

IUE  **esa**



NEWSLETTER

NO. 1

JANUARY 1979

Hello ... (and Goodbye)

I am very pleased to write a few words to introduce this first issue of the IUE ESA Newsletter. IUE has come a long way since I was first involved in the project in 1969. At that time the name IUE was not yet conceived and we were planning for something called UVAS. Now of course we have an established and successful observatory with the satellite working well and the ground station at Villafranca and its staff being in a position to give visiting observers the support they need to direct the activities of IUE for their own programmes.

I am sad, of course, to leave the IUE project but believe that by devoting my energies fully to Space Telescope I can serve the European ultraviolet astronomy community best. Meanwhile I leave IUE in the good hands of the new Observatory Controller Michael Penston and all the Resident Astronomers and other staff at VILSPA.

F. Macchetto

ESA IUE Newsletter

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Observatory Controller's Message

As I take over the post of Observatory Controller at VILSPA there are of course many matters that come to my attention. One which most concerns me and one which I am sure will interest you is the operation of the ESA Data Bank for IUE. Under the terms of the Memoranda of Understanding with NASA and SRC, data become available six months after they were sent to the original observers. The ESA Data Bank should, in principle, supply data to astronomers outside the United States and United Kingdom regardless of which agency originally acquired the data. Unhappily at the present time we have yet to receive any data from NASA and until that time we cannot of course distribute that data. Moreover we have not received a copy of the NASA log with the targets sorted in order of right ascension.

Nonetheless we are able to send you with this Newsletter a copy of the VILSPA log (both ESA and SRC images) up to the end of December sorted by right ascension (App. 1). We also include a list of the VILSPA images which have been released up to January 1st at the expiry of their six month period (App. 2).

If you wish to request data from us you should do so by image number and we shall send you a tape containing the raw image and processed spectrum plus some intermediate data files. I regret we shall be unable to supply photowrite prints or plots - our facilities simply do not permit this. Like everything else at VILSPA your request must be made on the proper form. If you wish to have any IUE data please write to me asking for a "Tape Archive Retrieval" form and fill it in as in the enclosed example (App. 3) complete except, of course, for my signature.

Michael Penston

Here we are:

The Observatory Astronomers



from left to right: A. Heck, P. Benvenuti, J. Clavel,
F. Beeckmans, M.V. Penston, A. Cassatella, P.L. Selvelli,
D.J. Stickland.

MICHAEL V. PENSTON (35)

Our new Observatory Controller comes from the Anglo-Australian Observatory, Epping, New South Wales, on special leave without pay from the Royal Greenwich Observatory, Herstmonceux. His scientific interests cover extragalactic astronomy, star formation, astronomical spectroscopy.

PIERO BENVENUTI (32)

The recently promoted Deputy Observatory Controller is working at Vilsa on leave of absence from the Astrophysical Observatory of Asiago, University of Padova. Before joining the IUE brigade, he was working on HII regions, peculiar galaxies and comets. He had also an interest in space optics and studied a UV telescope for Spacelab missions.

DAVID J. STICKLAND (32)

Before coming to Vilspa, the UK Resident Astronomer was at the Royal Greenwich Observatory where he worked on stellar abundances specially in Am stars, photometry of A stars and radial velocities of a variety of objects.

At Vilspa, he is the nursemaid to the IUE cameras and is employed by their "parents" the British Science Research Council (SRC).

FRANCOISE BEECKMANS (over 18)

She joined the group most recently (February 1978), coming from the Institut d'Astrophysique de Paris where she held an external ESA fellowship. In the past years, she worked on TD-1 data (S2/68 sky survey), being mainly interested in Be and shell stars.

Based at ESTEC, she acts from time to time as relief R.A. at Vilspa.

ANGELO CASSATELLA (34)

Our beloved Angelo is on leave of absence from the Laboratorio di Astrofisica Spaziale of Frascati. He already spent about two years with an ESA fellowship at the Observatoire de Meudon before joining the ultraviolet brigade at Vilspa.
Main scientific interests: cool stars and emission-line objects.

JEAN CLAVEL (27)

The Benjamin of the team comes from the Observatoire de Meudon and is mainly concerned with extragalactic astronomy, molecular clouds and star formation.

He has spent most of his time following up the Image Processing Software. Thanks to his fine work, the echelle ripple on high dispersion spectra is now better corrected.

ANDRE HECK (32)

Previously at the Institut d'Astrophysique de l'Université de Liège, he was working in stellar statistics (luminosity calibrations) and statistical data analysis. He was also frequent visitor to ESO's Chilean Observatory to do photometry and to Haute Provence Observatory as Schmidt Observer. He particularly enjoys astronomical popularization.

PIERLUIGI SELVELLI (36)

On leave of absence from the Astronomical Observatory of Trieste, Pierluigi was interested in the atmospheric structure and chemical composition of Ap and Am stars, as well as in velocity fields of early-type supergiants as deduced from visible and Copernicus spectra. Now he is working on Novae and various emission-line objects.

Responsibilities relevant for users are presently distributed between Resident Astronomers as follows (update Dec. 1st, 1978):

Michael Penston	- Administration User's Guide Image Processing (IUESIPS improvements) Data Bank Seminars
Piero Benvenuti	- Scheduling Software Image Processing (EDS 2) Operations
Dave Stickland	- Camera Operations Monthly Log
Angelo Cassatella	- Library Image Processing (testing methods) Polaroid Camera
Jean Clavel	- Image Processing (IUESIPS operations) incl. Wavelength Calibration
André Heck	- Newsletter Catalogues, Atlases incl. Microfiches Documentation including CDS Links
Pierluigi Selvelli	- Scheduling of Observers Photometric Calibration

Users with specific problems are welcome to get in touch directly with the responsible person. We plan also to answer in subsequent issues of the Newsletter common or specially interesting questions from our Visiting Astronomers.

Latest Improvements in Real-Time Operations

The Users who have already had a chance to come and observe twice at VILSPA are delighted to see how the operations have speeded up since their first visit. Without ignoring the fine work of Spacecraft Controllers, Telescope Operators and, why not, Resident Astronomers, this improvement is mainly due to new and better versions of the OCC S/W (Operation Control Centre Software).

The OCC Version 6.0 was installed in mid August and contained a very useful procedure called READPREP. This procedure interlaces the reading and the preparation of a camera and while previously the two sequential operations were taking about 37 minutes (12 + 25), the combined procedure takes now only 25 minutes. Moreover, after ~15 minutes from the beginning of the proc, you have got your image on the screen and you can spend the remaining 10 minutes analyzing the spectrum and taking a decision on what to do next.

Two more new procedures were implemented in the OCC Version 7.0 (installed at the beginning of November). One is called PROC OFF and avoids the full listing of the running procedure on the computer console. Only the important steps are output and one can really feel the time saved. The second procedure concerns the update of the spacecraft roll angle that is usually done before starting a new manoeuvre: without entering into technical details the new proc avoids or reduces to a minimum possible errors in this area.

Most of the other small improvements are not as transparent as those above when looking at the computer consoles, but at the end of the shift you might realize that, through a few minutes here and a few minutes there, you have gained one or two images more.

The next version of the OCC is expected in mid-January and there will also be several deliveries in 1979. We will present the new improvements from these pages.

Piero Benvenuti

Library

Coming to Vilspa, Visiting Astronomers may not expect to find a big library. It has however improved a lot during the past few months and the main astrophysical journals are available as well as the most important - new and classical - books covering our fields of interest.

However the present status of the library does not yet fully meet our needs.

We would specially welcome here reports or publication series from as many observatories as possible. We would also appreciate receiving double or spare copies of books or publications you might have in your collection.

Thanks in advance!

Angelo Cassatella

Help Us

When arriving at Vilspa, it is advisable that users of blind offset procedures (for stars fainter than B_v11) have already calculated the exact angular distance between the target and two offset stars (better than a single offset star!), in addition to their precise positions. The formula is quite simple:

$$\rho = (\Delta\alpha^2 \cos^2 \delta_t + \Delta\delta^2)^{1/2}$$

where $\Delta\alpha = |\alpha_t - \alpha_o|$

$\Delta\delta = |\delta_t - \delta_o|$

(t = target, o = offset star). All angles should be expressed in arcsec.

The same should apply to components of double stars, where the knowledge of the position angle is also useful. Users are reminded that for double stars with a separation smaller than about 25", difficulty has been experienced. A blind offset may be necessary and observation in the small aperture is not recommended.

Image Processing: status of work

As you know (see Memo MP/al-065, "IUE data and its known inadequacies", from M.V. Penston, 9 October 1978), the IUE image processing system (IPS) contains a certain number of weak points or errors.

At the 3-agency meeting held on 18 September 1978 at GSFC, actions were put on NASA, SRC and ESA in order to solve these remaining problems.

NASA undertook to investigate the most severe problem, i.e. high dispersion background extraction and interorder overlap; two methods have been proposed, one utilising order and interorder spectrum, and the other which is based on subtraction of the non-signal induced background followed by a two dimensional deconvolution using the in-order signal. Among other important items, NASA is also in charge of testing and implementing a low dispersion extracting slit having weighted pixels to correct for non perpendicularity to the spectrum and to improve the resolution. It will also use pixels outside the large aperture to measure camera background.

NASA will also test the effect on resolution when data extraction is done without former geometric correction. A proper way to remove geocoronal Lyman alpha is also under study at GSFC, with an expected maximal error of $\pm 5\%$ of signal.

SRC undertook to study the feasibility of applying the photometric calibration before the geometric correction: the way it is done now ("geometry" before "photometry") is known to introduce a serious photometric error, the high level signals (in the non-linear part of the intensity transfer function) being systematically underestimated.

SRC will also study in orbit geometric stability of the cameras and the effect of beam pulling. Currently the distortion can be as high as 4 pixels, the goal being to bring the limit down to 0.5 pixel if geometric correction is done first and 1 pixel when photometric calibration is applied first.

ESA undertook to improve the echelle blaze correction ("Ripple"). The aim is to find the optimal way of fitting the variation of sensitivity of the spectrographs along each order, for both the short and the long wavelength spectrographs and for both apertures. The blaze efficiency is

known to behave differently for each order; but the problem is even more tricky since blaze efficiency correction depends critically on the quality of the background subtraction . Consequently, until good interorder estimation is available, "ripple" correction tests can only be run on the long wavelength end of each camera format where the background errors are negligible. ESA is also in charge of providing NASA with a program developed at VILSPA that allows one to fit the low dispersion background spectra with a polynomial, in order to remove the effect of spikes.

Different actions have also been undertaken mainly by NASA in order to speed up the rate of processing. In this respect, the situation is much better in VILSPA than in GSFC: apart from a short period in early September when a serious image processing backlog developed caused by a speed up in real time software, processed output package is now generally delivered to VILSPA guest observers the day after their observation. By contrast GSFC has a quasi permanent backlog situation which has been as high as 400 images.

We welcome any suggestions or reports from visitors of successful experiments to improve the image processing system. We are also interested to have information about other image processing systems where the data reduction tasks are similar to those performed on IUE spectral images, like for instance in the BUSS experiment image processing system at Utrecht.

Jean Clavel

Editor's note:

Have you yourself developed some software to process IUE images ?

Don't keep it only for yourself! Share it with your colleagues!

This Newsletter is open to publish descriptions of such software, references, contact addresses, etc.

A Note about Time Assignment

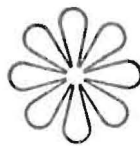
The deadline for ESA proposals for IUE time in 1979 is long past and the IUE Programme Selection Committee is deliberating which of the 171 (!) proposals it will accept. Those of you who missed the chance to apply will get another opportunity at about the end of July next year.

I have been asked to tell you what happens in the case of novae, comets, etc. For "targets of opportunity" like these the ESA and SRC Selection Committees have jointly defined a policy in which the Committees appoint members to scientific teams to perform the acquisition, analysis and publication of the data on such objects. These teams will contain both members of the VILSPA Observatory staff and astronomers from the outside community.

M.V. Penston

Stickland Optical Industries Inc. menaced by bankruptcy!

The new software released from GSFC now allows us to reverse the images from FES 2 and to display them without lateral inversion compared to the sky at the EDS screen, for comparison with non-reversed finder fields. The SRC "FES 2-FES 1 Converter" that Dave made from his shaving mirror has consequently become obsolete...



The publication of the IUE ESA Newsletter is mainly motivated by the distribution of the IUE image logs to the European astronomical community.

IUE users will receive this first issue approximately at the same time as the Users Guide. In subsequent issues, we intend to publish also in these pages updates of this Users Guide or practical information of direct interest for the users in connection with IUE operations.

We expect a publication periodicity of 3-4 months, depending mainly on the amount of material to be published.

IUE Publications

Please send us a copy of preprints/reprints of your papers based on observations by IUE. They will be listed in this item.

- Appenzeller, I., Wolf, B., 1978, The Satellite-UV Spectrum of S CrA, submitted to Astron. Astrophys.
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- Nandy, K., Morgan, D.H., 1978, IUE Observations of Large Magellanic Cloud Members: The Detection of the 2200 A Feature, Nature 276, 478.
- Perola, G.C., Tarenghi, M., 1978, Far Ultraviolet Spectrum of the M87 Jet with IUE, submitted to Nature.
- Wolf, B., Appenzeller, I., 1978, The UV Resonance Spectrum of ξ^1 Sco, submitted to Astron. Astrophys.

IUE Observatory Publications

This item lists papers(IUE linked or not) published by the Vilspa IUE Observatory Astronomers.

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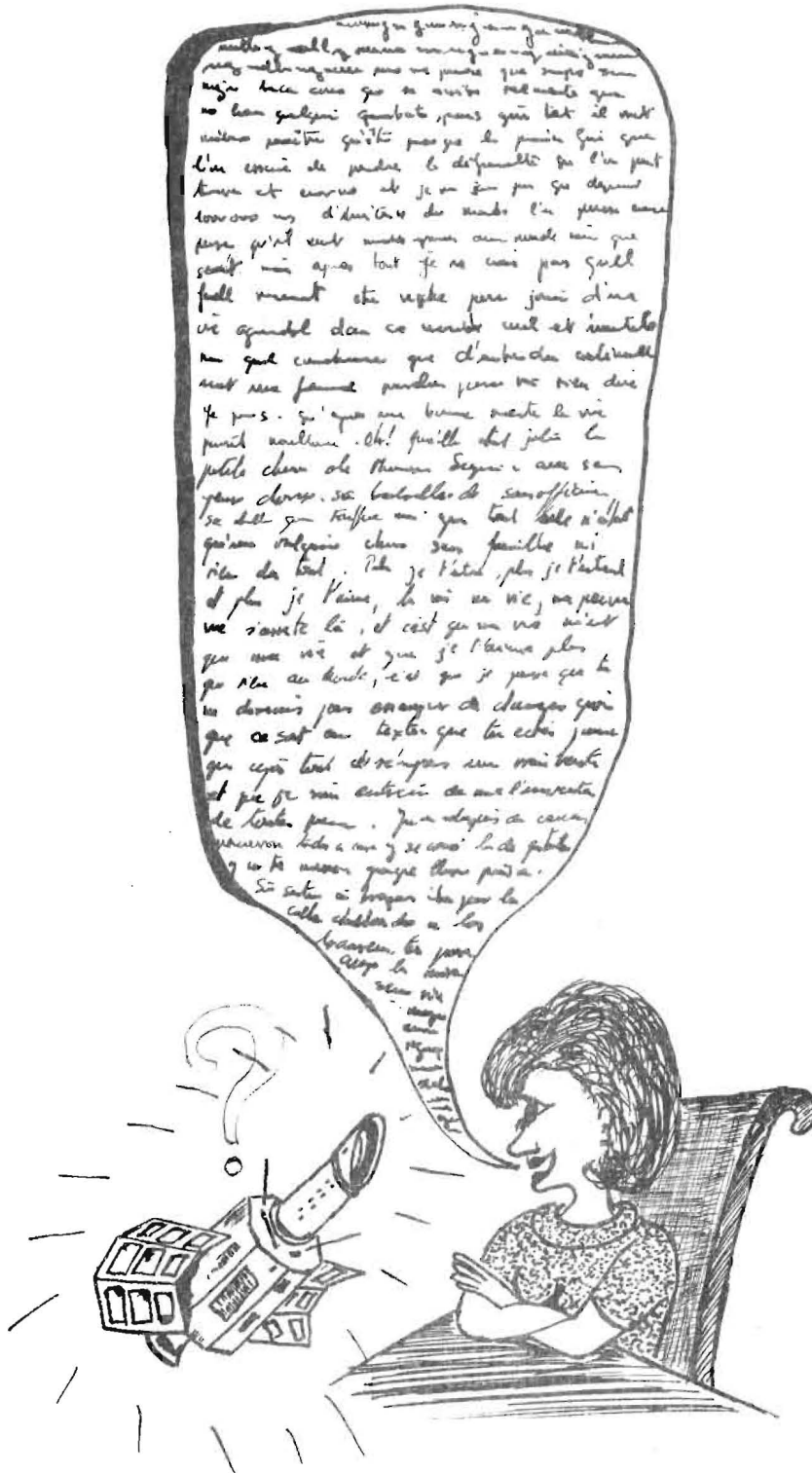
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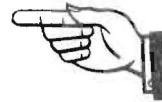
APPENDIX 1

INTERNATIONAL ULTRAVIOLET EXPLORER

LOG OF IMAGES OBTAINED

AT THE EUROPEAN OBSERVATORY

03APR78 - 31DEC78



SORTED BY STELLAR COORDINATES

* CLASSIFICATION OF OBJECTS USED IN THE JOINT ESA/SRC LOG OF IUE OBSERVATIONS

00	SUN	50	R,N OR S TYPES
01	EARTH	51	LONG PERIOD VARIABLE STARS
02	MOON	52	IRREGULAR VARIABLES
03	PLANET	53	REGULAR VARIABLES
04	PLANETARY SATELLITE	54	DWARF NOVAE
05	MINOR PLANET	55	CLASSICAL NOVAE
06	COMET	56	SUPERNOVAE
07	INTERPLANETARY MEDIUM	57	SYMBIOTIC STARS
08		58	T TAURI
09		59	X-RAY
10	W C	60	SHELL STAR
11	W N	61	ETA CARINAE
12	MAIN SEQUENCE O	62	PULSAR
13	SUPERGIANT O	63	NOVA-LIKE
14	OE	64	
15	OF	65	
16	SO O	66	
17	WD O	67	
18		68	
19		69	
20	B0-B2 V-IV	70	PLANETARY NEBULA + CENTRAL STAR
21	B3-B5 V-IV	71	PLANETARY NEBULA - CENTRAL STAR
22	B6-B9.5 V-IV	72	H II REGION
23	B0-B2 III-I	73	REFLECTION NEBULA
24	B3-B5 III-I	74	DARK CLOUD (ABSORPTION SPECTRUM)
25	B6-B9.5 III-I	75	SUPERNOVA REMNANT
26	BE	76	RING NEBULA (SHOCK IONISED)
27	BP	77	
28	SDB	78	
29	WDB	79	
30	A0-A3 V-IV	80	SPIRAL GALAXY
31	A4-A9 V-IV	81	ELLIPTICAL GALAXY
32	A0-A3 III-I	82	IRREGULAR GALAXY
33	A4-A9 III-I	83	GLOBULAR CLUSTER
34	AE	84	SEYFERT GALAXY
35	AM	85	QUASAR
36	AP	86	RADIO GALAXY
37	WDA	87	BL LACERTAE OBJECT
38		88	EMISSION LINE GALAXY (NON-SEYFERT)
39		89	
40	F0-F2	90	INTERGALACTIC MEDIUM
41	F3-F9	91	
42	FP	92	
43		93	
44	G TYPE	94	
45		95	
46	K TYPE	96	
47		97	
48	M TYPE	98	
49		99	

THE CLASSIFICATION IS SUPPLIED BY D STICKLAND FOR USE ONLY WITHIN THE PROJECT

**** EXPOSURE CLASSIFICATION CODES**

SINCE 1 AUG 78 A TWO-DIGIT CODE HAS BEEN USED TO DESCRIBE EXPOSURE LEVELS. THIS CODE OCCUPIES THE FIRST TWO CHARACTER POSITIONS OF THE COMMENT FIELD.

DIGIT 1: EXPOSURE LEVEL OF CONTINUUM
DIGIT 2: EXPOSURE LEVEL OF EMISSION LINES

THE CLASSIFICATIONS BELOW APPLY TO BOTH:

- 0: NOT APPLICABLE
- 1: NO SPECTRUM VISIBLE
- 2: FAINT SPECTRUM; MAX DN \leq 20 ABOVE BACKGROUND
- 3: UNDEREXPOSED; MAX DN \leq 100 ABOVE BACKGROUND
- 4: WEAK; MAX DN BETWEEN 100 AND 150 ABOVE BACKGROUND
- 5: GOOD; NO SATURATION BUT MAX DN OVER 150 ABOVE BACKGROUND
- 6: A BIT STRONG; A FEW PIXELS SATURATED
- 7: SATURATED FOR LESS THAN HALF THE SPECTRUM
- 8: MOSTLY SATURATED BUT SOME PARTS USABLE
- 9: COMPLETELY SATURATED

OBJECT	CL	MAG	RT	ASCN	DECLN	DISP	APERT	APERT	START	LENGTH	PROG	COMMENT (**)			
	(*)		HR	MN	SC	DEG	MN	+CAM	DATE	HR	MN	SC			
MKN 335	84	14.0	00	03	45	+19	55	L 3	1919	L 0	05JUL78	16 00 00	45 00	Q02AB	A BIT STRONG APPROX START
NGC 40	70	11.4	00	10	18	+72	14	L 2	2656	L 0	20OCT78	16 12 34	8 00	MP028	35
NGC 40	70	11.4	00	10	18	+72	14	L 3	3074	L 0	20OCT78	16 53 13	8 00	MP028	24
NGC 40	70	11.4	00	10	18	+72	14	L 3	3075	L 0	20OCT78	17 34 26	20 00	MP028	57
NGC 40	71	11.4	00	10	18	+72	14	L 3	3076	L 0	20OCT78	18 36 55	15 00	MP028	02 OFFSET BY 7 SEC
HD 886	20	2.8	00	10	42	+14	54	H 2	2262	S C	03SEP78	22 24 40	28	UK022	60
HD 886	20	2.8	00	10	42	+14	54	H 3	2469	S C	03SEP78	22 55 00	25	UK022	70 GOOD FOR SW
HD 1581	44	4.2	00	17	29	-65	11	H 2	1862	S C	20JUL78	23 39 00	31 00	BN053	WELL EXP AT LONG WL
HD 1581	44	4.2	00	17	29	-65	10	H 2	2191	B C	27AUG78	21 58 00	45 00	BN053	60
HD 1581	44	4.2	00	17	37	-65	10	H 2	2621	S C	16OCT78	14 34 31	60 00	UK020	74
HD 2151	44	2.8	00	23	09	-77	32	H 2	1863	S C	21JUL78	00 57 00	16 00	BN053	GOOD AT LONG WL
HD 2151	44	2.8	00	23	09	-77	32	H 2	2192	S C	27AUG78	23 33 00	13 00	BN053	60
HD 2151	44	2.8	00	23	09	-77	32	H 2	2610	S C	15OCT78	16 20 00	30 00	UK020	75
HD 2151	44	2.8	00	23	09	-77	32	H 2	2811	B C	03NOV78	15 49 47	15 00	FG004	77
HD 2151	44	2.8	00	23	09	-77	32	H 2	2812	S C	03NOV78	16 57 50	15 00	FG004	77
HD 2151	44	2.8	00	23	09	-77	32	H 2	2813	S C	03NOV78	17 43 25	15 00	FG004	77
HD 2151	44	2.8	00	23	09	-77	32	H 2	2833	S C	05NOV78	18 10 26	15 00	FG004	65
HD 2151	44	2.8	00	23	09	-77	32	H 2	2834	S C	05NOV78	18 56 58	15 00	FG004	65
HD 2151	44	2.8	00	23	29	-77	32	H 2	1593	S C	02JUN78	02 46 11	15 00	UKPOP	GOOD FOR MG II LINES
HD 2151	44	2.8	00	23	29	-77	32	L 3	1689	S C	02JUN78	03 24 11	20 00	UKPOP	CONT AT RED END ONLY
0026+129	85	14.8	00	26	38	+04	13	L 3	2148	L 0	30JUL78	01 40 00	120 00	UK016	A BIT WEAK MAX DN 120
HD 2905	23	4.2	00	30	08	+62	39	H 2	2313	S C	09SEP78	18 35 28	6 00	FM050	70
HD 2905	23	4.2	00	30	08	+62	39	H 3	2582	S C	09SEP78	17 53 04	10 00	FM050	60 GOOD FOR SW
HD 2905	23	4.2	00	30	08	+62	39	H 3	2583	S C	09SEP78	19 11 08	13 00	FM050	60 GOOD FOR SW
HD 2905	23	4.2	00	30	08	+62	39	H 3	2586	S C	09SEP78	21 45 30	10 00	FM050	60 GOOD FOR SW
HD 2905	23	4.2	00	30	08	+62	39	H 3	2587	S C	09SEP78	22 25 40	10 00	FM050	60
HD 2905	23	4.2	00	30	08	+62	39	H 3	2588	S C	09SEP78	23 07 14	10 00	FM050	60
HD 2905	23	4.2	00	30	08	+62	39	H 3	2589	S C	09SEP78	23 56 13	10 00	FM050	60
HD 2905	23	4.2	00	30	08	+62	39	H 3	2612	S C	10SEP78	16 42 00	6 00	FM050	50
HD 2905	23	4.2	00	30	08	+62	39	H 3	2613	S C	10SEP78	17 25 20	6 00	FM050	50
HD 2905	23	4.2	00	30	08	+62	39	H 3	2616	S C	10SEP78	19 42 05	6 00	FM050	50
HD 2905	23	4.2	00	30	08	+62	39	H 3	2617	S C	10SEP78	20 24 22	6 00	FM050	50
HD 2905	23	4.2	00	30	08	+62	39	H 3	2620	S C	10SEP78	22 29 30	6 00	FM050	50
HD 2905	23	4.2	00	30	08	+62	39	H 3	2621	S C	10SEP78	23 07 26	6 00	FM050	50
HD 2905	23	4.2	00	30	08	+62	39	H 3	2622	S C	10SEP78	23 43 30	6 00	FM050	50
HD 2905	25	4.2	00	30	10	+62	40	H 3	2943	S C	12OCT78	18 02 53	6 00	FM050	60
HD 3360	20	3.6	00	34	10	+53	37	H 2	3284	S C	26DEC78	13 27 59	35	UKCAL	50
HD 3360	20	3.6	00	34	10	+53	37	H 3	3712	S C	26DEC78	13 30 57	1 00	UKCAL	70
NGC 246	70	11.9	00	44	35	-12	09	L 2	1502	S C	16MAY78	03 09 04	6 00	UKPOP	UNDEREXP
NGC 246	70	11.9	00	44	35	-12	09	L 2	1503	S C	16MAY78	04 46 10	30 00	UKPOP	UNDEREXP
NGC 246	70	11.9	00	44	35	-12	09	L 3	1556	S C	16MAY78	04 07 39	30 00	UKPOP	VERY UNDEREXP
NGC 246	70	11.9	00	44	35	-12	09	L 3	1563	S C	17MAY78	07 23 47	4 00	UKPOP	UNDEREXP
HD 4614	44	3.4	00	46	03	+57	33	H 2	1765	S C	02JUL78	03 53 05	15 00	MR003	DOUBLE = MISSED APERTURE
HD 4614	44	3.4	00	46	03	+57	33	L 3	1902	S C	02JUL78	04 17 50	26 00	MR003	MISSED APERTURE
HD 4614	44	3.4	00	46	05	+57	33	H 2	2170	S C	24AUG78	23 29 00	25 00	UK031	30
I ZW 1	85	14.0	00	50	58	+12	25	L 2	1955	L 0	02AUG78	23 10 06	210 00	UK13B	56
I ZW 1	85	14.0	00	50	58	+12	25	L 3	2216	L 0	05AUG78	23 23 26	200 00	UK13B	45
I ZW 1	85	14.0	00	50	58	+12	25	L 3	2333	L 0	18AUG78	23 05 41	155 00	UK13B	34

OBJECT	CL	MAG	RT	ASCN	DECLN	DISP	APERT	START	LENGTH	PROG	COMMENT									
			HR	MN	SC	DEG	MIN	HR	MN	SC	MIN	SC								
							+	+												
SMC-X2	59	14.6	00	52	57	+73	57	L	3	2012	L	0	15JUL78	00	23	18	60	00	XR002	UXP X2
SMC-X2	59	14.6	00	52	57	+73	57	L	3	2013	L	0	15JUL78	02	03	19	97	00	XR002	WEAK MAX DN 130
HD 5394	20	2.6	00	53	40	+60	26	X	2	2556	S	C	08OCT78	18	05	00	20	00	LHA07	60
HD 5394	20	2.6	00	53	40	+60	26	X	3	2887	S	C	08OCT78	17	55	00	18	00	LHA07	50
HD 5394	59	2.6	00	53	41	+60	27	H	2	1423	S	C	01MAY78	01	37	17	6	00	XP001	MAX DN 120, UNDEREXP.
HD 5394	59	2.6	00	53	41	+60	27	H	2	1424	S	C	01MAY78	03	18	09	10	00	XR001	SLIGHTLY UNDEREXP.
HD 5394	59	2.6	00	53	41	+60	27	H	3	1321	S	C	06APR78	10	07	24	45	00	UKPOP	GOOD-SOME SAT LONG WL
HD 5394	59	2.6	00	53	41	+60	27	H	3	1448	S	C	01MAY78	00	47	14	45	00	XR001	OVEREXP.
HD 5394	59	2.6	00	53	41	+60	27	H	3	1449	S	C	01MAY78	02	30	15	15	00	XR001	GOOD
COM1978H	06	13.0	00	56	50	+68	01	L	2	2859	L	0	08NOV78	14	06	13	25	00	VILSP	02ONLY OM(0,0)
COM1978H	06	13.0	00	56	50	+68	01	L	3	3267	S	0	08NOV78	14	04	33	50	00	VILSP	03
COM1978H	06	13.0	00	56	50	+68	01	L	3	3267	L	0	08NOV78	14	04	33	50	00	VILSP	06
+03 1011	20	12.0	01	01	42	+03	58	L	2	3319	L	0	29DEC78	12	24	18	14	00	FC027	70
+03 1011	20	12.0	01	01	42	+03	58	L	3	3736	L	0	29DEC78	12	48	35	14	00	FC027	80
T0109-3R	84	14.0	01	09	10	+38	21	L	3	1420	L	0	26APR78	05	03	00	180	00	UKPOP	NO SPECTRUM
SMC-X1	59	13.5	01	15	45	+73	42	L	2	1829	L	0	15JUL78	23	44	32	35	00	UK1XR	A BIT STRONG
SMC-X1	59	13.5	01	15	45	+73	42	L	3	2020	L	0	16JUL78	00	45	02	35	00	UK1XR	GOOD MAX DN 175
ES0 113	84	13.2	01	21	51	+59	04	L	3	2215	L	0	05AUG78	19	52	40	120	00	UK136	57
HD 10516	26	4.1	01	40	31	+50	26	H	2	2326	S	C	11SEP78	23	23	00	1	40	UK027	66
HD 10516	26	4.1	01	40	31	+50	26	H	2	3082	S	C	01DEC78	12	37	10	1	45	PSD13	60
HD 10516	26	4.1	01	40	31	+50	26	H	3	2630	S	C	11SEP78	23	46	00	2	00	UK027	66
HD 10516	26	4.1	01	40	31	+50	26	H	3	3504	S	C	01DEC78	12	32	17	1	30	PSD13	50
HD 10700	44	3.5	01	41	41	+16	12	X	2	2625	S	C	16OCT78	20	08	27	50	00	UK020	63
HD 10700	44	3.5	01	41	41	+16	12	H	2	2626	S	C	16OCT78	21	31	00	12	00	UK020	53
HD 10700	44	3.5	01	41	45	+16	12	X	2	2194	S	C	28AUG78	01	18	00	21	00	BN053	40
HD 11937	44	3.7	01	54	01	+51	51	X	2	2414	S	C	03NOV78	19	27	36	20	00	FG004	35
HD 11937	44	3.7	01	54	01	+51	51	X	2	2831	S	C	05NOV78	15	25	12	60	00	FG004	66
HD 11937	44	3.7	01	54	01	+51	51	X	2	2832	S	C	05NOV78	17	08	12	20	00	FG004	45
+37 442	16	10.0	01	55	36	+38	20	L	2	2805	L	0	02NOV78	13	52	00	45	00	UK036	50
+37 442	16	10.0	01	55	36	+38	20	L	2	2805	S	C	02NOV78	13	46	00	1	05	UK036	50
+37 442	16	10.0	01	55	36	+38	20	L	3	3207	S	C	02NOV78	13	03	02	1	30	UK036	50
+37 442	16	10.0	01	55	36	+38	20	L	3	3207	L	0	02NOV78	12	53	26	1	00	UK036	60
HD 12311	40	2.9	01	57	12	+61	49	H	2	2193	S	C	28AUG78	00	33	00	7	00	BN053	50
HD 12311	40	2.9	01	59	12	+61	49	H	2	1864	S	C	21JUL78	02	12	00	9	00	BN053	GOOD AT LONG WL
HD 150A9	30	4.6	02	24	55	+67	10	H	2	2555	S	C	08OCT78	14	25	47	35	00	LHA07	60
HD 15089	30	4.6	02	24	55	+67	10	H	3	2886	S	C	08OCT78	15	08	00	120	00	LHA07	60
HD 15570	20	8.0	02	29	01	+61	09	H	2	2736	S	C	27OCT78	14	37	13	30	00	UK068	10
HD 15570	20	8.0	02	29	01	+61	09	H	3	3171	S	C	27OCT78	15	14	45	167	00	UK068	30
HD 15570	20	8.0	02	29	01	+61	09	X	3	3189	S	C	29OCT78	16	20	00	180	00	UK068	34
MOON	02	9.9	02	34	30	+05	46	L	2	3141	L	0	10DEC78	17	44	09	3	00	UK043	70
MOON	02	9.9	02	34	30	+05	46	L	2	3141	S	C	10DEC78	17	42	35	28	00	UK043	70
NGC 1052	84	12.0	02	38	37	+08	28	L	2	3198	L	0	18DEC78	14	00	24	225	00	UK033	22
NGC 1052	84	12.0	02	38	37	+08	28	L	3	3645	L	0	19DEC78	14	42	40	183	00	UK033	22
HD 18884	48	2.5	02	59	40	+03	54	L	3	2807	L	0	29SEP78	22	15	02	90	00	UK001	35
+23 1184	41	8.8	03	00	11	+23	00	L	2	1733	L	0	26JUN78	05	37	00	10	00	VILSP	NO SPECTRUM
HD 19356	22	2.1	03	04	55	+40	46	H	2	2345	S	C	13SEP78	19	04	35	20	00	UK028	46SW UXP
HD 19356	22	2.1	03	04	55	+40	46	H	3	2603	S	C	13SEP78	17	58	08	1	00	UK028	70SW UXP
HD 19373	44	4.0	03	05	27	+49	25	L	2	2376	L	0	16SEP78	16	35	51	1	55	P8C13	77

OBJECT	CL	MAG	RT ASCN			DECLN		DISP	+CAM	IMAGE	APERT		DATE	START			LENGTH		PROG	COMMENT
			HR	MM	SC	DEG	NN				OB	LG		HR	MM	SC	MIN	SC		
HD 19373	44	4.0	03	05	27	+49	25	L	2	2377	L	0	16SEP78	17	29	45	30	PSC13	56	
HD 19373	44	4.0	03	05	27	+49	25	L	3	2663	L	0	16SEP78	16	44	58	25	PSC13	44	
HD 19445	41	8.1	03	05	29	+26	09	L	2	2378	S	C	16SEP78	19	23	31	10	PSC13	56	
HD 19445	41	8.1	03	05	29	+26	09	L	2	2378	L	0	16SEP78	19	05	46	10	PSC13	78	
HD 19445	41	8.1	03	05	29	+26	09	L	3	2664	L	0	16SEP78	19	40	59	40	PSC13	50	
NGC 1275	84	12.7	03	16	30	+41	20	L	2	1283	L	0	06APR78	05	42	21	120	UKPOP	WEAK MAXDN=100	
HD 20630	44	4.8	03	16	44	+03	11	H	2	1789	S	C	07JUL78	02	48	24	70	MR003	GOOD	
HD 20630	44	4.8	03	16	44	+03	11	L	3	1926	S	C	07JUL78	04	06	03	35	MR003	UNDEREXPOSED	
HD 20902	41	1.8	03	20	42	+49	41	L	2	2481	L	0	27SEP78	21	52	26	1	UK001	80	
HD 20902	41	1.8	03	20	42	+49	41	L	3	2788	L	0	27SEP78	17	01	45	30	UK001	70	
HD 20902	41	1.8	03	20	42	+49	41	L	3	2789	L	0	27SEP78	18	24	44	120	UK001	80	
HD 20902	41	1.8	03	20	42	+49	41	L	3	2790	L	0	27SEP78	21	12	19	2	UK001	50	
HD 20902	41	1.8	03	20	42	+49	41	H	3	2791	L	0	27SEP78	22	17	10	90	UK001	70	
HD 21278	21	5.0	03	24	29	+48	53	H	2	2525	S	C	02OCT78	14	51	25	4	RD016	50	
HD 21278	21	5.0	03	24	29	+48	53	H	3	2835	S	C	02OCT78	14	38	03	7	RD016	50	
HD 21278	21	5.0	03	24	29	+48	53	H	3	2836	S	C	02OCT78	15	27	44	15	RD016	80	
HD 21278	21	5.0	03	24	29	+48	53	H	3	2838	S	C	02OCT78	19	15	29	11	RD016	70	
HD 21364	26	3.0	03	24	37	+09	34	H	2	2337	S	C	12SEP78	21	48	00	4	UK027	60	
HD 21364	26	3.0	03	24	37	+09	34	H	3	2638	S	C	12SEP78	22	24	00	5	UK027	70	
HD 21389	32	4.6	03	25	54	+58	42	H	2	2928	S	C	13NOV78	14	54	48	60	FP047	70	
HD 21389	32	4.6	03	25	54	+58	42	H	2	2929	S	C	13NOV78	19	25	01	20	FP047	50	
HD 21389	32	4.6	03	25	54	+58	42	H	3	3332	S	C	13NOV78	16	00	50	200	FP047	70	
HD 22192	21	4.2	03	32	55	+48	01	H	2	2557	S	C	08OCT78	19	40	00	4	LHA07	30	
HD 22192	21	4.2	03	32	55	+48	01	H	2	2558	S	C	08OCT78	21	20	00	10	LHA07	70	
HD 22192	21	4.2	03	32	55	+48	01	H	3	2888	S	C	08OCT78	19	28	00	5	LHA07	20	
HD 22192	21	4.2	03	32	55	+48	01	H	3	2889	S	C	08OCT78	21	00	00	10	LHA07	70	
HD 22192	26	4.2	03	32	56	+48	02	H	2	2168	S	C	24AUG78	20	02	00	4	UK031	60	
HD 22192	26	4.3	03	32	56	+48	02	H	2	2324	S	C	11SEP78	18	45	00	5	UK027	55	
HD 22192	26	4.2	03	32	56	+48	02	H	3	2391	S	C	24AUG78	19	50	00	5	UK031	60	
HD 22192	26	4.3	03	32	56	+48	02	H	3	2628	S	C	11SEP78	19	29	00	6	UK027	66	
HD 22928	24	3.1	03	39	18	+47	38	H	2	2325	S	C	11SEP78	21	46	00	1	UK027	66	
HD 22928	24	3.1	03	39	18	+47	38	H	3	2629	S	C	11SEP78	22	19	00	1	UK027	66	
HD 22928	24	3.0	03	39	24	+47	38	H	2	2260	S	C	03SEP78	18	37	10	1	UK022	50	
HD 22928	24	3.0	03	39	24	+47	38	H	3	2466	S	C	03SEP78	19	09	00	1	UK022	70	
HD 22928	24	3.0	03	39	24	+47	38	H	3	2467	S	C	03SEP78	19	56	00	2	UK022	700K FOR SW	
HD 23302	26	3.0	03	41	54	+23	57	H	2	2338	S	C	12SEP78	22	58	59	1	UK027	40	
HD 23302	26	3.0	03	41	54	+23	57	H	3	2639	S	C	12SEP78	23	43	00	1	UK027	40	
HD 23324	22	5.6	03	42	11	+24	41	L	2	3338	S	C	31DEC78	12	56	36	35	MG012	70	
HD 23324	27	5.6	03	42	11	+24	41	L	2	3338	L	0	31DEC78	12	53	09	8	MG012	60	
HD 23324	22	5.6	03	42	11	+24	41	L	3	3760	L	0	31DEC78	13	04	18	9	MG012	50	
HD 23324	22	5.6	03	42	11	+24	41	L	3	3760	S	C	31DEC78	13	00	26	17	MG012	50	
HD 23568	22	6.8	03	44	01	+24	22	L	2	3337	S	C	31DEC78	11	29	44	2	MG012	70	
HD 23568	22	6.8	03	44	01	+24	22	L	2	3337	L	0	31DEC78	11	21	22	40	MG012	60	
HD 23568	22	6.8	03	44	01	+24	22	L	3	3759	L	0	31DEC78	12	05	07	15	MG012	30	
HD 23568	22	6.8	03	44	01	+24	22	L	3	3759	S	C	31DEC78	12	01	07	1	MG012	40	
HD 23568	22	6.8	03	44	01	+24	22	L	3	3761	S	C	31DEC78	14	09	53	1	MG012	50	
HD 23568	22	6.8	03	44	01	+24	22	L	3	3761	L	0	31DEC78	14	05	55	38	MG012	40	
HD 23630	24	2.9	03	44	31	+23	57	L	2	3339	L	0	31DEC78	15	03	14	1	MG012	60	

OBJECT	CL	MAG	RT ASCN			DECLN		DISP	APERT	IMAGE	OB LG	DATE	START			LENGTH	PROG	COMMENT		
			HR	MN	SC	DEG	MN						+CAM	HR	MN				SC	MIN
HD 23630	24	2.9	03	44	31	+23	57	L	2	3339	S	C	31DEC78	14	59	54	3	MG012	70	
HD 23630	24	2.9	03	44	31	+23	57	L	3	3762	S	C	31DEC78	15	09	49	2	MG012	50	
HD 23630	24	2.9	03	44	31	+23	57	L	3	3762	L	O	31DEC78	15	06	26	1	MG012	50	
HD 23850	24	3.6	03	46	11	+23	54	L	2	3340	L	O	31DEC78	16	21	17	1	MG012	50	
HD 23850	24	3.6	03	46	11	+23	54	L	2	3340	S	C	31DEC78	16	17	13	5	MG012	70	
HD 23850	24	3.6	03	46	11	+23	54	L	3	3763	S	C	31DEC78	16	27	38	3	MG012	50	
HD 23850	24	3.6	03	46	11	+23	54	L	3	3763	L	O	31DEC78	16	24	18	2	MG012	50	
HD 23862	27	5.1	03	46	13	+23	59	L	2	3341	L	O	31DEC78	17	04	08	4	MG012	40	
HD 23862	27	5.1	03	46	13	+23	59	L	2	3341	S	C	31DEC78	17	00	38		MG012	60	
HD 24534	59	6.1	03	52	15	+30	54	H	2	1830	S	C	16JUL78	02	34	52	20	00	XRB02	GOOD AT LONG WL
HD 24534	23	6.1	03	52	15	+30	54	L	2	3122	L	O	07DEC78	16	28	10	10		HM043	40
HD 24534	23	6.1	03	52	15	+30	54	H	2	3123	S	C	07DEC78	17	02	13	20	00	HM043	40
HD 24534	26	6.5	03	52	15	+30	54	H	3	1309	S	C	04APR78	05	34	17	60	00	UKPOP	
HD 24534	59	6.1	03	52	15	+30	54	H	3	2021	S	C	16JUL78	03	23	19	20	00	XRB02	UXP X1.5 MAX DN 166
HD 24534	14	6.1	03	52	15	+30	54	H	3	2978	S	C	14OCT78	20	28	15	15	00	PR042	30X PER
HD 24534	14	6.1	03	52	15	+30	54	L	3	2979	L	O	14OCT78	21	35	12	6		PR042	30
HD 24534	14	6.1	03	52	15	+30	54	L	3	2979	S	C	14OCT78	21	31	00	18		PR042	50
HD 24534	23	6.1	03	52	15	+30	54	H	3	3551	S	C	07DEC78	16	32	28	26	00	HM043	40
HD 24534	23	6.1	03	52	15	+30	54	L	3	3552	L	O	07DEC78	17	29	24	6		HM043	30
HD 24760	20	2.9	03	54	30	+39	52	H	2	2261	S	C	03SEP78	20	50	00	29		UK022	50
HD 24760	20	2.9	03	54	30	+39	52	H	3	2468	S	C	03SEP78	21	21	21	27		UK022	60
HD 25680	44	5.9	04	02	22	+21	53	H	2	2388	L	O	17SEP78	17	20	00	25	00	UKFIL	43ND SPECTRUM AT SW
SPACE	07	0.0	04	02	22	+21	53	L	3	2674	S	O	17SEP78	16	48	13	30	00	UK029	02
SPACE	07	0.0	04	02	22	+21	53	L	3	2674	L	O	17SEP78	16	48	13	30	00	UK029	03
SPACE	07	0.0	04	02	22	+21	53	H	3	2675	L	O	17SEP78	18	00	00	345	00	UK029	05
HD 29139	46	0.9	04	03	03	+16	24	X	2	3176	S	C	15DEC78	16	01	48	8	00	CB031	25
HD 26571	25	6.1	04	09	53	+22	17	H	2	2284	S	C	05SEP78	19	40	00	40	00	UK021	50
HD 26571	25	6.1	04	09	53	+22	17	H	3	2500	S	C	05SEP78	20	31	30	195	00	UK021	70GOOD FOR SW
T TAURJ	58	9.6	04	19	04	+19	25	L	2	1278	S	C	04APR78	08	04	49	60	00	UKPOP	
T TAURJ	58	9.6	04	19	04	+19	25	L	3	1310	S	C	04APR78	10	01	39	15	00	UKPOP	NO DATA PRESENT
T TAURJ	58	10.0	04	19	06	+19	25	L	3	3172	L	O	27OCT78	19	35	49	120	00	UK044	23MICROPHONIC NOISE
HD 28497	20	5.4	04	26	48	+13	10	H	2	2726	S	C	26OCT78	15	37	14	6	30	PSD13	50
HD 28497	20	5.4	04	26	48	+13	10	H	3	3161	S	C	26OCT78	16	00	00	4	30	PSD13	40
HD 29139	46	0.9	04	33	03	+16	24	H	2	2154	S	C	23AUG78	00	25	26	30	00	UK031	37MGII SAT, OTHERS NOT
HD 29139	46	.8	04	33	03	+16	25	L	2	2519	L	O	01OCT78	15	07	00	10	00	UK001	80LW SAT
HD 29139	46	.9	04	33	03	+16	24	H	2	2965	S	C	18NOV78	12	49	00	25	00	CB031	17
HD 29139	46	.9	04	33	03	+16	24	H	2	2966	L	O	18NOV78	15	02	18	5	00	CB031	16
HD 29139	46	0.9	04	33	03	+16	24	L	3	2370	S	C	23AUG78	01	05	02	35	00	UK031	37CONT 25 DN ABOVE BGD
HD 29139	46	.8	04	33	03	+16	25	L	3	2805	L	O	29SEP78	19	54	42	10	00	UK001	??DATA LOST
HD 29139	46	.8	04	33	03	+16	25	L	3	2806	L	O	29SEP78	20	48	06	20	00	UK001	35
HD 29139	46	.9	04	33	03	+16	25	L	3	2825	L	O	01OCT78	15	24	07	40	00	UK001	06
HD 29139	46	.9	04	33	03	+16	24	H	3	3380	L	O	18NOV78	13	27	00	140	00	CB031	13
HD 29763	21	4.3	04	39	14	+22	52	X	2	2336	S	C	12SEP78	20	09	28	3	00	UK027	40
HD 29763	21	4.3	04	39	14	+22	52	H	3	2637	S	C	12SEP78	20	43	20	3	00	UK027	50
HD 30636	23	3.7	04	48	33	+05	31	X	2	2141	S	C	22AUG78	01	08	04	1	20	PSD13	70
HD 30636	23	3.7	04	48	33	+05	31	X	3	2358	S	C	22AUG78	00	40	05	1	10	PSD13	50WEAK AT 1550A
HD 30614	13	4.3	04	49	04	+66	16	X	2	2312	S	C	09SEP78	16	48	09	7	00	FM050	70GOOD FOR SW
HD 30614	13	4.3	04	49	04	+66	16	X	3	2546	S	C	08SEP78	16	17	39	3	00	FM050	50

OBJECT	CL	MAG	RT	ASCN	DECLN	DISP	APERT	START	LENGTH	PROG	COMMENT					
			HR	MM	SC	DEG	DB	LG	DATE	HR	MM	SC	MIN	SC		
HD269696	16	11.1	05	32	08	-69 55	L 2	3313	S C	28DEC78	15	42	00	4 00	UK017	50
HD269696	16	11.1	05	32	08	-69 55	L 2	3313	L O	28DEC78	15	32	51	2 00	UK017	50
HD269696	16	11.1	05	32	08	-69 55	L 2	3314	S C	28DEC78	16	34	42	4 00	UK017	50
HD269696	16	11.1	05	32	08	-69 55	L 2	3315	S C	28DEC78	17	24	41	4 00	UK017	50
HD269696	16	11.1	05	32	08	-69 55	L 2	3315	L O	28DEC78	17	18	09	2 00	UK017	50
HD269696	16	11.1	05	32	08	-69 55	M 2	3327	L O	30DEC78	11	24	50	200 00	UK017	60SEVEN EXPOSURES ADDED
HD269696	16	11.1	05	32	08	-69 55	L 3	3728	L O	28DEC78	11	29	05	2 30	UK017	70
HD269696	16	11.1	05	32	08	-69 55	L 3	3728	S C	28DEC78	11	18	33	5 00	UK017	70SW SAT
HD269696	16	11.1	05	32	08	-69 55	M 3	3729	L O	28DEC78	12	43	13	178 00	UK017	60SEVEN EXPOSURES ADDED
HD269696	16	11.1	05	32	08	-69 55	L 3	3743	S C	30DEC78	11	14	28	3 30	UK017	60
HD269696	16	11.1	05	32	08	-69 55	L 3	3743	L O	30DEC78	11	00	59	1 45	UK017	60
HD269696	16	11.1	05	32	08	-69 55	L 3	3744	S C	30DEC78	12	04	54	4 00	UK017	60
HD269696	16	11.1	05	32	08	-69 55	L 3	3744	L O	30DEC78	11	55	12	1 35	UK017	60
HD269696	16	11.1	05	32	08	-69 55	L 3	3745	S C	30DEC78	12	56	32	3 45	UK017	50
HD269696	16	11.1	05	32	08	-69 55	L 3	3745	L O	30DEC78	12	49	48	1 25	UK017	60
HD269696	16	11.1	05	32	08	-69 55	L 3	3746	S C	30DEC78	13	39	51	3 45	UK017	60
HD269696	16	11.1	05	32	08	-69 55	L 3	3746	L O	30DEC78	13	32	55	1 20	UK017	50
HD269696	16	11.1	05	32	08	-69 55	L 3	3747	S C	30DEC78	14	23	33	3 30	UK017	60
HD269696	16	11.1	05	32	08	-69 55	L 3	3747	L O	30DEC78	14	16	29	1 15	UK017	50
HD269696	16	11.1	05	32	08	-69 55	L 3	3748	S C	30DEC78	15	09	10	3 00	UK017	50
HD269696	16	11.1	05	32	08	-69 55	L 3	3748	L O	30DEC78	15	00	09	1 15	UK017	50
HD269696	16	11.1	05	32	08	-69 55	L 3	3749	S C	30DEC78	15	52	26	3 00	UK017	50
HD269696	16	11.1	05	32	08	-69 55	L 3	3749	L O	30DEC78	15	45	31	1 15	UK017	50
HD269696	16	11.1	05	32	08	-69 55	L 3	3750	S C	30DEC78	17	02	56	3 00	UK017	50
HD269696	16	11.1	05	32	08	-69 55	L 3	3750	L O	30DEC78	16	56	23	1 15	UK017	50
HD269696	16	11.1	05	32	08	-69 55	L 3	3751	S C	30DEC78	17	40	47	1 15	UK017	50
HD269696	16	11.1	05	32	08	-69 55	L 3	3751	L O	30DEC78	17	31	33	3 00	UK017	50
LMC X4	59	14.0	05	32	47	-66 24	L 3	2019	L O	15JUL78	22	00	28	60 00	UK1XR	NO SPECTRUM
LMC X4	59	13.8	05	32	48	-66 24	L 2	1427	L O	02MAY78	03	03	12	100 00	UK1XR	SLIGHTLY UNDEREXP WRONG
LMC X4	59	13.8	05	32	48	-66 24	L 2	1438	L O	04MAY78	06	25	32	60 00	XR01	GOOD
LMC X4	59	13.8	05	32	48	-66 24	L 3	1458	L O	02MAY78	01	50	30	60 00	UK1XR	UNDEREXP WRONG STAR
LMC X4	59	13.8	05	32	48	-66 24	L 3	1459	L O	02MAY78	04	56	23	150 00	UK1XR	1600A UNDEREXP WRONG ST
LMC X4	59	13.8	05	32	48	-66 24	L 3	1477	L O	04MAY78	05	11	51	60 00	XR01	GOOD
HD 37023	20	6.8	05	32	50	-05 25	M 2	1331	S C	18APR78	08	42	00	15 00	UKPOP	
HD 37023	20	6.8	05	32	50	-05 25	M 3	1380	S C	18APR78	09	55	00	15 00	UKPOP	OVEREXP.
HD 37041	13	5.2	05	32	55	-05 37	M 2	1345	S C	20APR78	04	10	00	5 00	UKPOP	UNDEREXP.
HD 37041	13	5.2	05	32	55	-05 37	M 3	1391	S C	20APR78	04	00	00	3 00	UKPOP	VERY GOOD THETA2 ORC
HD 37041	12	5.0	05	32	55	-05 26	M 2	2602	S C	14OCT78	18	04	10	4 00	PR042	70NOISE
HD 37041	12	5.0	05	32	55	-05 26	M 2	2603	S C	14OCT78	18	43	00	2 00	PR042	40
HD 37041	12	5.1	05	32	55	-05 27	M 2	2728	S C	26OCT78	19	20	00	3 00	PR042	11
HD 37041	12	5.0	05	32	55	-05 26	M 3	2976	S C	14OCT78	17	53	04	3 00	PR042	70
HD 37041	12	5.0	05	32	55	-05 26	M 3	2977	S C	14OCT78	19	30	00	2 00	PR042	50
HD 37041	12	5.1	05	32	55	-05 27	M 3	3163	S C	26OCT78	19	34	00	2 00	PR042	11
M 42	72	10.0	05	33	00	-05 27	L 2	2682	S O	22OCT78	18	46	58	15 00	MP028	200FFSET 39 SEC W THE2A
M 42	72	10.0	05	33	00	-05 27	L 2	2682	L O	22OCT78	18	46	58	15 00	MP028	500FFSET 39 SEC W THE2A
HD 37041	12	5.1	05	33	00	-05 27	L 2	2683	L O	22OCT78	20	03	25	3	MP028	70
HD 37041	12	5.1	05	33	00	-05 27	L 2	2683	S O	22OCT78	19	59	21	3	MP028	50
M 42	72	10.0	05	33	00	-05 27	L 3	3104	S O	22OCT78	17	55	43	13 00	MP028	200FFSET 39 SEC W THE2A

OBJECT	CL	MAG	RT ASCN HR MN SC	DECLN DEG MN	DISP +CAM	APERT OB LG	DATE	START HR MN SC	LENGTH MIN SC	PRG	COMMENT
M 02	72	10.0	05 33 00	-05 27	L 3	3104 L 0	22OCT78	17 55 43	13 00	MP028	650FFSET 39 SEC * THE24
HD 37041	12	5.1	05 33 00	-05 27	L 3	3105 L 0	22OCT78	19 54 41	2	MP028	70
HD 37041	12	5.1	05 33 00	-05 27	L 3	3105 S C	22OCT78	19 48 37	2	MP028	50THETA 2 ORIONIS A
HD 37061	20	6.8	05 33 04	-05 18	L 2	2435 L 0	22SEP78	18 55 00	3 00	UK019	80
HD 37061	20	6.8	05 33 04	-05 18	L 2	2435 S 0	22SEP78	18 48 56	1 00	UK019	70
HD 37061	20	6.8	05 33 04	-05 18	L 3	2732 S C	22SEP78	19 04 09	4 00	UK019	90
HD 37128	23	1.7	05 33 40	-01 14	H 2	2238 S C	01SEP78	20 32 30	16	UK022	70GOOD FOR 6W
HD 37128	23	1.7	05 33 40	-01 14	H 2	2239 S C	01SEP78	21 42 40	12	UK022	70
HD 37128	23	1.7	05 33 40	-01 14	H 2	2240 S C	01SEP78	22 11 20	8	UK022	50
HD 37128	23	1.7	05 33 40	-01 14	H 3	2435 S C	01SEP78	21 14 22	10	UK022	60
HD 37128	13	1.7	05 33 41	-01 14	H 2	3119 S C	07DEC78	10 34 06	6	HM043	50
HD 37128	13	1.7	05 33 41	-01 14	H 3	3536 S C	05DEC78	15 16 34	7	HM043	50
V380 ORI	58	10.5	05 34 00	-06 45	L 2	2742 L 0	28OCT78	14 40 26	60 00	UK044	77
V380 ORI	58	10.5	05 34 00	-06 45	L 2	2743 L 0	28OCT78	17 12 03	15 00	UK044	55
V380 ORI	58	10.5	05 34 00	-06 45	L 3	3179 L 0	28OCT78	16 01 43	60 00	UK044	44
HD 37202	26	3.0	05 34 39	+21 07	H 2	2139 S C	21AUG78	22 09 21	1 00	PSD13	70SAT 2700 TO 3000A
HD 37202	26	3.0	05 34 39	+21 07	L 2	2140 L 0	21AUG78	23 43 20	1	PSD13	70
HD 37202	26	3.0	05 34 39	+21 07	L 2	2140 S C	21AUG78	23 38 12	1	PSD13	70
HD 37202	26	3.0	05 34 39	+21 07	H 2	3084 S C	01DEC78	16 15 00	50	PSD13	70
HD 37202	26	3.0	05 34 39	+21 07	H 2	3085 S C	01DEC78	17 35 38	30	PSD13	50SOME DATA LOST
HD 37202	26	3.0	05 34 39	+21 07	H 3	2356 S C	21AUG78	21 09 53	35	PSD13	50
HD 37202	26	3.0	05 34 39	+21 07	H 3	2357 S C	21AUG78	22 16 13	50	PSD13	70MEAN 100 DN AT 1500A
HD 37202	26	3.0	05 34 39	+21 07	H 3	3506 S C	01DEC78	16 10 06	40	PSD13	50
M 63 A	75	15.0	05 35 44	-66 04	L 3	3490 L 0	29NOV78	13 08 00	395 00	BD033	64
HD245770	20	9.4	05 35 48	+26 17	L 2	3321 L 0	29DEC78	17 10 38	30 00	FC027	60
HD245770	20	9.0	05 35 48	+26 17	L 3	2854 S C	04OCT78	20 43 00	60 00	PB042	60
HD 37742	13	2.0	05 38 15	-01 59	H 2	2235 S C	01SEP78	18 26 20	8	UK022	50
HD 37742	13	2.0	05 38 15	-01 59	H 2	2236 S C	01SEP78	19 22 20	15	UK022	60
HD 37742	13	2.0	05 38 15	-01 59	H 2	2237 S C	01SEP78	19 50 33	12	UK022	50
HD 37742	13	2.0	05 38 15	-01 59	H 3	2434 S C	01SEP78	18 34 00	9	UK022	50
HD 37805	31	8.6	05 38 32	-02 20	L 2	2425 L 0	21SEP78	18 00 00	2 15	UK019	60
HD 37805	31	8.6	05 38 32	-02 20	L 2	2425 S C	21SEP78	17 45 09	45	UK019	30
HD 37805	31	8.6	05 38 32	-02 20	L 3	2719 S C	21SEP78	17 15 30	1 30	UK019	20
HD 37805	31	8.6	05 38 32	-02 20	L 3	2720 S C	21SEP78	18 38 36	4 00	UK019	70
HD 37805	31	8.6	05 38 32	-02 20	L 3	2720 L 0	21SEP78	18 27 40	4 00	UK019	30
S=69 239	23	10.2	05 38 34	-69 08	L 3	1830 L 0	22JUN78	05 25 00	12 00	UK024	NO SPECTRUM
HD 37903	20	7.8	05 39 07	-02 17	L 2	2436 S 0	22SEP78	21 41 48	40	UK019	40
HD 37903	20	7.8	05 39 07	-02 17	L 2	2437 L 0	22SEP78	22 22 53	1 30	UK019	60
HD 37903	20	7.8	05 39 07	-02 17	L 2	2437 S C	22SEP78	22 15 50	40	UK019	50
HD 37903	20	7.8	05 39 07	-02 17	L 3	2733 S 0	22SEP78	22 52 00	1 00	UK019	50
S=69 247	25	10.4	05 39 19	-69 32	L 2	1720 L 0	23JUN78	23 34 04	15 00	UK024	GOOD MAX DN 250
S=69 247	25	10.4	05 39 19	-69 32	L 3	1844 L 0	24JUN78	00 27 22	12 00	UK024	WEAK MAX DN 80
S=69 247	25	10.4	05 39 19	-69 32	L 3	1852 L 0	25JUN78	00 07 44	30 00	UK024	GOOD MAX DN 200
S=67 297	23	12.7	05 44 58	-69 22	L 2	1692 S 0	19JUN78	02 46 59	45 00	UK024	NO SPECTRUM
S=67 297	23	12.7	05 44 58	-69 22	L 3	1812 S 0	19JUN78	04 00 48	80 00	UK024	NO SPECTRUM
HD 38771	23	2.0	05 45 24	-09 41	H 2	2233 S C	01SEP78	16 17 05	14	UK022	50
HD 38771	23	2.0	05 45 24	-09 41	H 2	2234 S C	01SEP78	17 37 51	30	UK022	70GOOD FOR SW
HD 38771	23	2.0	05 45 24	-09 41	H 3	2433 S C	01SEP78	17 00 00	15	UK022	50

OBJECT	CL	MAG	RT ASCN			DECLN		DISP +CAM	APERT		DATE	START			LENGTH		PROG	COMMENT		
			HR	MN	SC	DEG	NN		OB	LG		HR	MN	SC	MIN	SC				
HD 39A01	48	.9	05	52	28	+07	24	H	2	2622	S	C	16OCT78	16	46	53	6	00	UK020	23
HD 39A01	48	.9	05	52	28	+07	24	H	2	2623	S	C	16OCT78	17	25	02	30	00	UK020	37
HD 39A01	48	.9	05	52	28	+07	24	H	2	2624	S	C	16OCT78	18	46	00	10	00	UK020	36
HD 39A01	48	0.8	05	52	28	+07	24	L	3	1379	S	C	18APR78	06	20	00	40	00	UKPOP	GOOD
IC 2149	70	10.5	05	52	41	+46	06	L	2	2684	L	O	22OCT78	20	59	01	9	00	MP028	61
IC 2149	70	10.5	05	52	41	+46	06	L	3	3073	L	O	20OCT78	14	54	14	30	00	MP028	90ND EMISSION VISIBLE
IC 2149	70	10.5	05	52	41	+46	06	L	3	3106	S	O	22OCT78	21	42	00	5	00	MP028	21
IC 2149	70	10.5	05	52	41	+46	06	L	3	3106	L	O	22OCT78	21	32	33	5	00	MP028	44
HD 37A41	12	5.1	05	52	53	-05	26	H	2	3318	S	C	29DEC78	10	47	25	3	00	FC027	60
HD 37A41	12	5.1	05	52	53	-05	26	H	3	3735	S	C	29DEC78	10	54	43	2	00	FC027	50
HD 40136	40	3.7	05	54	08	-14	10	L	2	2761	L	O	30OCT78	17	25	11	35		RB039	40REFERS TO 2100
HD 40136	40	3.7	05	54	08	-14	10	H	2	2762	S	C	30OCT78	18	00	01	26	00	RB039	40REFERS TO 2100
HD 41117	23	4.5	06	00	57	+20	08	H	2	2282	S	C	05SEP78	16	40	20	9	00	UK021	80SAT DUE TO HIGH BGD
HD 41117	23	4.5	06	00	57	+20	08	H	2	2283	S	C	05SEP78	17	21	35	7	00	UK021	80OK BUT HIGH BGD STILL
HD 41117	23	4.5	06	00	57	+20	08	H	3	2499	S	C	05SEP78	17	59	00	40	00	UK021	70OK FOR SWI STILL BGD
HD 41335	20	5.2	06	01	47	-06	42	H	2	2727	S	C	26OCT78	16	49	00	6	00	PSD13	50
HD 41335	20	5.2	06	01	47	-06	42	H	3	3162	S	C	26OCT78	17	30	00	5	30	PSD13	50
HD 41325	26	5.2	06	01	48	-06	42	H	2	2138	S	C	21AUG78	20	00	08	6	00	PSD13	70SAT ABOVE 2700A
HD 41335	26	5.2	06	01	48	-06	42	H	2	3083	S	C	01DEC78	14	48	53	6	00	PSD13	70
HD 41335	26	5.2	06	01	48	-06	42	H	2	3110	S	C	05DEC78	16	22	40	6	00	PSD13	70
HD 41325	26	5.2	06	01	48	-06	42	H	3	2355	S	C	21AUG78	19	39	16	5	00	PSD13	50
HD 41335	26	5.2	06	01	48	-06	42	H	3	3505	S	C	01DEC78	14	38	14	5	30	PSD13	50
HD 41335	26	5.2	06	01	48	-06	42	H	3	3537	S	C	05DEC78	16	10	50	5	30	PSD13	50
HD 42087	23	5.7	06	06	42	+23	07	H	2	2527	S	C	02OCT78	20	01	28	25	00	RD016	70
HD 42087	23	5.7	06	06	42	+23	07	H	3	2839	S	C	02OCT78	20	33	25	60	00	RD016	60
HD 45348	40	=.7	06	22	50	-52	40	H	2	2916	L	O	11NOV78	18	46	53	15		RB041	60
HD 45348	40	=.7	06	22	50	-52	40	H	3	3308	L	O	11NOV78	18	26	05	45		RB041	60
HD 45348	40	=.7	06	22	50	-52	40	H	3	3309	L	O	11NOV78	19	17	58	30	00	RB041	80OK ONLY NEAR 1550A
HD 45677	26	8.5	06	25	59	-13	01	L	2	2416	S	C	20SEP78	16	48	50	10	00	PSA13	80
HD 45677	26	8.5	06	25	59	-13	01	L	2	2416	L	O	20SEP78	16	42	10	1	30	PSA13	70
HD 45677	26	8.5	06	25	59	-13	01	H	2	2417	L	O	20SEP78	17	54	14	75	00	PSA13	56
HD 45677	26	8.5	06	25	59	-13	01	H	2	2418	L	O	20SEP78	19	43	10	12	00	PSA13	
HD 45677	26	8.5	06	25	59	-13	01	L	3	2707	L	O	20SEP78	17	43	51	2	00	PSA13	60
HD 47129	15	6.1	06	34	43	+06	11	H	2	2938	S	C	14NOV78	15	43	13	11	30	UK010	50
HD 47129	15	6.1	06	34	43	+06	11	H	3	3347	S	C	14NOV78	15	15	58	15	00	UK010	50
HD 47240	23	6.1	06	35	13	+05	00	H	2	2939	S	C	14NOV78	17	12	00	19	00	UK010	50
HD 47240	23	6.1	06	35	13	+05	00	H	3	3348	S	C	14NOV78	16	24	53	41	30	UK010	50
HD 47917	20	7.0	06	36	06	+06	57	H	2	2937	S	C	14NOV78	14	30	49	23	30	UK010	50
HD 47917	20	7.0	06	36	06	+06	57	H	3	3346	S	C	14NOV78	13	52	33	31	30	UK010	50
HD 47917	20	7.0	06	36	06	+06	57	H	3	3350	S	C	14NOV78	19	23	39	20	00	UK010	50A FEW LINES MISSING
HD 47839	12	4.8	06	38	14	+09	57	L	2	2471	S	C	26SEP78	23	04	00	1		PB030	50
HD 47839	12	4.8	06	38	14	+09	57	L	3	2777	S	C	26SEP78	23	01	00	1		PB030	50
HD 48099	12	6.3	06	39	18	+06	24	H	2	2936	S	C	14NOV78	13	06	14	11	00	UK010	50
HD 48099	12	6.3	06	39	18	+06	24	H	3	3345	S	C	14NOV78	12	44	59	11	30	UK010	50
HD 48977	20	5.9	06	43	49	+08	38	H	2	2940	S	C	14NOV78	18	30	38	7	20	UK010	50TWO LINES MISSING
HD 48977	20	5.9	06	43	49	+08	38	H	3	3349	S	C	14NOV78	18	03	22	7	00	UK010	50
HD 49798	16	8.6	06	46	35	-44	16	H	2	1603	S	C	02JUN78	23	30	37	13	00	KH001	WEAK MEAN 83DN
HD 49798	16	8.6	06	46	35	-44	16	H	2	1604	S	C	03JUN78	01	06	13	25	00	KH001	STILL A BIT WEAK MEAN112

OBJECT	CL	MAG	RT ASCN			DECLN		DISP +CAM	IMAGE	APERT OB LG	DATE	START			LENGTH MIN SC	PROG	COMMENT			
			HR	MN	SC	DEG	NN					HR	MN	SC						
HD 49798	16	8.6	06	46	35	-44	16	H	2	1620	S	C	05JUN78	01	29	29	35	00	KH001	OK BUT HAS HIT 255
HD 49798	16	8.3	06	46	35	-44	16	H	3	1336	S	C	09APR78	09	35	00	40	00	UKPOP	
HD 49798	16	8.6	06	46	35	-44	16	H	3	1698	S	C	02JUN78	22	42	33	25	00	KH001	GOOD MAX DN 178
HD 49798	16	8.6	06	46	35	-44	16	H	3	1699	S	C	03JUN78	00	20	00	35	00	KH001	GOOD LEVEL OF EXP
HD 50241	31	3.3	06	47	41	-61	53	H	2	1865	S	C	21JUL78	03	11	00	10	01	BN053	VERY GOOD
HD 50138	26	6.6	06	49	07	-06	54	H	2	3225	S	C	21DEC78	10	42	16	75	00	NH051	77
HD 50138	26	6.6	06	49	07	-06	54	L	2	3226	L	O	21DEC78	12	31	18	1	00	NH051	77
HD 50138	26	6.6	06	49	07	-06	54	H	2	3227	S	C	21DEC78	14	08	17	35	00	NH051	55
HD 50138	26	6.6	06	49	07	-06	54	L	2	3247	S	C	23DEC78	10	42	31	35		NH051	56
HD 50138	26	6.6	06	49	07	-06	54	L	2	3247	L	O	23DEC78	10	37	32	35		NH051	77
HD 50138	26	6.6	06	49	07	-06	54	H	3	3662	S	C	21DEC78	12	39	23	80	00	NH051	57
HD 50138	26	6.6	06	49	07	-06	54	L	3	3663	L	O	21DEC78	14	56	33	1	00	NH051	56
HD 50138	26	6.6	06	49	07	-06	54	L	3	3663	S	C	21DEC78	14	50	28	1	00	NH051	55
HD 50707	20	4.8	06	51	23	-20	10	L	2	2426	S	C	21SEP78	19	59	00	2		NH019	60
HD 50707	20	4.8	06	51	23	-20	10	L	2	2426	L	O	21SEP78	19	55	00	5		UK019	80
HD 50707	20	4.8	06	51	23	-20	10	L	2	2434	B	O	22SEP78	16	49	14	1		UK019	40
HD 50707	20	4.8	06	51	23	-20	10	L	3	2721	S	O	21SEP78	20	09	24	4		UK019	80
HD 50707	20	4.8	06	51	23	-20	10	L	3	2731	S	O	22SEP78	17	44	01	1		UK019	60
HD 50896	11	6.5	06	52	08	-23	52	H	2	1290	S	C	09APR78	06	41	55	8	00	UKPOP	
HD 50896	11	6.5	06	52	08	-23	52	H	3	1335	S	C	09APR78	06	13	00	8	00	UKPOP	
HD 53138	23	3.0	07	00	56	-23	46	H	2	1322	S	C	16APR78	06	45	00	4	00	MHR02	BIT OXP LW
HD 53138	23	3.0	07	00	56	-23	46	H	3	1368	S	C	16APR78	05	38	30	10	00	MHR02	BIT OXP LW
HD 53244	25	4.1	07	01	30	-15	34	H	2	2593	S	C	13OCT78	16	42	32	2	30	FM050	50
HD 53244	25	4.1	07	01	30	-15	34	H	3	2958	S	C	13OCT78	16	09	14	3	20	FM050	40
HD 53244	25	4.1	07	01	30	-15	34	H	3	2959	S	C	13OCT78	17	18	21	6	30	FM050	50
HD 53244	25	4.1	07	01	30	-15	34	H	3	3448	S	C	25NOV78	17	01	26	3	20	FM050	40
HD 54605	41	2.0	07	06	21	-26	18	L	2	2760	L	O	30OCT78	16	32	59	24		RB039	30 REFERS TO 2100
+34 1543	16	9.4	07	06	50	+34	30	L	2	2780	S	C	31OCT78	19	02	05	5	30	UK036	40
+34 1543	16	9.4	07	06	50	+34	30	L	2	2780	L	O	31OCT78	18	51	16	3	35	UK036	60
+34 1543	16	9.4	07	06	50	+34	30	L	3	3197	S	C	31OCT78	18	08	37	3	10	UK036	50
+34 1543	16	9.4	07	06	50	+34	30	L	3	3197	L	O	31OCT78	17	57	35	2	05	UK036	50
0711+22	16	10.0	07	11	31	+22	23	L	2	2781	L	O	31OCT78	21	02	21	3	50	UK036	50
0711+22	16	10.0	07	11	31	+22	23	L	3	3198	S	C	31OCT78	20	22	15	4	10	UK036	50
0711+22	16	10.0	07	11	31	+22	23	L	3	3198	L	O	31OCT78	20	11	30	2	50	UK036	50
HD 56096	48	3.8	07	12	00	-44	34	H	2	2447	S	C	23SEP78	16	52	00	53	00	UKFIL	11 NOISY IMAGE
HD 56014	21	4.7	07	12	12	-26	16	H	2	2543	S	C	06OCT78	15	39	05	1	30	LH006	40
HD 56014	21	4.7	07	12	12	-26	16	H	3	2866	S	C	06OCT78	14	37	37	2	00	LH006	??
HD 57150	21	4.7	07	16	32	-36	38	H	2	2544	S	C	06OCT78	17	36	00	2	00	LH006	50
HD 57150	21	4.7	07	16	32	-36	38	H	3	2867	S	C	06OCT78	16	29	00	1	20	LH006	40
HD 57150	21	4.7	07	16	32	-36	38	H	3	2868	S	C	06OCT78	17	01	00	2	00	LH006	40
HD 57060	13	4.9	07	16	35	-24	28	H	2	1323	S	C	16APR78	09	19	24	7	00	MHR02	
HD 57060	13	4.9	07	16	35	-24	28	H	3	1369	S	C	16APR78	08	10	00	7	00	MHR02	QUITE GOOD
HD 58350	24	2.4	07	22	07	-29	12	H	3	2960	S	C	13OCT78	18	12	12	1	10	FM050	40
HD 59612	33	4.8	07	27	44	-22	55	H	2	2913	S	C	11NOV78	12	41	21	35	00	RB041	50
HD 59612	33	4.8	07	27	44	-22	55	H	3	3305	S	C	11NOV78	13	22	44	90	00	RB041	50
-31 4800	16	9.5	07	34	35	-32	06	L	2	1845	L	O	18JUL78	01	11	37	150	00	UK003	A BIT STRONGER AT 2800
-31 4800	16	9.5	07	34	35	-32	06	L	3	2072	S	O	21JUL78	21	00	45	5	40	UK003	XP X3
-31 4800	16	9.5	07	34	35	-32	06	L	3	2072	L	O	21JUL78	20	47	16	3	30	UK003	XP X3

OBJECT	CL	MAG	RT ASCN HR MN SC	DECLN DEG MN	DISP +CAM	APERT DB LG	DATE	START HR MN SC	LENGTH MIN SC	PROG	COMMENT
-31 4800	16	9.5	07 34 35	+32 06	L 3	2073 S O	21JUL78	21 49 00	1 30	UK003	GOOD MAX DN 170
-31 4800	16	9.5	07 34 35	+32 06	H 3	2074 S C	21JUL78	22 32 00	180 00	UK003	VERY GOOD A FEW PIX SAT
HD 61421	41	.3	07 36 41	+05 21	L 2	2763 L O	30OCT78	19 09 27	6	RB039	70REFERS TO 2100
HD 61421	41	.3	07 36 41	+05 21	H 2	2764 S C	30OCT78	19 42 07	6 00	RB039	60REFERS TO 2100
HD 61421	41	.3	07 36 41	+05 21	H 2	2765 S C	30OCT78	20 19 42	4 00	RB039	50REFERS TO 2100
HD 61421	41	.3	07 36 41	+05 21	L 2	2766 L O	30OCT78	21 09 00	3	RB039	50REFERS TO 2100
HD 61421	41	.3	07 36 41	+05 21	H 2	2767 S C	30OCT78	21 38 12	1 00	RB039	60
HD 61421	41	.3	07 36 41	+05 21	L 3	2802 L O	29SEP78	16 34 33	15 00	UK001	80
HD 61421	41	.3	07 36 41	+05 21	L 3	2803 L O	29SEP78	17 27 21	5 00	UK001	70
HD 61421	41	.3	07 36 41	+05 21	H 3	2804 L O	29SEP78	18 16 23	30 00	UK001	70
HD 61421	41	.3	07 36 41	+05 21	L 3	2826 L O	01OCT78	17 18 30	1 00	UK001	60LW SAT
NGC 2440	71	11.0	07 39 00	-18 05	L 2	2645 S O	18OCT78	14 58 00	25 00	MP026	22
NGC 2440	71	11.0	07 39 00	-18 05	L 3	3023 L O	18OCT78	16 01 24	40 00	MP028	06
NGC 2440	70	11.0	07 39 00	-18 05	L 3	3024 L O	18OCT78	17 13 49	50 00	MP028	37
HD 62509	46	1.2	07 42 15	+28 09	H 2	2631 S C	17OCT78	14 38 10	10 00	UK020	65
HD 64740	23	4.8	07 51 39	-49 29	H 2	1605 S C	03JUN78	03 15 42	2 24	KH001	OK HAS HIT 255
HD 64740	23	4.8	07 51 39	-49 29	H 3	1700 S C	03JUN78	02 11 39	2 24	KH001	OVEREXPOSED
HD 64740	23	4.8	07 51 39	-49 29	H 3	1701 S C	03JUN78	03 58 42	1 16	KH001	OK MAX DN 155
-03 2179	16	10.4	07 59 44	-03 50	L 2	2806 L O	02NOV78	16 17 31	2 00	UK036	60
-03 2179	16	10.4	07 59 44	-03 50	L 2	2806 S C	02NOV78	16 47 06	1 20	UK036	50
-03 2179	16	10.4	07 59 44	-03 50	L 3	3209 S O	02NOV78	16 17 31	1 20	UK036	50
-03 2179	16	10.4	07 59 44	-03 50	L 3	3209 L O	02NOV78	16 11 42	50	UK036	60
HD 66811	13	2.3	08 01 49	+39 51	H 3	1547 S C	15MAY78	04 20 00	7	KH052	GOOD
+75 325	16	9.5	08 04 43	+75 07	L 2	1520 S C	20MAY78	02 17 51	3 00	UKPOP	OVEREXP
+75 325	16	9.5	08 04 43	+75 07	L 2	1520 L O	20MAY78	02 05 00	3 00	UKPOP	OVEREXP
+75 325	16	9.5	08 04 43	+75 07	L 2	1522 L O	20MAY78	07 39 20	1 00	UKPOP	QUITE GOOD
+75 325	16	9.5	08 04 43	+75 07	L 2	1522 S C	20MAY78	07 27 00	1 00	UKPOP	QUITE GOOD
+75 325	16	9.0	08 04 43	+75 07	L 2	1838 S O	16JUL78	21 11 52	30	UK003	UXP
+75 325	16	9.0	08 04 43	+75 07	L 2	1838 L O	16JUL78	21 00 13	30	UK003	WEAK MAX DN 155
+75 325	16	9.0	08 04 43	+75 07	H 2	2794 S C	01NOV78	15 58 05	85 00	KH001	60
+75 325	16	9.5	08 04 43	+75 07	L 2	3282 S C	26DEC78	10 53 05	55	UKCAL	40
+75 325	16	9.5	08 04 43	+75 07	L 2	3282 L O	26DEC78	10 49 23	35	UKCAL	50
+75 325	16	9.5	08 04 43	+75 07	H 2	3283 S C	26DEC78	11 38 11	50 00	UKCAL	50 TWO EXPOSURES OF 25MIN
+75 325	16	9.5	08 04 43	+75 07	L 3	1581 L O	20MAY78	01 30 00	1 00	UKPOP	OVEREXP
+75 325	16	9.5	08 04 43	+75 07	L 3	1581 S C	20MAY78	01 24 00	1 00	UKPOP	OVEREXP
+75 325	16	9.5	08 04 43	+75 07	L 3	1583 S C	20MAY78	07 19 58	30	UKPOP	GOOD
+75 325	16	9.5	08 04 43	+75 07	L 3	1583 L O	20MAY78	07 16 40	30	UKPOP	GOOD
+75 325	16	9.0	08 04 43	+75 07	L 3	2031 S O	16JUL78	21 24 07	20	UK003	GOOD
+75 325	16	9.0	08 04 43	+75 07	L 3	2031 L O	16JUL78	21 18 49	20	UK003	GOOD MAX DN 230
+75 325	16	9.0	08 04 43	+75 07	H 3	3205 S C	01NOV78	14 45 58	65 00	KH001	50
+75 325	16	9.5	08 04 43	+75 07	H 3	3710 S C	26DEC78	10 58 19	35 00	UKCAL	40
+75 325	16	9.5	08 04 43	+75 07	L 3	3711 S C	26DEC78	12 11 26	24	UKCAL	50
+75 325	16	9.5	08 04 43	+75 07	L 3	3711 L O	26DEC78	12 07 54	15	UKCAL	50
HD 68273	10	1.8	08 07 59	-47 11	H 2	1315 S C	14APR78	06 08 12	5	KH052	GAM2 VEL, OK
HD 68273	10	1.8	08 07 59	-47 11	H 2	1316 S C	14APR78	08 03 03	8	KH052	GAM2 VEC, OK
HD 68273	10	1.8	08 07 59	-47 11	H 2	1396 S C	27APR78	03 58 10	7	KH052	GAM2 VEL
HD 68273	10	1.8	08 07 59	-47 11	H 2	1497 S C	15MAY78	01 39 00	7	KH052	GOOD
HD 68273	10	1.8	08 07 59	-47 11	H 2	1498 S C	15MAY78	03 04 00	8	KH052	GOOD

OBJECT	CL	MAG	RT ASCN			DECLN	DISP	IMAGE	APERT	DATE	START			LENGTH	PROG	COMMENT
			HR	MN	SC						DEG	MM	+CAM			
HD 68273	10	1.8	08	07	59	-47 11	H 2	1543	S C	23MAY78	01	53	39	7	UKPOP	GOOD MAX DN 240
HD 68273	10	1.8	08	07	59	-47 11	H 2	1651	S C	10JUN78	23	47	00	7	UK002	GAMMA VEL GOOD EXP
HD 68273	10	1.8	08	07	59	-47 11	H 2	1691	S C	19JUN78	00	42	52	7	UK002	GOOD
HD 68273	10	1.8	08	07	59	-47 11	H 3	1358	S C	14APR78	05	05	59	3	KH052	GAM2 VEL, SLIGHTLY UXP,
HD 68273	10	1.8	08	07	59	-47 11	H 3	1359	S C	14APR78	08	24	59	6	KH052	GAM2 VEL, GOOD FOR CONT.
HD 68273	10	1.8	08	07	59	-47 11	H 3	1413	S C	25APR78	05	56	00	5	KH052	GOOD
HD 68273	10	1.8	08	07	59	-47 11	H 3	1425	S C	27APR78	05	10	00	5	KH052	GOOD
HD 68273	10	1.8	08	07	59	-47 11	H 3	1545	S C	15MAY78	00	52	00	5	KH052	GOOD
HD 68273	10	1.8	08	07	59	-47 11	H 3	1546	S C	15MAY78	02	23	00	6	KH052	GOOD
HD 68273	10	1.8	08	07	59	-47 11	H 3	1605	S C	23MAY78	01	04	00	5	UKPOP	GOOD GAM2 VEL
HD 68273	10	1.8	08	07	59	-47 11	H 3	1606	S C	23MAY78	02	38	12	5	UKPOP	GOOD, 1909 SAT
HD 68273	10	1.8	08	07	59	-47 11	H 3	1761	S C	10JUN78	23	00	13	5	UK002	GAMMA VEL GOOD EXP
HD 68273	10	1.8	08	07	59	-47 11	H 3	1811	S C	19JUN78	00	53	38	5	UK002	GOOD
HD 69190	26	8.5	08	12	28	-41 33	L 2	2395	L O	18SEP78	16	29	32	4	PSA13	44NO SPECTRUM BLUEOF2400
HD 69190	26	8.5	08	12	28	-41 33	L 3	2684	L O	18SEP78	16	58	42	45	PSA13	34UXP X2
PUP A	59	16.0	08	22	33	-42 49	L 2	3039	L O	26NOV78	14	40	00	91	UK037	110FFSFT FROM XRAY POSN
PUP A	59	16.0	08	22	33	-42 49	L 3	3460	L O	26NOV78	14	38	00	60	UK037	1?IN XRAY POSITION
0832-01	16	10.0	08	32	01	-01 45	L 2	2807	L O	02NOV78	18	54	40	2	UK036	50
0832-01	16	10.0	08	32	01	-01 45	L 2	2807	S C	02NOV78	18	45	08	4	UK036	40
0832-01	16	10.0	08	32	01	-01 45	L 3	3210	S C	02NOV78	18	08	38	3	UK036	50
0832-01	16	10.0	08	32	01	-01 45	L 3	3210	L O	02NOV78	17	38	33	2	UK036	60
HD 73340	36	5.8	08	34	23	-50 47	H 2	1780	S C	05JUL78	03	03	18	20	VILSP	0XP AT LONG WL
HD 73340	36	5.8	08	34	23	-50 47	H 3	1916	S C	05JUL78	02	25	09	30	VILSP	0XP AT LONG WL
HD 73340	36	5.8	08	34	23	-50 47	H 3	1917	S C	05JUL78	04	13	06	10	VILSP	OK AT LONG WL
JUPITER	03	-2.0	08	43	26	+18 41	L 2	3133	L O	10DEC78	11	36	22	2	UK043	20MAGNETOSPHERE?
JUPITER	03	-2.0	08	43	26	+18 41	L 2	3133	S O	10DEC78	11	36	22	2	UK043	70EQUATOR,CENTRAL MERID
JUPITER	03	-2.0	08	43	26	+18 41	L 2	3134	S O	10DEC78	12	19	06	15	UK043	50EQUATOR,CENTRAL MERID
JUPITER	03	-2.0	08	43	26	+18 41	L 2	3135	S O	10DEC78	12	54	40	15	UK043	50EQUATOR,EAST LIMB
JUPITER	03	-2.0	08	43	26	+18 41	L 2	3136	S O	10DEC78	13	25	48	15	UK043	10MISSED WEST LIMB
JUPITER	03	-2.0	08	43	26	+18 41	L 2	3137	L O	10DEC78	13	59	00	15	UK043	70SOUTH POLE AT END L AP
JUPITER	03	-2.0	08	43	26	+18 41	L 2	3137	S O	10DEC78	13	59	00	15	UK043	30NORTH POLE
JUPITER	03	-2.0	08	43	26	+18 41	L 2	3138	S O	10DEC78	14	41	30	15	UK043	50EQUATOR,MID LONGITUDE
JUPITER	03	-2.0	08	43	26	+18 41	L 2	3139	S O	10DEC78	15	16	17	15	UK043	10MISSED SOUTH POLE
JUPITER	03	-2.0	08	43	26	+18 41	L 3	3568	L O	10DEC78	11	46	13	20	UK043	02LYMAN ALPHA
JUPITER	03	-2.0	08	43	26	+18 41	L 3	3568	S O	10DEC78	11	46	13	20	UK043	42EQUATOR,CENTRAL MERID
GANYMEDE	04	5.0	08	43	43	+18 40	L 2	3140	L O	10DEC78	16	00	51	1	UK043	50
GANYMEDE	04	5.0	08	43	43	+18 40	L 2	3140	S O	10DEC78	15	52	01	4	UK043	70
HD 75311	20	4.0	08	45	25	-56 35	H 2	2545	S C	06OCT78	18	56	00	3	LH006	60
HD 75311	20	4.0	08	45	25	-56 35	H 3	2849	S C	06OCT78	18	16	00	2	LH006	40
VELA X1	59	6.9	09	00	13	-40 21	H 2	1418	L O	30APR78	06	43	00	70	XR001	GOOD FEW PIX OVEREXP,
HD 77581	23	6.9	09	00	13	-40 21	H 2	3120	L O	07DEC78	13	34	00	50	HM043	40
VELA X1	59	6.9	09	00	13	-40 21	H 3	1442	L O	30APR78	03	28	50	180	XR001	GOOD
HD 77581	59	6.5	09	00	13	-40 21	H 3	3510	L O	02DEC78	16	11	10	90	UK037	40VELA X=1
HD 77581	59	6.9	09	00	13	-40 21	H 3	3519	L O	03DEC78	15	21	40	140	HM043	50
HD 77581	23	6.9	09	00	13	-40 21	H 3	3550	L O	07DEC78	11	09	15	140	HM043	44
0904-02	16	10.0	09	04	37	-02 54	L 3	3211	S C	02NOV78	19	29	13	4	UK036	50
0904-02	16	10.0	09	04	37	-02 54	L 3	3211	L O	02NOV78	19	19	27	2	UK036	60
HD 78316	36	5.1	09	05	2	+10 52	H 2	1303	S C	11APR78	06	20	00	20	UKPOP	SOME SAT LW

OBJECT	CL	MAG	RT	ASCN	DECLN	DISP	APERT	START	LENGTH	PROG	COMMENT								
			HR	NN	DEG	MM	DB	LG	DATE	HR	NN	SC	MIN	SC					
HD 78316	36	5.1	09	05	02	+10 52	H	3	1349	S	C	11APR78	04	53	00	35	00	UKPOP	
HD 80836	30	10.3	09	18	44	+45 23	L	2	1844	L	O	17JUL78	22	03	00	5	00	UK003	2 EXP. ONE SAT, ONE OK
HD 80836	30	10.3	09	18	44	+45 23	L	3	2038	L	O	17JUL78	21	15	00	5	00	UK003	2 EXP NOT WELL SEP, UXF
+37 1977	16	9.5	09	21	18	+36 56	L	2	2779	S	O	31OCT78	16	59	17	1	30	UK036	50
+37 1977	16	9.5	09	21	18	+36 56	L	3	2779	L	O	31OCT78	16	53	17	1	00	UK036	50
+37 1977	16	9.5	09	21	18	+36 56	L	3	3196	S	O	31OCT78	16	21	42	1	00	UK036	50
+37 1977	16	9.5	09	21	18	+36 56	L	3	3196	L	O	31OCT78	16	16	55	1	00	UK036	50
HD 83183	24	4.1	09	33	00	+59 00	H	3	2963	S	C	13OCT78	21	29	04	12	00	FM050	70
HD 83183	24	4.1	09	33	00	+59 00	H	3	3451	S	C	25NOV78	19	38	00	6	00	FM050	60
TITAN	04	8.0	09	46	28	+15 00	L	2	1521	S	C	20MAY78	04	25	00	30	00	UKPOP	UNDEPEXP MAXDN 120
TITAN	04	8.0	09	46	28	+15 00	L	3	1582	S	C	20MAY78	05	05	00	30	00	UKPOP	NO SPECTRUM
HD R6440	24	3.5	09	55	07	+54 21	H	3	3449	S	C	25NOV78	17	54	00	2	20	FM050	50
HD 87141	41	5.7	10	01	18	+54 08	H	2	1653	S	C	11JUN78	05	09	36	30	00	UK020	WEAK MAX DN 110
HD 87737	32	3.5	10	04	36	+17 00	H	2	2914	S	C	11NOV78	16	30	28	2	30	RB041	50
HD 87737	32	3.5	10	04	36	+17 00	H	2	2915	S	C	11NOV78	17	15	48	7	30	RB041	70
HD 87737	32	3.5	10	04	36	+17 00	H	3	3306	S	C	11NOV78	15	44	43	5	01	RB041	50
HD 87737	32	3.5	10	04	36	+17 00	H	3	3307	S	C	11NOV78	16	46	00	15	00	RB041	70
HD 88015	21	6.7	10	05	37	+48 01	L	2	1894	L	O	26JUL78	03	36	00	15		VILSP	A BIT SAT
HD 88015	21	6.7	10	05	37	+48 01	L	2	1894	S	O	26JUL78	03	34	33	15		VILSP	GOOD
Q1011+25	85	15.4	10	11	06	+25 04	L	2	2986	L	O	20NOV78	15	04	17	280	00	UK13A	34BACKGROUND 60DN
Q1011+25	85	15.6	10	11	06	+25 04	L	2	3126	L	O	06DEC78	11	37	59	368	00	UK13A	33
SKY	07	00.0	10	11	06	+25 04	L	3	3394	L	O	20NOV78	15	07	22	265	00	UK13A	00ONLY GEOCORONA
Q1011+25	85	15.4	10	11	06	+25 04	L	3	3434	L	O	24NOV78	13	53	00	350	00	UK13A	20
HD 89890	21	4.6	10	19	03	+55 47	H	2	2546	S	C	06OCT78	20	42	00	6	00	LH006	50
HD 89890	21	4.6	10	19	03	+55 47	H	3	2870	S	C	06OCT78	19	41	00	5	40	LH006	40
HD 89890	21	4.6	10	19	03	+55 47	H	3	2871	S	C	06OCT78	20	22	00	11	00	LH006	70
HD 89822	36	4.9	10	20	33	+65 49	H	2	2579	S	C	11OCT78	18	53	43	12	00	UK025	60
HD 89822	36	4.9	10	20	33	+65 49	H	3	2922	S	C	11OCT78	19	12	54	15	00	UK025	50
NGC 3242	70	11.0	10	22	22	+18 23	L	2	3031	S	O	25NOV78	14	52	52	3	00	PR029	20
NGC 3242	70	11.0	10	22	22	+18 23	L	2	3031	L	O	25NOV78	14	38	36	3	00	PR029	43
NGC 3242	70	11.0	10	22	22	+18 23	L	3	3446	L	O	25NOV78	15	16	02	2	00	PR029	34
NGC 3242	71	11.0	10	22	22	+18 23	L	3	3447	L	O	25NOV78	15	49	10	5	00	PR029	25NUCLEUS NOT QUITE OUT
HD 91316	23	3.9	10	30	11	+09 34	L	2	1274	S	C	03APR78	05	05	15	5		PR030	GOOD
HD 91316	23	3.9	10	30	11	+09 34	L	3	1303	S	C	03APR78	05	48	13	3		PR030	GOOD
HD 91316	23	3.8	10	30	11	+09 34	H	3	3046	S	C	19OCT78	14	31	17	1	20	UK041	20MISSSED APERT?
HD 91316	23	3.8	10	30	11	+09 34	H	3	3047	S	C	19OCT78	15	03	58	5	00	UK041	80
1032+40	16	10.0	10	32	26	+40 36	L	2	2778	S	C	31OCT78	15	30	29	5	05	UK036	60
1032+40	16	10.0	10	32	26	+40 36	L	2	2778	L	O	31OCT78	15	19	53	3	25	UK036	50
1032+40	16	10.0	10	32	26	+40 36	L	3	3195	L	O	31OCT78	14	46	09	2	40	UK036	50
1032+40	16	10.0	10	32	26	+40 36	L	3	3195	S	C	31OCT78	14	33	55	4	05	UK036	50
+10 2179	21	10.0	10	36	17	+10 19	L	2	2795	S	C	01NOV78	19	24	25	8	00	KH001	60
+10 2179	21	10.0	10	36	17	+10 19	L	2	2795	L	O	01NOV78	18	55	03	8	00	KH001	70
+10 2179	24	9.0	10	36	17	+10 19	L	3	1702	S	O	03JUN78	05	38	40	5	00	KH001	NO SPECTRUM
+10 2179	24	9.0	10	36	17	+10 19	L	3	1702	L	O	03JUN78	05	19	25	8	00	KH001	SPECTRUM TRAILED
+10 2179	24	9.0	10	36	17	+10 19	L	3	1721	L	O	05JUN78	04	47	02	14	00	KH001	OVEREXPOSED X 2
+10 2179	24	9.0	10	36	17	+10 19	L	3	1721	S	C	05JUN78	04	29	19	7	00	KH001	OK BUT HAS HIT 255
+10 2179	21	10.0	10	36	17	+10 19	L	3	3206	L	O	01NOV78	19	37	19	6	00	KH001	80
HD 93128	12	7.5	10	42	01	+59 17	L	3	2651	L	O	14SEP78	21	50	00	6	12	PSB13	01STAR NOT IN AP.

OBJECT	CL	MAG	RT ASCN HR MN SC	DECLN DEG MN	DISP +CAM	APERT IMAGE OB LG	DATE	START HR MN SC	LENGTH MIN SC	PRG	COMMENT
HD 93162	11	8.1	10 42 14	+59 27	L 2	2419 L O	20SEP78	22 07 00	2 00	PSB13	
HD 93162	11	8.1	10 42 14	+59 27	L 3	2708 L O	20SEP78	21 00 00	5 30	PSB13	99
HD 93162	11	8.1	10 42 14	+59 27	L 3	2708 S C	20SEP78	21 13 04	6 00	PSB13	89
HD 93162	11	8.1	10 42 14	+59 27	L 3	2709 S C	20SEP78	22 35 20	2 00	PSB13	55
HD 93162	11	8.1	10 42 14	+59 27	L 3	2709 L O	20SEP78	22 25 46	2 00	PSB13	66
HD 93205	12	7.7	10 42 37	+59 28	L 3	2710 L O	20SEP78	23 29 11	20	PSB13	
HD 93205	12	7.7	10 42 37	+59 28	L 3	2710 S C	20SEP78	23 23 30	40	PSB13	
HD 93205	12	7.7	10 42 37	+59 28	H 3	3164 S C	26OCT78	20 51 40	50 00	PSB13	70
HD 93308	61	6.0	10 43 07	+59 25	H 2	1592 L O	01JUN78	23 47 33	20 00	UKPOP	SOME EM LINES SAT.
HD 93308	61	6.0	10 43 07	+59 25	L 3	1687 L O	01JUN78	23 19 00	2 00	UKPOP	EM LINES SAT. MEAN 150DN
HD 93308	61	6.0	10 43 07	+59 25	H 3	1688 L O	02JUN78	01 04 42	40 00	UKPOP	VERY WEAK
HD303308	12	8.1	10 43 09	+59 24	L 2	2356 L O	14SEP78	17 37 04	48	PSB13	66
HD303308	12	8.1	10 43 09	+59 24	L 2	2356 S C	14SEP78	17 31 49	1 36	PSB13	66
HD303308	12	8.1	10 43 09	+59 24	L 3	2650 L O	14SEP78	17 17 33	46	PSB13	44
HD303308	12	8.1	10 43 09	+59 24	L 3	2650 S C	14SEP78	17 11 23	1 36	PSB13	55
HD 93308	23	8.0	10 43 11	+59 47	H 2	1537 S C	22MAY78	06 20 00	35 00	VB032	GOOD
HD 93308	23	8.0	10 43 11	+59 47	H 2	1556 S C	25MAY78	03 11 38	35 00	VB032	NOT THE TARGET
HD 93308	23	8.0	10 43 11	+59 47	L 3	1600 L O	22MAY78	05 54 00	5 00	VB032	OVEREXP LW
HD 93308	23	8.0	10 43 11	+59 47	L 3	1600 S C	22MAY78	05 38 00	1 30	VB032	QUITE GOOD
HD 93308	23	8.0	10 43 11	+59 47	H 3	1629 S C	25MAY78	00 59 17	120 00	VB032	NOT THE TARGET
HD 93308	23	8.0	10 43 11	+59 47	H 3	1630 S C	25MAY78	04 15 17	120 00	VB032	GOOD
NGC 3379	81	9.7	10 45 11	+12 51	L 2	2960 L O	17NOV78	12 39 31	425 00	FBR24	55
HD 93521	12	6.9	10 45 34	+37 50	H 2	1304 S C	11APR78	09 30 00	25 00	UKPOP	SAT LW
HD 93521	12	6.9	10 45 34	+37 50	H 2	1544 S C	23MAY78	05 43 37	10 00	UKPOP	GOOD
HD 93521	12	6.9	10 45 34	+37 50	H 3	1350 S C	11APR78	08 15 00	30 00	UKPOP	OVER,OK NEAR 1200+1500
HD 93521	12	6.9	10 45 34	+37 50	H 3	1607 S C	23MAY78	05 07 24	10 00	UKPOP	VERY GOOD
HD 94878	26	8.7	10 53 58	+60 07	L 2	2396 S C	18SEP78	18 55 37	60 00	PSA13	77
HD 94878	26	8.7	10 53 58	+60 07	L 2	2396 L O	18SEP78	18 36 44	10 00	PSA13	77
HD 94878	26	8.7	10 53 58	+60 07	L 2	2397 L O	18SEP78	20 41 52	2 00	PSA13	56
HD 94878	26	8.7	10 53 58	+60 07	L 3	2685 L O	18SEP78	20 03 43	30 00	PSA13	86
HD 94878	26	8.7	10 53 58	+60 07	L 3	2686 L O	18SEP78	21 29 02	4 00	PSA13	45
HD 95689	46	1.8	11 00 40	+62 01	H 2	1318 S C	15APR78	05 54 00	30 00	UKPOP	GOOD
HD 95689	46	1.8	11 00 40	+62 01	H 2	1319 S C	15APR78	08 42 00	15 00	UKPOP	GOOD
HD 95689	46	1.8	11 00 40	+62 01	H 3	1362 S C	15APR78	07 36 00	30 00	UKPOP	LXP SW
HD 95689	46	1.8	11 00 40	+62 01	L 3	1363 S C	15APR78	09 30 00	35 00	UKPOP	SAT, LW
01101-26	85	16.1	11 01 00	+26 29	L 2	2982 L O	19NOV78	13 18 00	386 00	UK138	30BACKGROUND AT 100DN
1101-26	85	16.1	11 01 00	+26 29	L 3	3295 L O	10NOV78	13 05 45	400 00	UK138	11
NGC 3516	84	13.6	11 03 23	+72 50	L 2	1669 S O	14JUN78	23 22 18	120 00	SL034	UNDEREXP MAX DN 110
NGC 3516	84	13.6	11 03 23	+72 50	L 2	1703 L O	21JUN78	04 50 00	50 00	MU009	WEAK MAX DN 84
NGC 3516	84	13.6	11 03 23	+72 50	L 3	1786 S O	15JUN78	01 39 22	240 00	SL034	UNDEREXP MAX DN 83
NGC 3516	84	13.6	11 03 23	+72 50	L 3	1821 L O	20JUN78	23 38 01	300 00	MU009	OK MAX DN 130
NGC 3516	84	13.6	11 03 23	+72 50	L 3	1840 L O	22JUN78	23 06 00	390 00	MU009	GOOD MAX DN 160
HD 97991	20	7.4	11 13 39	+03 12	H 2	1739 S C	28JUN78	01 05 00	17 00	UK06A	GOOD
HD 97991	20	7.4	11 13 39	+03 12	H 3	1870 S C	27JUN78	23 39 00	13 00	UK06A	ABIT WEAK MAX DN 135
COM1978H	06	7.0	11 21 33	+67 39	L 2	2646 S C	18OCT78	19 27 00	137 00	VILSP	05
COM1978H	06	7.0	11 21 33	+67 39	L 2	2646 L D	18OCT78	19 27 00	137 00	VILSP	08
COM1978H	06	7.0	11 21 33	+67 39	L 3	3025 S O	18OCT78	19 25 48	180 00	VILSP	??READ AT GSFC
COM1978H	06	7.0	11 21 33	+67 39	L 3	3025 L O	18OCT78	19 25 48	180 00	VILSP	??READ AT GSFC

OBJECT	CL	MAG	PT ASCN			DECLN	DISP	APERT	DATE	START			LENGTH	PROG	COMMENT		
			HR	MN	SC					DEG	MN	+CAM				IMAGE	DB
ESO 113	85	13.2	11	21	51	-59 04	L 2	1954	L 0	02AUG78	20	07	54	45	00	UK138	56
ESO 113	85	13.2	11	21	51	-59 04	L 3	2178	L 0	02AUG78	21	16	37	45	00	UK138	45
HD100841	25	3.1	11	33	28	-62 45	H 2	2594	S C	13OCT78	19	33	54	2	30	FM050	30
HD100841	25	3.1	11	33	28	-62 45	H 2	2595	S C	13OCT78	20	42	45	4	00	FM050	50
HD100841	25	3.1	11	33	28	-62 45	H 3	2961	S C	13OCT78	18	58	41	6	00	FM050	30
HD100841	25	3.1	11	33	28	-62 45	H 3	2962	S C	13OCT78	19	59	11	24	00	FM050	70
HD100841	25	3.1	11	33	28	-62 45	H 3	3450	S C	25NOV78	18	45	19	5	01	FM050	50
NGC 3783	84	13.0	11	36	33	-37 28	L 2	3040	L 0	26NOV78	17	57	00	60	00	UK037	34
NGC 3783	84	13.0	11	36	33	-37 28	L 2	3092	L 0	02DEC78	14	25	04	60	00	UK037	35
NGC 3783	84	13.0	11	36	33	-37 28	L 3	3461	L 0	26NOV78	17	11	40	40	00	UK037	23
NGC 3783	84	13.0	11	36	33	-37 28	L 3	3462	L 0	26NOV78	19	03	00	44	00	UK037	23
NGC 3783	84	13.0	11	36	33	-37 28	L 3	3509	L 0	02DEC78	11	02	03	180	00	UK037	37CIV SAT
S0251595	20	9.0	11	45	34	-61 55	L 2	1415	S C	29APR78	07	25	00	5	00	UKIXR	GOOD
S0251595	20	9.0	11	45	34	-61 55	L 2	2536	S C	04OCT78	16	56	48	25	00	PB042	70
S0251595	20	8.9	11	45	34	-61 55	L 2	2600	L 0	14OCT78	14	46	03	5	00	PB042	70
S0251595	20	8.9	11	45	34	-61 55	L 2	2601	L 0	14OCT78	15	48	58	1	30	PB042	50
S0251595	20	8.9	11	45	34	-61 55	L 2	2601	S C	14OCT78	15	36	08	4	30	PB042	70
S0251595	20	9.0	11	45	34	-61 56	L 3	1435	S C	29APR78	06	40	00	5	00	UKIXR	A BIT UXP MAXDN 120
S0251595	20	9.0	11	45	34	-61 55	L 3	2852	S C	04OCT78	16	21	30	15	00	PB042	80
S0251595	20	9.0	11	45	34	-61 55	L 3	2853	S C	04OCT78	17	00	00	6	00	PB042	50
S0251595	20	9.0	11	45	34	-61 55	L 3	2853	L 0	04OCT78	16	53	43	2	00	PB042	50
HD102870	41	3.6	11	48	06	+20 03	H 2	3192	S C	17DEC78	15	15	54	15	00	CB031	60BETA VIR
HD102870	41	3.6	11	48	06	+20 03	L 3	3624	L 0	17DEC78	16	12	23	3	00	CB031	30
HD102870	41	3.6	11	48	06	+20 03	L 3	3624	S C	17DEC78	16	05	40	3	00	CB031	30
NGC 4051	84	14.0	12	00	36	+44 49	L 3	1911	L 0	03JUL78	22	29	55	20	00	UK005	NO SPECTRUM
NGC 4051	84	14.0	12	00	36	+44 49	L 3	1912	L 0	04JUL78	03	17	26	85	00	UK005	UNDEREXPOSED
NGC 4051	84	14.0	12	00	36	+44 49	L 3	1938	L 0	08JUL78	00	03	05	240	00	UK005	A BIT WEAK
HD105183	34	10.0	12	04	06	+11 57	L 2	3191	L 0	17DEC78	14	02	31	11	00	CB031	50
HD105183	34	10.0	12	04	06	+11 57	L 3	3623	L 0	17DEC78	14	30	32	16	00	CB031	50
NGC4151	84	11.7	12	08	00	+39 41	L 2	1456	S C	08MAY78	05	19	00	60	00	XGAL	NO SPECTRUM
NGC4151	84	11.7	12	08	00	+39 41	L 2	1463	S C	09MAY78	06	41	00	60	00	XGAL	
NGC 4151	84	11.0	12	08	00	+39 42	L 2	1476	S C	12MAY78	03	23	01	120	00	XGAL	
NGC 4151	84	11.0	12	08	00	+39 41	L 2	1885	L 0	24JUL78	20	29	28	30	00	UK016	GOOD HITS 255 IN MGII
NGC 4151	84	11.4	12	08	00	+39 41	L 2	2650	L 0	19OCT78	18	02	43	25	00	UK041	55
NGC 4151	84	11.4	12	08	00	+39 41	L 2	2651	L 0	19OCT78	19	07	07	25	00	UK041	55
NGC 4151	84	12.0	12	08	00	+39 41	L 2	3129	L 0	09DEC78	11	10	33	30	00	PT037	56
NGC 4151	84	12.0	12	08	00	+39 41	L 2	3130	L 0	09DEC78	13	30	09	60	00	PT037	56
NGC4151	84	11.7	12	08	00	+39 41	L 3	1504	S C	08MAY78	03	00	00	60	00	XGAL	NO SPECTRUM
NGC4151	84	11.7	12	08	00	+39 41	L 3	1505	S C	08MAY78	07	00	00	40	00	XGAL	GOOD
NGC 4151	84	11.0	12	08	00	+39 42	L 3	1518	S C	11MAY78	01	14	00	240	00	XGAL	CONTIN, OVEREXP
NGC 4151	84	11.0	12	08	00	+39 42	L 3	1519	S C	11MAY78	06	40	00	60	00	XGAL	
NGC 4151	84	11.0	12	08	00	+39 42	L 3	1523	S C	12MAY78	01	12	07	120	00	XGAL	GOOD
NGC 4151	84	11.0	12	08	00	+39 42	L 3	1524	S C	12MAY78	05	37	00	120	00	XGAL	
NGC 4151	84	11.0	12	08	00	+39 41	L 3	2098	L 0	24JUL78	22	24	00	30	00	UK016	GOOD
NGC 4151	84	11.0	12	08	00	+39 41	L 3	2098	S 0	24JUL78	21	16	00	60	00	UK016	GOOD
NGC 4151	84	11.7	12	08	00	+39 41	H 3	2170	L 0	01AUG78	20	18	00	300	00	UK138	23
NGC 4151	84	11.7	12	08	00	+39 41	L 3	2171	L 0	02AUG78	02	08	18	30	00	UK138	45
NGC 4151	84	11.4	12	08	00	+39 41	L 3	3048	L 0	19OCT78	17	25	17	30	00	UK041	45

OBJECT	CL	MAG	PT ASCN			DFCLN		DISP		APERT		DATE	START			LENGTH		PRG	COMMENT	
			HR	MIN	SEC	DEG	MIN	+CAM	IMAGE	DB	LG		HR	MIN	SEC	MIN	SEC			
NGC 4151	84	11.4	12	08	00	+39	41	L	3	3048	S	0	19OCT78	16	18	08	60	00	UK041	35
NGC 4151	84	11.4	12	08	00	+39	41	L	3	3049	L	0	19OCT78	18	34	27	25	00	UK041	35
NGC 4151	84	11.4	12	08	00	+39	41	H	3	3114	L	0	23OCT78	14	27	21	433	00	UK041	23BACKGROUND AT 100DN
NGC 4151	84	12.0	12	08	00	+39	41	L	3	3557	S	C	09DEC78	12	23	45	60	00	PT037	25
NGC 4151	84	12.0	12	08	00	+39	41	L	3	3557	L	0	09DEC78	11	46	32	30	00	PT037	36
NGC 4151	84	11.5	12	08	00	+39	41	H	3	3704	L	0	25DEC78	11	05	20	400	00	UK007	23
MKN 205	85	1.3	12	19	37	+75	35	L	2	1346	L	0	20APR78	09	30	00	30	00	UKPOP	UNDEREXP
MKN 205	85	14.5	12	19	37	+75	35	L	2	3154	L	0	12DEC78	11	43	00	360	00	UK13A	44
MKN 205	85	1.3	12	19	37	+75	35	L	3	1392	L	0	20APR78	07	16	00	90	00	UKPOP	UNDEREXP
MKN 205	85	14.5	12	19	37	+75	35	L	3	2261	L	0	10AUG78	20	18	15	320	00	UK13A	55
01225+31	85	15.9	12	26	13	+31	44	L	3	3413	L	0	22NOV78	16	06	20	220	00	VILBP	11
HD108662	36	5.3	12	26	25	+26	11	H	2	2848	S	C	07NOV78	13	00	37	15	00	GM045	40
HD108662	36	5.3	12	26	25	+26	11	H	2	2849	S	C	07NOV78	14	11	44	22	00	GM045	50
HD108662	36	5.3	12	26	25	+26	11	H	2	2850	S	C	07NOV78	15	20	12	21	00	GM045	60
HD108662	36	5.3	12	26	25	+26	11	H	2	2844	S	C	09NOV78	14	26	18	20	00	UKPOP	UNDEREXP
HD108662	36	5.3	12	26	25	+26	11	L	3	3248	S	C	07NOV78	13	52	04	3	30	GM045	60SW PART OK
HD108662	36	5.3	12	26	25	+26	11	L	3	3249	S	C	07NOV78	15	10	40	2	30	ZM045	80SW PART OK
HD108662	36	5.3	12	26	25	+26	11	L	3	3250	S	C	07NOV78	16	21	47	2	10	GM045	80SW PART OK
HD108662	36	5.3	12	26	25	+26	11	H	3	3283	S	C	09NOV78	14	55	04	52	00	GM045	70
3C 273	85	13.0	12	26	33	+2	20	L	2	1447	S	0	06MAY78	05	54	20	105	00	XGAL	GDOO
3C 273	85	13.0	12	26	33	+2	20	L	2	1450	S	0	07MAY78	01	47	00	240	00	XGAL	
3C 273	85	13.0	12	26	33	+2	20	L	3	1492	S	0	06MAY78	02	40	56	180	00	XGAL	GOOD LYALF+CIV SATUR.
3C 273	85	13.0	12	26	33	+2	20	L	3	1498	S	0	07MAY78	06	26	00	60	00	XGAL	
3C 273	85	13.0	12	26	33	+2	20	L	3	1509	S	C	09MAY78	02	44	00	180	00	XGAL	
3C 273	85	12.8	12	26	36	+02	20	L	2	1886	L	0	24JUL78	23	41	00	50	00	UK016	GOOD
3C 273	85	12.8	12	26	36	+02	20	L	2	1887	L	0	25JUL78	01	41	04	40	00	UK016	GOOD
3C 273	85	12.8	12	26	36	+02	20	L	3	2099	L	0	25JUL78	00	40	41	50	00	UK016	GOOD JUST SAT IN LY ALFA
3C 273	85	12.8	12	26	36	+02	20	L	3	2100	S	0	25JUL78	02	31	30	70	00	UK016	VERY GOOD
M 87 GAL	A6	9.0	12	28	17	+12	40	L	2	1876	L	0	22JUL78	21	26	48	340	00	PT037	NO SPECTRUM
M 87 JET	A6	12.0	12	28	17	+12	40	L	2	3159	L	0	13DEC78	11	13	40	390	00	PT037	21
M 87 JET	B6	13.0	12	28	17	+12	40	L	2	2085	L	0	22JUL78	21	22	30	383	00	PT037	GOOD BUT NOISY IMAGE
M 87 JET	B6	12.0	12	28	17	+12	40	L	3	3571	L	0	11DEC78	11	37	00	370	00	PT037	20
M 87	81	12.0	12	28	17	+12	40	L	3	3584	L	0	13DEC78	11	16	19	360	00	PT037	11ONLY GECCORONA
M 87	81	10.0	12	28	18	+12	40	L	3	2157	L	0	30JUL78	20	59	00	400	00	FRB24	UNDEREXP EX AT LONG WL
HD108945	36	5.5	12	28	31	+24	51	H	2	2851	S	C	07NOV78	17	03	37	36	00	GM045	50
HD108945	36	5.5	12	28	31	+24	51	H	2	2852	S	C	07NOV78	18	26	19	36	00	GM045	60
HD108945	36	5.5	12	28	31	+24	51	H	2	2893	S	C	09NOV78	12	52	45	36	00	GM045	50
HD108945	36	5.5	12	28	31	+24	51	L	3	3251	L	0	07NOV78	18	19	10	1	30	GM045	70
HD108945	36	5.5	12	28	31	+24	51	L	3	3251	S	C	07NOV78	18	11	46	3	00	GM045	70
HD108945	36	5.5	12	28	31	+24	51	L	3	3252	L	0	07NOV78	19	35	30	1	30	GM045	70
HD108945	36	5.5	12	28	31	+24	51	L	3	3252	S	C	07NOV78	19	22	50	3	00	GM045	70
HD108945	36	5.5	12	28	31	+24	51	L	3	3281	L	0	09NOV78	12	45	39	1	30	GM045	70
HD108945	36	5.5	12	28	31	+24	51	L	3	3281	S	C	09NOV78	12	39	34	1	30	GM045	40
HD108945	36	5.5	12	28	31	+24	51	L	3	3282	L	0	09NOV78	13	42	32	1	30	GM045	70
HD108945	36	5.5	12	28	31	+24	51	L	3	3282	S	C	09NOV78	13	35	27	2	00	GM045	70
HD109358	44	4.3	12	31	54	+41	38	H	2	1788	S	C	06JUL78	22	10	53	40	00	MR003	A BIT STRONG
HD109358	44	4.3	12	31	54	+41	38	L	3	1925	S	C	06JUL78	22	59	42	50	00	MR003	UNDEREXPOSED
HD110379	40	3.6	12	39	09	+01	11	H	2	3193	S	C	17DEC78	17	02	51	2	00	CB031	30GAMMA VIR

OBJECT	CL	MAG	RT	ASCN	DECLN	DISP	APERT	DATE	START	LENGTH	PROG	COMMENT	
			HR	MN	SC	DEG	MIN		HR	MN	SC		
HD110370	40	3.6	12	30	09	-01 11	H 3	3625	S C	17DEC78	17 06 53	30 00	CR031 30
+52 1661	25	11.3	12	52	18	+52 01	L 2	3304	L O	27DEC78	16 16 14	27 00	FC027 10
+52 1661	25	11.3	12	52	18	+52 01	L 3	3727	L O	27DEC78	16 48 07	55 00	FC027 10
HD112413	25	2.9	12	53	41	+38 35	H 2	1477	S C	12MAY78	08 41 54	1 00	VILSP NO SPECTRUM
MKN 231	84	14.0	12	54	05	+57 09	L 2	3185	L O	16DEC78	11 35 50	370 00	UK033 23
MKN 231	84	14.0	12	54	05	+57 09	L 3	3670	L O	22DEC78	11 28 36	380 00	UK033 22
MKN 50	87	14.0	12	56	42	+35 08	L 2	1641	L O	09JUN78	04 16 19	85 00	UK042 OK MAX DN 136
MKN 50	87	14.0	12	56	42	+35 08	L 3	1748	L O	09JUN78	02 45 56	80 00	UK042 UNDEREXPOSED X 2
HD113904	10	5.6	13	04	52	-65 02	H 2	1535	S C	22MAY78	02 15 12	8 30	KH052 QUITE GOOD
HD113904	10	5.6	13	04	52	-65 02	H 2	1536	S C	22MAY78	03 32 07	5 00	KH052 QUITE GOOD
HD113904	10	5.5	13	04	52	-65 02	H 2	1652	S C	11JUN78	01 33 16	7 00	UK020 THETA MUS GOOD EXP
HD113904	10	5.5	13	04	52	-65 02	H 2	1659	S C	12JUN78	03 56 53	8 30	KH052 A BIT STRONG
HD113904	10	5.6	13	04	52	-65 02	H 2	1697	S C	20JUN78	01 13 00	8 30	KH052 GOOD FEW PIX SAT
HD113904	10	5.5	13	04	52	-65 02	H 2	1762	S C	01JUL78	22 11 00	8 30	KH052 OK BUT HAS HIT 255
HD113904	10	5.5	13	04	52	-65 02	H 2	1763	S C	01JUL78	23 54 16	12 00	KH052 OVEREXPOSED
HD113904	10	5.6	13	04	52	-65 02	H 3	1599	S C	22MAY78	01 16 33	6 30	KH052 GOOD THETA MUS
HD113904	10	5.5	13	04	52	-65 02	H 3	1762	S C	11JUN78	01 21 06	6 00	UK020 THETA MUS GOOD EXP
HD113904	10	5.5	13	04	52	-65 02	H 3	1769	S C	12JUN78	03 11 39	6 30	KH052 GOOD
HD113904	10	5.5	13	04	52	-65 02	H 3	1770	S C	11JUN78	05 04 34	8 00	KH052 GOOD
HD113904	10	5.6	13	04	52	-65 02	H 3	1816	S C	20JUN78	01 45 00	6 30	KH052 A BIT WEAK
HD113904	10	5.5	13	04	52	-65 02	H 3	1899	S C	01JUL78	21 56 00	6 30	KH052 GOOD
HD113904	10	5.5	13	04	52	-65 02	H 3	1900	S C	01JUL78	23 35 30	10 50	KH052 SLIGHTLY OVEREXPOSED
HD114710	44	4.3	13	09	32	+28 08	H 2	1764	S C	02JUL78	01 24 33	34 00	MR003 OVEREXPOSED AT LONG WL
HD114710	44	4.3	13	09	32	+28 08	L 3	1901	S C	02JUL78	02 07 10	32 00	MR003 WEAK
VENUS	03	4.0	13	14	21	-09 57	L 2	2200	S C	28AUG78	19 50 00	15 00	UK043 10WRONG COORDS
HD116658	20	1.0	13	22	42	-10 54	H 2	2222	S C	30AUG78	22 48 25	5 00	UK022 60
HD116658	20	1.0	13	22	42	-10 54	H 2	2223	S C	30AUG78	23 37 26	7 00	UK022 70
HD116658	20	1.0	13	22	42	-10 54	H 3	2418	S C	30AUG78	23 19 00	5 00	UK022 60
Q1331+17	85	16.0	13	31	10	+17 04	L 3	3544	L O	06DEC78	11 27 15	378 00	UK134 11BLIND OFFSET - FAILED?
FEIGE 86	23	9.2	13	36	06	+29 37	L 2	1327	S C	17APR78	07 55 00	15 00	MHD02 QUITE OVEREXP
+30 2431	21	10.0	13	36	06	+29 37	L 2	3303	S C	27DEC78	15 01 04	3 00	FC027 50
+30 2431	21	10.0	13	36	06	+29 37	L 2	3303	L O	27DEC78	14 55 14	3 00	FC027 60
FEIGE 86	23	9.2	13	36	06	+29 37	L 3	1374	S C	17APR78	05 45 00	12 00	MHD02
+30 2431	21	10.0	13	36	06	+29 37	L 3	3723	L O	27DEC78	15 13 51	4 00	FC027 50
+30 2431	21	10.0	13	36	06	+29 37	L 3	3723	S C	27DEC78	15 06 33	4 00	FC027 40
NGC 5253	88	12.7	13	37	05	-31 23	L 2	3131	L O	09DEC78	16 00 16	105 00	PT037 50
NGC 5253	88	12.7	13	37	05	-31 23	L 3	3558	L O	09DEC78	15 22 26	30 00	PT037 23
MKN 279	84	15.0	13	51	52	+69 33	L 2	3073	L O	30NOV78	16 28 00	160 00	UK037 23NOT QUITE IN APERTURE?
MKN 279	84	15.0	13	51	52	+69 33	L 3	3497	L O	30NOV78	13 21 13	180 00	UK037 34
HD121370	44	2.7	13	52	18	+18 39	H 2	2161	S C	23AUG78	20 57 00	24 00	GG005 70SAT AT LW
HD121370	44	2.7	13	52	18	+18 39	H 2	2162	S C	23AUG78	21 58 00	6 00	GG005 40
HD122563	46	6.2	14	00	05	+09 56	L 2	2175	L O	25AUG78	18 46 00	15 00	FG004 70
HD128620	44	3.3	14	13	11	-60 37	L 2	2758	S O	30OCT78	14 48 13	6 00	RB039 400K FOR 2100A
HD128620	44	3.3	14	13	11	-60 37	L 2	2758	L O	30OCT78	14 38 00	1 54	RB039 70AFFECTED BY SAP EXP
HD128620	44	3.3	14	13	11	-60 37	L 2	2759	L O	30OCT78	15 40 36	2 30	RB039 600K FOR 2100A
HD124897	46	10.1	14	13	23	+19 26	L 3	1608	S C	23MAY78	06 57 14	40 00	UKPOP QUITE GOOD
HD127493	16	9.5	14	29	31	-22 26	L 3	1720	L O	05JUN78	03 15 48	1 45	KH001 OK AROUND 1650A OXP
HD127493	16	9.5	14	29	31	-22 26	L 3	1720	S C	05JUN78	03 05 55	3 30	KH001 OK AROUND 1650A OXP

OBJECT	CL	MAG	RT ASCN			DECLN		DISP +CAM	APERT			DATE	START			LENGTH		PROG	COMMENT	
			HR	MN	SC	DEG	MN		IMAGE	DB	LG		HR	MN	SC	MIN	SC			
HD127762	33	3.0	14	30	04	+38	32	H	2	1312	S	C	13APR78	05	42	59	20	00	AB040	GAM BOD, OVER LW
HD127762	33	3.0	14	30	04	+38	32	H	2	1313	S	C	13APR78	08	53	57	15	00	AR040	GAM BOD, UNDEREXP.
HD127762	33	3.0	14	30	04	+38	32	H	2	1314	S	C	13APR78	09	48	21	2	00	AB040	?CAMERA NOT PREPPED
TOM 209	20	12.5	14	33	00	+24	00	L	2	3302	L	O	27DEC78	13	07	04	14	00	FC027	50
TOM 209	20	12.5	14	33	00	+24	00	L	3	3722	L	O	27DEC78	13	40	36	13	00	FC027	70
HD128620	44	0.0	14	35	11	+60	38	H	2	1515	S	C	19MAY78	06	05	38	3	00	FG004	GOOD
HD128620	44	0.0	14	36	11	+60	38	H	2	1467	S	C	10MAY78	07	15	00	1	00	FG004	
HD128620	44	0.3	14	36	11	+60	38	H	2	1506	S	C	17MAY78	02	24	21	1	00	UKPOP	START OUT AP
HD128620	44	0.0	14	36	11	+60	38	H	2	1516	S	C	19MAY78	07	27	08	10	00	FG004	NO SPECTRUM
HD128620	44	0.0	14	36	11	+60	38	H	2	2810	S	C	03NOV78	14	03	15	1	00	FG004	11
URANUS	03	5.7	14	39	03	+15	05	L	2	1770	S	O	02JUL78	23	51	04	30	00	UK043	OVEREXPOSED AT LONG WL
URANUS	03	5.7	14	39	03	+15	05	L	2	1771	S	O	03JUL78	01	33	49	15	00	UK043	RATHER OVEREXPOSED
URANUS	03	5.7	14	39	03	+15	05	L	2	1772	S	O	03JUL78	02	42	35	5	00	UK043	GOOD MAX DN 233
URANUS	03	5.7	14	39	03	+15	05	L	3	1908	S	O	03JUL78	00	27	07	60	00	UK043	WEAK SPECTRUM AT LONG WL
+10 2910	22	12.0	14	39	24	+18	07	L	2	3301	L	O	27DEC78	11	12	29	31	00	FC027	10
+10 2910	22	12.0	14	39	24	+18	07	L	3	3721	L	O	27DEC78	11	53	17	44	00	FC027	10
URANUS	03	8.0	14	40	52	+15	16	L	3	2410	S	C	28AUG78	23	51	00	120	00	UK043	02
HD138679	23	8.0	15	32	31	+60	23	L	2	1871	S	O	22JUL78	02	58	00	2	00	UK003	GOOD MEAN DN 190
HD138679	23	8.0	15	32	31	+60	23	L	2	1871	L	O	22JUL78	02	50	00	1	30	UK003	GOOD MAX DN 200
HD138679	23	8.9	15	32	31	+60	23	L	3	2075	S	O	22JUL78	03	26	00	1	40	UK003	VERY GOOD
HD138679	23	8.9	15	32	31	+60	23	L	3	2075	L	O	22JUL78	03	20	00	1	00	UK003	VERY GOOD MAX DN 200
HD142669	20	3.9	15	33	47	+29	04	L	2	1489	S	C	14MAY78	04	10	00	1	00	UKPOP	QUITE GOOD
HD142669	20	3.9	15	33	47	+29	04	L	2	1490	S	C	14MAY78	07	03	42	12	00	UKPOP	GOOD
HD142669	20	3.9	15	33	47	+29	04	L	3	1540	S	C	14MAY78	04	00	00	3	00	UKPOP	QUITE GOOD
HD140283	41	7.2	15	40	22	+10	46	L	2	2380	S	C	16SEP78	23	21	03	4	30	PSC13	66
HD140283	41	7.2	15	40	22	+10	46	L	2	2380	L	O	16SEP78	23	10	00	4	30	PSC13	77
HD140283	41	7.2	15	40	22	+10	46	L	3	2665	L	O	16SEP78	22	31	09	30	00	PSC13	70
HD141527	42	5.8	15	46	31	+28	19	L	2	1587	L	O	01JUN78	01	07	16	70	00	VILSP	R CRB OVEREXP RED OF 2500
HD141527	41	5.8	15	46	31	+28	18	L	2	2999	L	O	21NOV78	18	30	33	15	00	VILSP	70EXP TIME UNCERTAIN
HD141527	42	5.8	15	46	31	+28	19	L	3	1681	L	O	31MAY78	23	58	54	60	00	VILSP	R CRB GOOD RED OF 1600
HD141527	41	5.8	15	46	31	+28	18	L	3	3409	L	O	21NOV78	16	59	00	47	00	VILSP	50
HD141891	40	2.8	15	50	43	+63	17	H	2	1860	S	C	20JUL78	20	42	00	7	00	BN053	DXP BUT OK FOR MGII
RU LUP	58	11.0	15	53	22	+37	40	L	2	1466	S	C	10MAY78	04	00	00	120	00	GG005	GOOD
RU LUP	58	10.0	15	53	22	+37	40	L	3	1570	L	O	18MAY78	04	41	30	180	00	GG005	QUITE GOOD
HD142669	20	3.9	15	53	48	+29	04	L	2	1563	S	C	26MAY78	03	45	18	2	00	UKPOP	GOOD
HD142669	20	4.2	15	53	48	+29	04	L	2	2408	L	O	19SEP78	19	56	00	3	00	UK019	50MIN GAIN USED
HD142669	20	4.2	15	53	48	+29	04	L	2	2408	S	C	19SEP78	19	31	55	1	00	UKT19	50
HD142669	20	3.9	15	53	48	+29	04	L	3	1640	S	C	26MAY78	03	36	02	2	00	UKPOP	OVEREXP FACT 2
HD142669	20	4.2	15	53	48	+29	04	L	3	2698	S	C	19SEP78	20	34	46	1	00	UK019	50
HD142669	20	4.2	15	53	48	+29	04	L	3	2698	L	O	19SEP78	20	29	16	2	00	UK019	40MIN GAIN USED
HD143275	20	3.3	15	57	23	+22	29	H	2	2220	S	C	03AUG78	20	55	45	20	00	UK022	50
HD143275	20	3.3	15	57	23	+22	29	H	2	2221	S	C	30AUG78	21	51	24	40	00	UK022	700K FOR SW PART
HD143275	20	3.3	15	57	23	+22	29	H	3	2417	S	C	30AUG78	21	22	16	16	00	UK022	50
T CRH	63	10.0	15	57	24	+26	04	L	3	2412	S	C	29AUG78	23	40	20	120	00	VILSP	56SW CONT A BIT WEAK
MKN 297	88	13.2	16	03	01	+20	40	L	2	1585	L	O	31MAY78	01	26	07	310	00	CC038	NO SPECTRUM
NGC 6052	88	13.2	16	03	01	+20	41	L	3	1648	L	O	27MAY78	02	42	57	300	00	CC038	UNDEREXP MAXDN=110
HD144668	33	6.9	16	05	13	+38	58	L	2	1442	L	O	05MAY78	06	05	20	10	00	VB032	QUITE GOOD
HD144668	33	6.9	16	05	13	+38	58	L	2	1442	S	C	05MAY78	05	53	00	5	00	VB032	

OBJECT	CL	MAG	RT ASCN HR MN SC	'DECLN DEG MN	DISP +CAM	APERT OB LG	IMAGE	DATE	START HR MN SC	LENGTH MIN SC	PROG	COMMENT
HD144668	33	6.9	16 05 13	-38 58	L 2	1465	S C	10MAY78	01 40 00	5 00	GG005	A BIT UNDEREXP.
HD144668	33	6.9	16 05 13	-38 58	L 2	1511	L O	18MAY78	02 46 56	8 00	GG005	GOOD
HD144668	33	6.9	16 05 13	-38 58	L 2	1511	S C	18MAY78	02 31 33	4 00	GG005	GOOD
HD144668	33	6.9	16 05 13	-38 58	L 2	1558	S C	25MAY78	07 32 00	6 00	VB032	??
HD144668	33	6.9	16 05 13	-38 58	L 3	1486	L O	05MAY78	07 04 00	20 00	VB032	OVEREXP OVER 1600
HD144668	33	6.9	16 05 13	-38 58	L 3	1514	S C	10MAY78	01 54 53	20 00	GG005	A BIT UNDEREXP
HD144668	33	6.9	16 05 13	-38 58	L 3	1569	L O	18MAY78	01 36 30	16 00	GG005	GOOD
HD144668	33	6.9	16 05 13	-38 58	L 3	1569	S C	18MAY78	01 02 12	8 00	GG005	GOOD
HD145389	36	4.3	16 07 12	+45 04	H 2	2577	S C	11OCT78	16 38 00	3 30	UK025	40
HD145389	36	4.3	16 07 12	+45 04	H 2	2578	S C	11OCT78	17 29 19	7 00	UK025	60
HD145389	36	4.3	16 07 12	+45 04	H 3	2921	S C	11OCT78	17 16 35	5 01	UK025	50
SCO X1	59	13.0	16 17 04	-15 31	L 2	1431	L O	03MAY78	02 07 09	40 00	UKIXR	GOOD
SCO X1	59	13.0	16 17 04	-15 31	L 2	1432	L O	03MAY78	03 47 27	40 00	UKIXR	GOOD
SCO=X1	59	13.0	16 17 04	-15 31	L 2	1804	L O	10JUL78	00 48 18	40 00	UKIXR	A BIT WEAK
SCO X1	59	13.0	16 17 04	-15 31	L 3	1467	L O	03MAY78	01 10 23	40 00	UKIXR	VERY GOOD
SCO X1	59	13.0	16 17 04	-15 31	L 3	1468	L O	03MAY78	03 00 18	40 00	UKIXR	GOOD
SCO=X1	59	13.0	16 17 04	-15 31	L 3	1953	L O	09JUL78	23 55 00	40 00	UKIXR	UNDEREXPOSED MAX DN 80
SCO=X1	59	13.0	16 17 04	-15 31	L 3	1954	L O	10JUL78	02 12 00	90 00	UKIXR	STILL WEAK
HD147701	20	8.4	16 21 19	-24 54	L 2	2427	L O	21SEP78	22 44 56	30 00	UK019	90
HD147701	20	8.4	16 21 19	-24 54	L 2	2427	S C	21SEP78	22 13 23	10 00	UK019	70
HD147701	20	8.4	16 21 19	-24 54	L 3	2722	S C	21SEP78	23 25 26	18 00	UK019	50MICROPHONIC NOISE
HD147889	20	7.9	16 22 23	-24 21	L 2	1488	S C	14MAY78	01 29 00	6 00	UKPOP	QUITE GOOD
HD147889	20	7.9	16 22 23	-24 21	L 2	2409	S C	19SEP78	21 31 45	6 00	UK019	50
HD147889	20	7.9	16 22 23	-24 21	L 2	2410	S C	19SEP78	23 25 14	7 00	UK019	60
HD147889	20	7.9	16 22 23	-24 21	L 2	2410	L O	19SEP78	22 48 23	20 00	UK019	80
HD147889	20	7.9	16 22 23	-24 21	L 3	1539	S C	14MAY78	01 12 00	9 00	UKPOP	QUITE GOOD
HD147889	20	7.9	16 22 23	-24 21	L 3	2699	S C	19SEP78	22 12 50	12 00	UK019	50
HD148184	20	4.4	16 24 07	-18 21	H 2	1969	S C	03AUG78	20 45 52	12 00	LS044	30
HD148184	20	4.4	16 24 07	-18 21	H 2	1970	S C	03AUG78	22 05 05	35 00	LS044	700XP IN LW PART
HD148184	20	4.4	16 24 07	-18 21	H 3	2187	S C	03AUG78	21 16 00	15 00	LS044	60
HD148184	20	4.4	16 24 07	-18 21	H 3	2188	S C	03AUG78	22 50 00	9 00	LS044	50
HD147675	46	3.9	16 25 42	-78 47	H 2	2609	S C	15OCT78	14 38 00	45 00	UK020	35
HD148379	20	5.4	16 26 04	-46 08	H 2	1562	S C	26MAY78	01 06 06	60 00	UKPOP	QUITE GOOD, SAT 2800A
HD148379	23	5.4	16 26 04	-46 08	H 2	1564	S C	26MAY78	05 31 34	25 00	UKPOP	A BIT WEAK
HD148478	20	5.5	16 26 20	-26 20	H 3	2687	L O	18SEP78	21 44 16	10 00	PSA13	77ALFA SCD b
HD148478	20	5.5	16 26 20	-26 20	H 3	2688	L O	18SEP78	23 22 55	3 00	PSA13	55
=9 4395	22	9.4	16 26 51	-09 13	L 3	1737	S O	07JUN78	05 34 00	12 00	KH001	UNDEREXPOSED X 2
VESTA	05	5.7	16 28 06	-17 15	L 2	1772	L O	03JUL78	03 44 05	20 00	UK043	OVEREXPOSED
HD148688	23	5.3	16 28 13	-41 43	H 2	1740	S C	28JUN78	03 43 51	12 30	UK06A	GOOD MAX DN 220
HD148688	23	5.3	16 28 13	-41 43	H 3	1871	S C	28JUN78	02 34 01	40 00	UK06A	GOOD
HD149404	13	5.5	16 32 52	-42 45	H 2	1971	S C	04AUG78	00 20 07	60 00	LS044	500XP IN SW PART
HD149404	13	5.5	16 32 52	-42 45	H 3	2189	S C	04AUG78	01 25 37	75 00	LS044	600XP IN LW PART
HD149757	12	2.6	16 34 24	-10 28	H 3	2186	S C	03AUG78	19 58 16	1 20	LS044	50
HD150288	21	8.7	16 38 38	-46 55	L 3	2763	S O	25SEP78	22 00 00	4 00	PB030	50
HD151932	11	6.6	16 48 48	-41 46	H 2	2305	S C	07SEP78	22 01 00	105 00	MH011	77ABOUT A THRD SAT
VESTA	05	7.0	16 48 55	-22 03	L 2	2201	L O	28AUG78	22 23 00	15 00	UK043	20
HD152236	23	4.8	16 50 28	-42 16	L 2	1755	S C	30JUN78	23 28 12	30	BW019	SATURATED THROUGHOUT
HD152236	23	4.8	16 50 28	-42 16	L 2	1755	L O	30JUN78	23 10 06	3 30	BW019	THROUGHOUT

OBJECT	CL	MAG	RT	ASCN	DECLN	DISP	APERT	START	LENGTH	PROG	COMMENT					
			HR	MN	SC	DEG	MIN	DATE	HR	MN	SC	MIN	SC			
HD152236	23	4.8	16	50	28	-42 16	H 2	1756 S C	01JUL78	00	46	13	7	00	B*019	GOOD
HD152236	23	4.8	16	50	28	-42 17	H 2	2151 S C	22AUG78	19	20	00	10	00	UK031	50UXP BELOW 2300 X4
HD152236	23	4.8	16	50	28	-42 17	H 2	2152 S C	22AUG78	20	24	05	40	00	UK031	70STILL WEAK BELOW 2300
HD152236	23	4.8	16	50	28	-42 17	H 2	2290 S C	06SEP78	16	43	00	11	00	UK021	55
HD152236	23	4.7	16	50	28	-42 17	H 3	1872 S C	28JUN78	05	10	42	30	00	UK06A	GOOD AT LONG WL
HD152236	23	4.8	16	50	28	-42 16	L 3	1891 L O	30JUN78	23	56	03	20	00	B*019	GOOD
HD152236	23	4.8	16	50	28	-42 16	L 3	1891 S C	30JUN78	23	50	22	10	00	B*019	UNDEREXPOSED
HD152236	23	4.8	16	50	28	-42 16	H 3	1892 S C	01JUL78	01	19	43	60	00	B*019	
HD152236	23	4.8	16	50	28	-42 17	H 3	2368 S C	22AUG78	18	28	00	45	00	UK031	60
HD152236	23	4.8	16	50	28	-42 17	H 3	2507 S C	06SEP78	17	00	00	91	00	UK021	70K AT SW
-41 7727	20	9.4	16	50	38	-41 43	L 2	2462 L O	25SEP78	17	44	42	9	00	PR030	800K AT 2200
-41 7727	20	9.4	16	50	38	-41 43	L 2	2463 L O	25SEP78	18	28	00	4	00	PR030	700K TO 2600
-41 7727	20	9.4	16	50	38	-41 43	L 3	2761 L O	25SEP78	16	48	15	2	28	PR030	40
-41 7753	20	9.8	16	51	05	-41 48	L 2	2464 S O	25SEP78	20	41	35	15	00	PR030	60
-41 7753	20	9.8	16	51	05	-41 48	L 2	2464 L O	25SEP78	20	11	26	15	00	PR030	700K AT 2200
-41 7753	20	9.8	16	51	05	-41 48	L 3	2762 L O	25SEP78	19	28	00	18	00	PR030	60
MKN 501	87	13.0	16	52	12	+39 50	L 2	1377 L O	24APR78	05	02	34	150	00	UKPOP	MAX DN 40
MKN 501	87	13.0	16	52	12	+39 50	L 3	1407 L O	24APR78	08	21	37	110	00	UKPOP	MAX DN 70
HD152667	59	6.2	16	53	07	-40 45	H 2	1818 S C	12JUL78	01	46	08	20	00	UKIXR	GOOD MAX DN 230
HD152667	59	6.2	16	53	07	-40 45	H 3	1952 S C	09JUL78	21	22	46	50	00	UKIXR	GOOD
HD152667	59	6.2	16	53	07	-40 45	H 3	1977 S C	12JUL78	00	46	05	50	00	UKIXR	GOOD A FEW PIX SAT,
HD152667	59	6.2	16	53	07	-40 45	H 3	1978 L O	12JUL78	02	45	00	55	00	UKIXR	DXP BUT OK FOR SHORT WL
HD152667	59	6.2	16	53	07	-40 45	H 3	2011 S C	14JUL78	20	58	50	50	00	UKIXR	GOOD MAX DN 250
HZ HER	59	14.0	16	56	02	+35 25	L 2	1405 L O	28APR78	07	49	00	130	00	UKIXR	
HZ HER	59	13.0	16	56	02	+35 25	L 2	1811 L O	10JUL78	22	15	38	40	00	UKIXR	GOOD
HZ HER	59	14.0	16	56	02	+35 25	L 2	1826 L O	13JUL78	01	52	38	40	00	XR002	UXP X 2 MAX DN 166
HZ HER	59	14.0	16	56	02	+35 25	L 3	1432 L O	28APR78	04	49	00	150	00	UKIXR	
HZ HER	59	13.0	16	56	02	+35 25	L 3	1962 L O	10JUL78	21	22	27	45	00	UKIXR	UNDEREXPOSED X2 IN CONT
HZ HER	59	13.0	16	56	02	+35 25	L 3	1963 L O	10JUL78	23	06	22	80	00	UKIXR	VERY GOOD
HZ HER	59	14.0	16	56	02	+35 25	L 3	1988 L O	13JUL78	02	40	23	60	00	XR002	UXP X 2 AVG DN 70
HZ HER	59	13.5	16	56	02	+35 25	L 3	3524 S O	04DEC78	11	07	24	180	00	UK037	55
NEPTUNE	03	7.7	16	59	33	-21 12	L 2	1769 S O	02JUL78	21	49	55	15	00	UK043	GOOD MAX DN 249
NEPTUNE	03	7.7	16	59	33	-21 12	L 3	1907 S O	02JUL78	22	12	04	30	00	UK043	NO SPECTRUM
HD153919	59	6.6	17	00	33	-37 46	H 2	1437 S C	04MAY78	03	06	59	30	00	XR001	A BIT UNDEREXP,
HD153919	59	6.6	17	00	33	-37 46	H 3	1476 S C	04MAY78	02	18	25	40	00	XR001	GOOD
HD153919	59	6.6	17	00	33	-37 46	H 2	1817 S C	11JUL78	20	23	05	40	00	XR002	OVEREXPOSED
HD153919	59	6.6	17	00	33	-37 46	H 2	1824 S C	12JUL78	20	32	27	33	00	XR002	DXP AT LONG WL
HD153919	59	6.6	17	00	33	-37 46	H 2	1825 S C	12JUL78	22	13	17	20	00	XR002	GOOD MAX DN 198
HD153919	59	6.6	17	00	33	-37 46	H 2	1827 S C	14JUL78	03	16	16	24	00	XR002	GOOD MAX DN 210
HD153919	59	6.6	17	00	33	-37 46	H 3	1975 S C	11JUL78	21	18	37	60	00	XR002	DXP AT LONG WL
HD153919	59	6.6	17	00	33	-37 46	L 3	1976 L O	11JUL78	23	12	50	30	00	XR002	3 EXP IN LARGE SLOT
HD153919	59	6.6	17	00	33	-37 46	L 3	1985 L O	12JUL78	20	20	00	15	00	XR002	2 EXP IN LARGE SLOT OK
HD153919	59	6.6	17	00	33	-37 46	H 3	1986 S C	12JUL78	21	18	21	48	00	XR002	GOOD MAX DN 226
HD153919	59	6.6	17	00	33	-37 46	H 3	1987 S C	12JUL78	23	04	49	35	00	XR002	GOOD MAX DN 220
HD153919	59	6.6	17	00	33	-37 46	L 3	1996 L O	13JUL78	21	00	00	16	00	XR002	2 EXP IN LARGE SLOT OK
HD153919	59	6.6	17	00	33	-37 46	L 3	1997 L O	13JUL78	21	55	00	16	00	XR002	2 EXP IN LARGE SLOT OK
HD153919	59	6.6	17	00	33	-37 46	L 3	1998 L O	13JUL78	22	53	00	16	00	XR002	2 EXP IN LARGE SLOT OK
HD153919	59	6.6	17	00	33	-37 46	L 3	1999 L O	13JUL78	23	50	00	16	00	XR002	2 EXP IN LARGE SLOT OK

OBJECT	CL	MAG	RT ASCN			DECLN		DISP +CAM	IMAGE	APERT		DATE	START			LENGTH		PROG	COMMENT			
			HR	MN	SC	DEG	MN			OB	LG		HR	MN	SC	MIN	SC					
HD153919	50	6.6	17	00	33	-37	46	L	3	2000	L	0	14	JUL	78	00	42	00	16	XPB02	2 EXP IN LARGE SLOT OK	
HD153919	50	6.6	17	00	33	-37	46	L	3	2001	L	0	14	JUL	78	01	41	20	16	XPB02	1 EXP	
HD153919	50	6.6	17	00	33	-37	46	H	3	2002	S	C	14	JUL	78	02	29	03	40	00	XPB02	GOOD MAX DN 200
NEPTUNE	03	7.7	17	07	43	-21	25	L	2	1286	L	0	09	APR	78	10	10	00	30	00	UKPOP	
HD154362	13	6.2	17	08	08	-35	23	H	2	2291	S	C	06	SEP	78	18	58	00	43	00	UK021	50
HD154368	13	6.2	17	08	08	-35	23	H	3	2508	S	C	06	SEP	78	19	47	00	238	00	UK021	700XP X2 AT LW
HD155385	10	7.4	17	15	49	-45	35	H	2	1353	S	C	21	APR	78	06	20	27	20	00	UKPOP	QUITE GOOD
HD156385	10	7.4	17	15	49	-45	35	H	2	2304	S	C	07	SEP	78	20	27	00	35	00	MH011	56
HD156385	10	7.4	17	15	49	-45	35	H	3	1395	S	C	21	APR	78	05	09	21	20	00	UKPOP	SLIGHTLY UNDFREXP,
HD156385	10	7.4	17	15	49	-45	35	H	3	2519	S	C	07	SEP	78	21	05	00	30	00	MH011	56
HD160641	13	9.8	17	38	55	-17	53	L	3	1396	S	C	21	APR	78	09	57	00	13	00	UKPOP	NOPREP
HD161291	23	8.9	17	42	42	-27	10	L	3	1343	S	C	10	APR	78	09	13	00	60	00	PB030	UNDFREXP,
HD161797	44	3.4	17	44	30	+27	45	H	2	3014	S	C	23	NOV	78	18	34	14	23	00	CB031	50
HD161797	44	3.4	17	44	30	+27	45	H	3	3428	S	C	23	NOV	78	18	02	17	13	00	CR031	10
HD161797	44	3.4	17	44	30	+27	45	L	3	3429	L	0	23	NOV	78	19	41	53	4	00	CB031	30
HD161797	44	3.4	17	44	30	+27	45	L	3	3429	S	0	23	NOV	78	19	23	03	13	00	CR031	30
HD161797	44	3.4	17	44	30	+27	45	L	3	3652	L	0	20	DEC	78	13	43	22	20	00	CB031	23MU MER
+39 3226	16	10.2	17	44	52	+39	20	L	2	1577	S	C	29	MAY	78	05	12	00	2	00	UKPOP	GOOD
+39 3226	16	9.8	17	44	52	+39	20	L	2	1856	L	0	20	JUL	78	03	14	00	2	20	UK003	A BIT OXP
+39 3226	16	9.8	17	44	52	+39	20	L	2	1856	S	0	20	JUL	78	03	04	00	2	20	UK003	OK
+39 3226	16	10.2	17	44	52	+39	20	L	3	1663	S	C	29	MAY	78	05	05	01	1	00	UKPOP	VERY WEAK
HD163506	42	5.2	17	53	24	+26	03	H	2	1751	S	C	30	JUN	78	04	34	10	65	00	UK064	A BIT WEAK
HD164032	23	7.5	17	57	15	-29	48	L	2	1296	S	C	10	APR	78	06	30	00	10	00	PB030	GOOD
HD164032	23	7.5	17	57	15	-29	48	L	3	1342	S	C	10	APR	78	04	52	00	7	00	PB030	GOOD, BAD FOCUS
HD164353	24	4.0	17	58	08	+02	56	H	2	2153	S	C	22	AUG	78	22	22	03	4	30	UK031	70
HD164353	24	4.0	17	58	08	+02	56	H	3	2369	S	C	22	AUG	78	22	12	00	6	00	UK031	70
NGC 6543	70	9.0	17	58	36	+66	38	L	3	1711	S	0	04	JUN	78	05	13	04	5	00	UK008	OK MAX DN 158
M 8	73	14.0	18	00	37	-24	23	L	2	1983	L	0	04	AUG	78	22	32	45	30	00	LS017	22RADIO PEAK
M 8	73	14.0	18	00	37	-24	23	L	2	1984	L	0	04	AUG	78	22	32	45	30	00	LS017	22RADIO PEAK
M 8	73	14.0	18	00	37	-24	23	L	3	2203	L	0	04	AUG	78	21	39	57	12	00	LS017	22RADIO PEAK
M 8	73	14.0	18	00	37	-24	23	L	3	2204	L	0	04	AUG	78	23	16	09	60	00	LS017	22RADIO PEAK
HD164794	14	5.9	18	00	48	-24	22	H	2	1982	S	C	04	AUG	78	20	49	39	26	00	LS017	760XP IN LW PART
HD164794	14	5.9	18	00	48	-24	22	H	2	1985	S	C	05	AUG	78	00	32	10	12	00	LS017	40
HD164794	13	6.0	18	00	48	-24	22	H	2	2508	S	C	30	SEP	78	20	32	00	18	00	RD016	70LW SAT
HD164794	13	6.0	18	00	48	-24	22	H	2	2510	S	C	30	SEP	78	22	49	03	11	00	RD016	50
HD164794	14	5.9	18	00	48	-24	22	H	3	2202	S	C	04	AUG	78	19	40	29	17	00	LS017	760XP IN LW PART
HD164794	14	5.9	18	00	48	-24	22	H	3	2205	S	C	05	AUG	78	01	00	02	8	00	LS017	40
HD164794	13	6.0	18	00	48	-24	22	H	3	2815	S	C	30	SEP	78	21	06	15	12	00	RD016	60
HD164794	13	6.0	18	00	48	-24	22	H	3	2816	S	C	30	SEP	78	22	17	37	9	00	RD016	50
HD164816	13	7.1	18	00	53	-24	19	H	2	2507	S	C	30	SEP	78	19	05	42	41	00	RD016	70SAT AT LW
HD164816	13	7.1	18	00	53	-24	19	H	2	2509	S	C	30	SEP	78	21	39	10	30	00	RD016	60
HD164816	13	7.1	18	00	53	-24	19	H	3	2814	S	C	30	SEP	78	19	52	17	30	00	RD016	60
HD165908	41	5.0	18	05	08	+30	33	L	2	2379	S	C	16	SEP	78	21	40	32	50	00	PSC13	66
HD165908	41	5.0	18	05	08	+30	33	L	2	2379	L	0	16	SEP	78	21	34	30	50	00	PSC13	77
HD165763	10	8.2	18	05	22	-21	16	H	2	2303	S	C	07	SEP	78	18	38	00	30	00	MH011	45
HD165763	10	8.2	18	05	22	-21	16	H	3	2518	S	C	07	SEP	78	19	13	00	20	00	MH011	45
NGC 6572	70	9.0	18	09	42	+06	51	L	2	2271	L	0	04	SEP	78	17	53	00	10	00	MH011	55
NGC 6572	70	9.0	18	09	42	+06	51	L	3	2485	L	0	04	SEP	78	17	34	53	10	00	MH011	37

OBJECT	CL	MAG	RT ASCN			DECLN		DISP		APERT		DATE	STAPT			LENGTH		PROG	COMMENT	
			HR	MM	SC	DEG	MM	+CAM	IMAGE	DB	LG		HR	MM	SC	MIN	SC			
NGC 6572	70	9.0	18	09	42	+06	51	L	3	2486	L	0	04SEP78	18	26	00	3	00	MH011	35
AM HER	59	12.5	18	14	59	+49	51	L	2	1433	L	0	03MAY78	06	44	28	30	00	XPB01	GOOD
AM HER	59	13.0	18	14	59	+49	51	L	2	1812	L	0	11JUL78	02	11	19	30	00	UKIXR	GOOD
AM HER	59	12.8	18	14	59	+49	51	L	3	1450	S	C	01MAY78	04	37	28	180	00	XR001	GOOD
AM HER	59	12.5	18	14	59	+49	51	L	3	1469	S	C	03MAY78	05	47	45	45	00	XR001	GOOD
AM HER	59	13.0	18	14	59	+49	51	L	3	1964	L	0	11JUL78	01	44	00	20	00	UKIXR	GOOD
AM HER	59	13.0	18	14	59	+49	51	L	3	1965	S	D	11JUL78	03	16	18	25	00	UKIXR	OK
AM HER	59	13.0	18	14	59	+49	51	L	3	1965	L	0	11JUL78	02	58	10	5	00	UKIXR	UNDEREXPOSED
HD168476	27	9.4	18	18	59	-56	39	L	2	1507	S	C	17MAY78	03	52	10	10	00	UKPOP	OK S _w OXP LW
HD168476	27	9.4	18	18	59	-56	39	L	3	1557	S	C	16MAY78	06	44	54	45	00	UKPOP	OVEREXP
HD168476	27	9.4	18	19	00	-56	39	X	2	1664	S	C	14JUN78	01	16	00	40	00	UK017	VERY WEAK
HD168476	27	9.4	18	19	00	-56	39	X	2	1665	S	C	14JUN78	03	36	29	120	00	UK017	UNDEREXP MAX DN 120
HD168476	27	9.4	18	19	00	-56	39	X	3	1782	S	C	14JUN78	02	05	09	80	00	UK017	VERYWEAK
HD168733	36	5.4	18	19	30	-36	42	H	2	2861	S	C	08NOV78	19	03	18	12	00	GM045	70
HD168733	36	5.4	18	19	30	-36	42	H	3	3270	S	C	08NOV78	18	37	31	15	00	GM045	70
HD168905	21	5.2	18	20	40	-44	08	L	2	1893	L	0	25JUL78	21	13	00	4	00	VILSP	A BIT SAT.
HD168905	21	5.2	18	20	40	-44	08	L	2	1893	S	D	25JUL78	21	11	44	4	00	VILSP	GOOD
HD168905	21	5.2	18	20	40	-44	08	L	3	2107	L	0	25JUL78	21	19	00	3	00	VILSP	GOOD
HD168905	21	5.2	18	20	40	-44	08	L	3	2107	S	C	25JUL78	21	17	13	3	00	VILSP	GOOD
3C 382	86	14.5	18	31	12	+32	39	L	3	1530	L	0	13MAY78	04	56	31	165	00	UKPOP	UNDEREXP
3C 382	85	14.5	18	33	12	+32	39	L	2	1079	L	0	13MAY78	01	08	25	180	00	UKPOP	MAXDN=130
3C 382	86	14.7	18	33	12	+32	39	L	2	1915	L	0	29JUL78	22	06	00	120	00	UK016	A BIT WEAK MAX DN 120
3C 390.3	84	15.0	18	45	33	+79	43	L	2	3057	L	0	28NOV78	16	44	40	190	00	UK037	34READ DOWN AT GSFC
3C 390.3	84	15.0	18	45	33	+79	43	L	3	3478	L	0	28NOV78	13	27	20	180	00	UK037	34
HD174638	25	3.4	18	48	14	+33	18	H	2	1328	S	C	17APR78	09	54	45	4	00	MHA02	
HD174638	25	3.4	18	48	14	+33	18	H	2	1397	S	C	27APR78	07	30	00	2	00	MHA02	GOOD
HD174638	25	3.4	18	48	14	+33	18	H	3	1375	S	C	17APR78	08	55	00	8	00	MHA02	DXP LW
HD174638	25	3.4	18	48	14	+33	18	H	3	1386	S	C	19APR78	09	33	00	2	00	MHA02	GOOD
HD174638	25	3.4	18	48	14	+33	18	H	3	1426	S	C	27APR78	06	45	00	2	00	MHA02	9GOOD
HD174933	36	5.4	18	50	08	+21	22	H	2	2576	S	C	11OCT78	14	36	58	14	00	UK025	60
HD174933	36	5.4	18	50	08	+21	22	X	3	2920	S	C	11OCT78	14	57	45	25	00	UK025	70
NGC 6720	70	9.0	18	51	44	+32	58	L	2	2272	L	0	04SEP78	20	24	38	10	00	MH011	22BLIND OFFSET
NGC 6720	70	9.0	18	51	44	+32	58	L	2	2273	L	0	04SEP78	21	47	40	30	00	MH011	23
NGC 6720	70	9.0	18	51	44	+32	58	L	3	2487	L	0	04SEP78	21	02	30	10	00	MH011	23
NGC 6720	70	9.0	18	51	44	+32	58	L	3	2488	L	0	04SEP78	22	32	00	60	00	MH011	35
HD175191	20	2.1	18	52	12	-26	22	H	2	2218	S	C	30AUG78	18	37	00	6	00	UK022	40
HD175191	20	2.1	18	52	12	-26	22	X	2	2219	S	C	30AUG78	19	06	45	12	00	UK022	50
HD175191	20	2.1	18	52	12	-26	22	X	3	2416	S	C	30AUG78	19	58	54	25	00	UK022	70
HD175754	12	7.0	18	54	39	-19	13	X	2	2506	S	C	30SEP78	16	26	08	36	00	RD016	60
HD175754	12	7.0	18	54	39	-19	13	X	3	2813	S	C	30SEP78	17	31	52	40	00	RD016	70SAT AT LW
S CP 4	58	11.5	18	57	48	-37	01	L	2	1645	L	0	10JUN78	00	22	00	80	00	BW019	GOOD BUT MG OXP
S CP 4	58	11.5	18	57	48	-37	01	L	3	1755	L	0	10JUN78	02	14	49	200	00	BW019	WEAK
HD181615	36	4.6	19	18	52	-16	03	H	2	1361	S	C	22APR78	06	24	26	10	00	MHA02	GOOD U SGR
HD181615	36	4.6	19	18	52	-16	03	X	2	1528	S	C	21MAY78	02	15	00	10	00	MHA02	OK LW/ NU SGR
HD181615	34	4.6	19	18	52	-16	03	X	2	1909	S	C	28JUL78	23	05	00	10	00	MHA02	
HD181615	34	4.6	19	18	52	-16	03	X	2	1910	S	C	29JUL78	01	52	00	20	00	MHA02	
HD181615	36	4.6	19	18	52	-16	03	X	3	1398	S	C	22APR78	04	44	12	60	00	MHA02	GOOD U SGR
HD181615	36	4.6	19	18	52	-16	03	X	3	1592	S	C	21MAY78	02	35	00	60	00	MHA02	GOOD

OBJECT	CL	MAG	RT ASCN			DECLN		DISP +CAM	APERT		DATE	START		LENGTH		PRG	COMMENT			
			HR	MN	SC	DEG	MN		IMAGE	OB		LG	HR	MN	SC			MIN	SC	
HD181615	34	4.6	19	18	52	-16	03	H	3	1856	S	C	25JUN78	23	37	31	60	00	MHA02	OK MAX DN 150
HD181615	34	4.6	19	18	52	-16	03	H	3	2136	S	C	26JUL78	23	35	00	60	00	MHA02	
HD181615	34	4.6	19	18	52	-16	03	H	3	2137	S	C	29JUL78	02	20	00	75	00	MHA02	
HD182917	57	7.0	19	23	14	+50	09	L	3	1399	S	C	22APR78	09	00	00	45	00	MHA02	GOOD CM CYG
HD182917	48	7.0	19	23	14	+50	08	L	3	2163	L	O	31JUL78	23	35	00	20	00	MHA02	GOOD
HD185144	46	4.7	19	32	31	+69	34	H	2	2632	S	C	17OCT78	15	55	06	100	00	UK020	66
HM SGE	71	10.8	19	39	48	+16	38	L	2	2248	L	O	02SEP78	18	45	01	10	00	DF010	27
HM SGE	71	10.8	19	39	48	+16	38	L	2	2249	L	O	02SEP78	20	49	36	6	00	DF010	16
HM SGE	71	10.8	19	39	48	+16	38	L	3	2452	L	O	02SEP78	18	30	15	5	00	DF010	14
HM SGE	71	10.8	19	39	48	+16	38	L	3	2453	L	O	02SEP78	19	20	10	9	00	DF010	15
HM SGE	71	10.8	19	39	48	+16	38	L	3	2454	S	C	02SEP78	20	01	51	40	00	DF010	02
NGC 6826	70	9.7	19	43	27	+50	24	H	2	2702	L	O	24OCT78	21	05	00	6	00	MP028	60
NGC 6826	70	9.7	19	43	27	+50	24	L	2	2702	S	C	24OCT78	20	48	27	4	00	MP028	60
NGC 6826	70	9.7	19	43	27	+50	24	L	2	2702	L	O	24OCT78	20	35	52	4	00	MP028	60
NGC 6826	70	9.7	19	43	27	+50	24	F	3	3132	L	O	24OCT78	21	32	58	8	00	MP028	50
NGC 6826	70	9.7	19	43	27	+50	24	L	3	3132	S	O	24OCT78	21	26	19	2	00	MP028	50
NGC 6826	70	9.7	19	43	27	+50	24	L	3	3132	L	O	24OCT78	21	19	43	2	00	MP028	50
HD187642	31	0.8	19	48	20	+08	44	H	2	3012	S	C	23NOV78	13	20	00	1	00	CB031	70
HD187642	31	0.7	19	48	20	+08	44	L	3	1654	S	C	28MAY78	04	46	00	100	00	UKPOP	VERY OVEREXP
HD187642	31	0.8	19	48	20	+08	44	H	3	3426	S	C	23NOV78	13	40	19	1	00	CB031	50
HD187642	31	0.8	19	48	20	+08	44	F	3	3427	L	O	23NOV78	14	15	03	100	00	CB031	0TOD MUCH SCATTER LIGHT
V1016CYG	71	9.0	19	55	18	+39	41	H	2	2227	S	C	31AUG78	18	14	08	60	00	DF010	15
V1016CYG	71	9.0	19	55	18	+39	41	H	2	2228	L	O	31AUG78	19	55	22	35	00	DF010	16
V1016CYG	71	9.0	19	55	18	+39	41	L	2	2229	L	O	31AUG78	21	46	49	40	00	DF010	79
V1016CYG	71	9.0	19	55	18	+39	41	H	3	2425	S	C	31AUG78	19	20	46	20	00	DF010	14
V1016CYG	71	9.0	19	55	18	+39	41	H	3	2426	S	C	31AUG78	20	39	14	60	00	DF010	16
V1016CYG	71	9.0	19	55	18	+39	41	L	3	2427	L	O	31AUG78	22	36	20	40	00	DF010	49
V1016CYG	57	11.0	19	55	20	+39	41	H	2	1581	S	C	30MAY78	06	12	25	30	00	HM011	UXP
V1016CYG	20	11.5	19	55	20	+39	41	L	2	2011	L	O	08AUG78	01	59	00	40	00	VB032	10
V1016CYG	57	11.0	19	55	20	+39	41	H	3	1669	S	C	30MAY78	05	08	24	40	00	HM011	UXP CONT
HD226868	13	8.9	19	56	29	+35	04	L	2	3094	L	O	03DEC78	12	32	18	60	00	HM043	80
HD226868	59	8.9	19	56	29	+35	04	L	2	3109	L	O	05DEC78	13	13	10	20	00	HM043	70
HD226868	59	8.9	19	56	29	+35	04	L	2	3121	L	O	07DEC78	15	35	27	10	00	HM043	50
HD226868	13	6.9	19	56	29	+35	04	L	3	3518	L	O	03DEC78	11	01	18	53	18	HM043	50
HD226868	59	8.9	19	56	29	+35	04	L	3	3535	L	O	05DEC78	11	58	55	60	00	HM043	50
RR TEL	57	9.8	20	00	19	+55	52	L	2	1698	S	O	20JUN78	05	25	00	15	00	VILSP	GOOD
RR TEL	57	9.8	20	00	19	+55	52	L	2	1698	L	O	20JUN78	03	05	00	135	00	VILSP	OVEREXP
RR TEL	57	9.8	20	00	20	+55	52	L	2	1850	S	O	19JUL78	00	53	48	10	00	VILSP	DK BUT MG II SAT
RR TEL	57	10.7	20	00	20	+55	52	H	2	2021	L	O	08AUG78	20	17	24	150	00	VILSP	46
RR TEL	57	10.7	20	00	20	+55	52	L	2	2022	L	O	09AUG78	02	12	17	5	00	VILSP	56
RR TEL	57	10.0	20	00	20	+55	52	H	2	2493	L	O	28SEP78	23	01	17	43	00	VILSP	11
RR TEL	57	10.0	20	00	20	+55	52	H	2	2495	L	O	21NOV78	13	34	53	24	25	VILSP	07
RR TEL	57	10.0	20	00	20	+55	52	H	2	2496	L	O	21NOV78	14	39	59	5	01	VILSP	05
RR TEL	57	9.8	20	00	20	+55	52	L	3	2046	L	O	19JUL78	01	56	18	10	01	VILSP	EM LINES SAT
RR TEL	57	9.8	20	00	20	+55	52	L	3	2046	S	O	19JUL78	01	43	07	5	00	VILSP	EM LINES SAT
RR TEL	57	9.8	20	00	20	+55	52	L	3	2047	L	O	19JUL78	03	09	15	2	00	VILSP	3 EM LINES SAT
RR TEL	57	9.8	20	00	20	+55	52	H	3	2108	S	C	25JUL78	22	56	00	210	00	VILSP	NO SPECTRUM
RR TEL	57	10.7	20	00	20	+55	52	H	3	2247	L	O	08AUG78	22	54	22	180	00	VILSP	36

OBJECT	CL	MAG	RT ASCN			DECLN		DISP +CAM	APERT		DATE	START			LENGTH MIN SC	PRG	COMMENT			
			HR	MN	SC	DEG	MN		OB	LG		HR	MN	SC						
RR TEL	57	10.0	20	00	20	+55	52	H	3	3405	L	0	21NOV78	12	52	49	36	00	VILSP	07
RR TEL	57	10.0	20	00	20	+55	52	H	3	3406	L	0	21NOV78	14	07	41	7	30	VILSP	06
RR TEL	57	10.0	20	00	20	+55	52	H	3	3407	L	0	21NOV78	15	18	00	1	30	VILSP	04
HD19024A	44	3.6	20	03	50	+66	19	H	2	2190	S	C	27AUG78	20	20	00	40	00	BN053	60
HD19024A	44	3.6	20	03	50	+67	19	H	2	1861	S	C	20JUL78	22	01	00	41	00	BN053	BELL EXP AT LONG WL
HD19024A	44	3.5	20	03	51	+66	19	L	2	2520	L	0	01OCT78	19	16	12	10	00	UK001	70
HD19024B	44	3.5	20	03	51	+66	19	L	3	2827	L	0	01OCT78	18	23	21	40	00	UK001	40
HD19024B	44	3.5	20	03	51	+66	19	L	3	2828	L	0	01OCT78	19	51	28	110	00	UK001	60
Z SGE	54	10.0	20	05	18	+17	33	L	2	3167	S	0	14DEC78	11	34	15	2	00	UK035	30
Z SGE	54	10.0	20	05	18	+17	33	L	2	3167	L	0	14DEC78	11	26	25	4	00	UK035	70
Z SGE	54	10.0	20	05	18	+17	33	L	2	3168	S	0	14DEC78	12	41	01	4	00	UK035	50
Z SGE	54	10.0	20	05	18	+17	33	L	2	3168	L	0	14DEC78	12	26	16	2	00	UK035	50
Z SGE	54	10.0	20	05	18	+17	33	L	2	3169	S	0	14DEC78	14	36	47	4	00	UK035	30PROB DRIFTED OUT
Z SGE	54	10.0	20	05	18	+17	33	L	2	3169	L	0	14DEC78	13	24	37	2	00	UK035	50
*Z SGE	54	11.0	20	05	18	+17	33	H	2	3261	L	0	24DEC78	11	20	04	120	00	UK004	0FIVE EXPOSURES ADDED
*Z SGE	54	11.0	20	05	18	+17	33	L	2	3262	L	0	24DEC78	15	57	00	2	00	UK007	40
*Z SGE	54	11.0	20	05	18	+17	33	L	2	3262	S	0	24DEC78	16	06	23	4	00	UK007	40
*Z SGE	54	8.5	20	05	18	+17	33	H	3	3527	L	0	04DEC78	17	11	00	35	00	UK000	43
Z SGE	54	10.0	20	05	18	+17	33	L	3	3591	L	0	14DEC78	10	57	25	4	00	UK035	45
Z SGE	54	10.0	20	05	18	+17	33	L	3	3591	S	0	14DEC78	10	50	00	2	00	UK035	34
Z SGE	54	10.0	20	05	18	+17	33	L	3	3592	S	0	14DEC78	12	48	53	8	00	UK035	67
Z SGE	54	10.0	20	05	18	+17	33	L	3	3592	L	0	14DEC78	12	31	19	4	00	UK035	55
Z SGE	54	10.0	20	05	18	+17	33	L	3	3593	S	0	14DEC78	14	11	06	6	00	UK035	23DRIFTED OUT
Z SGE	54	10.0	20	05	18	+17	33	L	3	3593	L	0	14DEC78	14	04	08	3	30	UK035	55
Z SGE	54	10.0	20	05	18	+17	33	L	3	3594	S	0	14DEC78	15	55	55	6	00	UK035	55NOISY IMAGE
Z SGE	54	10.0	20	05	18	+17	33	L	3	3594	L	0	14DEC78	15	24	10	15	00	UK035	23SET TO TRAIL TOO FAST
Z SGE	54	10.0	20	05	18	+17	33	H	3	3595	L	0	14DEC78	16	43	21	62	00	UK035	33CROSSED BY LOW RES SP
Z SGE	54	10.0	20	05	18	+17	33	L	3	3595	L	0	14DEC78	16	39	40	2	00	UK035	55DURATION APPROX ONLY
*Z SGE	54	11.0	20	05	18	+17	33	L	3	3687	S	0	24DEC78	11	07	28	8	00	UK007	55
*Z SGE	54	11.0	20	05	18	+17	33	L	3	3687	L	0	24DEC78	10	37	02	20	00	UK007	55SINGLE TRAIL
*Z SGE	54	11.0	20	05	18	+17	33	L	3	3688	L	0	24DEC78	12	00	30	4	00	UK007	55
*Z SGE	54	11.0	20	05	18	+17	33	L	3	3688	S	0	24DEC78	11	49	33	6	00	UK007	45
*Z SGE	54	11.0	20	05	18	+17	33	L	3	3689	L	0	24DEC78	12	53	14	4	00	UK007	55
*Z SGE	54	11.0	20	05	18	+17	33	L	3	3689	S	0	24DEC78	12	41	07	7	00	UK007	55
*Z SGE	54	11.0	20	05	18	+17	33	L	3	3690	L	0	24DEC78	13	44	38	4	00	UK007	55
*Z SGE	54	11.0	20	05	18	+17	33	L	3	3690	S	0	24DEC78	13	32	37	7	00	UK007	55
*Z SGE	54	11.0	20	05	18	+17	33	L	3	3691	L	0	24DEC78	14	34	56	4	00	UK007	55
*Z SGE	54	11.0	20	05	18	+17	33	L	3	3691	S	0	24DEC78	14	22	45	7	00	UK007	55
*Z SGE	54	11.0	20	05	18	+17	33	H	3	3692	L	0	24DEC78	15	14	41	120	00	UK007	33TWO EXPOSURES ADDED
*Z SGE	54	8.5	20	05	19	+17	33	H	2	3108	L	0	05DEC78	10	45	56	30	00	VILSP	40
HD191877	23	6.2	20	09	10	+21	44	H	2	2526	S	C	02OCT78	16	56	47	16	00	RD016	60
HD191877	23	6.2	20	09	10	+21	44	H	3	2837	S	C	02OCT78	17	27	10	38	00	RD016	70
HD192163	11	7.7	20	10	17	+38	12	H	2	1580	S	C	30MAY78	02	45	40	100	00	MH011	GOOD
HD192163	11	7.7	20	10	17	+38	12	H	3	1668	S	C	30MAY78	01	41	47	40	00	MH011	UNDEREXP
HD192163	70	7.7	20	10	17	+38	12	H	3	2424	S	C	31AUG78	16	40	06	60	00	DF010	99SATURATED BACKGROUND
HD192163	11	7.7	20	10	17	+38	12	H	3	2517	S	C	07SEP78	16	32	00	60	00	MH011	50HIGH RADN BACKGROUND
HD192909	46	3.9	20	13	55	+47	34	H	3	1427	S	C	27APR78	09	00	00	30	00	MHA02	UNDEREXP.
HD193237	23	5.8	20	15	50	+37	52	L	2	1932	S	0	01AUG78	00	58	00	20		VILSP	A BIT STRONG

OBJECT	CL	MAG	PT	ASCN	DECLN	DISP	APERT	START	LENGTH	PROG	COMMENT						
			HR	MN	SC	DEG	DB	LG	DATE	HR	MN	SC	MIN	SC			
HD193237	23	5.8	20	15	50	+37 52	L 2	1932	L O	01AUG78	00	53	00	20	VILSP	A BIT STRONG	
HD193237	23	5.8	20	15	50	+37 52	L 3	2164	S O	01AUG78	01	35	00	40	VILSP	GOOD	
HD193237	23	5.8	20	15	50	+37 52	L 3	2164	L O	01AUG78	01	30	00	40	VILSP	A BIT STRONG	
HD193237	23	5.0	20	15	56	+37 53	H 2	1371	S C	23APR78	08	35	03	35	00	VILSP	OVEREXP LW
HD193237	27	4.8	20	15	56	+37 53	H 2	2224	S C	31AUG78	00	46	45	12	40	UK022	56
HD193237	23	5.0	20	15	56	+37 53	L 3	1404	S C	23APR78	06	01	12	1	30	VILSP	OVEREXP LW
HD193237	23	5.0	20	15	56	+37 53	H 3	1593	S C	21MAY78	05	10	00	60	00	VILSP	GOOD
HD193237	27	4.8	20	15	56	+37 53	H 3	2419	S C	31AUG78	01	05	18	20	00	UK022	34
HD193237	23	5.0	20	15	57	+37 52	H 2	2997	L O	21NOV78	16	05	44	9	00	VILSP	77
HD193237	23	5.0	20	15	57	+37 52	H 2	2998	L O	21NOV78	17	04	59	2	30	VILSP	45
HD193237	23	5.0	20	15	57	+37 52	L 3	3408	L O	21NOV78	16	35	57	35	00	VILSP	66
HD193322	15	5.8	20	16	21	+40 35	H 2	2130	S C	20AUG78	23	57	33	12	00	UK031	60
HD193322	15	5.8	20	16	21	+40 35	H 2	2131	S C	21AUG78	01	20	42	20	00	UK031	70SAT ABOVE 2800A
HD193322	15	5.8	20	16	21	+40 35	H 3	2345	S C	20AUG78	23	10	23	40	00	UK031	80
HD193322	15	5.8	20	16	21	+40 35	H 3	2346	S C	21AUG78	00	10	02	25	00	UK031	70SAT ABOVE 1700A
V444 CYG	11	8.3	20	17	42	+38 34	L 2	2346	L O	13SEP78	21	08	51	3	20	UK028	70
V444 CYG	11	8.3	20	17	42	+38 34	L 2	2346	S O	13SEP78	21	00	00	50	00	UK028	40
V444 CYG	11	8.3	20	17	42	+38 34	L 3	2644	L O	13SEP78	20	19	21	1	40	UK028	33
V444 CYG	11	8.3	20	17	42	+38 34	L 3	2644	S O	13SEP78	20	14	52	25	00	UK028	33
V444 CYG	11	8.3	20	17	42	+38 34	L 3	2645	S O	13SEP78	21	48	48	6	40	UK028	45
V444 CYG	10	8.4	20	17	43	+38 34	H 2	1529	S C	21MAY78	06	38	00	35	00	VILSP	UXP X5
V444 CYG	10	8.4	20	17	43	+38 34	H 3	1594	S C	21MAY78	07	28	00	30	00	VILSP	NO SPECTRUM
IC 4997	70	11.2	20	17	51	+16 34	L 2	2247	L O	02SEP78	17	08	00	10	00	DF010	24HIGH BACKGROUND
IC 4997	70	11.2	20	17	51	+16 34	L 2	2250	L O	02SEP78	22	26	45	15	00	DF010	34
IC 4997	70	11.2	20	17	51	+16 34	L 3	2451	L O	02SEP78	16	45	00	10	00	DF010	27VERY HIGH BACKGROUND
IC 4997	70	11.2	20	17	51	+16 34	L 3	2455	L O	02SEP78	21	47	40	5	00	DF010	15
IC 4997	70	11.2	20	17	51	+16 34	L 3	2456	S C	02SEP78	22	59	20	45	00	DF010	05
HD193495	41	3.1	20	18	12	+14 56	H 2	2189	S C	27AUG78	18	50	00	15	00	BN053	60
AE AQR	54	11.1	20	37	33	+01 03	L 2	2366	L O	15SEP78	20	51	29	15	00	UK028	35
AE AQR	54	11.1	20	37	33	+01 03	L 2	2367	L O	15SEP78	22	21	11	15	00	UK028	35
AE AQR	54	11.1	20	37	33	+01 03	L 3	2646	S O	13SEP78	23	35	27	10	00	UK028	
AE AQR	54	11.1	20	37	33	+01 03	L 3	2656	L O	15SEP78	19	38	25	35	00	UK028	34
AE AQR	54	11.1	20	37	33	+01 03	L 3	2657	L O	15SEP78	21	43	48	30	00	UK028	34
AE AQR	54	11.1	20	37	33	+01 03	L 3	2658	L O	15SEP78	23	05	20	40	00	UK028	34
HD197345	32	1.3	20	39	43	+45 06	H 2	2926	S C	13NOV78	12	46	13	40	00	FP047	50
HD197345	32	1.3	20	39	43	+45 06	H 2	2927	S C	13NOV78	13	55	25	2	00	FP047	70SW OK
HD197345	32	1.3	20	39	43	+45 06	H 3	3330	S C	13NOV78	12	50	58	1	30	FP047	50
HD197345	32	1.3	20	39	43	+45 06	H 3	3331	S C	13NOV78	13	22	50	9	00	FP047	70SW OK
HD197345	32	1.2	20	39	44	+45 06	H 2	2583	S C	12OCT78	15	19	06	1	20	FM050	70
HD197345	32	1.2	20	39	44	+45 06	H 3	2940	S C	12OCT78	14	28	02	7	00	FM050	70
HD197345	32	1.2	20	39	44	+45 06	H 3	2941	S C	12OCT78	15	27	29	1	00	FM050	50
MKN 509	84	13.0	20	41	26	+10 54	L 2	1309	L O	12APR78	08	13	00	110	00	UKPOP	GOOD, A BIT SAT
MKN 509	84	13.0	20	41	26	+10 54	L 2	1636	L O	08JUN78	01	10	02	50	00	UK042	VEPY GOOD MAY DN 199
MKN 509	84	13.1	20	41	26	+10 54	L 2	1783	L O	05JUL78	20	00	00	37	00	002AB	OKIUS IMAGE APPROX START
MKN 509	84	13.0	20	41	26	+10 54	L 3	1355	L O	12APR78	05	11	45	165	00	UKPOP	OVEREXP.
MKN 509	84	13.0	20	41	26	+10 54	L 3	1742	L O	07JUN78	23	46	00	60	00	UK042	VERY GOOD MAY DN 225
MKN 509	84	13.0	20	41	26	+10 54	L 3	1743	S O	08JUN78	02	24	02	35	00	UK042	WEAK 45PC LOST IN AP
HD197989	46	2.6	20	44	12	+33 47	H 2	2612	S C	15OCT78	20	25	17	12	00	UK020	33

OBJECT	CL	MAG	RT ASCN HR MN SC	DECLN DEG MN	DISP +CAM	APERT OB LG	DATE	START HR MN SC	LENGTH MIN SC	PRG	COMMENT	
HD197949	46	2.6	20 44 12	+33 47	H 2	2635	S C	17OCT78	21 00 51	44 00	UK020	65
HD198149	46	3.4	20 44 16	+61 39	H 2	2634	S C	17OCT78	19 37 15	30 00	UK020	54
HD199061	21	4.7	20 51 29	+44 13	H 2	2129	S C	20AUG78	21 53 28	4 00	UK031	70SAT 2400 TO 2800A
HD199081	21	4.7	20 51 29	+44 13	H 3	2344	S C	20AUG78	22 07 33	5 00	UK031	70SAT ABOVE 1800A
CYG LOOP	75	14.0	20 54 15	+31 33	L 2	1284	L O	07APR78	09 35 00	57 00	BD033	UNDEREXPOSED CII
CYG LOOP	75	14.0	20 54 15	+31 33	L 3	1327	L O	07APR78	05 53 00	180 00	BD033	
CYG LOOP	72	14.0	20 54 46	+30 56	L 3	1877	L O	29JUN78	00 29 48	315 00	BD033	GOOD
HD200120	20	4.8	20 58 07	+47 19	H 2	3217	S C	20DEC78	15 07 20	2 00	NH051	22TRIPLE SYSTEM
HD200120	20	4.8	20 58 07	+47 19	H 2	3218	S C	20DEC78	16 58 00	4 00	NH051	66
HD200120	26	4.8	20 58 07	+47 19	H 2	3228	L O	21DEC78	17 23 49	1 10	NH051	55
HD200120	26	4.8	20 58 07	+47 19	L 2	3248	L O	23DEC78	12 58 01	1	NH051	55
HD200120	26	4.8	20 58 07	+47 19	L 2	3248	S C	23DEC78	12 50 17	1	NH051	33
HD200120	20	4.8	20 58 07	+47 19	H 3	3653	S C	20DEC78	15 42 17	3 00	NH051	2259 CYG
HD200120	20	4.8	20 58 07	+47 19	H 3	3654	S C	20DEC78	16 19 35	10 30	NH051	88
HD200120	20	4.8	20 58 07	+47 19	H 3	3655	S C	20DEC78	17 48 47	5 00	NH051	22
HD200120	26	4.8	20 58 07	+47 19	H 3	3664	L O	21DEC78	16 50 48	1 40	NH051	56
HD200120	26	4.8	20 58 07	+47 19	L 3	3665	S C	21DEC78	17 36 41	2	NH051	44
HD200120	26	4.8	20 58 07	+47 19	L 3	3665	L O	21DEC78	17 30 33	3	NH051	88
HD200120	26	4.8	20 58 07	+47 19	L 3	3681	L O	23DEC78	13 03 01	1	NH051	33
HD200120	26	4.8	20 58 07	+47 19	L 3	3681	S C	23DEC78	12 54 02	1	NH051	55
HD200775	20	7.0	21 00 59	+67 58	L 2	2009	S O	07AUG78	21 12 00	8 00	VB032	70GOOD AT 2200A
HD200775	20	7.0	21 00 59	+67 58	L 2	2010	L O	07AUG78	23 15 00	2 00	VB032	30
HD200775	20	7.0	21 00 59	+67 58	L 3	2232	S O	07AUG78	22 30 00	10 01	VB032	10CAMERA NOT PREPPD
HD200775	20	7.0	21 00 59	+67 58	L 3	2232	L O	07AUG78	22 00 00	5 00	VB032	50CAMERA NOT PREPPD
HD200775	20	7.0	21 00 59	+67 58	L 3	2233	L O	08AUG78	01 01 00	7 00	VB032	10FES PROBLEM?
NGC 7009	70	8.0	21 01 28	+11 34	L 2	1611	L O	03JUN78	23 02 06	20 00	UK008	VERY GOOD
NGC 7009	70	9.0	21 01 28	+11 34	L 2	2701	L O	24OCT78	15 01 10	18 00	MP028	75
NGC 7009	70	8.0	21 01 28	+11 34	L 3	1709	L O	03JUN78	23 54 00	10 00	UK008	VERY GOOD
NGC 7009	70	9.0	21 01 28	+11 34	L 3	3128	L O	24OCT78	15 30 41	8 00	MP028	56
NGC 7009	70	9.0	21 01 28	+11 34	L 3	3129	L O	24OCT78	16 46 00	13 00	MP028	35
HD201091	46	5.2	21 04 40	+38 30	H 2	3175	L O	15DEC78	14 08 27	30 00	CB031	26
HD201091	46	5.2	21 04 40	+38 30	L 3	3622	L O	17DEC78	11 08 49	120 00	CR031	0361 CYG R
NGC 7027	71	9.0	21 05 09	+42 02	L 3	3077	L O	20OCT78	20 03 00	20 00	MP028	05
NGC 7027	70	9.0	21 05 12	+42 01	H 2	2571	L O	10OCT78	15 16 49	300 00	VILSP	26
HD202850	25	4.2	21 15 27	+39 11	H 2	2584	S C	12OCT78	16 18 37	10 00	FM050	70
HD202850	25	4.2	21 15 27	+39 11	H 3	2942	S C	12OCT78	16 48 04	33 00	FM050	70
2126-158	85	17.3	21 26 27	+15 54	L 2	2566	L O	09OCT78	16 21 22	840 00	UK134	??READ AT GSFC
2126-158	65	17.3	21 26 27	+15 54	L 3	2882	L O	07OCT78	16 42 36	840 00	UK134	??READ AT GSFC
NGC 7079	83	6.4	21 27 36	+11 57	L 3	1641	S O	26MAY78	7 12 04	32 00	UKPDP	FAINT TRACES CONT LW
IIZW 136	84	14.0	21 30 01	+09 55	L 3	3637	L O	18DEC78	11 03 29	120 00	UK033	35
P2135+14	85	15.0	21 35 01	+14 46	L 3	2128	L O	28JUL78	03 20 00	17 00	UK016	NO SPECTRUM
HD206165	23	4.7	21 36 34	+61 52	H 2	2169	S C	24AUG78	22 08 00	20 00	UK031	70STRONG GRADIENT IN EXP
HD206165	23	4.7	21 36 34	+61 52	H 3	2392	S C	24AUG78	21 11 00	50 00	UK031	60
NOVA CYG	55	7.0	21 40 38	+43 48	L 2	2323	L O	11SEP78	16 42 00	5 00	UKT00	77
NOVA CYG	55	7.0	21 40 38	+43 48	L 2	2323	S O	11SEP78	16 35 00	1 00	UKT00	34
NOVA CYG	55	7.0	21 40 38	+43 48	L 2	2335	L O	12SEP78	18 37 00	3 00	UKT00	66GOOD
NOVA CYG	55	7.0	21 40 38	+43 48	L 2	2335	S O	12SEP78	17 58 40	15 00	UKT00	77OK FOR SW/ WK IN 2200
NOVA CYG	55	7.0	21 40 38	+43 48	L 2	2357	S O	14SEP78	23 47 11	4 00	VILSP	56

OBJECT	CL	MAG	RT ASCN HR MN SC	DECLN DEG MN	DISP +CAM	IMAGE	APERT DB LG	DATE	START HR MN SC	LENGTH MIN SC	PROG	COMMENT
NOVA CYG 55	7.0	21 40 38	+43 48	L 2	2357	L 0	14SEP78	23 24 00	18 00	VILSP	78	
NOVA CYG 55	7.0	21 40 38	+43 48	L 2	2365	S 0	15SEP78	18 20 00	3 00	UKTOD	56	
NOVA CYG 55	7.0	21 40 38	+43 48	L 2	2365	L 0	15SEP78	17 47 27	18 00	UKTOD	77	
NOVA CYG 55	8.0	21 40 38	+43 48	L 2	2407	L 0	19SEP78	17 45 21	10 01	UKTOD	77GOOD FOR 2200 REGION	
NOVA CYG 55	8.5	21 40 38	+43 48	L 2	2448	S 0	19SEP78	17 37 44	2 00	UKTOD	56	
NOVA CYG 55	8.5	21 40 38	+43 48	L 2	2448	L 0	23SEP78	23 11 58	2 00	UKTOD	56	
NOVA CYG 55	8.2	21 40 38	+43 48	H 2	2491	L 0	28SEP78	22 56 00	8 00	UKTOD	77GOOD FOR 2200	
NOVA CYG 55	8.2	21 40 38	+43 48	H 2	2491	L 0	28SEP78	16 46 54	40 00	VILSP	47SAT AT MG II	
NOVA CYG 55	8.2	21 40 38	+43 48	H 2	2492	L 0	28SEP78	16 10 42	12 00	VILSP	35	
NOVA CYG 55	9.5	21 40 38	+43 48	L 2	2633	S 0	17OCT78	18 32 18	1 00	UKTOD	35	
NOVA CYG 55	9.5	21 40 38	+43 48	L 2	2633	L 0	17OCT78	18 24 32	4 00	UKTOD	58	
NOVA CYG 55	10.0	21 40 38	+43 48	H 2	2709	S C	25OCT78	15 31 00	15 00	UKTOD	12	
NOVA CYG 55	10.0	21 40 38	+43 48	H 2	2710	S C	25OCT78	16 37 00	100 00	UKTOD	24	
NOVA CYG 55	10.5	21 40 38	+43 48	L 2	2751	L 0	29OCT78	21 07 54	6 00	UKTOD	67	
NOVA CYG 55	10.5	21 40 38	+43 48	L 2	2751	S 0	29OCT78	21 02 20	1 30	UKTOD	35	
NOVA CYG 55	11.0	21 40 38	+43 48	L 2	2841	S 0	06NOV78	14 24 00	2 00	UKTOD	35	
NOVA CYG 55	11.0	21 40 38	+43 48	L 2	2841	L 0	06NOV78	14 09 22	6 00	UKTOD	57	
NOVA CYG 55	11.0	21 40 38	+43 48	L 2	2946	L 0	16NOV78	14 00 28	2 00	UKTOD	45	
NOVA CYG 55	11.0	21 40 38	+43 48	L 2	2946	S C	16NOV78	13 50 05	4 00	UKTOD	56	
NOVA CYG 55	11.0	21 40 38	+43 48	H 2	2947	L 0	16NOV78	14 55 58	90 00	UKTOD	34	
NOVA CYG 55	11.0	21 40 38	+43 48	H 2	2948	L 0	16NOV78	19 19 32	25 00	UKTOD	47	
NOVA CYG 55	12.0	21 40 38	+43 48	L 2	3100	L 0	04DEC78	16 19 41	12 00	UKTOD	37	
NOVA CYG 55	12.0	21 40 38	+43 48	L 2	3100	S 0	04DEC78	16 09 14	5 00	UKTOD	25	
NOVA CYG 55	12.0	21 40 38	+43 48	L 2	3285	S 0	26DEC78	16 16 17	5 00	UKTOD	24	
NOVA CYG 55	12.0	21 40 38	+43 48	L 2	3285	L 0	26DEC78	15 55 50	15 00	UKTOD	37	
NOVA CYG 55	7.0	21 40 38	+43 48	L 3	2627	L 0	11SEP78	17 29 00	3 00	UKTOD	33	
NOVA CYG 55	7.0	21 40 38	+43 48	L 3	2627	S 0	11SEP78	17 20 00	1 00	UKTOD	22	
NOVA CYG 55	7.0	21 40 38	+43 48	L 3	2636	S 0	12SEP78	17 46 00	5 00	UKTOD	22	
NOVA CYG 55	7.0	21 40 38	+43 48	L 3	2636	L 0	12SEP78	17 12 48	25 00	UKTOD	34	
NOVA CYG 55	7.0	21 40 38	+43 48	L 3	2655	L 0	15SEP78	17 04 58	35 00	UKTOD	56	
NOVA CYG 55	8.0	21 40 38	+43 48	L 3	2697	L 0	19SEP78	18 38 29	2 00	UKTOD	23	
NOVA CYG 55	8.0	21 40 38	+43 48	L 3	2697	S 0	19SEP78	18 03 10	30 00	UKTOD	57	
NOVA CYG 55	8.5	21 40 38	+43 48	L 3	2742	L 0	23SEP78	23 43 00	3 00	UKTOD	45	
NOVA CYG 55	8.5	21 40 38	+43 48	L 3	2742	S 0	23SEP78	23 20 00	20 00	UKTOD	77	
NOVA CYG 55	9.0	21 40 38	+43 48	L 3	2902	L 0	10OCT78	21 32 46	3 00	VILSP	67	
NOVA CYG 55	9.0	21 40 38	+43 48	L 3	2902	S 0	10OCT78	20 47 18	20 00	VILSP	77	
NOVA CYG 55	9.2	21 40 38	+43 48	L 3	2990	L 0	15OCT78	21 41 12	1 00	UKTOD	35	
NOVA CYG 55	9.2	21 40 38	+43 48	L 3	2990	S C	15OCT78	21 25 57	10 00	UKTOD	56	
NOVA CYG 55	9.5	21 40 38	+43 48	L 3	3011	S 0	17OCT78	18 47 08	3 00	UKTOD	24	
NOVA CYG 55	9.5	21 40 38	+43 48	L 3	3011	L 0	17OCT78	18 37 33	5 00	UKTOD	36	
NOVA CYG 55	10.5	21 40 38	+43 48	L 3	3190	L 0	29OCT78	20 27 50	6 00	UKTOD	46	
NOVA CYG 55	10.5	21 40 38	+43 48	L 3	3190	S 0	29OCT78	20 21 16	3 00	UKTOD	34	
NOVA CYG 55	11.0	21 40 38	+43 48	H 3	3237	L 0	06NOV78	14 46 00	240 00	UKTOD	27	
NOVA CYG 55	11.0	21 40 38	+43 48	L 3	3238	S 0	06NOV78	19 39 39	3 00	UKTOD	15	
NOVA CYG 55	11.0	21 40 38	+43 48	L 3	3238	L 0	06NOV78	19 26 39	9 00	UKTOD	27	
NOVA CYG 55	11.0	21 40 38	+43 48	L 3	3362	L 0	16NOV78	14 24 30	9 00	UKTOD	36	
NOVA CYG 55	11.0	21 40 38	+43 48	L 3	3362	S C	16NOV78	14 14 44	4 00	UKTOD	46	
NOVA CYG 55	12.0	21 40 38	+43 48	L 3	3526	L 0	04DEC78	15 51 37	9 00	UKTOD	27	

OBJECT	CL	MAG	RT ASCN			DECLN	DISP	APERT	START	LENGTH	PROG	COMMENT
			HR	MM	SC							
NOVA CYG	55	12.0	21	40	38	+43 48	L 3	3526 S 0	04DEC78	15 42 52	3 00	UKT00 15
NOVA CYG	55	12.0	21	40	38	+43 48	L 3	3714 L 0	26DEC78	16 30 56	12 00	UKT00 27
NOVA CYG	55	12.0	21	40	38	+43 48	L 3	3714 S 0	26DEC78	16 23 53	3 00	UKT00 15
SS CYG	34	12.0	21	40	44	+43 21	L 2	1571 L 0	28MAY78	03 19 30	25 00	UKPOP MG2 SAT, MAXDN=180 AT2800
SS CYG	34	12.0	21	40	44	+43 21	L 3	1653 S C	28MAY78	02 05 07	25 00	UKPOP VERY UNDEREXP
SS CYG	34	12.0	21	40	44	+43 21	L 3	1664 S C	29MAY78	06 26 54	70 00	UKPOP QUITE WEAK, NOISY IMAGE
HD206860	44	5.0	21	42	09	+14 33	H 2	2967 L 0	18NOV78	17 36 00	44 00	CB031 44
HD206860	44	5.4	21	42	09	+14 33	H 2	3013 L 0	23NOV78	16 27 37	52 00	CB031 50
HD206860	44	5.9	21	42	09	+14 33	H 2	3174 L 0	15DEC78	10 38 00	52 00	CB031 60
HD206860	44	5.9	21	42	09	+14 33	H 2	3215 L 0	20DEC78	10 22 51	48 00	CB031 66
HD206860	44	6.0	21	42	09	+14 33	H 2	3320 L 0	29DEC78	14 18 41	48 00	FC027 60
HD206860	44	5.9	21	42	09	+14 33	L 3	3381 L 0	18NOV78	18 27 42	77 00	CB031 40
HD206860	44	5.9	21	42	09	+14 33	L 3	3608 L 0	15DEC78	11 40 40	100 00	CB031 70
+28 4211	12	10.5	21	48	56	+28 38	L 2	3286 S 0	26DEC78	17 15 09	1 40	UKCAL 50
+28 4211	12	10.5	21	48	56	+28 38	L 2	3286 L 0	26DEC78	17 11 13	1 00	UKCAL 50
HD208816	48	4.0	21	55	12	+63 23	L 2	1750 S C	30JUN78	02 18 51	2 30	UK045 OK
HD208816	48	4.0	21	55	12	+63 23	L 2	1750 L 0	30JUN78	02 07 58	5 00	UK045 OK
HD208816	48	4.9	21	55	12	+63 23	L 3	1883 S C	30JUN78	01 28 59	8 00	UK045 A BIT WEAK
HD208816	48	4.0	21	55	12	+63 23	L 3	1883 L 0	30JUN78	00 55 11	15 00	UK045 SAT AT L+
HD208816	57	7.0	21	55	14	+63 23	L 2	1285 S C	08APR78	07 24 00	20 00	UKPOP
HD208816	48	4.9	21	55	14	+63 23	L 2	1631 L 0	07JUN78	07 35 00	6 00	MHB02 VV CEP GOOD
HD208816	48	4.0	21	55	14	+63 23	L 2	1631 S C	07JUN78	01 25 00	4 00	MHB02 VV CEP GOOD
HD208816	48	4.0	21	55	14	+63 23	L 2	1732 L 0	26JUN78	01 51 27	4 00	MHC02 OVEREXP X 30PC
HD208816	48	5.7	21	55	14	+63 23	H 2	1931 S C	31JUL78	21 09 00	113 00	MHA02 A BIT WEAK AT SHORT WL
HD208816	49	4.8	21	55	14	+63 23	H 2	2109 S C	18AUG78	18 56 38	120 00	UK045 46MAG II SAT
HD208816	53	5.7	21	55	14	+63 23	L 3	1385 S C	19APR78	07 30 00	6 00	MHA02 NO SPECTRUM
HD208816	53	5.7	21	55	14	+63 23	L 3	1385 L 0	19APR78	07 45 00	1 00	MHA02 NO SPECTRUM
HD208816	48	4.9	21	55	14	+63 23	L 3	1736 L 0	07JUN78	00 26 37	12 00	MHB02 VV CEP GOOD SOME EM SAT
HD208816	48	4.9	21	55	14	+63 23	L 3	1736 S C	07JUN78	00 15 08	1 00	MHB02 VV CEP
HD208816	48	5.7	21	55	14	+63 23	L 3	2162 L 0	31JUL78	20 58 00	2 00	MHA02 GOOD AT LONG WL
HD208816	48	5.7	21	55	14	+63 23	L 3	2162 S 0	31JUL78	20 54 00	1 00	MHA02 A BIT WEAK
HD208816	48	4.9	21	55	15	+63 23	H 2	2923 L 0	12NOV78	13 14 50	30 00	UK045 47
HD208816	48	4.9	21	55	15	+63 23	H 2	2924 L 0	12NOV78	18 43 17	60 00	UK045 57
HD208816	48	4.9	21	55	15	+63 23	L 3	3321 S 0	12NOV78	13 01 00	7 00	UK045 50
HD208816	48	4.9	21	55	15	+63 23	L 3	3321 L 0	12NOV78	12 35 35	10 00	UK045 70
HD208816	48	4.9	21	55	15	+63 23	H 3	3322 L 0	12NOV78	13 56 08	270 00	UK045 67
-03 5357	16	10.0	21	58	01	-02 59	L 2	1855 L 0	20JUL78	01 07 00	10 01	UK003 OK
-03 5357	16	10.0	21	58	01	-02 59	L 2	1855 S 0	20JUL78	00 43 00	14 35	UK003 OK
-03 5357	16	10.0	21	58	01	-02 59	L 3	2054 L 0	20JUL78	00 23 00	13 20	UK003 OXP
-03 5357	16	10.0	21	58	01	-02 59	L 3	2054 S 0	19JUL78	22 54 00	16 50	UK003 SLIGHT OXP
-03 5357	16	10.0	21	58	01	-02 59	L 3	2055 L 0	20JUL78	02 09 00	6 00	UK003 OK
215A-380	64	14.0	21	58	17	-38 01	L 3	3944 L 0	19DEC78	11 43 25	120 00	UK033 13
HD209100	46	4.7	21	59	47	-57 01	H 2	2611 S C	15OCT78	17 45 00	85 00	UK020 75
HD209750	44	2.9	22	03	13	-00 34	H 2	3216 S C	20DEC78	12 11 03	30 00	CB031 66
HD209750	44	2.9	22	03	13	-00 34	L 3	3651 L 0	20DEC78	11 40 01	22 00	CB031 44ALPHA ADR
HD209750	44	2.9	22	03	14	-00 34	L 3	3609 L 0	15DEC78	17 41 30	5 00	CB031 10
HD209750	44	2.9	22	03	14	-00 34	L 3	3609 S C	15DEC78	17 32 46	5 00	CB031 20
2204-408	85	17.5	22	04	33	-40 51	L 2	2539 L 0	05OCT78	17 00 00	840 00	UK13A ??READ DOWN AT GSFC

OBJECT	CL	MAG	RT	ASCN	DECLN	DISP	APERT	START	LENGTH	PROG	COMMENT			
			HR	MN	SC	DEG	MN	HR	MN	SC	MIN	SC		
						+CAM	IMAGE	OB	LG	DATE				
Q2204	85	17.5	22	04	33	-40 52	L 3	2227	L 0	06AUG78	21	12	00	UK13A 1102204=408
Q2204	85	17.5	22	04	33	-40 52	L 3	2251	L 0	09AUG78	19	50	51	UK13A 1102204=408
2204=408	85	17.5	22	04	33	-40 51	L 3	2849	L 0	03OCT78	16	52	53	UK13A ??READ DOWN AT GSFC
HD210839	15	5.0	22	09	49	+59 18	H 2	2128	S C	20AUG78	18	58	27	UK031 700K BELOW 2550A
HD210839	15	5.0	22	09	49	+59 18	H 3	2343	S C	20AUG78	19	40	39	UK031 77SAT ABOVE 1700A
HD214800	23	6.6	22	33	24	-16 39	H 3	1562	S C	17MAY78	05	30	37	UKPOP GOOD
HD214800	23	6.6	22	33	25	-16 39	H 3	1555	S C	16MAY78	01	05	58	UKPOP GOOD SHORT OF 1550R
DI CEP	58	11.5	22	54	00	+58 24	L 2	1514	L 0	19MAY78	02	26	06	GG005 QUITE GOOD
DI CEP	58	11.3	22	54	06	+58 24	L 2	2176	L 0	26AUG78	00	50	00	FG004 30
DI CEP	58	11.3	22	54	06	+58 24	L 3	2379	L 0	23AUG78	23	35	00	GG005 40
DI CFP	58	11.3	22	54	06	+58 24	L 3	2398	L 0	25AUG78	20	34	00	FG004 04
HD217050	26	5.4	22	54	52	+48 25	H 2	3081	S C	01DEC78	11	29	37	PSD13 70
HD217050	26	5.4	22	54	52	+48 25	H 3	3503	S C	01DEC78	11	16	31	PSD13 50
HD217476	44	5.0	22	57	58	+56 41	L 2	1933	S 0	01AUG78	03	15	00	VILSP UNDEREXPOSED
HD217476	44	5.0	22	57	58	+56 41	L 2	1933	S 0	01AUG78	02	50	00	VILSP GOOD
HD217476	44	5.0	22	57	59	+56 41	L 3	2092	S 0	24JUL78	02	42	00	UKFIL A BIT STRONG AT LONG WL
MKN 313	85	13.0	22	59	30	+15 42	L 3	1744	L 0	08JUN78	05	04	06	UK042 VERY WEAK
HD217675	22	4.7	22	59	37	+42 03	H 2	2171	S C	25AUG78	01	17	00	UK031 50
HD217675	22	4.7	22	59	37	+42 03	H 3	2393	S C	25AUG78	01	11	00	UK031 60
NGC 7469	84	13.6	23	00	44	+08 36	L 2	1680	S 0	16JUN78	23	44	45	SL034 MG II GOOD
NGC 7469	84	13.6	23	00	44	+08 36	L 3	1798	S 0	17JUN78	02	00	36	SL034 GOOD MAX DN 174
NGC 7469	84	14.0	23	00	59	+08 32	L 3	1920	L 0	06JUL78	00	37	37	UK005 NO SPECTRUM
HD218915	13	7.2	23	08	52	+52 47	H 3	1884	S C	30JUN78	03	02	00	UK064 OVEREXPOSED x 1.5
HD219188	23	6.9	23	11	28	+04 43	H 2	1749	S C	29JUN78	23	24	21	UK064 GOOD
HD219188	23	6.9	23	11	28	+04 43	H 3	1882	S C	29JUN78	22	55	56	UK064 GOOD MAX DN 240
HD219188	23	6.9	23	11	28	+04 43	H 3	3050	S C	19OCT78	20	56	54	UK041 50
NGC 7582	84	14.0	23	15	38	-42 39	L 2	3051	L 0	27NOV78	17	16	02	VILSP 2?
NGC 7582	84	14.0	23	15	38	-42 39	L 3	3471	L 0	27NOV78	13	08	54	VILSP 22
+5 23174	20	12.5	23	17	24	-05 26	L 3	3737	L 0	29DEC78	15	55	16	FC027 90
NGC 7662	70	9.0	23	23	30	+42 16	L 2	1572	S 0	28MAY78	07	21	00	UKPOP UNDEREXP
NGC 7662	70	9.0	23	23	30	+42 16	L 2	1576	L 0	29MAY78	01	59	02	UKPOP GOOD
NGC 7662	71	8.6	23	23	30	+42 16	F 2	1612	S C	04JUN78	01	21	00	UK008 A FEW LINES 6SEC OFFSET
NGC 7662	71	8.6	23	23	30	+42 16	L 2	1613	S 0	04JUN78	03	23	33	UK008 WEAK
NGC 7662	71	8.6	23	23	30	+42 16	L 2	1623	S C	06JUN78	00	43	00	UK008 WEAK E 6SEC FROM STAR
NGC 7662	71	8.6	23	23	30	+42 16	L 2	1624	S C	06JUN78	02	12	00	UK008 WEAK W 4SEC FROM STAR
NGC 7662	71	8.6	23	23	30	+42 16	H 2	1625	S C	06JUN78	03	11	00	UK008 GOOD W 4SEC FROM STAR
NGC 7662	70	10.0	23	23	30	+42 17	L 2	2657	L 0	20OCT78	20	55	24	MP028 57NE IV SAT
NGC 7662	70	9.0	23	23	30	+42 16	L 3	1661	L 0	29MAY78	00	45	38	UKPOP OVEREXP, NOISY IMAGE
NGC 7662	70	9.0	23	23	30	+42 16	L 3	1662	S C	29MAY78	03	17	00	UKPOP GOOD
NGC 7662	71	8.6	23	23	30	+42 16	L 3	1710	S 0	04JUN78	02	12	57	UK008 A FEW EM LINES
NGC 7662	71	8.6	23	23	30	+42 16	L 3	1729	S C	06JUN78	04	45	18	UK008 OK W 5SEC FROM STAR
NGC 7662	70	10.0	23	23	30	+42 17	L 3	3078	L 0	20OCT78	21	30	18	MP028 58
NGC 7662	70	10.0	23	23	30	+42 17	L 3	3130	L 0	24OCT78	18	13	25	MP028 28
NGC 7662	70	10.0	23	23	30	+42 17	L 3	3131	L 0	24OCT78	19	23	00	MP028 16
Z AND	57	10.0	23	31	15	+48 33	L 2	1661	L 0	13JUN78	03	59	37	VB032 OVEREXP RED OF 2400A
Z AND	57	10.0	23	31	15	+48 32	L 3	1485	L 0	05MAY78	02	22	00	VB032 GOOD
HD223640	36	5.2	23	48	46	-19 11	H 2	2860	S C	08NOV78	16	25	54	GM045 70
HD223640	36	5.2	23	48	46	-19 11	H 3	3268	S C	08NOV78	16	10	33	GM045 50

OBJECT	CL	MAG	RT ASCN			DECLN		DISP		APERT		DATE	START			LENGTH		PRDG	COMMENT	
			HR	MN	SC	DEG	MN	+CAM	IMAGE	OR	LG		HR	MN	SC	MIN	SC			
HD223640	36	5.2	23	48	46	-19	11	H	3	3269	S	C	08NOV78	17	12	39	20	00	GM045	70
HD224014	41	4.4	23	51	33	+57	14	L	3	3713	L	O	26DEC78	14	14	58	45	00	UKFIL	11

Appendix 2

VILSPA IMAGES FOR RELEASE TO SCIENTIFIC COMMUNITY

1978 NOV 1st (despatched 1978 April)

Camera 2 LWR

Camera 3 SWP

1274	1303
1275	1309
1278	1321
1283	1379
1284	1380
1285	1384
1286	1386
1331	1391
1339	1392
1345	1395
1346	1398
1353	1399
1361	1404
1371	1407
1377	

VILSPA IMAGES FOR RELEASE TO SCIENTIFIC COMMUNITY

1978 DEC 1st (despatched 1978 May)

	<u>Camera 2 LWR</u>			<u>Camera 3 SWP</u>	
1290	1438	1571	1327	1459	1569
1296	1442	1572	1335	1467	1570
1303	1447	1576	1336	1468	1581
1304	1450	1577	1342	1469	1583
1309	1463	1580	1343	1476	1600
1312	1465	1581	1349	1477	1607
1313	1466		1350	1485	1619
1315	1467		1355	1486	1640
1316	1476		1358	1492	1641
1318	1479		1359	1498	1648
1319	1488		1362	1505	1653
1322	1490		1363	1509	1654
1323	1497		1368	1514	1661
1327	1498		1369	1518	1662
1328	1502		1374	1519	1663
1396	1503		1375	1523	1664
1397	1507		1413	1524	1668
1405	1511		1425	1530	1669
1415	1514		1426	1539	
1418	1520		1427	1545	
1423	1521		1432	1546	
1424	1522		1435	1547	
1427	1537		1442	1555	
1431	1552		1448	1556	
1432	1562		1449	1557	
1433	1563		1450	1562	
1437	1564		1458	1563	

VILSPA IMAGES FOR RELEASE TO SCIENTIFIC COMMUNITY

1979 JAN 1st (despatched 1978 June)

<u>Camera 2 (LWR)</u>		<u>Camera 3 (SWP)</u>		
1528	1652	1592	1737	1856
1529	1653	1593	1742	1861
1535	1658	1594	1743	1870
1536	1659	1599	1744	1871
1543	1661	1605	1748	1872
1544	1669	1606	1755	
1556	1680	1608	1761	
1558	1691	1629	1762	
1585	1692	1630	1768	
1592	1697	1687	1769	
1593	1698	1688	1770	
1594	1703	1689	1786	
1603	1709	1690	1798	
1604	1710	1698	1811	
1605	1711	1699	1812	
1611	1720	1700	1816	
1612	1721	1701	1821	
1613	1726	1709	1828	
1620	1727	1710	1829	
1623	1732	1711	1830	
1624	1739	1720	1840	
1625	1740	1721	1844	
1631		1729	1845	
1636		1736	1852	
1641			1853	
1645				
1651				

Appendix 3

TAPE ARCHIVE RETRIEVAL

Please copy the images shown below to tape:

- for internal use: { Inventory #
Slot #
- for external use: Next tape from the DATA account

Tape density:

- 800 BPI (default value, should be used as much as possible)
- 1600 BPI

Requested data:

- extracted spectra only { High resolution: 1 file/image
Low resolution: 2 files/image
- images + extracted spectra { High resolution: 3 files/image
Low resolution: 5 files/image

Requested images:

Camera #	Image #
LWR (2)	1000
LWR (2)	1001
SWP (3)	6666

Camera #	Image #

Camera #	Image #

Date of request: 1978 Dec 32

Request by: Dr. A.N. Astronomer, Institute of Astrology, Sq. r. 2, SYLDAVIA

Countersignature of Observatory Controller or his deputy: