

IUE  esa



NEWSLETTER

TABLE OF CONTENTS

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Observatory Controller's Message.....2
New Personnel.....3
Detailed Spacecraft Status Report.....4
IUE Orbital Elements II and III.....15
Members of European IUE Selection Committee.....29
Second Announcent of the IUE Conference.....30
Announcement of COSPAR Symposium on Local ISM.....36
SERC Low Dispersion IUE Microfiches.....39
Comet Halley with the FES.....40
Update to FES sensitivity changes.....42
LWR Camera and ITF Performance with 4.5kV UVC.....45
Stars Observed with IUE in HIRES.....57
Skymap of Objects Observed with IUE in LORES.....61
Vilspa Publications List.....64
Merged Log of IUE Observations.....67
Various forms.....117

IUE ESA NEWSLETTER

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OBSERVATORY CONTROLLER'S MESSAGE

At the time that this Newsletter reaches you the IUE Allocation Committee will most likely just have finished its deliberations over the distribution of the IUE observing time for the ninth round of IUE observations. The total number of shifts requested for this year was slightly less than the previous, however the 3 x oversubscription still shows that IUE remains to be a major astronomical observing facility. The IUEAC has presently a new Chairman in the person of Prof. Harry Nussbaumer, who follows Dr. Alan Willis in the biannual exchange of the IUEAC chairmanship between representatives of the ESA community and the SERC community. The IUE operations with the 2 Gyro-FSS system have nearly reached their normal stability. At low beta angles the S/C still shows at times some not fully controlled oscillations which are causing a slight additional overhead in the operations. The observatory staff is now more or less used to the operations with this "new IUE" and operations proceed as normal with the expected 10% extra overhead. One good side effect of the gyro failure has been the development by the observatory staff of a simpler and faster attitude recovery method in the so-called beta-dot recovery.

At the ESA IUE observatory various developments have been taking place with the intention of further improving the infrastructure. All off-line image processing has now been concentrated in a single area, which is expected to allow us in the near future to allow user access to these facilities. Through the installation of a local-area network in VILSPA it has now been possible to integrate the IUE observatory in the rapid developments taking place in remotely accessible facilities.

This Newsletter is the last one which will appear under the editorship of Barbara Hassall, I would like to thank her here for the excellent job she has done on this important task. She will be replaced as Editor by the new SERC resident astronomer Chris Lloyd, replacing Alan Harris who has just returned to the R.A.L. after a stay of 2 years in VILSPA.

Willem Wamsteker
IUE Observatory Controller

NEW PERSONNEL



Chris Lloyd has recently joined VILSPA as the new UK resident astronomer. In addition to the traditional responsibilities of the UK R.A., he will also take over as editor of the ESA IUE Newsletter. At the Royal Greenwich Observatory Chris worked on the Optical Monitoring of active galactic nuclei, including the Double Quasar and on the evolution of massive binaries. In 1984 he was transferred to RAL and joined the IUE project last year. At VILSPA Chris intends to pursue his work on Wolf-Rayet stars and perhaps get in a little skiing. Chris and his wife Margaret have one son just over a year old.

Charo González has just joined the Observatory as a holder of an ESA Research Fellowship. She studied Physics and Astrophysics at the Complutense University of Madrid. Her astronomical interests are chromospheres and coronae of late type stars, extragalactic H II regions and models of spectral evolution of galaxies, the later being the subject of her recently completed Ph. D. Thesis. Since she will not be involved in real time support, she will devote most of her time to furthering her research, with which we wish her success.



Departures Alan Harris, January 1986

DETAILED SPACECRAFT STATUS REPORT
(superseding ESA IUE Newsletter No.23 p35)

I. SCIENTIFIC INSTRUMENT HARDWARE STATUS

A. CAMERAS (4)

- i) Long Wavelength Prime (LWP) - standard camera,
since 16 Oct. 1983.
suffered in the past from READ scan control
logic malfunctions, but reset by bad scan
detection logic software. This problem has
nearly disappeared since March 1984 and has
only once been detected since then.

Last BAD SCAN detected: 2 Feb 1985 16:56 UT.
- ii) Short Wavelength Prime (SWP) - standard camera.
no operational problems
- iii) Long Wavelength Redundant (LWR) - available at 4.5kV
since 1 Nov 1985
Since April 1983, this camera has suffered from
discharge in the UVC, producing a bright patch
(flare) on the image (Harris, 1985a). However
the flare can be avoided by reducing the UVC
voltage to 4.5kV. This results in a sensitivity
reduction of 27%. Other camera characteristics
remain practically unchanged.
(Harris 1985b, Imhoff 1986).

Guest observers with sufficient scientific
justification can use LWR at 4.5kV
Added overheads of camera switch ~30 mins.
- iv) Short Wavelength Redundant (SWR) - Not available
read section grid voltages usually fail

B. SPECTROGRAPHS (2)

- i) Short Wavelength
Entrance Apertures
Large Aperture (SWLA) - oval shape
Length for trailed spectra :
21.4 ± 0.4 arcsec.
Accuracy of trail
Very fast trails (>20 arcsec/sec) sometimes
miss aperture for all or part of trail
(Myslinski 1985)
Area for extended sources:
200 ± 5 sq.arcsec (Panek 1982a)

Small Aperture (SWSA)

probably non-circular effective shape
area ~ 6.8 sq. arcsec (Panek 1982a)
point source throughput 0.53 ± 0.13

Orientation - Position angle dependent on relative
positions of sun and target (Munoz 1985
Schiffer, 1980a; Patriarchi 1981)

Non-optimum roll impossible with 2-Gyro FSS system

Echelle Mode - functional

Low Dispersion Mode - functional

ii) Long Wavelength

Entrance Apertures

Large Aperture (LWLA) - oval shape

Length for trailed spectra :
 20.5 ± 1.0 arcsec.

Trail accuracy as for SW spectrograph.

area for extended sources :
 203 ± 6 sq. arcsec (Panek 1982a)

Small Aperture (LWSA)

probably non-circular effective shape

area ~ 6.9 sq. arcsec (Panek 1982a)

point source throughput :

0.49 ± 0.15

Orientation - as for SW spectrograph (Munoz 1985)

Echelle Mode - functional

Low dispersion mode - functional

C. FINE ERROR SENSORS(2)

i) FES 1 - back-up system last used 1978 Feb 18
2 magnitudes less sensitive than FES 2

ii) FES 2 - standard
positional accuracy
0.27 arcsec near center of field.
3 arcsec elsewhere
8 arcsec for $m < -0.6$ or $14.2 < m < 16$

field size 8 arcmin radius

effective wavelength ~ 5200 A

visual calibration (Holm and Rice 1981,
Stickland 1980)

sensitivity variation (Barylak et al, 1984, 1985)

experiences electronic confusion from

operation aperture closure mechanism and
the Sun shutter mechanism

D. TELESCOPE SUN-SHUTTER

closed twice spontaneously in 1984 and once in 1985
correction by ground command

II. SPACECRAFT (S/C) HARDWARE STATUS

A. GYROS (6)

No. required for three-axis stabilized attitude control - 2+FSS

No. healthy - 2

No. failed - 4

Gyro-1 failed on 1981 March 2, 19:50 GMT

Gyro-2 failed on 1982 July 27, 07:00 GMT

Gyro-6 stuck since turned off for 1979 shadow season)

Gyro-3 failed on 1985 Aug 17, 05:00 GMT

S/C drift rates - 3 to 20 arcsec/hour (in pitch & yaw)
usually largest shortly after slewing

Maneuver accuracy

In 1981 Nov 21 error/length = 4×10^{-4}
(Panek & Baroffio 1982)

Has improved wrt accuracy prior to Gyro-3 failure

In Dec 1985 error/length = 1×10^{-4}

B. REACTION WHEELS(4)

No. required for slewing - 3

No. in use - 3 (pitch, yaw, and roll)

Backup (skewed wheel) never used in orbit

C. HYDRAZINE SYSTEM

Required for reaction wheel maintenance, orbit change
maneuvers, and emergency sun acquisitions

~ 19.5 kg available

usage rate ~ 0.5 kg/year

D. PREDICTED SOLAR ARRAYS FOR 1986

Power positive zone - depends upon activity level

Beta angles 114° to $28^\circ \pm 2''$ with 1 camera reading
and 1 camera exposing

E. BATTERIES(2)

Maximum depth of discharge during shadow season (no.16)
(Aug/Sept 1985)

Battery #1 62.0%
Battery #2 62.0%

F. ON-BOARD COMPUTER(2)

i) OBC 1

Temperature limit 55.8 C
Last crash 1984 Jan 18
Software systems
8K - standard
4K - Present 2-Gyro/FSS control cannot fit in 4K.
Reduced 2-g/FSS system compatible with 4K
system is under development

ii) OBC 2

Backup system never used in orbit

III. IMAGE PROCESSING SYSTEM STATUS

(Alderman, Turnrose, and Northover 1981)

The current system has evolved through a series of modifications. See ESA IUE Newsletter No.21 (NASA IUE Newsletter No.25) and IUE Image Processing Information Manual Version 2.0 and references therein for a full description. The following list indicates the most significant modifications and their implementation dates.

	GSFC	VILSPA
Averaged Intensity Transfer Function	1978 May 22	- 78 Jun 14
Improved calibration Line Library		
Low dispersion	1978 Sep 21	- 79 Feb 01
High dispersion	1979 Nov 23	- 81 Mar 10
Correct SWP ITF error	1979 Jul 07	- 79 Aug 07
Mean dispersion constants:		
Low dispersion	1979 Oct 30	- 81 Mar 10
High dispersion	1980 Jul 18	- 81 Mar 10
Improved calibration Line Library		
"New" Low dispersion software		
Parameterized low dispersion constants	1980 Nov 04	- 81 Mar 10
Parameterized high dispersion constants		
constants	1981 May 19	- 82 Mar 11
"New" High dispersion software	1981 Nov 10	- 82 Mar 11
New LWP ripple correction	1984 Dec 17	- 85 Jun 10
Extended LBL for low dispersion	1985 Oct 01	- 85 Oct 01

IV. INSTRUMENTAL PERFORMANCE

A. NOISE

i) Readout noise ~10 DN/pixel

ii) Periodic noise (microphonics)

SWP - covers entire image - Amplitude generally 1-3 DN
Amplitude may be increased to 10-40 DN by
mechanical activity in S/C, incl. roll slews
frequency ~200 Hz (Northover 1979)

LWR - affects a few lines in ~85% of images
amplitude up to 110 DN
amplitude decays ~25% image line (Panek 1981)
frequency ~300 HZ (Panek 1981)
occurrence associated with heating of
read section of camera
occurrence modified by delaying
read (Holm and Panek 1982)

LWP - occurrence associated with Roll slews
amplitude up to 7 DN.
affects only the lines when a roll slew is
in progress (Faelker 1982)

iii) Bright spots

radioactive disintegrations in phosphor ~30 spots/hr
(Coleman et al. 1977)

permanent blemishes

most pronounced pseudo-emission feature at
~2190 A low dispersion, large aperture LWR only.
Others (Ponz 1980)

iv) Typical signal/noise ratio

for well exposed point source spectra

SWP - 10-30 old software (Cassatella et al. 1980)
7-27 new software

LWR - 12-21 old software (Settle et al. 1981)
8-15 new software (Barylak 1982)

LWP - 9-25 old software (Settle et al. 1981)
6-18 new software (Barylak, 1982)

v) S/N properties of averaged spectra

(Clarke 1981a)

(West and Shuttleworth 1981)

B. BACKGROUND

i) Phosphorescence fogging

During low-radiation shifts
LWR & SWP 6-10 DN/hour/pixel
LWP 4-7 DN/hour/pixel (Ake 1982)
Fogging rate depends on no. and type of PREPS
before exposure
Overexposures cause "ghost" spectrum fogging
(Snijders 1983).
phosphorescence decay rate
 $t^{-0.8}$ up to several hours (Coleman 1978)
unknown after long time intervals

ii) Radiation fogging

caused by Cerenkov radiation from electrons
in the van Allen belts (Coleman et al. 1977)
may be severe near perigee (US shift 2)
recent experience 22% low fogging shifts
15% high fogging shifts
depending on solar activity (Imhoff 1985)

C. PHOTOMETRIC PROPERTIES

i) Upper limits to ITFs (Turnrose 1980)

New ITF's (ITF2) - data taken for LWR, SWP, LWP
ITF generated for LWR but not operational
ITF in production for SWP, LWP

ii) Linearity errors in processed spectra

SWP -10 to -20 percent for Net DN < 20
+10 to +15 percent for ave. DN > 220 @ 1300 A
(Holm 1981)
LWR +10 to +20 percent for Net DN < 40
LWP mean error +2% for Net DN > 100
mean error of -2.5% for Net DN < 100
overall RMS error 3%. (Harris 1983a)
(Settle et al. 1981)

D. ABSOLUTE CALIBRATION

i) Low dispersion SWP and LWR (Holm et al. 1982)

ii) High dispersion SWP and LWR (Cassatella et al. 1981) For new software (Cassatella et al. 1982)

iib) Low dispersion LWP (Blades & Cassatella 1982) (Cassatella & Harris 1983)

- iii) High dispersion LWP
as for LWR (Cassatella et al, 1983).
- iv) Accuracy of standards
±10% 1300A - 3400 A (Bohlin 1985)
- v) Echelle ripple correction (Ake 1981)

E. SENSITIVITY VARIATION

- i) Temperature dependence (Schiffer 1982a)
SWP ~ -0.5%/ C of head amplifier temperature (THDA)
LWR ~ -1.1%/ C of THDA
LWP ~ -0.2%/ C of THDA (Harris 1983b; Sonneborn, 1983)
- ii) Repeatability (1σ after temperature correction)
(Schiffer 1982a)
SWP 2% in 150 A bins
LWR 2.5% in 300 A bins
LWP 2.5% in 200 A bins, negligible temp correction
(Harris & Cassatella, 1983)
- iii) Temporal dependence (Schiffer 1982a)
SWP -6.3%/year @ 1850 A before 1979.3
<0.3%/year since 1979.3

LWR wavelength dependent between -3.5% and .8% per year.
(Clavel et al 1985; Cacciari and Wamsteker 1982;
Sonneborn 1983).

LWP Wavelength dependent between -1.4% and 0% per year.
(Sonneborn 1983).

F. RESOLUTION

- i) Short wavelength echelle mode

small aperture FWHM 0.085 A @ 1150 A
(Boggess et al. 1978; Imhoff 1983)
0.19 A @ 2100 A
(Boggess et al. 1978)
large/small 1.01 (Penston 1979)

ii) Short wavelength low dispersion mode

a) spectral resolution

large aperture FWHM $< 5\text{\AA}$ (1400-1600\AA)

FWHM $\sim 7.5\text{\AA}$ @ 1900\AA

(Cassatella et al 1985)

gain in resolution using SAP: about 8% mean over λ

(Cassatella et al, 1985)

b) spatial resolution in LAP from cross-profiles:

FWHM 4.6 to 5.9 arcsec at optimum focus

(Cassatella et al, 1985)

iii) Long wavelength echelle mode

small aperture FWHM 0.20 \AA

(Boggess et al, 1978; Imhoff 1983)

large/small 1.09

(Penston 1979)

iv) Long wavelength low dispersion mode

a) spectral resolution

LWR large aperture: FWHM $\sim 5.8\text{\AA}$ (2400-2900\AA);

FWHM $\sim 7.7\text{\AA}$ @ 1900\AA

gain in resolution using SAP: $< 3\%$

(Cassatella et al, 1985)

LWP large aperture: $\sim 10\%$ - better than LWR

(Cassatella et al, 1985)

b) spatial resolution in LAP from cross-profiles.

LWR 4 to 5.6 arcsec at optimum focus

LWP 3.7 to 4.9 arcsec at optimum focus

(Cassatella et al, 1985)

G. WAVELENGTH ACCURACY

i) Internal consistency of wavelength calibration determinations (Thompson et al. 1981)

SWP 2.0 km/sec

LWR 2.7 km/sec

LWP unknown

ii) Possible systematic errors

SWP unknown now

early data (Leckrone 1980)

LWR ~ 10 km/sec

LWP unknown

H. MISCELLANEOUS

- i) Grating scattered light
(Clarke 1981b; Stickland 1980; Basri et al 1985;
Crivellari et al 1982)
- ii) Halation: Backscattering of Electrons from the
phosphor decay length $\sim 32 \pm 3$ pixels (Coleman 1978)
- iii) Scattered Light in the Telescope
 $F_{\text{scat}} \sim d^{-2.5} F$ (Schiffer 1982b)
where d is in arcsec ($5 < d < 40$)
- iv) Plate scale
 1.51 ± 0.04 pixel/arcsec (Panek 1982a;
Bohlin et al 1980)
- v) Residual geometric errors in geometrically corrected image
 ± 0.4 arcsec = ± 0.2 pixels (Panek et al, 1982)
- vi) Exposure timing (Schiffer 1980b, Heck 1981)
command units 0.4096 seconds
effective response delay 0.12 seconds LWR, SWP & LWP
(LWP : Imhoff, 1983).
- vii) Longest uninterrupted exposure to date
SWP 15293 1273 minutes

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IUE Orbital Elements II *

This report extends the previous compendium of IUE orbital elements (Ehlers 1981) to April 1984. These elements can be used to derive radial velocity corrections as discussed by Jenkins (1979), Harvel (1980), and Schiffer (1982).

Table 1 is the list of orbital elements. Each epoch is given as year, month, and day in the format YYMMDD. The epoch is always at 00:00 GMT. The inclination, longitude of ascending node, argument of perigee, and mean anomaly are given in degrees. The semi-major axis is given in kilometers. The orbital period can be found from the equation

$$P = 1.6586 \times 10^{-4} a^{3/2} \text{ minutes.}$$

The orbit of IUE is continually changing due to anomalies in the earth's gravitational field which accelerate the spacecraft westward. For this reason the orbital elements also change and so are updated frequently. In addition, the satellite must be kept within the field of view of the receiving antennae, both at Goddard Space Flight Center and at Villa Franca, Spain. When the spacecraft drifts too far west, the orbit is corrected using the hydrazine jets. This corrective maneuver (a "delta V") causes the spacecraft drift to reverse direction and drift eastward. The changes in the drift direction represent discontinuities in the orbital elements, particularly the semi-major axis. Breaks in Table 1 indicate such discontinuities due to a delta V. Table 2 lists the dates (format YYMMDD) and GMT times at which the corrective maneuvers were performed. When deriving radial velocity corrections, caution should be used in interpolating values near the times of these discontinuities in order to ensure accurate results. The time changes in Table 2 from Ehlers (1981) resulted from a small uncertainty in the recordkeeping.

Sidney M. Broude and Ruth E. Bradley

1984 May 18

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* Reprinted from NASA IUE Newsletter N° 24, p. 131. This and the following report (this issue p. 26) give a complete record of IUE orbital elements up to 27 December 1984.

Table 1
IUE Orbital Elements

<u>Epoch</u>	<u>Semi-Major Axis</u>	<u>Eccentricity</u>	<u>Inclination</u>	<u>Ascending Node</u>	<u>Arg of Perigee</u>	<u>Mean Anomaly</u>
780222	42168.0	0.2395473	028.639	207.566	257.648	342.655
780301	42168.7	0.2392656	028.641	207.441	257.220	349.342
780308	42168.9	0.2391520	028.648	207.260	257.928	355.910
780315	42169.3	0.2390043	028.655	207.144	257.960	002.513
780322	42170.0	0.2389189	028.652	206.984	258.167	008.944
780329	42170.7	0.2388213	028.653	206.886	258.159	015.456
780405	42171.8	0.2387689	028.651	206.703	258.360	021.820
780412	42171.5	0.2388617	028.651	206.591	258.393	028.212
780419	42173.8	0.2388630	028.635	206.455	258.573	034.444
780426	42173.1	0.2390331	028.626	206.332	258.596	040.742
780503	42175.2	0.2390400	028.612	206.168	258.781	046.905
780510	42174.6	0.2393258	028.600	206.035	258.825	053.091
780517	42176.0	0.2393832	028.588	205.902	259.049	059.111
780524	42175.9	0.2397106	028.564	205.783	259.104	056.211
780531	42177.1	0.2396866	028.560	205.591	259.325	071.167
780607	42176.8	0.2400471	028.530	205.475	259.433	077.124
780613	42177.1	0.2400538	028.527	205.324	259.657	082.112
780620	42177.2	0.2402467	028.515	205.252	259.816	087.939
780627	42177.4	0.2402030	028.504	204.944	260.056	093.742
780725	42151.9	0.2396312	028.483	204.298	260.813	116.560
780803	42152.8	0.2396814	028.472	204.134	261.062	126.799
780810	42152.7	0.2393209	028.489	203.970	261.247	134.727
780817	42153.1	0.2393500	028.475	203.786	261.436	142.646
780824	42153.9	0.2389324	028.487	203.629	261.554	150.528
780831	42154.5	0.2389063	028.496	203.437	261.753	158.330
780914	42155.5	0.2384953	028.496	203.172	262.033	173.847
780921	42155.3	0.2381839	028.504	203.050	262.097	181.562
780928	42157.2	0.2381510	028.517	202.849	262.242	189.188
781005	42155.7	0.2379313	028.521	202.787	262.373	196.790
781012	42158.4	0.2379517	028.514	202.631	262.472	204.336
781019	42157.1	0.2378601	028.514	202.571	262.554	211.849

Table 1 (continued)

IUE Orbital Elements

<u>Epoch</u>	<u>Semi-Major Axis</u>	<u>Eccentricity</u>	<u>Inclination</u>	<u>Ascending Node</u>	<u>Arg of Perigee</u>	<u>Mean Anomaly</u>
781026	42159.6	0.2379101	028.480	202.370	262.674	219.273
781102	42158.3	0.2379695	028.499	202.188	262.728	226.695
781109	42161.1	0.2380262	028.486	202.130	262.894	234.039
781116	42160.0	0.2381961	028.466	202.000	262.934	241.362
781123	42162.4	0.2382739	028.448	201.831	263.142	248.544
781130	42161.6	0.2384876	028.431	201.696	263.223	255.748
781207	42164.2	0.2385020	028.405	201.472	263.472	262.852
781214	42163.1	0.2387844	028.389	201.316	263.569	269.924
781221	42165.2	0.2387389	028.390	210.192	263.803	276.858
790104	42167.5	0.2387801	028.382	200.852	264.143	290.707
790111	42166.8	0.2389980	028.362	200.579	264.301	297.566
790118	42167.8	0.2387210	028.369	200.495	264.584	304.276
790125	42168.7	0.2388393	028.364	200.385	264.673	311.040
790201	42169.0	0.2384144	028.372	200.160	264.956	317.711
790208	42169.1	0.2385111	028.353	200.058	265.114	324.340
790215	42169.6	0.2380755	028.383	199.851	265.339	330.881
790222	42170.5	0.2381567	028.379	199.759	265.437	337.433
790301	42170.0	0.2376248	028.402	199.548	265.596	343.922
790308	42171.1	0.2377645	028.395	199.418	265.736	350.354
790315	42170.9	0.2372990	028.409	199.290	265.876	356.711
790322	42172.4	0.2374896	028.403	199.168	265.944	003.073
790329	42171.8	0.2370599	028.414	198.955	266.070	009.391
790405	42173.1	0.2373532	028.400	198.846	266.150	015.611
790412	42173.8	0.2370299	028.412	198.746	266.281	021.788
790419	42174.9	0.2373967	028.388	198.597	266.373	027.951
790426	42175.9	0.2371330	028.394	198.454	266.422	034.070
790503	42176.4	0.2375415	028.368	198.327	266.585	040.079
790510	42177.1	0.2373966	028.371	198.199	266.705	046.068
790517	42177.0	0.2378410	028.347	198.043	266.864	052.026
790524	42178.0	0.2376979	028.340	197.865	266.963	057.969

Table 1 (continued)

IUE Orbital Elements

<u>Epoch</u>	<u>Semi-Major Axis</u>	<u>Eccentricity</u>	<u>Inclination</u>	<u>Ascending Node</u>	<u>Arg of Perigee</u>	<u>Mean Anomaly</u>
790531	42177.3	0.2380957	028.317	197.700	267.165	063.795
790607	42179.0	0.2380043	028.323	197.594	267.324	069.608
790614	42179.8	0.2382941	028.258	197.904	267.697	075.273
790621	42154.3	0.2377629	028.291	197.235	267.637	081.244
790629	42152.9	0.2379556	028.288	197.052	267.951	090.280
790706	42155.1	0.2378887	028.280	196.903	268.075	098.214
790713	42153.2	0.2379262	028.287	196.707	268.353	106.076
790718	42155.3	0.2377404	028.282	196.578	268.425	111.705
790727	42153.7	0.2377012	028.295	196.412	268.782	121.664
790803	42156.0	0.2375410	028.288	196.245	268.877	129.440
790810	42154.2	0.2373446	028.299	196.060	269.118	137.141
790816	42156.7	0.2371688	028.300	195.929	269.203	143.747
790823	42155.6	0.2369590	028.314	195.761	269.448	151.331
790906	42156.1	0.2365011	028.331	195.463	269.738	166.490
790913	42158.2	0.2363013	028.324	195.328	269.795	174.024
790920	42157.8	0.2360332	028.342	195.155	269.967	181.456
790927	42158.5	0.2359336	028.338	195.078	270.038	188.885
791004	42153.0	0.2357176	028.345	194.897	270.181	196.270
791011	42160.2	0.2357182	028.331	194.799	270.231	203.611
791018	42160.7	0.2355197	028.340	194.653	270.384	210.863
791025	42160.8	0.2356650	028.321	194.529	270.438	218.124
791115	42163.7	0.2356312	028.296	194.130	270.814	239.510
791122	42163.2	0.2359693	028.273	193.962	270.913	246.560
791129	42165.6	0.2358468	028.277	193.767	271.067	253.553
791206	42164.8	0.2361983	028.247	193.648	271.225	260.454
791213	42166.7	0.2360669	028.257	193.456	271.411	267.313
791220	42166.0	0.2363979	028.234	193.295	271.562	274.142
800103	42167.4	0.2364190	028.221	192.961	271.980	287.609
800110	42169.2	0.2361310	028.238	192.805	272.171	294.264
800117	42168.7	0.2363326	028.229	192.622	272.370	300.884

Table 1 (continued)

IUE Orbital Elements

<u>Epoch</u>	<u>Semi-Major Axis</u>	<u>Eccentricity</u>	<u>Inclination</u>	<u>Ascending Node</u>	<u>Arg of Perigee</u>	<u>Mean Anomaly</u>
800124	42170.9	0.2359093	028.251	192.434	272.522	307.477
800131	42169.9	0.2360137	028.248	192.268	272.763	313.945
800207	42171.3	0.2355873	028.270	192.145	272.911	320.409
800214	42151.6	0.2352898	028.262	191.978	273.116	327.054
800228	42152.4	0.2347928	028.293	191.667	273.411	343.250
800306	42152.6	0.2343690	028.304	191.549	273.503	351.301
800313	42153.9	0.2344326	028.299	191.396	273.648	359.283
800320	42153.7	0.2340191	028.312	191.268	273.707	007.268
800327	42155.5	0.2340853	028.314	191.110	273.870	015.107
800403	42155.5	0.2338467	028.312	191.017	273.930	022.976
800410	42157.3	0.2340265	028.301	190.867	274.065	030.759
800424	42158.6	0.2339765	028.292	190.575	274.322	046.184
800501	42158.9	0.2339681	028.287	190.481	274.342	053.847
800508	42159.5	0.2341761	028.266	190.319	274.520	061.405
800515	42160.0	0.2341846	028.261	190.207	274.564	068.967
800522	42160.3	0.2343342	028.255	190.025	274.812	076.368
800529	42161.4	0.2344403	028.239	189.895	274.900	083.796
800605	42160.6	0.2346075	028.234	189.683	275.133	091.122
800613	42161.9	0.2347554	028.215	189.500	275.277	099.475
800619	42161.3	0.2347040	028.227	189.354	275.511	105.603
800625	42165.8	0.2347760	028.217	189.244	275.604	111.755
800703	42164.4	0.2347936	028.225	189.015	275.887	119.613
800717	42165.4	0.2346093	028.234	188.696	276.284	133.184
800724	42167.7	0.2345723	028.233	188.548	276.431	139.913
800731	42165.9	0.2343032	028.253	188.361	276.666	146.559
800807	42168.7	0.2342317	028.248	188.212	276.801	153.181
800815	42167.5	0.2338159	028.280	188.050	277.022	160.630
800822	42169.9	0.2337357	028.278	187.884	277.167	167.142
800829	42168.3	0.2332867	028.299	187.720	277.322	173.590
800905	42170.9	0.2332170	028.298	187.574	277.480	179.977

Table 1 (continued)

IUE Orbital Elements

<u>Epoch</u>	<u>Semi-Major Axis</u>	<u>Eccentricity</u>	<u>Inclination</u>	<u>Ascending Node</u>	<u>Arg of Perigee</u>	<u>Mean Anomaly</u>
800912	42170.0	0.2327891	028.307	187.466	277.591	186.296
800919	42172.2	0.2327463	028.302	187.308	277.707	192.606
800926	42170.7	0.2323634	028.328	187.178	277.786	198.867
801003	42173.6	0.2323506	028.307	187.035	277.943	205.034
801009	42172.8	0.2320975	028.321	186.948	277.998	210.300
801016	42174.3	0.2321704	028.321	186.866	278.083	216.401
801023	42173.9	0.2319303	028.305	186.680	278.177	222.472
801030	42176.2	0.2321272	028.292	186.520	278.305	228.441
801106	42175.9	0.2319964	028.292	186.403	278.394	234.379
801113	42176.9	0.2322767	028.276	186.305	278.526	240.247
801120	42177.2	0.2321134	028.274	186.087	278.628	246.111
801127	42178.8	0.2323635	028.252	185.933	278.842	251.832
801217	42153.3	0.2318607	028.243	185.471	279.253	268.300
801225	42153.4	0.2320597	028.242	185.248	279.536	277.442
810101	42154.3	0.2319507	028.237	185.131	279.668	285.435
810106	42153.9	0.2320993	028.241	184.983	279.827	291.098
810120	42155.0	0.2318612	028.259	184.646	280.249	306.797
810127	42156.6	0.2314632	028.280	184.506	280.406	314.584
810203	42156.2	0.2314587	028.258	184.384	280.636	322.297
810211	42157.5	0.2310059	028.301	184.176	280.731	331.122
810218	42157.0	0.2308852	028.309	184.009	280.976	338.687
810224	42157.8	0.2305346	028.331	183.904	281.049	345.217
810303	42158.3	0.2305187	028.323	183.766	281.225	352.745
810311	42159.0	0.2300802	028.340	183.646	281.257	001.352
810325	42161.8	0.2297719	028.335	183.492	281.352	016.141
810401	42162.8	0.2298042	028.342	183.111	281.640	023.480
810408	42162.8	0.2296798	028.409	183.052	281.651	030.808
810415	42164.2	0.2295816	028.369	182.936	281.833	037.965
810422	42163.9	0.2296028	028.331	182.832	281.870	045.182
810429	42164.5	0.2296895	028.348	182.600	282.105	052.285

Table 1 (continued)

IUE Orbital Elements

<u>Epoch</u>	<u>Semi-Major Axis</u>	<u>Eccentricity</u>	<u>Inclination</u>	<u>Ascending Node</u>	<u>Arg of Perigee</u>	<u>Mean Anomaly</u>
810520	42165.9	0.2299073	028.296	182.222	282.406	073.346
810527	42166.3	0.2299676	028.304	182.053	282.608	080.212
810610	42167.3	0.2300499	028.293	181.736	282.948	093.797
810617	42167.9	0.2302336	028.278	181.583	283.080	100.540
810624	42167.5	0.2301423	028.296	181.393	283.316	107.159
810630	42169.4	0.2301987	028.280	181.265	283.428	112.844
810707	42168.3	0.2300517	028.304	181.086	283.692	119.330
810714	42170.0	0.2300483	028.303	180.948	283.838	125.833
810721	42169.0	0.2298296	028.323	180.772	284.068	132.243
810804	42170.0	0.2293954	028.348	180.450	284.439	144.910
810818	42170.7	0.2288902	028.381	180.167	284.766	157.389
810825	42173.2	0.2287818	028.397	180.022	284.879	163.567
810901	42172.4	0.2282902	028.385	179.861	285.090	169.661
810908	42174.3	0.2281934	028.406	179.762	285.145	175.736
810915	42173.2	0.2277780	028.430	179.599	285.292	181.759
810922	42175.7	0.2276914	028.406	179.511	285.404	187.708
811006	42177.3	0.2273203	028.416	179.181	285.598	199.539
811013	42175.9	0.2270177	028.429	179.093	285.662	205.352
811030	42150.2	0.2264961	028.398	178.775	285.898	219.518
811118	42153.5	0.2265575	028.389	178.343	286.294	241.479
811125	42153.0	0.2265783	028.377	178.211	286.378	249.502
811202	42154.8	0.2267068	028.367	178.025	286.583	257.432
811209	42154.7	0.2266656	028.369	177.904	286.664	265.345
811216	42156.4	0.2267103	028.374	177.700	286.935	273.114
811226	42156.2	0.2268223	028.358	177.471	287.165	284.209
811231	42157.6	0.2266634	028.383	177.353	287.318	289.680
820107	42157.6	0.2266777	028.379	177.217	287.443	297.347
820114	42158.8	0.2263722	028.406	177.019	287.710	304.869
820120	42159.2	0.2263835	028.405	176.898	287.818	311.354
820127	42158.9	0.2261478	028.414	176.734	288.049	318.788

Table 1 (continued)

IUE Orbital Elements

<u>Epoch</u>	<u>Semi-Major Axis</u>	<u>Eccentricity</u>	<u>Inclination</u>	<u>Ascending Node</u>	<u>Arg of Perigee</u>	<u>Mean Anomaly</u>
820203	42160.7	0.2259350	028.435	176.627	288.124	326.244
820210	42159.8	0.2255636	028.470	176.444	288.398	333.535
820310	42163.0	0.2244863	028.501	175.909	288.885	002.470
820331	42165.7	0.2242108	028.511	175.523	289.135	023.703
820407	42166.9	0.2238896	028.524	175.424	289.254	030.602
820414	42166.9	0.2240188	028.496	175.266	289.346	037.553
820421	42168.4	0.2238010	028.512	175.119	289.477	044.382
820428	42167.9	0.2240285	028.484	174.985	289.557	051.205
820505	42169.4	0.2238414	028.502	174.857	289.685	057.908
820512	42168.6	0.2241017	028.467	174.690	289.806	064.636
820519	42170.1	0.2239512	028.478	174.538	289.967	071.242
820526	42169.1	0.2242648	028.457	174.369	290.114	077.834
820602	42171.2	0.2240786	028.472	174.211	290.289	084.317
820609	42170.2	0.2243381	028.455	174.048	290.449	090.794
820623	42170.9	0.2243704	028.473	173.717	290.836	103.491
820707	42172.4	0.2241935	028.487	173.396	291.210	115.950
820714	42173.3	0.2238453	028.509	173.248	291.379	122.074
820721	42173.1	0.2238946	028.518	173.079	291.608	128.153
820728	42174.3	0.2235161	028.535	172.944	291.749	134.179
820819	42150.8	0.2223015	028.589	172.481	292.321	153.225
820825	42151.7	0.2219805	028.597	172.365	292.387	160.111
820901	42152.4	0.2217748	028.611	172.234	292.548	168.091
820908	42152.6	0.2213165	028.614	172.103	292.643	176.029
820915	42154.1	0.2211419	028.627	171.972	292.814	183.879
820922	42153.9	0.2208729	028.633	171.849	292.843	191.733
820929	42155.5	0.2206676	028.636	171.724	292.985	199.522
821006	42155.0	0.2204183	028.632	171.605	293.039	207.277
821013	42157.4	0.2202717	028.640	171.446	293.208	214.932
821020	42156.7	0.2202082	028.620	171.333	293.245	222.595
821027	42159.0	0.2200986	028.621	171.189	293.388	230.179

Table 1 (continued)

IUE Orbital Elements

<u>Epoch</u>	<u>Semi-Major Axis</u>	<u>Eccentricity</u>	<u>Inclination</u>	<u>Ascending Node</u>	<u>Arg of Perigee</u>	<u>Mean Anomaly</u>
821103	42157.8	0.2201008	028.604	171.073	293.433	237.729
821110	42160.4	0.2200087	028.610	170.886	293.628	245.169
821117	42159.6	0.2201615	028.598	170.760	293.696	252.614
821124	42162.2	0.2200996	028.608	170.599	293.869	259.952
821201	42161.0	0.2202317	028.591	170.448	293.974	267.263
821215	42163.2	0.2202642	028.588	170.131	294.312	281.634
821222	42164.5	0.2201057	028.625	169.958	294.532	288.716
821229	42163.9	0.2202181	028.611	169.830	294.656	295.775
830105	42165.5	0.2198857	028.641	169.656	294.894	302.715
830112	42164.8	0.2199761	028.653	169.460	295.085	309.664
830119	42165.9	0.2195559	028.669	169.329	295.273	316.500
830202	42167.0	0.2190551	028.704	169.043	295.609	330.027
830209	42167.8	0.2190360	028.708	168.888	295.755	336.739
830216	42167.6	0.2184788	028.733	168.771	295.898	343.344
830223	42169.1	0.2184936	028.734	168.636	296.024	349.937
830302	42169.1	0.2178860	028.744	168.548	296.140	356.433
830309	42170.9	0.2179132	028.754	168.362	296.267	002.947
830316	42171.0	0.2173997	028.767	168.257	296.351	009.368
830323	42172.7	0.2175065	028.760	168.113	296.468	015.760
830330	42172.8	0.2170700	028.772	168.010	296.529	022.084
830413	42174.7	0.2168169	028.762	167.736	296.729	034.616
830420	42175.3	0.2170515	028.751	167.584	296.873	040.778
830427	42176.2	0.2167943	028.746	167.461	296.933	046.900
830528	42153.5	0.2166429	028.738	166.784	297.536	073.374
830607	42155.3	0.2165119	028.747	166.553	297.784	085.825
830615	42153.9	0.2166739	028.754	166.364	298.026	093.647
830622	42156.0	0.2165238	028.762	166.225	298.158	101.460
830629	42155.0	0.2165476	028.785	166.043	298.395	109.189
830706	42156.9	0.2163013	028.790	165.939	298.518	116.864
830713	42155.5	0.2162580	028.812	165.746	298.776	124.445

Table 1 (continued)IUE Orbital Elements

<u>Epoch</u>	<u>Semi-Major Axis</u>	<u>Eccentricity</u>	<u>Inclination</u>	<u>Ascending Node</u>	<u>Arg of Perigee</u>	<u>Mean Anomaly</u>
830720	42157.7	0.2160151	028.817	165.636	298.883	132.018
830727	42157.1	0.2158177	028.848	165.458	299.119	139.507
830803	42158.8	0.2154923	028.840	165.316	299.243	146.957
830810	42157.8	0.2152309	028.883	165.179	299.468	154.310
830817	42160.0	0.2149229	028.885	165.046	299.576	161.677
830831	42161.1	0.2142562	028.907	164.801	299.830	176.197
830907	42161.0	0.2138836	028.932	164.662	300.014	183.349
830914	42162.4	0.2136358	028.918	164.539	300.082	190.524
830921	42162.6	0.2132782	028.944	164.409	300.207	197.611
831005	42164.5	0.2127769	028.942	164.162	300.403	211.636
831012	42165.0	0.2127262	028.924	164.034	300.466	218.616
831026	42166.2	0.2125324	028.918	163.761	300.654	232.355
831109	42167.7	0.2124316	028.910	163.460	300.890	245.882
831116	42169.4	0.2122303	028.920	163.328	301.007	252.546
831123	42168.7	0.2124613	028.908	163.160	301.159	259.159
831130	42170.7	0.2122484	028.921	163.018	301.301	265.695
831207	42170.2	0.2124387	028.917	162.847	301.465	272.206
831221	42171.2	0.2124086	028.935	162.535	301.819	284.977
831228	42173.2	0.2120931	028.952	162.396	301.970	291.273
840119	42170.4	0.2116813	029.009	161.913	302.587	310.927
840125	42172.0	0.2113155	029.028	161.801	302.671	316.387
840201	42171.5	0.2111912	029.042	161.647	302.875	322.667
840215	42151.4	0.2106955	029.076	161.384	303.318	334.952
840222	42153.0	0.2101979	029.086	161.271	303.392	343.001
840229	42153.0	0.2100285	029.103	161.159	303.535	350.963
840315	42155.6	0.2094236	029.112	160.875	303.796	007.853
840322	42156.3	0.2091834	029.111	160.767	303.821	015.726
840329	42157.9	0.2089624	029.131	160.614	303.966	023.470
840404	42158.0	0.2088152	029.155	160.514	303.992	031.225
840419	42158.9	0.2086675	029.097	160.226	304.215	046.506

Table 2

IUE Orbit Corrective Maneuvers

<u>Date</u>	<u>GMT</u>		
780214	01:55	±	8 min
780724	16:34:04	±	1 sec
790620	18:37:10	±	1 sec
800213	02:16:01	±	1 sec
800624	16:34:59	±	1 sec
801216	06:10:02	±	1 sec
811029	09:24:47	±	1 sec
820817	13:53:44	±	1 sec
830527	19:07:28	±	1 sec
840112	03:41:09	±	1 sec
840214	20:00:00	±	1 sec

IUE Orbital Elements III *

This report extends the previous compendium of IUE orbital elements (Broude and Bradley 1984) through the end of 1984. These elements can be used to derive radial velocity corrections as discussed by Jenkins (1979), Harvel (1980), and Schiffer (1982).

Table 1 is the list of orbital elements. Each epoch is given as year, month, and day in the format YYMMDD. The epoch is always at 00:00 GMT. The inclination, longitude of ascending node, argument of perigee, and mean anomaly are given in degrees. The semi-major axis is given in kilometers. The orbital period can be found from the equation

$$P = 1.6586 \times 10^{-4} a^{3/2} \text{ minutes.}$$

The orbit of IUE is continually changing due to anomalies in the Earth's gravitational field. For this reason the orbital elements also change and so are updated frequently. In addition, the satellite must be kept within the field of view of the receiving antennae, both at Goddard Space Flight Center and at Villa Franca, Spain. When the spacecraft drifts too far west, the orbit is corrected using the hydrazine jets. This corrective maneuver (a "delta V") causes the spacecraft drift to reverse direction and drift eastward. The changes in the drift direction represent discontinuities in the orbital elements, particularly the semi-major axis. Breaks in Table 1 indicate such discontinuities due to a delta V. Table 2 lists the dates (format YYMMDD) and GMT times at which the corrective maneuvers were performed. When deriving radial velocity corrections, caution should be used in interpolating values near the times of these discontinuities in order to ensure accurate results.

In addition, the orbital elements are now recorded in line 83 of the Image Header. The orbital elements have been routinely recorded at GSFC as of July 8, 1983. These are the most current orbital elements for the observation date, as used in the ground command computer. The format is the following: epoch of the orbit (Julian day), seconds, semi-major axis (kilometers), eccentricity, inclination (degrees), ascending node (degrees), argument of perigee (degrees), and mean anomaly (degrees). For all of these elements except the epoch, 8 characters are recorded in floating-point format with no delineations between the elements. An example is given in Figure 1.

Catherine L. Imhoff and Michael T. Butschky

1985 February 25

References

- Broude, S.M., and Bradley, R.E. 1984, NASA IUE Newsletter No. 24, p. 131.
- Jenkins, E.B. 1979, NASA IUE Newsletter, No. 5, p. 23.
- Harvel, C. 1980, NASA IUE Newsletter, No. 10, p. 32.
- Schiffer, F.H., III. 1982, Data Analysis Procedures for the IUE RDAF (Part I), p. 3-8.

* Reprinted from NASA IUE Newsletter N° 26, p. 42

Table 1
IUE Orbital Elements

<u>Epoch</u>	<u>Semi-Major Axis</u>	<u>Eccentricity</u>	<u>Inclination</u>	<u>Ascending Node</u>	<u>Arg of Perigee</u>	<u>Mean Anomaly</u>
840119	42170.4	0.2116813	029.009	161.913	302.587	310.927
840125	42172.0	0.2113155	029.028	161.801	302.671	316.387
840201	42171.5	0.2111912	029.042	161.647	302.875	322.667
840215	42151.4	0.2106955	029.076	161.384	303.318	334.952
840222	42153.0	0.2101979	029.086	161.271	303.392	343.001
840229	42153.0	0.2100285	029.103	161.159	303.535	350.963
840315	42155.6	0.2094236	029.112	160.875	303.796	007.853
840322	42156.3	0.2091834	029.111	160.767	303.821	015.726
840329	42157.9	0.2089624	029.131	160.614	303.966	023.470
840404	42158.0	0.2088152	029.155	160.514	303.992	031.225
840419	42158.9	0.2086675	029.097	160.226	304.215	046.506
840502	42160.2	0.2085459	029.097	159.972	304.401	060.490
840509	42160.6	0.2086128	029.104	159.811	304.605	067.875
840523	42161.3	0.2085731	029.110	159.507	304.863	082.601
840605	42161.4	0.2086486	029.119	159.230	305.173	095.998
840613	42163.0	0.2085860	029.117	159.053	305.321	104.190
840620	42162.8	0.2084486	029.146	158.907	305.526	111.221
840627	42164.4	0.2084168	029.141	158.766	305.677	118.237
840704	42163.2	0.2082288	029.175	158.607	305.913	125.120
840711	42165.2	0.2081155	029.180	158.454	306.061	132.041
840718	42164.6	0.2077936	029.212	158.321	306.253	138.826
840725	42166.6	0.2076538	029.216	158.176	306.415	145.601
840801	42165.2	0.2072706	029.251	158.059	306.605	152.258
840808	42167.8	0.2070422	029.256	157.911	306.743	157.911
840815	42166.9	0.2065603	029.280	157.794	306.910	165.522
840829	42168.0	0.2058921	029.307	157.552	307.181	178.539
840905	42170.4	0.2056443	029.304	157.411	307.296	185.024
840912	42169.9	0.2051700	029.321	157.309	307.391	191.393
840919	42172.0	0.2050492	029.314	157.176	307.510	197.735
840926	74171.1	0.2046192	029.323	157.072	307.590	204.005
841010	42173.0	0.2041265	029.320	156.805	307.773	216.469
841017	42174.7	0.2041514	029.307	156.654	307.909	222.600
841031	42176.4	0.2038779	029.308	156.366	308.104	234.744
841118	42155.1	0.2036618	029.314	156.003	308.573	250.370
841201	42156.4	0.2035784	029.321	155.720	308.837	265.044
841227	42157.8	0.2033677	029.374	155.149	309.483	293.631

Table 2

IUE Orbit Corrective Maneuvers in 1984

<u>Date</u>	<u>GMT</u>
840112	03:41:09 ± 1 sec
840214	20:00:00 ± 1 sec
841116	02:05:20 ± 1 sec

Figure 1: Orbital elements as listed in line 83 in the Image Header. The fields noted as epoch, seconds, semi-major axis, eccentricity, inclination, ascending node, argument of perigee, and mean anomaly.

```

69 ..... 69 C
70 ..... 70 C
71 ..... 71 C
72 ..... 72 C
73 ..... 73 C
74 ..... 74 C
75 ..... 75 C
76 38 # H I ( ..... 76 C
77 : # # ..... 77 C
78 # : ### ..... 78 C
79 # A1 ..... 79 C
80 ..... 80 C
81 ..... 81 C
82 ..... 82 C
83 244585A.0 43200.0 42161.4 .20RA49 29.11AR 159.2301304.1726 95.997 83 C
84 163210656 2331149++83230289+04R 84 C
85 ..... 85 C
86 A5 I I I / / 86 C
87 D5 I I I / / 87 C
88 ..... 88 C
89 5 ..... 89 C
90 D5 R I I I / / 90 C
91 5 ..... 91 C
92 5 ..... 92 C
93 5 R I I I / / 93 C
94 ..... 94 C
95 A5 H I I / / 95 C
96 D5 I I I / / 96 C
97 5 ..... 97 C
98 > A5 / / I I / / 98 C
99 5 RR / / I I / / 99 C
100 ..... 100 C

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EUROPEAN SELECTION COMMITTEE FOR 9TH ROUND OF IUE

The proposals requesting IUE observing time are evaluated by a Selection Committee, which this year will meet in Paris in February. The list of successful European programs will be published (together with the corresponding NASA list) in ESA Newsletter No. 26, once the results have been communicated to the individual applicants. Below we give for your information, the complete members list of this year's ESA Selection Committee, together with the letter representing the research category code of the relevant proposal sub-group.

H. Nussbaumer/Chairman		ETH-Zentrum, Zurich
R.F. Carswell/Vice-Chairman		Cambridge University
J.L. Bertaux	(S)	CNRS, Verrieres, France
P.B. Byrne	(C)	Armagh Observatory
I. Brown	(Q)	Jodrell Bank, Cheshire
V. Castellani	(E)	Universita "La Sapienza", Roma
J. Danziger	(Q)	E.S.O., Munich
K.S. de Boer	(M)	Bonn University
E. van Dessel	(I)	Koninklyle Sterrewacht, Belgium
P.L. Dufton	(A)	Queen's University, Belfast
P. Gondhalekar	(E)	R.A.L., Oxfordshire
W.R. Hamann	(A)	Kiel University
D.W. Hughes	(S)	Sheffield University
H.J. Lamers	(A)	Space Research Laboratory, Utrecht
J. Lequeux	(E)	Observatoire de Marseille
K. Norgaard-Nielsen	(Q)	Copenhagen Observatory
J.E. Pringle	(I)	Cambridge University
L. Smith	(M)	U.C.L., London
F. Spite	(C)	Observatoire de Meudon
R. Stalio	(C)	Trieste Observatory
E. Tanzi	(I)	Laboratorio di Fisica Cosmica, Milano
A. Vidal-Madjar	(M)	Institut d'Astrophysique, Paris

Research Category Code:

S = Solar System	M = Interstellar Medium
C = Cool Stars	A = Hot Stars (Atmosphere)
E = Extragalactic	I = Hot Stars (Interaction)
Q = Active Galaxies (QSO's, etc...)	E = Galaxies (Stellar content, etc)

2nd announcement/Call for papers

NEW INSIGHT IN ASTROPHYSICS

EIGHT YEARS OF ULTRAVIOLET ASTRONOMY WITH IUE

An International Symposium

sponsored by ESA, NASA & SERC

to be held at University College,
London, U.K. on
14 - 16 July 1986

ESA

NASA

SERC

NEW INSIGHT IN ASTROPHYSICS

Eight years of Ultraviolet Astronomy with IUE

OBJECTIVES

Alive and well, IUE will soon celebrate its 8th birthday as a successful Ultraviolet Observatory. It is a good opportunity to review its tremendous achievements illustrated by the more than 1000 articles published so far in the main scientific journals. ESA, NASA and the SERC are therefore pleased to announce a joint IUE Conference to be held at the University College, London (UCL) from 14 to 16 July 1986.

PROGRAMME

The scientific programme will consist of a number of invited reviews on topical subjects which have benefited greatly from studies with IUE, followed by open discussions. Other contributions will take the form of poster papers displayed during the appropriate session.

SCIENTIFIC ORGANISING COMMITTEE:

R. Wilson (Chairman, SERC-UCL)
Y. Kondo (Co-chair, NASA-GSFC)
W. Wamsteker (co-chair, ESA-VILSPA)
J. Linski (Boulder), L. A. Wilson (Iowa)
H. Nussbaumer (Zurich), A. J. Willis (UCL)
B. Savage (Wisconsin), M. Grewing (Tubingen).

LOCAL ORGANISING COMMITTEE

A. J. Willis (Chairman, UCL)
D. J. Stickland (Secretary, Rutherford)
I. D. Howarth (UCL)
R. Wilson (UCL)
J. Clavel (Vilspa)

INVITED TALKS

Comets	M. Festou
The Io Torus & Jovian magnetosphere	P. Feldman
Chromospheres of cool stars	C. Jordan
Mass loss & massive stars	(1)
Novae	S. Starrfield
Binaries	J. Sahade
The interstellar medium	M. Schull
Galactic halos	B.D. Savage
Active galactic nuclei	M.H. Ulrich
The Lyman/Fuse mission	R. Wilson & V. Moos

(1) Name not yet available.

Though the agenda is not yet fixed, we expect the reviews to proceed approximately according to the order above. In particular, the reviews and discussions concerning solar system objects will take place the first day, Monday 14 of July.

CONTRIBUTED PAPERS

All papers (invited and posters) will be published as an ESA Special Publication, which will be distributed free of charge to all participants approximately 3 months after the event. Potential participants in the Symposium are kindly requested to return the attached registration form by 1 April 1986. If you intend to make a poster contribution, please indicate on the registration form the authors and title of your paper. Titles reaching the organising committee later than April 1st cannot be guaranteed inclusion in the programme. If you meet the deadline, you will receive camera ready sheets for the preparation of the abstract of your paper, as well as a camera-ready kit for the preparation of the manuscript. The abstracts have to be returned to the secretary of the LOC by May 15, 1986. They will be printed in a small book that will be distributed to all participants at the conference. The completed manuscripts must be submitted to the representative of the ESA Scientific and Technical Publications Branch at the meeting. Contributed papers should not exceed 4 pages.

CALENDAR OF EVENTS

11 January 1986	First announcement
1 April 1986	Return of registration card/call for papers
15 May 1986	Abstracts due
14 July 1986	Return of Camera-ready articles.
October 1986	Proceedings Publication

SOCIAL EVENTS

A welcoming reception is planned for the first evening and a conference cocktail on July 16.

REGISTRATION FEE

To cover various of the conference expenses, a fee of £25 or US\$40 should be sent with your registration form to arrive by 1st April; we regret we cannot accept other currencies. Late payment (including payment at the conference) must be made at the increased rate of £35 or US\$55. Cheques should be made out to "The IUE conference". Alternatively, payment may be made direct by your bank to "The IUE conference" account (number 0559339) at Lloyds Bank, Harwell, UK (Bank code 30-93-93).

ACCOMMODATION

A block-booking has been made with a group of hotels close to University College. This provides mainly for single rooms but some double or twin bed rooms should be available. Please, tick the appropriate box on the registration form to select the type and price you prefer. The charge quoted is per night and includes an English breakfast. Every effort will be made to meet your wishes, but London is very busy during the summer season and an early reply is essential to secure your first choice of accommodation. No deposit is required. Lunches during the conference can be obtained at the UCL Refectory or in nearby pubs. London abounds with all manner of eating houses for your evening meals !

REGISTRATION CARD

(Deadline: 1 April 1986)

Name:

Institute:

Address:

.....

Telephone: Telex:

Title of contributed paper:

.....

.....

Authors:

Accommodation:

single £ 35 [] £ 37 [] £ 44 []

double £ 44 [] £ 48 [] £ 54 []

Registration fee:

Enclosed/transferred now: £ 25 [] or US\$40 []

To follow: £ 35 [] or US\$55 []

To be returned to:

Dr. D.J. Stickland, R-25
Rutherford Appleton Laboratory
Chilton, Didcot, OX11 0QX
United Kingdom



Symposium on UV Space Astronomy

Physical Processes in the Local Interstellar Medium

Call for papers

This symposium will be held on July 4 and 5, 1986, in Toulouse, France, in the context of the XXVith COSPAR Meeting, as the "associated symposium" #7. It is cosponsored by the IAU.

The results obtained with UV space experiments such as VOYAGER, ASTRON, and IUE and other spacecrafts working in the Infrared (IRAS) and X-ray domain, as well as those obtained at very high resolution from ground based observations, have brought new insights on the interstellar medium surrounding our Solar System.

The purpose of this Symposium is to bring together all the new information gathered in the different wavelength domains and compare the results with the theoretical models for the LISM. Special emphasis is given to the spatial distribution and the physical conditions in a region limited to a distance of 200 pc from the Sun. Future UV Space Astronomy experiments will be discussed extensively in the context of their importance for this subject.

As can be seen on the general program and list of invited talks included, there will be a limited amount of time for contributed papers and posters. If you wish to present a contributed paper or poster, you are kindly invited to fill in the attached Abstract Form and return it before January 15 to Dr C. Gry, ESA/VILSPA P.O. Box 54065, 28080 Madrid, Spain, with a copy to the COSPAR Secretariat, 51 Boulevard de Montmorency, 75016 Paris, France.

If you want to attend the symposium, even without presenting a paper, you are referred to the "XXVith Plenary Meeting and Associated Activities", Second Circular, October 1985, edited by COSPAR. The deadline for registration is 31 May 1986. The COSPAR Circular contains all information and registration forms and can be obtained from the COSPAR secretariat.

Scientific Organising Committee:
W. Wamsteker (chairman), A.A. Boyarchuk, F. Bruhweiler,
J.J. Caldwell, G. Courtes, A. Dupr e, H.J. Fahr, C. Gry,
F. Paresce.

SYMPOSIUM #7: UV SPACE ASTRONOMY - PHYSICAL PROCESSES IN THE LISM

- PROGRAM AND INVITED TALKS -

SESSION 1: (Friday, July 4, morning)

THE INTERFACE BETWEEN THE HELIOSPHERE AND THE LISM

BARANOV: The interface between the heliosphere and the LISM

FAHR: Is the heliosphere interface submagnetosonic ?

Contributed papers and posters

SESSION 2: (Friday, July 4, afternoon)

SPATIAL STRUCTURE OF THE LOCAL INTERSTELLAR MEDIUM

DE VRIES: IRAS results - relevance to the LISM (cirrus ?)

FERLET: Structure of the LISM from high resolution ground based and UV spectroscopy

JAKOBSEN: UV and X-ray background and the LISM

Contributed papers and posters

SESSION 3: (Saturday, July 5, morning)

COX: Theory of the LISM

* OSTRIKER: McKee and Ostriker theory of the LISM

TOMISAKA: Cycling of the LISM

ARNAUD: Heating of the LISM

Contributed papers and posters

SESSION 4: (Saturday, July 5, afternoon)

REQUIREMENTS FOR THE FUTURE: THE IMPORTANCE OF THE EUV

VIDAL-MADJAR: Lyman

DUPREE: Fuse

POUNDS: The EUV Telescope on ROSAT

BOWYER: The EUV Explorer

OLTHOF: EURECA projects and prospects

Contributed papers and posters

(*) To be confirmed



ABSTRACT FORM
XXVI COSPAR - Toulouse, France
30 June - 12 July 1986

SUBMISSION DEADLINE :
15th January 1986

(to be filled in by authors)		FOR COSPAR USE ONLY
Symposium Workshop Topical Mtg.	N° _____ Title _____	Received _____
Organizer	_____	Preliminary N° _____
Contributed paper _____ Invited paper _____		Nat'l Com. _____
Title of paper	_____ _____ _____	Prog. Com. _____
Author(s), Institution(s)	_____ _____ _____ _____	Final N° _____
(please mark with an * the name of tentative presenter)		

ABSTRACT (about 150 words):

Send to (see page 2 of Second Circular for general procedure and Part III for all addresses):

1. for Symposia and Workshops:
Organizer + COSPAR + National Institution

Name and Address for all correspondence regarding this paper:

THE SERC LOW DISPERSION IUE MICROFICHE PLOTS

The IUE observatory at Villafranca is in the process of distributing a catalogue on microfiche of the plots of IUE low resolution spectra. (See Giaretta, ESA IUE Newsletter No.20, p11 and NASA IUE Newsletter No.26, p130. The catalogue, ordered by camera and image number, has been produced at the SERC Rutherford Appleton Laboratory by Dr. D. Giaretta and Miss J. Anya and includes, in its present version, nearly all the low resolution spectra obtained in the period between the launch of IUE and middle 1983. Updates will be delivered which will contain the remaining data.

The catalogue is intended to serve for example in selecting images to be requested from the IUE Data Banks, or for quick look purposes.

The microfiches will be distributed by the IUE three Agencies to many institutes all over the world. The institutes included in the ESA distribution list, ordered by country, are reported below (Table 1).

A. Cassatella

TABLE 1

DISTRIBUTION AMONGST INSTITUTES BY COUNTRY

Argentina	1	Australia	1
Austria	2	Belgium	3
Brazil	1	Chile	2
China	1	Czechoslovakia	1
Denmark	2	Finland	2
France	11	Greece	2
Holland	6	Hungary	1
India	4	Italia	16
Israel	1	Germany	17
Japan	2	Norway	2
Poland	1	Portugal	1
South Africa	1	Spain	6
Switzerland	3	Sweden	4
Turkey	1	USSR	2
Vatican	1	Venezuela	1

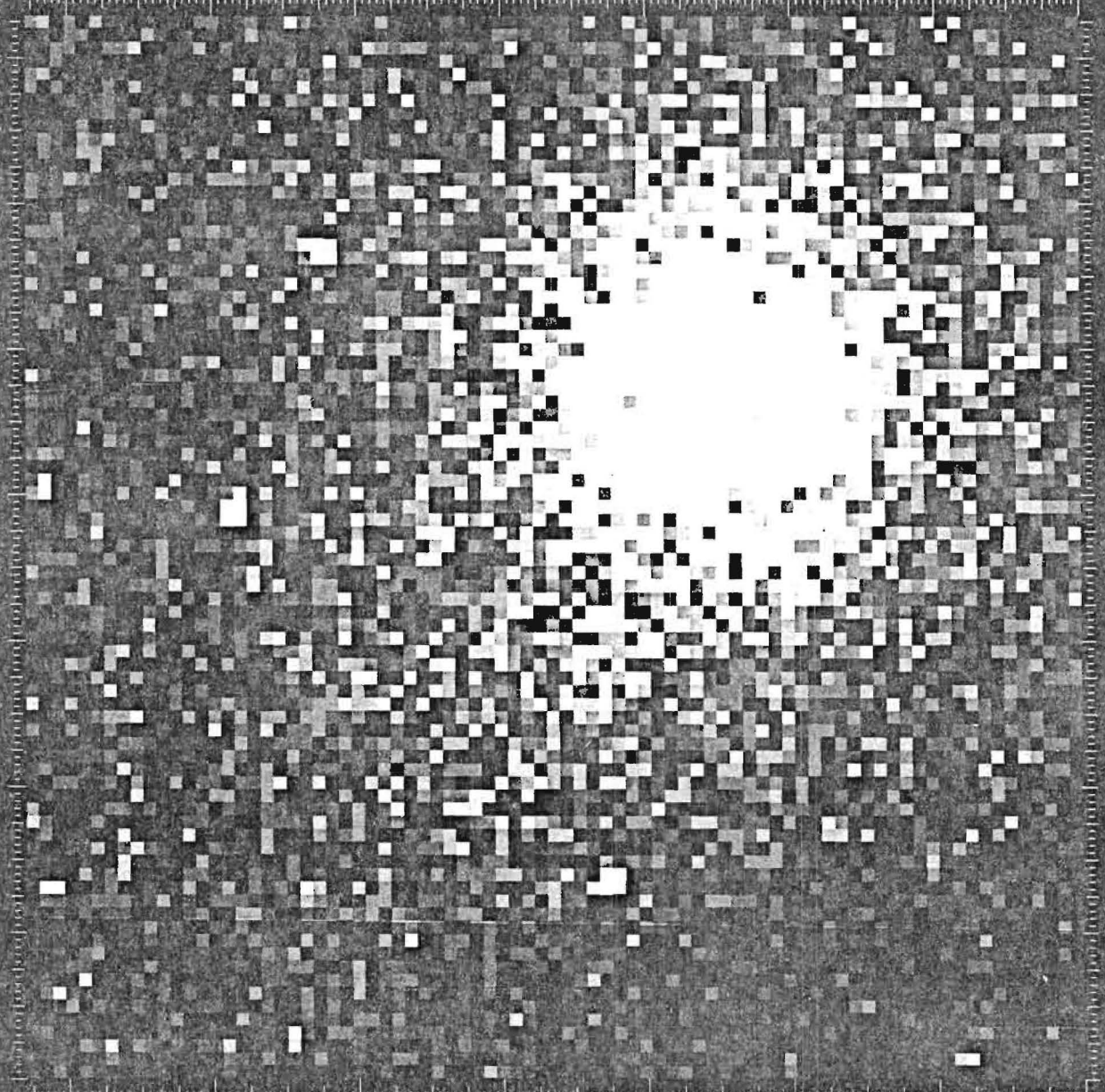
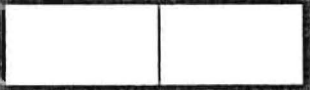
TOTAL: 99

COMET HALLEY WITH THE FES

This image of Comet Halley was obtained with the Fine Error Sensor on board IUE on December 15th 1985 by M. Festou and R. Gilmozzi, during one of the observing runs of the European Collaboration for the IUE observations of P/Halley. It has been processed by the VILSPA Photolab using a special technique developed for the occasion. The image was taken at 20 kb and FES1ROM format, so achieving the sensitivity of an image taken at 2.5 kb. The extent is 12' x 12', East is at the top right, North at top left. The initial part of the tail is clearly visible pointing east.

* IMAGE PROCESSED AT WILSPA *

99 715DEC-1 11.400
0001000107290729 5 2 1190 1735 #101
24MALLEY, FES1735, DRES, 24P, 20MOS, 16:45:00
231215, HSE31, FES1DU & GILMOZZI
26, 212, 40, 5
13 ARCHIM MEST DE NUCLEUS



FES SENSITIVITY CHANGES

Here are the results of the FES sensitivity monitoring of the 4 standard stars BD+28°4211, BD+75°325, HD 60753 and HD 93521.

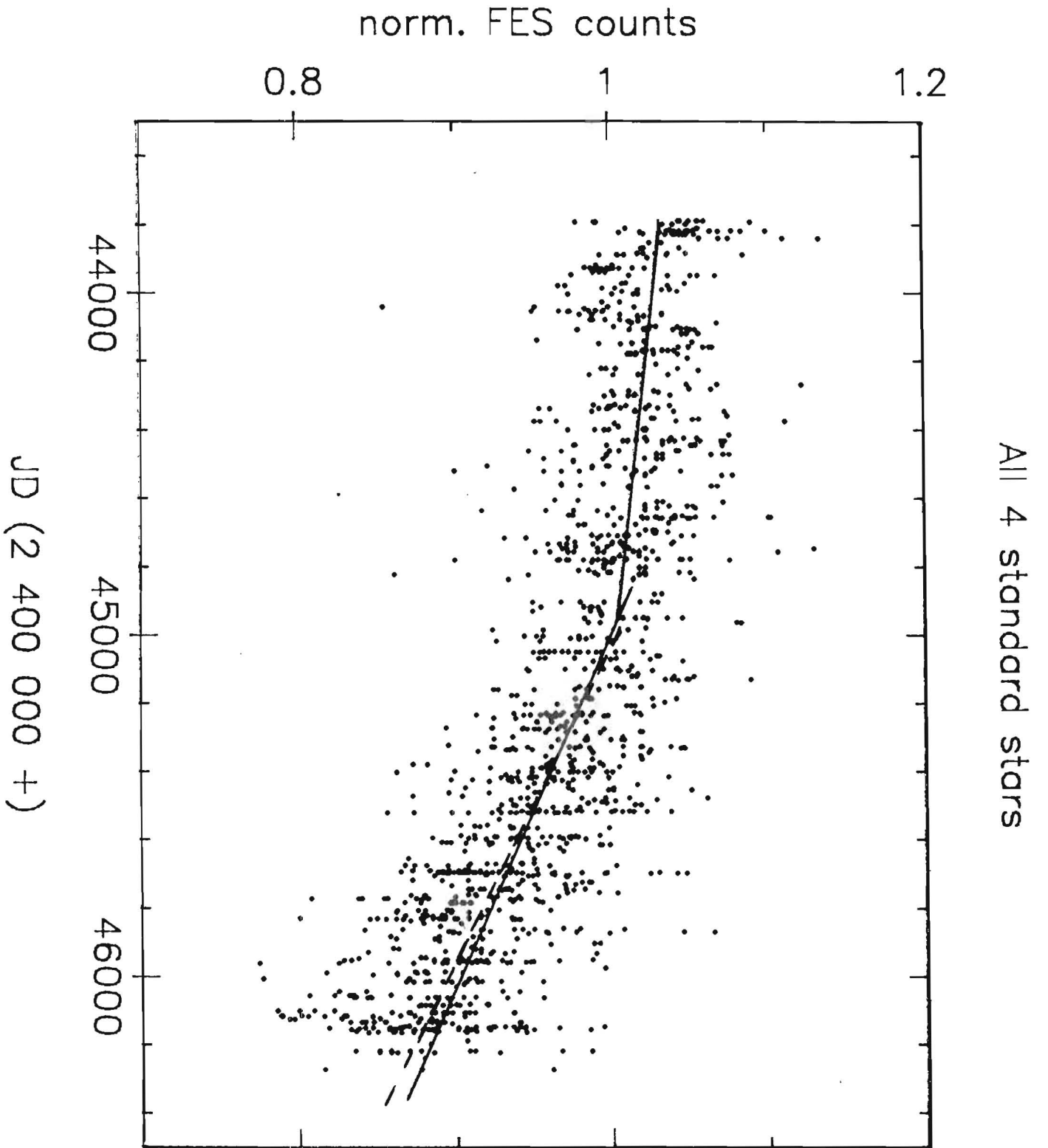
Figure 1 shows the 1432 FES counts measurements (VILSPA and GSFC data in FO mode only) normalized to the means calculated last year (see IUE ESA Newsletter 20, p 60,61). The solid line indicates the fit calculated one year ago, the dashed line the current decrease of sensitivity.

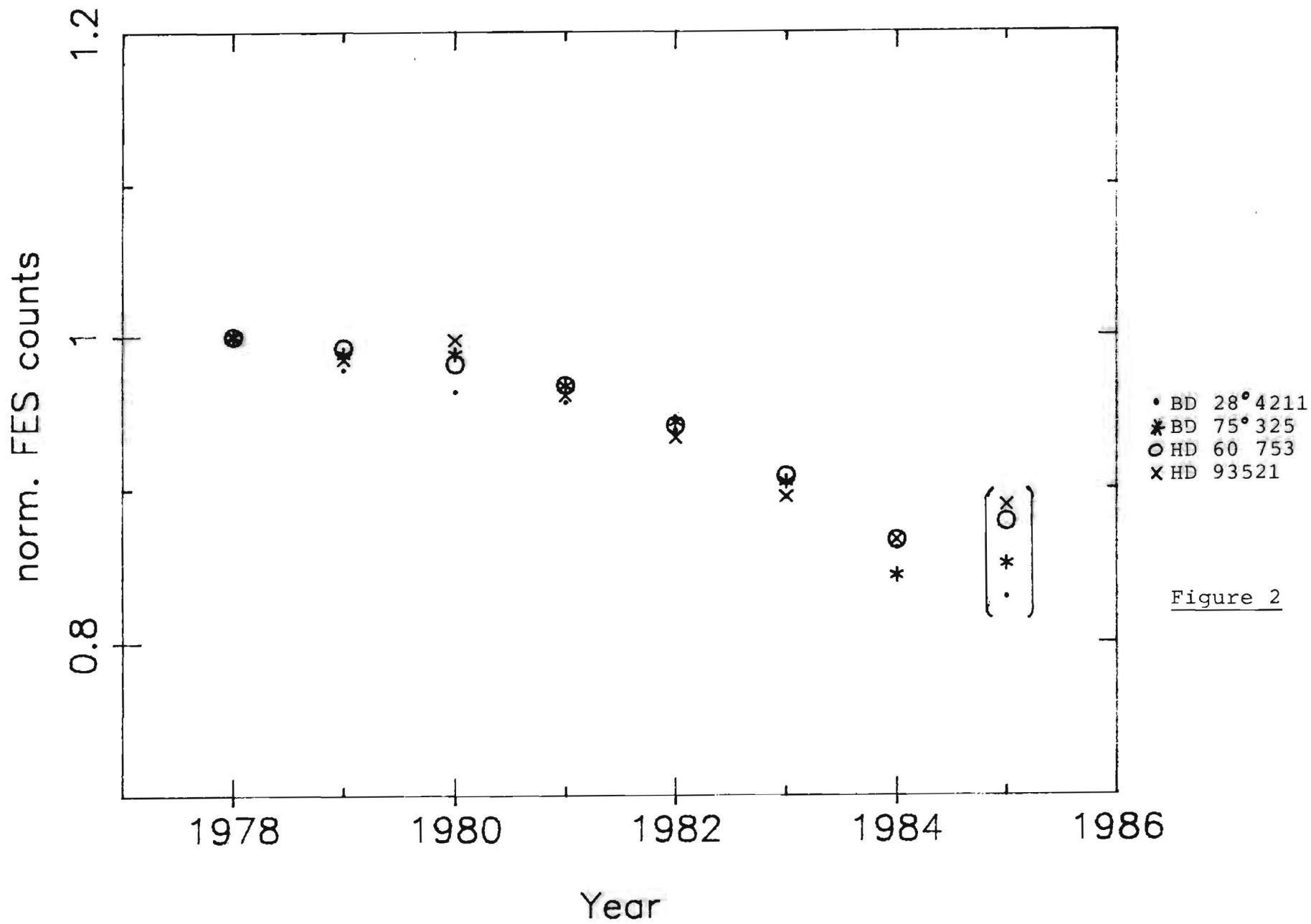
Figure 2 displays the decrease of the sensitivity taking the IUE year's mean and normalizing to the mean of the FES counts of the first year (i.e. 1 April 1978 till 1 April 1979). The points in parenthesis are for 1985 and represent only April and May data and hence are not indicative.

To summarize, the results indicate that the current rate of sensitivity decrease has increased and is currently about 5% per year (in the worst case 7% per year) instead of the formerly calculated 3% per year.

M. Barylak
VILSPA

Figure 1





LWR Camera and ITF Performance with 4.5 kv UVC *

Catherine L. Imhoff
28 October 1985

Abstract: A comparison of LWR UV-flood lamp images obtained at 5.0 kv and 4.5 kv UVC settings indicates that the current ITF performs equally well at both settings. Thus there is no need to derive a new ITF to calibrate the new configuration of the LWR camera at 4.5 kv. A small effect in the camera response is seen at the extreme edge of the images, corresponding with the slightly lowered sensitivity noted at the ends of the orders of high dispersion stellar spectra by Harris (1984).

1. Introduction

At the May 1984 Three Agency meeting, it was resolved to study the reconfiguration of the LWR camera with a reduced UVC voltage of 4.5 kv in order to avoid the effects of the UVC flare. Before the reconfiguration, we wished to analyze the performance of the current calibrations for the camera. The camera response to the UV-flood lamps used for calibration and the performance of the current Intensity Transfer Function (ITF) are of particular interest for the new configuration.

To provide data on the ITF performance, VILSPA obtained a special set of camera baseline images in June 1984 with the LWR UVC set to 4.5 kv (LWR 17422 - 17432), in addition to the standard images in May with the UVC at 5.0 kv (LWR 17406 - 17415). These images are standard sequences of UV-flood images and nulls similar to those used to construct the ITF calibration. They are normally obtained for each camera at intervals of six months in order to monitor the performance of the cameras. The following analysis is based on these images. Both sets of camera baseline images were processed using the current LWR ITF (ITF1). Since standard exposure times were used for the images, the DN levels and thus the FN levels are proportionally lower for the 4.5 kv images compared to the 5.0 kv images, due to the lower gain at the lower UVC setting.

Two basic questions are to be answered. One is whether or not the relation between the DN and FN is the same for both UVC settings at each pixel in the image (the ITF performance). A second is a comparison of the camera response to the illuminating UV-flood lamps when the UVC is at the two different settings. Several steps were used for the analysis. First, the behavior of the ITF averaged over a large central portion of the image was studied at both UVC settings. Second, the relative behavior of different regions in the similar UV-flood images was analyzed. Next, small regions distributed around the image were chosen for detailed spatial analysis. Finally, an analysis was made of the signal-to-noise in the images for both UVC settings. These results were previously presented to the Three Agencies in two reports (Imhoff 1984, Imhoff 1985).

* Reprinted from NASA IUE Newsletter N° 28

Editor's note: a complementary study by Harris 1985 was published in ESA IUE Newsletter N° 24, p. 17

2. Overall Performance of the ITF for UV-Flood Images

To study the ITF performance on the image as a whole, the mean FN for a 432 pixel by 432 pixel area in the center of each image was computed, using the standard flat-field statistics routine BOXSTAT. If the current ITF calibrates the 4.5 kv images as well as it does the 5.0 kv ones, the relation between the FNs of corresponding images should be a straight line with a slope determined by the difference in gain (and any intervening lamp degradation). The values found for the test images are given in Table 1 and plotted in Figure 1. As one may see, the relation between the mean FNs is indeed a straight line. The slope determined from a least-squares fit is 0.7377, which corresponds to a gain ratio of 1.356 (ignoring lamp degradation). This value agrees very well with the value of 1.37 determined by Harris (1984) from stellar spectra. Thus the current ITF appears to adequately calibrate the overall 4.5 kv LWR images, up to the highest DN levels in the test images. The latter limitation corresponds to saturation in the lower left quadrant of the image, 210 DN at the center of the image, and about 170 DN at 2800 A in the low dispersion spectrum.

3. Tilt in the Photometrically Corrected UV-Flood Images

The second part of the analysis is to examine the relative behavior of different areas within the image. If the ITF performs equally well with 5.0 kv and 4.5 kv UVC settings, the tilt, or deviation from flatness of the photometrically corrected image, should be about the same for images with comparable DN levels. The tilt is defined to be the difference in FNs between two standard regions of 3600 pixels ("B", centered on line = 168 and sample = 528, and "F", centered on line = 636 and sample = 312) in the photometrically corrected image. A perfect ITF should produce uniform FNs across the image. Due to slow changes in the camera since 1978, the current LWR ITF produces some tilt in the 5.0 kv baseline images. Figure 2 depicts the variation in the tilt versus exposure level (mean FN) in Regions B and F for both the 5.0 kv and 4.5 kv images. The relations are the same.

4. Detailed Analysis in Comparable UV-Flood Images

A few of the available UV-flood images were used to perform a detailed analysis of the camera response and ITF performance. Since the standard exposure times were used for both camera baseline sequences, the DN levels are proportionally lower for the 4.5 kv images than the 5.0 kv images. However, for two pairs of images the DN levels are nearly the same (see Table 1). For these images the difference in gain is nearly balanced by the difference in exposure time, resulting in similar DN levels. These pairs of comparable images allow one to examine the response of the camera at the two UVC settings and the performance of the ITF on these images.

Twenty-one areas were chosen, distributed around the image, for this study. Each area consists of a 12 pixel by 12 pixel box, with a mean and standard deviation generated by the standard BOXSTAT routine. The areas are distributed from 96 to 672 in both line and sample number, thus extending over most of the useful area of the camera faceplate.

Figure 3 depicts the mean DN's in each of the 12 areas for each pair of images. Areas that represent regions close to saturation (DN > 240) are indicated by parentheses and omitted from the statistics discussed below. The two nulls are quite comparable, as one might expect since no exposure is performed. The null represents the pedestal of positive signal (typically 25 DN) present after the camera has been prepared but not exposed.

In order to examine the response of the camera to the UV-flood lamp at the two UVC settings, one must first remove the small systematic differences in the DN levels of the pairs of images. For each of the UV-flood images, the null level was subtracted. Then R_1 , the ratio of the "signal" (i.e. UV-flood mean DN - null mean DN) at 4.5 kv to that at 5.0 kv for area 1, was computed for each of the 21 areas. Specifically:

$$R_1 = \frac{\text{UVFDN}_1(4.5 \text{ kv}) - \text{NULLDN}_1(4.5 \text{ kv})}{\text{UVFDN}_1(5.0 \text{ kv}) - \text{NULLDN}_1(5.0 \text{ kv})}$$

The mean of these ratios, $\langle R \rangle$, was computed for each pair of images. The mean represents the overall systematic difference in the DN levels of the two images (0.97 and 0.99 respectively for these pairs of images). Then the residuals for each area compared to the mean were calculated and converted to percentage, that is $100 * (R_1 - \langle R \rangle) / \langle R \rangle$. These are given in Figure 4. The residuals may be used to locate systematic or location-dependent effects.

No strong pattern emerges from either of these pairs of images. The second pair of images shows the larger effects, on the order of 2%. This pattern is reminiscent of the "edge effect" seen by Harris (1984) in high dispersion stellar spectra. If one superimposes the location of the high dispersion orders, which run from the lower left to the upper right in the figures, one can see that the ends of the orders would be depressed by about 3% from the centers of the orders. However, the residuals do not repeat very well between the two pairs of images.

To test the performance of the ITF, the same series of calculations were done for the photometrically corrected images. Figure 5 depicts the mean FNs, scaled by a factor of 70, for the 21 areas in each image. Figure 6 shows the residuals, expressed in percentages. As before, no strong patterns are evident in the residuals.

If the ITF works as well for the 4.5 kv images as for the 5.0 kv images, then the pattern of residuals should be the same for the DN's and FNs. Figure 8 shows the differences in the residuals (FNs minus DN's). No strong or repeatable pattern emerges. Most differences are on the order of 1% or less. Thus the ITF appears to work well for images obtained with either UVC setting.

5. Signal-to-Noise Characteristics

Another comparison which may be made is the signal-to-noise for images obtained at 4.5 kv and 5.0 kv. The average signal-to-noise for the central portion of each image (432 pixels by 432 pixels) was determined using the standard BOXSTAT routine (Table 1). No differences in the S/N characteristics were found for UV-flood images with comparable DN values (Figure 8). In addition, the S/N ratios for the 21 areas in the pairs of images were computed to look for location-dependent differences between the 5.0 kv and 4.5 kv images. No pattern is evident.

6. Conclusions

We conclude that the camera responds reasonably equally to the UV-flood lamp at 4.5 kv and 5.0 kv UVC settings. There is some indication at the 2 to 3 % level of the "edge effect" noted by Harris (1984) in high dispersion stellar spectra. The LWR ITF performs equally well at either UVC setting for the exposure levels studied. Thus it is not necessary to obtain a new ITF before using the LWR at the 4.5 kv UVC setting.

References:

- Harris, A. 1984, Report to the Three Agencies (November).
- Imhoff, C. L. 1984, Report to the Three Agencies (November).
- Imhoff, C. L. 1985, Report to the Three Agencies (April).

Table 1
Characteristics of the LWR Camera Baseline Images

Level	Mean FN	5.0 kv		4.5 kv		
		Tilt	S/N	Mean FN	Tilt	S/N
Null	-130	370		-100	350	
20% UVF	1760	450	3.29	1220	440	2.69
60%	5540	520	6.34	4140	540	5.74
60%	5360	530	6.40	3920	510	5.61
120%	10260	390	7.67	7680	520	7.90
160%	13960	300	10.91	10190	430	7.90
220%				13560	280	10.08

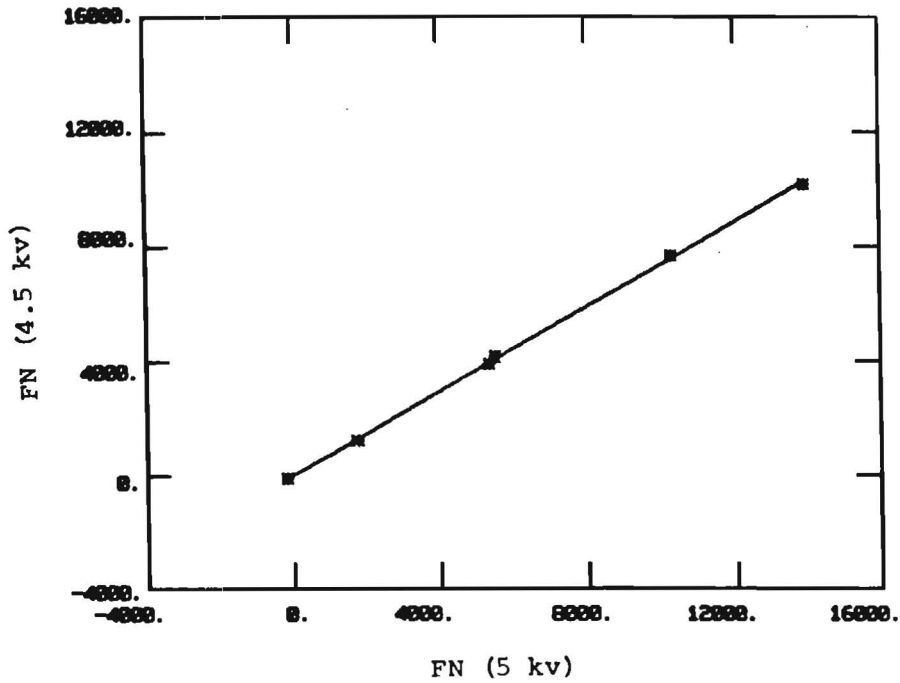


Figure 1: Relation between mean FNs for LWR UV-flood images obtained with 4.5 kv and 5.0 kv UVC settings.

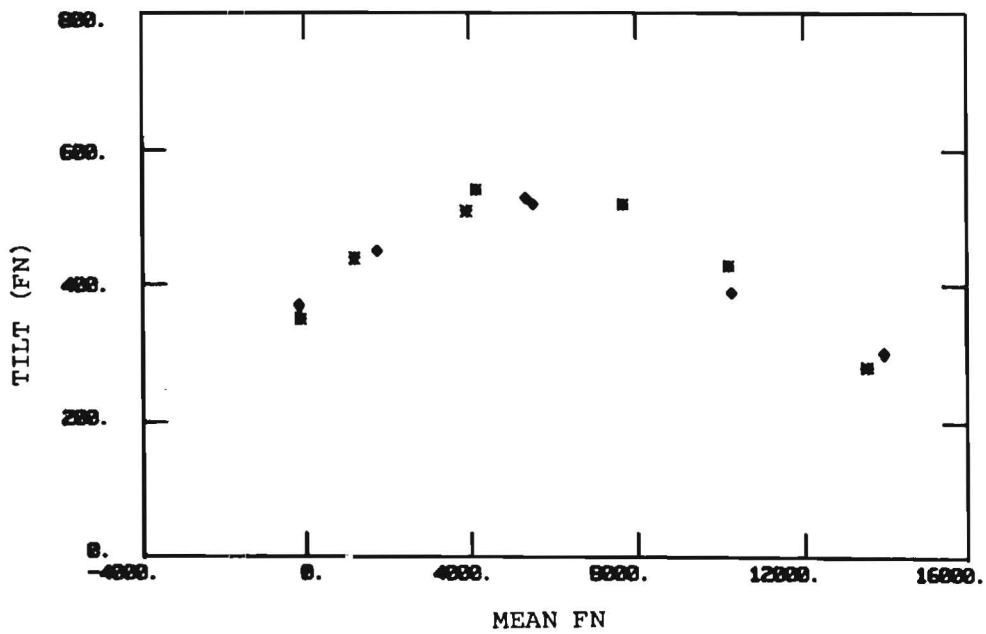


Figure 2: Tilt versus mean FN for photo-metrically corrected images for both 5.0 kv (diamonds) and 4.5 kv (asterisks) UVC settings.

Figure 3a
Mean DN Levels for 21 Areas in LWR UV-flood Images
 Top value: LWR 17412 160% UVF at 5.0 kv UVC
 Bottom value: LWR 17429 220% UVF at 4.5 kv UVC

	96	240	SAMPLE 384	528	672
LINE					
96		169 166	166 163	144 149	
240	213 209	219 213	177 171	160 155	126 124
384	(255) (255)	233 227	208 202	166 163	136 133
528	231 226	(254) (252)	225 221	185 180	120 116
672		(245) (244)	226 219	173 167	

Figure 3b
Mean DN Levels for 21 Areas in LWR UV-flood Images
 Top value: LWR 17409 120% UVF at 5.0 kv UVC
 Bottom value: LWR 17428 160% UVF at 4.5 kv UVC

	96	240	SAMPLE 384	528	672
LINE					
96		137 136	131 130	119 117	
240	174 172	174 174	136 137	125 124	105 103
384	227 221	189 188	167 168	129 130	110 108
528	182 178	217 214	180 177	145 142	91 92
672		183 180	170 167	131 133	

Figure 3c
Mean DN Levels for 21 Areas in LWR Null Images
Top value: LWR 17415 Null at 5.0 kv UVC
Bottom value: LWR 17432 Null at 4.5 kv UVC

	96	240	SAMPLE 384	528	672
LINE					
96		30 30	29 29	35 35	
240	31 31	28 27	24 24	26 26	37 37
384	27 27	22 22	43 43	26 26	27 27
528	10 10	22 22	27 27	24 24	16 16
672		7 7	18 19	18 18	

Figure 5a
Mean FN/70 Levels for 21 Areas in LWR UV-flood Images
 Top value: LWR 17412 160% UVF at 5.0 kv UVC
 Bottom value: LWR 17429 220% UVF at 4.5 kv UVC

	SAMPLE				
	96	240	384	528	672
LINE					
96		196 190	205 200	202 195	
240	198 192	206 199	202 196	202 196	207 204
384	(168) (168)	205 198	200 193	198 194	201 197
528	193 188	(187) (185)	199 194	204 198	205 199
672		(196) (195)	200 193	204 196	

Figure 5b
Mean FN/70 Levels for 21 Areas in LWR UV-flood Images
 Top value: LWR 17409 120% UVF at 5.0 kv UVC
 Bottom value: LWR 17428 160% UVF at 4.5 kv UVC

	SAMPLE				
	96	240	384	528	672
LINE					
96		142 140	149 148	151 146	
240	144 142	149 150	147 149	151 148	153 149
384	144 140	148 147	143 146	144 146	148 145
528	142 140	149 147	144 142	150 148	148 149
672		144 142	143 141	147 150	

Figure 4a
Residuals from Overall Mean: Mean DNs of UV-floods minus Nulls
LWR 17429 220% UVF at 4.5 kv / LWR 17412 160% UVF at 5.0 kv
Mean = 0.9701, St. Dev. = 0.0080

	96	240	SAMPLE 384	528	672
LINE 96		+0.9%	+0.8%	-1.4%	
240	+0.8%	+0.4%	-1.0%	-0.8%	+0.8%
384	-	+0.2%	-0.7%	+0.9%	+0.2%
528	+0.8%	-	+1.0%	-0.1%	-0.9%
672		-	-0.9%	-0.9%	

Figure 4b
Residuals from Overall Mean: Mean DNs of UV-floods minus Nulls
LWR 17428 160% UVF at 4.5 kv / LWR 17409 120% UVF at 5.0 kv
Mean = 0.9896, St. Dev. = 0.0153

	96	240	SAMPLE 384	528	672
LINE 96		+0.1%	+0.1%	-1.4%	
240	-0.4%	+1.7%	+2.0%	0.0%	-1.9%
384	-2.0%	+0.4%	+1.9%	+2.0%	-1.4%
528	-1.3%	-0.5%	-0.9%	-1.5%	+2.4%
672		-0.7%	-1.6%	+2.8%	

Figure 6a
 Residuals from Overall Mean: Mean FN/70 of UV-floods
 LWR 17429 220% UVF at 4.5 kv / LWR 17412 160% UVF at 5.0 kv
 Mean = 0.9711, St. Dev. = 0.0063

	96	240	SAMPLE 384	528	672
LINE 96		-0.2%	+0.4%	-0.6%	
240	-0.2%	-0.5%	-0.1%	-0.1%	+1.5%
384	-	-0.6%	-0.6%	+0.9%	+0.9%
528	+0.3%	-	+0.4%	-0.1%	-0.1%
672		-	-0.6%	-1.1%	

Figure 6b
 Residuals from Overall Mean: Mean FN/70 of UV-floods
 LWR 17428 160% UVF at 4.5 kv / LWR 17409 120% UVF at 5.0 kv
 Mean = 0.9920, St. Dev. = 0.0157

	96	240	SAMPLE 384	528	672
LINE 96		-0.6%	+0.1%	-2.5%	
240	-0.6%	+1.5%	+2.2%	-1.2%	-1.8%
384	-2.0%	+0.1%	+2.9%	+2.2%	-1.5%
528	-0.6%	-0.5%	-0.6%	-0.5%	+1.5%
672		-0.6%	-0.6%	+2.9%	

Figure 7a
Difference in Residuals: FNs minus DNs
LWR 17429 220% UVF at 4.5 kv UVC / LWR 17412 160% UVF at 5.0 kv UVC

	96	240	SAMPLE 384	528	672
LINE 96		-1.1%	-0.4%	+0.8%	
240	-1.0%	-0.9%	+0.9%	+0.7%	+0.7%
384	-	-0.8%	+0.1%	0.0%	+0.7%
528	-0.5%	-	-0.6%	0.0%	+0.8%
672		-	+0.3%	-0.2%	

Figure 7b
Difference in Residuals: FNs minus DNs
LWR 17428 160% UVF at 4.5 kv UVC / LWR 17409 120% UVF at 5.0 kv UVC

	96	240	SAMPLE 384	528	672
LINE 96		-0.7%	0.0%	-1.1%	
240	-0.2%	-0.2%	+0.2%	-1.2%	+0.1%
384	0.0%	-0.3%	+1.0%	+0.2%	+0.2%
528	+0.7%	0.0%	+0.3%	+1.0%	-0.9%
672		+0.1%	+1.0%	+0.1%	

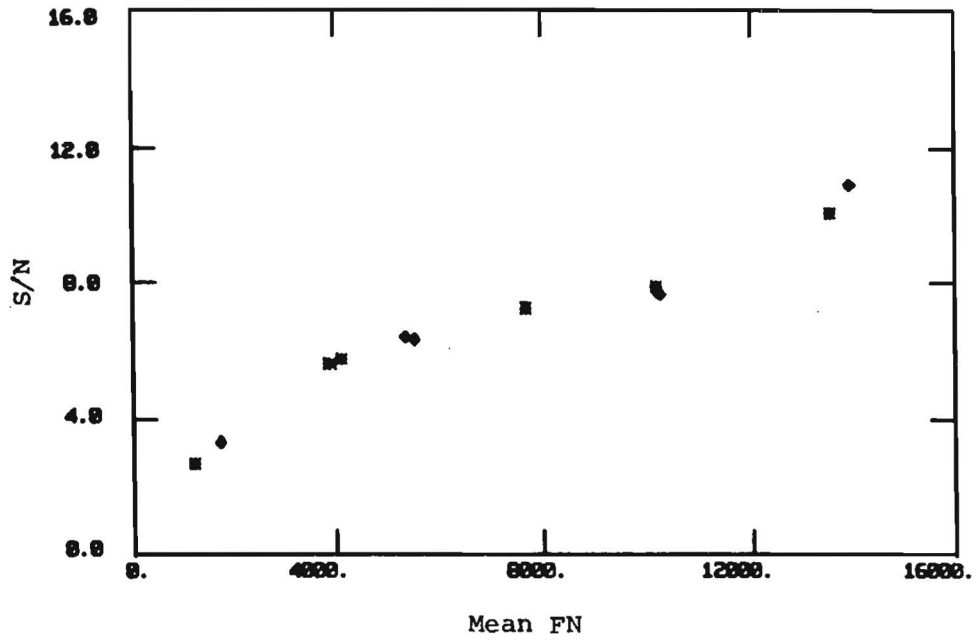


Figure 8: Signal-to-noise versus mean FN for both 5.0 kv (diamonds) and 4.5 kv (asterisks) UVC settings.

:STARS OBSERVED WITH I.U.E.

From 1978 to the beginning of 1985, the number of stars with luminosity class from Ia (brightest supergiants) to V (dwarfs) (excluding WC, WN, Symbiotic stars ...and another "strange" stars) that have been observed with I.U.E. in high dispersion mode are 2560. In order to determine how many of them belong to each spectral type and luminosity class we have performed a statistical study of the I.U.E. Archive. We have selected stars in the following classes in the I.U.E. object classification: class 13 (supergiants 0), class 23 (B0-2 III-I), class 24 (B3-5 III-I), class 25 (B6-9.5 III-I), class 32 (A0-3 III-I), class 33 (A4-9 III-I), class 40 (F0-F2), class 41 (F3-F9), class 45 (G III-I), class 47 (K III-I) class 49 (M III-I), class 12 (0 V), class 14 (0e), class 15 (0f), class 20 (B0-2 IV-V), class 21 (B3-5 IV-V), class 22 (B6-9.5 IV-V), class 26 (Be), class 27 (Bp), class 30 (A0-3 IV-V), class 31 (A4-9 IV-V), class 34 (Ae), class 35 (Am), class 36 (Ap) and class 42 (Fp). For each one of them, both spectral type and luminosity class have been taken from the I.U.E. Merged Log, except for stars included in classes 13, 23, 24, 25, 32, 33, 40, 41, 45, 47 and 49. For these, both spectral type and luminosity class have been adopted from the C.D.S. This source is considered more reliable and uniform than the I.U.E. Merged Log.

We have represented in Table 1 the results we have obtained. The spectral type and the luminosity class most observed are B and IV-V respectively.

In addition we have calculated how many supergiants of each spectral subtype have been observed in order to check whether or not this distribution describes in a realistic way the "supergiants world". Results have been represented in figures 1a, 1b and 1c for luminosity classes: Ia, Ib and Ic, respectively.

We have compared the distribution we have found (see figures 1a, 1b and 1c) with the statistics made in 1971 by Fehrenbach of the 701 supergiants included at that time in the Humphreys catalog which includes all the supergiants for which either spectrophotometry or VR index are known (see figures 2a, 2b and 2c). You will notice that the two distributions are quite similar, despite the I.U.E. selection effect which favours early type stars; there is a genuine lack of late spectral types. As a matter of fact, the almost total absence of Ia stars with spectral type cooler than G0 has also been found in the Magellanic Clouds (Fehrenbach, 1971) and poses one of the greatest problems for any stellar evolution theory.

A.I. Gomez de Castro

A. Talavera

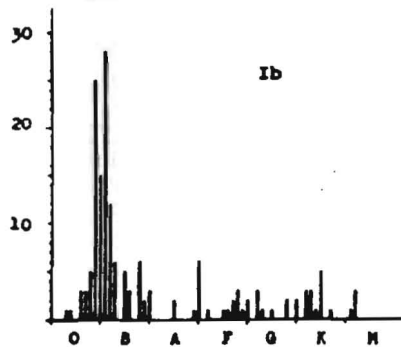
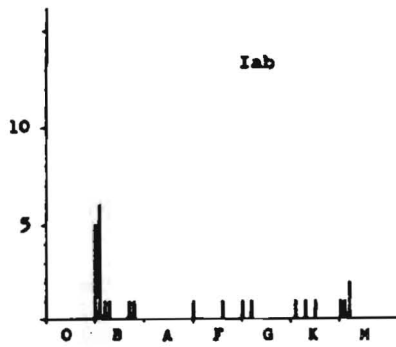
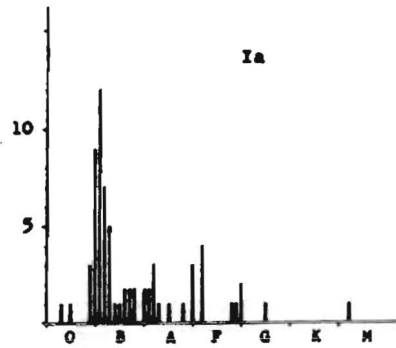
REFERENCES:

FEHRENBACH (1971): "Colloquium on supergiant stars."

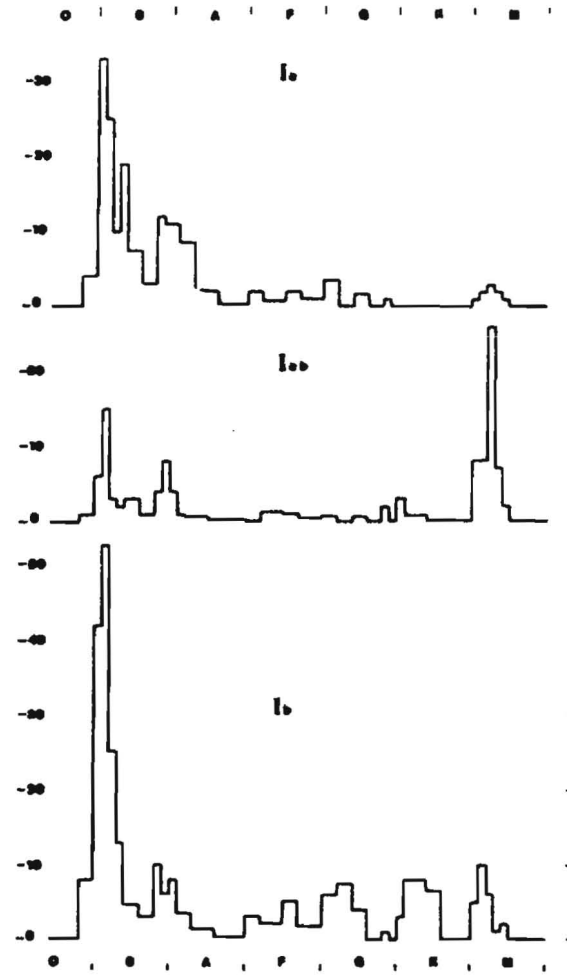
Edited by M. Hack.

TABLE 1

	Ia-Ia ⁺	Iab	Ib	II	III	IV-V	p	e	f	m	Total
O	5		38	8	23	139		22	43		278
B	41	15	77	22	96	785	105	133			1274
A	10		6	7	7	108	71	8		17	234
F	9	2	15	7	10	153	7				203
G	3	2	9	10	54	145					223
K		3	15	13	65	100					196
M	1	4	4	6	10	12					37
Total	69	26	164	73	265	1442	183	163	43	17	2445



Figures 1a, 1b and 1c: I.U.E. observations.



Figures 2a, 2b and 2c
Humphreys Catalog (1971)

SKYMAP OF OBJECTS OBSERVED WITH IUE IN LORES

Related to the previous article on the statistics of the distribution of objects observed with IUE in high dispersion we show in the two following pictures the distribution of two typical (one galactic and one extragalactic) classes of objects in low dispersion. In figure 1 the usual sky appearance of objects concentrated to the galactic plane is clearly shown by the (2000) B-stars observations made with IUE. Also the concentrations from the two nearest galaxies LMC and SMC can be easily seen.

Similarly in figure 2 the zone of avoidance of the galactic plane is shown by the distribution of the 1700 observations of globular clusters and galaxies. Note that in the case of the LMC and SMC the extensive observations of the blue Magellanic Cloud clusters give a region of correspondence for these two distributions which are otherwise fully complementary.

It is interesting to see that these familiar, distributions are after 8 years of observing so well defined. These pictures give a good indication that the extension of IUE is indeed of great importance for Astronomy. Although many observations on individual objects are repeated for astrophysically very important variability studies, the figures also show that the Database which is being built up does not only contain astronomical peculiarities but will indeed at the final stages of the project (1990?) really give an archive representing the present knowledge and understanding of extended classes of objects.

It is expected that such analyses of the IUE database contents will help the project in future decisions such as the analysis of the completeness of the IUE archive as was requested by the IUE long range planning committee.

Willem Wamsteker
Michael Barylak

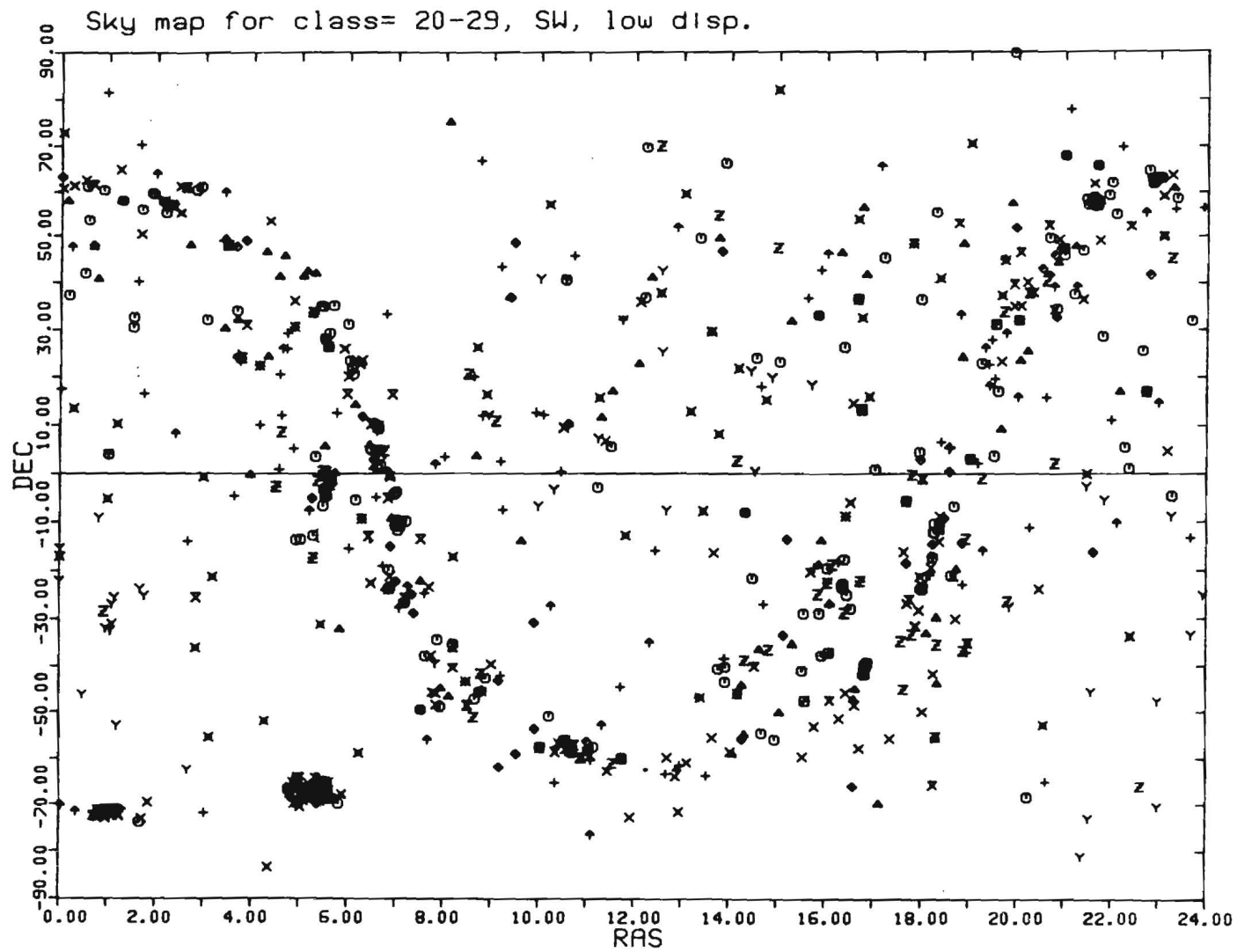


Fig. 1: Sky map of IUE observations for class 20 - 29 (ie. B type stars); SWP camera; low dispersion.

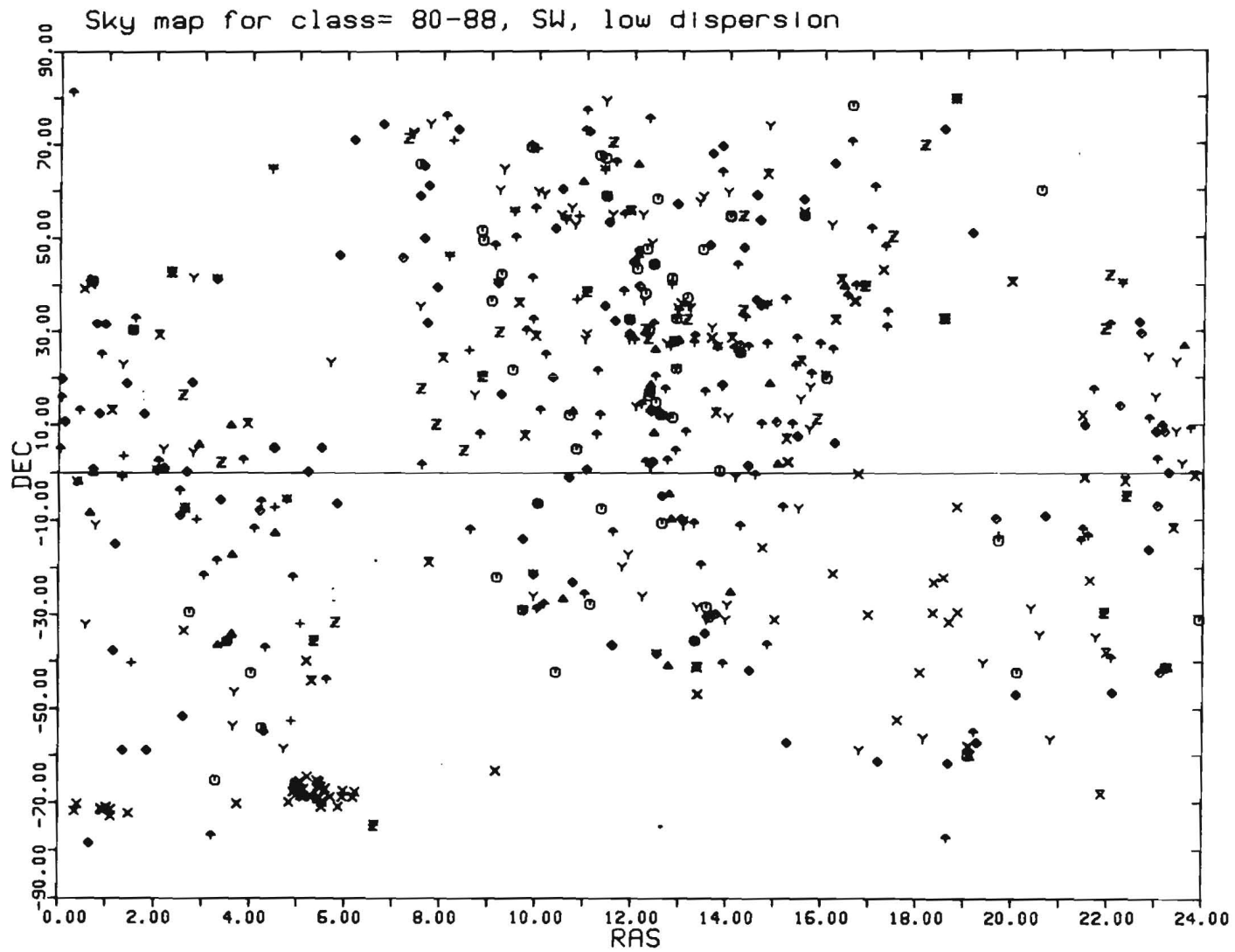


Fig. 2: Sky map of IUE observations for class 80 - 88 (ie. Globular clusters and galaxies); SWP camera; low dispersion.

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#####  
#           #  
#       VILSPA PUBLICATIONS LIST       #  
#           #  
#           IN MAIN JOURNALS           #  
#           #  
#           #  
#       Published 1 May - 30 Aug 1985   #  
#           #  
#####
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This list contains all Vilspa papers that have appeared between the above dates in major refereed journals (Mon. Not. R. astr. Soc., Astron. Astrophys., Astrophys. J.) and which originate from Europe. While the origin of the data is the main criterion for inclusion in this list, the affiliation of the authors is also taken into consideration. Underlining of an author's name indicates membership of the Vilspa Observatory staff, and papers by Observatory staff on topics not involving IUE data are marked by '(Obs)' after the entry.

We remind users that, in any publications resulting from IUE data, whether it be from their own allocated shifts or data released from the Archive, they should acknowledge the use of the IUE Satellite and the Agency - ESA, NASA or SERC as appropriate, in a footnote on the title page. The following are examples of some of the possibilities.

Based on observations by the International Ultraviolet Explorer, collected at Villafranca Satellite Tracking Station of the European Space Agency. (In the case of one's own observations).

Based on data from the International Ultraviolet Explorer, de-archived from the Villafranca Data Archive of the European Space Agency. (In the case of archive data).

EDITOR'S NOTE

Due to problems of supply of Astrophysical Journal we have been unable to include IUE publications from this journal in the present issue of the IUE Newsletter. We hope to be able to publish the backlog in our next issue.

- Carroll, T.J.
A gravitational origin for the broad emission line profiles in
quasars and Seyfert galaxies: time variation
Mon. Not. R. astr. Soc., 214, 321-326, 1985
- Williams, P.M., Longmore, A.J., van der Hucht, K.A., Talavera, A.,
Wamsteker, W., Abbott, D.C., Telesco, C.M.
Condensation of dust around the WC7 star HD 192641 (WR 137)
Mon. Not. R. astr. Soc., 215, 23p-29p, 1985
- Bromage, G.E., Boksenberg, A., Clavel, J., Elvius, A., Penston,
M.V., Perola, G.C., Pettini, M., Snijders, M.A.J., Tanzi, E.G.,
Ulrich, M.H.
Detailed observations of NGC 4151 with IUE - IV. Absorption
line spectrum and variability
Mon. Not. R. astr. Soc., 215, 1-36, 1985
- McLachlan, A., Nandy, K.
Shock-heated gas in the I Per OB association
Mon. Not. R. astr. Soc., 215, 473-480, 1985
- Rucinski, S.M.
The Mg II emission in W UMa-type binaries
Mon. Not. R. astr. Soc., 215, 615-638, 1985
- Rucinski, S.M.
IUE observations of HD 36705
Mon. Not. R. astr. Soc., 215, 591-614, 1985
- Smith, L.J., Lloyd, C., Walker, E.N.
UV and optical observations of variability in the WR + compact
candidate HD 96548
Astron. Astrophys., 146, 307-316, 1985
- Bergvall, N.
Star formation and chemical abundances in the blue compact
galaxy ESO 338-IG04
Astron. Astrophys., 146, 269-281, 1985
- Bianchi, L., Pakull, M.
The first IUE observations of LMC X-1 (star 32)
Astron. Astrophys., 146, 242-248, 1985
- Querci, M., Querci, F.
Temporal variations in UV spectra of the red giant C star, TW
Hor
Astron. Astrophys., 147, 121-126, 1985
- Schroder, K.P.
A study of ultraviolet spectra of ζ Aurigae/VV Cephei systems
VII. Chromospheric density distribution and wind acceleration
region
Astron. Astrophys., 147, 103-110, 1985

Augarde, R., Lequeux J.

Peculiar motions and star formation in the interacting galaxy complex Mk 171=NGC 3690 + IC 694

Astron. Astrophys., 147, 273-280, 1985

Franco, M.L., Magazzu, A., Stalio, R.

Interstellar reddening law towards the nucleus of h Per

Astron. Astrophys., 147, 191-196, 1985

Blomme, R., Hensberge, H.

The outer layers of the Beta Cephei stars BW Vul and Sigma Sco

Astron. Astrophys., 148, 97-104, 1985

Koester, D., Vauclair, G., Dolez, N., Oke, J.B., Greenstein, J.L., Weidemann, V.

Atmospheric parameters of the variable DB white dwarf GD 358

Astron. Astrophys., 149, 423-428, 1985

Bouchet, P., Lequeux, J., Maurice, E., Prevot, L.,

Prevot-Burnichon, M.L.

The visible and infrared extinction law and the gas-to-dust ratio in the Small Magellanic Cloud

Astron. Astrophys., 149, 330-336, 1985

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#####  
#  
#   MERGED LOG OF IUE OBSERVATIONS   #  
#  
#   1 MAY 1985 - 30 SEPTEMBER 1985   #  
#  
#####
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The merged log of Vilspa and Goddard images for the above dates is listed in order of right ascension. (For non-standard images the information given can be incomplete.)

The programme reference codes (column 1) identifying the ESA and NASA programmes for the seventh round can be found in ESA IUE Newsletter No.19 p17 and p23 for ESA and NASA respectively, and for the eighth round in ESA IUE Newsletter No.23 p11 and 17.

The Object Classification Codes (column 3) and the Vilspa Exposure Classification Codes (column 16) are listed overleaf.

CLASSIFICATION OF OBJECTS USED IN THE JOINT ESA/SERC 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	GIANT RED SPOT	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	STELLAR OBJECT NOT INCLUDED ABOVE
15	OF	65	MISIDENTIFIED TARGETS
16	SD O	66	INTERACTING BINARIES
17	WD O	67	
18		68	
19	UV-STRONG	69	
20	B0-B2 V-IV	70	PLANETARY NEBULAR+CENTRAL STAR
21	B3-B5 V-IV	71	PLANETARY NEBULAR-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	HORIZONTAL BRANCH	88	EMISSION LINE GALAXY (NON-SEYFERT
39	COMPOSITE	89	
40	F0-F2	90	INTERGALACTIC MEDIUM
41	F3-F9	91	
42	FP	92	
43	LATE TYPE DEGENERATE STARS	93	
44	G (TO 1FEB79); GIV-VI (FROM 1FEB79)	94	
45	G I-II (FROM 1FEB79)	95	
46	K (TO 1FEB79); K IV-VI (FROM 1FEB79)	96	
47	K I-III (FROM 1FEB79)	97	
48	M (TO 1FEB79); M DWARFS (FRM 1FEB79)	98	WAVELENGTH CALIBRATION (NASA LOG)
49	M I-III (FROM 1 FEB79)	99	NULLS AND FLAT FIELDS (NASA LOG)

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

EXPOSURE CLASSIFICATION CODES

The exposure levels of Vilspa images are described by a 3-digit code listed in column 16 in the merged log.

DIGIT 1: EXPOSURE LEVEL OF CONTINUUM
DIGIT 2: EXPOSURE LEVEL OF EMISSION LINES
DIGIT 3: BACKGROUND LEVEL

The CONTINUUM and EMISSION are both classified as follows:-

- 0: NOT APPLICABLE
- 1: NO SPECTRUM VISIBLE
- 2: FAINT SPECTRUM: MAX DN < 20 ABOVE LOCAL BACKGROUND
- 3: UNDEREXPOSED: MAX DN < 100 ABOVE LOCAL BACKGROUND
- 4: WEAK: MAX DN BETWEEN 100 AND 150 ABOVE LOCAL BACKGROUND
- 5: GOOD: NO SATURATION BUT MAX DN OVER 150 ABOVE LOCAL 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

The BACKGROUND is classified in terms of a standard region of each camera outside the area affected by the high resolution orders. The value used is the mean DN given by a subset histogram approximately 10 pixels in width.

The BACKGROUND classification codes are:- (limits inclusive)

- 0 DN<20
- 1 21<DN<30
- 2 31<DN<40
- 3 41<DN<50
- 4 51<DN<60
- 5 61<DN<70
- 6 71<DN<80
- 7 81<DN<90
- 8 91<DN<100
- 9 DN>101
- X SATURATED

NOTES

- 1) No exposure classification code was assigned to VILSPA images before 1 August 1978.
- 2) Prior to 1 Sept 1979, the BACKGROUND digit was not included and the ECC occupied the first two places in the comment line.
- 3) The Goddard images are described in the comments by the gross DN of the CONTINUUM (C), EMISSION LINES (E) and BACKGROUND (B).

PRO	OBJECT	CL	MAG	R.A.	DEC	D C	IMAGE A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT
HS144	SKY	07	9999	0000000	000000	H 3	26149 L	85061202	000000	000000	025915	010700 031 U SERENDIPITY
HS144	SKY	07	9999	0000000	000000	H 3	26157 L	85061302	000000	000000	025220	011500 031 U
PHCAL	NULL	99	9999	0000000	000000	L 1	06499	85072702	000000	000000	023600	000000 U
PHCAL	NULL	99	9999	0000000	000000	L 2	17763	85081118	000000	000000	181000	000000 508 U HIGAIN
PHCAL	NULL	99	9999	0000000	000000	L 2	17764	85081118	000000	000000	185300	000000 508 U HIGAIN
PHCAL	NULL	99	9999	0000000	000000	L 2	17765	85081119	000000	000000	195000	000000 402 U NORMAL READ
PHCAL	NULL	99	9999	0000000	000000	L 1	06641	85081121	000000	000000	211300	000000 508 U SAFETY READ
PHCAL	NULL	99	9999	0000000	000000	H 2	17755	85072623	000000	000000	233900	000000 U
PHCAL	NULL	99	9999	0000000	000000	H 1	06436	85072001	013200	000000	000000	000000 003 U
PHCAL	OOSKY BKGD	07	0000	0000000	000000	1	06681 L	85081613	000000	000000	135300	000900 G B=235
PHCAL	OO NULL	99	0000	0000000	000000	L 1	06680 L	85081613	000000	000000	132500	000000 G B=30
HS144	NULL	99	9999	0000000	000000	H 3	26156	85061300	000000	000000	000000	000000 U
PHCAL	NULL	99	9999	0000000	000000	H 1	06435	85072001	010800	000000	000000	000000 009 U HIGH GAIN READ
PHCAL	NULL	99	9999	0000000	000000	H 1	06434	85072000	004400	000000	000000	000000 003 U SECOND READ
PHCAL	160%CALJU	99	9999	0000000	000000	H 1	06433	85072000	002536	000531	000000	000000 009 U
PHCAL	NULL	99	9999	0000000	000000	2	17726	85060621	212500	000000	000000	000000 U DEGAS READ
PHCAL	NULL	99	9999	0000000	000000	1	05997	85051602	000000	000000	023000	000000 U LARGE AREA READ
PHCAL	NULL	99	9999	0000000	000000	3	26264	85062523	000000	000000	232430	000000 U LARGE AREA READ
PHCAL	100%TFLOOD	99	9999	0000000	000000	H 1	06432	85071923	234936	000140	000000	000000 008 U
PHCAL	60%CALJU	99	9999	0000000	000000	H 1	06431	85071923	231204	000204	000000	000000 008 U UUF=39
PHCAL	120%CALJU	99	9999	0000000	000000	H 1	06430	85071922	221952	000400	000000	000000 009 U UUF=41
PHCAL	NULL	99	9999	0000000	000000	H 3	26431	85071720	202900	000000	000000	000000 004 U HI GAIN READ
PHCAL	60%CALJU	99	9999	0000000	000000	H 3	26432	85071720	205811	000149	000000	000000 004 U FINAL UUF=34
PHCAL	20%CALJU	99	9999	0000000	000000	H 3	26433	85071721	212548	000036	000000	000000 002 U UUF=32
PHCAL	120%CALJU	99	9999	0000000	000000	H 3	26434	85071721	215253	000330	000000	000000 008 U FINAL UUF=39
PHCAL	20%CALJU	99	9999	0000000	000000	H 1	06429	85071921	214431	000041	000000	000000 004 U UUF=36
PHCAL	NULL	99	9999	0000000	000000	3	26737	85092619	192100	000000	000000	000000 001 U
PHCAL	60%CALJU	99	9999	0000000	000000	H 1	06428	85071921	210353	000204	000000	000000 008 U UUF=38
PHCAL	60%CALJU	99	9999	0000000	000000	H 3	26435	85071722	222157	000149	000000	000000 004 U FINAL UUF=35
PHCAL	100%TFLOOD	99	9999	0000000	000000	H 3	26436	85071722	224918	000016	000000	000000 009 U
PHCAL	160%CALJU	99	9999	0000000	000000	H 3	26437	85071723	231643	000451	000000	000000 009 U FINAL UUF=44
PHCAL	NULL	99	9999	0000000	000000	H 1	06427	85071920	202800	000000	000000	000000 009 U HIGH GAIN READ
PHCAL	NULL	99	9999	0000000	000000	H 1	06157	85060700	041600	000000	000000	000000 U
PHCAL	NULL	99	9999	0000000	000000	H 3	26438	85071723	232600	000000	000000	000000 001 U SECOND READ
PHCAL	NULL	99	9999	0000000	000000	H 3	26439	85071723	235700	000000	000000	000000 005 U HIGH GAIN READ
PHCAL	NULL	99	9999	0000000	000000	H 3	26440	85071800	001700	000000	000000	000000 001 U
HZHM	OOMARK	335	84	1380	0003451	+195528	L 3 26417 L	85071509	000000	000000	092500	008400 G E=244,C=115,B=75
HZHM	OO MKR	335	85	1640	0003451	+195528	L 1 06386 L	85071310	000000	000000	101400	003500 G C=143,B=55
IBHJE	HD	352	47	0620	0005384	-024334	L 3 26559 L	85080605	000000	000000	052700	009000 G E=154,C=220,B=42
IBHJE	HD	352	47	0620	0005384	-024334	L 1 06556 L	85080211	000000	000000	114400	000200 G E=209,C=112,B=35
IBHJE	HD	352	47	0620	0005384	-024334	L 1 06589 SL	85080607	071200	000400	070200	000600 G E=3.0X,C=200,B=40
OD76K	HD	352	47	6200	0005384	-024334	H 1 06588 L	85080601	000000	000000	012200	024000 G E=3.0X,C=180,B=71
IBHJE	HD	352	47	0620	0005384	-024334	L 3 26528 L	85080210	000000	000000	101000	009000 G E=136,C=255,B=81
IBHJE	HD	352	47	0620	0005384	-024334	L 1 06555 L	85080209	000000	000000	095700	000600 G E=3X,C=196,B=38
WDHES	OOPD0005+5	17	1330	0005410	+510611	H 3 26191 L	85061705	000000	000000	054100	042000 G C=210,B=107	

PRO	OBJECT	CL	MAG	R.A.	DEC	D C	IMAGE	A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT	
OD71K	BD+63	0003	39	0830	0006477	+634032	L 3	26490	L	85072711	000000	000000	114700 015000	G E=249,C=190,B=142
OD71K	BD+63	0003	39	0830	0006477	+634032	L 1	06502	L	85072714	000000	000000	142100 002500	G E=210,C=220,B=152
HSRHP	HD	698	26	0710	0008585	+575601	H 3	26300	L	85062913	000000	000000	133500 006000	G C=230,B=135
HA158	SB147	16	1430	0019276	-244159	L 3	26277	L	85062800	000000	000000	003841 001500	501 U	
HA158	SB147	16	1430	0019276	-244159	L 1	06290	L	85062800	000000	000000	000223 003000	504 U	
HC057	HD2151	44	0313	0023093	-773208	H 1	06404	L	85071521	000000	000000	214539 001500	751 U	
DCHNE	HD	236429	53	0890	0027100	+595609	L 1	06456	L	85072211	000000	000000	112400 004000	U
PHCAL	HD	3360	20	0370	0034099	+533718	H 1	06419	L	85071902	000000	000000	022100 000021	G C=180,B=100
PHCAL	OO WAUCAL	98	0000	0034100	533719	L 3	26520	S	85080112	121900	000002	000000 000000	G E=20X,B=103	
PHCAL	OO WAUCAL	98	0000	0034100	533719	L 3	26521	S	85080112	124600	000200	000000 000000	G E=60X,B=129	
PHCAL	OO WAUCAL	98	0000	0034100	533718	L 1	06545	S	85080113	135800	000001	000000 000000	G E=60X,B=111	
PHCAL	OO WAUCAL	98	0000	0034100	533718	L 1	06544	S	85080113	132900	000001	000000 000000	G E=20X,B=101	
PHCAL	HD	3360	20	0370	0034102	+533718	L 3	26647	L	85090702	000000	000000	020500 000002	G C=2X,B=15
PHCAL	HD	3360	20	0370	0034103	+533719	H 1	06732	L	85091422	000000	000000	222200 000021	G C=230,B=44
PHCAL	HD	3360	20	0370	0034103	+533719	L 1	06570	L	85080315	000000	000000	153700 000001	G C=235,B=34
PHCAL	HD	3360	20	0370	0034103	+533719	L 3	26376	L	85070816	000000	000000	165300 000001	G C=200,B=13
PHCAL	HD	3360	20	0370	0034103	+533719	L 3	26631	L	85082518	000000	000000	184000 000001	G C=195,B=35
PHCAL	HD	3360	20	0370	0034103	+533719	L 3	26646	L	85090701	000000	000000	010600 000001	G C=200,B=17
PHCAL	HD	3360	20	0370	0034103	+533719	L 3	26493	SL	85072810	101100	000001	101500 000001	G C=130,B=14
PHCAL	HD	3360	20	0370	0034103	+533719	L 1	06507	L	85072810	000000	000000	100700 000001	G C=230,B=33
PHCAL	HD	3360	20	0370	0034103	+533719	L 3	26366	L	85070618	000000	000000	182600 000001	G C=220,B=19
PHCAL	HD	3360	20	0370	0034103	+533719	L 3	26365	L	85070617	000000	000000	174800 000001	G C=2X,B=20
PHCAL	HD	3360	20	0370	0034103	+533719	L 3	26491	L	85072716	000000	000000	163600 000001	G C=220,B=15
PHCAL	HD	3360	20	0370	0034103	+533719	L 1	06505	L	85072716	000000	000000	163300 000001	G C=1.5X,B=32
PHCAL	HD	3360	20	0370	0034103	+533719	L 1	06504	L	85072716	000000	000000	160100 000001	G C=3X,B=35
PHCAL	HD	3360	20	0370	0034103	+533719	L 1	06503	L	85072715	000000	000000	152500 000001	G C=1.5X,B=32
PHCAL	HD	3360	20	0370	0034103	+533719	H 1	06537	L	85073115	000000	000000	153300 000021	G C=240,B=45
PHCAL	HD	3360	20	0370	0034103	+533719	H 2	17771	L	85082918	000000	000000	185900 000021	G C=210,B=31
PHCAL	HD	3360	20	0370	0034103	+533719	H 3	26510	L	85073115	000000	000000	153900 000024	G C=195,B=35
PHCAL	HD	3360	20	0370	0034103	+533719	L 1	06692	L	85082518	000000	000000	185500 000001	G C=200,B=35
PHCAL	HD	3360	20	0370	0034103	+533719	H 1	06571	L	85080316	000000	000000	163200 000018	G C=211,B=46
PHCAL	HD	3360	20	0370	0034103	+533719	L 3	26535	SL	85080315	154600	000001	154200 000001	G C=2X,B=15
PHCAL	HD	3360	20	0370	0034103	+533719	H 3	26331	L	85070117	000000	000000	171200 000024	G C=190,B=33
PHCAL	HD	3360	20	0370	0034103	+533719	H 1	06316	L	85070117	000000	000000	171800 000021	G C=210,B=42
PHCAL	HD	3360	20	0370	0034103	+533719	L 3	26364	L	85070617	000000	000000	172100 000001	G C=220,B=19
MLHTS	HD	3369	21	0440	0034122	+332640	H 3	26388	L	85071013	000000	000000	135200 000139	G C=202,B=41
MLHTS	HD	3369	21	0440	0034122	+332640	H 3	26208	L	85061915	000000	000000	150800 000139	G C=205,B=39
CCHJL	HD	3627	47	0330	0036389	+303516	H 1	06394	L	85071413	000000	000000	132600 003500	G E=255,C=212,B=135
CCHJL	HD	3627	47	0330	0036389	+303516	L 3	26414	L	85071414	000000	000800	141300 002500	G B=105
OBHFM	OOH31CFHTS	07	1760	0037468	+402605	L 1	06506	L	85072718	000000	000000	183200 084000	G B=167	
OBHFM	OOH31CFHTS	13	1760	0037468	+402605	L 3	26492	L	85072809	000000	000000	091200 090000	G C=235,B=155	
GCHRK	OO U23	83	1500	0039093	+403042	L 3	26237	L	85062221	000000	000000	215500 044000	G C=102,B=82	
GCHRK	OO U23	83	1500	0039093	+403042	L 1	06257	L	85062305	000000	000000	052700 044000	G C=143,B=98	
HE098	Y 23	83	1500	0039094	403043	E 9	01667	2	85062221	000000	000000	214000 004000	U FOR SWP 26237	
GCHRK	OOSKY BKGD	07	9999	0040341	+393247	H 3	26217	L	85062109	000000	000000	094700 015000	G B=34	

PRO	OBJECT	CL	MAG	R.A.	DEC	D C	IMAGE	A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT	
HE098	M IU	83	1500	0040341	393247	E 9	01665	2	85062021	000000	000000	213200	004000	U FOR SWP 26216
GCHRK	OO M IU	83	1510	0040341	+393247	L 1	06250	L	85062109	000000	000000	090300	022500	G B=99, B=73
GCHRK	OO M IU	83	1510	0040341	+393247	L 3	26216	L	85062105	000000	000000	051200	066000	G B=100
GCHRK	OO U 282	83	1430	0041450	+410511	L 1	06249	L	85061922	000000	000000	222300	040000	G C=130, B=92
GCHRK	OO U 282	83	1430	0041450	+410511	L 3	26215	L	85062005	000000	000000	050700	046200	G B=90
HE098	U282	83	1430	0041451	410512	E 9	01664	2	85061922	000000	000000	223000	004000	U FOR LWP6249
OD60K	OO WAUCAL	98	9999	0041527	+402423	H 3	26269	S	85062712	123000	000200	000000	000000	G E=50X, B=125
OD60K	HD 4174	57	0750	0041527	+402423	D 9	01672	L	85062705	000000	000000	054400	016000	G NO COMMENTS
OD60K	HD 4174	57	0750	0041527	+402423	H 3	26268	L	85062706	000000	000000	061500	034500	G C=165, B=102
LGMHJ	HD 4408	49	0538	0043556	+151211	L 1	06560	L	85080216	000000	000000	163900	001000	G E=255, C=156, B=69
RSHLR	HD 4502	47	0410	0044410	+235944	L 3	26335	L	85070212	000000	000000	123700	005000	G E=144, C=91, B=45
RSHLR	HD 4502	47	0410	0044410	+235944	L 3	26424	L	85071611	000000	000000	115800	004000	G E=196, C=163, B=125
RSHLR	HD 4502	47	0410	0044410	+235944	L 3	26590	L	85081111	000000	000000	111180	004000	G E=200, C=70, B=39
RSHLR	HD 4502	47	0410	0044410	+235944	L 3	26450	L	85072015	000000	000000	163900	002000	G E=174, B=123
RSHLR	HD 4502	47	0410	0044410	+235944	L 3	26508	L	85073112	000000	000000	125600	004000	G E=166, C=60, B=37
RSHLR	HD 4502	47	0380	0044410	+235944	L 1	06593	L	85080616	000000	000000	162000	001000	G E=5X, C=5X, B=92
RSHLR	HD 4502	47	0410	0044410	+235944	L 3	26350	L	85070513	000000	000000	131800	003000	G E=173, C=73, B=35
RSHLR	HD 4502	47	0410	0044410	+235944	L 3	26405	L	85071217	000000	000000	175800	003000	G E=170, B=21
RSHLR	HD 4502	47	0380	0044410	+235944	L 3	26564	L	85080615	000000	000000	154400	003000	G E=227, C=210, B=167
SDHFW	HD 4539	28	1030	0044463	+101055	L 3	26172	L	85061513	000000	000000	135500	000115	G B=17
SDHFW	HD 4539	28	1030	0044463	+101055	L 1	06221	L	85061513	000000	000000	134900	000140	G B=38
HA158	HD4539	28	1042	0044540	094200	L 3	26276	L	85062722	000000	000000	225251	000120	500 U
XQHME	PG0049+171	85	1620	0049165	+170941	L 3	26506	L	85073103	000000	000000	035400	041500	G E=1.5X, C=123, B=82
XQHME	PG0049+171	85	1620	0049165	+170941	L 1	06541	L	85080103	000000	000000	031500	024000	G E=153, B=138, B=75
GE057	MICH 286	84	1500	0049260	-004531	L 3	26568	L	85080720	000000	000000	202932	025800	312 U
NGHRD	OO SMC N46	72	0020	0050031	-730705	L 3	26396	L	85071113	000000	000000	135300	004000	G C=158, B=125
PHCAL	OO WAUCAL	98	0000	0051227	-732251	L 3	26397	S	85071116	163600	000002	000000	000000	G E=20X, B=107
PHCAL	OO WAUCAL	98	0000	0051227	-732251	H 1	06382	S	85071115	153400	000016	000000	000000	G E=60X, B=118
PHCAL	OO WAUCAL	98	0000	0051227	-732251	L 1	06381	S	85071115	150300	000001	000000	000000	G E=20X, B=105
PHCAL	OO WAUCAL	98	0000	0051227	-732251	H 3	26398	S	85071117	170500	000200	000000	000000	G E=60X, B=152
GE057	HD5316	49	0630	0052338	241712	L 1	06594	L	85080617	000000	000000	174158	002500	363 U
HA048	HD5394	20	0223	0053404	602647	H 3	26338	L	85070220	000000	000000	201621	000008	501 U
HA048	HD5394	20	0223	0053404	602647	H 1	06326	L	85070220	000000	000000	201938	000006	501 U
IEHJE	HD 5516	45	0440	0054319	230853	L 3	26529	L	85080212	000000	000000	123800	003000	G C=96, B=59
IEHJE	HD 5516	45	0440	0054319	230853	H 1	06557	L	85080213	000000	000000	131600	004500	G E=3X, C=3X, B=187
LGHAD	HD 6268	47	0810	0100540	-280854	L 1	06678	L	85081608	000000	000000	082900	001500	G C=220, B=50
PHCAL	OO NULL	99	9999	0100540	-280854	L 3	26620	L	85081606	000000	000000	065600	000000	G B=20
LGHAD	HD 6268	47	0810	0100540	-280854	H 1	06677	L	85081602	000000	000000	022400	033300	G C=192, B=112
CCHJL	HD 6805	47	0340	0106044	-102649	H 1	06393	L	85071411	000000	000000	112900	004000	G E=253, C=230, B=107
CCHJL	HD 6805	47	0340	0106044	-102649	L 3	26413	L	85071412	000000	000000	121500	002500	G B=38
CGHAD	HD 6833	47	0680	0106507	+542820	L 3	26429	L	85071703	000000	000000	031800	006000	G B=140
CGHAD	HD 6833	47	0680	0106507	+542820	L 1	06410	L	85071710	000000	000000	102800	001500	G C=220, B=43
HC018	HD6833	47	0709	0106508	542821	F 9	01678	2	85071619	000000	000000	193700	016000	U FOR SWP26429
HC018	HD 6833	47	0675	0106508	542821	E 9	01678	2	85072119	000000	000000	194500	000000	U FOR LWP 6454
CGHAD	HD 6833	47	0680	0106510	+542821	H 1	06454	L	85072203	000000	000000	032700	036000	G

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT
GE057	HD7351	50	0649	0111197	281558	L	1	06615	L	85080719	000000	000000	191010	003000 362 U
HQ117	ESO 113	84	1445	0121512	-590359	L	3	25825	L	85050100	000000	000000	004213	015000 361 U
HQ038	ESO113IG45	84	1413	0121512	-590359	L	1	06492	L	85072601	000000	000000	012543	008000 454 U
HQ117	ESO 113	84	1400	0121512	-590359	L	1	05872	L	85050103	000000	000000	031915	020800 671 U
HQ038	ESO113IG45	84	1413	0121512	-590359	L	3	26479	L	85072519	000000	000000	194136	012000 351 U
HQ117	F-9	84	1438	0121512	-590359	L	1	06201	L	85061302	000000	000000	022934	012600 573 U SERFNIDIPITY
HQ038	ESO113IG45	84	1413	0121512	-590359	L	1	06491	L	85072521	000000	000000	214851	010000 464 U
HQ038	ESO113IG45	84	1413	0121512	-590359	L	3	26480	L	85072523	000000	000000	233220	011000 351 U
HQ117	FAIRALL 9	84	1400	0121512	-590359	L	3	26774	L	85092814	000000	000000	143723	018000 472 U
CCHJL	HD 9053	47	0340	0126116	-433425	H	1	06398	L	85071511	000000	000000	112300	004000 G E=2.5X,C=165,B=107
CCHJL	HD 9053	47	0340	0126116	-433425	L	3	26418	L	85071512	000000	000000	120900	002500 G E=113,C=76,B=43
RRHRB	00 RRCET	53	0910	0129340	+010512	L	1	06606	L	85080710	000000	000000	105400	001500 G C=220,B=58
RRHRB	00 RRCET	53	0910	0129340	+010512	L	1	06609	L	85080713	000000	000000	131700	001500 G C=235,B=115
RRHRB	00 RRCET	53	0910	0129340	+010512	L	1	06608	L	85080712	000000	000000	122900	001500 G C=210,B=78
RRHRB	00 RRCET	53	0910	0129340	+010512	L	1	06595	L	85080701	000000	000000	013700	003000 G C=1.2X,B=40
RRHRB	00 RRCET	53	0910	0129340	+010512	L	1	06596	L	85080702	000000	000000	024100	002000 G C=200,B=36
RRHRB	00 RRCET	53	0910	0129340	+010512	L	1	06597	L	85080703	000000	000000	033600	002000 G C=200,B=40
RRHRB	00 RRCET	53	0910	0129340	+010512	L	1	06598	L	85080704	000000	000000	042900	002000 G C=198,B=38
RRHRB	00 RRCET	53	0910	0129340	+010512	L	1	06599	L	85080705	000000	000000	052300	002000 G C=188,B=39
RRHRB	00 RRCET	53	0910	0129340	+010512	L	1	06600	L	85080706	000000	000000	061600	002100 G C=189,B=40
RRHRB	00 RRCET	53	0910	0129340	+010512	L	1	06601	L	85080707	000000	000000	071100	001400 G C=1.2X,B=4
RRHRB	00 RRCET	53	0910	0129340	+010512	L	1	06602	L	85080708	000000	000000	080000	000500 G C=167,B=37
RRHRB	00 RRCET	53	0910	0129340	+010512	L	1	06603	L	85080708	000000	000000	084000	000800 G C=200,B=40
RRHRB	00 RRCET	53	0910	0129340	+010512	L	1	06604	L	85080709	000000	000000	092400	001100 G C=210,B=43
RRHRB	00 RRCET	53	0910	0129340	+010512	L	1	06607	L	85080711	000000	000000	114200	001500 G C=210,B=60
RRHRB	00 RRCET	53	0910	0129340	+010512	L	1	06605	L	85080710	000000	000000	100900	001300 G C=220,B=50
GE057	MICH343	84	1400	0133261	002429	L	3	26574	L	85080820	000000	000000	201047	027700 212 U
IBLJE	HD 10588	45	0630	0140582	315627	L	1	06558	L	85080214	000000	000000	144200	000500 G C=2.5X,B=77
WDHGU	00 LFT158	37	1390	0141349	-673248	L	3	26503	L	85072905	000000	000000	050500	030000 G C=125,B=98
WDHGU	00 LFT158	37	1390	0141349	-673248	L	1	06516	L	85072903	000000	000000	034700	007000 G C=98,B=42
WDHGU	00 LFT158	37	1390	0141349	-673248	L	1	06517	L	85072910	000000	000000	101200	007000 G C=145,B=95
PHCAL	SKYBACKG	07	9999	0154040	-280853	H	3	26619	L	85081602	000000	000000	025200	021000 G B=45
SCHMA	00 COMET	06	1200	0157120	+590636	L	1	06591	L	85080610	000000	000000	100800	006000 G E=2X,C=180,B=145
SCHMA	00 COMET	06	1200	0157120	+590636	L	1	06592	L	85080611	000000	000000	115800	002000 G E=245,C=112,B=90
SCHMA	00 COMET	06	1200	0157120	+590636	L	3	26560	L	85080611	000000	000000	112200	001500 G E=175,B=41
SCHMA	00 COMET	06	1200	0157120	+590636	D	9	01681	L	85080610	000000	000000	101600	002000 G NO COMMENTS
GE057	MICH385	84	1400	0157163	000909	L	3	26578	L	85080920	000000	000000	201021	027700 342 U
SBHFF	HD 12545	39	0760	0200493	+352107	L	3	26482	L	85072613	000000	000000	135600	006000 G B=92
GE057	HD13520	47	0515	0210045	435954	L	1	06620	L	85080818	000000	000000	183305	000500 432 U
SCHMA	OOSKY BACK	07	9999	0211540	+594942	L	3	26561	L	85080612	000000	000000	123100	001500 G E=70,B=52
HS144	VENUS	03	-0400	0213396	103746	H	3	26148	L	85061122	000000	000000	224326	013500 131 U
HSHGS	HD 14228	22	0360	0214434	-514435	L	3	26271	L	85062714	000000	000000	145000	000004 G C=210,B=17
HSHGS	HD 14228	22	0360	0214434	-514435	L	1	06286	SL	85062715	151300	000003	150300	000002 G C=210,B=42
HS144	VENUS	03	-0400	0216541	105308	H	3	26155	L	85061223	000000	000000	232246	008000 779 U
ISHJS	HD 16582	20	0410	0236550	+000650	H	1	06341	L	85070413	000000	000000	132400	000030 G C=225,B=47

PRO	OBJECT	CL	MAG	R.A.	DEC	D C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT		
HSXGS	HD	16978	22	0410	0238488	-682851	L 1	06236	SL	85061716	164600	000007	163600	000006	G C=205,B=40
HSXGS	HD	16978	22	0410	0238488	-682851	L 3	26194	L	85061716	000000	000000	165200	000010	G C=205,B=20
AGHGF	NG	1068	84	1100	0240069	-001330	H 3	26703	S	85092219	194300	036500	000000	000000	G B=72
IBHMP	HD	17034	66	0850	0242190	+475600	L 3	26605	L	85081316	000000	000000	162200	000210	G C=150,B=15
IBHMP	HD	17034	66	0850	0242190	+475600	L 1	06654	L	85081316	000000	000000	163200	000130	G C=1.2X,B=35
SCHMA	OO COM G-Z	06	06	0000	0247316	+565520	L 1	06642	L	85081201	000000	000000	015000	002000	G E=186,B=37
SCHMA	OO COM G-Z	06	06	0000	0247316	+565520	L 3	26600	L	85081204	000000	000000	043200	001500	G B=17
SCHMA	OO COM G-Z	06	06	0000	0247316	+565520	H 1	06643	L	85081203	000000	000000	031600	009000	G E=137,B=42
SCHMA	OO COM G-Z	06	06	0000	0247316	+565520	L 3	26599	L	85081202	000000	000000	023600	001500	G B=19
SCHMA	OO COM G-Z	06	06	0000	0247316	+565520	D 9	01682	L	85081201	000000	000000	015700	002000	G NO COMMENTS
SCHMA	OO COM G-Z	06	06	0000	0249597	+564838	H 1	06644	L	85081205	000000	000000	054300	017200	G E=122,B=63
SBHFF	HD	17878	39	0400	0250419	+523334	H 1	06497	L	85072617	000000	000000	175000	002200	G C=2X,B=55
SBHFF	HD	17878	39	0400	0250419	+523334	H 1	06496	L	85072616	000000	000000	165500	002200	G C=3X,B=82
HC055	SY FOR	29	1069	0251150	-375818	L 3	26006	L	85052504	000000	000000	040805	013000	201 U	
GE149	IMC V1	41	1100	0253140	-713438	L 1	06798	L	85092417	000000	000000	175647	000200	401 U	
GE149	IMC V1	41	1098	0253140	-713438	L 3	26721	L	85092418	000000	000000	183047	000300	501 U	
GE149	IMC V1	41	1044	0253140	-713438	L 3	26198	L	85061801	000000	000000	010521	000300	000 U	
GE149	IMC V1	41	1101	0253140	-713438	L 1	06241	LS	85061802	023934	001400	033046	000200	501 U 701s	
GE149	IMC V1	41	1044	0253140	-713438	L 3	26199	L	85061801	000000	000000	015722	000500	601 U	
HA048	HD200120	20	0432	0258074	471930	H 3	26337	L	85070219	000000	000000	193052	000130	501 U	
CCHJL	HD	18884	49	0250	0259397	+035341	H 1	06395	L	85071415	000000	000000	152400	000530	G E=224,C=178,B=130
LGHJL	HD	19058	49	0320	0301580	383900	H 1	06559	L	85080215	000000	000000	153800	001000	G E=238,B=128
LGHJL	HD	19058	49	0320	0301580	383900	L 1	06552	L	85080201	000000	000000	013400	000500	G E=22X,C=150,B=35
LGHJL	HD	19058	49	0320	0301580	383900	H 1	06553	L	85080202	000000	000000	021700	033000	G E=20X,C=210,B=102
IBHJH	HD	19356	66	0210	0304544	+404552	H 3	26477	L	85072517	000000	000000	171300	000030	G C=210,B=35
IBHJH	HD	19356	66	0210	0304544	+404552	H 1	06490	L	85072518	000000	000000	182100	000022	G C=197,B=41
IBHJH	HD	19356	66	0210	0304544	+404552	H 1	06488	L	85072516	000000	000000	161200	000013	G C=195,B=42
IBHJH	HD	19356	66	0210	0304544	+404552	H 1	06485	L	85072512	000000	000000	125800	000013	G C=200,B=42
IBHJH	HD	19356	66	0210	0304544	+404552	H 3	26478	L	85072518	000000	000000	181700	000043	G C=195,B=35
IBHJH	HD	19356	66	0210	0304544	+404552	H 1	06489	L	85072517	000000	000000	172000	000015	G C=190,B=42
IBHJH	HD	19356	66	0210	0304544	+404552	H 3	26473	L	85072512	000000	000000	125400	000025	G C=212,B=35
IBHJH	HD	19356	66	0210	0304544	+404552	H 3	26475	L	85072514	000000	000000	145500	000026	G C=225,B=40
IBHJH	HD	19356	66	0210	0304544	+404552	H 1	06484	L	85072512	000000	000000	120000	000012	G C=185,B=45
IBHJH	HD	19356	66	0210	0304544	+404552	H 1	06486	L	85072513	000000	000000	135900	000010	G C=180,B=40
IBHJH	HD	19356	66	0210	0304544	+404552	H 3	26472	L	85072511	000000	000000	115500	000025	G C=215,B=38
IBHJH	HD	19356	66	0210	0304544	+404552	H 3	26476	L	85072516	000000	000000	160500	000025	G C=210,B=38
IBHJH	HD	19356	66	0210	0304544	+404552	H 1	06487	L	85072515	000000	000000	150400	000013	G C=205,B=42
IBHJH	HD	19356	66	0210	0304544	+404552	H 3	26474	L	85072513	000000	000000	135300	000020	G C=180,B=32
CCHTS	HD	19373	44	0407	0305267	+492527	L 3	26736	L	85092613	000000	000000	134200	007000	G C=3X,B=61
CCHTS	HD	19373	44	0410	0305267	+492527	L 3	26712	L	85092401	000000	000000	013100	008000	G E=56,C=50,B=20
CCHTS	HD	19373	44	0410	0305267	+492527	H 1	06788	L	85092400	000000	000000	005500	003000	G E=150,C=4X,B=55
RRHRB	HD	19445	42	0810	0305287	+260908	L 1	06612	L	85080715	000000	000000	154700	000115	G C=165,B=45
RRHRB	HD	19445	42	0810	0305287	+260908	L 1	06611	L	85080715	000000	000000	151000	000400	G C=2X,B=80
HC057	WAUECAL	98	9999	0312420	-354434	H 1	06406	S	85071602	022347	000041	000000	000000	670 U	
EBHJL	HD	20301	41	0690	0312420	-354434	L 3	26265	L	85062603	000000	000000	032900	044000	G C=3X,B=85

PRO	OBJECT	CL	MAG	R.A.	DEC	D C	IMAGE A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT	
HC057	HD20301	41	0727	0312420	-354434	L 3	26422 L	85071520	000000	000000	201712	004700	320 U
HC057	HD20301	41	9999	0312420	-354434	E 9	01671 2	85062601	000000	000000	011700	016000	U FIELD FOR SWP26265
HC057	HD20301	41	0709	0312420	-354434	R 1	06279 L	85062601	000000	000000	012545	012000	402 U
HC057	HD20301	41	0712	0312420	-354434	H 1	06278 L	85062521	000000	000000	214551	002500	301 U
EBHJL	HD 20301	41	0690	0312420	-354434	H 1	06284 L	85062619	000000	000000	192200	009500	G E=92,C=140,B=52
EBHJL	HD 20301	41	0690	0312420	-354434	H 1	06281 L	85062611	000000	000000	111300	012000	G E=109,C=165,B=60
HC057	WAUCAL	99	9999	0312420	-354434	H 1	06280	85062604	000000	000000	040309	000041	U 25+16 SECS
EBHJL	HD 20301	41	0690	0312420	-354434	H 1	06283 L	85062617	000000	000000	170300	010500	G E 192,C=220,B=130
HC057	HD20301	41	0719	0312420	-354434	H 1	06405 L	85071523	000000	000000	232703	014800	352 U
EBHJL	HD 20301	41	0690	0312420	-354434	L 3	26266 L	85062613	000000	000000	131900	020000	G C=240,B=100
EBHJL	OO WAUCAL	98	9999	0312420	-354434	R 1	06282 S	85062614	141600	000016	000000	000000	G E=50X,B=107
CCHTS	HD 20630	44	0480	0316440	+031116	L 3	26729 L	85092602	000000	000000	024400	002000	G C=60,B=28
CCHTS	HD 20630	44	0480	0316441	+031117	R 1	06814 L	85092602	000000	000000	021300	002400	G E=234,C=1.5X,B=45
CCHTS	HD 20630	44	0480	0316441	+031117	L 3	26728 L	85092523	000000	000000	231100	017000	G E=202,C=240,B=50
CCHTS	HD 20630	44	0480	0316441	+031117	L 3	26711 L	85092323	000000	000000	233600	003000	G E=54,C=73,B=28
CCHTS	HD 20630	44	0480	0316441	+031117	H 1	06787 L	85092322	000000	000000	225900	002400	G E=212,C=240,B=40
CCHTS	HD 20630	44	0480	0316441	+031117	H 1	06813 L	85092522	000000	000000	224200	002400	G E=239,C=1.5X,B=45
CCHTS	HD 20630	44	0480	0316441	+031117	L 3	26801 L	85093001	000000	000000	014900	008500	G E=93,C=200,B=50
CCHTS	HD 20630	44	0480	0316441	+031117	H 1	06827 L	85093003	000000	000000	032000	002400	G E=236,C=254,B=50
CCHTS	HD 20630	44	0480	0316441	+031117	L 3	26769 L	85092800	000000	000000	000800	003000	G C=70,B=30
CCHTS	HD 20630	44	0480	0316441	+031117	L 3	26802 L	85093003	000000	000000	035200	002000	G E=70,C=71,B=35
CCHTS	HD 20630	44	0480	0316441	+031117	H 1	06828 L	85093004	000000	000000	043700	001700	G E=194,C=219,B=56
CCHTS	HD 20630	44	0480	0316441	+031117	H 1	06833 L	85093023	000000	000000	232100	002400	G E=224,C=254,B=40
CCHTS	HD 20630	44	0480	0316441	+031117	H 1	06821 L	85092723	000000	000000	232100	002400	G E=213,C=240,B=40
CCHTS	HD 20630	44	0480	0316441	+031117	L 3	26768 L	85092720	000000	000000	201500	017000	G E=206,C=254,B=70
CCHTS	HD 20630	44	0480	0316441	+031117	L 3	26710 L	85092320	000000	000000	202600	014000	G E=89,C=205,B=45
CCHTS	HD 20630	44	0480	0316441	+031117	H 1	06820 L	85092719	000000	000000	194000	002400	G E=246,C=250,B=45
CCHTS	HD 20630	44	0480	0316441	+031117	L 3	26813 L	85093023	000000	000000	235500	017000	G E=196,C=254,B=59
CCHTS	HD 20630	44	0480	0316441	+031117	H 1	06786 L	85092319	000000	000000	195800	002000	G E=185,C=240,B=42
FSHKL	OO UX ARI	44	0650	0323331	+283230	L 3	26730 L	85092604	000000	000000	040900	003000	G E=49,B=23
FSHKL	OO UX ARI	44	0650	0323331	+283230	H 1	06815 L	85092605	000000	000000	051300	001500	G E=129,C=85,B=45
FSHKL	OO UX ARI	44	0650	0323331	+283230	L 3	26731 L	85092605	000000	000000	054300	003000	G E=61,B=30
FSHKL	OO UX ARI	44	0650	0323331	+283230	H 1	06819 L	85092611	000000	000000	114600	001000	G E=230,C=240,B=186
FSHKL	OO UX ARI	44	0650	0323331	+283230	H 1	06816 L	85092606	000000	000000	064800	001500	G E=114,C=88,B=47
FSHKL	OO UX ARI	44	0650	0323331	+283230	L 3	26734 L	85092610	000000	000000	103400	002224	G E=1.5X,B=217
FSHKL	OO UX ARI	44	0650	0323331	+283230	L 3	26735 L	85092612	000000	000000	121500	002000	G E=245,B=158
FSHKL	OO UX ARI	44	0650	0323331	+283230	H 1	06818 L	85092610	000000	000000	100400	001500	G E=1.5X,C=255,B=193
FSHKL	OO UX ARI	44	0650	0323331	+283230	L 3	26732 L	85092607	000000	000000	072000	003000	G E=44,B=20
FSHKL	OO UX ARI	44	0650	0323331	+283230	L 3	26733 L	85092608	000000	000000	085500	003000	G E=100,B=80
FSHKL	OO UX ARI	44	0650	0323331	+283230	H 1	06817 L	85092608	000000	000000	082400	001500	G E=113,C=79,B=38
SBRFF	HD 21771	39	0730	0328500	+444018	L 3	26484 L	85072618	000000	000000	183000	000600	G E=58,C=50,B=25
IMHRH	HD 22049	46	0370	0330319	-093734	H 3	26467 S	85072409	090700	054000	000000	000000	G E=253,C=290,B=120
HM133	HD22049	46	0402	0330320	093734	L 3	26466 L	85072400	000000	000000	005833	001200	250 U
FSHKL	BS 1099	44	0610	0334130	+002527	H 1	06783 L	85092307	000000	000000	073300	001500	G E=227,C=98,B=50
FSHKL	BS 1099	44	0610	0334130	+002527	L 3	26705 L	85092304	000000	000000	044900	003000	G E=77,C=63,B=26

PRO	OBJECT	CL	MAG	R.A.	DEC	D C	IMAGE A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT	
FSHKL	BS	1099	44	0610	0334130	+002527	L 3	26707 L	85092308	000000	000000	080500 003000	G E=69,C=60,B=23
FSHKL	BS	1099	44	0610	0334130	+002527	H 1	06781 L	85092304	000000	000000	041300 001500	G E=208,C=93,B=42
FSHKL	BS	1099	44	0610	0334130	+002527	L 3	26704 L	85092303	000000	000000	031000 003000	G E=66,C=52,B=32
FSHKL	BS	1099	44	0610	0334130	+002527	H 1	06780 L	85092302	000000	000000	023400 001500	G E=193,C=80,B=35
FSHKL	BS	1099	44	0610	0334130	+002527	H 1	06784 L	85092309	000000	000000	090800 001500	G E=219,C=85,B=40
FSHKL	OO HR	1099	44	0610	0334130	+002527	L 3	26708 L	85092309	000000	000000	093900 003000	G E=170,C=180,B=145
FSHKL	BS	1099	44	0610	0334130	+002527	H 1	06782 L	85092305	000000	000000	055700 001500	G E=213,C=95,B=43
FSHKL	BS	1099	44	0610	0334130	+002527	L 3	26706 L	85092306	000000	000000	062900 003000	G E=90,C=63,B=26
LDHFW	00U471	TAU	37	1050	0347340	+170624	L 1	06579 L	85080415	000000	000000	151600 001000	G C=240,B=150
LDHFW	00U471	TAU	37	1050	0347340	+170624	L 3	26541 L	85080413	000000	000000	134300 002200	G C=186,B=122
LDHFW	00U471	TAU	37	1050	0347340	+170624	L 3	26543 L	85080415	000000	000000	154800 001500	G C=1.2X,B=117
LDHFW	00U471	TAU	37	1050	0347340	+170624	L 3	26544 L	85080416	000000	000000	163600 001200	G C=229,B=45
LDHFW	00U471	TAU	37	1050	0347340	+170624	L 3	26554 L	85080514	000000	000000	144600 001930	G C=209,B=145
LDHFW	00U471	TAU	37	1050	0347340	+170624	L 1	06587 L	85080515	000000	000000	151200 001200	G E=194,C=211,B=155
LDHFW	00U471	TAU	37	1050	0347340	+170624	L 3	26555 L	85080515	000000	000000	154400 001930	G C=180,B=118
LDHFW	00U471	TAU	37	1050	0347340	+170624	L 3	26556 L	85080516	000000	000000	163400 001200	G C=221,B=41
LDHFW	00U471	TAU	37	1050	0347340	+170624	L 3	26542 L	85080414	000000	000000	144900 001930	G C=224,B=170
HA193	HZ	4	37	1421	0352380	093834	L 1	06520 L	85072920	000000	000000	201310 016000	503 U
CCHJL	HD	25025	49	0290	0355417	-133858	H 1	06397 L	85071418	000000	000000	183100 002000	G E=255,C=86,B=45
CCHJL	HD	25025	49	0290	0355417	-133858	L 3	26415 L	85071417	000000	000000	174700 002500	G E=116,C=98,B=72
HI190	HD24912	13	0416	0355428	353856	H 3	26763 L	85092716	000000	000000	163243	000130 661 U	
HI190	HD24912	13	0420	0355428	353856	H 3	26764 L	85092717	000000	000000	170241	000130 661 U	
HI190	HD24912	13	0421	0355428	353856	H 3	26765 L	85092717	000000	000000	173225	000130 661 U	
HI190	HD24912	13	0406	0355428	353856	H 3	26761 L	85092715	000000	000000	153438	000130 661 U	
HI190	HD24912	12	0409	0355428	353856	H 3	26788 L	85092914	000000	000000	144747	000110 511 U	
HI190	HD24912	13	0419	0355428	353856	H 3	26766 L	85092718	000000	000000	180152	000130 661 U	
HI190	HD24912	13	0408	0355428	353856	H 3	26760 L	85092714	000000	000000	144351	000130 661 U	
HI190	HD24912	13	0409	0355428	353856	H 3	26759 L	85092714	000000	000000	141326	000130 661 U	
HI190	HD24912	13	0409	0355428	353856	H 3	26758 L	85092713	000000	000000	133953	000130 661 U	
HI190	HD24912	13	0412	0355428	353856	H 3	26757 L	85092713	000000	000000	130635	000130 661 U	
HI190	HD24912	12	0407	0355428	353856	H 3	26789 L	85092915	000000	000000	151722	000110 511 U	
HI190	HD24912	13	0419	0355428	353856	H 3	26767 L	85092718	000000	000000	183637	000130 661 U	
HI190	HD24912	12	0407	0355428	353856	H 3	26793 L	85092917	000000	000000	173554	000110 511 U	
HI190	HD24912	13	0421	0355428	353856	H 3	26762 L	85092716	000000	000000	160352	000130 661 U	
HI190	HD24912	12	0411	0355428	353856	H 3	26790 L	85092915	000000	000000	155753	000110 511 U	
HI190	HD24912	12	0410	0355428	353856	H 3	26792 L	85092917	000000	000000	170447	000110 511 U	
HI190	HD24912	12	0405	0355428	353856	H 3	26791 L	85092916	000000	000000	162622	000110 511 U	
HI190	HD24912	12	0410	0355428	353856	H 3	26794 L	85092918	000000	000000	181333	000110 511 U	
HI190	HD 24912	12	0409	0355428	353856	H 3	26795 L	85092918	000000	000000	184552	000110 511 U	
HI190	HD24192	12	0410	0355428	353856	H 3	26796 L	85092919	000000	000000	191954	000110 511 U	
HI190	HD24912	12	0408	0355428	353856	H 3	26797 L	85092919	000000	000000	194729	000110 511 U	
HI190	HD24192	12	0414	0355428	353856	H 3	26798 L	85092920	000000	000000	204725	000110 511 U	
HI190	HD24912	12	0407	0355428	353856	H 3	26786 L	85092913	000000	000000	134406	000110 511 U	
HI190	HD24912	12	0408	0355428	353856	H 3	26787 L	85092914	000000	000000	141438	000110 511 U	
MLHPC	HD	24912	14	0400	0355430	+353900	H 3	26742 L	85092705	000000	000000	051800 000110	G C=220,B=40

PRO	OBJECT	CL	MAG	R.A.	DEC	D C	IMAGE	A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT	
MLHPC	HD	24912	14	0400	0355430	+353900	H 3	26743	L	85092705	000000	000000	054700 000110	G C=235,B=40
MLHPC	HD	24912	14	0400	0355430	+353900	H 3	26744	L	85092706	000000	000000	061700 000110	G C=228,B=42
MLHPC	HD	24912	14	0400	0355430	+353900	H 3	26741	L	85092704	000000	000000	044900 000110	G C=215,B=40
MLHPC	HD	24912	14	0400	0355430	+353900	H 3	26754	L	85092711	000000	000000	112100 000110	G C=243,B=57
MLHPC	HD	24912	14	0400	0355430	+353900	H 3	26755	L	85092711	000000	000000	114900 000110	G C=239,B=55
MLHPC	HD	24912	14	0400	0355430	+353900	H 3	26740	L	85092704	000000	000000	042100 000110	G C=220,B=40
MLHPC	HD	24912	14	0400	0355430	+353900	H 3	26745	L	85092706	000000	000000	064600 000110	G C=226,B=42
MLHPC	HD	24912	14	0400	0355430	+353900	H 3	26746	L	85092707	000000	000000	071500 000110	G C=227,B=42
MLHPC	HD	24912	14	0400	0355430	+353900	H 3	26747	L	85092707	000000	000000	074500 000110	G C=223,B=41
MLHPC	HD	24912	14	0400	0355430	+353900	H 3	26748	L	85092708	000000	000000	081500 000110	G C=225,B=41
MLHPC	HD	24912	14	0400	0355430	+353900	H 3	26749	L	85092708	000000	000000	084600 000110	G C=223,B=42
MLHPC	HD	24912	14	0400	0355430	+353900	H 3	26750	L	85092709	000000	000000	091600 000110	G C=230,B=43
MLHPC	HD	24912	14	0400	0355430	+353900	H 3	26751	L	85092709	000000	000000	094700 000110	G C=230,B=45
MLHPC	HD	24912	14	0400	0355430	+353900	H 3	26739	L	85092703	000000	000000	035000 000110	G C=220,B=40
MLHPC	HD	24912	14	0400	0355430	+353900	H 3	26756	L	85092712	000000	000000	122700 000110	G C=240,B=49
MLHPC	HD	24912	14	0400	0355430	+353900	H 3	26738	L	85092703	000000	000000	032000 000110	G C=210,B=40
MLHPC	HD	24912	14	0400	0355430	+353900	H 3	26752	L	85092710	000000	000000	102100 000110	G C=233,B=50
MLHPC	HD	24912	14	0400	0355430	+353900	H 3	26753	L	85092710	000000	000000	105100 000110	G C=240,B=56
HA193	LB227		37	1540	0406369	170004	L 1	06535	L	85073020	000000	000000	204653 012000	403 U XS19:27 AFTER 40X L0
HA193	LB227		37	1540	0406369	170004	L 1	06536	L	85073023	000000	000000	231325 021500	505 U
HA193	LB227		37	1540	0406369	170004	L 1	06521	L	85072923	000000	000000	234823 018000	503 U
PHCAL	OO WAUCAL	98	0000	0416566	+153030	L 2	17775	S	85091210	101900	000001	000000 000000	G E=10X,B=80	
PHCAL	OO TFLOOD	99	0000	0416566	+153030	H 2	17776	SL	85091210	104400	000007	104500 000016	G E=50X,B=120	
PHCAL	OO WAUCAL	98	0000	0416566	+153030	L 1	06721	S	85091207	073900	000001	000000 000000	G E=10X,B=95	
PHCAL	OO NULL	99	0000	0416566	+153030	H 2	17774	S	85091209	090100	000000	000000 000000	G B=30	
PHCAL	OO WAUCAL	98	0000	0416566	+153030	H 1	06722	S	85091208	080900	000016	000000 000000	G E=50X,B=105	
PHCAL	OO WAUCAL	98	9999	0426363	-295157	L 2	17752	S	85071814	145800	000007	000000 000000	G E=20X,B=82	
PHCAL	OO WAUCAL	98	9999	0426363	-295157	H 2	17753	S	85071815	152500	000007	000000 000000	G	
PHCAL	OO TFLOOD	99	9999	0426363	-295157	H 2	17754	L	85071816	000000	000000	160000 000007	G B=125	
NGHRD	OO LMC N4A	72	1300	0452045	-670010	L 3	26380	L	85070903	000000	000000	035900 012000	G C=3.0X,B=45	
NGHRD	OO LMC N4A	72	1300	0452052	-670013	L 3	26381	L	85070906	000000	000000	062900 004000	G C=160,B=20	
NGHRD	OO LMC N4A	72	1300	0452052	-670013	L 1	06369	L	85070907	000000	000000	071600 004000	G C=230,B=50	
ISHEF	OOSK019-69	23	1280	0452426	-693510	L 3	25897	L	85050915	000000	000000	154000 003800	G E=187,C=190,B=35	
ISHEF	OOSK019-69	23	1280	0452426	-693510	L 1	05943	L	85050916	000000	000000	162400 003600	G C=205,B=44	
GHHDY	NG	1705	80	1300	0453059	-532626	L 3	25907	SL	85051018	183800	006000	183800 006000	G C=220,B=76
GHHDY	NG	1705	80	1300	0453059	-532626	L 1	05950	SL	85051019	194500	006000	194500 006000	G C=195,B=145
GHHDY	NG	1705	80	1300	0453059	-532629	L 3	25908	SL	85051020	205600	006000	205600 006000	G B=40
GHHDY	NG	1705	80	1300	0453059	-532626	L 1	05951	SL	85051022	221100	002500	231100 002500	G B=40
GHHDY	NG	1705	80	1300	0453059	-532626	H 3	25909	L	85051022	000000	000000	224400 096000	G C=250,B=175
GHHDY	OOSKY BKGD	07	9999	0453059	-532626	L 1	06016	L	85052000	000000	000000	001500 080000	G B=138	
GHHDY	NG	1705	80	1300	0453059	-532626	H 3	25980	L	85052007	000000	000000	073600 087000	G C=210,B=158
GHHDY	NG	1705	80	1300	0453059	-532626	L 1	05949	SL	85051017	172000	006000	172000 006000	G B=64
GHHDY	NG	1705	80	1300	0453059	-532626	L 3	25906	SL	85051016	161400	006000	161400 006000	G C=143,B=27
GHHDY	NG	1705	80	1300	0453059	-532626	D 9	01650	L	85051016	000000	000000	160000 002000	G NO COMMENTS
HM221	NGC1705		88	9999	0453059	-532627	E 9	01660	2	85061421	000000	000000	214300 004000	U FOR SWP 26171

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT	
HM221	NGC1705	88	1450	0453059	-532627	E	9	01654	2	85052000	000000	000000	001800	004000	U
HM221	NGC1705	88	1380	0453060	-532627	E	9	01651	2	85051023	000000	000000	233500	004000	U TARGET IN SWLA
HM221	NGC1705	88	1380	0453060	-532627	L	1	05952	L	85051023	000000	000000	233547	024000	114 U SERENDIP.TGT IN SWLA
HE129	NGC1705	82	1392	0453060	-532626	L	1	06230	L	85061700	000000	000000	002013	004000	403 U
HA048	NGC 1705	88	1450	0453060	-532627	L	1	05988	L	85051604	000000	000000	040058	014900	445 U
HE129	NGC1705	82	1379	0453060	-532626	L	3	26187	L	85061622	000000	000000	221635	012000	501 U
GHHDY	NG 1705	80	1300	0453070	-532630	H	3	26171	L	85061421	000000	000000	213700	089000	G C=1.2X,B=175
GHHDY	NG 1705	80	1300	0453070	-532630	L	1	06220	L	85061421	000000	000000	213900	081705	G B=160
ISHEF	OO SK 5-66	23	1070	0453266	-670016	L	3	25937	L	85051418	000000	000000	180200	002600	G C=198
ISHEF	OO SK 5-66	23	1070	0453266	-670016	L	1	05977	L	85051418	000000	000000	184800	000800	G C=220,B=38
LGHJL	HD 31398	47	0270	0453440	+330520	H	1	06769	L	85092019	000000	000000	194000	003500	G E=2X,C=120,B=40
NGHRD	OOLMC N11A	72	9999	0456407	-662908	L	3	26373	L	85070811	000000	000000	114200	006000	G C=210,B=131
NGHRD	OOLMC N11A	72	1150	0457024	-662756	L	3	26374	L	85070813	000000	000000	132400	004000	G E=225,C=2X,B=111
ISHEF	OOSK045-69	23	1230	0457080	-692321	L	1	05976	L	85051417	000000	000000	171000	002400	G C=228,B=40
ISHEF	OOSK045-69	23	1230	0457081	-692321	L	3	25898	L	85050917	000000	000000	171700	002400	G E=178,C=210,B=30
ISHEF	OOSK045-69	23	1230	0457081	-692321	L	1	05944	L	85050917	000000	000000	175300	003000	G C=2X,B=47
NGHRD	OOLMC N11A	72	1240	0457096	-662752	L	3	26357	L	85070607	000000	000000	075500	015000	G C=2X,B=58
NGHRD	OOLMC N11A	72	1240	0457096	-662752	L	1	06356	L	85070610	000000	000000	103600	006000	G C=2X,B=101
NGHRD	OOLMC N11A	72	1240	0457096	-662752	L	3	26358	L	85070611	000000	000000	114100	005000	G C=170,B=69
NGHRD	OOLMC N11A	72	1240	0457096	-662752	L	1	06357	L	85070612	000000	000000	124200	004000	G C=234,B=103
NGHRD	OOLMC N11A	72	1240	0457096	-662752	L	3	26359	L	85070613	000000	000000	133000	006000	G C=219,B=107
NGHRD	OO TFLOOD	99	9999	0457096	-662752	L	3	26361	L	85070615	000000	000000	152700	000005	G B=100
NGHRD	OOLMC N11A	72	1260	0457096	-662752	L	3	26375	L	85070814	000000	000000	144100	003000	G C=215,B=155
NGHRD	OOLMC N11A	72	1260	0457096	-662751	L	3	26393	L	85071103	000000	000000	034800	009900	G E=216,C=210,B=26
NGHRD	OO TFLOOD	99	9999	0457096	-662752	L	3	26360	L	85070614	000000	000000	145600	000005	G B=100
NGHRD	OOSKY BACK	99	9999	0457096	-662752	L	3	26362	L	85070615	000000	000000	154900	000005	G B=21
ISHEF	OOSK 11-68	23	1230	0457140	-682842	L	3	25899	L	85050918	000000	000000	184100	002400	G E=159,C=180,B=39
ISHEF	OOSK 11-68	23	1230	0457140	-682842	L	1	05945	L	85050919	000000	000000	191800	002400	G C=230,B=72
ISHEF	OO SK15-65	23	1210	0459317	-655412	L	3	25932	L	85051322	000000	000000	220400	001900	G C=170,B=19
ISHEF	OO SK15-65	23	1210	0459317	-655412	L	1	05969	L	85051322	000000	000000	223500	001100	G C=215,B=38
SCHMA	OOCOMET GZ	06	1200	0500109	+392213	L	1	06693	L	85083017	000000	000000	174100	002000	G E=154,B=38
SCHMA	OOCOMET GZ	06	1200	0500109	+392213	D	9	01688	L	85083019	000000	000000	194700	002000	G NO COMMENTS
SCHMA	OOCOMET GZ	06	1200	0500109	+392213	D	9	01687	L	85083017	000000	000000	172700	004000	G NO COMMENTS
SCHMA	OOCOMET GZ	06	1200	0500109	+392213	D	9	01689	L	85083101	000000	000000	013600	002000	G NO COMMENTS
SCHMA	OOCOMET GZ	06	1200	0500109	+392213	H	1	06694	L	85083022	000000	000000	224200	039000	G E=2X,B=85
ISHEF	OOSK 20-65	23	1110	0501040	-655254	L	1	05978	L	85051420	000000	000000	200500	001200	G C=215,B=42
ISHEF	OOSK 20-65	23	1110	0501040	-655254	L	3	25938	L	85051419	000000	000000	193100	001900	G C=200,B=22
ISHEF	OOSK021-65	23	1200	0501120	-654602	L	1	05968	L	85051321	000000	000000	211200	001400	G C=200,B=40
ISHEF	OOSK021-65	23	1200	0501120	-654602	L	3	25931	L	85051320	000000	000000	202400	001700	G E=156,C=160,B=21
PHCAL	HD 32630	21	0320	0503002	+411008	L	3	26702	L	85092213	000000	000000	133700	000001	G E=2X,B=18
ISHEF	OOSK 58-70	23	1280	0505079	-701050	L	3	25895	L	85050912	000000	000000	121100	003700	G E=114,C=166,B=25
ISHEF	OOSK 58-70	23	1280	0505079	-701050	L	1	05941	L	85050912	000000	000000	125500	003600	G C=202,B=40
ISHEF	OO SK41-68	23	1200	0505358	-681359	L	1	05965	L	85051316	000000	000000	160500	001500	G C=225,B=40
ISHEF	OOSK 46-68	23	1250	0506268	-683654	L	1	05946	L	85050920	000000	000000	204100	002200	G C=205,B=78
ISHEF	OOSK 46-68	23	1240	0506268	-683654	L	3	25936	L	85051416	000000	000000	162200	003200	G E=196,C=185,B=22

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT	
ISHEF	OOSK 46-68	23	1250	0506268	-683654	L	3	25900	L	85050920	000000	000000	200700	002200	G E=157,C=165,B=55
ISHEF	OOSK 79-70	23	1270	0507072	-703314	L	3	25896	L	85050913	000000	000000	134900	004000	G E=2X,C=210,B=30
ISHEF	OOSK 79-70	23	1270	0507072	-703314	L	1	05942	L	85050914	000000	000000	143600	003800	G C=225,B=42
ISHEF	OO SK58-68	24	1200	0509596	-684948	L	3	25929	L	85051316	000000	000000	165300	005000	G C=215,B=25
ISHEF	OO SK58-68	24	1200	0509596	-684948	L	1	05966	L	85051317	000000	000000	175000	002800	G C=205,B=50
ISHEF	OOSK083-69	23	1170	0514513	-693301	L	1	05975	L	85051415	000000	000000	155800	000830	G C=203,B=36
PHCAL	HD 34816	20	0430	0517162	-131337	H	1	06638	L	85081115	000000	000000	151900	000019	G C=200,B=43
PHCAL	HD 34816	20	0430	0517162	-131337	L	1	06639	SL	85081115	155400	000001	155000	000001	G C=2X,B=34
PHCAL	HD 34816	20	0430	0517162	-131337	L	1	06640	L	85081116	000000	000000	162800	000002	G C=2X,B=40
PHCAL	HD 34816	20	0430	0517162	-131337	L	1	06637	SL	85081114	142100	000001	141700	000001	G C=245,B=37
PHCAL	HD 34816	20	0430	0517162	-131337	H	3	26726	L	85092511	000000	000000	113300	000022	G C=205,B=35
PHCAL	HD 34816	20	0430	0517162	-131337	H	2	17770	L	85082917	000000	000000	174400	000026	G C=220,B=31
PHCAL	HD 34816	20	0430	0517162	-131337	L	3	26592	L	85081114	000000	000000	142500	000001	G C=218,B=12
PHCAL	HD 34816	20	0430	0517162	-131337	H	1	06811	L	85092511	000000	000000	113800	000022	G C=225,B=48
HA181	S DOR	52	1037	0518352	-691802	H	1	06318	L	85070119	000000	000000	195532	041200	779 U
ISHEF	OOSK72A-68	23	1300	0522569	-680636	L	3	25894	L	85050910	000000	000000	101800	004300	G E=147,C=187,B=26
ISHEF	OOSK72A-68	23	1300	0522569	-680636	L	1	05940	L	85050911	000000	000000	110800	004000	G C=205,B=41
ISHEF	OOSK075-68	23	1200	0523398	-681501	L	1	05947	L	85050922	000000	000000	220300	001600	G C=193,B=40
ISHEF	OOSK075-68	23	1200	0523398	-681501	L	3	25901	L	85050921	000000	000000	212900	001700	G E=160,C=185,B=32
ISHEF	OOSK 86-66	23	1290	0524518	-660720	L	3	25893	L	85050908	000000	000000	080900	004500	G E=117,C=160,B=27
ISHEF	OOSK 86-66	23	1290	0524518	-660720	L	1	05939	L	85050909	000000	000000	090200	004000	G C=200,B=40
HS051	OOCOMET GZ	06	9999	0525401	+323222	D	9	01690	L	85090418	000000	000000	185900	002000	G NO COMMENTS
HS051	OOCOMET GZ	06	9999	0525401	+323222	L	1	06695	L	85090419	000000	000000	191600	002000	G E=139,B=37
HS051	OOCOMET GZ	06	9999	0526274	+322000	L	3	26642	L	85090420	000000	000000	205600	012000	G E=49,B=27
ISHEF	OOSK108-67	23	1260	0526335	-673943	L	1	05980	L	85051422	000000	000000	223600	000900	G C=190,B=35
ISHEF	OOSK108-67	23	1260	0526335	-673943	L	3	25940	L	85051422	000000	000000	220200	000900	G E=177,C=160,B=17
HS051	OOCOMET GZ	06	9999	0527230	+320619	L	1	06696	L	85090423	000000	000000	234300	017500	G E=4X,C=98,B=60
HS051	OOCOMET GZ	06	9999	0527230	+320619	D	9	01691	L	85090502	000000	000000	024100	002000	G NO COMMENTS
ISHEF	OOSK117-67	23	1270	0527365	-672950	L	3	25911	L	85051117	000000	000000	175000	002000	G E=132,C=140,B=30
ISHEF	OOSK117-67	23	1270	0527365	-672950	L	1	05955	L	85051118	000000	000000	183900	002000	G C=195,B=50
HA181	MWC 112	52	1215	0528120	-690100	H	1	06312	L	85070101	000000	000000	010729	018000	335 U
HA181	MWC 112	52	1214	0528120	-690100	H	3	26326	L	85063021	000000	000000	215733	018300	332 U
ISHEF	OOSK 63-65	23	1260	0528320	-654120	L	3	25913	L	85051121	000000	000000	215600	002100	G E=141,C=165,B=25
ISHEF	OOSK 63-65	23	1260	0528320	-654120	L	1	05957	L	85051122	000000	000000	223800	000930	G C=200,B=38
HA108	N2004-D1	12	1229	0530420	-671800	L	1	06511	L	85072819	000000	000000	195503	000900	402 U
HA108	N2004-B1	12	1256	0530420	-671800	L	3	26499	L	85072821	000000	000000	212243	002400	300 U
HA108	N2004-B1	12	1248	0530420	-671800	L	1	06512	L	85072820	000000	000000	205231	001200	302 U
HA108	N2004-D1	12	1223	0530420	-671800	L	3	26498	L	85072820	000000	000000	201219	001400	300 U
HA108	N2004-C1	12	1234	0530450	-671816	L	1	06548	L	85080118	000000	000000	183656	001500	511 U
HA108	N2004-C1	12	1237	0530450	-671816	L	3	26524	L	85080119	000000	000000	190633	004500	511 U
HA108	N2004-D1	12	1224	0531003	-671822	L	3	26523	L	85080117	000000	000000	173332	004500	510 U
HA108	SAN 122-66	20	1355	0531153	-663007	L	3	26525	L	85080121	000000	000000	210013	004500	410 U
HA108	SAN 122-66	20	1358	0531153	-663007	L	1	06549	L	85080120	000000	000000	202119	003200	611 U
ISHEF	OOSK168-67	23	1210	0531591	-673621	L	1	05953	L	85051115	000000	000000	153000	001400	G C=230,B=40
ISHEF	OOSK167-67	23	1250	0531596	-674142	L	3	25910	L	85051115	000000	000000	155500	001800	G E=206,C=190,B=22

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.	SMALL	EXP.	LARGE	ECC	COMMENT
ISHEF	OOSK167-67	23	1250	0531596	-674142	L	1	05954	L	85051116	000000	000000	163900	001800		G C=220,B=40
HA108	S135-66	23	1261	0532353	-662800	L	1	06513	L	85072822	000000	000000	223131	002500	602	U
HA108	S135-66	23	1271	0532353	-662800	L	3	26500	L	85072823	000000	000000	230348	005000	501	U
HA108	S138-66	12	1325	0532532	-662700	L	3	26501	L	85072900	000000	000000	003110	003000	500	U
HA108	S138-66	12	1339	0532532	-662700	L	1	06514	L	85072900	000000	000000	000121	002500	602	U
GE057	HD37043	12	0228	0532591	-055634	H	3	26573	L	85080817	000000	000000	175414	000008	511	U
GE057	HD37043	12	0229	0532591	-055634	H	3	26557	L	85080518	000000	000000	180116	000008	511	U
GE057	HD37043	12	0230	0532591	-055634	H	3	26567	L	85080718	000000	000000	181550	000008	510	U
GE057	HD37043	12	0228	0532591	-055634	H	1	06614	L	85080718	000000	000000	181909	000008	613	U
GE057	HD37043	12	0224	0532591	-055634	H	3	26577	L	85080918	000000	000000	182028	000008	511	U
GE057	HD37043	12	0227	0532591	-055634	H	3	26565	L	85080618	000000	000000	184906	000008	510	U
ISHEF	OOSK152-66	23	1250	0534151	-661035	L	3	25912	L	85051120	000000	000000	201200	001900		G E=164,C=170,B=40
ISHEF	OOSK152-66	23	1250	0534151	-661035	L	1	05956	L	85051120	000000	000000	205900	001800		G C=220,B=47
ISHEF	OOSK206-67	23	1200	0534580	-670426	L	3	25939	L	85051420	000000	000000	205000	001600		G E=226,C=218,B=20
ISHEF	OOSK206-67	23	1200	0534580	-670426	L	1	05979	L	85051421	000000	000000	212400	000930		G C=240,B=37
HA108	S160-66	12	1287	0535218	-660054	L	3	26502	L	85072902	000000	000000	020556	004113	601	U
HA108	S160-66	12	1281	0535218	-660054	L	1	06515	L	85072901	000000	000000	013642	002300	702	U
NGHRD	OOLMC N59A	72	9999	0535257	-673618	L	3	26377	L	85070818	000000	000000	180000	004500		G C=218,B=140
HA108	SAN 160-66	12	1284	0535298	-660110	L	1	06551	L	85080123	000000	000000	231219	001800	510	U
HA108	SAN 163-66	12	1252	0535374	-660424	L	1	06550	L	85080121	000000	000000	215647	001400	610	U
HA108	SAN 163-66	12	1264	0535374	-660424	L	3	26526	L	85080122	000000	000000	223037	002500	510	U
HI180	A0538-66	59	1400	0535419	-665339	L	1	06296	L	85062904	000000	000000	040942	003800	403	U
HI180	A0538-66	59	1400	0535419	-665339	L	3	26305	L	85062903	000000	000000	030226	006000	401	U
HI180	A0538-66	59	1400	0535420	-665340	L	3	26231	L	85062201	000000	000000	015337	006000	400	U
HI179	A0538-66	59	1400	0535427	-665339	L	3	26101	L	85060602	000000	000000	022918	008800	401	U
HI179	A0538-66	59	1400	0535427	-665339	L	1	06148	L	85060604	000000	000000	040127	004600	301	U
HI179	A0538-66	59	1400	0535428	-665340	L	1	06090	L	85053004	000000	000000	040432	005200	413	U
HI179	A0538-66	59	1400	0535428	-665340	L	3	26034	L	85053005	000000	000000	050522	010200	511	U
HA108	SAN 167-66	20	1399	0536129	-660202	L	3	26527	L	85080123	000000	000000	235112	005600	510	U
ISRPF	00 49 ORI	31	0480	0536278	-071421	H	1	06663	L	85081415	000000	000000	155400	000800		G C=195,B=82
NGHRD	OOLMC N159	72	9999	0540075	-694745	L	3	26395	L	85071107	000000	000000	075600	024000		G C=3X,B=107
NGHRD	OOSKY BKGD	72	9999	0540075	-694745	L	1	06380	L	85071106	000000	000000	062500	027000		G C=129,B=94
NGHRD	OOLMC N159	72	0010	0540075	-694745	L	3	26394	L	85071106	000000	000000	062300	006000		G C=80,B=25
NGHRD	OOLMC N160	72	1300	0540092	-694019	L	3	26382	L	85070908	000000	000000	082700	014500		G C=215,B=105
NGHRD	OOLMC N159	72	1390	0540330	-694605	L	1	06355	L	85070605	000000	000000	054800	010000		G C=90,B=55
NGHRD	OOLMC N159	72	1390	0540330	-694605	L	3	26356	L	85070604	000000	000000	040100	010000		G C=50,B=41
ISHEF	OOSK276-69	23	1240	0541588	-693503	L	3	25930	L	85051318	000000	000000	184100	002400		G E=162,C=155,B=27
ISHEF	OOSK276-69	23	1240	0541588	-693503	L	1	05967	L	85051319	000000	000000	192600	001600		G C=195,B=55
PHCAL	HD 38666	12	0520	0544084	-321927	L	3	26571	L	85080812	000000	000000	123800	000001		G C=142,B=10
PHCAL	HD 38666	12	0520	0544084	-321927	H	3	26570	L	85080811	000000	000000	113700	000040		G C=170,B=35
PHCAL	HD 38666	12	0520	0544084	-321927	L	1	06618	L	85080812	000000	000000	123400	000001		G C=127,B=35
PHCAL	HD 38666	12	0520	0544084	-321927	L	3	26572	L	85080814	000000	000000	143700	000001		G C=2X,B=21
PHCAL	HD 38666	12	0520	0544084	-321927	H	1	06617	L	85080811	000000	000000	113200	000045		G C=210,B=43
PEHAM	OOLMC ANON	57	1700	0546026	-711713	L	3	26327	L	85070105	000000	000000	050300	042500		G E=140,C=125,B=100
ISHFB	HD 39060	33	0400	0546058	-510500	H	1	06389	L	85071315	000000	000000	150700	000325		G C=230,B=55

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.	SMALL	EXP.	LARGE	ECC	COMMENT	
HM225	HD39060	31	0412	0546059	-510502	H	1	05892	L	85050302	000000	000000	025747	000400	602	V	
HM225	HD39060	31	0395	0546059	-510502	H	3	25841	L	85050302	000000	000000	022423	001000	502	V	
HM225	HD39060	31	0419	0546059	-510502	H	1	05891	L	85050301	000000	000000	013732	000400	602	V	
HM225	HD39060	31	0416	0546059	-510502	H	3	25840	L	85050223	000000	000000	233200	012000	901	V	
HM225	HD39060	31	0412	0546059	-510502	H	3	25842	L	85050303	000000	000000	033521	001000	502	V	
SCHMA	OOCOMET	GZ	06	0000	0547383	+252002	D	9	01692	L	85090923	000000	000000	235700	002000		G NO COMMENTS
SCHMA	OOCOMET	GZ	06	0000	0547383	+252002	L	1	06708	L	85090922	000000	000000	225000	002000		G E=130,B=38
SCHMA	OOCOMET	GZ	06	0000	0548344	+250341	L	3	26657	L	85090923	000000	000000	234100	019200		G E=90,B=35
PHCAL	OO	WAUCAL	99	0000	0548492	-724300	H	1	06314	S	85070114	141300	000016	000000	000000		G E=50X,B=110
PHCAL	OO	WAUCAL	99	0000	0548492	-724300	L	1	06313	S	85070113	134400	000001	000000	000000		G E=10X,B=105
PHCAL	OO	WAUCAL	99	0000	0548492	-724300	H	3	26329	S	85070113	131300	000200	000000	000000		G E=50X,B=125
PHCAL	OO	WAUCAL	99	0000	0548492	-724300	L	3	26328	S	85070112	124700	000002	000000	000000		G E=10X,B=100
CCHJL	HD	39425	47	0310	0549117	-354710	H	1	06399	L	85071513	000000	000000	131800	003000		G C=253,B=116
SCHMA	OOCOMET	GZ	06	0000	0549159	+244929	L	3	26660	L	85091013	000000	000000	131600	003000		G E=174,B=40
SCHMA	OOCOMET	GZ	06	0000	0549159	+244929	L	1	06711	L	85091012	000000	000000	121100	003000		G E=170,B=108
SCHMA	OOCOMET	GZ	06	0000	0549159	+244929	L	3	26658	L	85091010	000000	000000	100700	001500		G E=157,B=18
SCHMA	OOCOMET	GZ	06	0000	0549159	+244929	L	1	06712	L	85091014	000000	000000	140600	003000		G E=116,B=59
SCHMA	OOCOMET	GZ	06	0000	0549159	+244929	L	1	06709	L	85091008	000000	000000	080300	009000		G E=2X,C=115,B=82
SCHMA	OOCOMET	GZ	06	0000	0549159	+244929	D	9	01693	L	85091016	000000	000000	160200	002000		G NO COMMENTS
SCHMA	OOCOMET	GZ	06	0000	0549159	+244929	L	3	26659	L	85091011	000000	000000	113700	001500		G E=105,B=23
SCHMA	OOCOMET	GZ	06	0000	0549159	+244929	L	1	06710	L	85091010	000000	000000	104100	003000		G E=194,C=110,B=84
SCHMA	OOCOMET	GZ	06	0000	0550390	+241144	D	9	01694	L	85091017	000000	000000	173100	001000		G NO COMMENTS
SCHMA	OOCOMET	GZ	06	0000	0550556	+240608	L	1	06713	L	85091015	000000	000000	155900	023000		G E=4X,C=103,B=70
SCHMA	OOCOMET	GZ	06	0000	0551411	+235208	S	9	01695	L	85091101	000000	000000	010700	001000		G NO COMMENTS
SCHMA	OOCOMET	GZ	06	0000	0552086	+234357	L	1	06714	L	85091022	000000	000000	222500	024000		G E=5X,C=98,B=72
LSHAD	HD	39801	49	0050	0552280	+072358	L	3	26653	L	85090816	000000	000000	162800	001000		G E=170,C=49,B=23
LSHAD	HD	39801	49	0050	0552280	+072358	H	1	06707	L	85090822	000000	000000	220700	002500		G E=10X,C=150,B=45
LSHAD	HD	39801	49	0050	0552280	+072358	H	1	06706	L	85090821	000000	000000	211000	002500		G E=10X,C=143,B=45
LSHAD	HD	39801	49	0050	0552280	+072358	H	1	06703	L	85090816	000000	000000	161900	000200		G E=297,C=80,B=31
LSHAD	HD	39801	49	0050	0552280	+072358	L	3	26696	L	85092109	000000	000000	094000	001000		G E=177,C=92,B=42
LSHAD	HD	39801	49	0050	0552280	+072358	L	1	06775	SL	85092109	093400	000030	092900	000005		G E=220,C=120,B=32
LSHAD	HD	39801	49	0050	0552280	+072358	H	3	26695	L	85092103	000000	000000	034000	030000		G E=3X,C=145,B=105
LSHAD	HD	39801	49	0050	0552280	+072358	H	1	06774	S	85092102	025900	004000	000000	000000		G E=10X,C=120,B=50
LSHAD	HD	39801	49	0050	0552280	+072358	L	3	26694	L	85092102	000000	000000	020100	005000		G E=4X,C=155,B=32
LSHAD	HD	39801	49	0050	0552280	+072358	L	1	06705	SL	85090818	185600	000030	184900	000005		G E=218,C=68,B=35
LSHAD	HD	39801	49	0050	0552280	+072358	H	1	06773	L	85092101	000000	000000	015300	000200		G E=194,C=80,B=33
LSHAD	HD	39801	49	0050	0552280	+072358	H	1	06704	S	85090817	170800	004000	000000	000000		G E=10X,C=105,B=38
LSHAD	HD	39801	49	0050	0552280	+072358	L	3	26654	L	85090817	000000	000000	175400	005000		G E=4X,C=155,B=43
SCHMA	OOCOMET	GZ	06	0000	0553044	+232457	L	3	26662	L	85091111	000000	000000	111500	003000		G E=184,B=70
SCHMA	OOCOMET	GZ	06	0000	0553044	+232457	L	1	06717	L	85091111	000000	000000	115900	002000		G E=197,B=120
SCHMA	OOCOMET	GZ	06	0000	0553044	+232457	S	9	01697	L	85091110	000000	000000	105700	001000		G NO COMMENTS
SCHMA	OOCOMET	GZ	06	0000	0553044	+232457	L	1	06715	L	85091108	000000	000000	082100	004000		G E=88,B=52
SCHMA	OOCOMET	GZ	06	0000	0553044	+232457	L	1	06718	L	85091113	000000	000000	130600	004000		G E=211,B=160
SCHMA	OOCOMET	GZ	06	0000	0553044	+232457	L	3	26663	L	85091112	000000	000000	122900	002000		G E=179,B=45
SCHMA	OOCOMET	GZ	06	0000	0553044	+232457	L	3	26661	L	85091109	000000	000000	090800	003000		G B=35

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT		
SCHMA	OOCOMET	GZ	06	0000	0553044	+232457	L	1	06716	L	85091110	000000	000000	103900	003000	G E=196, B=127
SCHMA	OOCOMET	GZ	06	0000	0553511	+230057	L	3	26664	L	85091113	000000	000000	135400	002500	G E=98, B=28
SCHMA	OOCOMET	GZ	06	0000	0553511	+230057	L	3	26665	L	85091115	000000	000000	151700	001500	G E=30, B=17
SCHMA	OOCOMET	GZ	06	0000	0553511	+230057	L	1	06719	L	85091115	000000	000000	155000	030000	G E=10X, C=139, B=90
OX29K	HD	41335	26	0520	0601475	-064218	H	3	26809	L	85093010	000000	000000	104000	000320	G C=250, B=72
OX29K	HD	41335	26	0520	0601475	-064218	H	1	06829	L	85093010	000000	000000	103400	000145	G C=236, B=67
SCHMA	OOC	HALLEY	06	0000	0611477	+193102	D	9	01696	L	85091102	000000	000000	023900	002000	G NO COMMENTS
SCHPF	OOP	HALLEY	06	1340	0612019	+193214	L	1	06720	L	85091200	000000	000000	002300	018000	G E=97, C=85, B=65
SCHPF	OOP	HALLEY	06	1340	0613002	+194443	L	1	06777	L	85092119	000000	000000	191300	036000	G E=169, C=125, B=100
PHCAL	COMET	HALL	06	1421	0613006	194303	L	1	06768	L	85092018	000000	000000	180212	003500	123 U
SCHPF	OOP	HALLEY	06	1340	0613006	+194421	D	9	01700	L	85092113	000000	000000	134900	002000	G NO COMMENTS
SCHPF	OOSKY	BKGD	07	9999	0613026	+194443	L	3	26699	L	85092122	000000	000000	221600	006000	G B=20
SCHPF	OOSKY	BKGD	07	9999	0613032	+194506	L	3	26701	L	85092203	000000	000000	033300	006000	G B=25
SCHPF	OOP	HALLEY	06	1340	0613032	+194506	L	3	26700	L	85092201	000000	000000	013800	006000	G E=100, B=25
SCHPF	OOP	HALLEY	06	1340	0613032	+194506	D	9	01701	L	85092202	000000	000000	024700	002000	G NO COMMENTS
PHCAL	OO	WAUCAL	98	0000	0621407	+194356	H	1	06779	S	85092206	065600	000016	000000	000000	G E=50X, B=108
PHCAL	OO	WAUCAL	98	0000	0621407	+194356	L	1	06778	S	85092206	062600	000001	000000	000000	G E=10X, B=100
CSHDB	HD	49293	47	0450	0645152	+022806	L	1	05903	L	85050420	000000	000000	200500	000700	G C=1.5X, B=120
CSHDB	HD	49293	47	0450	0645152	+022806	L	1	05904	L	85050421	000000	000000	211500	000200	G C=230, B=40
HM225	HD50241		31	0365	0647407	-615314	H	1	05893	L	85050304	000000	000000	042927	000230	502 U
HM225	HD50241		31	0357	0647407	-615314	H	3	25843	L	85050304	000000	000000	043851	000600	401 U
NCHWF	NG	2346	70	0000	0706496	-004329	L	3	25889	L	85050815	000000	000000	154700	012000	G E=187, C=125, B=83
NCHWF	NG	2346	70	0000	0706496	-004329	L	1	05934	L	85050817	000000	000000	175200	006000	G C=200, B=119
CSHDB	HD	54719	47	0440	0707575	+301945	L	1	05905	L	85050422	000000	000000	220900	000936	G C=210, B=36
PNHMC	OO	M1-11	70	1400	0709056	-194557	L	3	25846	L	85050310	000000	000000	102300	003000	G B=19
PNHMC	OO	M1-11	70	1400	0709056	-194557	L	1	05896	L	85050311	000000	000000	110100	003000	G C=67, B=40
PNHMC	OO	M1-11	70	1400	0709056	-194557	L	1	05897	L	85050312	000000	000000	121600	015500	G C=188, B=128
SRHLW	OO	L2 PUP	51	0400	0712007	-443326	L	1	06473	L	85072411	000000	000000	113200	001500	G E=57, C=60, B=38
SRHLW	OO	L2 PUP	51	0400	0712007	-443326	L	1	06091	L	85053016	000000	000000	160500	003000	G E=255, C=72, B=40
OX29K	HD	58978	26	0550	0724521	-225902	H	3	26810	L	85093011	000000	000000	114000	000230	G C=224, B=57
OX29K	HD	58978	26	0550	0724521	-225902	H	1	06830	L	85093012	000000	000000	122700	000130	G C=206, B=52
CCHJL	HD	59717	47	0330	0727386	-431157	L	3	26419	L	85071514	000000	000000	141900	002500	G E=105, B=105
CCHJL	HD	59717	47	0330	0727386	-431157	H	1	06400	L	85071514	000000	000000	145600	001200	G E=240, C=190, B=136
BIHTS	HD	60606	26	0550	0732024	-361343	H	3	26123	L	85060816	000000	000000	163400	000900	G C=3X, B=72
PHCAL	HD	60753	21	0670	0732081	-502829	L	1	06806	L	85092505	000000	000000	055200	000026	G C=193, B=36
PHCAL	HD	60753	21	0670	0732081	-502829	L	1	06805	L	85092505	000000	000000	051200	000005	G C=87, B=33
PHCAL	HD	60753	21	0670	0732081	-502829	L	3	26330	L	85070115	000000	000000	153700	000010	G C=180, B=15
PHCAL	HD	60753	21	0670	0732081	-502829	L	1	06352	L	85070518	000000	000000	182600	000026	G C=200, B=40
PHCAL	HD	60753	21	0670	0732081	-502829	L	1	05886	L	85050219	000000	000000	194200	000051	G C=2X, B=50
PHCAL	HD	60753	21	0670	0732081	-502829	L	1	06804	L	85092504	000000	000000	043300	000026	G C=199, B=37
PHCAL	HD	60753	21	0670	0732081	-502829	L	1	06803	L	85092503	000000	000000	035500	000015	G C=145, B=32
PHCAL	HD	60753	21	0670	0732081	-502829	L	1	05887	L	85050220	000000	000000	202000	000012	G C=2X, B=35
PHCAL	HD	60753	21	0670	0732081	-502829	L	1	05888	L	85050221	000000	000000	210200	000051	G C=2X, B=52
PHCAL	HD	60753	21	0670	0732081	-502829	L	1	05889	L	85050221	000000	000000	213800	000012	G C=2X, B=35
PHCAL	HD	60753	21	0670	0732081	-502829	L	1	06802	L	85092503	000000	000000	031500	000041	G C=1.5X, B=35

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT		
PHCAL	OO	NULL	99	9999	0732081	-502829	L	1	06807	L	85092506	000000	000000	062700	000000	G B=39
PHCAL	HD	60753	21	0669	0732081	-502829	L	1	06808	SL	85092506	070100	000010	065600	000006	G C=210,B=32
PHCAL	HD	60753	21	0670	0732081	-502829	L	3	26363	L	85070616	000000	000000	162600	000041	G C=195,B=40
PHCAL	HD	60753	21	0670	0732081	-502829	L	3	26084	L	85060318	000000	000000	181800	000112	G C=2X,B=19
PHCAL	HD	60753	21	0670	0732081	-502829	L	1	06801	L	85092502	000000	000000	023700	000031	G C=210,B=35
PHCAL	HD	60753	21	0670	0732081	-502829	L	3	26083	L	85060317	000000	000000	174700	000021	G C=2X,B=15
PHCAL	HD	60753	21	0670	0732081	-502829	L	2	17751	L	85071814	000000	000000	140200	000009	G C=200,B=25
PHCAL	HD	60753	21	0670	0732081	-502829	H	2	17750	L	85071813	000000	000000	131300	001030	G C=220,B=40
PHCAL	HD	60753	21	0669	0732081	-502829	L	3	26723	SL	85092507	070900	000020	071500	000021	G C=1.5X,B=16
PHCAL	HD	60753	21	0669	0732081	-502829	L	3	26724	L	85092508	000000	000000	082400	000041	G C=193,B=17
PHCAL	HD	60753	21	0670	0732081	-502829	L	1	06800	L	85092501	000000	000000	015800	000010	G C=115,B=35
PHCAL	HD	60753	21	0670	0732081	-502829	L	1	06799	L	85092501	000000	000000	011000	000026	G C=195,B=35
PHCAL	HD	60753	21	0670	0732081	-502829	H	2	17749	S	85071812	121300	001300	000000	000000	G C=180,B=35
PHCAL	HD	60753	21	0670	0732081	-502829	L	3	26655	L	85090915	000000	000000	152400	000010	G C=195,B=18
PHCAL	HD	60753	21	0670	0732081	-502829	H	3	26636	L	85082817	000000	000000	173300	001300	G C=187,B=38
PHCAL	HD	60753	21	0670	0732081	-502829	L	1	06315	L	85070115	000000	000000	154200	000006	G C=180,B=32
PHCAL	HD	60753	21	0670	0732081	-502829	L	3	25921	L	85051222	000000	000000	224500	000021	G C=2X,B=22
PHCAL	HD	60753	21	0669	0732081	-502829	L	1	06809	SL	85092508	083500	000011	084100	000006	G C=204,B=33
PHCAL	HD	60753	21	0670	0732081	-502829	L	3	25828	SL	85050115	155500	000030	155000	000010	G C=180,B=17
PHCAL	HD	60753	21	0670	0732081	-502829	L	3	26073	L	85060220	000000	000000	202500	000122	G C=2X,B=20
PHCAL	HD	60753	21	0669	0732081	-502829	L	1	06810	L	85092509	000000	000000	094000	000012	G C=2X,B=32
PHCAL	HD	60753	21	0669	0732081	-502829	L	3	26725	L	85092509	000000	000000	094800	000021	G C=2X,B=16
PHCAL	HD	60753	21	0670	0732081	-502829	L	3	26072	L	85060219	000000	000000	195400	000012	G C=190,B=15
PHCAL	HD	60753	21	0670	0732081	-502829	H	3	26071	L	85060219	000000	000000	191500	001300	G C=185,B=41
PHCAL	HD	60753	21	0670	0732081	-502829	L	2	17769	L	85082916	000000	000000	163000	000031	G C=197,B=23
PHCAL	HD	60753	21	0670	0732081	-502829	L	3	26511	SL	85073117	173500	000030	173100	000010	G C=196,B=15
PHCAL	HD	60753	21	0670	0732081	-502829	L	1	06538	SL	85073117	172600	000018	172100	000006	G C=209,B=33
PHCAL	HD	60753	21	0670	0732081	-502829	H	3	26637	L	85082818	000000	000000	181900	001300	G C=186,B=36
PHCAL	HD	60753	21	0670	0732081	-502829	L	1	05874	SL	85050115	154600	000018	154200	000006	G C=200,B=35
PHCAL	HD	60753	21	0670	0732081	-502829	L	2	17768	SL	85082915	154400	000021	153900	000007	G C=200,B=24
PHCAL	HD	60753	21	0670	0732081	-502829	H	3	26638	L	85082819	000000	000000	190700	001300	G C=190,B=36
FEHTA	HD	61421	41	9999	0736410	052115	H	3	25928	L	85051314	000000	000000	143900	001400	G C=8.0X,B=68
FEHTA	HD	61421	41	0005	0736410	052115	H	3	25927	L	85051314	000000	000000	140700	000330	G C=2.0X,B=37
KGHJL	HD	63032	47	0360	0743283	-375047	L	3	26147	L	85061120	000000	000000	201100	001000	G C=193,B=22
KGHJL	HD	63032	47	0360	0743283	-375047	H	1	06198	L	85061119	000000	000000	194300	001000	G E=135,C=120,B=72
KGHJL	HD	63032	47	0360	0743283	-375047	H	1	06372	L	85070914	000000	000000	140000	002000	G E=230,C=170,B=112
CSHDB	HD	66141	47	0440	0759399	+022824	L	1	05902	L	85050418	000000	000000	182500	001200	G C=193,B=72
PHCAL	BD+75	325	16	0956	0804430	750648	H	1	05882	L	85050206	000000	000000	060031	004500	602 U
PHCAL	BD+75	325	16	0961	0804430	750648	H	1	06728	L	85091316	000000	000000	161437	003000	501 U
PHCAL	BD+75	325	16	0966	0804430	750648	H	3	26666	L	85091316	000000	000000	165053	002500	401 U
PHCAL	BD+75	325	16	0964	0804430	750648	L	1	06729	L	85091418	000000	000000	182023	000342	701 U TRAIL I=1,R=0.09
PHCAL	BD+75	325	16	0964	0804430	750648	L	3	26670	L	85091417	000000	000000	173009	000043	500 U TRAIL I=1,R=0.461
CCHTS	BD +75	325	16	0960	0804431	+750647	H	1	06832	L	85093021	000000	000000	213400	003500	G C=245,B=50
CCHTS	BD +75	325	16	0950	0804431	+750647	L	3	26799	L	85092922	000000	000000	223400	000014	G C=165,B=17
CCHTS	BD +75	325	16	0950	0804431	+750647	H	1	06826	L	85092921	000000	000000	215600	003500	G C=235,B=50

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT	

CCHTS	BD +75	325	16	0950	0804431	+750647	L	3	26727	L	85092520	000000	000000	201200 000014	G C=190,B=12
CCHTS	BD 75	325	16	0950	0804431	+750647	L	3	26770	L	85092803	000000	000000	034200 000014	G C=159,B=13
CCHTS	BD +75	325	16	0960	0804431	+750647	L	3	26812	L	85093022	000000	000000	221400 000014	G C=180,B=18
CCHTS	BD +75	325	16	0950	0804431	+750647	H	1	06812	L	85092520	000000	000000	202000 003500	G C=225,B=50
PHCAL	BD+75	0325	16	0950	0804432	+750648	L	3	26715	L	85092406	000000	000000	064200 000059	G C=189,B=17
PHCAL	BD+75	0325	16	0950	0804432	+750648	L	3	26714	L	85092406	000000	000000	060400 000014	G C=165,B=15
PHCAL	BD+75	0325	16	0950	0804432	+750648	L	1	06791	L	85092406	000000	000000	065400 000320	G C=2X,B=45
PHCAL	BD+75	0325	16	0950	0804432	+750648	L	1	05876	L	85050119	000000	000000	190300 000020	G C=195,B=35
PHCAL	BD+75	0325	16	0950	0804432	+750648	L	3	25969	L	85051821	000000	000000	211600 000158	G C=2X,B=19
PHCAL	BD+75	0325	16	0950	0804432	+750648	L	1	06792	L	85092408	000000	000000	081700 000114	G C=184,B=41
PHCAL	BD+75	0325	16	0950	0804432	+750648	L	3	26671	L	85091419	000000	000000	190200 000014	G C=185,B=13
PHCAL	BD+75	0325	16	0950	0804432	+750648	L	1	06730	L	85091419	000000	000000	192900 000020	G C=205,B=38
PHCAL	BD+75	0325	16	0950	0804432	+750648	L	1	06731	L	85091420	000000	000000	201700 000140	G C=210,B=39
PHCAL	BD+75	0325	16	0950	0804432	+750648	L	3	25830	L	85050118	000000	000000	185600 000014	G C=175,B=15
PHCAL	BD+75	0325	16	0950	0804432	+750648	L	3	25951	L	85051522	000000	000000	224600 000019	G C=195,B=16
PHCAL	BD+75	0325	16	0950	0804432	+750648	L	3	25950	L	85051522	000000	000000	220900 000158	G C=1.5X,B=20
PHCAL	BD+75	0325	16	0950	0804432	+750648	L	3	25949	L	85051521	000000	000000	213000 000158	G C=1.5X,B=20
PHCAL	BD+75	0325	16	0950	0804432	+750648	L	3	25948	L	85051520	000000	000000	205700 000017	G C=185,B=15
PHCAL	BD+75	0325	16	0950	0804432	+750648	L	3	26713	L	85092404	000000	000000	042600 002000	G C=175,B=35
PHCAL	BD+75	0325	16	0950	0804432	+750648	L	1	06793	SL	85092409	092400	000037	091900 000042	G C=2X,B=39
PHCAL	BD+75	0325	16	0950	0804432	+750648	L	3	26716	SL	85092409	100500	000028	095800 000034	G C=1.5X,B=18
PHCAL	BD+75	0325	16	0950	0804432	+750648	L	1	06790	L	85092405	000000	000000	050400 000020	G C=185,B=33
PHCAL	BD+75	0325	16	0950	0804432	+750648	L	1	06045	L	85052320	000000	000000	204800 000020	G C=205,B=32
PHCAL	BD+75	0325	16	0950	0804432	+750648	L	1	06046	L	85052321	000000	000000	213400 000021	G C=210,B=35
PHCAL	BD+75	0325	16	0950	0804432	+750648	L	1	06047	S	85052322	221000	000037	000000 000000	G C=185,B=32
CCHTS	BD 75	325	16	0950	0804432	+750648	H	1	06822	L	85092802	000000	000000	025900 002700	G C=198,B=50
PHCAL	BD+75	0325	16	0950	0804432	+750648	H	1	06789	L	85092403	000000	000000	034900 002700	G C=190,B=50
HSIGS	HD 68520	22	0430	0807466	-682813	L	1	06237	SL	85061718	181200	000005	180400 000004	G C=220,B=45	
HSIGS	HD 68520	22	0430	0807466	-682813	L	3	26195	L	85061718	000000	000000	181900 000007	G C=220,B=22	
HITOO	Z CHA	54	1328	0808500	-762308	L	1	06347	L	85070420	000000	000000	200700 001500	302 U	
HITOO	Z CHA	54	1341	0808501	-762309	L	3	26346	L	85070420	000000	000000	202955 001500	331 U	
CCHJL	HD 69267	47	0350	0813483	+092028	L	3	25877	L	85050621	000000	000000	215000 002500	G E=49,C=40,B=25	
CCHJL	HD 69267	47	0350	0813483	+092028	H	1	05925	L	85050622	000000	000000	222100 003000	G E=209,C=75,B=45	
IBHRP	CP 48	1577	63	0910	0813495	-490400	L	3	26081	L	85060315	000000	000000	150700 000130	G C=220,B=15
IBHRP	CP 48	1577	63	0910	0813495	-490400	L	1	06123	SL	85060315	152100	000630	151200 000130	G C=1.5X,B=40
CUHRP	OO Z CAM	54	1360	0819398	+731623	L	1	06825	L	85092812	000000	000000	120700 000630	G C=246,B=109	
CUHRP	OO Z CAM	54	1360	0819398	+731623	L	3	26773	L	85092811	000000	000000	115200 000600	G C=162,B=78	
CUHRP	OO Z CAM	54	1100	0819399	+731624	L	3	26718	L	85092412	000000	000000	120300 000437	G C=205,B=56	
CUHRP	OO Z CAM	54	1100	0819399	+731624	L	3	26717	L	85092411	000000	000000	112000 000410	G C=186,B=50	
CUHRP	OO Z CAM	54	1100	0819399	+731624	L	1	06795	L	85092412	000000	000000	123800 000310	G C=222,B=59	
CUHRP	OO Z CAM	54	1360	0819399	+731624	L	3	26709	L	85092312	000000	000000	121700 000600	G C=105,B=80	
CUHRP	OO Z CAM	54	1360	0819399	+731624	L	1	06785	L	85092312	000000	000000	123100 000430	G C=130,B=85	
CUHRP	OO Z CAM	54	1100	0819399	+731624	L	1	06794	L	85092411	000000	000000	113100 000310	G C=233,B=73	
BIHTS	HD 72067	26	0580	0827255	-435934	H	3	26122	L	85060815	000000	000000	155000 000330	G C=180,B=38	
IBHJE	CP 47	2347	47	0860	0829354	-472947	L	1	06590	L	85080608	000000	000000	082500 003000	G C=4X,B=60

PRO	OBJECT	CL	MAG	R.A.	DEC	D C	IMAGE	A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT	
WDHBM	000833+652	88	1360	0833573	+651745	L 3	26088	L	85060411	000000	000000	112100	007800	G C=70,B=30
CSHDB	HD 73471	47	0440	0836087	+033105	L 1	05901	L	85050416	000000	000000	165100	001000	G C=195,B=59
LGH5B	HD 73598	47	0660	0836587	+194306	H 1	05983	L	85051507	000000	000000	074400	018000	G E=122,C=185,B=65
LGH5B	HD 73665	47	0640	0837140	+201108	H 1	05984	L	85051511	000000	000000	112400	020000	G E=124,C=210,B=75
CCHJL	HD 74006	45	0400	0838086	-350747	H 1	05927	L	85050715	000000	000000	151400	005000	G C=1.5X,B=65
STHRP	OO ETA HYA	21	0430	0840367	+033446	L 1	06078	L	85052821	000000	000000	214000	000001	G C=150,B=33
STHRP	OO ETA HYA	21	0430	0840367	+033446	L 1	06079	L	85052822	000000	000000	221400	000003	G C=4X,B=38
STHRP	OO ETA HYA	21	0430	0840367	+033446	L 1	06080	L	85052822	000000	000000	224400	000001	G C=1.5X,B=33
STHRP	OO ETA HYA	21	0430	0840367	+033446	L 1	06077	L	85052820	000000	000000	205100	000001	G C=1.5X,B=32
STHRP	OO ETA HYA	21	0430	0840367	+033446	L 1	06144	L	85060520	000000	000000	202900	000002	G C=220,B=35
STHRP	OO ETA HYA	21	0430	0840367	+033446	L 1	06143	L	85060518	000000	000000	185700	000016	G C=7X,B=50
DCHNE	HD 74712	53	0810	0842000	-471318	L 1	06054	L	85052414	000000	000000	143200	002700	G C=105,B=40
DCHNE	HD 74712	53	0810	0842000	-471318	L 1	06053	L	85052413	000000	000000	133700	001200	G C=68,B=35
QSHMM	OOTON 951	85	1400	0844339	+345609	L 3	25827	L	85050114	000000	000000	141600	003500	G E=72,C=45,B=30
ISHJS	HD SEREN	23	0008	0848516	-462029	H 3	26345	L	85070417	000000	000000	172700	000140	G
ISHJS	HD 75821	23	0510	0848516	-462029	H 1	06345	L	85070417	000000	000000	172300	000047	G C=205,B=43
HBHYK	HD 76805	66	0470	0854487	-523153	H 1	06310	L	85063018	000000	000000	181900	000140	G C=235,B=58
HBHYK	HD 76805	66	0470	0854488	-523153	H 1	06268	L	85062507	000000	000000	072800	000130	G C=215,B=43
HBHYK	HD 76805	66	0470	0854488	-523153	H 3	26254	L	85062507	000000	000000	072200	000200	G C=185,B=35
HBHYK	HD 76805	66	0470	0854488	-523153	H 3	26323	L	85063018	000000	000000	181300	000225	G C=230,B=50
ISHJS	HD 76968	13	0710	0855536	-503320	H 1	06344	L	85070416	000000	000000	161400	001200	G C=210,B=59
WDHGS	000859+484	37	1620	0859100	+482313	L 3	25887	L	85050810	000000	000000	105500	012000	G C=120,B=35
XBHTK	HD 77581	59	0690	0900120	-402200	H 3	25880	L	85050707	000000	000000	073400	012000	G C=170,B=49
XBHTK	HD 77581	59	0690	0900120	-402200	H 3	25882	L	85050712	000000	000000	125800	012000	G C=180,B=60
XBHTK	HD 77581	59	0690	0900120	-402200	H 3	25881	L	85050710	000000	000000	102100	012000	G C=175,B=48
XBHTK	HD 77581	59	0690	0900120	-402200	H 3	25851	L	85050321	000000	000000	210900	010000	G C=1.5X,B=195
XBHTK	HD 77581	59	0690	0900120	-402200	H 3	25850	L	85050320	000000	000000	202400	001700	G C=125,B=80
XBHTK	HD 77581	59	0690	0900120	-402200	H 3	25849	L	85050319	000000	000000	190200	005500	G C=230,B=160
XBHTK	HD 77581	59	0690	0900120	-402200	H 3	25848	L	85050317	000000	000000	171600	007500	G C=219,B=135
XBHTK	HD 77581	59	0690	0900120	-402200	H 3	25847	L	85050315	000000	000000	153000	007500	G C=220,B=137
MLHTS	HD 78764	26	0470	0905145	-702014	H 3	26389	L	85071014	000000	000000	145100	000200	G C=250,B=55
MLHTS	HD 78764	26	0470	0905145	-702014	H 3	26209	L	85061916	000000	000000	161200	000227	G C=1.2X,B=50
LDHDD	HD 79210	48	0760	0910590	+525406	L 1	06086	L	85052921	000000	000000	211700	000900	G E=159,C=65,B=32
LDHDD	HD 79211	48	0770	0911009	+525410	L 1	06084	L	85052919	000000	000000	191100	000500	G E=110,C=52,B=35
ISHFB	HD 80007	30	0170	0912397	-693040	H 1	06390	S	85071316	161400	000110	000000	000000	G C=248,B=55
WDHGS	PG0921+092	29	6000	0921147	+091013	L 3	25888	L	85050813	000000	000000	135900	005000	G C=50,B=38
QSHMM	PG0923+129	85	1450	0923199	+125704	L 3	25826	L	85050107	000000	000000	075700	010000	G E=121,C=65,B=30
LDHDD	HD 82106	46	0720	0927190	+055224	L 1	06083	L	85052918	000000	000000	180700	000700	G E=165,C=148,B=35
CCHJL	HD 82668	47	0310	0929421	-564848	L 3	26420	L	85071515	000000	000000	155100	001000	G B=155
CCHJL	HD 82668	47	0310	0929421	-564848	H 1	06401	L	85071516	000000	000000	163000	000500	G E=185,C=200,B=147
SRHLW	OO R CAR	51	0500	0930591	-623401	L 1	06092	L	85053017	000000	000000	173100	003000	G E=123,C=140,B=40
SRHLW	OO R CAR	51	0500	0930592	-623401	L 1	06478	L	85072417	000000	000000	174308	004500	G E=190,C=2X,B=45
HC086	W UMA	44	0820	0940150	561056	H 1	05972	L	85051404	000000	000000	041202	015500	414 U
HC086	W UMA	44	0832	0940150	561056	H 1	05970	L	85051323	000000	000000	235755	018000	414 U
HC086	W UMA	44	0862	0940150	561056	L 1	05971	L	85051403	000000	000000	032823	001000	712 U

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP	SMALL	EXP	LARGE	ECC	COMMENT	
CCHJL	HD	84441	45	0300	0943010	+240020	H	1	05921	L	85050615	000000	000000	151300	003000	G E=1.5X,C=4X,B=65	
SRHLW	OO	R LEO	51	0600	0944522	+113942	L	1	06095	L	85053021	000000	000000	213800	004500	G E=5X,C=80,B=40	
HQ065	PG0946+301	85	1600	0946463	300921	L	3	26020	L	85052700	000000	000000	004218	035200	303	U	
HQ065	PG0946+301	85	1600	0946463	300920	L	3	26027	L	85052800	000000	000000	002533	036500	333	U	
HQ065	PG0946+301	85	1600	0946463	300921	L	1	06058	L	85052600	000000	000000	002355	037200	344	U	
HQ065	PG0946+301	85	1600	0946463	300920	L	3	26029	L	85052823	000000	000000	234804	041900	313	U	
WDHGS	PG0948+013	29	6000	0948278	+011837	L	3	25886	L	85050807	000000	000000	075200	012000		G C=80,B=50	
OBHSS	HD	87643	26	0880	1002496	-582516	L	3	26040	L	85053109	000000	000000	095100	003600		G C=215,B=20
OBHSS	HD	87643	26	0880	1002496	-582516	L	1	06098	L	85053109	000000	000000	093900	000530		G E=1.5X,C=253,B=33
OBHSS	OO	HE3-365	26	0880	1002496	-582516	L	1	06038	L	85052314	000000	000000	142100	001000		G C=1.5X,B=37
OBHSS	OO	HE3-365	26	0880	1002496	-582516	L	3	25996	L	85052313	000000	000000	134500	003000		G C=180,B=19
CWGS	OO	OY CAR	54	1250	1005168	-695927	L	1	05911	L	85050511	000000	000000	112900	000300		G E=54,C=50,B=35
CWGS	OO	OY CAR	54	1250	1005168	-695927	L	3	25868	L	85050512	000000	000000	124200	001500		G E=169,C=61,B=25
CWGS	OO	OY CAR	54	1250	1005168	-695927	L	1	05912	L	85050512	000000	000000	120500	002000		G E=184,C=147,B=38
CWGS	OO	OY CAR	54	1250	1005168	-695927	L	3	25867	L	85050510	000000	000000	105400	002000		G E=206,C=65,B=19
CWGS	OO	OY CAR	54	1250	1005168	-695927	L	1	05910	L	85050509	000000	000000	092600	002500		G E=193,C=168,B=40
CWGS	OO	OY CAR	54	1250	1005168	-695927	L	3	25865	L	85050509	000000	000000	090000	002000		G E=201,C=77,B=25
CWGS	OO	OY CAR	54	1200	1005168	-695927	L	3	25863	L	85050507	000000	000000	074800	001500		G E=190,C=62,B=25
CWGS	OO	OY CAR	54	1240	1005168	-695924	L	3	25839	L	85050218	000000	000000	181800	001000		G E=69,C=55,B=40
CWGS	OO	OY CAR	54	1250	1005168	-695927	L	3	25866	L	85050509	000000	000000	095800	000300		G E=42,B=16
CWGS	OO	OY CAR	54	1250	1005168	-695927	L	3	25864	L	85050508	000000	000000	082700	000300		G E=40,B=17
CWGS	OO	OY CAR	54	1240	1005168	-695924	L	3	25838	L	85050217	000000	000000	173400	001200		G E=181,C=60,B=30
CWGS	OO	OY CAR	54	1250	1005168	-695927	L	3	25869	L	85050514	000000	000000	142400	001000		G E=47,C=47,B=32
CWGS	OO	OY CAR	54	1240	1005168	-695924	L	1	05885	L	85050217	000000	000000	170500	001500		G C=160,B=45
CWGS	OO	OY CAR	54	1250	1005168	-695927	L	1	05913	L	85050513	000000	000000	133300	002500		G E=208,C=175,B=42
CWGS	OO	OY CAR	54	1240	1005168	-695924	L	3	25837	L	85050216	000000	000000	165400	000230		G E=52,C=30,B=15
CWGS	OO	OY CAR	54	1240	1005168	-695924	L	3	25836	L	85050216	000000	000000	160800	000700		G E=128,C=45,B=20
HI039	OY CAR	54	1259	1005169	-695926	L	3	25860	L	85050505	000000	000000	053225	000500	330	U	
HI039	OY CAR	54	1261	1005169	-695926	L	3	25855	L	85050500	000000	000000	000946	000700	330	U	
HI039	OY CAR	54	1246	1005169	-695926	L	1	05907	L	85050502	000000	000000	022251	000300	312	U	
HI039	OY CAR	54	1257	1005169	-695926	L	1	05906	L	85050500	000000	000000	002033	001500	442	U	
HI039	OY CAR	54	1259	1005169	-695926	L	3	25859	L	85050503	000000	000000	035458	000300	220	U	
HI039	OY CAR	54	1260	1005169	-695926	L	3	25858	L	85050502	000000	000000	024857	001500	350	U	
HI039	OY CAR	54	1267	1005169	-695926	L	3	25861	L	85050506	000000	000000	060829	002000	350	U	
HI039	OY CAR	54	1261	1005169	-695926	L	3	25857	L	85050501	000000	000000	013041	001500	350	U	
HI039	OY CAR	54	1249	1005169	-695926	L	3	25856	L	85050500	000000	000000	005304	000300	230	U	
HI039	OY CAR	54	1259	1005169	-695926	L	1	05909	SL	85050505	050237	001700	052548	000300	202	U 202s	
HI039	OY CAR	54	1281	1005169	-695926	L	3	25862	L	85050506	000000	000000	065644	000300	220	U	
HI039	OY CAR	54	1259	1005169	-695926	L	1	05908	L	85050503	000000	000000	034453	000500	411	U	
HC230	S CAR	51	0679	1007460	-611814	L	1	06051	L	85052406	000000	000000	061813	003000	482	U	
HC230	S CAR	51	0775	1007462	-611814	L	1	06240	L	85061723	000000	000000	232251	004000	371	U	
SRHLW	OO	S CAR	51	0600	1007462	-611814	L	1	06093	L	85053018	000000	000000	183600	004500		G E=2X,C=150,B=50
HA053	S CAR	51	0697	1007467	-611814	L	1	06466	L	85072301	000000	000000	011858	004000	351	U	
CCHJL	HD	89388	47	0340	1015245	-610455	H	1	05914	L	85050515	000000	000000	153100	004500		G E=1.5X,C=125,B=65
CCHJL	HD	89388	47	0340	1015245	-610455	L	3	25870	L	85050516	000000	000000	162100	002500		G E=88,C=52,B=35

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT		
KGLJL	HD	89388	47	0340	1015246	-610455	H	1	06371	L	85070912	000000	000000	124500	003000	G E=1.5X,C=165,B=107
KGLJL	HD	89388	47	0340	1015246	-610455	H	1	06191	L	85061111	000000	000000	113100	004000	G C=138,B=75
KGLJL	HD	89388	47	0340	1015246	-610455	L	3	26145	L	85061105	000000	000000	055500	033000	G E=2X,C=180,B=87
IBHRP	OO	RW SEX	63	1050	1017269	-082704	L	3	26080	L	85060313	000000	000000	135200	000600	G C=210,B=17
IBHRP	OO	RW SEX	63	1050	1017269	-082704	L	3	26313	L	85062920	000000	000000	200700	000600	G C=200,B=15
IBHRP	OO	RW SEX	63	1050	1017269	-082704	L	1	06122	L	85060313	000000	000000	133900	000530	G C=1.5X,B=39
IBHRP	OO	RW SEX	63	1050	1017269	-082704	L	1	06299	SL	85062920	203000	001200	201900	000300	G C=195,B=35
OBHSS	OO	HE3-407	26	0920	1021072	-592217	L	3	25995	L	85052312	000000	000000	122100	003000	G C=85,B=18
OBHSS	OO	HE3-407	26	0920	1021072	-592217	L	1	06037	L	85052313	000000	000000	130200	000330	G C=190,B=35
OBHSS	OO	HE3-407	26	0920	1021072	-592217	L	1	06036	L	85052312	000000	000000	120600	001000	G E=2.5X,C=2.5X,B=35
OBHSS	HD	90177	26	0830	1021072	-592217	L	3	26039	L	85053107	000000	000000	074000	008000	G C=182,B=25
OBHSS	HD	90177	26	0830	1021072	-592217	L	1	06097	L	85053107	000000	000000	073000	000400	G E=216,C=197,B=35
ISHJS	HD	91452	13	0750	1030085	-634058	H	1	06342	L	85070414	000000	000000	141600	002400	G C=205,B=60
ISHJH	HD	91465	21	3300	1030145	-612540	H	1	06346	L	85070418	000000	000000	180500	000022	G
WDHES	PGG1034+00	17	1280	1034302	+000714	H	3	26201	L	85061806	000000	000000	061100	026203	G C=160,B=72	
STHRP	OOFEIGE	34	16	1110	1036400	+432152	L	1	06075	L	85052818	000000	000000	180100	000127	G C=195,B=31
STHRP	OOFEIGE	34	16	1110	1036400	+432152	L	1	06142	L	85060517	000000	000000	175100	001550	G C=11X,B=56
STHRP	OOFEIGE	34	16	1110	1036400	+432152	L	1	06141	L	85060517	000000	000000	171400	000127	G C=195,B=36
STHRP	OOFEIGE	34	16	1110	1036400	+432152	L	1	06140	L	85060516	000000	000000	162200	001030	G C=2.5X,B=42
STHRP	OOFEIGE	34	16	1110	1036400	+432152	L	1	06139	L	85060515	000000	000000	153000	000341	G C=210,B=37
STHRP	OOFEIGE	34	16	1110	1036400	+432152	L	1	06138	L	85060514	000000	000000	145300	000330	G C=2.5X,B=35
STHRP	OOFEIGE	34	16	1110	1036400	+432152	L	1	06137	L	85060514	000000	000000	141200	000127	G C=200,B=35
STHRP	OOFEIGE	34	16	1110	1036400	+432152	H	1	06076	L	85052818	000000	000000	184000	009400	G C=200,B=72
HM209	HD93027	12	0900	1041183	-595240	L	1	06630	LS	85081018	181433	000140	181032	000025	513 U 613s	
HM209	HD93027	12	0891	1041183	-595240	L	3	26582	L	85081017	000000	000000	174507	000020	410 U	
HM209	HD93130	12	0827	1042044	-593641	L	1	06632	LS	85081020	205943	000400	205614	000025	512 U 612s	
HM209	HD93130	12	0829	1042044	-593641	L	3	26584	L	85081020	000000	000000	202831	000100	550 U	
HM209	HD305520	20	0898	1042100	-594358	L	3	26583	L	85081019	000000	000000	191100	000100	410 U	
HM209	HD305520	20	0900	1042100	-594358	L	1	06631	LS	85081019	191850	000300	191500	000040	512 U 612s	
IBHGM	HD	93033	66	0710	1042244	+454946	H	3	26097	L	85060510	000000	000000	101100	003600	G C=218,B=45
IBHGM	HD	93033	66	0710	1042244	+454946	H	1	06135	L	85060510	000000	000000	105400	002200	G C=238,B=47
IBHGM	HD	93033	66	0710	1042244	+454946	H	3	26098	L	85060511	000000	000000	112600	003600	G C=220,B=47
IBHGM	HD	93033	66	0710	1042244	+454946	H	1	06136	L	85060512	000000	000000	120900	002200	G C=240,B=48
IBHGM	HD	93033	66	0710	1042244	+454946	H	1	06129	L	85060419	000000	000000	191300	001800	G C=230,B=61
IBHGM	HD	93033	66	0710	1042244	+454946	H	3	26092	L	85060418	000000	000000	183000	003000	G C=225,B=60
IBHGM	HD	93033	66	0710	1042244	+454946	H	1	06128	L	85060417	000000	000000	175900	001800	G C=225,B=65
IBHGM	HD	93033	66	0710	1042244	+454946	H	3	26091	L	85060417	000000	000000	171700	003400	G C=240,B=60
IBHGM	HD	93033	66	0710	1042244	+454946	H	1	06134	L	85060509	000000	000000	094200	002200	G C=235,B=47
IBHGM	HD	93033	66	0710	1042244	+454946	H	1	06132	L	85060505	000000	000000	052500	002400	G C=253,B=47
IBHGM	HD	93033	66	0710	1042244	+454946	H	3	26079	L	85060311	000000	000000	114800	003600	G C=230,B=50
IBHGM	HD	93033	66	0710	1042244	+454946	H	1	06120	L	85060311	000000	000000	111200	002400	G C=253,B=50
IBHGM	HD	93033	66	0710	1042244	+454946	H	1	06149	L	85060605	000000	000000	055100	002200	G C=240,B=48
IBHGM	HD	93033	66	0710	1042244	+454946	H	3	26102	L	85060606	000000	000000	061900	003500	G C=218,B=45
IBHGM	HD	93033	66	0710	1042244	+454946	H	3	26078	L	85060310	000000	000000	102800	003600	G C=225,B=45
IBHGM	HD	93033	66	0710	1042244	+454946	H	1	06119	L	85060309	000000	000000	095700	002400	G C=245,B=50

PRO	OBJECT	CL	MAG	R.A.	DEC	D C	IMAGE	A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT		
IBHGM	HD	93033	66	0710	1042244	+454946	H 1	06126	L 85060414	000000	000000	141400	002000	G C=230,B=51	
IBHGM	HD	93033	66	0710	1042244	+454946	H 3	26095	L 85060506	000000	000000	060000	003600	G C=223,B=45	
IBHGM	HD	93033	66	0710	1042244	+454946	H 1	06152	L 85060610	000000	000000	105600	002000	G C=223,B=47	
IBHGM	HD	93033	66	0710	1042244	+454946	H 3	26105	L 85060611	000000	000000	112200	003500	G C=218,B=45	
IBHGM	HD	93033	66	0710	1042244	+454946	H 1	06153	L 85060612	000000	000000	120400	002000	G C=225,B=47	
IBHGM	HD	93033	66	0710	1042244	+454946	H 3	26089	L 85060413	000000	000000	133100	003500	G C=225,B=49	
IBHGM	HD	93033	66	0710	1042244	+454946	H 1	06121	L 85060312	000000	000000	123000	002000	G C=225,B=55	
IBHGM	HD	93033	66	0710	1042244	+454946	H 3	26093	L 85060419	000000	000000	194700	003000	G C=210,B=51	
IBHGM	HD	93033	66	0710	1042244	+454946	H 3	26110	L 85060619	000000	000000	195000	005800	G C=197,B=49	
IBHGM	HD	93033	66	0710	1042244	+454946	H 3	26108	L 85060617	000000	000000	173900	003000	G C=200,B=45	
IBHGM	HD	93033	66	0710	1042244	+454946	H 1	06156	L 85060618	000000	000000	181600	001800	G C=200,B=50	
IBHGM	HD	93033	66	0710	1042244	+454946	H 3	26109	L 85060618	000000	000000	184500	003800	G C=205,B=47	
IBHGM	HD	93033	66	0710	1042244	+454946	H 1	06130	L 85060420	000000	000000	202300	002000	G C=230,B=52	
DCHNE	HD	93203	53	0750	1042330	-571808	L 1	06458	L 85072214	000000	000000	142300	001200	G	
HS144	HD93308	61	0607	1043069	-592459	H 1	06199	L 85061202	000000	000000	025735	002500	671	U	
HA196	HD93308	61	0603	1043070	-592500	H 3	26197	L 85061721	000000	000000	213818	008000	572	U	
HM209	HD305532	12	1043	1043383	-594139	L 1	06633	LS 85081021	220521	003000	215541	000400	513	U 713s	
HM209	HD305532	12	1047	1043383	-594139	L 3	26585	L 85081021	000000	000000	211910	001000	550	U	
HM209	HD305525	12	1024	1044079	-593503	L 1	06635	L 85081100	000000	000000	004218	000830	510	U	
HM209	HD305525	12	1023	1044079	-593503	L 3	26587	L 85081100	000000	000000	001158	002200	310	U	
HM209	COLL	97	12	1070	1044250	-593728	L 1	06634	L 85081023	000000	000000	233716	000800	512	U
HM209	COLL	97	12	1071	1044250	-593728	L 3	26586	L 85081022	000000	000000	225926	002400	550	U
PHCAL	HD	93521	12	0700	1045336	+375004	L 1	05936	L 85050820	000000	000000	201000	000007	G C=2X,B=38	
PHCAL	HD	93521	12	0700	1045336	+375004	L 1	06115	L 85060218	000000	000000	181000	000003	G C=185,B=32	
PHCAL	HD	93521	12	0700	1045336	+375004	L 3	26070	L 85060218	000000	000000	182600	000008	G C=2X,B=15	
PHCAL	HD	93521	12	0700	1045336	+375004	L 3	26061	L 85060118	000000	000000	183400	000004	G C=190,B=16	
PHCAL	HD	93521	12	0700	1045336	+375004	H 3	26060	L 85060118	000000	000000	180400	000430	G C=172,B=30	
PHCAL	HD	93521	12	0700	1045336	+375004	L 3	26059	L 85060117	000000	000000	173300	000026	G C=2X,B=15	
PHCAL	HD	93521	12	0700	1045336	+375004	L 1	05937	L 85050820	000000	000000	204100	000007	G C=2X,B=38	
PHCAL	HD	93521	12	0700	1045336	+375004	L 3	25831	L 85050120	000000	000000	202600	000003	G C=155,B=15	
PHCAL	HD	93521	12	0700	1045336	+375004	L 1	05877	L 85050120	000000	000000	203000	000003	G C=195,B=32	
PHCAL	HD	93521	12	0700	1045336	+375004	L 3	25970	L 85051822	000000	000000	222800	000014	G C=207,B=18	
PHCAL	HD	93521	12	0700	1045336	+375004	L 1	06004	L 85051722	000000	000000	224200	000011	G C=183,B=35	
PHCAL	HD	93521	12	0700	1045336	+375004	H 1	06114	L 85060217	000000	000000	173200	000350	G C=185,B=43	
PHCAL	HD	93521	12	0700	1045336	+375004	L 3	26045	L 85053118	000000	000000	182100	000014	G C=210,B=15	
PHCAL	HD	93521	12	0700	1045336	+375004	L 1	05935	L 85050819	000000	000000	193400	000003	G C=220,B=35	
PHCAL	HD	93521	12	0700	1045336	+375004	L 1	05890	SL 85050222	223000	000006	222500	000003	G C=205,B=32	
PHCAL	HD	93521	12	0700	1045336	+375004	L 2	17742	L 85062018	000000	000000	183400	000005	G C=220,B=24	
PHCAL	HD	93521	12	0700	1045336	+375004	L 3	26044	L 85053117	000000	000000	175000	000008	G C=2X,B=15	
PHCAL	HD93521	12	0695	1045340	375004	L 1	06107	L 85060105	000000	000000	050632	000036	701	U TRAILED R=0.56 I=1	
PHCAL	HD93521	12	0709	1045340	375004	L 1	06105	LS 85060103	032525	000009	032143	000003	501	U 501s	
PHCAL	HD93521	12	0708	1045340	375004	L 1	06106	L 85060104	000000	000000	043256	000012	501	U TRAILED R=1.667 I=1	
PHCAL	HD93521	12	0704	1045340	375004	L 3	26051	L 85060104	000000	000000	042535	000012	500	U TRAILED R=1.667 I=1	
PHCAL	HD93521	12	0697	1045340	375004	L 3	26050	LS 85060103	031750	000009	031407	000003	500	U 500s	
HA061	LSS1922	25	1080	1045581	-585247	L 3	26410	L 85071319	000000	000000	194716	041900	403	U	

PRO	OBJECT	CL	MAG	R.A.	DEC	D C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT		
CCHJL	HD	93813	47	0310	1047093	-155553	L 3	25876	L	85050620	000000	000000	201600	002500	G E=74,C=90,B=70
CCHJL	HD	93813	47	0310	1047093	-155553	H 1	05924	L	85050620	000000	000000	205100	003000	G E=255,C=205,B=115
HA053	AG CAR	23	0828	1054106	-601111	H 1	06437	L	85072002	000000	000000	020449	004400	441	U
HA053	AG CAR	23	0818	1054106	-601111	L 1	06465	LS	85072300	002838	000500	002052	000040	551	U 661s
HA053	AG CAR	23	0808	1054106	-601111	L 1	06467	L	85072302	000000	000000	024202	000800	801	U PREAD
HA053	AG CAR	23	0823	1054106	-601111	L 3	26458	L	85072300	000000	000000	000006	000300	551	U
HA053	AG CAR	23	0819	1054106	-601111	H 3	26444	L	85071919	000000	000000	195743	018000	562	U
CSHDB	HD	95272	47	0410	1057201	-180156	L 1	05900	L	85050415	000000	000000	153900	000500	G C=220,B=50
PNHMC	OO	IC2621	70	1360	1058240	-645848	L 1	05895	L	85050308	000000	000000	083500	003000	G E=137,C=60,B=40
PNHMC	OO	IC2621	70	1360	1058240	-645848	L 3	25854	L	85050411	000000	000000	111800	012000	G E=2.5X,C=60,B=42
PNHMC	OO	IC2621	70	1360	1058240	-645848	L 1	05899	L	85050413	000000	000000	132700	008300	G E=255,C=170,B=115
PNHMC	OO	IC2621	70	1360	1058240	-645848	L 3	25845	L	85050307	000000	000000	075800	003000	G E=152,B=20
XGHCB	OO	MKN 421	87	1350	1101405	+382842	L 3	26013	L	85052608	000000	000000	084300	004500	G C=46,B=24
XGHCB	OO	MKN 421	87	1350	1101405	+382842	L 1	06059	L	85052608	000000	000000	080700	003000	G C=83,B=40
XGHCB	OO	MKN 421	87	1350	1101405	+382842	L 1	06060	L	85052610	000000	000000	100100	003000	G C=82,B=39
XGHCB	OO	MKN 421	87	1350	1101405	+382842	L 3	26016	L	85052614	000000	000000	140300	004500	G C=55,B=21
XGHCB	OO	MKN 421	87	1350	1101405	+382842	L 1	06062	L	85052613	000000	000000	132500	003000	G C=85,B=40
XGHCB	OO	MKN 421	87	1350	1101405	+382842	L 3	26015	L	85052612	000000	000000	123000	004500	G C=55,B=22
XGHCB	OO	MKN 421	87	1350	1101405	+382842	L 1	06061	L	85052611	000000	000000	115300	003000	G C=80,B=39
XGHCB	OO	MKN 421	87	1350	1101405	+382842	L 3	26014	L	85052610	000000	000000	105200	004500	G C=47,B=21
XGHCB	OO	MKN 421	87	1350	1101405	+382842	L 3	26012	L	85052607	000000	000000	072900	003000	G C=38,B=20
HQ234	MKN 421	87	1365	1101406	382842	L 1	05926	L	85050703	000000	000000	031845	009000	404	U
HQ234	MKN421	87	1365	1101406	382842	L 3	25879	L	85050704	000000	000000	045630	011100	301	U
HQ234	MKN 421	87	1365	1101406	382842	L 3	25878	L	85050623	000000	000000	234904	020000	302	U
HQ234	MKN 421	87	1369	1101406	382842	L 1	06027	L	85052123	000000	000000	235352	009000	402	U
HQ234	MKN421	87	1369	1101406	382842	L 3	25991	L	85052201	000000	000000	012942	020000	301	U
HQ234	MKN 421	87	1369	1101406	382842	L 1	06028	L	85052204	000000	000000	045403	011200	501	U
HQ067	NGC3516	84	1319	1103228	725024	L 3	26811	L	85093016	000000	000000	162711	026000	333	U
HQ067	NGC3516	84	1311	1103228	725024	L 1	06831	L	85093013	000000	000000	134847	012000	354	U
SDHFW	PG1104+243	28	1130	1104454	+241927	L 3	26173	L	85061515	000000	000000	151900	000240		G C=170,B=19
SDHFW	PG1104+243	28	1130	1104454	+241927	L 1	06222	L	85061515	000000	000000	153800	000400		G C=205,B=42
CCHJL	HD	98262	47	0350	1115469	+332203	L 3	25875	L	85050617	000000	000000	175300	002500	G E=44,C=50,B=25
CCHJL	HD	98262	47	0350	1115469	+332203	H 1	05922	L	85050616	000000	000000	165900	005000	G E=245,C=125,B=65
SHSGS	HD	98718	21	0390	1118432	-541301	L 1	06239	SL	85061720	204200	000002	203400	000002	G C=219,B=38
CCHTA	HD	99028	41	0390	1121192	+104817	H 3	25925	L	85051308	000000	000000	084100	007500	G C=250,B=36
SHSGS	HD	100673	26	0460	1132229	-535916	L 3	26196	L	85061719	000000	000000	194200	000017	G C=213,B=19
SHSGS	HD	100673	26	0460	1132229	-535916	L 1	06238	SL	85061719	193600	000011	192800	000009	G C=208,B=40
HQ117	NGC3783	84	1348	1136300	-372800	L 1	05963	L	85051301	000000	000000	015019	005000	451	U
HQ117	NGC3783	84	1341	1136300	-372800	L 1	05964	L	85051305	000000	000000	053122	007600	562	U
HQ117	NGC3783	84	1341	1136300	-372800	L 3	25923	L	85051302	000000	000000	024601	016000	361	U
HQ117	NGC3783	84	1348	1136300	-372800	L 3	25922	L	85051300	000000	000000	000342	010000	351	U
PLHNE	HD	101947	53	0510	1141070	-621242	L 3	26455	L	85072216	000000	000000	161700	000100	G
PLHNE	HD	101947	53	0510	1141070	-621242	L 1	06460	L	85072216	000000	000000	161300	000019	G
MLHTS	HD	102776	26	0430	1147143	-633037	H 3	26210	L	85061916	000000	000000	165900	000209	G C=1.7X,B=50
MLHTS	HD	102776	26	4320	1147143	-633037	H 3	26390	L	85071015	000000	000000	152800	000130	G C=240,B=58

PRO	OBJECT	CL	MAG	R.A.	DEC	D C	IMAGE	A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT
HI103	NOVA MUSC	55	1450	1149358	-665543	L 3	26537	L	85080320	000000	000000	200600	004200 361 U
HI103	NOVA MUSC	55	1450	1149358	-665543	L 3	26536	L	85080319	000000	000000	190249	001200 240 U 40 CT SO. LOCKR AT RP
HI103	NOVA MUSC	55	1450	1149358	-665543	L 1	06572	L	85080319	000000	000000	192303	004000 332 U
ISHJS	HD 104337	20	0530	1158175	-192250	H 1	06343	L	85070415	000000	000000	152500	000100 G C=185, B=43
ISHJS	HD 104337	20	0530	1158175	-192250	H 3	26344	L	85070415	000000	000000	153000	000130 G C=180, B=34
XQHMS	Q 1202+281	85	0000	1202088	+281052	L 3	26411	L	85071403	000000	000000	035400	017000 G E=149, C=75, B=45
XQHMS	Q 1202+281	85	0000	1202089	+281053	L 3	25933	L	85051407	000000	000000	074600	017000 G E=133, C=80, B=45
HM137	HD105139	24	0778	1203407	-693112	H 3	26063	L	85060200	000000	000000	004128	004500 501 U
HM137	HD105139	24	0777	1203407	-693112	H 1	06112	L	85060201	000000	000000	013308	002000 502 U
CCHTA	HD 105452	40	0400	1205498	-242700	H 3	25924	L	85051307	000000	000000	071700	002500 G C=254, B=36
HQ070	NGC 4151	84	1249	1208004	394102	L 1	06117	L	85060300	000000	000000	001932	004500 363 U
HQ070	NGC4151	84	1248	1208004	394102	L 3	26075	L	85060222	000000	000000	225650	007500 361 U
AGHGR	NG 4151	84	1150	1208004	+394102	L 3	26487	L	85072704	000000	000000	042600	002000 G E=193, C=37, B=25
AGHGR	NG 4151	84	0000	1208004	+394102	L 1	06500	L	85072705	000000	000000	055600	003000 G E=205, C=99, B=40
AGHGR	NG 4151	84	1150	1208004	+394102	L 3	26488	L	85072706	000000	000000	063300	004000 G E=245, C=45, B=30
HQ070	NGC4151	84	1246	1208004	394102	L 1	06008	L	85051902	000000	000000	021253	005000 573 U
HQ070	NGC4151	84	1248	1208004	394102	L 1	06088	L	85053000	000000	000000	001555	002500 353 U
HQ070	NGC4151	84	1251	1208004	394102	L 1	06048	L	85052323	000000	000000	232323	002500 351 U
HQ070	NGC4151	84	1243	1208004	394101	L 3	25972	L	85051900	000000	000000	004748	008000 361 U
HQ070	NGC4151	84	1246	1208004	394102	L 3	26033	L	85053002	000000	000000	022713	003500 351 U
HQ070	NGC4151	84	1245	1208004	394102	L 1	06049	L	85052400	000000	000000	004318	005000 473 U
HQ070	NGC4151	84	1248	1208004	394102	L 1	06089	L	85053001	000000	000000	013113	004500 364 U
HQ070	NGC 4151	84	1248	1208004	394102	L 3	26074	L	85060221	000000	000000	213702	004000 351 U
HQ070	NGC4151	84	1248	1208004	394102	L 3	25998	L	85052401	000000	000000	013919	007500 370 U
HQ070	NGC 4151	84	1245	1208004	394102	L 3	25997	L	85052323	000000	000000	235434	004000 360 U
HQ070	NGC4151	84	1240	1208004	394101	L 1	06007	L	85051900	000000	000000	001736	002500 453 U
HQ070	NGC4151	84	1244	1208004	394101	L 3	25971	L	85051823	000000	000000	233310	004000 351 U
HQ070	NGC4151	84	1242	1208004	394102	L 3	26032	L	85053000	000000	000000	004610	004000 351 U
HQ070	NGC 4151	84	1248	1208004	394102	L 1	06116	L	85060222	000000	000000	222147	002500 343 U
IBHMP	HD 105998	66	0920	1209200	-583100	L 1	06667	L	85081510	000000	000000	102400	001500 G E=2.0X, C=179, B=72
IBHMP	HD 105998	66	0920	1209200	-583100	L 3	26608	L	85081509	000000	000000	092800	005000 G E=166, C=190, B=85
IBHMP	HD 105998	66	0920	1209200	-583100	L 3	26603	L	85081312	000000	000000	120600	006000 G E=1.2X, C=182, B=110
IBHMP	HD 105998	66	0920	1209200	-583100	L 1	06652	L	85081313	000000	000000	131200	002000 G E=2.5X, C=250, B=141
PHCAL	OO WAUCAL	98	9999	1213594	+332025	H 2	17744	S	85062019	194700	000016	000000	000000 G E=60.0X, B=135
PHCAL	OO WAUCAL	98	9999	1213594	+332025	L 2	17743	S	85062019	191700	000001	000000	000000 G E=20.0X, B=85
HSNGS	HD 106911	21	0430	1215223	-790205	L 1	06287	SL	85062716	163800	000007	163000	000003 G C=220, B=47
HSNGS	HD 106911	21	0430	1215223	-790205	L 3	26272	L	85062716	000000	000000	162100	000005 G C=215, B=20
HZHHM	OOTON 1530	85	1540	1222566	+225148	L 3	26416	L	85071503	000000	000000	034700	021500 G B=118
HQ123	TON 1530	95	1600	1222566	225149	E 9	01677	2	85071420	000000	000000	200000	004000 U FIELD FOR SUP26416
HQ117	3C273	85	1319	1226333	021944	L 3	25974	L	85051904	000000	000000	045821	005000 461 U
HQ070	3C273	85	1313	1226333	021944	L 1	06009	L	85051904	000000	000000	041614	003000 553 U
HQ117	3C273	85	1312	1226333	021944	L 1	06010	L	85051905	000000	000000	055217	005500 773 U
HQ117	3C273	85	1280	1226333	021944	L 3	25973	L	85051903	000000	000000	034249	002500 341 U
AGHGR	OO 3C273	85	0000	1226334	+021942	L 1	06501	L	85072709	000000	000000	091300	003000 G C=230, B=42
AGHGR	OO 3C273	85	0000	1226334	+021942	L 3	26489	L	85072708	000000	000000	083800	003000 G E=234, C=106, B=30

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT			
ISHPF	HD	108767	30	0300	1227164	-161414	H	1	06415	L	85071716	000000	000000	163700	000100	G C=145,B=45	
ISHPF	HD	108767	30	0300	1227164	-161414	H	1	06414	L	85071715	000000	000000	155600	000100	G C=198,B=55	
ISHPF	HD	108767	30	0300	1227164	-161414	H	1	06450	L	85072115	000000	000000	153900	000109	G C=210,B=59	
ISHPF	HD	108767	30	0300	1227164	-161414	H	1	06449	L	85072114	000000	000000	145200	000109	G C=205,B=50	
ISHPF	HD	108767	30	0300	1227164	-161414	H	1	06424	L	85071916	000000	000000	160300	000115	G C=225,B=58	
ISHPF	HD	108767	30	0300	1227164	-161414	H	1	06451	L	85072116	000000	000000	163300	000109	G C=212,B=50	
ISHPF	HD	108767	30	0300	1227164	-161414	H	1	06423	L	85071915	000000	000000	151000	000174	G C=230,B=60	
ISHPF	HD	108767	30	0300	1227164	-161414	H	1	06425	L	85071916	000000	000000	165600	000330	G C=3.0X,B=90	
HI054	HD108907	49	0509	1227558	692840	H	3	26094	L	85060422	000000	000000	220534	040100	343	U	
HI054	HD108907	49	0510	1227558	692840	L	1	06131	L	85060421	000000	000000	214959	001000	461	U	
HC020	HD108907	49	0515	1227558	692841	H	1	06017	L	85052103	000000	000000	031643	021000	362	U	
SDHFW	PG1230+053	28	1330	1230397	+051407	L	3	26176	L	85061520	000000	000000	203900	001000		G C=158,B=18	
WDHGW	OO LHS2594	37	1380	1236009	-493234	L	1	06518	L	85072912	000000	000000	123800	005000		G C=210,B=120	
WDHGW	OO LHS2594	37	1380	1236039	-493130	L	3	26505	L	85072917	000000	000000	170500	010000		G C=145,B=80	
ACHSA	HD	109995	38	0760	1236231	+393505	H	1	06349	L	85070508	000000	000000	082900	013000		G C=1.5X,B=68
ACHSA	HD	109995	38	0760	1236231	+393505	H	3	26348	L	85070504	000000	000000	045500	021000		G C=208,B=65
ACHSA	HD	109995	38	0760	1236231	+393505	H	1	06319	L	85070203	000000	000000	034400	014800		G C=2X,B=70
ACHSA	HD	109995	38	0760	1236232	+393506	H	1	06348	L	85070503	000000	000000	033400	007500		G C=200,B=55
ACHSA	HD	109995	38	0760	1236232	+393506	H	3	26333	L	85070206	000000	000000	061800	022000		G C=225,B=70
ACHSA	HD	109995	38	0760	1236232	+393506	H	3	26368	L	85070703	000000	000000	033300	038600		G C=2X,B=120
HQ002	NGC4593	84	1351	1237047	-050410	L	1	06266	L	85062502	000000	000000	023315	013400	454	U	
HQ002	NGC4593	84	1348	1237047	-050410	L	3	26314	L	85063000	000000	000000	000047	028700	333	U	
HQ002	NGC4593	84	1356	1237047	-050410	L	3	26347	L	85070421	000000	000000	215639	029100	333	U	
HQ002	NGC4593	84	1355	1237047	-050410	L	1	06300	L	85062921	000000	000000	214634	013000	454	U	
HQ002	NGC4593	84	1350	1237047	-050410	L	3	26252	L	85062421	000000	000000	213734	029000	333	U	
PLHNE	SA	240150	53	0820	1238320	-593111	L	1	06584	L	85080508	000000	000000	082700	000700		G C=174,B=38
PLHNE	SA	240150	53	0820	1238320	-593111	L	3	26551	L	85080505	000000	000000	055100	015000		G C=131,B=61
PLHNE	SA	240150	53	0820	1238320	-593111	L	1	06583	L	85080505	000000	000000	052800	001500		G C=2X,B=38
BIHTS	HD	110335	26	0490	1239030	-592442	H	3	26124	L	85060817	000000	000000	171800	001300		G C=2X,B=110
HETOO	SN NGC4618	56	1500	1239096	412533	L	1	06005	L	85051800	000000	000000	001240	016800	305	U	
QSHEJ	PG1241+176	85	1540	1241409	+173728	D	9	01668	L	85062320	000000	000000	204300	016000		G NO COMMENTS	
HQ220	PG1241+176	85	1540	1241409	173728	L	1	06246	L	85061820	000000	000000	204655	030000	355	U	
QSHEJ	PG1241+176	85	9999	1241409	+173728	L	1	06215	SL	85061405	055500	028000	055500	028000		G E=217,C=170,B=82	
HQ220	PG1241+176	85	1560	1241410	173729	L	1	06262	L	85062420	000000	000000	200446	046500	474	U	
QSHEJ	PG1241+176	85	9999	1241410	+173729	L	1	06247	SL	85061902	021900	030000	021860	030000		G C=200,B=85	
HQ220	PG1241+176	85	1540	1241410	173729	E	9	01663	2	85061902	000000	000000	024000	016000		U FOR LWP6247	
HQ220	PG1241+176	85	1550	1241410	173729	F	9	01669	2	85062321	000000	000000	213530	016000		U	
QSHEJ	PG1241+176	85	9999	1241410	173729	L	1	06202	SL	85061306	062100	028000	062000	028000		G E=221,C=145,B=85	
QSHEJ	SA	100232	41	0820	1242129	+175826	D	9	01662	L	85061820	000000	000000	201900	016000		G NO COMMENTS
HM137	HD111290	23	0803	1246153	-712732	H	3	26062	L	85060122	000000	000000	223141	008000	601	U	
GM106	HD111290	23	0797	1246153	-712732	H	1	06096	L	85053100	000000	000000	002540	002000	502	U	
HM137	HD	111290	23	0793	1246153	-712732	H	1	06111	L	85060123	000000	000000	235858	002000	503	U
GM106	HD111290	23	0796	1246153	-712732	H	3	26037	L	85053023	000000	000000	233654	004000	501	U	
HI104	EX HYA	54	1358	1249426	-285840	L	3	26546	L	85080420	000000	000000	200414	003000	331	U 2EXP. 15MIN EACH	
HI104	EX HYA	54	1332	1249426	-285840	L	3	26532	L	85080223	000000	000000	232939	001106	220	U TRAIL R=.03,I=1	

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT	
HI104	EX HYA	54	1375	1249426	-285840	L	3	26549	L	85080423	000000	000000	235029	003000 330 U 2EXPS,15MIN EACH	
HI104	EX HYA	54	1331	1249426	-285840	L	3	26533	L	85080300	000000	000000	003100	001300 230 U RP(-34,-204)P(2,212)	
HI104	EX HYA	54	1363	1249426	-285840	L	3	26548	L	85080422	000000	000000	225200	001107 220 U TRAIL,R=.03,I=1	
HI104	EX HYA	54	1350	1249426	-285840	L	1	06564	LS	85080222	000000	000000	225343	003400 331 U 341\$ RP(2,-212)(-34,	
HI104	EX HYA	54	1344	1249426	-285840	L	1	06563	L	85080221	000000	000000	211141	001700 440 U	
HI104	EX HYA	54	1358	1249426	-285840	L	1	06561	L	85080218	000000	000000	182201	001300 330 U	
HI104	EXHYA	54	1363	1249426	-285840	L	3	26530	L	85080220	000000	000000	201508	001106 220 U TRAIL R=.03,I=1	
HI104	EX HYA	54	1365	1249426	-285840	L	3	26531	L	85080221	000000	000000	215031	001106 220 U TRAIL R=.03,I=1,212)	
HI104	EX HYA	54	1371	1249426	-285840	L	1	06581	L	85080421	000000	000000	214655	003000 453 U 2EXPS:15MIN EACH	
HI104	EX HYA	54	1365	1249426	-285840	L	1	06582	L	85080500	000000	000000	001651	001200 333 U	
HI104	EX HYA	54	1371	1249426	-285840	L	1	06562	L	85080219	000000	000000	193429	001700 341 U	
HI104	EX HYA	54	1338	1249426	-285840	L	3	26547	L	85080421	000000	000000	212000	001107 221 U TRAIL,R=.03,I=1	
HSXGS	HD	112091	26	0520	1251396	-565350	L	3	26273	L	85062717	000000	000000	174900	000012 G C=212,B=20
HSXGS	HD	112091	26	0520	1251396	-565350	L	3	26274	L	85062718	000000	000000	182900	000012 G C=212,B=16
HSXGS	HD	112091	26	0520	1251396	-565350	L	1	06288	SL	85062718	184800	000009	184000	000008 G C=220,B=42
BIHTS	HD	112091	26	0520	1251404	-565348	H	3	26125	L	85060818	000000	000000	180200	000815 G C=2X,B=110
CCJL	HD	112300	49	0340	1253050	+034008	H	1	06403	L	85071518	000000	000000	184000	000700 G E=133,C=80,B=40
CCJL	HD	112300	49	0340	1253050	+034008	H	1	05923	L	85050618	000000	000000	185300	004500 G E=5X,C=152,B=115
CCJL	HD	112300	49	0340	1253050	+034008	L	3	26421	L	85071518	000000	000000	180900	002500 G E=82,C=65,B=40
CCJL	HD	112300	49	0340	1253050	+034008	H	1	06402	L	85071517	000000	000000	174700	001500 G E=255,C=140,B=95
CGHB	BS	4912	41	0660	1253480	-261122	H	1	06616	L	85080802	000000	000000	020400	040500 G E=154,C=1.2X,B=103
QSHMM	PG1254+047	85	1550	1254276	+044347	L	1	05873	L	85050110	000000	000000	103200	015000 G C=105,B=60	
HM137	CP-69 1743	20	0970	1257132	-695626	H	3	26064	L	85060202	000000	000000	021903	014800 402 U	
CCJL	HD	112985	47	0360	1258480	-711647	H	1	05915	L	85050517	000000	000000	171300	005500 G E=255,C=210,B=93
CCJL	HD	112985	47	0360	1258480	-711647	L	3	25871	L	85050518	000000	000000	181300	002500 G B=40
LGHJL	HD	112985	47	0360	1258480	-711647	H	1	05916	L	85050519	000000	000000	190100	002000 G C=225,C=205,B=100
EGHJH	OO BSO 234	88	1750	1300424	+360733	L	3	26343	L	85070404	000000	000000	044000	079500 G E=189,C=155,B=120	
HE171	BS0234	88	9999	1300425	360733	E	9	01673	2	85070321	000000	000000	212000	004000 U FOR SWP 26343	
HC071	HD114519	52	0842	1308178	361201	L	3	26188	L	85061701	000000	000000	014945	002000 311 U	
HC071	HD114519	52	0838	1308178	361201	L	1	06232	L	85061703	000000	000000	032102	000500 512 U	
HC071	HD 114519	52	0840	1308178	361201	L	1	06231	L	85061702	000000	000000	021633	000600 612 U	
HC071	HD114519	52	0836	1308178	361201	L	1	06233	L	85061704	000000	000000	042310	000500 512 U	
HC071	HD114519	52	0837	1308178	361201	L	3	26190	L	85061703	000000	000000	035132	002500 311 U	
HC071	HD114519	52	0839	1308178	361201	L	3	26189	L	85061702	000000	000000	024443	002500 311 U	
HE081	SN NGC5033	56	1397	1311070	365300	L	1	06418	L	85071720	000000	000000	202150	038600 446 U	
HE081	SN NGC5033	56	1327	1311070	365300	L	1	06291	L	85062803	000000	000000	032957	007700 413 U	
HE081	SN NGC5033	56	1328	1311070	365300	L	3	26278	L	85062802	000000	000000	021334	007000 211 U	
WDHGS	001312+098	37	1630	1312386	+095304	L	1	05920	L	85050607	000000	000000	074900	006000 G C=73,B=43	
WDHGS	001312+098	37	1630	1312386	+095304	L	3	25874	L	85050608	000000	000000	085400	034500 G C=167,B=72	
ISHFB	HD	115892	30	0280	1317467	-362657	H	1	06391	S	85071317	171200	000310	000000	000000 G C=1.2X,B=65
OD68K	SA	139335	53	0950	1323268	-030709	H	1	06621	L	85080902	000000	000000	021500	039000 G E=144,C=150,B=100
SRHLW	OO R HYA	51	0500	1326585	-230124	L	1	06094	L	85053020	000000	000000	201900	003000 G E=82,C=52,B=40	
SRHLW	OO R HYA	51	0500	1326585	-230124	L	1	06476	L	85072415	000000	000000	151700	003000 G E=133,C=140,B=110	
QSHEJ	00WOLF 485	29	1220	1327372	-081853	L	1	06170	L	85060913	000000	000000	132400	001000 G C=155,B=42	
QSHEJ	00WOLF 485	29	1220	1327372	-081853	L	3	26239	L	85062316	000000	000000	160200	001000 G C=93,B=20	

PRO	OBJECT	CL	MAG	R.A.	DEC	D C	IMAGE	A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT			
QSHEJ	00WOLF	485	29	1220	1327372	-081853	L	3	26240	L	85062316	000000	000000	165200	001000	G C=98,B=21
QSHEJ	00WOLF	485	29	1220	1327372	-081853	L	1	06260	L	85062317	000000	000000	173000	001000	G C=192,B=45
QSHEJ	00WOLF	485	29	1220	1327372	-081853	L	1	06171	L	85060914	000000	000000	141200	001000	G C=157,B=45
QSHEJ	00WOLF	485	29	1220	1327372	-081853	L	3	26169	L	85061417	000000	000000	172100	001000	G C=150,B=87
QSHEJ	00WOLF	485	29	1220	1327372	-081853	L	1	06259	SL	85062316	162000	001000	161900	001000	G C=165,B=40
QSHEJ	00WOLF	485	29	1220	1327372	-081853	L	1	06218	L	85061417	000000	000000	173900	001000	G
QSHEJ	00 WOLF485	29	1220	1327373	-081854	L	1	06175	L	85060917	000000	000000	173800	001000	G C=170,B=52	
QSHEJ	00 WOLF485	29	1220	1327373	-081854	L	1	06172	L	85060915	000000	000000	151400	001000	G C=165,B=50	
QSHEJ	00 WOLF485	29	1220	1327373	-081854	L	1	06177	L	85060919	000000	000000	190500	001000	G C=225,B=132	
QSHEJ	00 WOLF485	29	1220	1327373	-081854	L	1	06174	L	85060916	000000	000000	165400	001000	G C=170,B=52	
QSHEJ	00 WOLF485	29	1220	1327373	-081854	L	1	06176	L	85060918	000000	000000	182200	001000	G C=225,B=132	
QSHEJ	00 WOLF485	29	1220	1327373	-081854	L	1	06173	L	85060916	000000	000000	160000	001000	G C=170,B=52	
QSHEJ	00WOLF	485	29	1220	1327400	-091824	L	3	26203	L	85061815	000000	000000	153800	001000	G C=91,B=17
QSHEJ	00WOLF	485	29	1220	1327400	-081824	L	1	06243	SL	85061815	151200	001000	151100	001000	G C=163,B=38
QSHEJ	00WOLF	485	29	1220	1327400	-081824	L	1	06242	SL	85061813	134700	001000	134600	001000	G C=160,B=38
QSHEJ	00WOLF	485	29	1220	1327400	-081824	L	3	26202	L	85061814	000000	000000	140300	001000	G C=95,B=18
PHCAL	00SKY BKGD	07	0000	1328100	-544305	L	1	06682	L	85081614	000000	000000	143600	000600	G B=190	
PHCAL	00 NULL	99	0000	1328100	-544305	L	1	06683	L	85081615	000000	000000	150900	000000	G B=38	
PHCAL	00SKY BKGD	07	0000	1328100	-544305	L	1	06684	L	85081615	000000	000000	153700	000300	G B=78	
HI042	BU CEN	54	1336	1328100	-544305	L	1	06685	L	85081621	000000	000000	212223	020000	583 U	
HI042	BU CEN	54	1328	1328100	-544305	L	3	26623	L	85081617	000000	000000	171717	024000	451 U	
CUHRW	00 BU CEN	54	1320	1328101	-544306	L	3	26622	L	85081612	000000	000000	121900	002500	G C=190,B=175	
CUHRW	00 BU CEN	54	1320	1328101	-544306	L	3	26621	L	85081610	000000	000000	100400	009000	G C=200,B=140	
CUHRW	00 BU CEN	54	1320	1328101	-544306	L	1	06679	L	85081611	000000	000000	114000	003000	G C=210,B=160	
IBRSK	00 RW HYA	57	0930	1331320	-250729	L	3	26220	L	85062116	000000	000000	162100	000500	G E=2.0X,C=60,B=25	
IBRSK	00 RW HYA	57	0930	1331320	-250729	L	1	06252	L	85062116	000000	000000	161100	000500	G C=145,B=35	
SDHFW	PG1336-018	28	1340	1336133	-014634	L	1	06224	L	85061519	000000	000000	195100	001800	G C=210,B=41	
SDHFW	PG1336-018	28	1340	1336133	-014634	L	3	26175	L	85061519	000000	000000	190800	001400	G C=205,B=32	
HE027	MKN273	84	1452	1342516	560814	L	3	26367	L	85070619	000000	000000	193552	043200	225 U	
LDHDD	HD 119850	48	0850	1343120	+150942	L	1	06085	L	85052920	000000	000000	201300	002000	G E=105,C=60,B=38	
LDHDD	HD 119850	48	0850	1343120	+150942	L	1	05989	L	85051608	000000	000000	080500	000600	G E=69,C=50,B=34	
PHCAL	ETA UMA	21	0201	1345340	493344	L	2	17759	L	85072702	000000	000000	023012	000001	401 U UVC=2.5KU	
PHCAL	ETA UMA	21	0195	1345340	493344	H	1	06146	L	85060522	000000	000000	224400	000015	701 U	
PHCAL	ETA UMA	21	0186	1345340	493344	H	3	26099	L	85060522	000000	000000	220939	000006	500 U	
PHCAL	ETA UMA	21	0200	1345340	493344	H	1	06145	L	85060522	000000	000000	221345	000005	501 U	
PHCAL	ETA UMA	21	0197	1345340	493344	H	2	17733	L	85060704	000000	000000	041130	000006	502 U	
PHCAL	ETA UMA	21	0191	1345340	493344	H	3	26052	L	85060105	000000	000000	055550	000006	500 U	
PHCAL	HD 120315	21	0180	1345343	+493344	H	3	26223	L	85062118	000000	000000	183400	000007	G C=205,B=28	
PHCAL	HD 120315	21	0180	1345343	+493344	H	3	26224	L	85062119	000000	000000	190100	000007	G C=200,B=28	
PHCAL	HD 120315	21	0180	1345343	+493344	H	3	26225	L	85062119	000000	000000	193900	000007	G C=200,B=37	
PHCAL	HD 120315	21	0180	1345343	+493344	H	3	26226	L	85062120	000000	000000	200700	000007	G C=205,B=40	
PHCAL	HD 120315	21	0180	1345343	+493344	H	3	26227	L	85062120	000000	000000	204200	000007	G C=200,B=37	
PHCAL	HD 120315	21	0180	1345343	+493344	H	1	05878	L	85050121	000000	000000	213000	000005	G C=215,B=45	
PHCAL	HD 120315	21	0180	1345343	+493344	L	3	26162	L	85061320	000000	000000	201900	000001	G C=205,B=17	
PHCAL	HD 120315	21	0180	1345343	+493344	H	3	26222	L	85062117	000000	000000	175700	000007	G C=200,B=40	

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT		
ISHFB	HD	120315	21	0190	1345343	+493344	H	1	06387	S	85071311	114700	000009	000000	000000	G C=197, B=40
PHCAL	HD	120315	21	0180	1345343	+493344	L	3	26161	SL	85061319	193900	000001	193800	000001	G C=2X, B=25
PHCAL	HD	120315	21	0180	1345343	+493344	H	3	26221	L	85062117	000000	000000	172600	000007	G C=200, B=35
PHCAL	HD	120315	21	0180	1345343	+493344	L	2	17748	L	85071810	000000	000000	101500	000001	G C=1.5X, B=25
PHCAL	HD	120315	21	0180	1345343	+493344	H	3	26152	L	85061218	000000	000000	185100	000007	G B=21
PHCAL	HD	120315	21	0180	1345343	+493344	H	3	25890	L	85050821	000000	000000	212500	000006	G C=175, B=34
PHCAL	HD	120315	21	0180	1345343	+493344	L	2	17747	L	85071809	000000	000000	092100	000001	G C=205, B=25
PHCAL	HD	120315	21	0180	1345343	+493344	L	2	17746	L	85071808	000000	000000	082500	000001	G C=1.5X, B=45
PHCAL	HD	120315	21	0180	1345343	+493344	L	3	26251	L	85062420	000000	000000	203300	000001	G C=197, B=17
PHCAL	HD	120315	21	0180	1345343	+493344	L	3	26250	L	85062419	000000	000000	195100	000001	G B=19
PHCAL	HD	120315	21	0180	1345343	+493344	L	3	26249	L	85062419	000000	000000	190500	000001	G C=205, B=16
PHCAL	HD	120315	21	0180	1345343	+493344	H	1	06317	L	85070118	000000	000000	182900	000005	G C=210, B=42
PHCAL	HD	120315	21	0180	1345343	+493344	H	3	26332	L	85070118	000000	000000	182400	000006	G C=180, B=32
PHCAL	HD	120315	21	0180	1345343	+493344	L	3	26248	L	85062418	000000	000000	182100	000001	G C=1.5X, B=16
PHCAL	HD	120315	21	0180	1345343	+493344	L	3	26247	L	85062417	000000	000000	173900	000001	G C=17, B=17
PHCAL	HD	120315	21	0180	1345343	+493344	L	2	17745	L	85071807	000000	000000	073800	000001	G C=195, B=28
PHCAL	HD	120315	21	0180	1345343	+493344	L	1	06383	L	85071118	000000	000000	183100	000001	G C=195, B=37
PHCAL	HD	120315	21	0180	1345343	+493344	H	3	26154	L	85061220	000000	000000	202500	000007	G C=193, B=37
PHCAL	HD	120315	21	0180	1345343	+493344	H	3	26153	L	85061219	000000	000000	193200	000007	G C=190, B=35
ISHFB	HD	120315	21	0190	1345343	+493344	H	3	26407	S	85071311	114300	000012	000000	000000	G C=168, B=30
LGHHJ	HD	120323	49	0440	1346324	-341207	H	1	06566	L	85080302	000000	000000	023700	037000	G E=20X, C=213, B=128
LGHHJ	HD	120323	49	0440	1346324	-341207	H	1	06565	L	85080301	000000	000000	014900	001500	G E=168, B=36
BEHGP	HD	120324	26	0350	1346357	-421332	H	3	26290	L	85062813	000000	000000	135000	000020	G C=200, B=33
BEHGP	HD	120324	26	0350	1346357	-421332	H	3	26291	L	85062814	000000	000000	142100	000020	G C=205, B=31
BEHGP	HD	120324	26	0350	1346357	-421332	H	3	26292	L	85062814	000000	000000	145000	000020	G C=205, B=31
BEHGP	HD	120324	26	0350	1346357	-421332	L	3	26280	L	85062806	000000	000000	061600	000001	G C=245, B=17
BEHGP	HD	120324	26	0350	1346357	-421332	H	1	06292	L	85062805	000000	000000	054200	000011	G C=175, B=41
BEHGP	HD	120324	26	0350	1346357	-421332	H	3	26279	L	85062805	000000	000000	053800	000020	G C=195, B=35
BEHGP	HD	120324	26	0350	1346357	-421332	H	3	26284	L	85062810	000000	000000	100600	000020	G C=205, B=35
BEHGP	HD	120324	26	0350	1346357	-421332	L	3	26285	L	85062810	000000	000000	104300	000001	G C=240, B=15
BEHGP	HD	120324	26	0350	1346357	-421332	H	1	06294	L	85062811	000000	000000	111500	000014	G C=190, B=45
BEHGP	HD	120324	26	0350	1346357	-421332	H	3	26288	L	85062812	000000	000000	124500	000020	G C=190, B=35
BEHGP	HD	120324	26	0350	1346357	-421332	H	3	26286	L	85062811	000000	000000	111500	000014	G C=205, B=35
BEHGP	HD	120324	26	0350	1346357	-421332	H	3	26293	L	85062815	000000	000000	152300	000020	G C=205, B=31
BEHGP	HD	120324	26	0350	1346357	-421332	H	3	26283	L	85062809	000000	000000	093600	000020	G C=210, B=35
BEHGP	HD	120324	26	0350	1346357	-421332	H	3	26282	L	85062809	000000	000000	090500	000020	G C=205, B=33
BEHGP	HD	120324	26	0350	1346357	-421332	H	3	26287	L	85062812	000000	000000	120400	000020	G C=205, B=35
BEHGP	HD	120324	26	0350	1346357	-421332	H	3	26299	L	85062818	000000	000000	183300	000020	G C=205, B=32
BEHGP	HD	120324	26	0350	1346357	-421332	H	3	26294	L	85062815	000000	000000	155200	000020	G C=210, B=32
BEHGP	HD	120324	26	0350	1346357	-421332	H	3	26298	L	85062817	000000	000000	175200	000020	G C=210, B=34
BEHGP	HD	120324	26	0350	1346357	-421332	H	3	26297	L	85062817	000000	000000	172300	000020	G C=205, B=32
BEHGP	HD	120324	26	0350	1346357	-421332	L	3	26296	L	85062816	000000	000000	165300	000001	G C=240, B=17
BEHGP	HD	120324	26	0350	1346357	-421332	H	3	26295	L	85062816	000000	000000	162000	000020	G C=210, B=36
BEHGP	HD	120324	26	0350	1346357	-421332	H	3	26289	L	85062813	000000	000000	132000	000020	G C=200, B=32
SHFF	HD	120901	39	0698	1349546	-182744	L	3	25964	L	85051716	000000	000000	164200	001600	G C=6X, B=40

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT	
SBHFF	HD 120901	39	0700	1349547	-182745	L	1	06495	L	85072615	000000	000000	154400	000130	G C=210, B=40
SBHFF	HD 120901	39	0700	1349547	-182745	L	3	26483	L	85072615	000000	000000	155100	000230	G C=120, B=18
HQ111	PKS1351+64	85	1400	1351461	640029	L	3	26132	L	85060901	000000	000000	013906	015000	342 U
HQ111	PKS1351+64	85	1400	1351461	640029	L	1	06168	L	85060904	000000	000000	042958	002000	111 U
SDHFW	PG1352-023	28	1210	1352296	-021539	L	3	26174	L	85061517	000000	000000	174100	000435	G C=1.2X, B=28
SDHFW	PG1352-023	28	1210	1352296	-021539	L	1	06223	L	85061517	000000	000000	175300	000630	G C=1.5X, B=78
LGHJ	HD 122250	49	0480	1400232	-763325	L	1	06554	L	85080208	000000	000000	085000	002000	G E=212, C=65, B=43
BIHTS	HD 124367	26	0510	1411270	-565111	H	3	26126	L	85060818	000000	000000	184100	000641	G C=2X, B=105
QSHCW	PG1411+442	85	1500	1411499	+441412	L	1	06636	L	85081105	000000	000000	050600	022000	G E=90, C=182, B=78
QSHCW	PG1411+442	85	1500	1411499	+441412	L	3	26588	L	85081102	000000	000000	021100	017000	G E=125, C=80, B=50
SEHLW	OO R CEN	51	0600	1412569	-594055	L	1	06477	L	85072416	000000	000000	163200	003000	G E=158, C=105, B=82
BLHAG	Q 1413+135	87	2100	1413338	+133417	L	3	25975	L	85051907	000000	000000	074600	040000	G B=80
HQ014	Q 1415+45	85	1570	1415044	450956	L	3	25892	L	85050900	000000	000000	001232	039500	353 U
HQ014	Q 1415+45	85	1570	1415044	450956	L	3	25885	L	85050800	000000	000000	002723	038000	353 U
HQ117	NGC 5548	84	1375	1415432	252200	L	1	05948	L	85051002	000000	000000	024958	006000	453 U
HQ117	NGC5548	84	1379	1415432	252200	L	3	25902	L	85051000	000000	000000	005620	010000	361 U
HQ117	NGC 5548	84	1371	1415432	252200	L	3	25903	L	85051003	000000	000000	035653	017000	561 U
CCHTA	HD 125451	41	0540	1416510	+131402	H	3	25926	L	85051310	000000	000000	104700	014300	G C=250, B=57
GM106	CP-69 2055	23	1040	1425151	-695358	H	3	26038	L	85053101	000000	000000	012245	032500	502 U
DCHNE	HD 127297	53	0680	1428570	-564002	L	1	06459	L	85072215	000000	000000	152200	000140	G
HM137	CPD-721542	23	1042	1430126	-731847	H	3	26086	L	85060321	000000	000000	215659	041000	704 U
HI180	HD128220	16	0870	1432566	192558	H	3	26228	L	85062121	000000	000000	213021	004000	501 U
HI180	HD128220	16	0875	1432566	192558	H	3	26230	L	85062123	000000	000000	235716	004500	501 U
ISHFB	HD128220 B	16	0850	1432566	+192558	H	3	26409	L	85071317	000000	000000	175000	003100	G C=195, B=62
HI180	HD128220	16	0859	1432566	192558	H	3	26304	L	85062901	000000	000000	010828	004000	502 U
ISHFB	HD128220 B	16	0850	1432566	+192558	H	1	06392	L	85071318	000000	000000	182500	002500	G C=182, B=55
HI180	HD 128220	16	0861	1432566	192557	H	3	26229	L	85062122	000000	000000	224010	004500	501 U
HI180	HD128220	16	0866	1432566	192558	H	3	26303	L	85062823	000000	000000	235955	004000	401 U
ISHPF	HD 129422	31	0540	1441181	-623950	H	1	06661	L	85081413	000000	000000	135800	000415	G C=200, B=130
ISHPF	HD 129422	31	0540	1441182	-623950	H	1	06452	L	85072117	000000	000000	173500	001500	G C=160, B=58
ISHPF	HD 129422	31	0540	1441182	-623950	H	1	06453	L	85072118	000000	000000	182800	001320	G C=170, B=45
STHRP	OO 109 VIR	30	0370	1443431	+020609	L	1	06109	L	85060119	000000	000000	194100	000001	G C=200, B=32
STHRP	OO 109 VIR	30	0370	1443431	+020609	L	1	06110	L	85060120	000000	000000	202100	000009	G C=7X, B=35
STHRP	OO 109 VIR	30	0370	1443431	+020609	L	1	06320	L	85070215	000000	000000	154100	000001	G C=195, B=33
STHRP	OO 109 VIR	30	0370	1443431	+020609	L	1	06325	L	85070218	000000	000000	182900	000009	G C=8X, B=35
STHRP	OO 109 VIR	30	0370	1443431	+020609	L	1	06324	L	85070217	000000	000000	175200	000009	G C=8X, B=35
STHRP	OO 109 VIR	30	0370	1443431	+020609	L	1	06108	L	85060119	000000	000000	191100	000002	G C=2X, B=33
STHRP	OO 109 VIR	30	0370	1443431	+020609	L	1	06321	L	85070216	000000	000000	161700	000001	G C=195, B=32
STHRP	OO 109 VIR	30	0370	1443431	+020609	L	1	06322	L	85070216	000000	000000	164900	000002	G C=2X, B=37
STHRP	OO 109 VIR	30	0370	1443431	+020609	L	1	06323	L	85070217	000000	000000	172100	000002	G C=2X, B=35
HQ014	Q1444+41	85	0160	1444502	484738	L	3	25852	L	85050401	000000	000000	010022	034700	343 U
RRHRB	BD+26 2606	42	0970	1446499	+255438	L	3	26497	L	85072817	000000	000000	170600	009500	G C=210, B=72
RRHRB	BD+26 2606	42	0970	1446499	+255438	L	1	06510	L	85072816	000000	000000	163700	001000	G C=2X, B=70
RRHRB	BD +262606	42	0810	1446500	+255424	L	1	06613	L	85080716	000000	000000	164500	000500	G C=165, B=41
EGHGM	OO MKN1388	84	1570	1448229	+225623	L	3	26021	L	85052710	000000	000000	103500	024000	G B=54

PRO	OBJECT	CL	MAG	R.A.	DEC	D C	IMAGE A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT	
EGHM	OO MKN1388	84	1570	1448229	+225623	L 1	06068 L	85052707	000000	000000	075100	016000	G E=83,C=78,B=59
IMDY	OO BT DRA	53	1160	1450300	601630	H 1	06664 L	85081418	000000	000000	180400	075000	G C=210,B=157
IMDY	OO BT DRA	53	1160	1450300	+601630	H 1	06649 L	85081301	000000	000000	014300	089100	G C=240,B=170
HM068	BT DRA	53	1240	1450302	601629	E 9	01683 2	85081217	000000	000000	171700	016000	U FES IMAGE FOR LWP664
HM068	BT DRA	53	1191	1450302	601630	D 9	01684 2	85081417	000000	000000	175300	002000	U FOR LWP664-LWLA
PHCAL	OO WAUCAL	98	0000	1450496	+742134	H 3	26043 S	85053116	165800	000200	000000	000000	G E=50X,B=115
PHCAL	OO WAUCAL	98	0000	1450496	+742134	L 3	26042 S	85053116	163300	000002	000000	000000	G E=10X,B=100
PHCAL	OO WAUCAL	98	0000	1450496	+742134	L 1	06099 S	85053115	153000	000001	000000	000000	G E=10X,B=100
PHCAL	OO WAUCAL	98	0000	1450496	+742134	H 1	06100 S	85053115	155900	000016	000000	000000	G E=50X B=105
HC058	HD131873	47	0236	1450508	742135	L 3	26399 L	85071119	000000	000000	193316	043300	363 U
IBLJH	HD 132742	30	0490	1458170	-081900	H 1	06469 L	85072313	000000	000000	131400	000530	G
IBLJH	HD 132742	30	0490	1458170	-081900	H 3	26461 L	85072312	000000	000000	125400	001300	G
IBLJH	HD 132742	30	0490	1458170	-081900	H 1	06471 L	85072316	000000	000000	162700	000824	G
IBLJH	HD 132742	30	0490	1458170	-081900	H 1	06472 L	85072317	000000	000000	174200	001300	G
IBLJH	HD 132742	30	0490	1458170	-081900	H 1	06468 L	85072311	000000	000000	114300	000830	G C=1.2X,B=50
IBLJH	HD 132742	30	0490	1458170	-081900	H 3	26460 L	85072311	000000	000000	112500	001200	G
IBLJH	HD 132742	30	0490	1458170	-081900	H 3	26464 L	85072318	000000	000000	180300	002400	G
IBLJH	HD 132742	30	0490	1458170	-081900	H 3	26463 L	85072316	000000	000000	160300	001318	G
IBLJH	HD 132742	30	0490	1458170	-081900	H 3	26462 L	85072314	000000	000000	143500	001330	G
IBLJH	HD 132742	30	0490	1458170	-081900	H 1	06470 L	85072314	000000	000000	145600	000730	G
BEHCG	HD 134481	26	0390	1508268	-483257	H 1	06229 L	85061620	000000	000000	203400	000123	G C=208,B=42
BEHCG	HD 134481	26	0390	1508268	-483257	H 3	26186 L	85061620	000000	000000	202200	000317	G C=230,B=39
BIHTS	HD 134481	26	0390	1508268	-483257	H 3	26127 L	85060819	000000	000000	191900	001336	G C=4X,B=137
ISHPF	HD 135502	30	0530	1512236	292056	H 1	06646 L	85081213	000000	000000	135600	001245	G C=220,B=78
HQ014	Q1512+37	85	1600	1512469	370153	L 3	25873 L	85050600	000000	000000	002837	038700	343 U
ISHPF	OO GAM TRA	30	0290	1514125	-682949	H 1	06659 L	85081412	000000	000000	122000	000121	G C=185,B=50
ISHPF	HD 135382	30	0290	1514125	-682949	H 3	26170 L	85061418	000000	000000	185300	000230	G C=200,B=53
ISHPF	HD 135382	30	0290	1514125	-682949	H 1	06421 L	85071912	000000	000000	123900	000400	G C=2.0X,B=65
ISHPF	OO GAM TRA	30	0290	1514125	-682949	H 1	06662 L	85081414	000000	000000	144600	000145	G C=242,B=82
ISHPF	OO GAM TRA	30	0290	1514125	-682949	H 1	06660 L	85081413	000000	000000	130400	000145	G C=22,B=65
ISHPF	OO GAM TRA	30	0290	1514125	-682949	H 1	06658 L	85081411	000000	000000	113400	000121	G C=107,B=40
ISHPF	HD 135382	30	0290	1514125	-682949	H 3	26204 L	85061817	000000	000000	172600	000200	G C=145,B=36
ISHPF	HD 135382	30	0290	1514125	-682949	H 1	06219 L	85061419	000000	000000	193500	000045	G C=138,B=45
ISHPF	HD 135382	30	0290	1514125	-682949	H 3	26238 L	85062314	000000	000000	140500	000200	G C=150,B=31
ISHPF	HD 135382	30	0290	1514125	-682949	H 1	06244 L	85061817	000000	000000	170800	000045	G C=130,B=43
ISHPF	HD 135382	30	0290	1514125	-682949	H 1	06258 L	85062314	000000	000000	142300	000045	G C=137,B=40
ISHPF	HD 135382	48	1120	1514126	-682949	H 1	06420 L	85071911	000000	000000	112700	000103	G C=155,B=41
MLHTS	HD 135742	22	0260	1514187	-091159	H 3	26214 L	85061920	000000	000000	204900	000020	G C=130,B=30
MLHTS	HD 135742	22	0260	1514187	-091159	H 3	26211 L	85061918	000000	000000	180100	000122	G C=3.0X,B=59
BIHTS	HD 135734	26	0430	1515026	-474133	H 3	26128 L	85060820	000000	000000	200500	000700	G C=2X,B=75
BEHCG	HD 135734	26	0430	1515026	-474133	H 3	25959 L	85051622	000000	000000	223300	000316	G C=250,B=42
BEHCG	HD 135734	26	0430	1515026	-474133	H 1	05995 L	85051622	000000	000000	224100	000125	G C=220,B=45
WDHBM	OO1516+020	37	0000	1516007	+020545	L 3	26087 L	85060406	000000	000000	061500	021000	G B=45
WDHBM	OO1516+020	37	0000	1516007	+020545	L 1	06125 L	85060409	000000	000000	095000	002500	G B=40
WDHBM	OO1516+020	37	0000	1516007	+020545	D 9	01656 L	85060406	000000	000000	060000	000000	G NO COMMENTS

PRO	OBJECT	CL	MAG	R.A.	DEC	D C	IMAGE	A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT	
SUHHM	OO SATURN	03	0060	1521239	-162421	L 3	26640	L	85090318	000000	000000	185700	018000	G C=10X,B=35
SUHHM	OO SATURN	03	0060	1521287	-162444	L 3	26641	L	85090323	000000	000000	234600	012000	G C=10X,B=32
HSHGS	HD 137432	26	0540	1524055	-363537	L 3	26275	L	85062719	000000	000000	195800	000012	G C=220,B=15
HSHGS	HD 137432	26	0540	1524055	-363537	L 1	06289	SL	85062720	201500	000010	200800	000008	G C=215,B=38
BIHTS	HD 137387	26	0550	1526011	-731307	H 3	26121	L	85060815	000000	000000	151100	000354	G C=2X,B=60
BIHTS	HD 137387	26	0550	1526011	-731307	H 3	26120	L	85060814	000000	000000	143100	000457	G C=1.5X,B=45
BIHTS	HD 137387	26	0550	1526011	-731307	H 3	26129	L	85060820	000000	000000	204300	000630	G C=2X,B=61
HA048	HD138749	22	0433	1530547	313136	H 3	25967	L	85051803	000000	000000	033513	000145	551 U
HC055	HD138749	22	0432	1530547	313136	H 3	25915	L	85051204	000000	000000	041417	000145	500 U
HA048	HD138749	22	0434	1530547	313136	H 3	26004	L	85052423	000000	000000	233725	000145	500 U
HA048	HD138749	22	0426	1530547	313136	H 3	26163	L	85061321	000000	000000	213710	000145	500 U
HA048	HD138749	22	0426	1530547	313136	H 3	25953	L	85051602	000000	000000	025145	000145	551 U
HA048	HD138749	22	0420	1530547	313136	H 1	06327	L	85070221	000000	000000	213904	000110	501 U
HA048	HD138749	22	0420	1530547	313136	H 3	26339	L	85070221	000000	000000	213444	000145	501 U
HA048	HD138749	22	0427	1530547	313136	H 3	25989	L	85052102	000000	000000	024209	000145	500 U
HA048	HD138749	22	0425	1530547	313136	H 1	06211	L	85061321	000000	000000	211721	000110	502 U
HA048	HD138749	22	0433	1530547	313136	H 3	25943	L	85051506	000000	000000	063658	000145	511 U
ISHPF	HD 139006	30	0230	1532340	+265254	H 3	26205	L	85061819	000000	000000	192200	000100	G C=165,B=35
ISHPF	HD 139006	30	0230	1532340	+265254	H 1	06261	L	85062318	000000	000000	184100	000030	G C=173,B=41
ISHPF	HD 139006	30	0230	1532340	+265254	H 3	26241	L	85062318	000000	000000	185700	000100	G C=175,B=36
ISHPF	HD 139006	30	0230	1532340	+265254	H 1	06245	L	85061819	000000	000000	190200	000030	G C=160,B=40
ISHPF	HD 139006	30	0220	1532342	+265254	H 1	06647	L	85081214	000000	000000	145800	000030	G C=165,B=42
RRHRB	HD 140283	42	0720	1540198	-104628	L 1	06509	L	85072815	000000	000000	150200	000300	G C=4X,B=52
RRHRB	HD 140283	42	0720	1540198	-104628	L 3	26495	L	85072814	000000	000000	142300	002000	G C=240,B=90
RRHRB	HD 140283	42	0720	1540198	-104628	L 3	26496	L	85072815	000000	000000	153000	002000	G C=250,B=110
PHCAL	BD+33 2642	20	1102	1550010	330528	L 2	17732	L	85060703	000000	000000	031228	000310	402 U
PHCAL	BD+33 2642	20	1103	1550010	330528	L 3	26112	L	85060702	000000	000000	022423	000310	400 U
PHCAL	BD+33 2642	20	1100	1550010	330528	L 2	17731	L	85060702	000000	000000	021638	000310	402 U
PHCAL	BD+33 2642	20	1080	1550019	+330528	L 3	26630	L	85082516	000000	000000	162800	000400	G C=160,B=35
PHCAL	BD+33 2642	20	1080	1550019	+330528	L 1	06351	L	85070517	000000	000000	170700	000310	G C=240,B=47
PHCAL	BD+33 2642	20	1080	1550019	+330528	L 3	26353	L	85070516	000000	000000	165600	000400	G C=185,B=19
PHCAL	BD 332642	20	0000	1550019	330528	L 1	06546	L	85080115	000000	000000	152400	000310	G C=255,B=65
PHCAL	BD+33 2642	20	1080	1550019	+330528	L 2	17773	L	85082923	000000	000000	235300	000310	G C=165,B=25
PHCAL	BD 332642	20	0000	1550019	+330528	L 3	26522	L	85080115	000000	000000	154400	000400	G C=200,B=31
PHCAL	BD+33 2642	20	1080	1550019	+330528	L 1	05879	L	85050122	000000	000000	223000	000310	G C=200,B=35
PHCAL	BD+33 2642	20	1080	1550019	+330528	L 1	05938	L	85050822	000000	000000	222800	000310	G C=215,B=37
PHCAL	BD+33 2642	20	1080	1550019	+330528	L 3	25891	L	85050822	000000	000000	221900	000400	G C=160,B=21
CCHTS	HD 142373	41	0460	1550567	+423526	L 3	26800	L	85092923	000000	000000	233100	004000	G C=2.0X,B=19
HC062	RU LUPI	58	1126	1553243	-374040	H 1	06367	L	85070822	000000	000000	220716	009000	343 U
HC062	RU LUPI	58	1147	1553243	-374040	H 1	06379	L	85071022	000000	000000	225107	009000	353 U
HC062	RU LUPI	58	1124	1553243	-374040	L 1	06368	L	85070902	000000	000000	023452	001500	373 U
HC062	RU LUPI	58	1114	1553243	-374040	L 3	26379	L	85070823	000000	000000	234047	017000	352 U
HC062	RU LUPI	58	1121	1553243	-374040	L 3	26378	L	85070820	000000	000000	200001	012000	351 U
HC062	RU LUPI	58	1145	1553243	-374040	L 3	26391	L	85071019	000000	000000	194547	018000	352 U
HC062	RU LUPI	58	1115	1553243	-374040	L 1	06366	L	85070819	000000	000000	195001	000500	363 U

PRO	OBJECT	CL	MAG	R.A.	DEC	D C	IMAGE	A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT	
HC062	RU LUPI	58	1140	1553243	-374040	L 3	26392	L	85071100	000000	000000	002441	014300 352 U	
HC062	RU LUPI	58	1153	1553243	-374040	L 1	06378	L	85071019	000000	000000	190308	000500 353 U	
MLHTS	HD 142669	20	0390	1553475	-290410	H 3	26212	L	85061919	000000	000000	190200	000050 G C=1.2X, B=45	
MLHTS	HD 143118	20	0340	1556480	-381520	H 3	26213	L	85061919	000000	000000	195800	000028 G C=1.2X, B=45	
HI197	T CRB	57	0997	1557245	260339	L 3	25999	L	85052404	000000	000000	042851	004000 350 U	
HI197	T CRB	57	0993	1557245	260339	L 1	06050	L	85052403	000000	000000	034114	001500 331 U GDE.ERROR AT END EXP	
HI197	T CRB	57	1000	1557245	260339	L 3	25834	L	85050204	000000	000000	042604	004500 351 U	
HI197	T CRB	57	1003	1557245	260339	L 1	05881	L	85050203	000000	000000	035728	002000 462 U	
ZAHNO	OO AG DRA	57	0950	1601230	+665625	L 3	26085	SL	85060319	195400	000215	192400	001100 G E=2X, C=60, B=27	
ZAHNO	OO AG DRA	57	0950	1601230	+665625	L 1	06124	L	85060320	000000	000000	200100	000500 G E=182, C=95, B=37	
HI199	AG DRA	57	0987	1601240	665630	L 3	26131	LS	85060823	001338	000500	235248	001500 361 U 051s	
HI199	AG DRA	57	0994	1601240	665630	L 1	06167	LS	85060900	005239	000500	002509	000500 341 U 231s	
AEHJL	HD 144668	34	0690	1605128	-385823	L 3	26369	L	85070716	000000	000000	164300	000400 G C=188, B=85	
AEHJL	HD 144668	34	0690	1605128	-385823	L 1	06363	L	85070717	000000	000000	171900	000130 G C=2X, B=65	
HA084	HD144668	30	9999	1605128	-385823	E 9	01674	2	85070719	000000	000000	190000	016000 U FOR SWP26370	
AEHJL	OO WAUCAL	98	9999	1605128	-385823	H 3	26371	S	85070809	094900	000018	000000	000000 G E=5X, B=115	
AEHJL	HD 144668	34	0690	1605128	-385823	H 1	06365	L	85070809	000000	000000	091100	008000 G E=247, C=223, B=98	
AEHJL	HD 144668	34	0690	1605128	-385823	L 3	26372	L	85070810	000000	000000	103300	001200 G C=2X, B=39	
AEHJL	HD 144668	34	0690	1605128	-385823	L 1	06364	L	85070718	000000	000000	182600	000100 G C=210, B=40	
AEHJL	HD 144668	34	0690	1605128	-385823	H 3	26370	L	85070719	000000	000000	195600	077800 G E=152, C=6.0X, B=155	
LGHJL	HD 145544	45	0380	1610521	-633337	H 1	06771	L	85092023	000000	000000	230400	005000 G E=2X, C=3X, B=45	
LGHJL	HD 145544	45	0380	1610521	-633337	H 1	06192	L	85061112	000000	000000	125300	003500 G E=2X, C=1.5X, B=107	
LGHJL	HD 145544	45	0380	1610521	-633337	H 1	06374	L	85070916	000000	000000	160300	000400 G E=185, C=205, B=145	
LGHJL	HD 145544	45	0380	1610521	-633337	H 1	06370	L	85070911	000000	000000	112900	003500 G E=1.5X, C=1.5X, B=125	
HS231	COM. HALLEY	06	9999	1613007	194421	L 3	26697	L	85092119	000000	000000	191604	002000 030 U HALLEY: NUC IN LWLA	
HS231	COM. HALLEY	06	9999	1613007	194421	L 3	26698	L	85092120	000000	000000	204139	002000 030 U HALLEY: NUC IN LWLA	
HS231	COM. HALLEY	06	1431	1613007	194421	L 1	06776	L	85092115	000000	000000	151336	018000 333 U EXP. ON NUCLEUS	
HZHHM	OOOVR	1613	85	1640	1613051	+471148	L 3	26406	L	85071219	000000	000000	192100	084500 G B=133
HQ123	Q1613+472	85	1650	1613052	471148	E 9	01676	2	85071219	000000	000000	190800	016000 U FIELD FOR SWP26406	
IMHDY	HD 146813	12	0910	1614093	+555523	H 1	06657	L	85081409	000000	000000	095400	003000 G C=220, B=85	
IMHDY	HD 146813	12	0910	1614093	+555523	H 1	06665	L	85081507	000000	000000	073100	002500 G C=178, B=53	
DCHNE	HD 146323	53	0640	1614420	-574643	L 1	06385	L	85071214	000000	000000	143800	000600 G C=220, B=45	
LDHDD	BD+55 1823	48	1000	1615590	+552348	L 1	05990	L	85051608	000000	000000	085400	002700 G E=213, C=63, B=40	
LDHDD	BD+55 1823	48	1000	1615590	+552348	L 3	25954	L	85051609	000000	000000	094600	030000 G E=124, C=90, B=76	
IMHDY	OO VZ DRA	33	1180	1620110	+583404	L 1	06645	L	85081210	000000	000000	100400	009000 G C=157, B=58	
LGHJL	HD 148783	49	0440	1626590	415930	H 1	06576	L	85080402	000000	000000	024900	036000 G E=7X, C=189, B=139	
LGHJL	HD 148783	49	0440	1626590	415930	H 1	06575	L	85080402	000000	000000	020100	001500 G E=75, B=35	
ISHPF	HD 149108	31	0680	1630104	-102728	H 1	06442	L	85072103	000000	000000	034300	005100 G C=160, B=50	
ISHPF	HD 149108	31	0680	1630104	-102728	H 1	06445	L	85072109	000000	000000	094700	005500 G C=200, B=72	
ISHPF	HD 149108	31	0680	1630104	-102728	H 1	06444	L	85072108	000000	000000	082500	006000 G C=183, B=51	
ISHPF	HD 149108	31	0680	1630104	-102728	H 1	06443	L	85072105	000000	000000	052000	006300 G C=175, B=51	
PHCAL	HD 149438	20	0280	1632459	-280651	H 3	26512	L	85073118	000000	000000	163900	000006 G C=186, B=33	
PHCAL	HD 149438	20	0280	1632459	-280651	H 1	06569	S	85080314	140100	000011	000000	000000 G C=199, B=44	
PHCAL	HD 149438	20	0280	1632459	-280651	H 3	26534	S	85080313	135700	000009	000000	000000 G C=172, B=33	
PHCAL	HD 149438	20	0280	1632459	-280651	H 1	05875	L	85050117	000000	000000	171700	000006 G C=220, B=42	

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT			
PHCAL	HD	149438	20	0280	1632459	-280651	H	3	25829	L	85050117	000000	000000	171300	000006	G C=215, B=35	
PHCAL	OO	TAUSCO	20	0000	1632459	-280651	H	1	06547	L	85080116	000000	000000	162500	000006	G C=226, B=43	
PHCAL	HD	149438	20	0280	1632459	-280651	H	3	26632	S	85082623	235800	000009	000000	000000	G C=180, B=36	
QSHEJ	SA	8552	44	8400	1633309	+704310	D	9	01658	L	85060919	000000	000000	195100	016000	G NO COMMENTS	
QSHEJ	Q	1634+706	85	9999	1634517	+703737	L	1	06203	L	85061312	000000	000000	120200	003500	G E=181, C=128, B=80	
HE220	PG1634+706	85	1400	1634517	703737	L	1	06178	L	85060920	000000	000000	201523	009000	364	U	
QSHEJ	PG1634+706	85	9999	1634517	+703737	L	1	06169	SL	85060905	054700	039000	054600	039000		G C=2.0X, B=127	
QSHEJ	Q	1634+706	85	9999	1634517	+703737	L	1	06180	L	85061010	000000	000000	105900	009000		G E=255, C=185, B=75
HE220	PG1634+706	85	1400	1634517	703737	L	3	26133	L	85060921	000000	000000	215104	040000	313	U	
HE220	FG1634+706	85	9999	1634517	703737	E	9	01659	2	85060921	000000	000000	210100	004000		U	
QSHEJ	Q	1634+706	85	9999	1634517	+703737	L	1	06216	L	85061411	000000	000000	112500	006000		G C=190, B=85
QSHEJ	Q	1634+706	85	9999	1634517	+703737	L	1	06179	L	85061004	000000	000000	043500	035000		G C=2.0X, B=88
HBHYK	HD	149730	66	0680	1635348	-565336	H	3	26259	L	85062513	000000	000000	132900	005000		G C=225, B=50
HBHYK	HD	149730	66	0680	1635348	-565336	H	1	06301	L	85063005	000000	000000	053500	002500		G C=210, B=45
HBHYK	HD	149730	66	0680	1635348	-565336	H	3	26315	L	85063006	000000	000000	060600	005000		G C=207, B=42
HBHYK	HD	149730	66	0680	1635348	-565336	H	1	06273	L	85062515	000000	000000	150700	002500		G C=225, B=55
HBHYK	HD	149730	66	0680	1635348	-565336	H	3	26260	L	85062515	000000	000000	153700	004500		G C=220, B=59
HBHYK	HD	149730	66	0680	1635348	-565336	H	1	06272	L	85062512	000000	000000	125900	002500		G C=220, B=50
HBHYK	HD	149730	66	0680	1635348	-565336	H	1	06274	L	85062516	000000	000000	162800	002500		G C=235, B=70
HBHYK	HD	149730	66	0680	1635348	-565336	H	1	06302	L	85063007	000000	000000	070500	002800		G C=225, B=47
HBHYK	HD	149730	66	0680	1635348	-565336	H	3	26261	L	85062516	000000	000000	165700	004500		G C=240, B=73
HBHYK	HD	149730	66	0680	1635348	-565336	H	3	26316	L	85063007	000000	000000	073900	005600		G C=225, B=47
HBHYK	HD	149730	66	0680	1635348	-565336	H	1	06303	L	85063008	000000	000000	084100	002800		G C=223, B=50
HBHYK	HD	149730	66	0680	1635348	-565336	H	1	06275	L	85062517	000000	000000	174900	002400		G C=235, B=65
HBHYK	HD	149730	66	0680	1635348	-565336	H	3	26262	L	85062518	000000	000000	182500	004400		G C=210, B=50
HBHYK	HD	149730	66	0680	1635348	-565336	H	3	26256	L	85062512	000000	000000	120800	004500		G C=205, B=45
HBHYK	HD	149730	66	0680	1635348	-565336	H	1	06276	L	85062519	000000	000000	191500	002400		G C=210, B=50
HBHYK	HD	149730	66	0680	1635348	-565336	H	3	26263	L	85062519	000000	000000	194300	004500		G C=200, B=43
HBHYK	HD	149730	66	0680	1635348	-565336	H	3	26253	L	85062505	000000	000000	053200	004000		G C=205, B=40
HBHYK	HD	149730	66	0680	1635348	-565336	H	3	26317	L	85063009	000000	000000	091600	005500		G C=225, B=53
HBHYK	HD	149730	66	0680	1635348	-565336	H	1	06277	L	85062520	000000	000000	203200	001700		G C=165, B=42
HBHYK	HD	149730	66	0680	1635348	-565336	H	1	06304	L	85063010	000000	000000	101800	002500		G C=227, B=61
HBHYK	HD	149730	66	0680	1635348	-565336	H	3	26318	L	85063010	000000	000000	105000	004500		G C=238, B=75
HBHYK	HD	149730	66	0680	1635348	-565336	H	1	06305	L	85063011	000000	000000	114200	002300		G C=237, B=87
HBHYK	HD	149730	66	0680	1635348	-565336	H	3	26645	L	85090622	000000	000000	225700	004000		G C=195, B=41
HBHYK	HD	149730	66	0680	1635348	-565336	H	3	26256	L	85062509	000000	000000	093100	004200		G C=205, B=41
HBHYK	HD	149730	66	0680	1635348	-565336	H	3	26319	L	85063012	000000	000000	121100	004000		G C=235, B=100
HBHYK	HD	149730	66	0680	1635348	-565336	L	1	06699	L	85090622	000000	000000	221200	000022		G C=215, B=37
HBHYK	HD	149730	66	0680	1635348	-565336	H	1	06306	L	85063012	000000	000000	125700	001500		G C=190, B=75
HBHYK	HD	149730	66	0680	1635348	-565336	H	1	06267	L	85062506	000000	000000	061800	002500		G C=245, B=50
HBHYK	HD	149730	66	0680	1635348	-565336	L	3	26644	L	85090621	000000	000000	213800	000033		G C=145, B=15
HBHYK	HD	149730	66	0680	1635348	-565336	H	3	26255	L	85062508	000000	000000	081000	004200		G C=210, B=41
HBHYK	HD	149730	66	0680	1635348	-565336	H	1	06698	L	85090621	000000	000000	210000	003200		G C=220, B=48
HBHYK	HD	149730	66	0680	1635348	-565336	H	1	06271	L	85062511	000000	000000	113700	002400		G C=215, B=50
HBHYK	HD	149730	66	0680	1635348	-565336	H	3	26324	L	85063019	000000	000000	190700	003500		G C=205, B=60

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT		
HBHYK	HD	149730	66	0680	1635348	-565336	H	1	06311	L	85063019	000000	000000	194700	002400	G C=230,B=50
HBHYK	HD	149730	66	0680	1635348	-565336	H	3	26643	L	85090619	000000	000000	195300	006000	G C=195,B=42
HBHYK	HD	149730	66	0680	1635348	-565336	H	3	26325	L	85063020	000000	000000	201500	003200	G C=180,B=38
HBHYK	HD	149730	66	0680	1635348	-565336	H	3	26257	L	85062510	000000	000000	104800	004300	G C=200,B=42
HBHYK	HD	149730	66	0680	1635348	-565336	H	1	06270	L	85062510	000000	000000	101900	002300	G C=215,B=50
HBHYK	HD	149730	66	0680	1635348	-565336	H	1	06269	L	85062508	000000	000000	085800	002300	G C=220,B=48
BEHCG	HD	149671	26	0590	1636125	-681158	H	3	25958	L	85051620	000000	000000	203500	001000	G C=200,A=45
BEHCG	HD	149671	26	0590	1636125	-681158	H	1	05994	L	85051621	000000	000000	211300	000500	G C=190,B=45
PHCAL	OO	TFLOOD	99	0000	1641107	+390057	H	2	17767	L	85082219	000000	000000	194900	000007	G B=135
PHCAL	OO	OSAFETYRD	99	0000	1641107	+390057	H	2	17766	L	85082219	000000	000000	190400	000000	G B=35
HC052	HD	150798	47	9999	1643210	-685620	E	9	01675	2	85070918	000000	000000	185000	016000	U FOR SWP26383
LGHJL	HD	150798	47	0190	1643211	-685620	H	1	06197	L	85061118	000000	000000	184600	000300	G E=175,C=120,B=73
LGHJL	HD	150798	47	0190	1643211	-685620	H	1	06373	L	85070915	000000	000000	151300	000300	G E=194,C=140,B=97
LGHJL	HD	150798	47	0190	1643211	-685620	H	1	06375	L	85070916	000000	000000	164900	000300	G E=236,C=186,B=136
LGHJL	HD	150798	47	0190	1643211	-685620	H	1	06376	L	85070917	000000	000000	175500	000500	G E=227,C=150,B=98
LGHJL	HD	150798	47	0190	1643211	-685620	H	1	06165	L	85060810	000000	000000	102500	011000	G E=12X,C=3X,B=80
LGHJL	HD	150798	47	0190	1643211	-685620	D	9	01657	L	85060719	000000	000000	193400	016000	G NO COMMENTS
LGHJL	HD	150798	47	0190	1643211	-685620	L	3	26118	L	85060811	000000	000000	110700	005000	G E=250,C=120,B=39
LGHJL	HD	150798	47	0190	1643211	-685620	H	3	26383	L	85071003	000000	000000	031000	077300	G E=206,C=245,B=134
LGHJL	HD	150798	47	0190	1643211	-685620	H	1	06377	L	85071008	000000	000000	085000	008500	G E=6X,C=4X,B=95
LGHJL	HD	150798	47	0190	1643211	-685620	H	1	06163	L	85060720	000000	000000	201800	002400	G E=4X,C=175,B=47
LGHJL	HD	150798	47	0190	1643211	-685620	H	1	06164	L	85060808	000000	000000	084500	000500	G E=175,C=80,B=34
LGHJL	HD	150798	47	0190	1643211	-685620	H	1	06772	L	85092100	000000	000000	003800	002400	G E=2X,C=180,B=40
LGHJL	OO	WAUCAL	98	9999	1643211	-685620	H	3	26384	S	85071009	092600	000018	000000	000000	G E=10X,B=115
LGHJL	HD	150798	47	0190	1643211	-685620	L	3	26385	L	85071010	000000	000000	101000	004000	G E=255,C=112,B=65
LGHJL	HD	150798	47	0190	1643211	-685620	H	1	05917	L	85050519	000000	000000	195400	002100	G E=3.5X,C=230,B=135
LGHJL	HD	150798	47	0190	1643211	-685620	H	1	05918	L	85050520	000000	000000	205400	000500	G E=208,C=90,B=50
LGHJL	OO	WAUCAL	98	9999	1643211	-685620	H	3	26117	S	85060810	102000	000018	000000	000000	G E=14.0X,B=114
LGHJL	HD	150798	47	0190	1643211	-685620	H	3	26116	L	85060808	000000	000000	085600	075000	G E=218,C=240,B=144
SUHJC	OO	URANUS	03	9999	1648494	-222842	L	3	26656	L	85090918	000000	000000	180700	012000	G C=150,B=36
SUHJC	OO	URANUS	03	0560	1648505	-222827	L	3	26550	L	85080502	000000	000000	020900	012000	G C=155,B=50
SUHJM	OO	URANUS	03	0570	1649068	-222910	L	3	26667	L	85091319	000000	000000	191900	012000	G E=128,C=150,B=40
SUHJM	OO	OSKY BACK	07	0570	1649068	-222910	L	3	26669	L	85091401	000000	000000	011100	006000	G E=88,B=22
SUHJM	OO	URANUS	03	0570	1649068	-222910	L	3	26668	L	85091321	000000	000000	215800	015000	G E=158,C=175,B=41
SUHJB	OO	URANUS	03	0600	1649130	-222854	L	1	06534	L	85073017	000000	000000	174000	003000	G C=40X,B=60
SUHJB	OO	URANUS	03	0600	1649164	-222856	L	1	06532	L	85073016	000000	000000	162900	000215	G C=5X,B=38
SUHJB	OO	URANUS	03	0600	1649164	-222856	L	1	06533	L	85073017	000000	000000	170500	000100	G C=1.5X,B=33
SUHJB	OO	URANUS	03	0600	1649164	-222856	L	1	06531	L	85073015	000000	000000	155300	000045	G C=1.2X,B=33
SUHJB	OO	URANUS	03	0600	1649164	-222856	L	1	06530	L	85073015	000000	000000	151800	000030	G C=195,B=35
SUHJB	OO	URANUS	03	0600	1649164	-222856	L	1	06525	L	85073006	000000	000000	062400	006000	G C=80X,B=80
SUHJB	OO	URANUS	03	0600	1649164	-222856	L	1	06527	L	85073010	000000	000000	100200	006000	G C=80X,B=100
SUHJB	OO	URANUS	03	0600	1649164	-222856	L	1	06522	L	85073004	000000	000000	041600	000500	G C=6.5X,B=40
SUHJB	OO	URANUS	03	0600	1649164	-222856	L	1	06529	L	85073014	000000	000000	141500	000730	G C=10X,B=35
SUHJB	OO	URANUS	03	0600	1649164	-222856	L	1	06523	L	85073004	000000	000000	045700	000100	G C=1.3X,B=38
SUHJB	OO	URANUS	03	0600	1649164	-222856	L	1	06524	L	85073005	000000	000000	053300	001500	G C=20X,B=47

PRO	OBJECT	CL	MAG	R.A.	DEC	D C	IMAGE	A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT			
SUHJB	OO	URANUS	03	0600	1649164	-222856	L 1	06528	L	85073011	000000	000000	115200	004500	G C=60X,B=105	
SUHJB	OO	URANUS	03	0600	1649164	-222856	L 1	06526	L	85073008	000000	000000	081500	006000	G C=80X,B=82	
HA158	LSE259		16	1365	1649480	-555700	H 3	26267	L	85062622	000000	000000	221930	038800	103 U	
SUHJC	OO	URANUS	03	0550	1650134	-223110	L 3	26722	L	85092422	000000	000000	220900	012000	G C=100,B=41	
SUHJC	OO	URANUS	03	0550	1650311	-223105	L 3	26441	L	85071804	000000	000000	040000	012000	G C=165,B=35	
PHCAL	OO	MAUCAL	98	0000	1653467	-230420	L 3	26627	S	85082502	021500	000002	000000	000000	G E=20X,B=102	
PHCAL	OO	MAUCAL	98	0000	1653467	-230420	H 3	26628	S	85082502	024200	000200	000000	000000	G E=60X,B=125	
PHCAL	OO	TFL00D	99	0000	1653467	-230420	H 3	26629	L	85082503	000000	000000	031000	000005	G B=110	
PHCAL	SA	184822	00	0560	1653467	-230420	D 9	01686	L	85082423	000000	000000	235200	016000	G NO COMMENTS	
CCHJL	HD	152786	47	0310	1654284	-555449	L 3	25872	L	85050521	000000	000000	212400	002500	G E=70,C=65,B=38	
CCHJL	HD	152786	47	0310	1654284	-555449	H 1	05919	L	85050521	000000	000000	215600	004500	G E=2X,C=108,B=50	
XBHJR	OO	HZ HER	59	1200	1656014	+352503	L 1	06254	L	85062212	000000	000000	122300	002500	G C=125,B=40	
XBHJR	OO	HZ HER	59	1200	1656014	+352503	L 3	26234	L	85062211	000000	000000	113300	004500	G E=86,C=85,B=30	
HI180	HZ HER		59	1336	1656017	352505	L 3	26302	L	85062821	000000	000000	215852	004000	331 U	
HI180	HZ HER		59	1336	1656017	352505	L 3	26232	L	85062204	000000	000000	040035	004700	501 U	
HI180	HZ HER		59	1351	1656017	352505	L 1	06295	L	85062822	000000	000000	224643	004000	403 U	
XBHJR	OO	HER X-1	59	1350	1656019	+352504	L 3	26307	L	85062911	000000	000000	114800	004000	G E=114,C=105,B=65	
XBHJR	OO	HER X-1	59	1350	1656019	+352504	L 1	06298	L	85062912	000000	000000	123200	002000	G C=125,B=72	
HC031	CO-2711363		46	1115	1657370	-273300	L 3	26452	LS	85072019	213274	002000	195712	009000	331 U 1115	
HC031	CO-2711363		46	1119	1657370	-273300	L 1	06440	L	85072021	000000	000000	215829	008000	672 U	
HC031	CO-2711363		46	1121	1657370	-273300	L 1	06441	L	85072102	000000	000000	020000	004700	562 U	
HC031	CO-2711363		46	1123	1657370	-273300	L 3	26453	L	85072023	000000	000000	232441	015000	342 U	
QSHDT	Q	1700+518	85	1540	1700132	+515336	L 1	06655	L	85081402	000000	000000	020600	036500	G C=255,B=130	
PHCAL	HD	155763	25	0335	1708381	654634	L 2	17730	L	85060701	000000	000000	011858	000001	502 U R=11.56 I=1 TRAIL	
PHCAL	OO	NULL	99	0000	1712395	-300916		3	26639	L	85082903	000000	000000	030900	000000	G B=20
KGHJL	HD	156283	47	0320	1713183	+365156	L 3	26150	L	85061205	000000	000000	055200	000500	G B=12	
KGHJL	HD	156283	47	0320	1713183	+365156	L 3	26151	L	85061206	000000	000000	063900	031000	G E=248,C=138,B=90	
KGHJL	HD	156283	47	0320	1713183	+365156	H 1	06200	L	85061206	000000	000000	060400	008500	G E=3.5X,C=225,B=120	
WDHGW	OO	G240-51	37	1330	1713279	+693441	L 1	06519	L	85072915	000000	000000	152900	001500	G C=210,B=145	
WDHGW	OO	G240-51	37	1330	1713279	+693441	L 3	26504	L	85072914	000000	000000	145700	002500	G C=195,B=118	
IMHDY	HD	156651	21	0720	1715330	+313415	L 1	06666	L	85081508	000000	000000	083000	001500	G C=235,B=66	
IMHDY	HD	156651	21	0720	1715330	+313415	H 1	06648	L	85081215	000000	000000	155600	001500	G C=235,B=52	
LDHDD	HD	157881	46	0750	1723160	+021012	L 1	06087	L	85052922	000000	000000	222800	001100	G E=179,C=70,B=32	
SBHFF	HD	157978	39	0630	1723540	+073816	L 3	25963	L	85051713	000000	000000	135300	000700	G C=8X,B=19	
PHCAL	BG	23649	30	0580	1725023	+600522	F 9	01685	L	85082302	000000	000000	020500	016000	G NO COMMENTS	
PHCAL	OO	NULL	99	9999	1725023	+600522	H 3	26625	L	85082303	000000	000000	035200	000000	G B=27	
PHCAL	OO	NULL	99	9999	1725023	+600522	H 1	06687	L	85082302	000000	000000	025800	000000	G R=40	
ISHPF	HD	159561	33	0210	1732367	123542	H 3	26430	L	85071718	000000	000000	183900	000200	G C=150,B=35	
ISHPF	HD	159561	33	0210	1732367	123542	H 1	06447	L	85072112	000000	000000	120900	000057	G C=190,B=40	
ISHPF	HD	159561	33	0210	1732367	123542	H 1	06417	L	85071718	000000	000000	182000	000039	G C=150,B=42	
ISHPF	HD	159561	33	0210	1732367	123542	H 1	06416	L	85071717	000000	000000	173000	000030	G C=165,B=40	
ISHPF	HD	159561	33	0210	1732367	123542	H 1	06446	L	85072111	000000	000000	112900	000057	G C=190,B=40	
ISHPF	HD	159561	33	0210	1732367	123542	H 3	26443	L	85071918	000000	000000	183100	000230	G C=190,B=39	
ISHPF	HD	159561	33	0210	1732367	123542	H 1	06426	L	85071918	000000	000000	180400	000045	G C=160,B=40	
DMHJL	OO	0000061682	48	1120	1733780	-441636	L 3	26442	L	85071903	000000	000000	035300	040000	G B=90	

PRO	OBJECT	CL	MAG	R.A.	DEC	D C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT				
KGHJL	HD	160635	47	0360	1740492	-644210	L	3	26146	L	85061117	000000	000000	174900	001000		G B=101
KGHJL	HD	160635	47	0360	1740492	-644210	H	1	06196	L	85061117	000000	000000	173400	001000		G C=220,B=155
PNHMC	OO	HB 5	71	1230	1744440	-295846	L	3	25853	L	85050409	000000	000000	091300	002500		G B=17
PNHMC	OO	HB 5	71	1230	1744440	-295846	L	1	05898	L	85050408	000000	000000	082300	003000		G B=40
ISHPF	HD	161868	30	0370	1745229	+024327	H	1	06217	L	85061414	000000	000000	140800	000600		G C=3X,B=70
ISHPF	HD	161868	30	0370	1745229	+024327	H	3	26168	L	85061413	000000	000000	132300	000320		G C=3.5X,B=80
GITOO	RS OPH		55	1166	1747314	-064147	L	1	05996	L	85051701	000000	000000	010831	004500	481	U
GITOO	RS OPH		55	1156	1747314	-064147	L	3	25960	L	85051700	000000	000000	004408	001500	130	U
PHCAL	OO	NULL	99	9999	1747314	-064147	L	2	17709	L	85051215	000000	000000	153000	000001		G B=19
CUGCW	OO	RS OPH	55	1150	1747314	-064147	L	1	05962	SL	85051214	144900	000500	141200	003000		G E=4X,C=130,B=40
CUGCW	OO	RS OPH	55	1150	1747314	-064147	L	1	05961	SL	85051212	131200	000200	124800	001000		G E=1.1X,C=95,B=35
CUGCW	OO	RS OPH	55	1150	1747314	-064147	L	3	25920	SL	85051213	142000	004500	132100	004500		G E=255,B=25
CUGCW	OO	RS OPH	55	1150	1747314	-064147	L	3	25919	SL	85051211	121900	000500	115700	001500		G E=123,B=17
GITOO	RS OPH		55	1166	1747315	-064148	H	3	25961	L	85051701	000000	000000	015813	029000	145	U
HA048	HD162732		22	0692	1748447	482425	H	3	26340	L	85070222	000000	000000	223313	002000	501	U
HA048	HD162732		22	0687	1748447	482425	H	3	26165	L	85061400	000000	000000	000212	002000	500	U
HA048	HD162732		22	0686	1748447	482425	H	1	06213	L	85061400	000000	000000	003312	001200	502	U
DCHNE	HD	162714	53	0630	1749580	-060759	L	1	06032	L	85052219	000000	000000	195100	000400		G C=152,B=34
LGHJL	HD	163770	47	0390	1754320	+371522	H	1	06358	L	85070710	000000	000000	103000	005000		G E=2X,C=185,B=100
LGHJL	HD	163770	47	0390	1754320	+371522	H	1	06770	L	85092021	000000	000000	211100	005000		G E=255,C=132,B=42
DMHJL	00000GL699	48	0950	1755209	+043918	L	3	26459	L	85072303	000000	000000	035400	041100			G
PHCAL	OO	WAUCAL	98	0000	1755524	-301500	H	3	26652	S	85090807	074200	000200	000000	000000		G E=50X,B=125
PHCAL	OO	WAUCAL	98	0000	1755524	-301500	L	3	26651	S	85090807	071600	000002	000000	000000		G E=10X,B=100
BEHGP	HD	164284	26	0460	1757471	+042211	H	3	26312	L	85062918	000000	000000	184200	000210		G C=240,B=40
BEHGP	HD	164284	26	0460	1757471	+042211	H	3	26300	L	85062819	000000	000000	194800	000210		G C=240,B=35
BEHGP	HD	164284	26	0460	1757471	+042211	H	3	26281	L	85062807	000000	000000	073800	000210		G C=240,B=40
BEHGP	HD	164284	26	0460	1757471	+042211	H	1	06293	L	85062807	000000	000000	074700	000100		G C=201,B=45
MLHCW	HD	164284	26	0480	1757479	+042129	H	3	26181	L	85061614	000000	000000	143200	000210		G C=230,B=42
SPGRN	OO	TRITON	04	1390	1802429	-221757	L	1	06629	L	85081015	000000	000000	153600	006000		G C=129,B=100
SPGRN	OO	NULL	99	9999	1802436	-221743	H	1	06626	L	85081007	000000	000000	075400	000000		G B=37
SPGRN	OO	NULL	99	9999	1802436	-221743	H	1	06627	L	85081009	000000	000000	091900	000000		G B=33
SPGRN	OO	TRITON	04	1300	1802436	-221743	L	3	26579	L	85081002	000000	000000	025000	044000		G B=80
SPGRN	OO	NULL	99	9999	1802438	-221742	H	1	06625	L	85081006	000000	000000	063300	000000		G B=25
SPGRN	OO	NULL	99	9999	1802439	-221741	H	1	06624	L	85081005	000000	000000	053600	000000		G B=35
SPGRN	OO	TRITON	04	1390	1802442	-221753	H	1	06628	L	85081010	000000	000000	104600	009000		G C=105,B=75
SPGRN	OO	NULL	99	9999	1802442	-221753	H	3	26581	L	85081013	000000	000000	135500	000000		G B=20
SPGRN	OO	NULL	99	9999	1802442	-221753	H	3	26580	L	85081012	000000	000000	120600	000000		G B=19
PHCAL	OO	OSKY BACK	07	9999	1806568	-084712	H	3	26624	L	85081701	000000	000000	014000	021100		G B=53
LGHAD	HD	166161	47	0814	1806568	-084712	H	1	06686	L	85081701	000000	000000	013300	021700		G C=120,B=73
HCHBB	HD	166612	39	0090	1809279	-281459	L	3	25978	L	85051920	000000	000000	201800	000055		G C=205,B=15
HCHBB	HD	166612	39	0090	1809279	-281459	H	1	06014	L	85051920	000000	000000	202400	001800		G E=153,C=160,B=40
IBHMP	HD	166937	66	0370	1810463	-210425	H	1	06669	L	85081513	000000	000000	132700	000300		G C=2.5X,B=105
IBHMP	HD	166937	66	0370	1810463	-210425	H	3	26610	L	85081513	000000	000000	131300	000600		G C=254,B=105
PHCAL	OO	NULL	99	9999	1812138	-204441	L	2	17778	L	85091307	000000	000000	075800	000000		G B=20
PHCAL	OO	NULL	99	9999	1812138	-204441	L	2	17777	L	85091307	000000	000000	071800	000000		G B=65

PRO	OBJECT	CL	MAG	R.A.	DEC	D C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT			
CCHJL	HD	167618	49	0310	1814146	-364643	L	3	25884	L	85050721	000000	000000	215300	002500	G E=64,C=39,B=32
CCHJL	HD	167618	49	0310	1814146	-364643	H	1	05933	L	85050722	000000	000000	222500	002500	G E=2X,C=80,B=40
HI104	HD167971	13	0795	1815176	-121546	L	3	26545	L	85080418	000000	000000	181650	000800	550	U
HI104	HD167971	13	0790	1815176	-121546	L	1	06580	L	85080418	000000	000000	182948	000700	713	U
CCHJL	HD	168454	47	0270	1817476	-295105	H	1	05932	L	85050721	000000	000000	210900	002200	G E=221,C=150,B=77
CCHJL	HD	168454	47	0270	1817476	-295105	L	3	25883	L	85050720	000000	000000	203400	002500	G E=90,C=90,B=67
PHCAL	OO	WAUCAL	98	0000	1822348	+392843	H	1	06690	S	85082402	025900	000016	000000	000000	G E=50X,B=110
PHCAL	OO	WAUCAL	98	0000	1822348	+392843	L	1	06689	S	85082402	022800	000001	000000	000000	G E=10X,B=107
PHCAL	OO	TFLOOD	99	0000	1822348	+392843	H	1	06691	L	85082403	000000	000000	034400	000025	G B=103
DCHNE	HD	171635	41	0480	1831427	+570025	L	1	06461	L	85072217	000000	000000	172200	000016	G
HQ117	3C382	86	1470	1833120	323918	L	3	26593	L	85081118	000000	000000	180434	018500	342	U
HQ117	3C382	86	1470	1833120	323918	L	3	26076	L	85060301	000000	000000	015943	016800	342	U
STHRP	OOALPH	LYR	30	0000	1835146	+384410	L	1	06619	L	85080816	000000	000000	160200	000001	G C=215,B=43
IBHMP	HD	173787	66	0720	1844540	-202000	L	1	06670	L	85081514	000000	000000	144500	000300	G C=2.0X,B=105
IBHMP	HD	173787	66	0720	1844540	-202000	L	3	26611	L	85081514	000000	000000	143300	000500	G E=161,C=192,B=103
IBHMP	HD	174638	66	0340	1848140	+331800	H	1	06650	L	85081309	000000	000000	093700	000140	G C=2.0X,B=53
IBHMP	HD	174638	66	0340	1848140	+331800	H	3	26602	L	85081310	000000	000000	105200	000100	G E=1.2X,C=185,B=32
IBHMP	HD	174638	66	0340	1848140	+331800	H	3	26601	L	85081309	000000	000000	094500	000140	G E=2.0X,C=230,B=42
IBHMP	HD	174638	66	0340	1848140	+331800	H	3	26613	L	85081516	000000	000000	164500	000300	G E=4.0X,C=1.5X,B=53
IBHMP	HD	174638	66	0340	1848140	+331800	H	3	26612	L	85081516	000000	000000	160600	000100	G E=1.5X,C=160,B=35
IBHMP	HD	174638	66	0340	1848140	+331800	H	1	06668	L	85081511	000000	000000	114600	000140	G C=2.5X,B=55
IBHMP	HD	174638	66	0340	1848140	+331800	H	1	06651	L	85081310	000000	000000	104500	000100	G C=1.2X,B=45
IBHMP	HD	174638	66	0340	1848140	+331800	H	3	26609	L	85081511	000000	000000	115200	000140	G E=2.5X,C=220,B=40
IBHMP	HD	174638	66	0340	1848140	+331800	H	1	06671	L	85081515	000000	000000	155900	000100	G C=254,B=50
SBHFF	HD	175492	39	0460	1852382	+223450	H	1	05999	L	85051712	000000	000000	125200	004000	G C=1.2X,B=55
SBHFF	HD	175492	39	0460	1852382	+223450	H	1	06494	L	85072611	000000	000000	113000	003500	G C=2X,B=65
BEHCG	HD	175869	26	0560	1854457	+022805	H	3	26180	L	85061613	000000	000000	134100	001100	G C=157,B=35
BEHCG	HD	175869	26	0560	1854457	+022805	H	3	25956	L	85051616	000000	000000	163500	007800	G C=6X,B=120
BEHCG	HD	175869	26	0560	1854457	+022805	H	1	06226	L	85061613	000000	000000	133000	008500	G C=178,B=42
BEHCG	HD	175869	26	0560	1854457	+022805	H	1	05992	L	85051617	000000	000000	175900	002236	G C=4X,B=73
PLANE	HD	176155	53	0540	1856009	+171731	L	3	26650	L	85090720	000000	000000	202600	015000	G E=93,C=288,B=42
PLANE	HD	176155	53	0540	1856010	+171732	L	1	06702	L	85090721	000000	000000	214500	000037	G C=158,B=32
DCHNE	HD	177441	53	0860	1902070	+011349	L	1	06033	L	85052220	000000	000000	204400	003600	G C=185,B=45
DCHNE	HD	178359	53	0710	1905410	+011307	L	1	06052	L	85052411	000000	000000	113100	004500	G C=195,B=42
HM122	HD178370	24	0972	1906290	-320008	H	3	26606	L	85081317	000000	000000	175217	019000	502	U
HM122	HD178370	24	0971	1906290	-320008	H	3	26607	L	85081321	000000	000000	212958	019700	502	U
DCHNE	HD	178695	53	0830	1906540	+102816	L	1	06030	L	85052216	000000	000000	163500	009500	G C=1.5X,B=60
PHCAL	OO	WAUCAL	99	0000	1912284	-252040	L	1	06002	S	85051719	193700	000001	000000	000000	G E=20X,B=125
PHCAL	OO	WAUCAL	99	0000	1912284	-252040	H	3	25966	S	85051721	212500	000200	000000	000000	G E=60X,B=127
PHCAL	OO	WAUCAL	99	0000	1912284	-252040	H	1	06003	S	85051720	201100	000016	000000	000000	G E=50X,B=110
PHCAL	OO	WAUCAL	99	0000	1912284	-252040	L	3	25965	S	85051720	205600	000002	000000	000000	G E=20X,B=100
SBHFF	HD	179950	39	0480	1912285	-252041	H	1	05998	L	85051711	000000	000000	113700	003400	G C=1.2X,B=50
SBHFF	HD	179950	39	0480	1912285	-252041	H	1	06001	L	85051718	000000	000000	182200	003100	G C=1.5X,B=80
IBHGM	HD	181615	66	0460	1918518	-160256	H	1	06133	L	85060508	000000	000000	081000	000400	G C=255,B=40
IBHGM	HD	181615	66	0460	1918518	-160256	H	1	06150	L	85060607	000000	000000	075700	000330	G C=247,B=42

PRO	OBJECT	CL	MAG	R.A.	DEC	D C	IMAGE	A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT		
IBHGM	HD	181615	66	0460	1918518	-160256	L 3	26090	L	85060415	000000	000000	155400	001000	G C=60X, B=27
IBHGM	HD	181615	66	0460	1918518	-160256	H 3	26103	L	85060608	000000	000000	080800	001500	G C=198, B=33
IBHGM	HD	181615	66	0460	1918518	-160256	H 3	26096	L	85060508	000000	000000	082000	000900	G C=120, B=26
IBHGM	HD	181615	66	0460	1918518	-160256	H 1	06127	L	85060415	000000	000000	153900	000500	G C=1.5X, B=42
IBHSK	OO	CH CYG	57	0670	1923139	+501830	H 3	26218	L	85062113	000000	000000	133600	002000	G E=77, B=20
IBHSK	OO	CH CYG	57	0670	1923139	+500830	L 1	06251	L	85062114	000000	000000	140100	000300	G E=5.0X, C=170, B=30
IBHSK	OO	CH CYG	57	6700	1923139	+500830	L 3	26219	L	85062114	000000	000000	143900	001500	G E=3.5X, C=82, B=30
HC096	CH	CYG	57	0648	1923140	500831	L 3	25832	L	85050123	000000	000000	232814	001000	361 U
HI197	HD	182917	57	0671	1923140	500831	L 3	26720	L	85092415	000000	000000	154542	003000	561 U
HI197	HD	182917	57	0672	1923140	500831	L 1	06797	L	85092400	000000	000000	163600	000300	561 U
HC096	CH	CYG	57	0650	1923140	500831	H 1	05880	L	85050123	000000	000000	235551	005000	361 U
HC096	CH	CYG	57	0655	1923140	500831	H 3	25833	L	85050200	000000	000000	005015	013000	252 U
IBHSK	OO	CH CYG	57	0000	1923142	+500831	H 3	26024	L	85052718	000000	000000	183200	003000	G E=127, B=25
IBHSK	OO	CH CYG	57	0000	1923142	+500831	L 3	26022	L	85052716	000000	000000	160300	001500	G E=2.0X, C=95, B=28
IBHSK	OO	CH CYG	57	0000	1923142	+500831	L 1	06069	L	85052715	000000	000000	154000	001500	G E=5.0X, C=3.0X, B=32
CUHSS	OO	N OUL	55	1250	1924033	+271553	L 1	06408	L	85071617	000000	000000	170800	001000	G E=192, B=145
CUHSS	OO	N OUL	55	1220	1924033	+271553	L 3	26243	L	85062413	000000	000000	133200	000600	G E=68, B=18
CUHSS	OO	N OUL	55	1220	1924033	+271553	L 3	26244	L	85062414	000000	000000	142700	002000	G E=169, B=20
CUHSS	OO	N OUL	55	1250	1924033	+271553	L 3	26427	L	85071616	000000	000000	165200	001000	G E=160, B=11
CUHSS	OO	N OUL	55	1220	1924033	+271553	L 1	06264	L	85062413	000000	000000	134600	001000	G E=125, C=63, B=33
HI069	NOU	OUL	55	1250	1924034	271552	L 3	26342	L	85070302	000000	000000	021003	003700	261 U
HI069	NOU	OUL	55	1285	1924034	271552	L 1	06482	L	85072501	000000	000000	015647	005000	262 U
HI069	NOU	OUL	55	1282	1924034	271552	L 3	26470	L	85072501	000000	000000	012233	001800	241 U
DCHNE	HD	183864	45	0730	1928324	+250053	L 1	06462	L	85072218	000000	000000	182100	001800	G
MLHTS	HD	183914	26	0510	1928443	+275133	H 3	26206	L	85061913	000000	000000	132100	000737	G C=252, B=41
MLHTS	HD	183914	26	0510	1928443	+275133	H 3	26386	L	85071012	000000	000000	121400	000730	G C=247, B=35
QSHEJ	OO	SKY BKG	07	1540	1928490	+735144	L 1	06263	L	85062405	000000	000000	052100	041000	G B=98
QSHEJ	OO	4C73.18	85	1540	1928490	+735144	L 3	26242	L	85062412	000000	000000	120600	048000	G E=193, C=140, B=86
HQ220	4C73.18	85	1600	1928491	735144	D 9	01670	2	85062400	000000	000000	042800	002000	U FOR SWP 26242	
QSHEJ	OO	4C73.18	85	9999	1928494	+735145	L 1	06248	L	85061908	000000	000000	081200	027500	G C=155, B=80
ISHFB	HD	186882	22	0290	1943247	+450026	H 3	26408	S	85071313	133600	000300	000000	000000	G C=227, B=39
ISHFB	HD	186882	22	0290	1943247	+450026	H 1	06388	S	85071313	135000	000120	000000	000000	G C=202, B=43
LGLJL	HD	186791	47	0270	1943529	+102924	H 1	06159	L	85060715	000000	000000	152600	003600	G E=2X, C=150, B=83
LGLJL	HD	186791	47	0270	1943529	+102924	H 1	06194	L	85061115	000000	000000	153700	000800	G E=174, C=93, B=51
LGLJL	HD	186791	47	0270	1943529	+102924	H 1	06359	L	85070711	000000	000000	115600	003000	G E=2X, C=160, B=95
LGLJL	HD	186791	47	0270	1943529	+102924	H 1	05928	L	85050716	000000	000000	165200	001000	G E=196, C=75, B=40
HC020	HD	187076	49	0390	1945094	182435	H 3	25942	L	85051504	000000	000000	040433	006500	611 U
HC020	HD	187076	49	0391	1945094	182435	H 1	05982	L	85051505	000000	000000	051807	002500	771 U
HM133	HD	187642	31	0109	1948219	084419	H 3	26465	S	85072319	194009	024000	000000	000000	836 U
SRHLW	OO	CHI CYG	51	0600	1948385	+324712	L 1	06474	L	85072413	000000	000000	130500	001500	G C=60, B=40
DCHNE	HD	187921	53	0720	1949279	+271952	L 1	06384	L	85071212	000000	000000	121500	006000	G C=145, B=30
DCHNE	OO	SU OUL	53	0704	1949279	+271952	L 1	06656	L	85081408	000000	000000	084600	000500	G C=79, B=40
PHCAL	OO	RR TEL	63	1060	2000199	-555159	H 3	26635	L	85082717	000000	000000	173200	002000	G E=5X, B=20
PHCAL	OO	RR TEL	63	1060	2000199	-555159	H 3	26634	L	85082716	000000	000000	162900	002000	G E=5X, B=20
PHCAL	OO	RR TEL	63	1060	2000199	-555159	H 3	26633	L	85082715	000000	000000	151300	002000	G E=5X, B=20

PRO	OBJECT	CL	MAG	R.A.	DEC	D C	IMAGE	A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT	
DCHNE	HD 227463	53	0900	2002320	+335811	L 1	06034	L	85052222	000000	000000	220200	004500	G C=132, B=41
OD73K	OO AA CYG	50	0840	2002365	+364025	L 1	06697	L	85090518	000000	000000	184200	043800	G E=129, B=95
HI115	E2003+225	63	1500	2003319	223120	L 3	26675	L	85091717	000000	000000	171805	004000	331 U
HI115	1E2003+22	66	1500	2003320	223121	L 1	06190	L	85061103	000000	000000	033540	002000	311 U
HI115	1E2003+22	66	1500	2003320	223121	L 3	26139	L	85061021	000000	000000	215529	004000	341 U
HI115	1E2003+22	66	1500	2003320	223121	L 3	26144	L	85061104	000000	000000	040318	004400	330 U
HI115	1E2003+22	66	1500	2003320	223121	L 1	06189	L	85061102	000000	000000	022422	002000	331 U
HI115	1E2003+22	66	1500	2003320	223121	L 3	26142	L	85061101	000000	000000	013600	004000	340 U
HI115	1E2003+22	66	1500	2003320	223121	L 1	06188	L	85061101	000000	000000	010526	002000	311 U
HI115	1E2003+22	66	1500	2003320	223121	L 3	26141	L	85061100	000000	000000	002148	004000	330 U
HI115	1E2003+22	66	1500	2003320	223121	L 1	06186	L	85061022	000000	000000	224022	002000	331 U
HI115	1E2003+22	66	1500	2003320	223121	L 3	26140	L	85061023	000000	000000	230708	004000	330 U
HI115	1E2003+22	66	1500	2003320	223121	L 1	06187	L	85061023	000000	000000	235134	002000	331 U
HI115	E2003+225	63	1500	2003320	223120	L 1	06744	L	85091715	000000	000000	151222	001500	313 U UNCERTAIN EXPOTIME
HI115	E2003+225	63	1500	2003320	223120	L 3	26674	L	85091715	000000	000000	155928	004000	331 U
HI115	E2003+225	63	1500	2003320	223120	L 1	06745	L	85091716	000000	000000	164653	002000	333 U
HI115	1E2003+22	66	1500	2003320	223121	L 3	26143	L	85061102	000000	000000	025215	004000	330 U
HQ064	PK2005-489	07	1410	2005466	-485843	L 1	06035	L	85052223	000000	000000	235919	010500	401 U
HQ064	PK2005-489	07	1415	2005466	-485843	L 3	25993	L	85052301	000000	000000	014939	029800	402 U
BEHGP	HD 191610	26	0500	2007340	+364128	H 3	26785	L	85092909	000000	000000	092900	000225	G C=233, B=50
BEHGP	HD 191610	26	0500	2007341	+364129	H 3	26775	L	85092903	000000	000000	034300	000245	G C=235, B=41
BEHGP	HD 191610	26	0500	2007341	+364129	H 3	26301	L	85062820	000000	000000	203500	000245	G C=235, B=35
BEHGP	HD 191610	26	0500	2007341	+364129	H 3	26776	L	85092904	000000	000000	041900	000245	G C=240, B=41
BEHGP	HD 191610	26	0500	2007341	+364129	H 3	26808	L	85093008	000000	000000	085800	000215	G C=213, B=43
BEHGP	HD 191610	26	0500	2007341	+364129	H 3	26807	L	85093008	000000	000000	082600	000220	G C=212, B=42
BEHGP	HD 191610	26	0500	2007341	+364129	H 3	26806	L	85093007	000000	000000	075400	000225	G C=220, B=42
BEHGP	HD 191610	26	0500	2007341	+364129	H 3	26805	L	85093007	000000	000000	072300	000230	G C=208, B=43
BEHGP	HD 191610	26	0500	2007341	+364129	H 3	26804	L	85093006	000000	000000	065000	000230	G C=227, B=42
BEHGP	HD 191610	26	0500	2007341	+364129	H 3	26803	L	85092906	000000	000000	061300	000235	G C=236, B=42
BEHGP	HD 191610	26	0500	2007341	+364129	H 3	26777	L	85092904	000000	000000	045000	000245	G C=235, B=43
BEHGP	HD 191610	26	0500	2007341	+364129	H 3	26784	L	85092908	000000	000000	085000	000230	G C=241, B=47
BEHGP	HD 191610	26	0500	2007341	+364129	H 3	26783	L	85092908	000000	000000	081600	000235	G C=230, B=45
BEHGP	HD 191610	26	0500	2007341	+364129	H 3	26782	L	85092907	000000	000000	074300	000235	G C=231, B=44
BEHGP	HD 191610	26	0500	2007341	+364129	H 3	26781	L	85092907	000000	000000	070900	000245	G C=242, B=43
BEHGP	HD 191610	26	0500	2007341	+364129	H 3	26780	L	85092906	000000	000000	063600	000245	G C=235, B=42
BEHGP	HD 191610	26	0500	2007341	+364129	H 3	26778	L	85092905	000000	000000	052300	000235	G C=228, B=43
BEHGP	HD 191610	26	0500	2007341	+364129	H 3	26779	L	85092905	000000	000000	055500	000245	G C=235, B=41
HC055	HD192577	47	0411	2012023	463537	H 1	05987	L	85051602	000000	000000	020449	000930	553 U
HC020	HD192577	47	0406	2012023	463537	H 3	25952	L	85051601	000000	000000	013131	001200	551 U
UWSP	HD 192713	39	0520	2013204	+232116	H 1	06071	L	85052719	000000	000000	195300	005000	G E=254, C=190, B=50
UWSP	HD 192713	39	0520	2013204	+232116	L 3	26025	L	85052719	000000	000000	194600	000230	G C=185, B=17
UWSP	HD 192713	39	0520	2013204	+232116	H 3	26026	L	85052720	000000	000000	205000	011000	G C=168, B=50
UWSP	HD 192713	39	0520	2013204	+232116	L 1	06072	L	85052721	000000	000000	214400	000100	G C=228, B=35
UWSP	HD 192713	39	0840	2013205	+232117	L 3	25935	L	85051414	000000	000000	141900	000250	G C=180, B=17
UWSP	HD 192713	39	0840	2013205	+232117	H 1	06011	L	85051915	000000	000000	154200	005000	G E=220 C=175 B=47

PRO	OBJECT	CL	MAG	R.A.	DEC	D C	IMAGE	A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT			
UUHSP	HD	192713	39	0840	2013205	+232117	H	1	05974	L	85051413	000000	000000	134000	005500	G E=1.2X,C=190,B=47
UUHSP	HD	192713	39	0840	2013205	+232117	H	3	25934	L	85051411	000000	000000	114900	009500	G C=150,B=42
UUHSP	HD	192713	39	0840	2013205	+232117	L	1	05973	L	85051412	000000	000000	123900	000110	G C=245,B=35
UUHSP	HD	192713	39	0840	2013205	+232117	L	1	06015	L	85051921	000000	000000	215000	000100	G C=240,B=36
UUHSP	HD	192713	39	0840	2013205	+232117	L	1	05960	L	85051209	000000	000000	094600	000115	G C=225,B=32
UUHSP	HD	192713	39	0840	2013205	+232117	H	3	25918	L	85051208	000000	000000	084200	012000	G C=160,B=48
UUHSP	HD	192713	39	0840	2013205	+232117	L	3	25917	L	85051207	000000	000000	075600	000315	G C=160,B=18
UUHSP	HD	192713	39	0840	2013205	+232117	H	1	05959	L	85051207	000000	000000	071900	006000	G E=255,C=200,B=50
UUHSP	HD	192713	39	0840	2013205	+232117	L	1	06154	L	85060613	000000	000000	131600	000100	G C=230,B=33
UUHSP	HD	192713	39	0840	2013205	+232117	H	3	26106	L	85060613	000000	000000	132200	013500	G C=200,B=60
UUHSP	HD	192713	39	0840	2013205	+232117	H	1	06155	L	85060615	000000	000000	154200	006500	G E=1.5X,C=225,B=60
UUHSP	HD	192713	39	0840	2013205	+232117	L	3	26107	L	85060616	000000	000000	161600	000230	G C=175,B=17
UUHSP	HD	192713	39	0840	2013205	+232117	H	3	25979	L	85051921	000000	000000	211600	008500	G C=145,B=42
UUHSP	HD	192713	39	0840	2013205	+232117	L	3	25976	L	85051915	000000	000000	153300	000230	G C=172,B=21
HC055	HD	192713	45	0556	2013206	232117	H	3	25988	L	85052023	000000	000000	233205	015000	501 U
HC055	HD	192713	45	0549	2013206	232117	H	3	25941	L	85051423	000000	000000	234853	015000	512 U
HC055	HD	192713	45	0551	2013206	232117	H	3	25968	L	85051804	000000	000000	041729	015000	552 U
HC055	HD	192713	45	0559	2013206	232117	H	1	05981	L	85051502	000000	000000	022410	008000	663 U
HC055	HD	192713	45	0557	2013206	232117	H	1	05986	L	85051523	000000	000000	233819	008000	554 U
HC055	HD	192713	39	0559	2013206	232117	H	1	05958	L	85051202	000000	000000	021705	008000	562 U
HC055	HD	192713	39	0558	2013206	232117	H	3	25914	L	85051123	000000	000000	234152	015000	431 U
HC055	HD	192713	45	0555	2013206	232117	H	3	26005	L	85052500	000000	000000	003109	015000	501 U
HA024	L	210-114	37	1383	2014541	-573059	L	3	26539	L	85080322	000000	000000	225511	001700	510 U
HA024	L	210-114	37	1385	2014541	-573059	L	3	26540	L	85080400	000000	000000	002039	001700	510 U
HA024	L	210-114	37	1392	2014541	-573059	L	3	26538	L	85080321	000000	000000	215021	001500	510 U
HA024	L	210-114	37	1392	2014541	-573059	L	1	06573	L	85080322	000000	000000	221656	003000	513 U
HA024	L	210-114	37	1399	2014541	-573059	L	1	06574	L	85080323	000000	000000	232822	004000	613 U
HI199	HD	193237	23	0498	2015564	375235	H	1	06166	L	85060821	000000	000000	215608	000500	561 U
HI199	HD	193237	23	0505	2015565	375236	H	3	26130	L	85060822	000000	000000	221750	003000	561 U
HI199	HD	193237	23	0509	2015565	375236	H	1	06796	L	85092414	000000	000000	144059	000500	561 U
HI199	HD	193237	23	0503	2015565	375236	H	3	26719	L	85092414	000000	000000	140328	003000	561 U
WRHDB	HD	193576	11	0860	2017425	+383423	H	3	26000	L	85052407	000000	000000	074700	019200	G E=178,C=130,B=53
WRHDB	HD	193576	11	0860	2017425	+383423	H	3	25990	L	85052110	000000	000000	103100	024500	G E=189,C=150,B=60
WRHDB	HD	193576	11	0860	2017425	+383423	H	3	25994	L	85052307	000000	000000	074000	020000	G E=156,C=100,B=50
OD65K	HD	193576	11	0820	2017426	+383424	H	3	25905	L	85051011	000000	000000	112500	020500	G E=165,C=140,B=60
WRHDB	HD	193576	11	0860	2017426	+383424	H	3	26008	L	85052511	000000	000000	112600	020500	G C=140,B=59
WRHDB	HD	193576	11	0860	2017426	+383424	D	9	01655	L	85052507	000000	000000	072700	016000	G NO COMMENTS
WRHDB	HD	193576	11	0860	2017426	+383424	H	3	26065	L	85060205	000000	000000	054900	020000	G E=165,C=140,B=58
WRHDB	HD	193576	11	0860	2017426	+383424	H	3	26031	L	85052911	000000	000000	113100	020500	G E=171,C=130,B=50
WRHDB	HD	193576	11	0860	2017426	+383424	H	3	26030	L	85052907	000000	000000	074200	020000	G E=160,C=120,B=55
WRHDB	HD	193576	11	0860	2017426	+383424	H	3	26007	L	85052507	000000	000000	073600	020000	G E=159,C=125,B=50
WRHDB	HD	193576	11	0860	2017426	+383424	H	3	26066	L	85060209	000000	000000	093300	020000	G E=184,C=150,B=72
WRHDB	HD	193576	11	0860	2017426	+383424	H	3	26041	L	85053111	000000	000000	113100	020200	G E=174,C=145,B=60
OD65K	HD	193576	11	0820	2017426	+383424	H	3	25904	L	85051007	000000	000000	073700	020000	G E=172,C=130,B=58
WRHDB	HD	193576	11	0860	2017426	+383424	H	3	25962	L	85051707	000000	000000	073700	019200	G E=169,C=150,B=50

PRO	OBJECT	CL	MAG	R.A.	DEC	D C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT				
OD58K	OO	U	SGE	20	1140	2017499	+205640	L 1	06074	SL	85052816	164400	000600	163400	000600	G B=30	
OD58K	OO	U	SGE	20	1140	2017499	+205640	L 3	26020	SL	85052816	162200	000800	160500	000800	G B=18	
OD58K	OO	U	SGE	20	1140	2018009	+205639	L 1	06113	SL	85060214	151200	001900	144900	001200	G C=210,B=45	
OD58K	OO	U	SGE	20	1140	2018009	+205639	L 3	26067	SL	85060213	140000	002000	135600	001500	G E=242,C=110,B=32	
HI160	U	SGE		66	1120	2018020	205638	L 1	06540	L	85073122	000000	000000	220818	000800	552 U 2 EXPS. 4MIN EACH	
HI160	U	SGE		66	1122	2018020	205638	L 3	26514	L	85073121	000000	000000	212050	000800	350 U 2 EXPS, 4M,4M	
HI160	U	SGE		66	1116	2018020	205638	L 3	26518	L	85080101	000000	000000	014943	000800	350 U 2 EXPS. 4MIN EACH	
HI160	U	SGE		66	1143	2018020	205638	L 3	26516	L	85073123	000000	000000	235330	000800	350 U 2 EXPS. 4M30S EACH	
HI160	U	SGE		66	1132	2018020	205638	L 3	26515	L	85073122	000000	000000	235333	000900	350 U 2 EXPS. 4M30S EACH	
HI160	U	SGE		66	1115	2018020	205638	L 3	26513	L	85073120	000000	000000	200313	001200	350 U 2 EXPS. 4M,8M	
HI160	U	SGE		66	1114	2018020	205638	L 1	06539	L	85073120	000000	000000	202844	001200	773 U 2 EXPS. 4M,4M	
HI160	U	SGE		66	1132	2018020	205638	L 3	26517	L	85080100	000000	000000	004658	000900	350 U 2 EXPS, 4M30S EACH	
HT069	NOVA	UUL	2	55	1010	2024405	274048	L 3	26341	LS	85070300	005202	001000	001632	003000	361 U 231\$	
HT069	NOVA	UUL	2	55	1013	2024405	274048	H 1	06329	L	85070301	000000	000000	010913	001500	152 U	
HT069	NOU	UUL	2	55	1023	2024405	274048	L 1	06481	L	85072423	000000	000000	235347	006000	782 U	
HT069	NOVA	UUL	2	55	1011	2024405	274048	L 1	06328	LS	85070223	000546	000400	234544	001000	591 U 381\$	
CUHSS	OO	N	UUL	2	55	1010	2024406	+274040	L 3	26245	L	85062415	000000	000000	153000	000800	G E=162,C=44,B=28
CUHSS	OO	NOVA	UUL	55	1020	2024406	+274040	L 3	26428	L	85071618	000000	000000	182700	001500	G E=1.5X,C=78,B=40	
CUHSS	OO	NOVA	UUL	55	1020	2024406	+274040	L 1	06409	L	85071618	000000	000000	181500	000100	G E=3.0X,C=65,B=35	
CUGCW	OO	NOVA	COL	55	1000	2024406	+274040	L 3	26046	SL	85053120	204900	000500	201400	003000	G E=3X,C=100,B=32	
CUGCW	OO	NOVA	COL	55	1000	2024406	+274040	L 1	06101	SL	85053121	214200	000400	212000	001000	G E=40X,C=235,B=39	
CUGCW	OO	NOVA	COL	55	1000	2024406	+274040	L 3	26047	L	85053121	000000	000000	215200	000730	G E=172,C=50,B=25	
CUGCW	OO	NOVA	COL	55	1000	2024406	+274040	L 1	06102	SL	85053122	223800	000010	223400	000020	G E=1.5X,C=50,B=39	
CUHSS	OO	N	UUL	2	55	1010	2024406	+274040	L 1	06265	L	85062415	000000	000000	154200	000030	G E=3.0X,C=46,B=30
CUHSS	OO	N	UUL	2	55	1010	2024406	+274040	L 3	26246	L	85062416	000000	000000	161100	002400	G E=3.0X,C=80,B=38
CUHSS	OO	NOVA	COL	55	0000	2024407	+274041	L 1	06701	L	85090718	000000	000000	185500	000820	G E=20X,C=127,B=36	
CUHSS	OO	NOVA	COL	55	0000	2024407	+274041	L 3	26649	L	85090717	000000	000000	174800	006000	G E=4.5X,C=83,B=29	
CUHSS	OO	NOVA	COL	55	0000	2024407	+274041	L 3	26648	L	85090717	000000	000000	170300	001000	G E=187,C=40,B=23	
CUHSS	OO	NOVA	COL	55	0000	2024407	+274041	L 1	06700	L	85090716	000000	000000	164900	000120	G E=3X,C=62,B=35	
PHCAL	OO	WAUCAL	98	0000	2038063	-192440	H 1	06767	S	85092010	103800	000016	000000	000000	G E=50X,B=110		
PHCAL	OO	WAUCAL	98	0000	2038107	-192432	L 1	06766	S	85092009	093900	000001	000000	000000	G E=10X,B=105		
PHCAL	OO	WAUCAL	98	0000	2038107	-192432	L 3	26692	S	85092007	072000	000002	000000	000000	G E=10X,B=103		
PHCAL	OO	WAUCAL	98	0000	2038107	-192432	H 2	17781	S	85092008	084600	000016	000000	000000	G E=50X,B=141		
PHCAL	OO	WAUCAL	98	0000	2038107	-192432	L 2	17780	S	85092008	081900	000001	000000	000000	G E=10X,B=87		
PHCAL	OO	WAUCAL	98	0000	2038107	-192432	H 3	26693	S	85092007	074700	000200	000000	000000	G E=60X,B=128		
PHCAL	OO	NULL	98	0000	2038107	-192432	H 2	17779	L	85092006	000000	000000	065000	000000	G B=27		
SJHHM	OO	JUPITER	03	-0260	2038120	-192417	L 3	26686	L	85092001	000000	000000	013800	001500	G E=162,C=3X,B=19		
SJHHM	OO	JUPITER	03	-0190	2038120	-192417	L 3	26684	L	85091923	000000	000000	235800	001500	G E=137,C=3X,B=20		
SJHHM	OO	JUPITER	03	-0190	2038120	-192417	L 3	26683	L	85091923	000000	000000	230700	001500	G E=129,C=3X,B=24		
SJHHM	OO	JUPITER	03	-0260	2038120	-192417	L 3	26687	L	85092002	000000	000000	022700	001500	G E=168,C=3X,B=20		
SJHHM	OO	OSKY BACK	07	9999	2038120	-192417	L 3	26688	L	85092003	000000	000000	031600	001500	G E=32,B=17		
SJHHM	OO	JUPITER	03	-0260	2038120	-192417	L 3	26689	L	85092004	000000	000000	040400	001500	G E=148,C=3X,B=20		
SJHHM	OO	JUPITER	03	-0260	2038120	-192417	L 3	26690	L	85092004	000000	000000	045000	001500	G E=138,C=3X,B=22		
SJHHM	OO	JUPITER	03	-0260	2038120	-192417	L 3	26691	L	85092005	000000	000000	053800	001500	G E=141,C=3X,B=23		
SJHHM	OO	OSKY BACK	07	9999	2038120	-192417	L 3	26685	L	85092000	000000	000000	005200	001500	G E=37,B=17		

PRO	OBJECT	CL	MAG	R.A.	DEC	D C	IMAGE	A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT			
FSHTA	00	WAUCAL	98	1010	2038444	-323647	R	3	26673	S	85091707	071100	000200	000000	000000	G E=60X,B=126
FSHTA	00	AT MIC	48	1010	2038450	-323647	H	1	06738	L	85091608	000000	000000	081900	012000	G E=229,B=80
FSHTA	00	AT MIC	48	1010	2038450	-323647	L	1	06739	L	85091612	000000	000000	120500	002500	G E=12X,C=140,B=105
HC131	AT	MIC	48	1030	2038450	-323647	L	1	06741	L	85091614	000000	000000	143712	002500	363 U
FSHTA	00	AT MIC	48	1010	2038450	-323647	L	1	06740	L	85091613	000000	000000	132400	002500	G E=1.5X,C=110,B=78
FSHTA	00	AT MIC	48	1010	2038450	-323647	H	3	26672	L	85091623	000000	000000	232600	099900	G E=1.5X,B=215,25 HR
FSHTA	00	AT MIC	48	1010	2038450	-323647	H	1	06742	L	85091704	000000	000000	043500	012000	G E=241,B=105
FSHTA	00	AT MIC	48	1010	2038450	-323647	H	1	06737	L	85091605	000000	000000	053700	012000	G E=207,B=58
HC131	HD1969A2	48	1001	2038450	-323647	L	1	06736	L	85091514	000000	000000	142200	003000	361 U	
FSHTA	00	AT MIC	48	1010	2038450	-323647	H	1	06735	L	85091511	000000	000000	112600	012000	G E=225,B=85
FSHTA	00	AT MIC	48	1010	2038450	-323647	H	1	06734	L	85091508	000000	000000	084700	012000	G E=224,B=60
FSHTA	00	AT MIC	48	1010	2038450	-323647	L	1	06733	L	85091507	000000	000000	074400	002000	G E=232,B=39
FSHTA	00	WAUCAL	98	1010	2038450	-323647	H	1	06743	S	85091707	071600	000016	000000	000000	G E=50X,B=112
SSHRN	00	EUROPA	04	0580	2039313	-191943	L	1	06723	L	85091222	000000	000000	225700	000650	G C=2X,B=35
SSHRN	00	GANYMEDE	04	0580	2039313	-191943	L	1	06725	L	85091300	000000	000000	004200	000152	G C=223,B=33
SSHRN	00	IO	04	0580	2039313	-191943	L	1	06726	L	85091301	000000	000000	013800	000935	G C=210,B=35
SSHRN	00	EUROPA	04	0580	2039313	-191943	L	1	06724	L	85091223	000000	000000	234500	000342	G C=210,B=35
SSHRN	00	CALLISTO	04	0580	2040095	-191644	L	1	06727	L	85091302	000000	000000	023300	000452	G C=235,B=32
DCHNE	HD	197572	53	0640	2041270	+352424	L	1	06029	SL	85052215	152700	000130	152100	000130	G C=125,B=35
HIT00	HB0475	57	1264	2049030	352337	L	1	06214	L	85061402	000000	000000	022444	003500	451 U	
HIT00	HB0475	57	1261	2049030	352337	H	3	26167	L	85061403	000000	000000	030542	010200	131 U	
HIT00	HB0475	57	1256	2049030	352337	L	3	26166	L	85061401	000000	000000	014335	003500	250 U	
OD49K	HD	198846	20	0760	2050036	+342808	L	1	06118	L	85060308	000000	000000	080900	000020	G C=1.5X,B=35
OD49K	HD	198846	20	0760	2050036	+342808	H	3	26077	L	85060307	000000	000000	070600	005500	G C=2X,B=59
KGHJL	HD	198700	47	0360	2050551	-583840	L	3	26114	L	85060707	000000	000000	070300	036000	G E=1.5X,C=1.5X,B=101
KGHJL	HD	198700	47	0360	2050551	-583840	H	1	06158	L	85060706	000000	000000	062600	007000	G E=1.2X,C=215,B=51
KGHJL	HD	198700	47	0360	2050551	-583840	L	3	26113	L	85060705	000000	000000	055200	001500	G E=39,C=47,B=25
NSHJR	00	OCYGO LOOP	75	9999	2054444	+305638	L	3	26233	L	85062206	000000	000000	060500	026000	G E=139,C=80,B=40
NSHJR	00	OCYGO LOOP	75	9999	2054479	+305549	L	1	06253	L	85062205	000000	000000	054800	030000	G E=121,C=107,B=73
NSHJR	00	OCYGO LOOP	75	9999	2054520	+305515	L	3	26306	L	85062906	000000	000000	060000	029000	G E=132,C=120,B=86
NSHJR	00	OCYGO LOOP	75	9999	2054520	+305515	L	1	06297	L	85062905	000000	000000	055700	029500	G E=167,C=143,B=108
NSHJR	00	OCYGO LOOP	75	0000	2055065	+305110	L	3	26481	L	85072604	000000	000000	040800	037000	G E=131,C=97,B=83
NSHJR	00	OCYGO LOOP	75	0000	2055113	+305051	L	1	06493	L	85072604	000000	000000	040600	038800	G E=200,C=165,B=120
NSHJR	00	OCYGO LOOP	75	0000	2055113	+305051	L	3	26471	L	85072503	000000	000000	034400	041500	G E=2X,C=110,B=85
NSHJR	00	OCYGO LOOP	75	0000	2055161	+305031	L	1	06483	L	85072504	000000	000000	040800	037000	G E=147,C=137,B=102
SSHRN	00	EUROPA	04	0580	2057093	-180801	L	1	06578	L	85080411	000000	000000	113400	000133	G C=230,B=35
SSHRN	00	IO	04	0550	2057093	-180801	L	1	06577	L	85080410	000000	000000	103700	001130	G C=230,B=51
SSHRN	00	IO	04	0550	2057305	-180633	L	1	06568	L	85080311	000000	000000	110300	000136	G C=217,B=44
SSHRN	00	EUROPA	04	0580	2057428	-180530	L	1	06567	L	85080310	000000	000000	102200	000128	G C=1.2X,B=36
HA048	HD200120	22	0491	2058074	471930	H	1	06212	L	85061323	000000	000000	230158	000130	702 U	
HA048	HD200120	22	0477	2058074	471930	H	3	26164	L	85061322	000000	000000	225706	000130	500 U	
SJHJW	00	JUPITER	03	-0270	2108192	-171649	L	3	26402	L	85071208	000000	000000	085800	010500	G C=10X,B=40
SJHJW	00	JUPITER	03	-0270	2108192	-171649	L	3	26400	L	85071204	000000	000000	041300	006000	G E=140,C=10X,B=25
SJHJW	00	JUPITER	03	-0270	2108192	-171649	L	3	26401	L	85071206	000000	000000	062500	010500	G E=1.5X,C=10X,B=40
SRHLW	00	T CEP	51	0700	2108529	+681712	L	1	06475	L	85072413	000000	000000	135700	003000	G C=60,B=40

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT		
SSHRN	OO	EUROPA	04	0580	2111170	-170211	L	1	06338	L	85070318	000000	000000	183300	000320	G C=205,B=39
SSHRN	OO	IO	04	0550	2111170	-170211	L	1	06337	L	85070317	000000	000000	174200	000730	G C=195,B=58
SSHRN	OO	OOGANYMEDE	04	0510	2111171	-170204	L	1	06332	L	85070312	000000	000000	124800	000142	G C=210,B=41
SSHRN	OO	EUROPA	04	0580	2111216	-170146	L	1	06334	L	85070315	000000	000000	151500	000130	G C=130,B=43
SSHRN	OO	OOGANYMEDE	04	0510	2111367	-170400	L	1	06331	L	85070311	000000	000000	115500	000156	G C=225,B=37
SSHRN	OO	EUROPA	04	0580	2111417	-170007	L	1	06335	L	85070315	000000	000000	155700	000300	G C=210,B=42
SSHRN	OO	IO	04	0550	2111417	-170007	L	1	06336	L	85070317	000000	000000	170100	000700	G C=200,B=67
SSHRN	OO	IO	04	0550	2111437	-165955	L	1	06333	L	85070313	000000	000000	134500	000730	G C=95,B=41
SAHFF	HD	202447	39	0390	2113194	+050224	H	1	06000	L	85051715	000000	000000	150400	001300	G C=1.2X,B=48
LDHDD	HD	202575	46	0790	2114050	+091106	L	1	06081	L	85052915	000000	000000	153400	001600	G E=170,C=160,B=35
DCHNE	HD	204867	45	0290	2128556	-054732	L	1	06031	L	85052218	000000	000000	185300	000008	G C=254,B=35
LGHJL	HD	204867	45	0290	2128557	-054732	H	1	06160	L	85060716	000000	000000	164100	003500	G CE=2X,C=3X,B=127
LGHJL	HD	204867	45	0290	2128557	-054732	H	1	06162	L	85060718	000000	000000	184700	000800	G E=182,C=1.2X,B=68
LGHJL	HD	204867	45	0290	2128557	-054732	H	1	06360	L	85070713	000000	000000	131800	002500	G E=2X,C=2X,B=103
LGHJL	HD	204867	45	0290	2128557	-054732	H	1	06195	L	85061116	000000	000000	162600	000800	G E=171,C=1.5X,B=75
LGHJL	HD	204867	45	0290	2128557	-054732	H	1	05930	L	85050718	000000	000000	184600	001000	G E=170,C=1.2X,B=55
LGHJL	HD	204867	45	0290	2128557	-054732	H	1	05929	L	85050717	000000	000000	174200	003200	G E=2.5X,C=3X,B=78
PNHMC	OO	IC5117	70	1400	2130368	+442229	L	3	25835	L	85050207	000000	000000	075800	003000	G B=22
PNHMC	OO	IC5117	70	1400	2130368	+442229	L	1	05884	L	85050209	000000	000000	085500	029500	G E=190,C=195,B=135
PNHMC	OO	IC5117	70	1400	2130368	+442229	L	1	05883	L	85050208	000000	000000	083400	003000	G E=48,C=60,B=39
BEHGP	HD	205637	60	0460	2134170	-194128	H	3	26311	L	85062917	000000	000000	171900	000140	G C=1.5X,B=50
IDHTS	HD	206267	12	0560	2137243	+571544	L	3	26011	SL	85052522	220500	000100	220000	000011	G C=180,B=28
IDHTS	HD	206267	12	0560	2137243	+571544	L	1	06057	SL	85052521	215600	000012	215100	000003	G C=180,B=35
IBHRP	OSS	CYGN	54	1000	2140449	+432121	L	3	26082	L	85060316	000000	000000	162400	001300	G C=10X,B=25
SCHMA	OO	COM G-Z	06	1360	2141352	+444008	L	1	06255	SL	85062214	143500	009000	143400	009000	G E=178,B=78
SCHMA	OO	COM G-Z	06	1360	2141352	+444008	D	9	01666	L	85062214	000000	000000	142700	002000	G NO COMMENTS
SCHMA	OO	COM G-Z	06	1360	2141352	+444008	L	3	26235	SL	85062216	162600	003800	162500	003000	G E=173,B=35
HC055	HD	206778	47	0264	2141438	093842	L	3	25916	L	85051205	000000	000000	051414	009300	461 U
SCHMA	OO	COM G-Z	06	1360	2142275	+444725	L	1	06256	SL	85062217	170200	012800	170100	012800	G E=238,B=105
IDHTS	HD	207198	13	0594	2143306	+621346	H	3	26001	L	85052416	000000	000000	161300	007500	G C=2.0X,B=67
IDHTS	HD	207198	13	0594	2143306	+621346	H	3	26019	L	85052620	000000	000000	202200	012500	G C=6.0X,B=98
IDHTS	HD	207198	13	0594	2143306	+621346	H	1	06067	L	85052621	000000	000000	211400	001000	G C=250,B=41
IDHTS	HD	207198	13	0594	2143306	+621346	H	3	25987	L	85052016	000000	000000	164400	003300	G C=207,B=42
IDHTS	HD	207198	13	0594	2143306	+621346	H	3	25983	L	85052017	000000	000000	175000	003300	G C=188,B=41
IDHTS	HD	207198	13	0594	2143306	+621346	H	3	25984	L	85052018	000000	000000	185400	003300	G C=210,B=45
IDHTS	HD	207198	13	0594	2143306	+621346	H	3	25985	L	85052019	000000	000000	195800	003300	G C=210,B=45
IDHTS	HD	207198	13	0594	2143306	+621346	H	1	06066	S	85052619	195300	001500	000000	000000	G C=215,B=41
IDHTS	HD	207198	13	0594	2143306	+621346	H	1	06065	L	85052618	000000	000000	183600	001500	G C=1.5X,
IDHTS	HD	207198	13	0594	2143306	+621346	H	3	25986	L	85052021	000000	000000	210400	003100	G C=199,B=40
IDHTS	HD	207198	13	0594	2143306	+621346	H	3	26002	L	85052417	000000	000000	175800	010500	G C=5.0X,B=98
IDHTS	HD	207198	13	0594	2143306	+621346	H	3	25987	L	85052022	000000	000000	220700	003100	G C=170,B=38
IDHTS	HD	207198	13	0594	2143306	+621346	H	1	06018	L	85052115	000000	000000	152400	001000	G C=227,B=43
IDHTS	HD	207198	13	0594	2143306	+621346	H	1	06019	S	85052116	161300	002000	000000	000000	G C=250,B=50
IDHTS	HD	207198	13	0594	2143306	+621346	H	1	06020	L	85052117	000000	000000	170700	001500	G C=1.5X,B=50
IDHTS	HD	207198	13	0594	2143306	+621346	H	1	06021	S	85052117	175700	002500	000000	000000	G C=1.5X,B=50

PRO	OBJECT	CL	MAG	R.A.	DEC	D C	IMAGE	A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT		
IDHTS	HD	207198	13	0594	2143306	+621347	H 1	06022	L	85052118	000000	000000	185700	001500	G C=1.5X, B=50
IDHTS	HD	207198	13	0594	2143306	+621347	H 1	06023	S	85052119	194700	002500	000000	000000	G C=1.5X, B=60
IDHTS	HD	207198	13	0594	2143306	+621347	H 1	06024	L	85052120	000000	000000	204800	001500	G C=1.5X, B=50
IDHTS	HD	207198	13	0594	2143306	+621347	H 1	06025	S	85052121	213600	002500	000000	000000	G C=1.2X, B=50
IDHTS	HD	207198	13	0594	2143306	+621347	H 1	06026	L	85052122	000000	000000	223400	001500	G C=1.5X, B=50
IDHTS	HD	207198	13	0594	2143306	+621346	H 3	26017	L	85052615	000000	000000	152500	003300	G C=200, B=40
IDHTS	HD	207198	13	0594	2143306	+621346	H 3	25981	L	85052015	000000	000000	154400	003100	G C=188, B=40
IDHTS	HD	207198	13	0594	2143306	+621346	H 1	06064	L	85052617	000000	000000	171800	001500	G C=1.5X, B=50
IDHTS	HD	207198	13	0594	2143306	+621346	H 3	26003	L	85052420	000000	000000	201600	013500	G C=6.5X, B=10
IDHTS	HD	207198	13	0594	2143306	+621346	H 3	26018	L	85052616	000000	000000	163600	013500	G C=6.0X, B=105
IDHTS	HD	207198	13	0594	2143306	+621346	H 1	06056	S	85052519	192900	001500	000000	000000	G C=210, B=45
IDHTS	HD	207198	13	0594	2143306	+621346	H 1	06063	S	85052616	160600	002000	000000	000000	G C=250, B=42
IDHTS	HD	207198	13	0594	2143306	+621346	H 3	26010	L	85052518	000000	000000	182300	014000	G C=6.5X, B=10
IDHTS	HD	207198	13	0594	2143306	+621346	H 1	06055	S	85052517	175100	002500	000000	000000	G C=1.2X, B=50
IDHTS	HD	207198	13	0594	2143306	+621346	H 3	26009	L	85052515	000000	000000	152500	014000	G C=6.0X, B=10
HCHBB	HD	207739	39	0010	2147598	+434354	H 1	06013	L	85051917	000000	000000	175600	009000	G E=202, C=165, B=81
HCHBB	HD	207739	39	0010	2147598	+434354	L 3	25977	L	85051917	000000	000000	172200	001200	G C=150, B=22
HCHBB	HD	207739	39	0850	2147598	+434354	L 3	26772	L	85092807	000000	000000	075000	001300	G C=198, B=22
HCHBB	HD	207739	39	0010	2147598	+434354	L 1	06012	L	85051917	000000	000000	171200	000310	G E=195, C=170, B=30
HCHBB	HD	207739	39	0850	2147598	+434354	L 1	06824	L	85092807	000000	000000	071700	000350	G E=255, C=237, B=37
HCHBB	HD	207739	39	0850	2147598	+434354	L 3	26771	L	85092806	000000	000000	064300	001400	G C=210, B=20
HCHBB	HD	207739	39	0850	2147598	+434354	H 1	06823	L	85092804	000000	000000	044700	011000	G E=251, C=210, B=125
IBHSK	OO	AG PEG	57	0000	2148362	+122327	L 3	26023	SL	85052717	174900	000100	174000	000500	G E=2.0X, C=185, B=20
IBHSK	OO	AG PEG	57	0000	2148362	+122327	L 1	06070	SL	85052717	173300	000100	172400	000500	G C=2.5X, B=32
PHCAL	BD+28	4211	16	1050	2148559	+283734	L 2	17716	L	85051815	000000	000000	155800	000800	G C=2X, B=30
PHCAL	BD+28	4211	16	1079	2148560	283735	L 3	26614	LS	85081518	182602	000045	182242	000026	500 U 500s
PHCAL	BD+28	4211	16	1077	2148560	283735	L 1	06672	L	85081518	000000	000000	181912	000050	502 U
PHCAL	BD+28	4211	16	1064	2148560	283735	L 3	26598	LS	85081200	004545	000045	004209	000026	501 U 401s
PHCAL	BD+28	4211	16	1064	2148560	283735	L 3	26048	LS	85060100	002838	000118	002500	000026	500 U 500s
PHCAL	BD+28	4211	16	1065	2148560	283735	L 1	06103	LS	85060100	010203	000230	005800	000050	501 U 501s
PHCAL	BD+28	4211	16	1064	2148560	283737	L 3	26111	L	85060622	000000	000000	222900	000026	500 U
PHCAL	BD+28	4211	16	1055	2148560	283737	L 2	17729	L	85060700	000000	000000	000905	000320	402 U R=0.10 I=1 TRAIL
PHCAL	BD+28	4211	16	1064	2148560	283737	L 2	17727	L	85060622	000000	000000	222453	000100	502 U
PHCAL	BD+28	4211	16	1061	2148560	283735	L 3	26100	LS	85060600	001559	000118	001024	000026	501 U 301s
PHCAL	BD+28	4211	16	1067	2148560	283735	L 3	26049	L	85060101	000000	000000	013706	000118	500 U TRAILED R=0.256 I=1
PHCAL	BD+28	4211	16	1069	2148560	283735	L 1	06673	L	85081519	000000	000000	192444	000050	502 U
PHCAL	BD+28	4211	16	1058	2148560	283735	L 1	06104	L	85060101	000000	000000	014720	000320	501 U TRAILED R=0.1 I=1
PHCAL	BD+28	4211	16	1061	2148560	283735	L 1	06147	LS	85060600	002559	000230	002122	000050	501 U 301s
PHCAL	BD+28	4211	16	1062	2148560	283735	L 2	17756	L	85072623	000000	000000	234102	000100	501 U
PHCAL	BD+28	4211	16	1070	2148560	283735	L 2	17757	L	85072700	000000	000000	004238	001000	401 U UOC=2.5KV
PHCAL	BD+28	4211	16	1051	2148560	283735	L 2	17758	L	85072701	000000	000000	012917	001400	401 U UOC=2.5KV
PHCAL	BD+28	4211	16	1075	2148560	283735	L 3	26618	L	85081523	000000	000000	234459	000236	601 U R=0.128 I=1 TRAIL
PHCAL	BD+28	4211	16	1070	2148560	283735	L 1	06676	L	85081522	000000	000000	223007	000320	502 U R=0.10 I=1 TRAIL
PHCAL	BD+28	4211	16	1067	2148560	283735	L 3	26617	L	85081522	000000	000000	222720	000118	500 U R=0.256 I=1 TRAIL
PHCAL	BD+28	4211	16	1083	2148560	283735	L 3	26615	L	85081519	000000	000000	192950	000118	500 U R=0.256 I=1 TRAIL

PRO	OBJECT	CL	MAG	R.A.	DEC	D C	IMAGE	A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT
PHCAL	BD+28	4211	16	1083 2148560	283735	L 1	06674	L	85081520	000000	000000	202801	000320 502 U R=0.10 I=1 TRAIL
PHCAL	BD+28	4211	16	1065 2148560	283735	L 3	26616	L	85081520	000000	000000	204330	000236 600 U R=0.128 I=1 TRAIL
PHCAL	BD+28	4211	16	1078 2148560	283735	L 1	06675	L	85081522	000000	000000	220700	000640 200 U R=0.05 I=1 TRAIL
PHCAL	BD+28	4211	16	1065 2148560	283737	L 2	17728	L	85060623	000000	000000	233042	000100 502 U
PHCAL	BD+28	4211	16	1050 2148574	+283734	L 1	06039	L	85052315	000000	000000	153200	000050 G C=200, B=37
PHCAL	BD+28	4211	16	1050 2148574	+283734	L 3	26352	L	85070515	000000	000000	154000	000026 G C=210, B=15
PHCAL	BD+28	4211	16	1050 2148574	+283734	L 1	06350	L	85070515	000000	000000	153400	000050 G C=220, B=39
PHCAL	BD+28	4211	16	1050 2148574	+283734	L 1	06044	L	85052319	000000	000000	193100	000640 G C=2.0X, B=43
PHCAL	BD+28	4211	16	1050 2148574	+283734	L 2	17710	L	85051216	000000	000000	161600	000112 G C=210, B=24
PHCAL	BD+28	4211	16	1050 2148574	+283734	L 2	17711	L	85051216	000000	000000	165600	000248 G C=2X, B=25
PHCAL	BD+28	4211	16	1050 2148574	+283734	L 2	17712	L	85051217	000000	000000	174400	000400 G C=190, B=30
PHCAL	BD+28	4211	16	1050 2148574	+283734	L 2	17713	L	85051218	000000	000000	185100	000400 G C=190, B=30
PHCAL	BD+28	4211	16	1050 2148574	+283734	L 2	17714	L	85051219	000000	000000	193900	000800 G C=2X, B=35
PHCAL	BD+28	4211	16	1050 2148574	+283734	L 1	06043	S	85052318	185400	000128	000000	000000 G C=198, B=32
PHCAL	BD+28	4211	16	1050 2148574	+283734	L 2	17777	L	85082920	000000	000000	205100	000100 G C=155, B=25
PHCAL	BD	284211	16	0000 2148574	+283734	L 1	06543	L	85080111	000000	000000	110400	000050 G C=183, B=33
PHCAL	OO	SKY	07	1050 2148574	+283734	L 1	06042	L	85052317	000000	000000	175800	001000 G MISSED STAR
PHCAL	BD+28	4211	16	1050 2148574	+283734	L 1	06040	L	85052316	000000	000000	161300	000320 G C=190, B=35
PHCAL	BD+28	4211	16	1050 2148574	+283734	L 1	06041	L	85052316	000000	000000	165800	000640 G C=2.0X, B=47
SCHMA	OOSKY	BKGD	07	9999 2150414	+460135	L 3	26236	SL	85062217	174600	001500	174500	001500 G E=83
ISRJS	HD	209008	24	0600 2157380	+062837	H 1	06340	L	85070412	000000	000000	122700	000400 G C=195, B=45
BEHCG	HD	209014	26	0540 2157581	-284140	H 1	06227	L	85061616	000000	000000	163500	000408 G C=220, B=56
BEHCG	HD	209014	26	0540 2157581	-284140	H 3	26183	L	85061616	000000	000000	164600	000930 G C=250, B=65
LGHJL	HD	209750	45	0300 2203129	-003349	H 1	05931	L	85050719	000000	000000	193200	001000 G E=228, C=1.2X, B=61
LGHJL	HD	209750	45	0300 2203129	-003349	H 1	06396	L	85071416	000000	000000	162600	000500 G E=221, C=2.55, B=159
LGHJL	HD	209750	45	0300 2203129	-003349	H 1	06362	L	85070715	000000	000000	151800	000800 G E=225, C=250, B=105
LGHJL	HD	209750	45	0300 2203129	-003349	H 1	06361	L	85070714	000000	000000	142400	002000 G E=2X, C=2X, B=123
LGHJL	HD	209750	45	0300 2203129	-003349	H 1	06161	L	85060717	000000	000000	175200	001000 G E=216, C=245, B=72
LGHJL	HD	209750	45	0300 2203129	-003349	H 1	06193	L	85061114	000000	000000	142800	003000 G E=3X, C=3.5X, B=9-
HM225	HD209952	22	0165	2205055	-471214	H 3	25844	L	85050306	000000	000000	063136	000015 502 U
HM225	HD209952	22	0198	2205055	-471214	H 1	05894	L	85050305	000000	000000	055435	000008 502 U
BEHCG	HD	210129	26	0580 2205292	+212732	H 3	25955	L	85051615	000000	000000	153800	000819 G C=190, B=38
BEHCG	HD	210129	26	0580 2205292	+212732	H 1	05991	L	85051615	000000	000000	155300	000444 G C=213, B=45
OD61K	HD	210334	39	0610 2206389	+452947	H 1	06756	L	85091902	000000	000000	024600	006000 G E=179, C=130, B=46
OD61K	HD	210334	39	0610 2206389	+452947	L 3	26680	L	85091911	000000	000000	112800	009000 G E=105, C=110, B=60
OD61K	HD	210334	39	0610 2206389	+452947	H 1	06760	L	85091912	000000	000000	120600	006000 G E=227, C=207, B=90
OD61K	HD	210334	39	0610 2206389	+452947	L 3	26679	L	85091903	000000	000000	035400	008700 G E=79, C=90, B=36
OD61K	HD	210334	39	0610 2206389	+452947	H 1	06757	L	85091904	000000	000000	043400	006000 G E=191, C=165, B=50
OD61K	HD	210334	39	0610 2206389	+452947	H 1	06758	L	85091906	000000	000000	062300	006000 G E=200, C=165, B=57
OD61K	HD	210334	39	0610 2206389	+452947	H 1	06759	L	85091908	000000	000000	081300	006000 G E=190, C=157, B=45
HC016	HD210334	46	0632	2206390	452948	H 1	06751	L	85091816	000000	000000	161627	006000 454 U
HC016	HD210334	46	0649	2206390	452948	H 1	06752	L	85091818	000000	000000	180343	006000 453 U
HC016	HD210334	46	0647	2206390	452948	H 1	06750	L	85091814	000000	000000	143016	006000 454 U
HC016	HD210334	46	0633	2206390	452948	L 3	26677	L	85091815	000000	000000	153739	009000 331 U 3*30M EXPOSURES
HC016	HD210334	46	0640	2206390	452948	H 1	06764	L	85091919	000000	000000	193016	006000 344 U

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT	
HC016	HD210334	46	9999	2206390	452948	D	9	01698	2	85091821	000000	000000	214600	016000	U FES FOR SIMP 26678
HC016	HD210334	46	0636	2206390	452948	H	1	06753	L	85091820	000000	000000	200527	006000	453 U
HC016	HD210334	46	9999	2206390	452948	D	9	01699	2	85091921	000000	000000	210900	016000	U FES FOR SIMP 26682
OD61K	HD 210334	39	0610	2206390	+452948	H	1	06746	L	85091805	000000	000000	054300	006000	G E=218,C=183,B=80
OD61K	HD 210334	39	0610	2206390	+452948	H	1	06747	L	85091807	000000	000000	072400	006000	G E=216,C=173,B=70
OD61K	HD 210334	39	0610	2206390	+452948	L	3	26676	L	85091808	000000	000000	084200	006000	G E=108,C=105,B=58
OD61K	HD 210334	39	0610	2206390	+452948	H	1	06748	L	85091809	000000	000000	082800	003500	G E=207,C=190,B=119
OD61K	HD 210334	39	0610	2206390	+452948	H	1	06749	L	85091810	000000	000000	103000	003000	G E=3X,C=2X,B=207
OD61K	HD 210334	39	0610	2206390	+452948	H	1	06754	L	85091822	000000	000000	220700	006000	G E=182,C=152,B=4
OD61K	HD 210334	39	0610	2206390	+452948	L	3	26678	L	85091823	000000	000000	232300	009500	G E=214,C=80,B=38
OD61K	HD 210334	39	0610	2206390	+452948	H	1	06755	L	85091900	000000	000000	005700	005400	G E=172,C=98,B=42
HC016	HD210334	46	0649	2206390	452948	L	3	26681	L	85091915	000000	000000	151835	009000	341 U 3*30H EXPOSURES
HC016	HD210334	46	0642	2206390	452948	L	3	26682	L	85091920	000000	000000	203631	003000	331 U REF PNT X=-37 Y=-26
HC016	HD210334	46	0656	2206390	452948	H	1	06765	L	85091921	000000	000000	213130	001700	333 U
HC016	HD210334	46	0649	2206390	452948	H	1	06761	L	85091914	000000	000000	141024	006000	344 U
HC016	HD210334	46	0639	2206390	452948	H	1	06762	L	85091915	000000	000000	155431	006000	444 U
HC016	HD210334	46	0653	2206390	452948	H	1	06763	L	85091917	000000	000000	174735	006000	343 U
RRHRB	BD+17 4708	42	0950	2209060	+175042	L	1	06508	L	85072813	000000	000000	131100	001500	G C=3X,B=60
PPHRB	BD+17 4708	42	0950	2209060	+175042	L	1	06610	L	85080714	000000	000000	142000	000500	G C=200,B=21
RRHRB	BD+17 4708	42	0950	2209060	+175042	L	3	26494	L	85072811	000000	000000	112400	010000	G C=255,B=92
NRHAW	BD+69 1231	22	0927	2212140	+700011	L	3	26036	SL	85053010	110600	001200	104200	001800	G C=220,B=19
NRHAW	BD+69 1231	22	0927	2212140	+700011	L	2	17724	SL	85053009	102000	001630	094700	002500	G C=3X,B=27
NRHAW	0000CED201	73	0000	2212169	+700025	L	3	26053	L	85060107	000000	000000	070900	042000	G C=130,B=90
NRHAW	0000CED201	73	0000	2212169	+700025	L	2	17725	L	85053011	000000	000000	113800	018000	G C=85,B=40
NRHAW	BD+69 1232	22	0817	2212239	+695333	L	3	26035	SL	85053008	091700	001000	085600	000318	G C=200,B=27
NRHAW	00SAFEREAD	99	9999	2212239	+695333	2	17722	L	85053007	000000	000000	072500	000000	G B=30	
NRHAW	BD+69 1232	22	0817	2212239	+695333	L	2	17723	SL	85053008	081200	000450	083400	000715	G C=220,B=24
KGRJL	HD 211388	47	0410	2213473	+372959	L	3	26115	L	85060714	000000	000000	143100	003000	G B=29
RRHYK	HD 212120	66	0460	2218576	+461706	H	1	06309	L	85063016	000000	000000	165200	000130	G C=240,B=60
RRHYK	HD 212120	66	0460	2218576	+461706	H	3	26322	L	85063016	000000	000000	164500	000245	G C=235,B=53
IBHGH	HD 212120	66	0460	2218576	+461706	H	3	26104	L	85060609	000000	000000	095700	000300	G C=230,B=43
IBHGH	HD 212120	66	0460	2218576	+461706	H	1	06151	L	85060609	000000	000000	094400	000200	G C=1.5X,B=47
BEHGP	HD 212571	26	0470	2222434	+010723	H	3	26310	L	85062916	000000	000000	163500	000115	G C=210,B=34
QSHAG	Q 2223-056	85	1550	2223110	-051217	L	1	06407	L	85071604	000000	000000	042600	033500	G E=247,C=220,B=181
QSHAG	Q 2223-056	85	1550	2223110	-051217	L	1	06330	L	85070303	000000	000000	035300	040500	G E=164,C=152,B=123
PHCAL	00SAFEREAD	99	9999	2223110	-051216	L	2	17715	L	85051815	000000	000000	151300	000000	G C=40,B=10
QSHAG	Q 2223-056	85	1550	2223110	-051217	L	1	06073	L	85052807	000000	000000	025000	042000	G E=151,C=135,B=99
QSHAG	Q 2223-056	85	1550	2223110	-051216	L	1	06006	L	85051807	000000	000000	074500	042000	G E=147,C=120,B=105
BEHCG	HD 212581	26	0450	2223480	-651318	H	1	06228	L	85061618	000000	000000	184700	000230	G C=210,B=55
BEHCG	HD 212581	26	0450	2223480	-651318	H	3	26185	L	85061619	000000	000000	190200	000713	G C=255,B=55
HSRGS	HD 212581	22	0450	2223480	-651318	L	3	26193	L	85061714	000000	000000	145500	000019	G C=203,B=19
HSRGS	HD 212581	22	0450	2223480	-651318	L	1	06235	SL	85061715	153100	000012	151000	000010	G C=210,B=38
HS051	GIACOB-ZIN	06	1302	2226567	513302	L	3	26354	L	85070523	000000	000000	231546	003000	141 U
HS051	GIACOB-ZIN	06	1327	2226567	513302	L	1	06353	L	85070521	000000	000000	213926	006000	253 U
HS051	GIACOB-ZIN	06	1317	2226567	513302	L	1	06354	L	85070523	000000	000000	235029	008500	254 U

PRO	OBJECT	CL	MAG	R.A.	DEC	D C	IMAGE	A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT	
DMAJL	000006L866	48	1220	2235509	-153317	L 3	26445	L	85072004	000000	000000	041700	037400	G B=88
LDHDD	HD 214479	48	0910	2236013	-205249	L 1	06082	L	85052917	000000	000000	170500	000220	G E=92, B=31
PHCAL	OOSAFY RD	99	9999	2237007	+384721	L 2	17734	L	85062013	000000	000000	132600	000000	G B=23
PHCAL	OO WAUCAL	96	0000	2237007	+384721	L 1	06209	S	85061316	161800	000001	000000	000000	G E=10X, B=104
PHCAL	OO WAUCAL	98	0000	2237007	+384721	H 1	06210	S	85061316	164800	000016	000000	000000	G E=50X, B=117
PHCAL	OO WAUCAL	98	0000	2237007	+384721	L 3	26158	S	85061317	173500	000002	000000	000000	G E=10X, B=105
PHCAL	HD 214680	12	0490	2237007	+384721	H 3	26626	L	85082317	000000	000000	173700	000850	G C=195, B=36
PHCAL	OC WAUCAL	98	0000	2237007	+384721	H 3	26159	S	85061317	180100	000200	000000	000000	G E=60X, B=137
PHCAL	OO WAUCAL	99	0000	2237007	+384721	H 2	17721	S	85051820	200700	000016	000000	000000	G E=60X, B=140
PHCAL	OO WAUCAL	99	0000	2237007	+384721	L 2	17720	S	85051819	194100	000001	000000	000000	G E=20X, B=87
PHCAL	HD 214680	12	0490	2237008	+384722	L 3	25946	SL	85051518	181800	000001	181700	000007	G C=198, B=18
PHCAL	HD 214680	12	0490	2237008	+384722	L 3	25945	L	85051517	000000	000000	174400	000001	G C=125, B=15
PHCAL	HD 214680	12	0490	2237008	+384722	H 1	05985	L	85051516	000000	000000	162700	000036	G C=295, B=45
PHCAL	HD 214680	12	0490	2237008	+384722	H 3	25944	L	85051516	000000	000000	161200	000050	G C=195, B=35
PHCAL	HD 214680	12	0490	2237008	+384722	D 9	01657	L	85051515	000000	000000	155900	016000	G NO COMMENTS
PHCAL	HD 214680	12	0490	2237008	+384722	L 3	26056	L	85060115	000000	000000	154400	000004	G C=2X, B=20
PHCAL	HD 214680	12	0490	2237008	+384722	H 3	26057	L	85060116	000000	000000	161600	000050	G C=205, B=35
PHCAL	HD 214680	12	0490	2237008	+384722	L 3	26058	L	85060116	000000	000000	164500	000001	G C=2X, B=15
PHCAL	HD 214680	12	4886	2237008	+384722	H 2	17741	L	85062017	000000	000000	174400	000043	G C=205, B=33
PHCAL	HD 214680	12	0490	2237008	+384722	L 3	26068	L	85060216	000000	000000	160700	000001	G C=130, B=15
PHCAL	HD 214680	12	0490	2237008	+384722	L 3	26069	L	85060216	000000	000000	164000	000004	G C=2X, B=18
PHCAL	HD 214680	12	0490	2237008	+384722	L 2	17719	L	85051818	000000	000000	185700	000002	G C=187, B=26
PHCAL	HD 214680	12	0490	2237008	+384722	L 3	25947	SL	85051519	192500	000001	192000	000001	G C=135, B=15
PHCAL	HD 214680	12	0490	2237008	+384722	L 3	26055	SL	85060115	151300	000001	150900	000002	G C=2X, B=15
PHCAL	HD 214680	12	0490	2237008	+384722	L 2	17718	SL	85051818	182100	000001	181600	000001	G C=215, B=25
PHCAL	HD 214680	12	0490	2237008	+384722	H 2	17717	L	85051817	000000	000000	174100	000043	G C=197, B=32
PHCAL	HD 214680	12	0490	2237008	+384722	H 1	06688	L	85082317	000000	000000	173100	000036	G C=210, B=47
PHCAL	HD 214680	12	0490	2237008	+384722	D 9	01653	L	85051817	000000	000000	172700	016000	G NO COMMENTS
PHCAL	HD 214680	12	0490	2237008	+384722	L 3	26160	L	85061318	000000	000000	183900	000001	G C=2X, B=15
PHCAL	HD 214680	12	0490	2237008	+384722	L 3	26054	L	85060114	000000	000000	144200	000001	G C=140, B=15
PHCAL	HD 214680	12	0490	2237008	+384722	L 2	17737	SL	85062015	152800	000001	151700	000002	G C=2.0X, B=25
PHCAL	HD 214680	12	0490	2237008	+384722	L 2	17736	SL	85062014	144600	000001	144200	000002	G C=2.0X, B=25
PHCAL	HD 214680	12	0490	2237008	+384722	L 1	06205	L	85061313	000000	000000	135700	000001	G C=2X, B=35
PHCAL	HD 214680	12	0490	2237008	+384722	L 2	17735	L	85062014	000000	000000	140200	000002	G C=2.0X, B=27
PHCAL	HD 214680	12	0490	2237008	+384722	L 1	06208	L	85061315	000000	000000	153900	000004	G C=2.5X, B=43
PHCAL	HD 214680	12	0490	2237008	+384722	L 1	06207	L	85061315	000000	000000	150300	000001	G C=2X, B=35
PHCAL	HD 214680	12	0490	2237008	+384722	L 2	17740	L	85062017	000000	000000	170600	000001	G C=245, B=28
PHCAL	HD 214680	12	0490	2237008	+384722	L 1	06206	L	85061314	000000	000000	143100	000001	G C=2X, B=35
PHCAL	HD 214680	12	0490	2237008	+384722	L 2	17739	L	85062016	000000	000000	162900	000005	G C=2.0X, B=28
PHCAL	HD 214680	12	0490	2237008	+384722	L 2	17738	L	85062015	000000	000000	155100	000005	G C=2.0X, B=30
PHCAL	HD 214680	12	0490	2237008	+384722	L 1	06204	L	85061313	000000	000000	131200	000001	G C=156, B=33
PHCAL	HD214680	12	0485	2237010	384722	L 3	26594	L	85081122	000000	000000	222044	000123	701 U
PHCAL	HD214680	12	0490	2237010	384722	L 3	26597	L	85081122	000000	000000	225643	000041	401 U
PHCAL	HD214680	12	0491	2237010	384722	L 3	26596	L	85081123	000000	000000	231546	000041	401 U
PHCAL	HD214680	12	0497	2237010	384722	L 3	26595	L	85081122	000000	000000	224809	000123	701 U

PRO	OBJECT	CL	MAG	R.A.	DEC	D C	IMAGE	A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT		
BEHCG	HD	214748	26	0420	2237536	-271818	H 3	26182	L	85061615	000000	000000	155200	000200	G C=170, B=35
BIHTS	HD	214748	26	0420	2237536	-271818	H 3	26119	L	85060813	000000	000000	134700	000342	G C=250, B=41
HSRGS	HD	214923	22	0340	2238580	+103411	L 3	26270	L	85062713	000000	000000	132500	000006	G C=215, B=15,
HSRGS	HD	214923	22	0340	2238580	+103411	L 1	06285	L	85062713	000000	000000	133700	000003	G C=210, B=37
CUGNB	OO	GD 552	54	1600	2248458	+631243	L 3	25992	L	85052208	000000	000000	080200	040500	G E=140, C=140, B=2-
RSHLR	HD	216489	47	0560	2250344	+163431	L 3	26507	L	85073111	000000	000000	112600	005000	G E=105, C=47, B=25
RSHLR	HD	216489	47	0560	2250344	+163431	L 3	26567	L	85080613	000000	000000	134200	003000	G E=196, B=155
RSHLR	HD	216489	47	0560	2250344	+163431	L 3	26403	L	85071215	000000	000000	155400	002500	G E=184, B=130
RSHLR	HD	216489	47	0560	2250344	+163431	L 3	26423	L	85071610	000000	000000	103700	005000	G E=154, B=105
RSHLR	HD	216489	47	0560	2250344	+163431	L 3	26349	L	85070511	000000	000000	113800	006500	G E=209, C=140, B=43
RSHLR	HD	216489	47	0560	2250344	+163431	L 3	26589	L	85081109	000000	000000	093600	006000	G E=158, C=65, B=38
RSHLR	HD	216489	47	0560	2250344	+163431	L 3	26449	L	85072015	000000	000000	153800	002000	G E=178, B=136
RSHLR	HD	216489	47	0560	2250344	+163431	L 3	26334	L	85070211	000000	000000	111300	005000	G E=84, C=58, B=41
HS051	SERENDIPIT	07	9999	2254141	492758	L 3	26355	L	85070602	000000	000000	023207	001000	121 U GEORONAL FOR COMET	
ISHPF	HD	217782	30	0510	2300179	422919	H 1	06411	L	85071711	000000	000000	114200	002230	G C=250, B=72
ISHPF	HD	217782	30	0510	2300179	422919	H 1	06448	L	85072113	000000	000000	132000	002230	G C=1.5X, B=82
ISHPF	HD	217782	30	0510	2300179	422919	H 1	06413	L	85071714	000000	000000	143300	000730	G C=180, B=80
ISHPF	HD	217782	30	0510	2300179	422919	H 1	06412	L	85071713	000000	000000	130800	000730	G B=1.5X
ISHPF	HD	217782	30	0510	2300179	422919	H 1	06422	L	85071913	000000	000000	135300	001000	G C=180, B=73
XQHME	PG	230404	85	0000	2304304	+041642	L 1	06542	L	85080108	000000	000000	081000	012000	G E=140, C=122, B=78
IBHMP	HD	218393	66	0680	2304510	+495500	L 3	26604	L	85081315	000000	000000	150500	000045	G E=118, C=85, B=28
IBHMP	HD	218393	66	0680	2304510	+495500	L 1	06653	L	85081315	000000	000000	151000	000035	G C=1.2X, B=40
HSRHP	HD	218674	26	0670	2307010	+492246	H 3	26309	L	85062915	000000	000000	151800	004000	G C=4X, B=160
ISHJS	HD	218915	13	0710	2308523	+524712	H 1	06339	L	85070411	000000	000000	114000	000900	G C=185, B=45
GE057	MICH	156	84	1300	2316229	-000150	L 3	26558	L	85080520	000000	000000	201119	026200	343 U 35+227 MIN 40SO AT 2
PHCAL	OO	WAUCAL	98	0000	2320207	-202225	L 2	17761	S	85080912	123700	000001	000000	000000	G E=10, B=85
PHCAL	OO	WAUCAL	98	0000	2320207	-202225	H 3	26576	S	85080911	115000	000200	000000	000000	G E=60X, B=127
PHCAL	OO	NULL	99	0000	2320207	-202225	H 2	17760	S	85080911	111600	000000	000000	000000	G B=18
PHCAL	OO	WAUCAL	98	0000	2320207	-202225	H 2	17762	S	85080913	130100	000016	000000	000000	G E=50, B=130
PHCAL	OO	WAUCAL	98	0000	2320207	-202225	H 1	06623	S	85080910	104700	000016	000000	000000	G E=20X, B=103
PHCAL	OO	WAUCAL	98	0000	2320207	-202225	L 1	06622	S	85080910	101300	000001	000000	000000	G E=10X, B=102
PHCAL	OO	WAUCAL	98	0000	2320207	-202225	L 3	26575	S	85080910	101700	000002	000000	000000	G E=20X, B=103
ZAHNO	OO	Z AND	57	0950	2331150	+483232	H 3	26552	L	85080509	000000	000000	093800	004500	G E=255, B=84
ZAHNO	OO	Z AND	57	0950	2331150	+483232	H 3	26179	L	85061611	000000	000000	114900	006000	G E=2X, B=40
ZAHNO	OO	Z AND	57	0950	2331150	+483232	L 3	26178	SL	85061608	090100	000400	083500	002000	G E=4X, C=72, B=21
ZAHNO	OO	Z AND	57	0950	2331150	+483232	H 1	06225	L	85061607	000000	000000	075300	018000	G E=4X, C=125, B=70
ZAHNO	OO	Z AND	57	0950	2331150	+483232	H 3	26177	L	85061605	000000	000000	053700	057000	G E=10X, C=200, B=125
ZAHNO	OO	Z AND	57	0950	2331150	+483232	H 1	06585	L	85080510	000000	000000	102900	003000	G E=176, B=105
ZAHNO	OO	Z AND	57	0950	2331150	+483232	L 1	06586	SL	85080512	123000	000500	121000	001000	G E=234, C=180, B=78
ZAHNO	OO	Z AND	57	0950	2331150	+483232	L 3	26553	SL	85080511	113400	000500	110600	001500	G E=6X, C=90, B=50
HI185	Z AND	57	9999	2331150	483231	E 9	01661	2	85061522	000000	000000	220000	004000	U FOR SWP 26177	
RSHLR	HD	222107	45	0380	2335060	+461114	L 3	26509	L	85073114	000000	000000	142700	003000	G E=195, C=90, B=61
RSHLR	HD	222107	45	0380	2335060	+461114	L 3	26404	L	85071217	000000	000000	170200	001500	G E=158, B=87
RSHLR	HD	222107	45	0380	2335060	+461114	L 3	26563	L	85080614	000000	000000	144400	002000	G E=210, C=190, B=155
RSHLR	HD	222107	45	0380	2335060	+461114	L 3	26351	L	85070514	000000	000000	141900	003000	G E=186, C=85, B=41

PRO	OBJECT	CL	MAG	R.A.	DEC	D C	IMAGE	A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT	
RSHLR	HD	222107	45	0380 2335060	+461114	L 3	26591	L	85081112	000000	000000	125300	004000	G E=255,C=100,B=60
RSHLR	HD	222107	45	0380 2335060	+461114	L 3	26336	L	850720214	000000	000000	140700	004500	G E=172,C=95,B=47
RSHLR	HD	222107	45	0380 2335060	+461114	L 3	26451	L	85072017	000000	000000	174500	004000	G E=225,C=95,B=50
RSHLR	HD	222107	45	0380 2335060	+461114	L 3	26425	L	85071613	000000	000000	131400	003000	G E=202,C=173,B=135
RSHLR	HD	222107	45	0380 2335060	+461114	L 3	26426	L	85071614	000000	000000	142100	002500	G E=190,C=190,B=160
CGHAD	HD	222107	44	0388 2335064	+461113	L 3	26454	L	85072209	000000	000000	094900	002500	G
CGHAD	HD	222107	44	0388 2335064	+461113	H 1	06455	L	85072210	000000	000000	102400	000400	G
FSHKL	OO LMB AND	44	0400	2335065	+461059	L 1	06181	L	85061013	000000	000000	130900	003000	G E=100X,C=50X,B=40
FSHKL	OO LMB AND	44	0400	2335065	+461059	L 3	26138	L	85061020	000000	000000	200800	003000	G E=98,C=60,B=35
FSHKL	OO LMB AND	44	0400	2335065	+461059	H 1	06185	L	85061019	000000	000000	193800	000500	G E=255,C=100,B=44
FSHKL	OO LMB AND	44	0400	2335065	+461059	L 3	26137	L	85061018	000000	000000	183800	003500	G E=209,C=170,B=131
FSHKL	OO LMB AND	44	0400	2335065	+461059	H 1	06184	L	85061018	000000	000000	180800	000500	G E=255,C=130,B=65
FSHKL	OO LMB AND	44	0400	2335065	+461059	L 3	26136	L	85061017	000000	000000	170900	003500	G E=195,C=150,B=114
FSHKL	OO LMB AND	44	0400	2335065	+461059	H 1	06183	L	85061016	000000	000000	163700	000500	G E=250,C=102,B=42
FSHKL	OO LMB AND	44	0400	2335065	+461059	L 3	26135	L	85061015	000000	000000	153500	003500	G E=131,C=65,B=45
FSHKL	OO LMB AND	44	0400	2335065	+461059	H 1	06182	L	85061014	000000	000000	145900	000500	G E=231,C=93,B=33
FSHKL	OO LMB AND	44	0400	2335065	+461059	L 3	26134	L	85061013	000000	000000	135900	003500	G E=105,C=75,B=40
MLHTS	HD	222173	22	0430 2335406	+425928	H 3	26387	L	85071013	000000	000000	130900	000300	G C=202,B=42
MLHTS	HD	222173	22	0430 2335406	+425928	H 3	26207	L	85061914	000000	000000	141800	000600	G C=2.5X,B=55
HC230	R AQR	57	0606	2341141	-153341	L 3	26200	L	85061803	000000	000000	034851	005800	361 U
OD74K	OO R AQR	57	0600	2341142	-153342	L 3	26569	L	85080809	000000	000000	095200	004500	G E=1.5X,C=69,B=41
OD74K	OO R AQRJET	57	0650	2341146	-153334	L 3	26412	L	85071408	000000	000000	080400	017300	G E=2X,C=110,B=86
DCHNE	HD	223047	45	0490 2343329	+460834	L 1	06457	L	85072213	000000	000000	130900	000118	G
OD64K	HD	224085	46	0740 2352289	+282117	L 3	26448	L	85072014	000000	000000	144000	001500	G B=80
OD64K	HD	224085	46	0740 2352289	+282117	H 1	06439	L	85072014	000000	000000	140000	003000	G E=234,B=178
OD64K	HD	224085	46	0740 2352289	+282117	L 3	26447	L	85072012	000000	000000	124900	006500	G E=157,B=125
OD64K	HD	224085	46	0740 2352289	+282117	L 3	26446	L	85072011	000000	000000	111400	004000	G E=96,B=50
OD64K	HD	224085	46	0740 2352289	+282117	H 1	06438	L	85072012	000000	000000	121300	003000	G E=165,B=85
HC071	HD224085	54	0790	2352291	282118	H 1	06464	L	85072221	000000	000000	212157	004000	253 U
HC071	HD224085	52	0769	2352291	282118	H 1	06480	L	85072422	000000	000000	221938	004000	252 U
HC071	HD224085	54	0788	2352291	282118	H 1	06463	L	85072219	000000	000000	195717	003000	253 U
HC071	HD224085	54	0784	2352291	282118	L 3	26456	L	85072219	000000	000000	193207	002000	130 U
HC071	HD224085	52	0765	2352291	282118	L 3	26468	L	85072419	000000	000000	193914	004000	230 U
HC071	HD224085	52	0790	2352291	282118	H 1	06498	L	85072620	000000	000000	202653	004000	252 U
HC071	HD224085	52	0790	2352291	282118	L 3	26486	L	85072621	000000	000000	211145	005000	230 U
HC071	HD224085	54	0790	2352291	282118	L 3	26457	L	85072220	000000	000000	203339	004000	230 U
HC071	HD224085	52	0765	2352291	282118	L 3	26469	L	85072421	000000	000000	211247	006000	230 U
HC071	HD224085	52	0782	2352291	282118	L 3	26485	L	85072619	000000	000000	194215	004000	230 U
HC071	HD224085	52	0768	2352291	282118	H 1	06479	L	85072420	000000	000000	202552	004000	252 U
HBHYK	HD	224151	66	0600 2353032	+570802	H 3	26320	L	85063014	000000	000000	143600	001500	G C=193,B=66
HBHYK	HD	224151	66	0600 2353032	+570802	H 1	06308	L	85063015	000000	000000	150900	000600	G C=208,B=72
HBHYK	HD	224151	66	0600 2353032	+570802	H 3	26321	L	85063015	000000	000000	153900	001600	G C=230,B=100
HBHYK	HD	224151	66	0600 2353032	+570802	H 1	06307	L	85063014	000000	000000	142400	000500	G C=180,B=55
GE057	MTC	191	84	1500 2354257	-022144	L 3	26566	L	85080620	000000	000000	200752	027900	312 U
HSHGS	HD	224686	22	0450 2357199	-655119	L 1	06234	L	85061713	000000	000000	134400	000000	G C=202,B=35

PRO	OBJECT	CL	MAG	R.A.	DEC	D C	IMAGE	A	DATE	EXP. SMALL	EXP. LARGE	ECC	COMMENT
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HSHGS	HD	22	0450	2357199	-655119	L	3	26192	L	85061713	000000	000000	133000	000015	G C=198, B=18
BEHCG	HD	26	0450	2357200	-655119	H	3	26184	L	85061617	000000	000000	173600	000600	G C=2X, B=70
BEHCG	HD	26	0450	2357200	-655119	H	1	05993	L	85051619	000000	000000	195200	000348	G C=1.2X, B=55
BEHCG	HD	26	0450	2357200	-655119	H	3	25957	L	85051619	000000	000000	190300	000929	G C=3X, B=62

ERRORS IN FOREGOING VILSPA LOG

Please inform us by post of all errors or omissions in the log reproduced in this issue. Detach this page, fold and staple it leaving the mailing address (verso) visible.

CAMERA & IMAGE	DISPERSION	APERTURE	TARGET	DATE OF OBSERVATION	WRONG FIELD CONTENTS	CORRECT INFORMATION

UK Resident Astronomer

Villafranca Satellite Tracking Station

Apartado 54065

Madrid, Spain