

Intensified Reticon

TO CAM 1/1/88

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 3002

Observer JRC

Telescope 61"

Date 12/31/87

Disk 020 1903

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
↑		1	102284	11:43:47	-5:4:10		20 ^m F-STAR 5.1/500 maybe 10 ^h day
		2	thAr		↑	60 ^s	
		3	thAr		↓	10 ^s	
		4	H146051	16:12:39	-3:39:44		2 ^m IAN 510 1.0 ND filter
		5	thAr		↑	60 ^s	
		6	thAr		↓	60 ^s	
		7	SKYDOWN	4 hrs east	+20°		2 ^m
		8	thAr		↑	60 ^s	
		9	thAr		↓	60 ^s	
		10	SKYDOWN	Meridian	+20°		2 ^m
		11	thAr		↑	60 ^s	
		12	INCANS				
		13	INCANS				
		14	INCANS				
		15	INCANS				
		16	thAr		↓	60 ^s	60 ^s S187A
		17	H6779	1:23:53	-0:39:29		7.5 ^m IAN 510 6.4 Partly CLM
		18	thAr		↑	60 ^s	
		19	thAr		↓	60 ^s	
		20	G32-99	0:44:59	+14:22:42		20 ^m HALOFIN 10.9/15 cloudy & hazy
		21	thAr		↑	60 ^s	
		22	thAr		↓	60 ^s	
		23	G6-20	3:34:10	+25:49:48		3 ^m HALOFIN 0.1/100
		24	thAr		↑	60 ^s	
		25	thAr		↓	60 ^s	
		26	G6-2-6	3:36:43	+26:13:36		2 ^m HALOFIN 7.0/15
		27	thAr		↑	60 ^s	
		28	thAr		↓	60 ^s	
		29	G130-29	23:56:16	+33:27:54		2 ^m HALOFIN 7.82/15
		30	thAr		↑	60 ^s	
		31					
		32					

Jan 1, 1988
late start due
to clouds.

Intensified Reticon

TO CAM 1/1/88

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 3002

Observer JRC

Telescope 61" Wyeath

Date 1/1/88

Disk 090 1904

Change....	File	ID	RA	1950.0 Dec	L/R ↑/↓	Exposure	Comments
		thAR			↓	60s	
	G123-57	1 54:31	+11:50:06			2m	H10FIN 9.0/15
		thAR			↑	60s	
		thAR			↓	60s	
	G76-40	3:28:40	+13:30:06			2m	H10FIN 8.56/15
		thAR			↑	60s	
		thAR			↓	60s	
	S56455	3:23:53	+14:16:18			2m	H10LOS 6.79/15
		thAR			↑	60s	
		thAR			↓	60s	MSTARS 6.8
	S078206	3:45:07	+24:50:08			2m	↓ ↓ ↓
		thAR			↑	60s	
		thAR			↓	60s	
	GLs 154	3:43:19	+26:3:42			6m	MSTARS 9.6
		thAR			↑	60s	
		thAR			↓	60s	
	S130860	3:56:24	-5:36:40			2m	MSTARS 6.0
		thAR			↑	60s	
		thAR			↓	60s	
	GLs 156	3:52:09	-6:58:24			5m	MSTARS 9.0
		thAR			↑	60s	
		thAR			↓	60s	
	S076588	4:20:44	+22:50:59			2m	MSTARS 7.2
		thAR			↑	60s	
		thAR			↓	60s	
	GLs 169	4:26:02	+21:46:47			3m	MSTARS 8.3
		thAR			↑	60s	
		thAR			↓	60s	
	GLs 176	4:40:00	+16:52:06			6m	MSTARS 9.9
		thAR			↑	60s	

ADDITIONAL DATA
AC C. 1978 OF COMPTON

TO CAM 1/2

Intensified Reticon

Spectrograph ECHELLE Log Sheet RAW/RET

Grating 3002 Observer JRC

Telescope 61" Wirth Date 1/1/88 Disk 020 1907

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

1950.0

1		thAr			↓	60s	
2	G62-52		13:32:29	+1:27:42		19m	HALOFIN 10.89/30
3		thAr			↑	60s	
4		thAr			↓	60s	
5	G59-25		12:32:29	23:35:30		2m	HALOFIN 8.75/15
6		thAr			↑	60s	
7		thAr			↓	60s	
8	G60-20		12:33:27	11:40:48		2m	HALOFIN 8.8/15
9		thAr			↑	60s	
10		thAr			↓	60s	
11	G60-26		12:37:28	12:55:12		4m	HALOFIN 9.8/20
12		thAr			↑	60s	
13		thAr			↓	60s	
14	SKYDOWN	4 ^h east		+20°		2m	SKY EAST
15		thAr			↑	60s	
16		thAr			↓	60s	
17	SKYDOWN	Meridian		+20°		2m	
18		thAr			↑	60s	
19	21	thAr			↓	60s	
20	22	SKYDSKM				2m	Meridian +20°
21	23	thAr			↑	60s	
22	24	thAr			↓	60s	
23	25	SKYEVIEW				2m	4 ^h W, +20°
24	26	thAr			↑	60s	
25	19	INCANDS				120m	
26	20	"				120m	
27		thAr			↓	60s	
28	H4128		00:41:04.8	-18:13:39		2m	JAL Rad Vel Std; 1.0ND
29		thAr			↑	60s	
30		thAr			↓	60s	
31	G28-41		23:06:45	-2:31:48		2m	Halo Binaries
32		thAr			↑	60s	

1/2-3/88
RJD

TO CAM 1/2

Spectrograph ECHELLE Intensified Reticon
 Grating 300L Log Sheet RAW/RET
 Telescope 61" Wyeth Date 1/2-3/88 Observer RJD
 Disk ORO 1908

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1	ThAr		↓	60 ^s	λ 5187 Å
	G130-29	23:58:16	33:27:54			2 ^m	Halo Binaries
	ThAr				↑	60 ^s	
	ThAr				↓	60 ^s	
	G15725A	18:42:18.5	59:34:22			5 ^m	M Stars / Nearby Stars
	ThAr				↑↓	60 ^s	
	G15725B	18:42:19.3	59:34:05			10 ^m	
	ThAr				↑	60 ^s	
	ThAr				↓	60 ^s	
	G15820A	21:04:54	38:32:06			2 ^m	
	ThAr				↑↓	60 ^s	
	G15820B	21:04:54	38:32:06			2 ^m	
	ThAr				↑	60 ^s	
	ThAr				↓	60 ^s	
	S127114	21:49:00	00:32:08			2 ^m	M Stars
	ThAr				↑↓	60 ^s	
	G15846	21:59:38	01:09:30			15 ^m	15% Moonlight
	ThAr				↑	60 ^s	
	ThAr				↓	60 ^s	
	S128427	23:49:34.1	02:39:09			2 ^m	
	ThAr				↑↓	60 ^s	
	G15918	23:46:37.9	02:07:37			8 ^m	
	ThAr				↑	60 ^s	
	ThAr				↓	60 ^s	Space
	G1515B	00:15:41	43:44:37			20 ^m	10% Moonlight Mx/Nearby
	ThAr				↑↓	60 ^s	
	S036250	00:15:41.2	43:16:52			2 ^m	M Stars
	ThAr				↑↓	60 ^s	
	G1515A	00:15:40.5	43:44:37			2 1/2 ^m	M Stars / Nearby / Space Mat
	ThAr				↑	60 ^s	

Intensified Reticon

TO CAM 1/2

Spectrograph ECHELLE

Log Sheet

RAW RET

Grating 300

Observer RJD

Telescope 61" Wyeth

Date 1/23/88

Disk ORO 1969

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60 ^s	
		2	Gls 14	00:14:28	45:40:18		5 ^m M Stars / Space Mat.
		3	ThAr		↑	60 ^s	
		4	ThAr		↓	60 ^s	
		5	Gls 4A	00:03:05	45:32:06		4 ^m
		6	ThAr		↑↓	60 ^s	
		7	Gls 4B	00:03:05	45:32:00		7 ^m
		8	ThAr		↑	60 ^s	
		9	ThAr		↓	60 ^s	
		10	Z Lac	22:38:53	58:34:05		3 ^m Cepheid
		11	ThAr		↑	60 ^s	
		12	ThAr		↓	60 ^s	
		13	DL CAS	00:27:11	59:56:12		4 ^m
		14	ThAr		↑	60 ^s	
		15	ThAr		↓	60 ^s	
		16	S021738	00:46:18.9	56:48:10		2 ^m M Stars
		17	ThAr		↑↓	60 ^s	
		18	Gls 34B	00:46:08.6	57:33:00		2 ^m
		19	ThAr		↑	60 ^s	
		20	ThAr		↓	60 ^s	
		21	G33-30	00:58:27	16:06:18		11 ^m Halo Binaries
		22	ThAr		↑	60 ^s	
		23	ThAr		↓	60 ^s	
		24	G72-59	02:05:31	28:04:18		7 ^m
		25	ThAr		↑	60 ^s	
		26	ThAr		↓	60 ^s	
		27	G37-10	02:49:54	35:26:06		3 ^m
		28	ThAr		↑	60 ^s	
		29	ThAr		↓	60 ^s	
		30	G6-20	03:34:10	25:49:48		2 1/2 ^m
		31	ThAr		↑	60 ^s	
		32					

Intensified Reticon TO CAM 1/2

Spectrograph ECHELLE Log Sheet RAWRET

Grating 300L Observer RJD.

Telescope 61" Wyeth Date 1/2-3/88 Disk ORO 1916

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60 ^s	2 5187 A
		2	G6-26	03:36:43	18:13:36	2 ^m	Halo Binaries
		3	ThAr		↑	60 ^s	
		4	ThAr		↓	60 ^s	
		5	(20)	04:04:27.5	19:49:52	4 ^m	Asteroid
		6	ThAr		↑	60 ^s	
		7	ThAr		↓	60 ^s	
		8	SU Mon	06:18:45	06:29:41	3 ^m	Cepheid
		9	ThAr		↑	60 ^s	
		10	ThAr		↓	60 ^s	
		11	(44)	04:16:22.3	16:22:51	3 ^m	Asteroid
		12	ThAr		↑	60 ^s	
		13	ThAr		↓	60 ^s	
		14	H26162	04:06:14.9	19:28:03	2 ^m	IAU Rad Vel Std.
		15	ThAr		↑	60 ^s	
		16	ThAr		↓	60 ^s	Halo Binaries
		17	G83-34	04:45:46	18:37:36	2 ^m	
		18	ThAr		↑	60 ^s	
		19	ThAr		↓	60 ^s	
		20	G171-58	00:22:26	47:46:12	2 ^m	
		21	ThAr		↑	60 ^s	
		22	ThAr		↓	60 ^s	
		23	G172-49	01:17:59	51:43:24	2 ^m	
		24	ThAr		↑	60 ^s	
		25	ThAr		↓	60 ^s	
		26	S011983	01:44:10	63:36:14	2 ^m	M Stars
		27	ThAr		↑↓	60 ^s	
		28	Gls 69	01:40:10	63:34:24	4 ^m	
		29	ThAr		↑	60 ^s	
		30	ThAr		↓	60 ^s	
		31	G195-30	09:26:52	52:22:24	2 ^m	Halo Binary
		32	ThAr		↑	60 ^s	

TO CAM 1/2

Intensified Reticon

Spectrograph ECHELLE Log Sheet RAW RET

Grating 300 l Observer RJD

Telescope 61" Wyeth Date 1/2-3/88 Disk ORO 1911

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60 ^s	λ 5187 Å
		2	G115-52	09:03:27	47:19:06	2 ^m	Halo Binaries
		3			↑	60 ^s	
		4			↓	60 ^s	
		5	G87-20	06:59:40	38:13:12	2 ^m	
		6			↑	60 ^s	
		7			↓	60 ^s	
		8	G88-5	07:03:12	18:42:54	3 ^m	
		9			↑	60 ^s	
		10			↓	60 ^s	
		11	G15380	10:08:13	49:42:09	2 ^m	M Stars / Nearby
		12			↑	60 ^s	
		13	S043285	10:16:21	48:38:52	2 ^m	M Stars
		14			↑	60 ^s	
		15			↓	60 ^s	
		16	S043396	10:32:32.2	45:54:46	2 ^m	
		17			↑	60 ^s	
		18	G15397	10:28:25	45:47:06	7 ^m	
		19			↑	60 ^s	
		20			↓	60 ^s	
		21	S015472	11:16:06.7	62:27:22	2 ^m	
		22			↑	60 ^s	
		23			↓	60 ^s	
		24	G15430	11:28:22	63:26:00	10 ^m	15% Moonlight
		25			↑	60 ^s	
		26			↓	60 ^s	
		27	S043627	11:06:51	43:28:44	2 ^m	
		28			↑	60 ^s	
		29	G15412A	11:02:43	43:47:39	4 ^m	
		30			↑	60 ^s	
		31					
		32					

TO CAM 1/2

Spectrograph ECHELLE Intensified Reticon
 Grating 300 l Log Sheet RAW/RET
 Telescope 61" Wyeth Date 1/2-3/88 Observer RJD
 Disk ORO 1913

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments	
		1	ThAr			↓	60 ^s	2 5187 Å
		2	H65217	09:47:54	04:34:42		2 ^m	M Stars
		3	ThAr			↑	60 ^s	
		4	ThAr			↓	60 ^s	
		5	G58-23	10:47:12	20:45:30		3 ^m	Haló Binaries
		6	ThAr			↑	60 ^s	
		7	ThAr			↓	60 ^s	
		8	G15508	13:17:36	41:02:24		3 ^m	M Stars
		9	ThAr			↑	60 ^s	
		10	ThAr			↓	60 ^s	
		11	S065499	13:19:54.8	30:33:12		2 ^m	
		12	ThAr			↑	60 ^s	
		13	ThAr			↓	60 ^s	
		14	S082651	13:03:58.6	22:53:00		2 ^m	
		15	ThAr			↑	60 ^s	
		16	G15499	13:03:49	20:59:40		6 ^m	
		17	ThAr			↑	60 ^s	
		18	ThAr			↓	60 ^s	
		19	H100018	11:28:07	41:33:50		2 ^m	
		20	ThAr			↑	60 ^s	
		21	ThAr			↓	60 ^s	
		22	G147-60	11:32:03	36:29:30		13 ^m	Haló Binaries
		23	ThAr			↑	60 ^s	
		24	ThAr			↓	60 ^s	
		25	G15388A	09:10:52	52:53:43		2 ^m	M Stars
		26	ThAr			↑	60 ^s	
		27	G15388B	09:10:54	52:53:46		2 ^m	
		28	ThAr			↑	60 ^s	
		29	ThAr			↓	60 ^s	
		30	GL388	10:16:54	20:07:18		7 ^m	Nearby Stars
		31	ThAr			↑	60 ^s	
		32						

Intensified Reticon

TO CAM 1/2

Spectrograph ECHELLE

Log Sheet

RAW RETGrating 300 lObserver RJDTelescope 61" WyethDate 1/2-3/88Disk ORO 1914

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

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60 ^s	λ 5187 Å
		2	G2411	11:00:37	36:11:18	2 ^m	Nearby / Space Mot.
		3			↑	60 ^s	
		4			↓	60 ^s	
		5	G2447	11:45:09	01:06:00	13 ^m	159. Moonlight
		6			↑	60 ^s	
		7			↓	60 ^s	
		8	G2526	13:43:12	15:09:42	3 ^m	Nearby
		9			↑	60 ^s	
		10			↓	60 ^s	
		11	G44-45	10:50:48	10:00:24	5 ^m	Italo Binaries
		12			↑	60 ^s	
		13			↓	60 ^s	
		14	+222411	11:48:59	22:23:36	6 ^m	
		15			↑	60 ^s	
		16			↓	60 ^s	
		17	G59-5	12:10:56	23:32:36	2 ^m	
		18			↑	60 ^s	
		19			↓	60 ^s	
		20	+182757	13:34:07	11:24:24	3 ^m	
		21			↑	60 ^s	
		22			↓	60 ^s	
		23	G61-24	12:55:04	18:57:48	6 ^m	
		24			↑	60 ^s	
		25			↓	60 ^s	
		26	H136202	15:16:45.4	01:57:12	2 ^m	IAU Rad Vel Std
		27			↑	60 ^s	
		28			↓	60 ^s	
		29	H106516	12:12:36	-10:01:14	2 ^m	Italo Binaries
		30			↑	60 ^s	
		31					
		32					

Intensified Reticon

TO CAM 1/4/88

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 3002

Observer RJD

Telescope 61" Wyeth

Date 1/2-3/88

Disk ORA 1915

Change....	File	ID	1950.0 RA	Dec	L/R +/-	Exposure	Comments
		1			↓	60 ^s	2 5187 A
		2				3 ^m	4 ^h E, +20°
		3			↑	60 ^s	
		4			↓	60 ^s	
		5				3 ^m	Meridian, +31°
		6			↑	60 ^s	
		7				120 ^m	
		8				120 ^m	XXXXXXXXXXXXXXXXXXXX
		9				120 ^m	XXXXXXXXXXXXXXXXXXXX
		10			↓	60 ^s	
		11	Meridian	+31°		2 ^m	SKY EVG. Meridian 5187 A
		12			↑	60 ^s	
		13			↓	60 ^s	
		14	4 ^h W	+31°		2 ^m	SKY EVG CLEARING
		15			↑	60 ^s	
		16			↓	60 ^s	
		17	0:41:05	+28:16:39		2 ^m	TRIM STD 10 MD filter
		18			↑	60 ^s	
		19			↓	60 ^s	
		20	23:56:16	+23:27:59		2 ^m	HALO FIN 782/15
		21			↑	60 ^s	
		22			↓	60 ^s	
		23	2:6:07	+28:04:36		4 ^m	HALO FIN 999/15
		24			↑	60 ^s	
		25	2:5:31	+28:04:18		7 ^m	HALO FIN 1085/16
		26			↑	60 ^s	
		27			↓	60 ^s	
		28	2:59:00	+2:59:00		18 ^m 200 ^m	2 6562. A
		29			↑	60 ^s	SALLY H ₂ Profiles ONLY GOT 60. (15)
		30					
		31					
		32					

Jan 4, 1988

Intensified Reticon

TO CAM 1/5/88

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 500L

Observer JLC

Telescope 61" W. J. H.

Date 1/5/88

Disk ORO 1918

1950.0

L/R

Change.... File ID RA Dec \uparrow/\downarrow Exposure Comments

1		thAr				60s	
2	(4)		9:32:29	+21:35:54		2m	ASSOCIATION STD.
3		thAr				60s	
4		thAr				60s	
5	G-162-16		10:01:29	+10:50:00		5m	HALOS 9.81/15
6		thAr				60s	
7		thAr				60s	
8	G-162-21		10:05:05	+6:11:42		2m	HALOS 7.73/15
9		thAr				60s	
10		thAr				60s	
11	G-44-6		10:11:32	+3:24:18		2m	HALOS 7.73/15
12		thAr				60s	
13		thAr				60s	
14	G-162-51		10:22:05	-5:15:54		5m	HALOS 9.8/20
15		thAr				60s	
16		thAr				60s	
17	G-55-22		10:25:42	+6:20:36		2m	HALOS 7.89/15
18		thAr				60s	
19		thAr				60s	
20	G-44-28		10:33:30	+16:8:6		2m	HALOS 9.07/15
21		thAr				60s	
22		thAr				60s	
23	G-54-33		10:33:58	+21:51:54		2m	HALOS 8.79/15
24		thAr				60s	
25		thAr				60s	
26	G-54-17		10:09:02	+24:00:06		2m	HALOS 8.4/15
27		thAr				60s	
28		thAr				60s	
29	H-2495		1256:49	+9:30:42		7m	HALOS 9.72/30
30		thAr				60s	
31							
32							

Intensified Reticon

TO CAM 1/5

Spectrograph ECHELLE

Log Sheet

RAW RET

Grating 3002

Observer RPS & JTC

Telescope 61" Walth

Date 1/5/88

Disk 020 1921

Change....	File	ID	RA	1950.0 Dec	L/R ↑/↓	Exposure	Comments
		tblr			↓	60s	5187A
	G6-26		3:36:43	18:13:36		2m	HALOFIN 9.0/15
		tblr			↑	60s	
		tblr			↓	60s	
	G83-34		4:45:46	16:37:36		2m	HALOFIN 9.69/15
		tblr			↑	60s	
		tblr			↓	60s	
	G8-40		4:29:29	16:21:36		9m	HALOFIN 10.7/15
		tblr			↑	60s	
		tblr			↓	60s	
	G39-23		4:30:5	13:57:00		8m	HALOFIN 10.66/15
		tblr			↑	60s	
		tblr			↓	60s	
	G85-21		4:48:32	19:16:48		6m	HALOFIN 10.85/15
		tblr			↑	60s	
		tblr			↓	60s	
	G172-38		1:02:41	149:11:18		8.5m	HALOS 11.08/15
		tblr			↑	60s	
		tblr			↓	60s	
	G243-63		1:12:23	161:16:48		3m	HALOS 7.72/100
		tblr			↑	60s	
		tblr			↓	60s	
	G172-46		1:13:37	51:35:48		13m	HALOS 11.15/20
		tblr			↑	60s	
		tblr			↓	60s	
	G173-2		1:27:49	152:29:18		4m	HALOS 10.05/15
		tblr			↑	60s	
		tblr			↓	60s	
	G172-61		1:31:18	148:29:06		11.5m	HALOS 11.00/20
		tblr			↑	60s	
		/					
		/					

TO CAM1 1/5

Intensified Reticon

Spectrograph ECHELLE Log Sheet RAW/RET

Grating 300L Observer RDS

Telescope 61" Wyeth Date 1/5-6/1988 Disk ORO 1713

Change....	File	ID	RA	1950.0 Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60s	
		2	G58-23	10:47:12	20:45:30		4.5m 10.4/15 HALOS
		3	Th-Ar		↑	60s	
		4	Th-Ar		↓	60s	
		5	G58-12	10:40:25	20:36:48		6.5m 10.6/15 "
		6	Th-Ar		↑	60s	
		7	Th-Ar		↓	60s	
		8	G56-15	11:03:53	14:32:12		3m 10.1/15 "
		9	Th-Ar		↑	60s	
		10	Th-Ar		↓	60s	
		11	G56-36	11:20:39	20:10:18		5.5m 10/20 "
		12	Th-Ar		↑	60s	
		13	Th-Ar		↓	60s	
		14	G57-7	11:30:00	11:10:54		5m 10.1/15 "
		15	Th-Ar		↑	60s	
		16	Th-Ar		↓	60s	
		17	G57-27	11:49:34	19:02:12		2m 8.4/15 "
		18	Th-Ar		↑	60s	
		19	Th-Ar		↓	60s	
		20	G121-75	12:16:31	28:19:36		2.5m 10.5/15 "
		21	Th-Ar		↑	60s	
		22	Th-Ar		↓	60s	
		23	TXE Ven	12:42:18	37:02:15		11m 9.0 Kameron/Symbiotic
		24	Th-Ar		↑	60s	
		25	Th-Ar		↓	60s	
		26	G15499	13:03:49	20:59:42		6m 9.4 Mstars
		27	Th-Ar		↑	60s	
		28	Th-Ar		↓	60s	
		29	Sφ82651	13:03:57	22:53:00		2m 8.9 "
		30	Th-Ar		↑	60s	
		31					
		32					

TO CAM 11/5/88

Intensified Reticon

Spectrograph ECHELLE Log Sheet RAW/RET

Grating 3002 Observer RPS

Telescope 61" Wyeth Date 1/5-6/88 Disk ORO 1924

Change....	File	ID	RA	Dec	1950.0 L/R ↑/↓	Exposure	Comments
		1			↓	60s	
		2	G63-27	13:22:10	15:07:00		13.5m 1.1/20 HALOS 15% Moon
		3	Th-Ar		↑	60s	watch for SKY!
		4	Th-Ar		↓	60s	
		5	G65-16	13:53:22	12:41:18		2m 8.6/15 "
		6	Th-Ar		↑	60s	
		7	Th-Ar		↓	60s	
		8	SKY-DWN	4hrs E	+30°		2m
		9	Th-Ar		↑	60s	
		10	Th-Ar		↓	60s	
		11	SKY-DWN	φ hrs	+30°		2m
		12	Th-Ar		↑	60s	
W17700		13	INCANDS			120m	
		14	INCANDS			120m	
1/6-7/1988		15	Th-Ar		↓	60s	5187A
W17702		16	SKY-EVE	φ hrs	+20°		2m
		17	Th-Ar		↑	60s	
		18	Th-Ar		↓	60s	
		19	SKY-EVE	4 hrs W	+30°		2m
		20	Th-Ar		↑	60s	
		21	Th-Ar		↓	60s	
		22	AG Peg	21:48:36	12:23:27		7m 8.5 Canyon/Symbiotics
		23	Th-Ar		↑	60s	
		24	Th-Ar		↓	60s	
		25	1016 Cyg	19:55:20	39:41:30		8m 10.0 "
		26	Th-Ar		↑	60s	
		27	Th-Ar		↓	60s	
		28	CH Cyg	19:23:14	50:08:31		9m 7.0 "
		29	Th-Ar		↑	60s	
		30	Th-Ar		↓	60s	
		31	Z Lac	22:36:53	56:31:05		4m 8.9 Cosh
		32	Th-Ar		↑	60s	

Spectrograph ECHELLE Intensified Reticon
 Grating 300L Log Sheet
 Telescope 61" Wyeath Date 1/5⁶⁷/88

TO CAM 1/6

RAW/RET

Observer _____
 Disk 020 1925

Change....	File	ID	1950.0 RA	Dec	L/R +/-	Exposure	Comments
		1			↓	60s	
		2	MVA 55φ	21:37:19	57:26:15	20 ^M	11.7/15 Marschall
		3	th-Ar		↑	60s	
		4	th-Ar		↓	60s	
		5	G37-10	2:49:54	115:26:06	3 ^M	HALOFIN 5.38/50
		6	th-Ar		↑	60s	
		7	th-Ar		↓	60s	
		8	G6-20	3:34:10	125:49:48	2 ^M	HALOFIN 9.1/100
		9	th-Ar		↑	60s	
		10	th-Ar		↓	60s	
		11	G6-26	3:36:43	118:13:36	4 ^m	HALOFIN 9.0/15
		12	th-Ar		↑	60s	
		13	th-Ar		↓	60s	
		14	G130-29	23:56:16	133:27:54	2 ^m	HALOFIN 7.57/15
		15	th-Ar		↑	60s	
		16	th-Ar		↓	60s	
		17	G37-4	2:43:20	125:26:36	2 ^M	HALOFIN 7.89/15
		18	th-Ar		↑	60s	
		19	th-Ar		↓	60s	
		20	G36-33	2:45:12	126:51:42	2 ^M	HALOFIN 7.60/15
		21	th-Ar		↑	60s	
		22	th-Ar		↓	60s	
		23	AX Per	01:33:06	54:00:19	20 ^m	11.0 Kanyon/Symbiotics
		24	th-Ar		↑	60s	
		25	th-Ar		↓	60s	
		26	GL166c	04:17:58	-07:43:48	20 ^m	11.2 Kanyon/Neatby's Space
		27	th-Ar		↑	60s	
		28	GL166c	"	"	10 ^m	"
		29	th-Ar		↑	60s	
		30	GL166a	04:17:58	-07:43:48	2 ^m	5.0 "
		31	th-Ar		↑	60s	
		32					

1/6

Intensified Reticon

TO CAM

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 300R

Observer RPS

Telescope 61" Wyeth

Date 1/6-7/1988

Disk ORO 1926

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60s	
		2	(20)	04:03:24	19:45:19	4m	10.2 Asteroid
		3			↑	60s	
		4			↓	60s	
		5	H26162	04:06:15	19:28:43	2m	5.5 IAU standard
		6			↑	60s	
		7			↓	60s	
		8	P1953	05:32:54	-05:11:08	13m	9.9/50 Marschall/Trapezium
		9			↑	60s	
		10			↓	60s	
		11	H037148	05:34:01	09:51:21	4m	8.5 Mathieu/Lam Ori
		12			↑	60s	
		13			↓	60s	
		14	-191422	06:19:40	-19:14:00	6m	9.7/15 HALOS
		15			↑	60s	
		16			↓	60s	
		17	G99-54	06:02:28	06:27:18	10m	10.5/15 HALOS
		18			↑	60s	tracking in NS erratic
		19			↓	60s	
		20	G102-47	06:03:15	07:19:36	6m	10.3/15 "
		21			↑	60s	
		22			↓	60s	
		23	G102-49	06:05:33	11:28:12	5.5m	10.9/15 "
		24			↑	60s	
		25			↓	60s	
		26	G88-5	07:03:12	18:42:54	5m	10.2/20 "
		27			↑	60s	
		28			↓	60s	
		29	G87-20	06:59:40	38:13:12	4m	9.5/15 "
		30			↑	60s	
		31					
		32					

Spectrograph ECHELLE Intensified Reticon
 Grating 3002 Log Sheet
 Telescope 61" Wyeth Date 1/6-7/1988

TO CAM 1/4
RAW/RET

Observer RPS
 Disk ORO 1927

Change....	File	ID	RA	1950.0 Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60s	
		2	(29)	7:46:45	30:32:10		2.5m ASTEROID STD 797
		3			↑	60s	
		4				60s	
		5	G40-S	8:01:46	115:30:36		2m HALOFIN 8.48/15
		6			↑	60s	
		7			↓	60s	
		8	G51-20	8:31:28	31:43:42		11m HALOFIN (M2000) 11.84/15 15% sky
		9			↑	60s	
		10			↓	60s	
		11	G90-25	7:50:22	30:45:40		3m HALOS 8.28/50
		12			↑	60s	
		13			↓	60s	
		14	S17628	8:30:00	-20:39:12		12.5m HALOS 10.02/20
		15			↑	60s	
		16			↓	60s	
		17	H 81797	09:25:08	-08:26:28		3m 2.0 IAU standard 2.0ND
		18			↑	60s	
		19			↓	60s	
		20	H 85217	09:47:54	04:34:42		4.5m 6.2 Mstars
		21			↑	60s	
		22			↓	60s	
		23	G249-37	06:01:35	63:50:36		2.5m 9.2/15 HALOS
		24			↑	60s	
		25			↓	60s	
		26	G250-23	06:45:49	60:59:18		3m 8.6/15 "
		27			↑	60s	
		28			↓	60s	
		29	G249-49	06:25:43	60:49:12		2.5m 7.1/15 "
		30			↑	60s	
		31					
		32					

116

Spectrograph ECHELLE Intensified Reticon TO CAM
 Grating 300L Log Sheet RAW/RET
 Telescope 61" Wyeth Date 1/6-7/1988 Observer RPS
 Disk 020 1928

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1	Th-Ar		↓	60s	
	G192-21	2	06:06:06	50:09:48		2.5m	9.1/15 HALOS
		3	Th-Ar		↑	60s	
		4	Th-Ar		↓	60s	
	G101-30	5	06:12:57	47:05:06		5.5m	9.2/15 "
		6	Th-Ar		↑	60s	
		7	Th-Ar		↓	60s	
	G101-47	8	06:34:36	48:50:48		7m	10.1/15 "
		9	Th-Ar		↑	60s	
		10	Th-Ar		↓	60s	
	G193-33	11	07:06:31	53:20:12		3m	9.1/15 "
		12	Th-Ar		↑	60s	
		13	Th-Ar		↓	60s	
	H100018	14	11:28:07	41:33:50		4m	7.0 M stars
		15	Th-Ar		↑	60s	
		16	Th-Ar		↓	60s	
	G115-52	17	09:03:27	47:19:06		3m	9.7/15 HALOS
		18	Th-Ar		↑	60s	
		19	Th-Ar		↓	60s	
	G195-30	20	09:26:52	52:22:24		5m	9.8/15 "
		21	Th-Ar		↑	60s	
		22	Th-Ar		↓	60s	
	G13-21	23	12:11:31	05:16:30		3m	8.7/15 "
		24	Th-Ar		↑	60s	
		25	Th-Ar		↓	60s	
	G11-36	26	12:01:32	03:37:48		4m	9.3/15 "
		27	Th-Ar		↑	60s	
		28	Th-Ar		↓	60s	
	G12-13	29	11:57:41	05:38:36		3m	8.4/15 "
		30	Th-Ar		↑	60s	
		31					
		32					

Spectrograph ECHELLE Intensified Reticon TO CAM
 Grating 300L Log Sheet
 Telescope 61" Wyeth Date 1/6-7/1988 Observer RDS
 Disk ORO 1929

Change....	File	ID	RA	1950.0 Dec	L/R ↑/↓	Exposure	Comments
		1	Th-Ar		↓	60s	
		2	G12-2	11:50:59	03:47:48		7.5m 10.1/15 HALOS - This # is a
		3	Th-Ar		↑	60s	very close pair; secondary faint
		4	Th-Ar		↓	60s	and to the N-W.
		5	G12-24	12:10:40	11:06:24		2m 7.6/15 HALOS
		6	Th-Ar		↑	60s	
		7	Th-Ar		↓	60s	
		8	H114762	13:09:55	17:46:55		2m 7.3 IAU standard
		9	Th-Ar		↑	60s	
		10	Th-Ar		↓	60s	
		11	G61-14	12:44:05	24:25:12		2m 6.9/15 HALOS
		12	Th-Ar		↑	60s	
		13	Th-Ar		↓	60s	
		14	SKY-DWN	4.5 hrs. E	+30°		2m
		15	Th-Ar		↑	60s	
		16	Th-Ar		↓	60s	
		17	SKY-DWN	φ hrs.	+30°		2m
		18	Th-Ar		↑	60s	
		19	Inconcl			120 ^m	
		20				120 ^m	
		21				210 ^m	
1/7-8/1988		22	Th-Ar		↓	60s	5187A - partly cloudy -
		23	SKY-EVE	φ hrs	+20°		2m
		24	Th-Ar		↑	60s	
		25	Th-Ar		↓	60s	
		26	SKY-EVE	4.5 hrs W	+20°		2.5m
		27	Th-Ar		↑	60s	
		28	Th-Ar		↓	60s	5843A
		29	5108216	22:49:18	14:49:12		20m 69 standard Dupree/NAO Local Cl.
		30	Th-Ar		↓	60s	
		31	5108216	"	"		20m "
		32	Th-Ar		↑	60s	

Spectrograph ECHELLE Intensified Reticon
 Grating 3002 Log Sheet
 Telescope 61 Wyeth Date 1/7-8/1988

TO CAM 47

Observer RPS
 Disk 620 1730

Change....	File	ID	RA	Dec	1950.0 L/R ↑/↓	Exposure	Comments
		Th-Ar			↓	60s	5893 Å
	H218045	23.02.02	14.56.09			15m	(X Peg) Dupree/Na D line 1.0ND
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	S108216	22.49.18	14.49.12			20m	(standard) "
		Th-Ar			↕	60s	
	S108216	"	"			27m	"
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	5187 Å
	H226162	04.06.15	19.28.43			2m	5.5 IAU standard
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	VB (44)	04.14.32	16.33.23			7m	10.2 Astroid
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	- overcast -
	G G-26	03.36.43	18.13.36			11m	9.0/15 HALOS (marginal!) stopped by clouds.
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	24777	03.53.56	06.33.57			20m	7.7 F stars
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	H448	04.26.08	16.03.00			4m	6.6 Hyades Binary
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	H379	04.23.15	15.24.44			3.5m	7.5 Hyades Binary
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	H270	04.19.52	16.40.32			6m	7.5 "
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	VB24	04.15.25	21.27.31			13m	5.6 "
		Th-Ar			↑	60s	

Spectrograph ECHELLE Intensified Reticon
 Grating 300L Log Sheet
 Telescope 61" Wyeth Date 1/7-8/1988

TO CAM 1/9/88

RAW/RET

Observer RPS

Disk ORO 1932

Change....	File	ID	RA	Dec	1950.0 L/R +/-	Exposure	Comments
		1	Th-Ar		↓	60s	5157A - overcast -
	G88-40	07:31:43	17:00:48			5.5m	9.0/15 HALO
		3	Th-Ar		↑	60s	
		4	Th-Ar		↓	60s	
	G88-41	07:31:48	25:07:06			2.5m	7.4/15 "
		6	Th-Ar		↑	60s	
		7	Th-Ar		↓	60s	
	G40-2	07:56:38	20:59:18			3m	7.7/15 "
		9	Th-Ar		↑	60s	
		10	Th-Ar		↓	60s	
	G107-59	07:12:14	45:07:54			3m	8.7/15 "
		12	Th-Ar		↑	60s	
		13	Th-Ar		↓	60s	
	G87-27	07:06:46	37:21:36			7m	9.8/15 "
		15	Th-Ar		↑	60s	
		16	Th-Ar		↓	60s	
	G107-38	06:24:42	24:21:18			6m	9.3/15 "
		18	Th-Ar		↑	60s	
		19	Th-Ar		↓	60s	
	G87-2	06:42:01	35:35:24			4m	8.9/15 "
		21	Th-Ar		↑	60s	
		22	Th-Ar		↓	60s	
	H08104	12:22:30	43:07:48			9.5	7.0/200 F stars (cut shut by clouds)
		24	Th-Ar		↑	60s	
	JINCAVS					120 ^m	- Stopped by clouds -
		26				//	
		27				//	
		28				//	
		29					
		30					
		31					
		32					

Intensified Reticon

TO CAM 1 ✓ 9

Spectrograph ECHELLE

Log Sheet

RAW/RET


Grating 300L

Observer JRC / Mark

Telescope 61" Wmsh

Date 1/9-10/1988

Disk ORD 1933

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
					↓	60s	
				+20°		2m	
					↑	60s	
					↓	60s	
				+20°		2m	Some cloud
					↑	60s	
					↓	60s	
						5m	2.01 AND filter IAU
					↑	60s	
					↓	60s	
						7m	6.41 IAU
					↑	60s	
					↓	60s	
						4m	7.81 Halofin
					↑	60s	
					↓	60s	
						10m	8.3/50 Halofin
					↑	60s	
					↓	60s	
						10m	9.4/100 Halofin
					↑	60s	
					↓	60s	
						4m	9.0/15 Halofin
					↑	60s	
					↓	60s	
						11m	9.8/ companion Halofin
					↑	60s	toward right 
						10m	10.8?/ companion ↑
					↑	60s	(prob some contamination of primary)
					↓	60s	
						13m	9.3/ OLSB?? Halofin
					↑	60s	

fr: on
154 file
26 is 67u-13
needs to be corrected

Intensified Reticon TO CAM 410

Spectrograph ECHELLE Log Sheet RAW/RET

Grating 300L Observer Mark

Telescope 61" Wyeth Date 11-10/88 Disk ORO 1934

Change....	File	ID	RA	Dec	1950.0 L/R ↑/↓	Exposure	Comments
		1	Th-Ar		↓	60s	clouds + much
		2	614-70	02:25:20 25 37 50		9m	9.31 Halofin
		3	Th-Ar		↑	60s	
		4	Th-Ar		↓	60s	
		5	6173-99	02:30:30 49:17:12		8m	8.91 Halofin
		6	Th-Ar		↑	60s	clouds 29:00
		7	Th-Ar		↓	60s	restart @ 1:38
		8	6219-37	06:01:35 65:50:36		3m	9.2/15 Halofin
		9	Th-Ar		↑	60s	
		10	Th-Ar		↓	60s	
		11	6103-48	06:36:55 30:04:54		15m	10.8/15 Halofin
		12	Th-Ar		↑	60s	
		13	Th-Ar		↓	60s	
		14	687-20	06:59:40 38:13:12		3m	9.4/15 Halofin
		15	Th-Ar		↑	60s	
		16	Th-Ar		↓	60s	
		17	688-5	07:03:12 18:42:54		10m	15.2/20 Halo
		18	Th-Ar		↑	60s	
		19	Th-Ar		↓	60s	
		20	640-5	08:01:46 15:30:36		3m	8.4/15 Halofin
		21	Th-Ar		↑	60s	
		22	Th-Ar		↓	60s	
		23	(29)	07:45:20 30:37:56		4m	9.9/ "Amphitrite" Asteroid
		24	Th-Ar		↑	60s	
		25	Th-Ar		↓	60s	
		26	(4)	08:28:20 22:08:26		2m	7.4/ "Vesta" Asteroid
		27	Th-Ar		↑	60s	
		28	Th-Ar		↓	60s	
		29	646-31	09:14:28 03:14:12		14m	10.8/15 Halofin
		30	Th-Ar		↑	60s	
		31					
		32					

Intensified Reticon
TO CAM 1110

Spectrograph ECHELLE Log Sheet RAW RET

Grating 3002 Observer MAIK

Telescope 61" width Date 11/10/88 Disk ORO 1936

Change....	File	ID	RA	1950.0 Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60s	
		2	6140-10	23:05:39	11:35:12	10m	11.2/20 HALO
		3			↑	60s	
		4			↓	60s	
		5	6128-45	23:25:33	31:15:30	15m	11.7/15 HALO
		6			↑	60s	
		7			↓	60s	
		8	-18271	21:34:54	-17:44:12	6m	9.8/20 Halo
		9			↑	60s	
		10			↓	60s	
		11	629-25	23:19:46	11:53:06	8m	10.8/15 Halo
		12			↑	60s	
		13			↓	60s	
		14	6128-64	23:23:52	32:54:54	4m	9.5/15 Halo
		15			↑	60s	
		16			↓	60s	
		17	6216-45	23:25:02	14:59:12	12m	11.0/15 Halo
		18			↑	60s	
		19			↓	60s	
		20	6217-8	23:24:15	60:21:06	17m	10.4/60 Halo
		21			↑	60s	
		22			↓	60s	
		23	668-31	23:33:33	18:09:48	2m	7.6/20 Halo
		24			↑	60s	
		25			↓	60s	
		26	6130-10	23:43:38	34:58:12	3m	9.1/20 Halo
		27			↑	60s	
		28			↓	60s	
		29	6129-42	23:52:30	20:06:24	5m	8.9/20 Halo
		30			↑	60s	
		31					
		32					

TO CAM 10/1

Intensified Reticon

Spectrograph ECHELLE Log Sheet RAW/RET

Grating 3002 Observer Mark

Telescope 6" Wyeath Date 1/10-11/88 Disk 1937

Change....	File	ID	RA	Dec	1950.0 L/R ↑/↓	Exposure	Comments
		1			↓	60 ^s	
		2	664-1	00:29:55	27:55:18	14 ^m	8.7/100 Halo
		3	7h-Ar		↑	60 ^s	
		4	7h-Ar		↓	60 ^s	
		5	6171-58	00:22:26	47:46:12	3 ^m	7.5/50 Halo
		6	7h-Ar		↑	60 ^s	
		7	7h-Ar		↓	60 ^s	
		8	633-30	00:58:27	16:06:18	13 ^m	10.6/30 Halo/fin
		9	7h-Ar		↑	60 ^s	
		10	7h-Ar		↓	60 ^s	
		11	6172-49	01:17:59	51:43:24	2 ^m	7.6/20 Halo
		12	7h-Ar		↑	60 ^s	
		13	7h-Ar		↓	60 ^s	
		14	6133-57	01:54:31	41:50:06	3 ^m	9.0/15 Halo/fin
		15	7h-Ar		↑	60 ^s	? In the book!
		16	7h-Ar		↓	60 ^s	
		17	672-58	02:05:31	28:04:36	5 ^m	9.9/15 Not pair. + 11?? Halo/fin where is chat?
		18	7h-Ar		↔	60 ^s	
		19	672-59	02:05:31	28:04:36	8 ^m	10.5/15 S of pair, this is either -59 or the two are reversed, no chat!
		20	7h-Ar		↑	60 ^s	
		21	7h-Ar		↓	60 ^s	
		22	6620	03:34:10	25:49:48	3 ^m	9.1/100 Halo/fin
		23	7h-Ar		↑	60 ^s	
		24	7h-Ar		↓	60 ^s	
		25	66-26	03:36:43	15:13:36	3 ^m	7.0/15 Halo/fin
		26	7h-Ar		↑	60 ^s	
		27	7h-Ar		↓	60 ^s	
		28	683-34	04:45:46	18:37:36	3 ^m	9.6/15 Halo/fin
		29	7h-Ar		↑	60 ^s	
		30	7h-Ar		↓	60 ^s	
		31	(44)	04:13:48	16:41:27	8 ^m	10.4/ "Nysa" Astroid
		32	7h-Ar		↑	60 ^s	

Intensified Reticon

TO CAM 1/11

Spectrograph ECHELLE

Log Sheet

RAW RET

Grating 300

1/10-11/88

Observer Mar 4

Telescope 11" wyeth

Date 11/10/88

Disk ORO 1938

Change....	File	ID	RA	Dec	1950.0 L/R +/-	Exposure	Comments
		7h-A _r			↓	60 ^s	
	687-46		07:35:03	16:49:00		6 ^m	10.1/15 Hulo _r in
		7h-A _r			↑	60 ^s	
		7h-A _r			↓	60 ^s	
	6107-50		07:06:21	12:44:18		22 ^m	12.0/15 Hulo _r in
		7h-A _r			↑	60 ^s	
		7h-A _r			↓	60 ^s	
	640-5		08:01:46	15:30:36		3 ^m	8.4/15 Hulo _r in
		7h-A _r			↑	60 ^s	
		7h-A _r			↓	60 ^s	
	690-43		08:02:29	14:13:24		8 ^m	11.9/15 D ² ! Hulo _r in
		7h-A _r			↑	60 ^s	
		7h-A _r			↓	60 ^s	
	69-31		08:49:51	22:45:00		8 ^m	10.8/15 Hulo _r in
		7h-A _r			↑	60 ^s	
		7h-A _r			↓	60 ^s	
	690-3		07:26:37	32:58:30		12 ^m	10.4/1 COLD!!!! Hulo _r in
		7h-A _r			↑	60 ^s	
		7h-A _r			↓	60 ^s	
	690-4		07:27:17	07:20:36		19 ^m	11.8/1 moon Hulo _r in
		7h-A _r			↑	60 ^s	
		7h-A _r			↓	60 ^s	
	69-36		08:55:03	24:40:12		18 ^m	11.9/1 Hulo _r in
		7h-A _r			↑	60 ^s	
		7h-A _r			↓	60 ^s	
	6115-44		09:02:05	39:00:12		13 ^m	11.6/1 Hulo _r in
		7h-A _r			↑	60 ^s	
	6116-15		09:12:44	40:27:18		5 ^m	11.7/1 Hulo _r in
		7h-A _r			↑	60 ^s	
		7h-A _r			↓	60 ^s	
	6111-33		09:45:13	40:44:12		3 ^m	10.0/1 Hulo _r in
		7h-A _r			↑	60 ^s	

Intensified Reticon TO CAM 1/4

Spectrograph ECHELLE Log Sheet RAW RET

Grating 3002 Observer M44

Telescope 61" Wyeth Date 1/10-11/88 Disk OR 0 1439

Change....	File	ID	RA	Dec	1950.0 L/R +/-	Exposure	Comments
		1			↓	60s	
		2	6104-17	08:12:08	57:15:00	2m	6.81 Halo Fin
		3			↑	60s	
		4			↓	60s	
		5	6111-68	08:14:46	44:46:18	3m	10.41 Halo Fin
		6			↑	60s	
		7			↓	60s	
		8	649-19	09:35:56	28:38:06	8m	10.51 Halo Fin
		9			↑	60s	
		10			↓	60s	
		11	6116-75	08:58:59	35:09:06	19m	11.91 VSB?? Halo Fin
		12			↑	60s	
		13			↓	60s	
		14	642-34	10:00:27	20:05:12	10m	10.71 " Halo Fin
		15			↓	60s	
		16	649-38	10:07:46	21:56:18	16m	11.51 Halo Fin
		17			↑	60s	
		18			↓	60s	
		19	653-41	10:24:50	01:39:30	14m	11.01 Halo Fin
		20			↑	60s	
		21			↓	60s	
		22	644-30	10:37:43	11:27:24	14m	11.31 Halo Fin
		23			↑	60s	
		24			↓	60s	
		25	6147-62	11:32:03	36:29:30	15m	12.01 Halo Fin
		26			↑	60s	
		27			↓	60s	
		28	1102-145	08:56:49	09:30:42	6m	9.7/30 Halo
		29			↑	60s	
		30			↓	60s	
		31	6165-22	13:35:51	39:26:00	4m	8.91 where is finding card? if this is not it, this is for 21. This bright star 40E Halo Fin
		32			↑	60s	

Intensified Reticon

TO CAM 1/11/88

Spectrograph ECHELLE

Log Sheet

RAW RET

Grating 3000

Observer Mark

Telescope 61" Wgeth

Date 1/10-11/88

Disk ORO 1940

Change....	File	ID	RA	Dec	1950.0 L/R +/-	Exposure	Comments
		1	Th-Ar		↓	60 ^s	
		2	G65-51	14:23:35	3:39:36	2 ^m	8.01 H-alpha
		3	Th-Ar		↑	60 ^s	
		4	Th-Ar		↓	60 ^s	
		5	G66-49	14:58:09	08:48:06	2 ^m	2.21 H-alpha
		6	Th-Ar		↑	60 ^s	
		7	Th-Ar		↓	60 ^s	
		8	H136202	15:16:45	01:57:11	2 ^m	5.11 IAU
		9	Th-Ar		↑	60 ^s	
		10	Th-Ar		↓	60 ^s	
		11	SKYDOME	4 hrs E	+20	2 ^m	
		12	Th-Ar		↑	60 ^s	
		13	Th-Ar		↓	60 ^s	
		14	SKYDOME	0 HA	+20	2 ^m	
		15	Th-Ar		↑	60 ^s	
		16	Integrals			20 ^m	
		17				25 ^m	
JAN 11-12 1988		18	thAr		↓	60 ^s	λ 5167 Å
		19	SKYDOME	Meridian	+20°	2 ^m	16 SKY
		20	thAr		↑	60 ^s	
		21	thAr		↓	60 ^s	
		22	SKYDOME	4 hrs West	+20°	2 ^m	16 SKY
		23	thAr		↑	60 ^s	
		24	thAr		↓	60 ^s	
		25	H8779	11:23:53	-0:39:29	2 ^m	ION STD #17
		26	thAr		↑	60 ^s	
		27	thAr		↓	60 ^s	
		28	G130-29	23:56:16	133:27:54	2 ^m	HALOFIN 7.52/15
		29	thAr		↑	60 ^s	
		30	/				
		31	/				
		32	/				

Spectrograph ECHELLE Intensified Reticon
 Grating 300 L Log Sheet
 Telescope 61" W. Jyeth Date 1/11-12/88

TO CAM 4/11

RAW RET

Observer _____
 Disk 020 1941

Change....	File	ID	RA	Dec	1950.0 L/R +/-	Exposure	Comments
		1			↓	60s	
		2	G6-20	3:34:10	+25:49:48	3m	HALOFIN 21/100
		3	th-Ar		↑	60s	
		4	th-Ar		↓	60s	
		5	G6-26	3:36:43	+18:13:36	2m	HALOFIN 9.0/16
		6	th-Ar		↑	60s	
		7	th-Ar		↓	90s	
		8	S149831	4:39:22	-12:34:12	14m	Local clid NaD STD 1000 cts
		9	th-Ar		↕	90s	
		10	S149831	4:39:22	-12:34:12	14m	Local clid NaD STD 1000 cts
		11	th-Ar		↑	90s	
		12	th-Ar		↓	90s	
		13	S149777	4:35:40	-13:07:50	20m	Local clid NaD Southern obj. 575 cts
		14	th-Ar		↕	90s	
		15	S149777	4:35:40	-13:07:50	20m	" " " " " 552 cts
		16	th-Ar		↕	90s	
		17	S149777	4:35:40	-13:07:50	20m	" " " " " 474 cts
		18	th-Ar		↑	90s	
		19	th-Ar		↓	90s	
		20	S149831	4:39:22	-12:34:12	20m	Local clid NaD STD
		21	Th-Ar		↑	90s	
		22	Th-Ar		↓	60s	5187Å
		23	(20)	04:02:56	19:44:39	4m	102 IAU-Asteroid Programme
		24	Th-Ar		↑	60s	
		25	Th-Ar		↓	60s	
		26	H26162	04:06:15	19:28:43	2m	5.5 IAU standard
		27	Th-Ar		↑	60s	
		28	Th-Ar		↓	60s	
		29	S076588	04:20:45	22:50:59	2m	7.2 M stars
		30	Th-Ar		↑	60s	
		31	/				
		32	/				

Spectrograph ECHELLE Intensified Reticon
 Grating 3002 Log Sheet
 Telescope 61" Wynth Date 1/11-12/88

TO CAM 1/12/88

Observer JRC
 Disk 020 1943

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60 ^s	
		2	H085217	9:47:54	4:34:42	2 ^M	MSTARS 6.2/200
		3			↑	60 ^s	
		4			↓	60 ^s	
		5	H69419	10:17:01	14:43:31	3.5 ^M	IRN STD 10ND FILTER 4.8
		6			↑	60 ^s	
		7			↓	60 ^s	
		8	S082651	13:03:56	22:53:00	2 ^M	MSTARS (Very Strong spots) 5.7/100
		9			↑	60 ^s	
		10			↓	60 ^s	
		11	G65499	13:03:49	20:51:42	4 ^M	MSTARS 9.4/20
		12			↑	60 ^s	
		13			↓	60 ^s	
		14	G41-34	9:20:06	11:29:06	4 ^M	HALOS 9.6/15
		15			↑	60 ^s	
		16			↓	60 ^s	
		17	G163-39	11:00:25	-3:6:48	3 ^M	HALOS 8.89/7 ^{gat} 30
		18			↑	60 ^s	
		19			↓	60 ^s	
		20	G95-48	11:17:55	15:46:36	5 ^M	HALOS 10.18/15
		21			↑	60 ^s	
		22			↓	60 ^s	
		23	G10-26	11:26:25	1:22:12	4 ^M	HALOS 9.52/15
		24			↑	60 ^s	
		25			↓	60 ^s	
		26	G56-40	11:23:51	10:41:54	2 ^M	HALOS 8.66/15
		27			↑	60 ^s	
		28			↓	60 ^s	
		29	S99624	11:26:33	16:39:24	2 ^M	HALOS 7.72/15
		30			↑	60 ^s	
		31					
		32					

TO CAM 4/12

Intensified Reticon

Spectrograph ECHELLE Log Sheet RAW/RET

Grating 3002 Observer RDS

Telescope 61" Wyoth Date 1/12-13/1988 Disk ORO 1946

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60s	- overcast -
		2	GRS 820B	21:04:54	38:32:06		5m 6.0 Mstars & Nearby
		3	Th-Ar		↕	60s	
		4	GRS 820A	21:04:54	38:32:06		4m 5.2 " "
		5	Th-Ar		↑	60s	
		6	Th-Ar		↓	60s	
		7	G130-29	23:56:16	33:27:54		2.5m 7.8/15 HALOS
		8	Th-Ar		↑	60s	
		9	Th-Ar		↓	60s	
		10	GRS 4A	00:03:05.0	45:52:06		7m 8.9 Mstars & Space
		11	Th-Ar		↕	60s	
		12	GRS 4B	00:03:05.0	45:32:00		9m 9.0 " "
		13	Th-Ar		↑	60s	
		14	Th-Ar		↓	60s	
		15	GRS 15A	00:15:40.5	43:44:37		11m 8.1 Mstars, Space & Nearby
		16	Th-Ar		↕	60s	(cannot get B!)
		17	Sφ3625φ	00:15:41.2	44:16:52		6.5m 7.6 Mstars
		18	Th-Ar		↑	60s	
		19	Th-Ar		↓	60s	
		20	G6-20	03:39:10	25:49:48		3.5m 9.1/100 HALOS
		21	Th-Ar		↑	60s	
		22	Th-Ar		↓	60s	
		23	G37-10	02:49:54	35:26:16		12m 8.4/50 "
		24	Th-Ar		↑	60s	
		25	Th-Ar		↓	60s	
		26	G6-26	03:36:43	13:13:36		6.5m 9.0/15 "
		27	Th-Ar		↑	60s	
		28	Th-Ar		↓	60s	- heavy overcast -
		29	H26162	04:06:15	19:28:43		3m 5.5 IAU standard
		30	Th-Ar		↑	60s	
		31					
		32					

Intensified Reticon

TO CAM 1/13

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 3002

Observer RPS

Telescope 61" Wyeth

Date 1/12-13/1988

Disk 0201947

Change....	File	ID	RA	1950.0 Dec	L/R +/-	Exposure	Comments
		1	Th-Ar		↓	60s	
		2	VX Per	02:04:18	58:12:22	7m	9.7 Cepheid
		3	Th-Ar		↑	60s	
		4	Th-Ar		↓	60s	
		5	DL Cas	06:27:11	59:56:12	7m	"
		6	Th-Ar		↑	60s	
		7	Th-Ar		↓	60s	
		8	8026	01:17:42	55:56:56	20m	7.9/400 Fstars (faint, close secondary to the East - unresolved)
		9	Th-Ar		↓	60s	
		10	8026	"	"	20m	"
		11	Th-Ar		↑	60s	
		12	Th-Ar		↓	60s	
		13	SV MON	06:18:45	06:29:41	8.5m	8.9 Cepheids
		14	Th-Ar		↑	60s	
		15	Th-Ar		↓	60s	
		16	G39-43	04:59:40	34:11:42	5.5m	5.2/15 HALOS
		17	Th-Ar		↑	60s	
		18	Th-Ar		↓	60s	
		19	G 83-50	04:59:20	14:00:54	5m	8.2/15 "
		20	Th-Ar		↑	60s	
		21	Th-Ar		↓	60s	
		22	G 97-43	05:26:08	04:45:16	9m	9.1/15 "
		23	Th-Ar		↑	60s	
		24	Th-Ar		↓	60 ^s	
13-14 JAN 1988		25	G 99-45	05:28:22	15:44:30	SKY	8.6/15 " 2^m exp. 9^h +29^o
		26	Th-Ar		↑	60 ^s	
		27	Th-Ar		↓	60 ^s	
		28	SKYVIEW			2 ^m	4 ^m W, +29 ^o
		29	Th-Ar		↑	60 ^s	
		30	Th-Ar		↓	60 ^s	
		31	H 4128	00:41:04.8	-18:15:39	2 ^m	IAU Rad Vel STD 1.0
		32	Th-Ar		↑	60 ^s	

TO CAM 1/13

Spectrograph ECHELLE Intensified Reticon
 Grating 300l Log Sheet RAWRET
 Telescope 61" Woot Date 1/13-14/87 Observer RJD
 Disk ORO 1948

Change....	File	ID	RA	1950.0 Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60 ^s	2 5187 A
		2	G130-29	23:56:16	33:27:54	2 ^m	Halo Binaries
		3			↑	60 ^s	
		4			↓	60 ^s	
		5	G28-41	23:06:45	-2:31:48	5 ^m	
		6			↑	60 ^s	
		7			↓	60 ^s	
		8	G227-37	18:34:48	63:39:18	2 ^m	
		9			↑	60 ^s	
		10			↓	60 ^s	
		11	G15725A	18:42:18.5	59:34:22	7 ^m	M Stars / Nearby
		12			↑↓	60 ^s	
		13	G15725B	18:42:19.3	59:34:05	16 ^m	
		14			↑	60 ^s	
		15			↓	60 ^s	
		16	2 LAC	22:38:53	56:34:05	5 ^m	Cepheids
		17			↑	60 ^s	
		18			↓	60 ^s	
		19	DL CAS	00:27:11	59:56:12	5 ^m	
		20			↑	60 ^s	
		21			↓	60 ^s	
		22	G32-49	00:44:59	14:22:12	11 ^m	Halo Binaries
		23			↑	60 ^s	
		24			↓	60 ^s	
		25	G33-30	00:58:27	16:06:18	15 ^m	
		26			↑	60 ^s	
		27			↓	60 ^s	
		28	G72-59	02:05:31	28:04:18	12 ^m	
		29			↑↓	60 ^s	
		30	G72-58	02:05:31	28:04:36	7 ^m	
		31			↑	60 ^s	
		32					

Intensified Reticon

TO CAM 1/13

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 300L

Observer ~~ORO 1949~~ RVD

Telescope 61" Wyeth

Date 1/13-14/88

Disk ORO 1949

Change....	File	ID	1950.0 RA	Dec	L/R +/-	Exposure	Comments
		1			↓	60 ^s	λ 5187 Å
	G6-20		03:34:10	25:49:48		3 ^m	Halo Binaries
		3			↑	60 ^s	
		4			↓	60 ^s	
	G6-26		03:36:43	18:13:36		2½ ^m	
		6			↑	60 ^s	
		7			↓	60 ^s	
	G83-34		04:45:46	18:37:36		2 ^m	
		9			↑	60 ^s	
		10			↓	60 ^s	
	G76-21		02:38:32	09:33:24		15 ^m	
		12			↑	60 ^s	
		13			↓	60 ^s	
	G4-2		02:08:40	09:23:18		11 ^m	
		15			↑	60 ^s	
		16			↓	60 ^s	
	G75-31		02:35:45	02:13:48		10 ^m	
		18			↑	60 ^s	
		19			↓	60 ^s	
	G4-44		02:49:16	11:10:12		2 ^m	
		21			↑	60 ^s	
		22			↓	60 ^s	
	G36-44		02:52:41	26:40:24		2 ^m	
		24			↑	60 ^s	
		25			↓	60 ^s	
	G95-4		03:01:50	34:34:42		2½ ^m	
		27			↑	60 ^s	
		28			↓	60 ^s	
	G74-38		02:37:13	42:03:06		9 ^m	
		30			↑	60 ^s	
		31					
		32					

TO CAM 1/13

Spectrograph ECHELLE Intensified Reticon
 Grating 300L Log Sheet RAW/RET
 Telescope 61" Wyoth Date 1/13-14/88 Observer RJD
 Disk ORO 1950

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60 ^s	λ 5187 Å
	G78-14		03:02:24	44:55:54		9 ^m	Halo Binaries
		3			↑	60 ^s	
		4			↓	60 ^s	
	G77-35		03:12:29	00:51:06		13 ^m	
		6			↑	60 ^s	
		7			↓	60 ^s	
	G5-27		03:15:40	15:00:00		2 ^m	
		9			↑	60 ^s	
		10			↓	60 ^s	
	G37-34		03:16:31	33:25:36		8 ^m	
		12			↑	60 ^s	
		13			↓	60 ^s	
	G95-35		03:21:52	41:57:00		8 ^m	
		15			↑	60 ^s	
		16			↓	60 ^s	
	G6-40		03:53:31	22:32:00		3 ^m	
		18			↑	60 ^s	
		19			↓	60 ^s	
	G83-18		04:31:38	12:38:06		7 ^m	
		21			↑	60 ^s	
		22			↓	60 ^s	
	G81-15		04:17:22	45:42:18		9 ^m	
		24			↑	60 ^s	
		25			↓	60 ^s	
	G175-47		04:40:06	52:53:36		5 ^m	
		27			↑	60 ^s	
		28			↓	60 ^s	
	G175-39		04:31:59.3	55:18:52		4 ^m	
		30			↑	60 ^s	
		31					
		32					

TO CAM 1/13

Intensified Reticon

Spectrograph ECHELLE Log Sheet RAW/RET

Grating 3002 Observer RJD

Telescope 61" length Date 1/13-14/88 Disk ORO 1951

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
					↓	60 ^s	λ 5187 Å
						18 ^m	Halo Binaries
					↑↓	60 ^s	
						20 ^m	
					↑	60 ^s	
					↓	60 ^s	
						17 ^m	
					↑	60 ^s	
					↓	60 ^s	
						7 ^m	
					↑	60 ^s	
					↓	60 ^s	
						12 ^m	Nearby / Space M.t
					↑	60 ^s	
					↓	60 ^s	
						2 ^m	Asteroid
					↑	60 ^s	
					↓	60 ^s	
						2 ^m	Halo Binaries
					↑	60 ^s	
					↓	60 ^s	
						7 ^m	Asteroid
					↑	60 ^s	
					↓	60 ^s	
						2 ^{1/2} ^m	Halo Binaries
					↑	60 ^s	
					↓	60 ^s	
						2 ^m	
					↑	60 ^s	
					↓	60 ^s	
						10 ^m	
					↑	60 ^s	

TO CAM 1/13

Spectrograph ECHELLE Intensified Reticon
 Grating 300 l Log Sheet
 Telescope 61" Wyeth Date 1/13-14/88 Observer RAW/RET
 Disk ORO 1952

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60 ^s	2 5187A
	G249-37		06:01:35	63:50:36		3 ^m	Halo Binaries
		3			↑	60 ^s	
		4			↓	60 ^s	
	G195-30		09:26:52	52:22:24		5 ^m	
		6			↑	60 ^s	
		7			↓	60 ^s	
	H89449		10:17:01	19:43:31		2 ^m	IAU Rad Vel Std
		9			↑	60 ^s	
		10			↓	60 ^s	
	H92588		10:38:51.5	-1:28:41		2 ^m	
		12			↑	60 ^s	
		13			↓	60 ^s	
	G58-23		10:47:12	20:45:30		8 ^m	Halo Binaries
		15			↑	60 ^s	
		16			↓	60 ^s	
	G195-32		09:58:16	55:49:48		2 ^m	
		18			↑	60 ^s	
		19			↓	60 ^s	
	H102495		12:58:49	09:30:42		17 ^m	
		21			↓	60 ^s	
	G60-47		12:52:44	08:06:12		13 ^m	
		23			↑	60 ^s	
		24			↓	60 ^s	
	S082651		13:03:58.6	22:53:00		2 ^{1/2} ^m	14 Stars
		26			↓	60 ^s	
	G15499		13:03:49	20:57:42		11 ^m	
		28			↑	60 ^s	
		29			↓	60 ^s	
	G135-46		14:21:00	18:47:12		5 ^m	Halo Binaries
		31			↑	60 ^s	
		32					

Spectrograph ECHELLE Intensified Reticon TO CAM
 Grating 300 l Log Sheet RAW/RET
 Telescope 61" Wyeth Date 1/13-14/88 Observer RJD
 Disk ORO 1953

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60 ^s	λ 5187 Å
	G136-77		15:10:28	19:28:12		2 ^m	Halo Binaries
		3			↑↓	60 ^s	
	G136-78		15:10:29	19:28:30		2 ^m	
		5			↑	60 ^s	
		6			↓	60 ^s	
	H136202		15:16:45.4	01:57:12		2 ^m	IAU Rad Vel Std
		8			↑	60 ^s	
		9			↓	60 ^s	
	H14651		16:11:43	-3:39:01		2 ^m	
		11			↑	60 ^s	1.0 N.D. Filter
		12			↓	60 ^s	
	SKYDOME					2 ^m	4 ^h E, +20°
		14			↑	60 ^s	
		15			↓	60 ^s	
	SKYDOME					2 ^m	Meridian, +31°
		17			↑	60 ^s	
	INCANDS					120 ^m	
	INCANDS					120 ^m	
		20					
		21					
		22					
		23					
		24					
		25					
		26					
		27					
		28					
		29					
		30					
		31					
		32					

End of Dec-Jan Run

Intensified Reticon TO CAM 1/23

Spectrograph ECHELLE Log Sheet RAW RET

Grating 3002 Observer RPS & JZ

Telescope 61" Wyeth Date 1/23-24/1988 Disk ORO 1954

Change.... File ID RA 1950.0 Dec L/R Exposure Comments Start JAN-FEB RUN

Change....	File	ID	RA	1950.0	Dec	L/R	Exposure	Comments
		1	Th-Ar			↓	60s	5187A -prty cdy-
		2	SKY-EVE	φ hrs	+30°		2m	
		3	Th-Ar			↑	60s	
		4	Th-Ar		+	↓	60s	
		5	SKY-EVE	4:30 W	+30°		2.5	
		6	Th-Ar			↑	60s	
		7	Th-Ar			↓	60s	
		8	H8779	01:23:54	-00:39:29		4.5m	6.5 IAU standard
		9	Th-Ar			↑↑	60s	
		10	Th-Ar			↓	60s	
		11	G37-10	02:49:54	35:26:06		6m	8.4/5φ HALφ
		12	Th-Ar			↑	60s	
		13	Th-Ar			↓	60s	
		14	G154A	00:03:05	45:32:06		9m	8.9 M STARS & SPACE
		15	Th-Ar			↓	60s	
		16	G154B	00:03:05	45:32:00		9m	7.0 M STARS & SPACE
		17	Th-Ar			↑	60s	
		18	Th-Ar			↓	60s	
		19	G2514	00:14:28	40:40:18		5m	9.0 " "
		20	Th-Ar			↑	60s	
		21	Th-Ar			↓	60s	
		22	S036250	00:15:41	44:16:31		3m	7.6 M STARS
		23	Th-Ar			↑	60s	
		24	Th-Ar			↓	60s	
		25	GLS15B	00:15:41	43:44:37		20m	11.0 M STARS, SPACE & NEARBY
		26	Th-Ar			↓	60s	
		27	GLS15A	00:15:40	43:44:37			8.1 M STARS, SPACE & NEARBY
		28	Th-Ar			↑	60s	
		29	Th-Ar			↓	60s	
		30	DL CAS	00:27:11	59:56:12		3m	
		31	Th-Ar			↑	60s	
		32						

Spectrograph ECHELLE Intensified Reticon
 Grating 300l Log Sheet
 Telescope 61" WYETH Date 1/23-24/1988

TO CAM 1/24/89

RAW/RET

Observer RPS-JMZ
 Disk 020 1956

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		Th-Ar			↓	60s	
	G88-5		07:03:12	18:42:54		4.75m	10.21 HALOS
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	G87-20		06:59:40	38:13:12		2.15m	9.45 HALOS
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	G111-33		07:45:13	46:44:12	↓	3m	10.6 HALOS
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	G40-5		08:01:46	15:20:36		1.5m	8.48 HALOS
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	G9-36		9:55:31	24:40:12		14m	11.95 HALOS
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	G9-42		08:57:54	21:39:12		2m	8.8 HALO
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	11
	G1447		11:45:09	01:06:00		16m	11.1 Kenyon/nearby
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	H114762		13:09:55	17:46:55		2m	7.3 IAU STND
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	G59-25		12:32:29	23:25:30		2m	8.75 Halos
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	G195-30		9:26:52	57:22:24		1.75m	9.8 Halos
		Th-Ar			↑	60s	

Intensified Reticon

TO CAM 1/24/88

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 300L

Observer JC & JZ

Telescope 61" WYCTH

Date 1/23-24/1988

Disk 1957 020

Change....	File	ID	1950.0 RA	Dec	L/R +/-	Exposure	Comments
		Th-Ar			↓	60s	51878 CLEAR
	G62-23	13:13:08	9:16:54			2m	8.45 HALO
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G62-30	13:17:25	7:07:18			2m	9.78 HALO
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G11-44	12:08:22	00:41:00			20m	11.13 HALO
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G13-38	12:24:26	1:50:54			15m	10:48 HALO
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	G165-22	13:35:51	39:26:00			2m	8.9 HALO
	Th-Ar				↑	60s	
	Th-Ar	12:56:49	9:30:42		↓	60s	
	+102495	12:56:49	9:30:42			3.25m	9.7 HALO
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	SKY-DOWN	4 ^h E	+20°			2m	1.6 SKY
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	SKY-DOWN	0 ^h	+20°			2m	1.6 SKY
	Th-Ar				↑	60s	
	INCANS					120m	
	INCANDS					120m	
1/24-25/1988	Th-Ar				↓	60s	51878
	SKY-EVEN	Meridian	+20°			2m	#16 SKY
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	SKY-EVEN	1/2 West	+20°			2m	#16 SKY
	Th-Ar				↑	60s	

1/24

Spectrograph ECHELLE Intensified Reticon TO CAM
 Grating 300L Log Sheet RAW/RET
 Telescope 61" Wynth Date JAN 24/25 1988 Observer JRC
 Disk ORO 1959

Change....	File	ID	1950.0 RA	Dec	L/R +/-	Exposure	Comments
		Th-Ar			↓	60s	
	55455	3:23:53	34:15:18			2m	HALOS 6.74/50
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	68-40	4:29:29	26:21:36			10m	HALOFIN 10.70/15
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	684-39	5:10:06	4:15:48			10m	HALOFIN 10.58/15
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	6103-48	6:36:55	30:04:54			15m	HALOFIN 10.87/30
		Th-Ar			↓	60s	
	6103-48	6:36:55	30:04:54			15m	" " "
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	687-20	6:59:40	38:13:12			6m	HALOFIN 9.45/15
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	688-11	7:07:39	20:31:36			7m	HALOFIN 9.07/15
		Th-Ar			↑	60s	(clouded out 22% to ...)
		Th-Ar			↓	60s	
	T Mon	06:22:31	07:06:53			45m	6.6 Cepheids
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	690-25	07:50:22	30:45:40			16m	8.3/50 HALOS
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	6111-38	07:46:05	41:35:54			12m	9.5/15 HALOS
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	Alph Ori	05:52:28	07:23:58			7.5m	0.8/1000 6562 Å H-α Profiles 1.0 ND
		Th-Ar			↑	60s	

Intensified Reticon

TO CAM 1/26/88

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 300R

Observer RDS

Telescope 61" Wyeth

Date 1/24-25/1988

Disk ORO 196φ

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		Th-Ar			↓	60s	5187A
	(4)		08:12:31	23:45:28		3m	7.2 Asteroid
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	H81797		09:25:08	-08:26:28		3m	2.0 IAU standard
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	G6411		11:00:39	36:18:18		13m	7.5 NEARBY + Spoo Motion
		Th-Ar			↑	60s	-clouds-
		Th-Ar			↓	60s	
	G43-44		10:19:30	11:34:00		7.5m	7.8/15 HALOS
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	G54-21		10:14:08	26:06:54		6/4 m	7.4/15 "
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	G195-30		09:26:52	52:22:24		20m	9.8/15 "
		Th-Ar			↑	60s	
		Th-Ar			↓	60s	
	G14-5		12:47:12	01:28:18		20m	8.1/15 HALO E Moving Group
		Th-Ar			↕	60s	(Matthew)
	G14-5	"	"	"		3.5m	"
		Th-Ar			↑	60s	
	INCAND					120"	
	INCAND					120"	
	INCAND					30"	
1-26/27-1988		Th-Ar			↓	60s	λ 5187A
	SKYVIEW	Meridian	+20°			2m	cloudy - sky white w/ haze
	Th-Ar				↑	60s	
	Th-Ar				↓	60s	
	SKYVIEW	plus West	+20°			3m	
	Th-Ar				↑	60s	

Intensified Reticon

TO CAM 1/27/88

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 300 L

Observer JRC

Telescope 61" Wyeth

Date 1-26/27-1988

Disk OR O 1961

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60s	
		2	H89449	10:17:01	19:43:31	↓	3m 4.8 IAU standard
		3	thAr		↑	60s	
		4	thAr		↓	60s	
		5	H106516	12:12:36	10:01:14	↓	2m HALOS 6.11/20
		6	thAr		↑	60s	
		7	thAr		↓	60s	
		8	G61-24	12:55:04	18:57:48	↓	15m HALOS 8.9/100
		9	thAr		↑	60s	
		10	thAr		↓	60s	
		11	G58-23	10:47:12	20:45:30	↓	5m HALOFIN 9.96/15
		12	thAr		↑	60s	
		13	thAr		↓	60s	
		14	G45-9	10:48:59	9:21:36	↓	12m HALOFIN 10.13/15
		15	thAr		↑	60s	
		16	thAr		↓	60s	
		17	G61-30	13:04:06	11:18:48	↓	3m HALOFIN 8.52/15
		18	thAr		↑	60s	
		19	thAr		↓	60s	
		20	G65-16	13:53:22	12:41:18	↓	2m HALOFIN 8.56/15
		21	thAr		↑	60s	
		22	thAr		↓	60s	
		23	H102495	12:56:49	9:30:42	↓	10m HALOS 9.72/30
		24	thAr		↑	60s	
		25	thAr		↓	60s	
		26	G60-26	12:37:28	12:55:12	↓	7m HALOFIN 9.82/20
		27	thAr		↑	60s	
		28	thAr		↓	60s	
		29	H222411	11:48:59	22:23:36	↓	14m HALOS 9.3/30
		30	thAr		↑	60s	
		31					
		32					

1/27

Intensified Reticon

TO CAM

Spectrograph ECHELLE

Log Sheet

RAW RET

Grating 300

Observer _____

Telescope 61" WYETH

Date 1/27-28/88

Disk ORO 1964

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60s	5187.8 clear
	G173-2		21:27:49	52:29:18			10.05/15 HALOS
		3			↑	60s	
		4			↓	60s	
	G133-57		21:54:31	41:38:13		4M	9.01/15 HATO
		6			↑	60s	
		7			↓	60s	
	G102-20		5:37:21	12:09:12		7M	10.22/15 HALOS
		9			↑	60s	
		10			↓	60s	
	G175-39		4:31:59	55:18:22		4.2 M	8.33/20 HALOS
		12			↑	60s	
		13			↓	60s	
	G175-15		4:03:08	54:03:12		5M	9.9/15 HALO
		15			↑	60s	
		16			↓	60s	
	G8-40		4:29:29	26:21:34		11.0M	10.7/15 HALO
		18			↑	60s	
		19			↓	60s	
	G83-34		4:45:46	18:37:36		2.0M	9.69/15 HALO
		21			↑	60s	
		22			↓	60s	
	G81-15		4:17:22	45:42:18		6M	9.93/15 HALO
		24			↑	60s	
		25			↓	60s	
	(20)		4:07:38	20:00:35		8M	10.63 ASTEROIDS
		27			↑	60s	
		28			↓	60s	
	H26162		4:06:14	19:28:48		2M	5.5 IAU STANDARD
		30				60s	
		31					
		32					

1/27

Intensified Reticon

TO CAM

Spectrograph ECHELLE

Log Sheet

RAW RET

Grating 300l

Observer JMZ & RPS

Telescope 61" WYETH

Date 1/27-28/1988

Disk 01965

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60s	5187.8 V. clear
		2	G103-48	6:36:55	30:04:54		10.87/ HALO
		3			↑	60s	
		4			↓	60s	
		5	G87-20	6:59:40	38:13:12		5m 9.45/15 HALO
		6			↑	60s	
		7			↓	60s	
		8	G107-50	7:06:21	42:44:18		18m 12.0/15 HALO
		9			↑	60s	
		10			↓	60s	
		11	G111-33	7:45:13	46:44:12		5.0m 10.0/15 HALO
		12			↑	60s	
		13			↓	60s	
		14	G111-38	7:46:05	41:35:54		2m 9.5/15 HALO
		15			↑	60s	
		16			↓	60s	
		17	G90-3	7:26:37	32:58:30		6m 10.43/15 HALO
		18			↑	60s	
		19			↓	60s	
		20	G88-5	7:03:12	18:42:54		10m 10.21/20 HALOS
		21			↑	60s	
		22			↓	60s	
		23	G88-11	7:07:39	20:31:36		2.5m 9.09/15 HALO
		24			↑	60s	
		25			↓	60s	
		26	G90-25	7:50:22	30:45:40		3.0m 8.28/50 HALOS
		27			↑	60s	
		28			↓	60s	
		29	G40-5	8:01:46	15:30:36		2m 8.4E/15 HALO
		30			↑	60s	
		31	/				/
		32	/				/

Intensified Reticon

TO CAM 1/28/88

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 300 λ

Observer JM? RPS

Telescope 61" WYETH

Date 1/27-28/1988

Disk ORO 1966

Change....	File	ID	RA	1950.0 Dec	L/R ↑/↓	Exposure	Comments
		1	ThAr		↓	60s	5187 \AA v.c. clear T=15° F
		2	G9-36	8:55:03	24:40:12	↓	20 min 11.95/15 HALO
		3	ThAr		↕	60s	CAREFUL 20% SKY!
		4	G9-36	8:55:03	24:40:12	↓	10 M 11.95/15 HALO
		5	ThAr		↑	60s	
		6	ThAr		↓	60s	
		7	TXC Ven	12:42:18	37:02:15	↓	20 min ^{15 min} 9.00 Symbiotics/Kenyon
		8	ThAr		↑	60s	
		9	ThAr		↓	60s	
		10	GLS26	13:43:12	15:09:42	↓	5.5m 8.5 Newby/Kenyon
		11	ThAr		↑	60s	
		12	ThAr		↓	60s	
		13	G195-30	9:26:52	52:27:24	↓	3.75m 9.8/15 HALO
		14	ThAr		↑	60s	
		15	ThAr		↓	60s	
		16	G136-78	15:10:29	19:28:30	↓	2 M 8.9/15 HALO
		17	ThAr		↕	60s	
		18	G136-77	15:10:28	19:28:18	↓	2 M 8.2/15 HALO
		19	ThAr		↑	60s	
		20	ThAr		↓	60s	
		21	H136202	15:16:45	1:57:12	↓	2 M 5.1 JAU STANDARD
		22	ThAr		↑	60s	
		23	ThAr		↓	60s	
		24	SKYDUNE	4 ^h 20 ^m E	+30°	↓	2 M
		25	ThAr		↑	60s	
		26	SKYDUNE	+	+30°	↓	60s
		27	SKYDUNE	0 ^h	+36°	↓	2 M
		28	ThAr		↑	60s	
		29	INCANS		↕		
		30	INCANS		↕		
		31			↕		
		32			↕		

Intensified Reticon

TO CAM

Spectrograph ECHELLE

Log Sheet

RAW RET

Grating 3002

Observer JRC & JMZ

Telescope 61" Wynth

Date 1/26-29/88

Disk 020 1967

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60s	
		2	SKMEVEM	Meridiam	+30°	2m	16 SKM SIG 7A PTLY CLDY
		3	ThAr		↑	60s	
		4	ThAr		↓	60s	
		5	SKMEVEM	45° West	+30°	2m	16 SKM
		6	ThAr		↑	60s	
		7	ThAr		↓	60s	
		8	H26162	4:6:14	11:29:43	2m	104 510 +17 1.0ND 5.5
		9	ThAr		↑	60s	
		10	ThAr		↓	60s	
		11	G130-29	23:56:16	33:27:54	2m	7.82/15 HALOFIN
		12	ThAr		↑	60s	
		13	ThAr		↓	60s	
		14	G6-26	3:36:43	18:13:36	2m	9.0/15 HALOFIN
		15	ThAr		↑	60s	
		16	ThAr		↓	60s	
		17	G6-20	3:34:10	25:49:48	2m	9.1/100 HALOFIN
		18	ThAr		↑	60s	
		19	ThAr		↓	60s	
		20	G33-30	00:58:27	16:06:18	8m	10.65/30 HALOFIN
		21	ThAr		↑	60s	
		22	ThAr		↓	60s	
		23	G76-21	02:38:32	09:33:24	8m	10.18/30 HALOFIN
		24	ThAr		↑	60s	
		25	ThAr		↓	60s	
		26	G5-40	3:24:46	20:52:24	5m	10.79/15 HALOFIN
		27	ThAr		↑	60s	
		28	ThAr		↓	60s	
		29	G5-19	03:08:42	12:26:18	10m	11.13/15 HALOFIN
		30	ThAr		↑	60s	
		31	/			/	
		32	/			/	

Spectrograph ECHELLE
 Grating 300P
 Telescope 61" WYETH

Intensified Reticon
 Log Sheet

TO CAM 1/28
 RAW RET
 Observer JRC & JME

Date 1/28-29/1988 Disk ORO 1968

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60s	2 5187A PTLY CLOUDY
	G5-36	2	3:24:02	23:36:20		5m	10.81/15 HALOFIN
	ThAr	3			↑	60s	
	ThAr	4			↓	60s	
	G77-56	5	3:28:26	3:12:29		55m	HALOFIN 10.45/15
	ThAr	6			↑	60s	
	ThAr	7			↓	60s	
	G6-13	8	3:26:47	2:38:00		10m	HALOFIN 11.47/15
	ThAr	9			↑	60s	
	ThAr	10			↓	60s	
	G79-42	11	3:26:54	10:23:48		8m	HALOFIN 10.76/20
	ThAr	12			↑	60s	
	ThAr	13			↓	60s	
	G38-13	14	3:42:21	28:53:48		9m	HALOFIN 11.49/15
	ThAr	15			↑	60s	
	ThAr	16			↓	60s	X 6562.A
	2 ORI	17	3:52:28	7:23:58		6m	SALLY
	ThAr	18			↑	60	
	ThAr	19			↓	60s	2 5187A
	G103-48	20	6:36:55	30:04:54		14 m	10.87/30 Halofin
	ThAr	21			↑	60s	
	ThAr	22			↓	60s	
	G84-39	23	5:10:06	4:15:48		12m	10.85/15 Halofin
	ThAr	24			↑	60s	
	ThAr	25			↓	60s	10.74
	G88-27	26	7:24:07	19:12:12		15m	10.74/30 Halofin
	ThAr	27			↑	60s	
	ThAr	28			↓	60s	
	G87-20	29	6:59:40	38:13:12		4M	9.45/15 Halofin
	ThAr	30			↑	60s	
	/	31				/	
	/	32				/	

1/28

Intensified Reticon TO CAM

Spectrograph ECHELLE Log Sheet RAW/RET

Grating 300f Observer JRC & JME

Telescope 61" WYETH Date 1/28-29/88 Disk 0120 1969

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1			↓	60s	5187. Å
		2	(29) 7:24:46	30:13:44		6m	17 Asteroids
		3			↑	60s	
		4			↓	60s	
		5	G103-53 6:40:41	25:34:48		10m	10.19/15 HALOFIN
		6			↑	60s	
		7			↓	60s	
		8	G106-46 6:22:34	00:40:48		6.5m	9.09/15 HALOFIN
		9			↑	60s	
		10			↓	60s	
		11	G108-29 6:45:57	7:41:00		2m	8.8/15 HALOFIN
		12			↑	60s	
		13			↓	60s	
		14	G108-53 7:02:29	1:28:30		4m	9.5/15 HALOFIN
		15			↑	60s	
		16			↓	60s	
		17	G43-3 9:46:12	13:59:18		3m	HALOFIN 9.31/15
		18			↑	60s	
		19			↓	60s	
		20	G249-37 6:01:35	63:50:36		3.5	HALOFIN 9.2/15
		21			↑	60s	
		22			↓	60s	
		23	HD80649 9:18:46	28:42:47		3m	7.89/100 F-STARS
		24			↑	60s	
		25			↓	60s	
		26	HD80971 9:20:09	-17:40:43		5m	6.96/150 F-STARS
		27			↑	60s	
		28			↓	60s	
		29	HD81409 9:22:39	-17:00:17		10m	7.3/300 F-STAR
		30			↑	60s	
		31					
		32					

Intensified Reticon

TO CAM 1/24/88

Spectrograph ECHELLE

Log Sheet

RAW/RET

Grating 3002

Observer JRC & JMZ

Telescope 61" Wyeth

Date JAN 28/29 1988

Disk OR8 1970

Change....	File	ID	1950.0 RA	Dec	L/R ↑/↓	Exposure	Comments
		1	ThA		↓	60s	S187A DTLy cldy
		2	HD82272	9:22:13	-20:45:30	6m	8.0/AC F-STAR
		3	ThA		↑	60s	
		4	ThA		↓	60s	
		5	G46-31	9:14:28	3:14:12	11m	HALOFIN 10.85/15
		6	ThA		↑	60s	
		7	ThA		↓	60s	
		8	G53-30	10:09:56	-0:23:12	6m	HALOS 10.25/15
		9	ThA		↑	60s	
		10	ThA		↓	60s	
		11	G24-7	7:37:34	60:4:06	6.5m	HALOS 9.7/15
		12	ThA		↑	60s	
		13	ThA		↓	60s	
		14	G44-45	10:50:48	10:00:24	7m	HALOS 10.16/20
		15	ThA		↑	60s	
		16	ThA		↓	60s	
		17	G59-5	12:10:56	23:32:36	3m	HALOS 9.42/15
		18	ThA		↑	60s	
		19	ThA		↓	60s	
		20	G63-27	13:22:10	16:07:00	13m	HALOS 11.09/20
		21	ThA		↑	60s	
		22	ThA		↓	60s	
		23	H82757	11:34:07	18:24:24	8m	HALOS 9.84/20
		24	ThA		↑	60s	
		25	ThA		↓	60s	
		26	G60-46	12:52:33	08:04:12	15m	HALOFIN 11.68/15
		27	ThA		↑	60s	
		28	ThA		↓	60s	
		29	G62-45	13:30:08	8:08:6	8m	HALOFIN 11.5/15
		30	ThA		↑	60s	
		31					
		32					

1/29

Spectrograph ECHELLE Intensified Reticon TO CAM
 Grating 300X Log Sheet RAW RET
 Telescope 61" Wyeth Date 1/25/79-88 Observer JRL & JML
 Disk 020 1971

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

Change....	File	ID	RA	Dec	L/R	Exposure	Comments
		thAr			↓	60s	
	G02-52	13:33:29	01:27:42			8m	HALOFIN 10.59/15
	thAr				↑	60s	
	thAr				↓	60s	
	S10360	15:05:06	17:38:30			9m	HALOS 9.2/50
	thAr				↑	60s	
	thAr				↓	60s	
	H135148	15:10:55	12:38:36			2m	HALOS 9.49/15
	thAr				↑	60s	
	thAr				↓	60s	
	H146051	16:11:43	-3:34:01			2m	FAV STD 1.0 MD 2.7
	thAr				↑	60s	
	thAr				↓	60s	
	SKYDOME	4th East	+30°			2m	SKY 16
	thAr				↑	60s	
	thAr				↓	60s	
	SKYDOME	Meridian	+30°			2m	SKY 16
	thAr				↑	60s	
	INCANS					120	
	INCANDS					120m	
	INCANDS					120m	
JAN 29-30 1988	thAr				↓	60s	5187Å
	SKYVIEW	Meridian	+30°			2m	16 SKY Cam
	thAr				↑	60s	
	thAr				↓	60s	
	SKYVIEW	4th West	+30°			2m	16 SKY
	thAr				↑	60s	
	Th-Ar				↓	60s	
	H8779	01:25:54	-00:39:29			2.5m	6.4 IAU standard
	Th-Ar				↑	60s	
	/						
	/						

2/4/88

Spectrograph ECHELLE Intensified Reticon TO CAM
 Grating 300f Log Sheet RAWRET
 Telescope 6" WYETH Date 1/21^{2/1}/88 Observer JAL
 Disk 0120 1973

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

Change....	File	ID	RA	Dec	1950.0	L/R	Exposure	Comments
		1	Th-Ar			↓	60s	cloudy
		2	H87449	10:17:01	19:43:31		5m	4.8 IAU standard (stop 50)
		3	Th-Ar			↑	60s	
		4	th-Ar			↓	60s	2 S187A
		5	SKYEVEW	Meridian	+20°		2m	16 SKY Very cloudy
		6	thAr			↑	60s	
		7	thAr			↓	60s	
		8	SKYEVEW	thrs West	+20°		2m	16 SKY
		9	thAr			↑	60s	
		10	thAr			↓	60s	
		11	H26162	7:06:14	19:28:43		4m	IAU STD 17 (through clds) 5.5
		12	thAr			↑	60s	
		13	thAr			↓	60s	
		14	11886	1:54:42	31:31:36		7m	FSTARS 8.47/100
		15	thAr			↑	60s	
		16	thAr			↓	60s	
		17	19666	3:07:40	5:48:00		5m	FSTARS 7.9/100
		18	thAr			↑	60s	
		19	thAr			↓	60s	
		20	18508	2:56:19	4:47:25		10m	FSTARS 8.0/145
		21	thAr			↑	60s	
		22	thAr			↓	60s	clouded out seeing 7" with 25
		23	SKYEVEW	Meridian	+20°		2m	16 SKY Cloudy 2 S187A
		24	thAr			↑	60s	
		25	thAr			↓	60s	
		26	SKYEVEW	thrs West	+20°		4m	16 SKY
		27	thAr			↑	60s	
		28	thAr			↓	60s	PTLY cldy
		29	H66141	7:59:39	2:28:23		2m	17 IAU STD
		30	thAr			↑	60s	
		31	/				/	
		32	/				/	

Janst-Feb 1, 1985

Feb 1/2 - 1986

Feb 4/5 - 1988

3 Feb. 1988 Echelle off - Thru Box Testing