH-AR		↓	90 <sup>s</sup>	5187A 80μ SLIT
		2	SKYDWN	4 HRS HA		2 MIN	
		3	TH-AR		↑	90 <sup>s</sup>	
		4	TH-AR		↓	90 <sup>s</sup>	
		5	SKYDWN	0 HRS HA		2 MIN	
		6	TH-AR		↑	90 <sup>s</sup>	
		7	IN CAN			120 <sup>s</sup>	
		8	IN CAN			120 <sup>s</sup>	
FEB 17-18		9	TH-AR		↓	90 <sup>s</sup>	5187A 80μ SLIT
		10	SKYEVER	0		2 <sup>h</sup>	
		11	TH-AR		↑	90 <sup>s</sup>	
		12	TH-AR		↓	90 <sup>s</sup>	
		13	SKYEVER	4 1/2 h		2 <sup>h</sup>	
		14	TH-AR		↑	90 <sup>s</sup>	
		15	TH-AR		↓	90 <sup>s</sup>	
		16	Z LAC	22 32 53	56 34	2 1/2 <sup>h</sup>	CEPH
		17	TH-AR		↑	90 <sup>s</sup>	
		18	TH-AR		↓	90 <sup>s</sup>	
		19	S129112	02 12 09	-01 26	3 <sup>h</sup>	HALO
		20	TH-AR		↑	90 <sup>s</sup>	
		21	TH-AR		↓	90 <sup>s</sup>	
		22	G37-26	03 05 28	26 09	8 <sup>h</sup>	
		23	TH-AR		↑	90 <sup>s</sup>	
		24	TH-AR		↓	90 <sup>s</sup>	
		25	VX PER	02 04 18	58 12	10	CEPH
		26	TH-AR		↑	90 <sup>s</sup>	
		27	TH-AR		↓	90 <sup>s</sup>	
		28	Z LAC	22 38 53	56 34	3 1/2 <sup>h</sup>	
		29	TH-AR		↑	90 <sup>s</sup>	
		30	TH-AR		↓	90 <sup>s</sup>	
		31	RX AUK	04 57 53	39 53	2 MIN	
		32	TH-AR		↑	90 <sup>s</sup>	



Intensified      Reticon  
TO CAM 2/17

Spectrograph ECHELLE      Log Sheet      RAW/RET 16

Grating 3001      Observer nan

Telescope 5H      Date 2/17-12/87      Disk ORO 1455

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 <sup>s</sup>	5127A
		2				2 <sup>m</sup>	CEPH
		3			↑	90 <sup>s</sup>	
		4			↓	90 <sup>s</sup>	FSAR
		5	21651	03 27 52 38 59		8 <sup>m</sup>	
		6			↑↓	90 <sup>s</sup>	
		7	21589	03 27 23 42 02		4 <sup>m</sup>	
		8			↑↓	90 <sup>s</sup>	
		9	21844	03 29 48 47 47		2 <sup>m</sup>	
		10			↑	90 <sup>s</sup>	
		11			↓	90 <sup>s</sup>	
		12	21599	03 28 00 56 16		5 <sup>m</sup>	
		13			↑	90 <sup>s</sup>	
		14			↓	90 <sup>s</sup>	
		15	27493	04 19 42 61 55		10 <sup>m</sup>	
		16			↑	90 <sup>s</sup>	
		17			↓	90 <sup>s</sup>	
		18	28122	04 25 50 64 56		10 <sup>m</sup>	
		19			↑	90 <sup>s</sup>	HOLD FOR CLOS
		20			↓	90 <sup>s</sup>	
		21	74781	08:43:39 17:40:41		13 MIN	7.9 / (END IN OVERCASI) F STARS
		22			↑	90 <sup>s</sup>	
		23			↓	90 <sup>s</sup>	
		24	88162	10:07:36 21:11:28		4 MIN	7.3 /
		25			↑	90 <sup>s</sup>	
		26			↓	90 <sup>s</sup>	
		27	88020	10:06:40 27:18:03		12 MIN	8.0 /
		28			↑	90 <sup>s</sup>	
		29			↓	90 <sup>s</sup>	
		30	89866	10:19:52 16:59:31		9 MIN	7.7 /
		31			↑	90 <sup>s</sup>	(HOLD CLOS)
		32					

Intensified Reticon

TO CAM 2/18

Spectrograph ECHELLE

Log Sheet

RAW RET 16

Grating 300L

Observer GS

Telescope 61" WYETH

Date FEB 17-18 1987

Disk ORO 1456

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 <sup>s</sup>	5187A 80 μ SLIT
		2	110 220	12:37:58 16:33:08		14 MIN	8.1/ F STARS
		3			↑	90 <sup>s</sup>	
		4			↓	90 <sup>s</sup>	
		5	113 284	12:59:57 30:37:27		10 MIN	8.2/
		6			↑	90 <sup>s</sup>	
		7			↓	90 <sup>s</sup>	
3 INCANDS		8	116 206	13:19:22 18:01:38		10 MIN	8.1/
		9			↑	90 <sup>s</sup>	END IN OVERCAST
10, 11, 12		10				120 MIN	
2/18-19		13			↓	90 <sup>s</sup>	
		14		0 +22		2h	
		15			↑	90 <sup>s</sup>	
		16			↓	90 <sup>s</sup>	
		17		4 <sup>h</sup> W +22		2h	
		18			↑	90 <sup>s</sup>	
		19			↓	90 <sup>s</sup>	
		20		00 27 11 59 56		4h	CEPH
		21			↑	90 <sup>s</sup>	
		22			↓	90 <sup>s</sup>	
		23		04 57 55 39 53		2h	
		24			↑	90 <sup>s</sup>	
		25			↓	90 <sup>s</sup>	
		26		01 01 54 -02 38		3h	HALO
		27			↑	90 <sup>s</sup>	
		28			↓	90 <sup>s</sup>	
		29		23 33 33 12 10		2h	
		30			↑	90 <sup>s</sup>	
		31					
		32					



Intensified Reticon

TO CAM 418

Spectrograph ECHELLE

Log Sheet

RAW RET 16

Grating SH

Date 2/12-19/77

Observer ORO 1957

Telescope \_\_\_\_\_

Date \_\_\_\_\_

Disk \_\_\_\_\_

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		TH-AR				90s	STDA
1		G109-42	22 52 30	20 06		3 1/2 h	HALO
2		TH-AR			↑	90s	
3		TH-AR			↓	90s	
4		G130-11	22 42 38	24 58		4 h	
5		TH-AR			↑	90s	
6		TH-AR			↓	90s	
7		CV MON	06 18 45	06 30		4 h	CEPH
8		TH-AR			↑	90s	
9		T MON	06 22 31	07 07		2 1/2 h	
10		TH-AR			↑	90s	
11		TH-AR			↓	90s	
12		(4)	01 22 17	04 32		5 h	ASTEROID
13		TH-AR			↑	90s	
14		TH-AR			↓	90s	
15		26745	05 31 32	-17 43		10 h	FSTAR
16		TH-AR			↑	90s	
17		25143	05 23 21	-13 10		5 h	
18		TH-AR			↑	90s	
19		26744	05 31 45	-11 24		10 h	
20		TH-AR			↑	90s	
21		TH-AR			↓	90s	
22		VAX PER	02 04 17	58 12		10 h	CEPH
23		TH-AR			↑	90s	
24		TH-AR			↓	90s	
25		2 LAC	22 22 53	56 34		4 h	
26		TH-AR			↑	90s	
27		TH-AR			↓	90s	
28		14064	02 14 34	42 21		3 1/2 h	FSTAR
29		TH-AR			↑	90s	
30		15579	22 22 37	46 22		4 h	
31		TH-AR			↑	90s	
32							





Intensified      Reticon

TO CAM **2/18**

Spectrograph ECHELLE      Log Sheet      RAW/RET 16

Grating 300L      Observer JA 169

Telescope SH      Date 2/18-19/87      Disk OR01459

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			+	90°	5187
		2	78257	09 04 18 -23 57		15 MIN	8.0/ F57AR
		3			↑	90°	
		4			↓	90°	
		5	67-F190	08:48:50 12:02:28		20 MIN	11.0/200 (72 CT ACHROMA) M67
		6			↕	90°	
		7	67-F190	" "		20 MIN	(60 CT)
		8			↕	90°	
		9	<del>67-F133</del> TH-AR	08:48:42 11:55:08		13 MIN	11.3/30 M67
		10			↑	90°	
		11			↓	90°	
		12	687-45	07:29:47 31:13:36		20 MIN	11.4/50 (31 CT) HALOS
		13			↕	90°	
		14	687-45	" "		15 MIN	(20 CT) HALOS
		15			↑	90°	
		16			↓	90°	
		17	5138815	12:27:09 -03:02:57		2 MIN	9.0/15 HALO
		18			↑	90°	
		19			↓	90°	
		20	102284	11:43:47 -05:04:10		10 MIN	8.0/ F STARS
		21			↑	90°	
		22			↓	90°	
		23	102828	11:47:43 -19:19:33		5 MIN	7.9/ F STAR
		24			↑	90°	
		25			↓	90°	
		26	106158	12:10:22 -12:30:39		5 MIN	7.9/ F STAR
		27			↑	90°	
		28			↓	90°	
		29	107040	12:16:00 -14:07:40		5 MIN	7.6/ F STAR
		30			↑	90°	
		31					
		32					





Intensified      Reticon

TO CAM 219

Spectrograph ECHELLE      Log Sheet      RAW RET 16

Grating 300R      Observer GS

Telescope 61" WYETH      Date FEB 18-19 1987      Disk ORD 1461

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1	TH-AR		↓	90 <sup>s</sup>	5187A 80μSLIT
		2	141515	15:47:11	-17:59:27	5 <sup>MIN</sup>	7.7/ F STARS
		3	TH-AR		↑	90 <sup>s</sup>	
		4	TH-AR		↓	90 <sup>s</sup>	
		5	147135	16:17:40	-12:47:31	2 <sup>MIN</sup>	6.5/ F STAR
		6	TH-AR		↑	90 <sup>s</sup>	
		7	TH-AR		↓	90 <sup>s</sup>	
		8	H136202	15:16:45	01:57:11	2 <sup>MIN</sup>	5.1/ IAU STD STAR
		9	TH-AR		↑	90 <sup>s</sup>	
		10	TH-AR		↓	90 <sup>s</sup>	
		11	145228	16:07:06	11:52:37	3 <sup>MIN</sup>	6.9/ F STAR
		12	TH-AR		↑	90 <sup>s</sup>	
		13	TH-AR		↓	90 <sup>s</sup>	
		14	SKYDWN	4HRS E HA	+30°	2 <sup>MIN</sup>	CLEAR
		15	TH-AR		↑	90 <sup>s</sup>	
		16	TH-AR		↓	90 <sup>s</sup>	
		17	SKYDWN	0 <sup>HRS</sup> HA	+30°	2 <sup>MIN</sup>	
		18	TH-AR		↑	90 <sup>s</sup>	
		19	INCANDS			120 <sup>MIN</sup>	
		20	INCANDS			120	
Feb 19-20		21	TH-AR		↓	90 <sup>s</sup>	
		22	SKYEVEN	0 HA	+30	2 <sup>hr</sup>	
		23	TH-AR		↑	90 <sup>s</sup>	
		24	TH-AR		↓	90 <sup>s</sup>	
		25	SKYEVEN	4 <sup>HRS</sup> HA	+30	2 <sup>hr</sup>	
		26	TH-AR		↑	90 <sup>s</sup>	
		27	TH-AR		↓	90 <sup>s</sup>	
		28	H8777	01 23 54	-00 39	2 <sup>hr</sup>	IAU
		29	TH-AR		↑	90 <sup>s</sup>	
		30	TH-AR	22 38 53	56 34	90 <sup>s</sup>	
Z LAC		31	<del>H3008</del>	<del>00 30 42</del>	<del>-11 00</del>	2 <sup>hr</sup>	CEPH
		32	TH-AR		↑	90 <sup>s</sup>	

Spectrograph ECHELLE Intensified Reticon TO CAM 2/19  
 Grating 300L Log Sheet RAW RET 16  
 Telescope 5H Date 2/19-20/87 Observer Jan  
 Disk ORO 1462

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1	TH-AR		↓	90 <sup>s</sup>	5187A
		2	VX PER	02 04 18	58 12	8 <sup>m</sup>	CEPH
		3	TH-AR		↑	90 <sup>s</sup>	
		4	TH-AR		↓	90 <sup>s</sup>	
		5	6525	01 04 29	43 17	5 <sup>m</sup>	FSTAR
		6	TH-AR		↑	90 <sup>s</sup>	
		7	7138	01 09 25	46 39	12 <sup>m</sup>	
		8	TH-AR		↑	90 <sup>s</sup>	
		9	10629	01 41 33	39 42	5 <sup>m</sup>	
		10	TH-AR	<del>01 42</del>		90 <sup>s</sup>	
		11	10673A	01 42 01	43 27	6 <sup>m</sup>	SE of 2 STARS
		12	TH-AR		↑	90 <sup>s</sup>	
		13	10673B	"	"	5 <sup>m</sup>	NW of 2 STARS
		14	TH-AR		↓	90 <sup>s</sup>	
		15	11705	01 52 52	42 15	15 <sup>m</sup>	
		16	TH-AR		↑	90 <sup>s</sup>	
		17	TH-AR	<del>01</del>		90 <sup>s</sup>	
		18	41988	06 05 32	-09 27	17 <sup>m</sup>	
		19	TH-AR		↑	90 <sup>s</sup>	
		20	TH-AR		↓	90 <sup>s</sup>	
		21	67-45	07 29 47	01 14	20 <sup>m</sup>	HALO
		22	TH-AR		↑	90 <sup>s</sup>	
		23	TH-AR		↓	90 <sup>s</sup>	
		24	67-F153	08 42 24	11 55	13 <sup>m</sup>	
		25	TH-AR	TH-AR		90 <sup>s</sup>	
		26	<del>67-F196</del>	<del>08 42 50</del>	<del>12 02</del>	90 <sup>s</sup>	
		27	67-F196	08 42 50	12 02	20 <sup>m</sup>	
		28	TH-AR		↑	90 <sup>s</sup>	
		29	67-F196	"	"	20 <sup>m</sup>	
		30	TH-AR		↑	90 <sup>s</sup>	
		31					
		32					



Spectrograph ECHELLE Intensified Reticon TO CAM 2/19  
 Grating 300L Log Sheet RAW/RET 16  
 Telescope S4 Date 2/19-20/27 Observer Don  
 Disk ORU 1463

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 <sup>s</sup>	
		2	75320	02 46 39	-6 49 20	4 <sup>m</sup>	FSTAR
		3			↑↓	90 <sup>s</sup>	
		4	77214	02 58 23	-4 19	10 <sup>m</sup>	
		5			↑	90 <sup>s</sup>	
		6			↓	90 <sup>s</sup>	
		7	80618	09 17 54	-23 16	3 <sup>m</sup>	
		8			↑↓	90 <sup>s</sup>	
		9	97272	09 28 13	-20 46	4 <sup>m</sup>	
		10			↑↓	90 <sup>s</sup>	
		11	80971	09 20 09	-17 41	5 <sup>m</sup>	
		12			↑↓	90 <sup>s</sup>	
		13	81409	09 22 39	-17 00		
		14			↑	90 <sup>s</sup>	
		15		<del>09 19 25</del>	↓	90 <sup>s</sup>	
		16	80851	09 19 25	-10 13	15 MIN	
		17			↑	90 <sup>s</sup>	
		18			↓	90 <sup>s</sup>	
		19	6165-49	14:05:26	41:49:12	4 MIN	9.9/15 HALOS
		20			↑	90 <sup>s</sup>	
		21			↓	90 <sup>s</sup>	
		22	6165-63	14:18:15	38:11:00	4 MIN	10.4/15
		23			↑	90 <sup>s</sup>	
		24			↓	90 <sup>s</sup>	
		25	6178-50	14:46:18	41:43:48	5 MIN	10.6/15
		26			↑	90 <sup>s</sup>	
		27			↓	90 <sup>s</sup>	
		28	6135-42	14:19:51	20:28:48	6 MIN	10.5/20
		29			↑	90 <sup>s</sup>	
		30			↓	90 <sup>s</sup>	
		31	6179-56	15:47:23	45:56:42	3 MIN	9.2/15
		32			↑	90 <sup>s</sup>	

Intensified Reticon

TO CAM 2/19

Spectrograph ECHELLE

Log Sheet

RAW RET 16

Grating 3001

Observer CS

Telescope 1.1 WYATI

Date FEB 19 20 1987 Disk ORO 1464

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 <sup>s</sup>	5187A 80 μ slit
	G202-25	2	15:58:22	45:52:48		10 <sup>MIN</sup>	11.0/15 HALO
	TH-AR	3			↑	90 <sup>s</sup>	
	TH-AR	4			↓	90 <sup>s</sup>	
	W13233	5	13:09:52	30:14:29		4 <sup>MIN</sup>	8.5/ SA 57
	TH-AR	6			↑	90 <sup>s</sup>	
	TH-AR	7			↓	90 <sup>s</sup>	
	5045246	8	14:50:17	46:40:54		2 <sup>MIN</sup>	7.1/100 M STAR
	TH-AR	9			↑	90 <sup>s</sup>	
	GL 57A	10	14:59:10	45:37:21		4 <sup>MIN</sup>	9.1/30 M STAR
	TH-AR	11			↑	90 <sup>s</sup>	
	TH-AR	12			↓	90 <sup>s</sup>	
	133070	13	14:59:01	51:00:07		15 <sup>MIN</sup>	8.1/ F STAR
	TH-AR	14			↑	90 <sup>s</sup>	
	135100	15	15:09:49	48:52:44		12 <sup>MIN</sup>	8.1/ F STAR
	TH-AR	16			↑	90 <sup>s</sup>	
	TH-AR	17			↓	90 <sup>s</sup>	
	140612	18	15:41:01	45:55:02		8 <sup>MIN</sup>	6.9/ F STAR
	TH-AR	19			↑	90 <sup>s</sup>	
	TH-AR	20			↓	90 <sup>s</sup>	
	145873	21	16:09:43	47:41:15		15 <sup>MIN</sup>	7.4/ F STAR
	TH-AR	22			↑	90 <sup>s</sup>	
	TH-AR	23			↓	90 <sup>s</sup>	
	146870	24	16:14:33	53:21:35		8 <sup>MIN</sup>	7.0/ F STAR
	TH-AR	25			↑	90 <sup>s</sup>	
	TH-AR	26			↓	90 <sup>s</sup>	
	5138815	27	12:27:09	-03:02:57		3 <sup>MIN</sup>	9.0/15 HALO
	TH-AR	28			↑	90 <sup>s</sup>	
	TH-AR	29			↓	90 <sup>s</sup>	
	113674	30	13:02:53	-02:17:22		15 <sup>MIN</sup>	8.3/ F STAR
	TH-AR	31			↑	90 <sup>s</sup>	
		32					



Intensified      Reticon  
TO CAM 2/20

Spectrograph ECHELLE      Log Sheet      RAW RET 16

Grating 300R      Observer GS

Telescope 61" WYETH      Date FEB 19-20 1987      Disk ORO 1465

Change....	File	ID	RA	1950.0 Dec	L/R ↑/↓	Exposure	Comments
					↓	90°	5187A 80μ SLIT
	114449		13:08:08	-04:40:32		12 MIN	7.6/ (NOVA CRASH) F STAR
					↑	90°	
					↓	90°	
	116462		13:21:18	-10:36:34		6 MIN	8.1/ <del>DOUBLE STAR</del> F STAR
					↑	90°	
					↓	90°	
	122911		14:02:11	-06:18:49		4 MIN	7.7/ DOUBLE STAR F STAR
					↑	90°	
					↓	90°	
	124245		14:09:55	-02:44:10		10 MIN	8.1/ F STAR
					↑	90°	
					↓	90°	
	H136202		15:16:45	01:57:11		2 MIN	5.1/ IAU STD STAR
					↑	90°	
					↓	90°	
	139375		15:35:01	12:27:49		10 MIN	7.0/ F STAR
					↑	90°	
					↓	90°	
	G141-47		18:50:55	10:33:48		7 MIN	10.5/30 WATCH DAWN HALO
					↑	90°	
					↓	90°	
	179280		19:08:50	31:33:06		17 MIN	7.1/ F STAR
					↑	90°	
					↓	90°	
	SKYDWN		4 HRS E HA	+30°		2 MIN	CLEAR
					↑	90°	
					↓	90°	
	SKDWNM		0 HRS E HA	+30°		2 MIN	
					↑	90°	
	11VCAND					12 U	
	11VCAND					12 U	

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Spectrograph ECHELLE Intensified Reticon TO CAM  
 Grating 306C Log Sheet RAW/RET 16  
 Telescope SH Date 20-21 Feb. 1987 Observer RDS  
 Disk ORO 1466

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90s	
		2		+10°		2m	
		3			↑	90s	
		4			↓	30s	
		5		+10°		2m	30sec Th-Ar test
		6			↑	30s	
		7			↓	90s	
		8		+10°		2m	
		9			↑	90s	
		10			↓	30s	30sec. Th-Ar Test
		11		"		2m	
		12			↑	30s	
		13			↓	90s	
		14	H 8779	φ1:23:54 -φφ:39:29		2m	6.4 IAU standard
		15			↑	90s	
		16			↓	90s	
		17	(4)	φ1:41:01 φ4:51:33		3m	Asteroid
		18			↑	90s	
		19			↓	30sec.	
		20	(4)	" "		3m	Asteroid 30sec. Th-Ar
		21			↑	30sec.	
		22			↓	90s	
		23	G73A	φ3:58:18 11:57:00		20m	↓ Hyades Binary
		24			↑	90s	(the west component is suppose to be fainter!) (check)
		25			↓	90s	
		26	G104	φ4:05:19 16:44:29		15m	Hyades Binary
		27			↑	90s	
		28			↓	90s	
		29	BD 28624	φ4:05:48 29:03:36		3m	"
		30			↑	90s	
		31					
		32					



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Spectrograph ECHELLE Intensified Reticon TO CAM  
 Grating 3002 Log Sheet RAW RET 16  
 Telescope 61" Wyeth Date 20-21 Feb. 1987 Observer RPS  
 Disk ORO 1467

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

1950.0	L/R	Exposure	Comments
	↓	90s	
2	H336	04:21:57 15:45:41	17m 11.5 Hyades Binary
3	Th-Ar		↑ 90s
4	Th-Ar		↓ 90s "
5	LS1	04:38:41 13:07:34	15m 11.2
6	Th-Ar		↑ 90s
7	Th-Ar		↓ 90s
8	L79	04:31:25 11:27:17	20m 11.7 "
9	Th-Ar		↑ 90s
10	Th-Ar		↓ 90s
11	P154φ	05:32:12 -05:26:23	18m 11.4 Trapezium - pms
12	Th-Ar		↑ 90s
13	Th-Ar		↓ 90s
14	P2445	05:34:23 -05:01:20	16m 11.0 "
15	Th-Ar		↑ 90s
16	Th-Ar		↓ 90s
17	HD37148	05:34:01 09:51:21	4m 8.5 λ-ORC
18	Th-Ar		↑ 90s
19	Th-Ar		↓ 90s
20	G85268	07:46:37 38:36:48	20m 11.5/20 M stars
21	Th-Ar		↑ 90s
22	Th-Ar		↓ 90s
23	G85319	08:40:02 49:44:18	10m 9.7/40 "
24	Th-Ar		↓ 90s
25	G85319C	08:40:02 49:44:06	19m 11.9/12 "
26	Th-Ar		↑ 90s
27	Th-Ar		↓ 90s
28	-122669	08:44:24 -13:11:00	20m 10.2/200 11ALOS
29	Th-Ar		↓ 90s
30	-122669	" "	20m "
31	Th-Ar		↑ 90s
32			

2120

Intensified Reticon

TO CAM1

Spectrograph ECHELLE

Log Sheet

RAW RET 16

Grating 3002

Observer RPS

Telescope 61" Wyeth

Date 20-21 Feb. 1987

Disk ORO 1468

Change....	File	ID	RA	Dec	1950.0 L/R ↑/↓	Exposure	Comments
		1			↓	90s	
		2	H89449	10:17:01	19:43:31	2m	4.8 IAU standard 1.0 ND
		3	Th-Ar		↑	90s	(forgot to take out filter!)
		4	Th-Ar	1	↓	30s	
		5	H89449	"	"	2m	" (30sec Th-Ar)
		6	Th-Ar		↑	30s	
		7	Th-Ar		↓	90s	
		8	88788	10:11:53	12:20:03	17m	9.1 F stars
		9	Th-Ar		↑	90s	
		10	Th-Ar		↓	90s	
		11	W11277	13:10:47	31:10:13	7m	11.3/10 SAS7
		12	Th-Ar		↑	90s	
		13	Th-Ar		↓	90s	
		14	W13796	13:11:55	30:08:51	6m	11.3/15 "
		15	Th-Ar		↑	90s	
		16	Th-Ar		↓	90s	
		17	W12828	13:13:42	30:31:35	5 1/2 m	11.0/15 "
		18	Th-Ar		↑	90s	
		19	Th-Ar		↓	90s	
		20	W21415	13:07:01	31:10:19	6m	11.5/10 "
		21	Th-Ar		↑	90s	
		22	Th-Ar		↓	90s	
		23	W23082	13:02:25.5	30:26:43	11m	11.7/15 "
		24	Th-Ar		↑	90s	
		25	W23083	13:02:33.6	30:26:51	7m	11.3/15 "
		26	Th-Ar		↑	90s	
		27	Th-Ar		↓	90s	
		28	W25209	13:04:17	29:31:24	10m	11.4/15 "
		29	Th-Ar		↑	90s	
		30					
		31					
		32					



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Spectrograph ECHELLE Intensified Reticon TO CAM  
 Grating 3002 Log Sheet RAW/RET 16  
 Telescope 61" Wyeth Date 20-21 Feb. 1987 Observer RPS  
 Disk ORO 1469

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		Th-Ar			↓	90s	
	S138815	12:27:10	23:02:57			3m	9.0/15 HALO
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
	W35578	12:59:29	29:27:25			10m	11.5/20 SAST
		Th-Ar			↑	90s	(Seeing beginning to degrade)
		Th-Ar			↓	90s	
	W41153	13:08:27	28:55:58			8m	10.14/40 SAST
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
	W42695	13:08:01	28:23:23			11m	11.5/15 "
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
	W42984	13:09:45	28:27:08			8m	10.8/20 "
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
	W44437	13:09:34	28:06:23			15m	10.9/10 "
		Th-Ar			↕	90s	
	W44447	13:09:32	28:07:52			2m	4.2/100 " 1.0 ND
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
	W50670	13:04:26.8	28:52:05			6.5m	10.7/15 "
		Th-Ar			↕	90s	
	W50671	13:04:27.4	28:51:48			6m	10.6/10 "
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
	W50769	13:05:45	29:03:02			3m	10.1/15
		Th-Ar			↑	90s	
		Th-Ar			↓	90s	
	W51547	13:05:44	28:29:08			8 1/2 m	0.7/20
		Th-Ar			↑	90s	
		/					





Intensified      Reticon  
TO CAM 2/2

Spectrograph ECHELLE      Log Sheet      RAW RET 16

Grating 3002      Observer SM

Telescope 6" WYETH      Date FEB 21-22 1987      Disk ORO ~~1470~~ 1471

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90 <sup>s</sup>	<del>518.7A</del> 800517
		2	SKYEVEN	01 <sup>h</sup> 11A	+30°	2 <sup>h</sup> 11 <sup>m</sup>	CLEAR
		3			↑	90 <sup>s</sup>	
		4			↓	90 <sup>s</sup>	
		5	VX AR	02 04 18	57 12	15	OVCST      CEPH
		6			↑	90 <sup>s</sup>	
		7			↓	90 <sup>s</sup>	
		8	SV MON	06 18 45	06 30	10 <sup>m</sup>	"
		9			↑	90 <sup>s</sup>	
		10			↓	90 <sup>s</sup>	
		11	46688	06 32 38	20 56	5 <sup>m</sup>	"      FSTAR
		12			↑	90 <sup>s</sup>	
		13			↓	90 <sup>s</sup>	
		14	52185	06 57 39	00 09	2 <sup>m</sup>	
		15			↑	90	
		16			↓	90	
		17	75638	02 48 43	12 19	10 <sup>m</sup>	CLEAR
		18			↑	90 <sup>s</sup>	
		19			↓	90 <sup>s</sup>	
		20	71499	08 25 11	-04 15	6 <sup>m</sup>	
		21			↑↓	90 <sup>s</sup>	
		22	71252	08 23 40	-08 21	8 <sup>m</sup>	
		23			↑	90 <sup>s</sup>	
		24			↓	90 <sup>s</sup>	
		25	37038	05 31 01	-01 53	15 <sup>m</sup>	
		26			↑	90 <sup>s</sup>	
		27			↓	90 <sup>s</sup>	
		28	RX AVR	04 57 55	39 53	2 <sup>m</sup>	CEPH
		29			↑	90 <sup>s</sup>	
		30			↓	90 <sup>s</sup>	
		31	T MON	06 22 31	07 07	2 <sup>m</sup>	
		32			↑	90 <sup>s</sup>	

Intensified      Reticon  
TO CAM 2/22

Spectrograph ECHELLE      Log Sheet      RAW/RET 16

Grating 300      Observer RPS.

Telescope PH      Date 2/20-22/87      Disk ORU 1472

Change....	File	ID	1950.0 RA	Dec	L/R +/-	Exposure	Comments
		1			↓	90s	
		2	Sφ15472	11:16:07	62:27:22	2m	7.0/100 M stars
		3			↑	90s	
		4			↓	90s	
		5	GRS 430	11:28:22	63:26:00	8½m	9.0/40 "
		6			↑	90s	
		7			↓	90s	
		8	80851	9:19:25	-10:12:48	18m	8.0 F stars
		9			↑	90s	
		10		9:44:12		90s	
		11	84667	<del>10:01:16</del>	-10:01:16	17m	8.3 "
		12			↑	90s	
		13			↓	90s	
		14	84751	9:44:38	-10:17:21	9m	7.1 "
		15			↑	90s	
		16			↓	90s	
		17	84294	9:48:12	-07:08:47	9m	7.0 "
		18			↑	90s	
		19			↓	90s	
		20	85367	9:48:29	-21:13:35	5m	8.1
		21			↑	90s	
		22			↓	90s	
		23	91728	10:32:54	-12:35:10	10m	
		24			↑	90s	
		25			↓	90s	
		26	93381	10 44 07	-27 53	6m	
		27			↑	90s	
		28	93785	10 46 54	-26 33	10m	
		29			↑	90s	
		30					
		31					
		32					



2122

Intensified      Reticon

Spectrograph ECHELLE TO CAM1

Grating 3000 Log Sheet RAWRET 16

Telescope 5H Date 2/21-22/87 Observer OROT473

Disk \_\_\_\_\_

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		TH-AR			↓	90s	51211 <sup>0</sup>
		74206	10 49 48	-10 51		10 <sup>m</sup>	ESTAR
		TH-AR			↑	90s	
		75938	11 01 26	-08 49		4 1/2 <sup>m</sup>	
		TH-AR			↑	90s	
		TH-AR			↓	90s	
		76050	11 02 04	-20 51		3 <sup>m</sup>	
		TH-AR			↑	90s	
		78413	11 16 40	-19 57		6 <sup>m</sup>	
		TH-AR			↑	90s	
		TH-AR			↓	90s	
		W23301	13.05.36	30.31.41		20 <sup>m</sup>	11.7/50 SA57
		TH-AR			↑	90s	
		TH-AR			↓	90s	
		W19284	15.10.52	30.16.59		15 <sup>m</sup>	11.5/30
		TH-AR			↑	90s	
		TH-AR			↓	90s	
		W31860	13.00.10	30.58.15		11 <sup>m</sup>	11.7/15
		TH-AR			↑	90s	
		TH-AR			↓	90s	
		W21971	13.05.25	30.55.22		11 <sup>m</sup>	11.8/20
		TH-AR			↑	90s	
		TH-AR			↓	90s	
		5158015	12.27.10	-03.02.11		3 <sup>m</sup>	9.0/15 HALOS
		TH-AR			↑	90s	
		TH-AR			↓	90s	
		H114762	13:09:55	19:46:55	*	2 <sup>m</sup>	7.3 IAU standard
		TH-AR			↑	90s	
		TH-AR			↓	30s	
		H114762	"	"		2 <sup>m</sup>	IAU (3000-TH-AR)
		TH-AR			↑	30s	
		/					

Spectrograph ECHELLE Intensified Reticon TO CAM  
 Grating 300R Log Sheet RAW/RET 16  
 Telescope SH Date 21-22 Feb. 1987 Observer RPS  
 Disk ORO 1474

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	30sec	
	H 114762	2	13:09:55	17:46:55		2m	IAV (30sec Th-Ar, 4 3000 cts)
	Th-Ar	3			↑	30s	
	Th-Ar	4			↓	90s	-- thin clouds --
	W50807	5	13:06:04	29:01:58		20m	11.5/20 SAS7
	Th-Ar	6			↑	90s	
	Th-Ar	7			↓	90s	
	W60039	8	13:02:44	29:18:58		10m	11.4/15 "
	Th-Ar	9			↑	90s	
	Th-Ar	10			↓	90s	
	W52973	11	13:04:57	27:47:15		20m	11.4/20 "
	Th-Ar	12			↑	90s	
	Th-Ar	13			↓	90s	
	W64390	14	13:01:46	27:59:35		16m	10.7/50 "
	Th-Ar	15			↑	90s	
	Th-Ar	16			↓	90s	
	W33207	17	13:01:37	30:44:07		6m	9.5/10 "
	Th-Ar	18			↑	90s	
	Th-Ar	19			↓	90s	
	G2 623	20	16:22:39	48:28:24		15m	10.3/ Mstar
	Th-Ar	21			↑	90s	
	Th-Ar	22			↓	90s	
	W32273	23	12:58:28	30:47:02		3m	9.0/15 SAS7
	Th-Ar	24			↑	90s	
	Th-Ar	25			↓	90s	
	W30991	26	13:00:16	31:20:55		3m	9.5/15 "
	Th-Ar	27			↑	90s	
	Th-Ar	28			↓	90s	
	(2)	29	16:06:35	47:16:00		2 1/2 m	Asteroid (watch for sky) (Probably his later)
	Th-Ar	30			↑	90s	
	/	31					
	/	32					



2/22  
RPS

TO CAM

RAW RET 16

Spectrograph ECHELLE  
Grating 3000  
Telescope SH

Intensified Reticon  
Log Sheet  
Date 21-22 Feb. 1987

Observer RPS  
Disk ORO 1475

Change....	File	ID	RA	1950.0 Dec	L/R ↑/↓	Exposure	Comments
		1			↓	90s	
		2	H136202	15:16:45	01:57:12	2m	5.1 IAU standard
		3			↑	90s	
		4	TA-AR	<del>4hrs E</del>	<del>+20°</del>	90s	
		5	SKY-DWN	4hrs E	+20°	2m	SKY
		6	TA-AR		↑	90s	
		7	TA-AR		↓	90s	
		8	SKY-DWN	φ hrs	+20°	2m	
		9	TA-AR		↑	90s	
		10	INCANDS			120 MIN	
		11	INCANDS			120 MIN	
		12	INCANDS			40 MIN	
Feb 22-23		13	TH-AR			90s	5187A 80μ SLIT
		14	SKY/EVEN	0h	+10	2m	
		15	TH-AR		↑	90s	
		16	TH-AR		↓	90s	
		17	SKY/EVEN	4h W	+10	2m	
		18	TH-AR		↑	90s	
		19	TH-AR		↓	90s	6563A°
		20	λ ORI	5 52 28	07 24	3m	ND=2 FILTER SALLY
		21	TH-AR		↑	90s	
		22	TH-AR		↓	90s	
		23	λ AND	23 35 06	46 11	5m	<del>ND=2 FILTER</del>
		24	TH-AR		↑	90s	
		25	TH-AR		↓	90s	5187A°
		26	T MON	06 22 31	07 07	2m	α PH
		27	TH-AR		↑	90s	
		28	TH-AR		↓	90s	
		29	(4)	01 43 50.7	05 11 51	3m	ASTEROID
		30	TH-AR		↑	90s	
		31					
		32					

