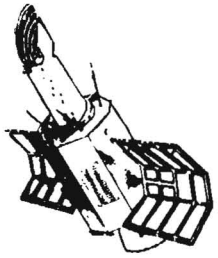

IUE esa

NEWSLETTER

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OBSERVATORY CONTROLLER'S MESSAGE

This newsletter reaches you with a delay that is longer then usual. I expect in the future we will return to our more regular 3-4 issue per year schedule. In the meantime we have entered 1988 and passed the memorable date of 26 January. This time it was on that date 10 years ago that the IUE Spacecraft was launched. The tenth anniversary is of course a reason for celebration. Let me first express the gratitude of the IUE Project to its users community. It is in the end the users which have made the IUE the enormous success it has become. The original and important science which has been done with the IUE has been done by all of you. Congratulations!

Various festivities are associated with the 10th anniversary of the IUE. The second 3-Agency IUE conference will be held in NASA-GSFC, Greenbelt, Maryland from 12 to 15 April 1988 and promises to be an extremely fruitful exchange of ideas with many new results. In May 1978 the VILSPA station was officially opened, therefore a European celebration will be held at VILSPA on May 10 and 11, to celebrate the IUE and VILSPA anniversary at the same time.

On May 10th, a small celebration symposium will be held centering on he results of SN 1987A and the telecommunications tasks of VILSPA. All IUE users are invited to attend.

In the area of VILSPA staffing we welcome Rosario ("Charo") Gonzalez as new resident astronomer. She left open a VILSPA IUE fellowship which has in the meantime been taken up by Tim Naylor, who will continue his work on dwarf novae with the IUE. It is expected that in the not too far future a new vacancy will open up (see loose inlay). If you know anybody who is interested in joining the IUE staff, I am very glad to accept applications.

The Spacecraft itself is still in good shape, apart from the continued attention to monitor the behaviour of battery #1, no special developments have occurred recently. The shadow season which is going on now has shown no new problems with the batteries and the load is well shared between them.

On the IUESIPS side also the consequence of 10 years in orbit make itself known, since we are running out of bits in the SWP camera counter (see page 22). The efforts in defining a new ITF and calibration for the LWP have been completed with significant improvement in the S/N and connection to SWP calibration. The details of the implementation of the ITF2 for the LWP have been send to you

under separate cover together with details of the creation of a new output tape file for high resolution spectra. For the high resolution data the new tape file contains the absolutely calibrated high resolution spectrum.

By the time this Newsletter reaches you, a new way of accessing the low resolution IUE data should already be available to many users. The version 1.0 of the Uniform Low Dispersion Archive (ULDA) and the associated access software USSP will have been installed in many national host institutes. For more details on this a summary description of the ULDA/USSP version 1.0 is given in page 21.

The results of the call for proposals for the 11th round of IUE observing showed a significant increase in demand as compared to last year. This time the IUEAC (see page 8) will have an extremely difficult task, but we can expect that their meeting, which will already have taken place when you read this, will be successful and result in a good allocation as usual.

Willem Wamsteker

Personnel Changes

Charo Gonzalez has been an ESA Research Fellow at the Observatory for the past year and has now taken on the role of Resident Astronomer. Despite her new real time responsibilities Charo still intends to find time to persue her research interests in extragalactic HII regions and the spectral evolution of galaxies.

Tim Naylor is a new recruit to the Observatory. He joined in January as the holder of an ESA Research Fellowship having recently completed his D.Phil at Oxford. This research was based on multi-wavelength observations of dwarf novae and low mass X-ray binaries. Apart from astronomy Tim's interests include classical music and history. Whilst at VILSPA he intends to persue his work interacting binaries and visit most of Wellington's battlefields.

SPACECRAFT STATUS REPORT

1.- GENERAL

The IUE spacecraft continues to support normally and effectively science operations in its 11th year of very successful in-orbit operations.

2.- BATTERIES

The two on-board batteries are operational and performing well but showing some ageing signs: Batteries capacity is decreasing and third electrode of battery #1 is somewhat erratic.

The overall performance of the batteries was quite good during shadow season #20 in spite of their questionable health. The maximum depth of discharge was 64.1% for Battery #1 and 61.0% for Battery #2. For shadow season #21 (FEB 7 to MARCH 4,1988) the predicted D.O.D. is 50.9% and 49.3% respectively.

A Battery management FOD has been issued to conserve the batteries for shadow periods. The small restrictions imposed by the FOD are dictated by the fact that excessive use of the batteries to supplement spacecraft power at high and low Betas will impair the batteries performance during future shadow seasons. However as solar array power decreases with age the demand increases for use of the batteries for science operations.

Therefore, operations at high and low Beta angles where power negative conditions occur should be avoided. And power neutral observations are no longer permitted.

3.- SOLAR ARRAY

The solar arrays continue to perform well. The average degradation during 1987 was: 1.12% for high betas, 2.16% for medium betas and 1.79% for low betas.

The baseline power to maintain IUE power positive is 165 watts, but the actual power consumption in the spacecraft depends on its configuration. For 1988 the POWER POSITIVE region is:

30 deg. < BETA < 110 deg.

4.- ATTITUDE CONTROL SYSTEM

The performance of the 2 GYRO-FSS System can be considered very good. The maneuvering error/length factor in DEC 87 is of 4.08 E-04, and retunning of the Roll Control Law has made oscillations disappear at low beta angles. No problems or anomalies have been encountered during 1987.

5.- SOFTWARE

Testing of the 1 GYRO SYSTEM proceeded smoothly and is expected to terminate by next summer. The testing included the successful turn-on and check out of Fine Error Sensor #1.

The attitude recovery method called BETADOT and a Gyro Trimming procedure that does not require operator calculations, have been coded, tested and released for routine operations.

6.- CONCLUSIONS

IUE has reached its 10th anniversary with good overall health and performing effectively its scientific mission. However some ageing signs are developing which call for attention and careful planning of operations. This provided, the spacecraft can be reasonably expected to continue delivering valuable data in the years to come.

EUROPEAN SELECTION COMMITTEE FOR 11TH 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. 30, 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.

R.F. CARSWELL/CHAIRMAN		IOA CAMBRIDGE, UK
E. TANZI/VICE-CHAIRMAN		LABORATORIO DI FISICA COSMICA, MILANO, ITALY
J.L. BERTAUX	(S)	CNRS, VERRIERES, FRANCE
D.W. HUGHES	(S)	SHEFFIELD UNIVERSITY, UK
P.B. BYRNE	(C)	ARMAGH OBSERVATORY, UK
F. SPITE	(C)	OBSERVATOIRE DE MEUDON, FR.
R. STALIO	(C)	TRIESTE OBSERVATORY, ITALY
B. WOLF	(A)	LANDESSTERNWARTE HEIDELBERG, GERMANY
F. KEENAN	(A)	QUEEN'S UNIV., BELFAST,IRL.
K. VAN DER HUCHT	(A)	SPACE RESEARCH LABORATORY, UTRECHT
M. PAKULL	(I)	OBSERVATOIRE DE BESANCON, FR.
B.J.M. HASSALL	(I)	OXFORD UNIVERSITY, UK
E. VAN DESSELL	(I)	OBSERVATOIRE ROYAL DE BRUXELLES, BELGIUM
K.S. DE BOER	(M)	BONN UNIVERSITY, GERMANY
L. SMITH	(M)	UCL, LONDON, UK
R. FERLET	(M)	IAP, PARIS, FRANCE
V. CASTELLANI	(E)	UNIVERSITA "LA SAPIENZA", ROMA, ITALIA
R. DICKENS	(E)	R.A.L., CHILTON, UK
J. LEQUEUX	(E)	OBS. DE MARSEILLE, FRANCE
I. BROWN	(Q)	JODRELL BANK, CHESHIRE, UK
J. DANZIGER	(Q)	E.S.O., MUNICH, GERMANY
H.U. NORGAARD-NIELSEN	(Q)	NORDITA, COPENHAGEN, DENMARK

Research Category Code:

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

The Lund Observatory Method for IUE Spectral Image Processing

Peter Linde & Dainis Dravins

Lund Observatory, Box 43, S-221 00 Lund, Sweden

1. Introduction

Since 1978 we have used the International Ultraviolet Explorer (IUE) satellite to monitor the solar-type star β Hydri (G2 IV) in order to detect long-term variations in chromospheric activity. The indicators we use are the Mg II h and k emission lines near 280 nm. Since the start of the project more than 90 exposures have been obtained with the IUE LWR camera in high dispersion mode. This represents a unique IUE data collection for a single star.

β Hydri is estimated to be about twice as old as the sun. Current astrophysical theory predicts that this should result in a lowered overall magnetic- and chromospheric activity. This also implies that any variations of the Mg II emission line intensities are expected to be small. Preliminary data reductions, basically using the standard IUE software package (IUESIPS), have shown this to be correct. The variations are usually less than 10-20%. Since the overall precision of the IUESIPS software lies at about 10%, an improvement of the software is essential in order to firmly establish the behaviour of the β Hydri chromospheric activity.

2. IUESIPS shortcomings

During the highly successful IUE project, the IUESIPS software has been enhanced many times. This has resulted in a somewhat heterogeneous treatment of data collected during a period of years, considerably affecting our study. Additionally, it is clear that even the latest IUESIPS version can be improved on several points. This has also been done by several groups. Most of these improvements have been achieved as a result of more advanced spectral data extraction from an input image whose geometrical and

photometric corrections still are made by the IUESIPS software. However, by improving also the way the geometric and photometric corrections are carried out, it is possible to create a corrected image with significantly less noise. These improvements are essentially independent of the extraction improvements, resulting in a final spectrum output of considerably enhanced quality. This is the basis for our software package.

3. Fixed pattern vs. random noise

The data concerning β Hydri available to us give interesting possibilities to study variations in the IUE LWR detector output since 1978. In particular, we have set up a sequence of different raw exposures and displayed them in our image processing system as a time series (movie). It revealed that most of the inter-order background variations are in fact not random but rather display a fixed pattern. The same experiment was repeated for images corrected by IUESIPS. Surprisingly, most of the fixed patterns still remained. Concerning images processed after March 1981 (see below), the effect was even more pronounced, in fact the difference between the raw images and corrected images was small. This suggested that the geometric transformation, and subsequently the photometric calibration, could be improved.

4. An improved image calibration

The problem in the current IUESIPS treatment of the raw images lies in the fact that the geometric transformation made in order to make the raw images register with the pre-exposed flat fields is not sufficiently exact. The reseau marks present in the raw images, intended to be used as reference points for geometric transformation, are considered to be too difficult to detect by an automatic procedure. Instead, indirect information, such as e.g. temperature measurements, is used to compute and apply an approximate geometric transform. However, since the flat fields show strong pixel-to-pixel sensitivity variations on a 10% level, a mismatch of only one pixel results in significant errors in the photometric calibration. We have developed a procedure to obtain a more accurate geometric transformation.

5. Flat field studies

Already in 1980 we obtained from VILSPA the series of 12 flat field exposures that were in use at the time. An initial study of flat field properties was presented at the Vienna IUE Data Analysis Workshop (Dravins and Linde, 1980) Recently, we have obtained the latest available flat field series (LWR ITF2), which are used in the present work.

The flat fields as delivered have been geometrically transformed using the inherent reseau marks as reference points. The reseaus themselves have been removed. A close look at the flat fields shows various irregularities. In addition to the local and global sensitivity variations, a global Moiré-like pattern is present, in the form of streaks of locally lowered pixel-to-pixel variations. We have simulated the process of geometrically

transforming a flat field image. Using the same transform that was applied to the original flat fields, we could generate the same Moiré-type pattern in the transformed output image. We conclude that the smoothed streaks seen in the flat fields (Dravins and Linde, 1980) are simply an effect of the interpolation between pixels needed when making a geometric translation. Obviously, some photometric information is lost in this process.

The adopted IUESIPS procedure until March 1981 was to transform the raw image in order to make it register with the flat fields, and then to apply the photometric calibration. Then the algorithm was changed, and has since been equivalent to a retransformation of the flat fields, making *them* register with the untouched raw images. The rationale behind this was that the spectral resolution would not suffer from a geometric transformation. However, even if the implied geometric transformation was made perfectly, it is clear that such a procedure will further smooth the flat fields, decreasing even more the quality of the photometric content. This explains the observations mentioned in section 3.

It can be shown (i.e. by blinking raw and flat field images), that the fixed pattern seen in the inter-order background of the raw images, is locally identifiable also in the flat field. This proves that the pattern simply is a reflection of varying pixel-to-pixel sensitivity and/or null level. Since this can be done at any desired point in the raw image, we have a *direct* means to obtain information about how to transform the raw image correctly. Thus, within *each* raw image a correlation can locally be made between the raw and flat field images. The method allows close interspacing of the corresponding points in the respective images. The reseau marks, which are present in the raw images, need never be used.

6. Outline of the method

The following are the major items of the current software reduction package:

- selection of a relevant subimage in the raw image and the flat field image
- pattern matching between the raw image and a suitable flat field image
- rearrangement of the corresponding point data in order to obtain a vector field, defined on a square grid, describing the geometric transformation
- geometric transformation of the raw image, combined with an optimised photometric calibration
- magnification of the corrected image
- rotation of the corrected and magnified image to get the spectral orders arranged along a straight axis
- extraction of the background and the spectrum, using optimised slits
- final analysis of the extracted spectrum

6.1 Subimage selection

Since in our project we only need information about the Mg II emission lines, we can restrict our image processing to a limited area of the full IUE image. The Mg II lines appear in two subsequent echelle orders so two subimages are selected. The size has been set to 241*273 pixels. Corresponding subimages are selected in a suitable flat field. The DN (Digital Numbers, DN, are the original image flux units) level of the flat field should correspond to the level of the inter-order background to be used for the pattern matching. For most of our images, this means a combination of the first (lowest exposed) flat field level with the null (no exposure) flat field.

6.2 Pattern matching

A pattern matching procedure is used to find corresponding positions in the raw and flat field images, respectively. First, a ***template*** (subimage) of size 7*9 pixels is extracted from the raw image. A special algorithm positions the template between the spectral orders in a controlled manner. The template is checked against pixel threshold limits, in order to throw away any remaining pixels that are either too bright (belonging to a spectral order) or too dark (i.e. a reseau mark). Second, a *window* of size 15*17 pixels is extracted from the flat field image. The centre position of the window is precomputed from an approximate global geometric transformation equation. The template is then moved around at all positions in the defined window.

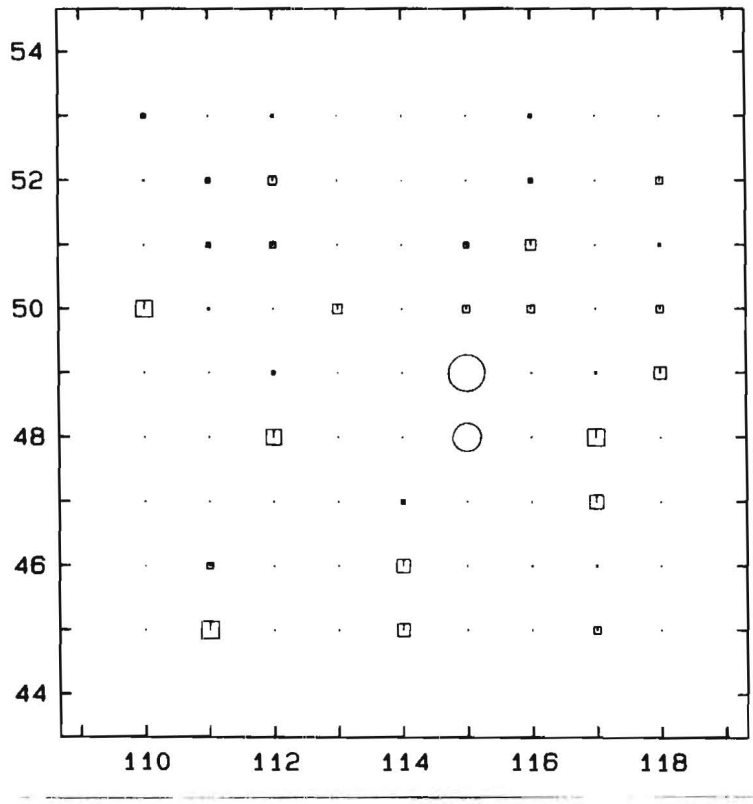

Figure 1. An example of a matrix of normalised correlation coefficients. Each point represents a correlation between the template pixels and the window pixels at that position. The symbol sizes are proportional to the correlation value. The squares are rejected values, while the circles represent accepted values. The axes are denoted with pixel positions in the flat field subimage.

In each position, a normalised correlation coefficient between the template pixels and the window pixels is computed. The result is a matrix of correlation coefficients (see Figure 1). Since it is unlikely that the maximum correlation takes place at an integer coordinate position, the correlation matrix is subject to further analysis. Spurious high correlations are identified and discarded. Among the remaining accepted correlation values, the neighbourhood of the maximum correlation is considered, and a weighted mean is computed. This value defines the position in the flat field image window corresponding to the raw image template position. The procedure then continues with a new template in the raw image, a new window position, a new sequence of correlations, etc. The whole raw image is gone through in a systematic manner, all the time at inter-order positions. Due to the existence of random noise and the partly smoothed flat fields, the correlation values sometimes are too low to allow a safe identification. A threshold level is set on the minimally allowed correlation value. If this level is not reached, the template is systematically displaced a small amount until the correlation becomes satisfactory. Figure 2 shows an example of correlated points, where the size and direction of the vectors define the amount of displacement between the images.

6.3 Computing the transformation vectors

The information from the correlation program consists of a set of corresponding points in the raw and flat field images. Since the template positions can not be defined exactly in advance, the points tend to be irregularly dispersed over the raw image. To perform the geometric transformation, it is necessary to rearrange the information on a regular grid. We have chosen to define a grid with 20 pixels interspacing. An interpolation, using two-dimensional cubic splines for x and y independently, gives the final vector field describing the geometric transformation (see Figure 3). This process also iteratively throws away data which differ more than a threshold value from the interpolated solution. The 20 pixels grid spacing should be compared to the 55 pixels interspacing of the original reseau grid. Our method thus allows for a higher precision correction than the reseau marks would. We have noticed cases where this is significant.

6.4 Transformation and photometric calibration

The photometric calibration is done using the latest available set of flat field images. The flat field data is preprocessed by an interpolation technique involving cubic splines (see Figure 4). For reasons of speed, the spline coefficients are stored and subsequently used by the calibration procedure.

The transformation information derived previously is used to drive the transform algorithm, producing the geometrically corrected image. An unavoidable minor error arises from the fact that the pixel interpolation is done in non-linear DN-space. However, the net effect is that the raw image is corrected (or distorted) the same way as the flat field image previously has been, with the same inherent interpolation smoothed streaks. The photometric calibration for each pixel is then done using the spline data described above.

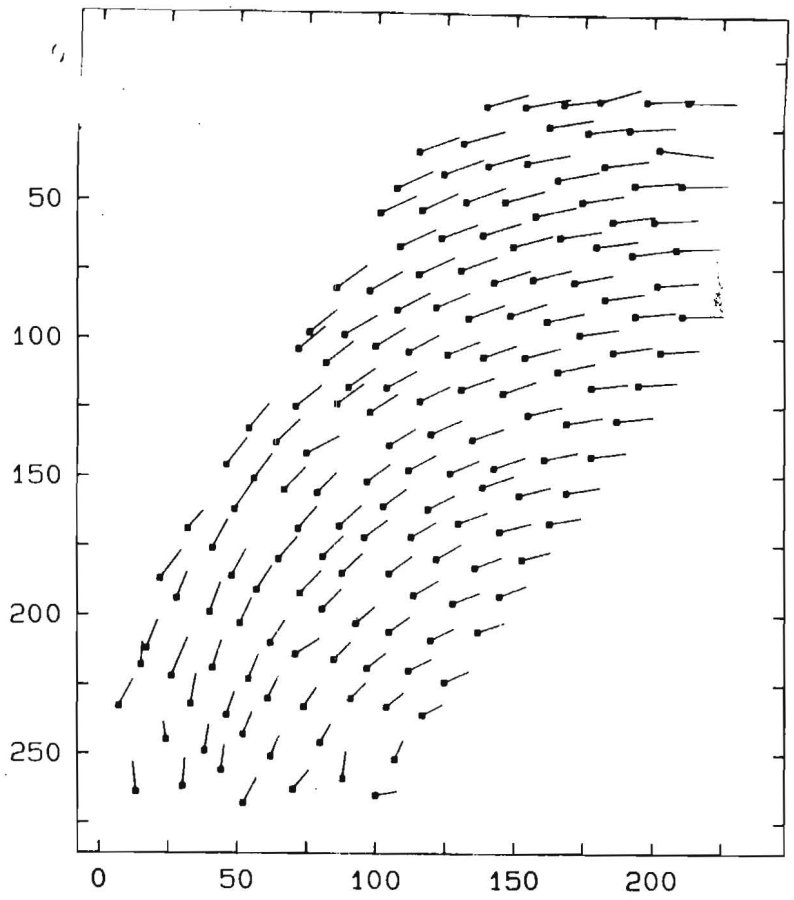

Figure 2. Corresponding point pairs for a subimage of exposure LWR 10605. The points show positions in the raw image and the vectors points to corresponding positions in the flat field. The axes are denoted with pixel positions in the raw subimage.

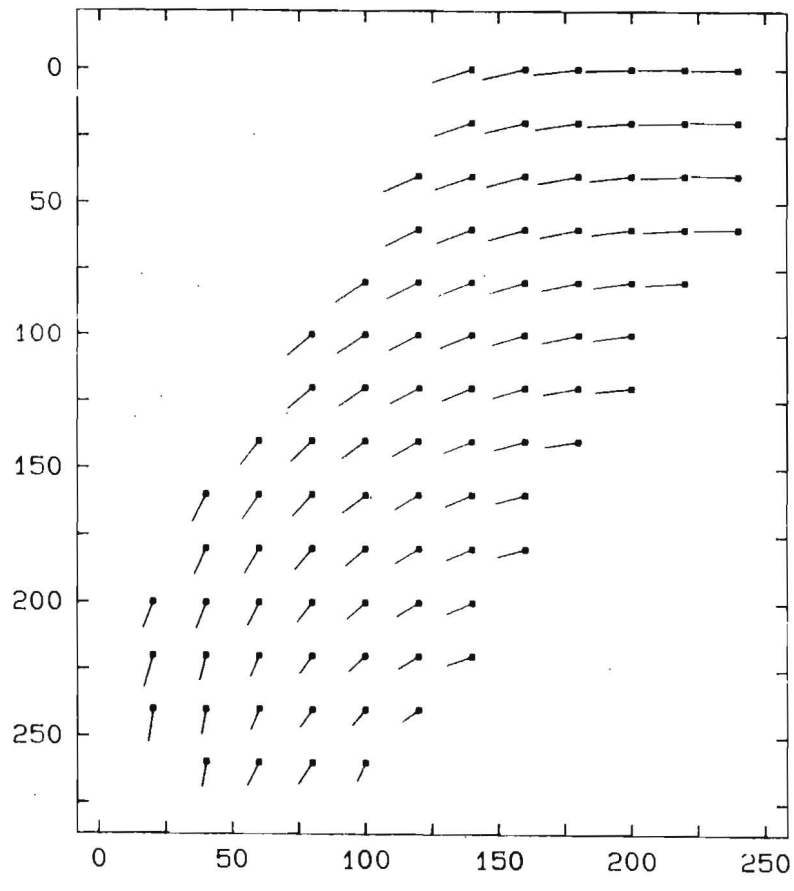

Figure 3. Resulting vector field for LWR 10605, describing the geometric transformation on a regular 20 pixels grid. The axes are denoted with pixel positions in the flat field subimage.

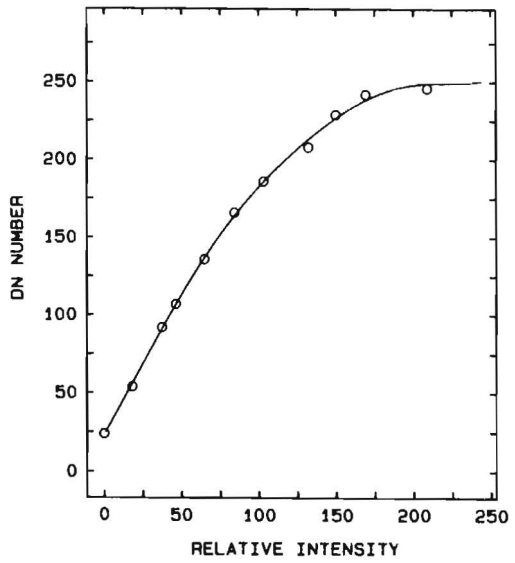

Figure 4. An example of an ITF curve for a single pixel. The circles mark the flat field exposure levels, while the curve shows a fit using a cubic spline interpolation.

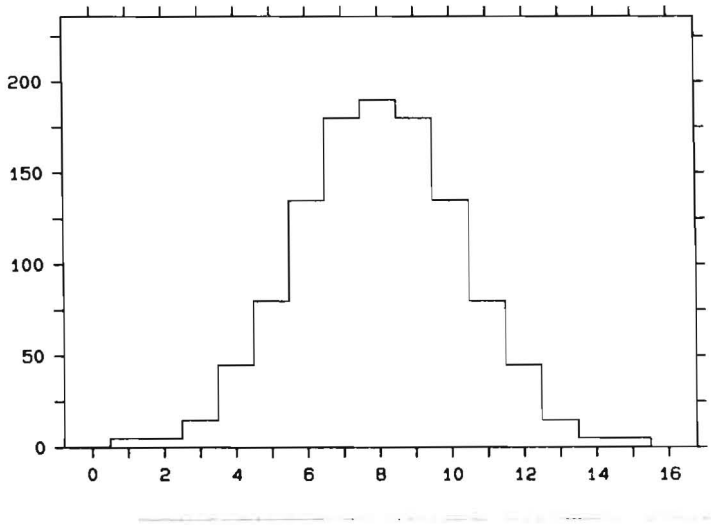

Figure 5. The weighting function for the spectral order containing the Mg II emission lines. The x-axis is denoted with pixel values in the magnified and rotated image. The y-axis represents relative intensity.

6.5 Magnification and rotation

As a preparatory step for the spectrum extraction, the transformed and calibrated image is rotated to align the spectral orders on a horizontal axis. This greatly facilitates the extraction procedure. To avoid excessive degradation from the necessary pixel remapping, and to provide a suitable sampling interval, the image is magnified a factor two by pixel replication, prior to the rotation. Within the rotation procedure, we further limit the analysed image area to three spectral orders (including backgrounds).

6.6 Spectrum extraction

The spectral extraction is made with an optimised slit. This means that a weighting function (see Figure 5), perpendicular to the spectrum, is used for the slit. This function is derived from averages of tracings perpendicular to the spectral orders.

The extraction begins by locating the positions of the studied spectral order and its immediate neighbours. A special routine studies the spectral intensity above the background perpendicular to the dispersion direction, and decides on a spectrum position by computing a weighted average. This is repeated along the spectral order at regular intervals. Finally, the spectrum position is determined to a fraction of a pixel, using a rather stiff spline interpolation through the calculated points. The adjacent spectral order positions are used to calculate the location of the surrounding background.

The background is then extracted using a wide rectangular slit, which automatically provides a suitable smoothing. The spectral order itself is extracted using a weighted 1*15 pixel slit. The slit closely follows the position of the spectrum. Shifts less than 1 pixel, perpendicular to the spectrum, are accounted for by correspondingly shifting the weighting function.

7. Results

The results so far have been very encouraging. However, it is not straightforward to find a reliable quality estimator of possible improvements. For instance, the extraction algorithm used in IUESIPS is so different that results do not easily compare. We have therefore concentrated on checking any resulting enhancements of the corrected image. This has been done by treating our corrected images and the IUESIPS corrected images exactly the same, i.e. the steps described in sections 6.5 and 6.6 have been carried out identically on both images. Note that this ought to produce some improvements also for the case of the IUESIPS corrected image, compared to standard IUESIPS, due to the enhanced spectrum extraction. A rather reliable indicator is the behaviour of the background.

Figure 6 shows a comparison between background extractions using a (1*1 pixel slit), taken from the exposure LWR 10605. The lower part of the figure shows our extraction, while the upper part shows the extraction from the IUESIPS image. The noise is considerably reduced as a result of our image processing. Figure 7 shows the corresponding spectral extractions.

8. Stability and applicability of the method

Test have shown that the method gives improvements for almost all of our exposures. However, the effects are often less striking than the example in Figure 6. This is due to, for example, presence of normal photon noise. Since various threshold parameters are involved at crucial points in the algorithms, some careful tuning is expected to increase the stability and reliability of the method. We have not applied the method to other types

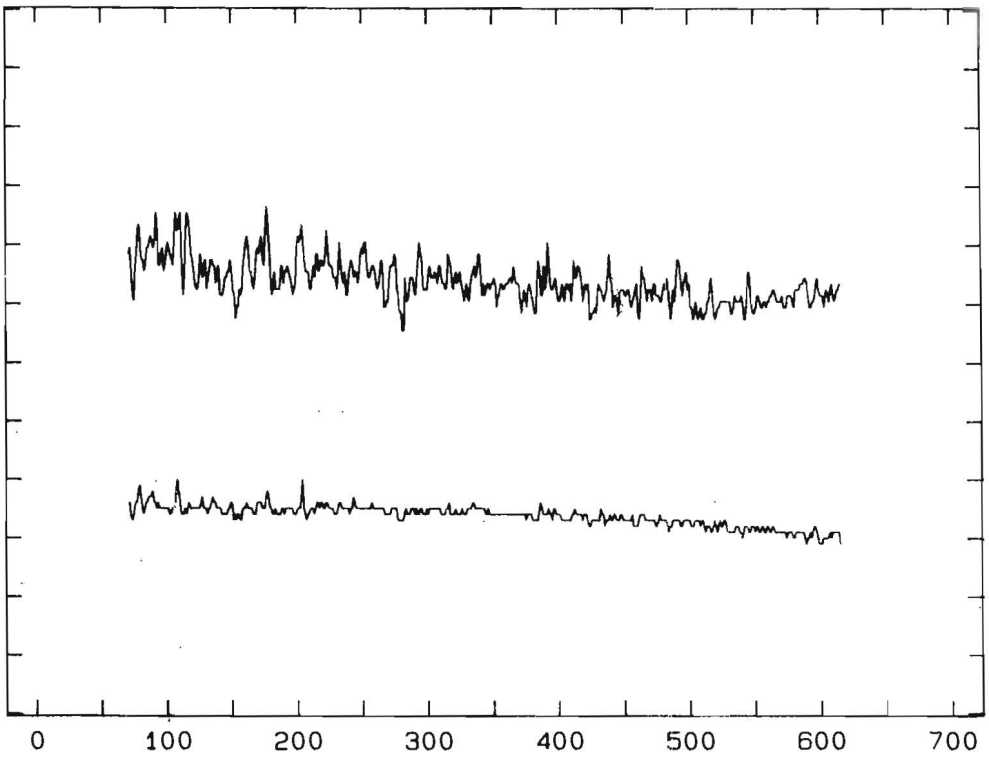

Figure 6. Extracted backgrounds from the LWR 10605 exposure, using a 1*1 pixel slit. The upper extraction is from an IUESIPS corrected image, while the lower extraction is from the Lund corrected image. The x-axis is denoted with pixel numbers in the magnified and rotated image.

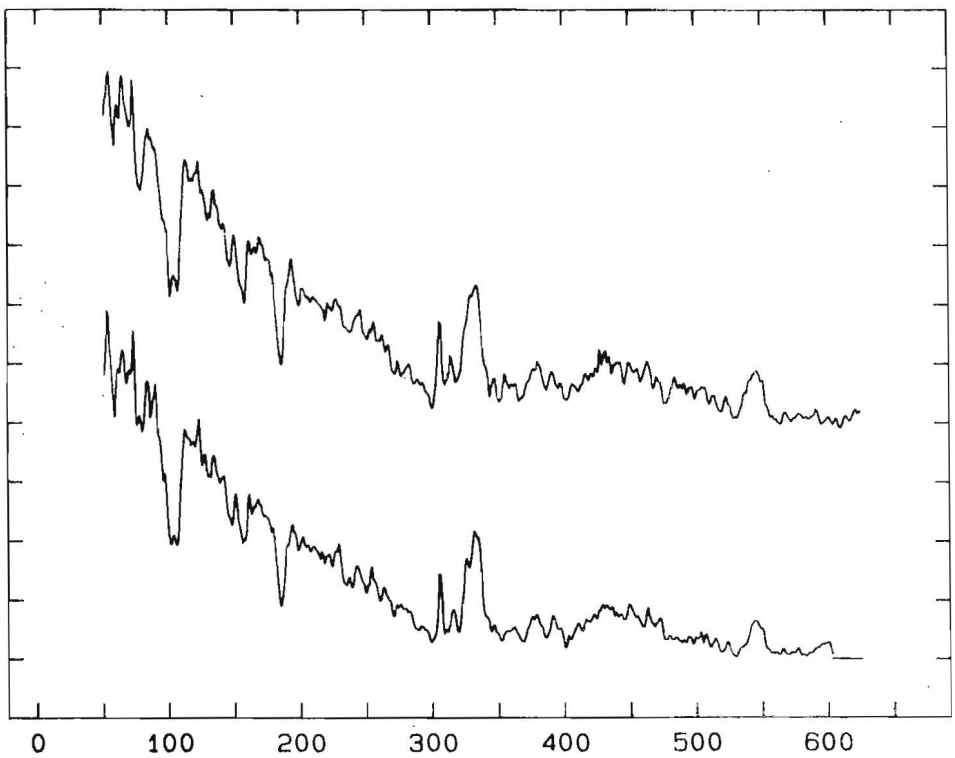

Figure 7. Corresponding spectrum extractions from the LWR 10605 exposure, made with a 1*15 pixels weighted slit. The upper spectrum is from the IUESIPS corrected image while the lower spectrum is from the Lund corrected image. The vertical scale is compressed a factor two, relative to Figure 6. The x-axis is denoted with pixel numbers in the magnified and rotated image. No ripple correction has been made in either case.

of IUE images or to other similar detectors. However, we feel the method should be possible to generalise also to other conditions. The inherent simplicity should allow its application to most IUE images and possibly to detectors like the Faint Object Camera of the Hubble Space Telescope.

In the above we have given an outline of the Lund Observatory method for IUE spectral image processing. The work is still in progress and a more detailed description is to be published elsewhere. A 30 minute video movie has been produced, depicting the various reduction steps outlined above, and including blinking of images, appearance of flat fields, etc. The authors may be contacted for further information on the availability of this VHS video cassette, recorded in the PAL colour system.

This work is supported by the Swedish Board for Space Activities.

Reference

Dravins D., Linde P.: 1980, in W. W. Weiss et al., eds: *IUE Data Reduction*, Wien, p.85

A NEW AND EASY WAY OF USING IUE DATA : THE ULDA-USSP.

In an attempt to facilitate the access of the astronomical community to the IUE Database, the IUE Observatory at Vilspa has undertaken a project called Uniform Low Dispersion Archive (ULDA).

This ULDA is conceived as a subset of the IUE archive. It will consist of all the spectra obtained with IUE in low dispersion. All the data have been checked and corrected for "historical" errors when possible in the line by line spectra. This does not imply that the data have been reprocessed with the latest version of the IUESIPS programs. To create homogeneity in the absolute fluxes all data are calibrated with the last version of the IUE low resolution calibration. The exposure times and all label information have been checked and corrected for as well. This archive is provided in a compact form in such a way that it can be loaded into a computer disk from which any spectrum can be retrieved as a standard direct access file containing absolute fluxes (ergs/sec/cm^2/Å), quality factors and any useful additional information about the spectrum itself.

The first release of the ULDA will contain about 25000 spectra of all kind of astronomical sources. This version 1.0 includes all the spectra in low resolution obtained by IUE (both at GSFC and Vilspa) until the 1st of January 1984. Subsequent versions of the ULDA will be produced in order to include the whole set of low dispersion data. The next release is planned later in 1988.

The ULDA has been designed to be installed in a computer and to be accessible via remote link. To achieve this a software package called USSP (see below) whose purpose is to handle the search and retrieval of the data has been developed and will be distributed with the ULDA.

A copy of the ULDA will be supplied to one Astronomical Centre in each country. That centre will be the National Centre which will host the database, and all the users of that country can address their respective host through national intercomputer networks. The National Centres will refer to Vilspa as Principal Centre which will provide them with the data and related software. The Principal Center will merge and distribute as well all the nationally created information.

The National Centres assigned by their national IUA commitees which have accepted to install the ULDA-USSP and will support remote access are:

National host	Community served
Astr. Inst. Tubingen.	West Germany
Trieste Observatory.	Italy (Astronet)
Astr. Obs. Uppsala.	Norway, Sweden, Denmark, (Finland)
R.A.L.	U.K. (Starlink)
Dom. Astr. Obs. Victoria.	Canada
IUE Obs. VILSPA	Spain, (Portugal ?)
Obs. Laussane	Switzerland (to be confirmed)
ST-ECF/ESO	(ESO internal use only)

The installation of the ULDA-USSP has been accepted pending the resolution of some technical details by

Leiden Obs.	Netherlands
Royal Obs.	Belgium
C.D.S.	France

A ULDA version 1.0 has already been installed in Trieste and in ESO-Garching for test purposes since the beginning of December-87. Further installations will follow in early 1988.

A detailed description of the ULDA-USSP , how to use it, new implementations, usage statistics,..., will be given in forthcoming Newsletters.

USSP (ULDA Software Support Package)

Having produced a uniform archive of IUE low dispersion spectra (ULDA, see above) the next logical step is to ensure it reaches as wide an audience as possible. To this end the USSP software will be distributed, together with the data. The USSP is basically a data retrieval system (though it incorporates a powerful database) whose principal aim is to come close to putting a large body of IUE data on-line to as many scientists as possible, spread over a number of individual institutes in a variety of countries.

Here is how you the user would use the USSP to retrieve spectra for subsequent analysis by the image processing system at your institute.

First, login from your computer to your national host institute, of which there will be one per country in the USSP club. You will automatically enter an interactive program (QUEST) which will enable you, amongst other things, to search for and select those IUE low dispersion spectra you are interested in.

Second, if you are NOT connected to the national host by a DECnet like network (e.g. SPAN, STARLINK, ASTRONET etc.) you yourself downlink all the data you chose as a single file using a suitable file transfer system or even electronic mail.

Third, you run a program (UNSPL), supplied as part of the USSP package, on your own computer to transform the data you selected into a form digestible by your image processing system. Should you be connected to your national centre by a DECnet link, UNSPL will also perform the downlink for you. The output formats currently available are IUE FITS and MIDAS respectively however UNSPL has been written in a way that makes the implementation of other forms of output easy.

The over-all system structure is worthy of a brief description since it reveals characteristics pertinent to the end users. As has been mentioned above individual institutes within a country are connected to a national host, but in addition these national hosts are connected to a principal centre responsible for distributing IUE data and information it has collected from the national centres. This tree structure has the following strengths.

o New countries can be added to the USSP club without degrading the performance of extant members.

o The users' running costs will be kept low by avoiding (exorbitant) international telephone charges.

o Each national centre comes armed with a friendly USSP host manager who will be able to help with any difficulties you may experience.

EASE OF USE

Much thought has been devoted to trying to make the system both quick and easy to use, desirable qualities in any practical system but viewed as essential for this system because the average user will probably use it infrequently, hence it must be simple to pick up after not using it for some time. To this end the query/select program - prompts the user at every stage for his next possible action - makes extensive use of examples. - uses no keywords and avoids fixed formats. - all logical operators are implicit (i.e. .EQ., .GT., .LT., .AND., and .OR.'s) as are parentheses in logical expressions

CONCLUSION

The USSP, which was designed and written jointly by VILSPA, Osservatorio di Trieste, RAL and ST-ECF under the management of VILSPA, is surely a step towards future systems which will give scientists easy access to a huge body of astrophysical data. As such it will not only act as a powerful tool for researchers but also should help to identify the needs and difficulties of future systems.

A. Talavera
C. Driessen
J.R. Muñoz

ATTENTION ALL SWP USERS !!

NUMBERING OF SWP IMAGES ON THE GO TAPE

During the Vilspa shift of January 23rd, 1988, the SWP image sequence number passed beyond 32767, the largest positive number that can be properly stored with halfword integers. As a result, halfword #5 of the so-called "record zero" (first scaling record of each data file written on the IUE guest oberver tape) now equals the real image number minus 65536, i.e. the following sequence of SWP numbers "32766, 32767, 32768, 32769..." are stored as "32766, 32767, -32768, -32766...".

Guest Observers are advised to modify their computer programme accordingly. Including the following FORTRAN instructions should allow a proper reading of the SWP number:

```
IF (HALF5.LT.0) THEN
SWP = 65536 + HALF5
ELSE
SWP = HALF5
ENDIF
```

where HALF5 contains halfword #5 of record 0 as read from the tape and SWP is the actual SWP sequence number.

J. Clavel

LYMAN's Expected Impact on Ultraviolet Astronomy

M V Penston (RGO):

on behalf of ESA's LYMAN Science Working Group

Avid readers of ESA's IUE Newsletter will know that the European Space Agency has been sufficiently impressed by the proposal for the 'LYMAN' satellite to fund an industrial Phase A study. This is now placed with BAe (British Aerospace) at Filton, near Bristol, UK. ESA has also set up a group of consultants, called the LYMAN Science Working Group, to advise it on scientific aspects of this study. The membership of this group was listed in Newsletter #26 on page 12.

Briefly LYMAN will be an ultraviolet cosmic spectroscopy mission whose capabilities, it is expected, will be broadly in line with the Table below:

Lyman Spectrograph Requirements

	EUV	Prime	FUV
Wavelength Coverage:	λ100-300Å $\neq$	λ910-1250 Å	λ1200-2000Å
Simultaneous Coverage:	#	$\geq$ 30 Å *	#
Spectral Resolution:	$\lambda/\Delta\lambda \geq 300$	$\lambda/\Delta\lambda \geq 3\times10^4$	$\lambda/\Delta\lambda \geq 10^4$
Slit Length	$\geq$ 10"	$\geq$ 10"	$\geq$ 10"
Minimum Sensitivity:	#	$A_{eff} \geq 10$ cm^2*	#

$\neq$ with extension up to λ900 Å desirable
\# best effort
* goals exceed both these figures

Because LYMAN will be in a High Earth orbit, exposures up to 10^5 seconds can be contemplated for rare and demanding observations. LYMAN's main mission is to cover 900-1200 Å, inaccessible to IUE and HST, at high resolution and several orders of magnitude more sensitively than did COPERNICUS, which could only reach naked-eye stars. Applications in the EUV are difficult to foresee since little is known of this wavelength range but, perhaps, may be the most exciting for the same reason! Coverage of the 1200-2000 Å (FUV) range, familiar to IUE users, will offer observations complementary and/or near-simultaneous with those in the prime range and long continuous look-times available on HST. It is intended to make LYMAN, like IUE, an observatory mission open to all astronomers through proposals to a peer-group Time Assignment Committee.

There is considerable interest outside Europe in this study. The Australian and Canadian agencies are collaborating closely with ESA and a proposal by US scientists also called LYMAN is being considered by NASA for an Explorer mission. The LYMAN Science Working Group welcomes foreign (non-European) participation but wants to ensure a major role for the European astronomy community.

LYMAN faces an ESA selection for the next project to enter Phase B at the end of 1988. As usual the competition will include several other excellent missions in astrophysics and solar system science.

The LYMAN Science Working Group wants to ensure that all European scientists know of the importance of our mission and what it can do for their own researches and invites you to contact us for any further information you may want. We have also invited several leading European astronomers to write articles on the exciting possibilities LYMAN offers in their fields for the ESA IUE Newsletter. Happily the editor of the Newsletter, Chris Lloyd, and the Vilspa IUE Observatory Controller, Willem Wamsteker have given this move their full and generous support and the first such article appears in this issue. To show that support for LYMAN extends far outside the Science team, some of these articles will be written by experts outside the team - as does our first by Harry Nussbaumer.

LYMAN, the successor to IUE !

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1. IUE, its merits and shortcomings

IUE has opened the UV–spectral region to astronomical observations in general. The opportunity was seized immediately. Observations from IUE are now cited more often than observations from any other earth– or sky–bound observatory. This declares IUE as a cornerstone for astronomical research. But IUE is not eternal, what will take over ?

IUE has, by now, been working practically uninterrupted for ten years. Its main shortcomings made themselves felt very early on:
(a) the restricted dynamic range of the cameras,
(b) the cut–off at 1200 Å.
IUE's restricted dynamic range is awkward, but can in principle be overcome by repeated observations. In practice the very high demand on IUE observing time restricts that possibility very severely. The short–wavelength cut–off is a different matter. A natural break–point for astronomical observations lies at the Lyman limit of 912 Å. Below this limit we expect strong extinction by interstellar hydrogen. That the general practical observing limit of IUE lies at $\approx$ 1200 Å has purely technical reasons; but – in view of a follow-up observatory – it is of basic significance and I want to comment on that point in more detail.

When IUE became reality, many astronomers, who had been involved in research of the outer solar atmosphere, became interested in stellar research. Rocket and satellite observations of the sun had shown the 900 – 2000 Å region to be of vital importance when investigating the outer solar atmosphere. The visual spectra of high redshift QSOs suggested that this wavelength range would also be of central importance when observing active galactic nuclei, the same predictions could be made on theoretical grounds for planetary nebulae and for the interstellar medium the fact had been established by COPERNICUS. The IUE $\lambda \gtrsim 1200$ Å restriction has been felt very severely. After the second IUE meeting, held at Tübingen as long ago as 1980, a special discussion meeting deliberated about 'What comes after IUE ?'. The participants agreed that IUE must not remain a one–time event, but that UV observatories had to be regarded as an integral part of the astronomers' tools. At the same time it was stressed that extension down to 900 Å was the most urgent requirement for the era beyond IUE.

2. Why observe 900 – 1200 Å ?

The deuterium problem and its cosmological significance are well known. The deuterium absorption spectrum – which is slightly shifted against that of H – can be observed in the Lyman series between 912 and 1216 Å. Thus cosmologists want Lyman! But what else, why the quest for those additional 300 Å ? A practical example will show. Let us assume that in a double star system a hot radiation source, of say $T^* = 100\,000$K, ionizes the outer part of a cool stellar wind from a Mira–type star. This corresponds to a possible model of

a symbiotic system. The particular model is not essential, as qualitatively similar spectra would result for many other nebula–type spectra, e.g. planetary nebulae or radiatively ionized active galactic nuclei.

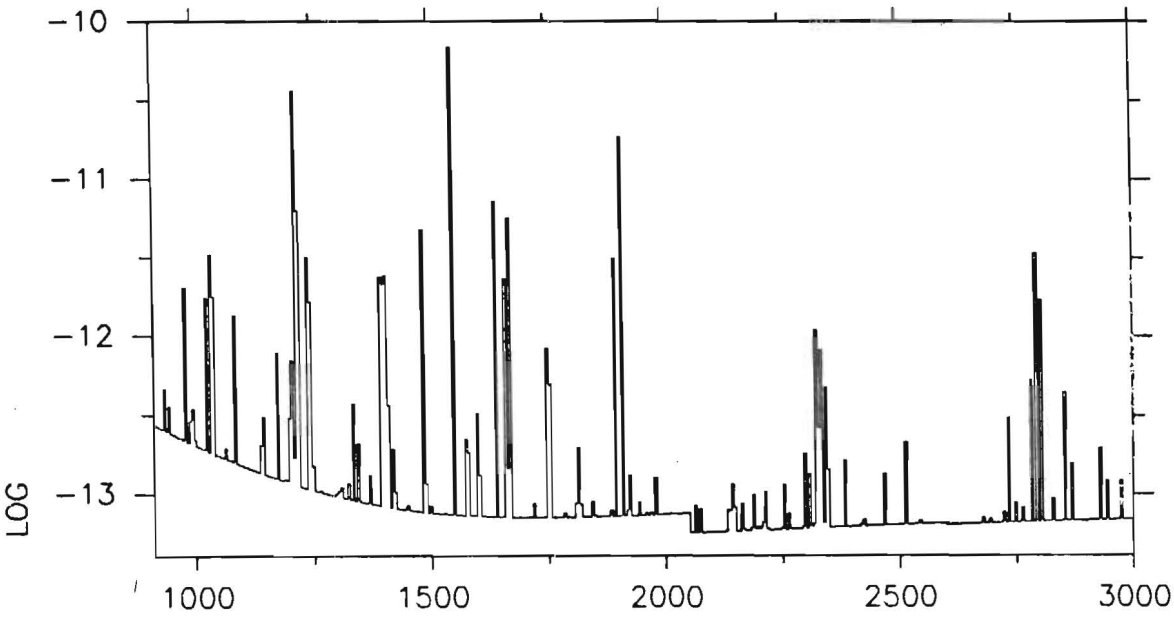

Figure 1. Calculated nebular spectrum 912 – 3000 Å. It corresponds to a model of a symbiotic star. The shape of the continuum and the strength of the lines are strongly model dependent. Lines and continuum at 912 Å $< \lambda <$ 1200 Å carry a very high information content.

But what about hot stellar winds, or solar–type transition regions. In Figure 2 the theoretically calculated spectrum of a collisionally ionized gas with a density of $N_e = 10^{10}\mathrm{cm}^{-3}$ is reproduced.

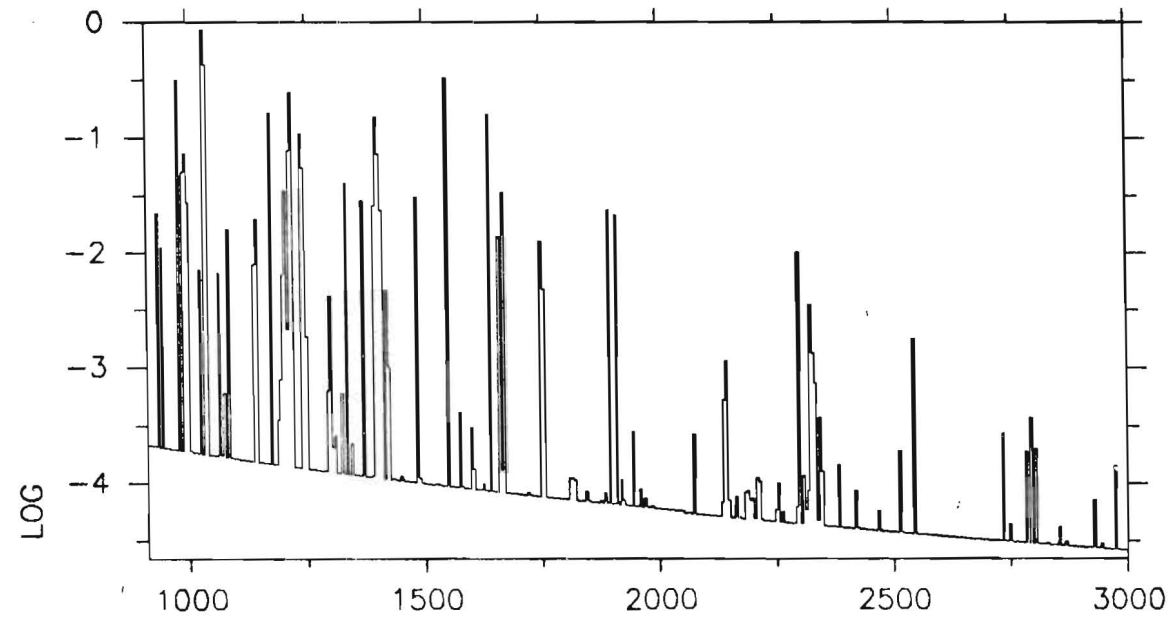

Figure 2. Calculated spectrum of a collisionally ionized gas for 912 – 1200 Å. The gas has an electron temperature distribution rising linearly from 20 000 K to 600 000 K.

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A list of the lines found in the 900 – 1200 Å range would fill a page. But let me just mention some of the most prominent:

a) Some of the lines represent ion species which are not otherwise observable in reasonably strong lines, e.g. the well known O VI λ1032, 1038 doublet. In addition we find in particular S VI λ933,945 $3s\ ^2S - 3p\ ^2P^o$, S IV λ1063 $3s^23p\ ^2P - 3s3p^2\ ^2D$, Ne VI λ988 $2s^22p\ ^2P^o - 2s2p^2\ ^4P$.

b) Other lines are important complements to lines of ions already visible at longer wavelengths, e.g.: C III λ977 $2s^2\ ^1S - 2s2p\ ^1P^o$, N III λ991 $2s^22p\ ^2P^o - 2s2p^2\ ^2D$, and He II lines; but also several Fe II resonance lines which will prove very valuable for interstellar studies.

These lines appear in spectra of vastly different astronomical objects: They will be observed as interstellar absorption lines, in hot stars with mass loss, nebulae, or cool stars with hot transition zones they will appear as emission lines. They also permit studies of galactic and extragalactic halos in resonant absorption lines. Well known to solar physicists are groups of lines such as the three multiplets of C III, λ977, λ1176, λ1908. When observed simultaneously they give us essential information about physical conditions of the emitting region, in particular about particle densities – to much higher values than the λλ1907,1909 pair – and electron temperatures. This gives us much safer handles for deciding whether an emitting region is collisionaly or radiatively ionized. The N III multiplets λ990 and λ1750 can serve the same purpose; again, they need to be observed simultaneously to tap the full potential. Determinations of elemental abundances would also greatly profit from observations of the lines seen at 900 – 1200 Å.

The lack of continuum observations shortward of 1200 Å is a serious drawback in investigations of objects containing hot sources. That spectral range would be of great help to those involved in stellar population studies to discern the contribution from hot stars. It would also help those who want to separate hot stellar continua from nebular continua. And it would of course help those who study hot stellar atmospheres, as discontinuities of H I, He I and He II appear.

3. And the complementary FUV and EUV ?

Although the 900 – 1200 Å range is the main spectral range of LYMAN, a far ultraviolet spectrograph for the 1200 – 2000 Å (at least), and a EUV–spectrograph for the 100 – 350 Å range are planned for inclusion as well. I need say nothing about the FUV range familiar to any IUE user, except that we must stress the desirability of including the full IUE wavelength range simultaneously with the 900 – 1200 Å spectrum. – EINSTEIN and EXOSAT observations have shown that many astronomical objects emit in the EUV. Those familiar with solar observation know that the 100 – 350 Å domain is particularly well chosen for studying line emission expected from gas at temperatures between a few hundred thousand and a few million degrees. We find typical coronal lines from Fe X to Fe XVI, which are ionized at $T > 10^6$K, but also Fe VIII, Si VI, Mg V, Mg VI, Ne VI to mention just a few species typical of a gas at temperatures below a million degrees. Pre-main-sequence stars, binary systems and many other objects, including main sequence stars have shown that in part of their environment high electron temperatures prevail. Investigation of the complex processes giving rise to conditions far away from thermodynamic equilibrium require access to the spectroscopy available in the EUV.

4

4. Lyman: a 'must' for European astronomy

As chairman of the IUE Time–Allocation–Committee I had the interesting duty of becoming aquainted with all of last and this years' proposals. It is obvious that the vast majority of the proposed and accepted observations would gain substantially from LYMAN. In the 900 – 1200 Å range Lyman has a high resolution mode of $\lambda/\Delta\lambda \approx 35\,000$, complemented by a low resolution mode of $\lambda/\Delta\lambda \approx 1000$.

If these plans can be realised, LYMAN, with its high–earth–orbit and IUE–type observing mode, would become the work–horse–observatory for a considerable fraction of the European astronomical community. It could serve for decades, without danger of being outdated.

European astronomers should be aware that in 1988 ESA will decide whether LYMAN should be built or not. A vote for LYMAN would profitably extend the life of many European research projects that have grown up since the start of IUE. Each astronomer, who needs access to the $\lambda < 3200$ Å spectral range, should tell his or her national representative at ESA that LYMAN will probably be one of the most essential observatories for European astronomy. If we want this observing facility, we have to be active now !

LYMAN and Planetary Science

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INTRODUCTION

Although planetary fly-bys and orbiters get more attention (and, in the past, more funding) UV observations from rockets and Earth orbit have made major contributions to planetary science. UV emissions reveal information about (i) the surface composition of solid objects; (ii) the upper atmospheres/ionospheres of planets and large satellites; (iii) magnetospheric plasmas; and (iv) plasma/neutral gas interactions. Moreover, the combination of remote observations and *in situ* spacecraft measurements of plasma properties in the emitting region provides a unique opportunity for detailed studies of astrophysical plasmas. I quote *Brown et al* [1983b] on the best example of such complementary studies, the Io plasma torus in Jupiter's magnetosphere:

> The Io torus studies are contributing to the refinement of theoretical models and diagnostic tools that have direct application to other astrophysical problems. The detection and interpretation of spectral emissions is the classical basis of our view of the physical state and processes that obtain in active galaxies, stellar coronae and planetary nebulae. The Io torus is by far the most studied and best characterised astrophysical plasma and it is the first to be intensively observed from near infrared to vacuum ultraviolet wavelengths. Working out the difficult relationship between torus observations at those greatly different photon energies is an activity relevant to interpretations of ultraviolet emission from extra-solar-system objects obtained from Earth orbit.

The proposed LYMAN mission offers important returns for planetary science, particularly in the fields of planetary exospheres, magnetospheres and plasma/neutral gas interactions. The hydrogen-dominated giant planets (Jupiter, Saturn, Uranus and Neptune) are obvious targets for an observatory spanning the Lyman wavelengths. In addition, there are plasmas of 10^5 - 10^7 K in planetary magnetospheres with strong line emissions. Similarly, bodies that are immersed in a streaming plasma (e.g. comets, Venus, Io and Titan) have emissions which reveal the nature of the complicated interaction of plasmas with neutral atmospheres. Finally, emission from trace elements such the noble gases add vital clues of the origin and evolution of the solar system.

However there are specific difficulties in making planetary observations which demand special instrumental requirements that should be considered at early stages in the design of the mission. Some of the highlights and important issues of planetary UV astronomy will be discussed before turning to the difficulties and special requirements of planetary observations.

PLANETARY ULTRAVIOLET OBSERVATIONS

1. Magnetospheric Plasmas

The Io Plasma Torus. The discovery of ionised material near the orbit of Io was made from ground-based measurements of optical emission [*Kupo et al.*, 1976] and was interpreted by *Brown* [1976] as originating from a dense torus of cold plasma ($n_e \sim 3200\ cm^{-3}$, $T_e \sim 2.5\ 10^4\ K$). As Voyager 1 approached Jupiter in 1979 the UV spectrometer detected strong UV emission coming from a larger region of hotter ($T_e \sim 10^5\ K$) plasma outside Io's orbit [*Broadfoot et al.*, 1979]. When Voyager 1 flew through the inner magnetosphere the plasma detector measured the local plasma density, temperature and ionic composition along the spacecraft trajectory and showed that there are two distinct regions with a sharp boundary just inside Io's orbit [*Bridge et al.*, 1979]. Since the Voyager encounters considerable work has been done with these data sets (see reviews by *Belcher*, [1983] and *Brown et al.*, [1983b]). The UV data have been used to determine the spatial distribution and short-term variability of the emitting plasma [*Sandel and Broadfoot*, 1982a, 1982b] as well as the development of equilibrium models (see *Shemansky* [1987] and references

therein). The plasma data have revealed that the plasma is far from local thermodynamic equilibrium. Both the ion and electron velocity distributions are non-Maxwellian with ~15% of the ions [*Bagenal*, 1985] and ~2% of the electrons [*Sittler and Strobel*, 1987] forming "tails' to the distributions at energies well above the temperatures ($T_i \sim 50eV$, $T_e \sim 6eV$) of the core ("thermal") populations. This has important consequences for the interpretation of UV emissions [*Shemansky*, 1987]. While the plasma instrument could determine the ionic composition in the cold inner torus [*Bagenal*, 1985] both the UV and plasma instruments were limited in the determination of ionic composition in the hotter region. With a spectral resolution of ~ 30 Å the UV spectrometer could not resolve the many oxygen and sulfur lines in the EUV and interpretation of the spectra has been hampered by the lack of accurate atomic data.

Moreover, the Voyager measurements are just a snapshot of what may be a highly variable system. Measurement of temporal variability may be the key to understanding the magnetospheric processes. *Moos et al.* [1985] have made IUE observations of the *SII*, *SIII* and *SIV* emissions from the torus at fairly regular intervals over the past 8 years since the Voyager 1 encounter and show that the plasma density, electron temperature and sulfur mixing ratios showed small, short-term variability about stable conditions. Although *Ballester et al.* [1987] made important measurements with IUE of the *OI* and *SI* emissions from Io's corona, no emission lines of *OII*, most probably the dominant ion in the torus, has been detected yet in the IUE range. Thus there is no direct measurement of the ratio of sulfur to oxygen ions in the torus, a critical parameter for determining the source mechanism.

Turning to other magnetospheric systems, it may be feasible to detect plasma emissions from Saturn's magnetosphere which contains material that has probably been sputtered from the icy satellites and forms a large disk of plasma [*Lazarus and McNutt*, 1983]. The low ion densities ($n_{O^+} \sim$ 20 cm^{-3}) [*Richardson*, 1986] mean that the emission is certainly weak but not beyond current technical capabilities.

Aurorae. The Voyager UVS measurements of the Lymanα emissions from Jupiter, Saturn and Uranus show strong enhancements near the planet's magnetic poles [*Broadfoot et al.*, 1981; *Smith et al.*, 1983; *Broadfoot et al.*, 1986]. The nature of the spectra and the exact location of the emission reveal the characteristics of the particles that are precipitating from the magnetosphere into the upper atmosphere and stimulating the emission [*Herbert et al.*, 1987]. IUE has the advantage that one can make repeated measurements over a much longer period; *Skinner et al.* [1984] and *Skinner and Moos* [1984] have been able to determine the longitudinal dependence and temporal variability of Jupiter's auroral emissions over 5 years. Unfortunately, the spatial resolution of IUE is not sufficient to allow one to distinguish between different sources of the aurora: the outer boundary of the Io plasma torus or the polar cap boundary as in the Earth's auroral regions. For Saturn and Uranus the situation gets progressively worse and by Uranus IUE cannot separate auroral emissions from airglow over the whole disk and we must look to future studies with higher sensitivity, spatial resolution and spectral resolution in the key Lyman range.

2. Upper Atmospheres/Ionospheres of Planets and Large Satellites

Inner Planets. The predominately CO_2 atmospheres of Mars and Venus have been examined in some detail via the molecular bands at wavelengths greater than 1500 Å by Mariners 6, 7 & 9 for Mars [*Barth et al.*, 1971, 1972] and by Veneras 11 & 12, Pioneer Venus and IUE for Venus [*Bertaux et al.*, 1972b]; [*Durrance et al.*, 1981]. At shorter wavelengths, *HI* (1216 Å) emission has been measured both at Mars and Venus [*Bertaux et al.*, 1972a]. While *HI* is a minor constituent, its presence in the upper atmospheres of Mars and Venus indicates the dissociation of hydrogen-bearing molecules such as H_2O. The vertical profile of *HI* gives the exospheric temperature and important constraints on models of the upper atmospheres/ionospheres of the inner planets. Thus *H* Lymanα measurements are important for determining atmospheric profiles and monitoring the response of the upper atmosphere to changes in the solar flux. The presence of noble gases in these atmospheres indicates the degree of planetary outgassing. Important measurements of *HeI* (584 Å), *HeII* (304 Å) and upper limits on *NeI* (736 Å) and *ArI* (869,1048 Å) have been made from Venera observations of Venus but there are no equivalent measurements for Mars. Measure-

ments of *OI* (1304,1356 Å) have also been useful for understanding the chemistry of the upper atmospheres of both Mars (Mariners 6, 7 & 9) and Venus (Veneras 11 & 12, Pioneer Venus and IUE [*Stewart et al.*, 1979; *Durrance et al.*, 1981]). However, to investigate the solar wind interaction with the atmosphere one needs to look at ionised species. The Venera detection of *OII* (834 Å) emission away from the disk of Venus indicates the *OII* line would be a good candidate.

Outer Planets. UV emissions from the outer planets provide information about the main atmospheric constituents (H, H_2 and He) above a layer of UV-absorbing hydrocarbons. During the planetary encounters the Voyager UV spectrometer made extensive measurements of EUV (500 - 1700 Å) emissions with high spatial resolution which, in combination with solar and stellar occultations of the planets, revealed vertical profiles of the atmospheres of Jupiter [*Broadfoot et al.*, 1981a], Saturn [*Smith et al.*, 1983] and Uranus [*Broadfoot et al.*, 1986]. IUE has much poorer spatial resolution but has the advantage of better spectral resolution and observations covering a long period. The latter allows one to look for temporal variations in order to study atmospheric processes that may be affected by the changing solar cycle or magnetospheric conditions.

The strong airglow emissions from the dayside atmospheres of Jupiter, Saturn and Uranus are currently the subject of major debate (see several papers on the Voyager 2 Uranus special issue of *J. Geophys. Res.*, in press). The IUE observations of Jupiter's emission, which span more than a decade, may play an important role in resolving these questions. LYMAN's high spectral resolution of the various hydrogen lines and greater sensitivity would allow more detailed measurements of the emission from Jupiter, Saturn, Uranus and Neptune. It is clear that comparative studies of these emissions which occur under very different conditions at each planet will be crucial for determining which of the competing explanations apply.

Satellites. The atmosphere of Io is quite tenuous but its detection is crucial for determining how material from Io's volcanoes is dumped into the Jovian magnetosphere at a rate of ~ 1 ton of sulfur and oxygen ions per second. *Brown* [1980] detected optical emissions of *OI* from the ground and [*Durrance et al.* 1983] have measured *OI* and *SI* emissions with rocket-borne UV detectors. But these observations were far from Io and the difficulty is in estimating the neutral density at the interface between the magnetospheric plasma and the satellite's upper atmosphere/ionosphere/corona [*Skinner and Durrance*, 1986]. *Schneider et al.* [1987] discovered an ingenious method of using an eclipse of Europa by Io to measure the absorption of solar light, reflected by Europa, at the sodium D-lines and hence derive a radial profile of Io's sodium atmosphere. Unfortunately, although sodium is a very strong resonant scatterer of sunlight, it is only a trace element in Io's atmosphere. A major breakthrough was made recently when *Ballester et al.* [1987] made two ~14 hour IUE observations of Io and detected *SI* and *OI* emissions which they conclude came from a dense, collision-dominated region of Io's atmosphere. These tantalising results show the complexity of the interaction but the spatial resolution (limited in this case by a combination of the spatial response of the detector and pointing errors) was not sufficient to clearly define the location of the emitting region. If, as one would hope, the spatial resolution and pointing accuracy is improved for LYMAN then measurement of the spatial distribution of neutral emissions near Io could be a major scientific achievement of the mission.

Titan and Triton are the only satellites known to have substantial atmospheres. Pre-Voyager IUE observations of Titan indicated low FUV albedo and implied most of Titan's surface was covered with UV-absorbing clouds [*Caldwell et al.*, 1981]. Voyager 1 revealed Titan's thick cloud deck and the UV spectrometer provided the identification of the major constituents from strong emissions of N_2, *NI* and *NII* [*Broadfoot et al.*, 1981a]. To date Titan has not been observed by IUE at wavelengths less than 2300 Å and Neptune's large satellite Triton remains too faint to be detected. It is to be hoped that they could be studied with LYMAN's greater sensitivity.

3. Comets

The main cometary compounds (besides *OI*) have their strongest emissions in the UV range. UV emissions from cometary comae reveal the composition of the outgassing material; the chemical and physical changes it undergoes as it spreads away from the nucleus; and the evolution of the coma with the comet's distance from the Sun. While the flotilla of spacecraft that ap-

proached comet Halley in 1986 provided a detailed snapshot of that particular comet near 1 AU, IUE has made observations of 26 comets over almost a decade which allow quantitative comparative studies of comets (see reviews by *Festou* [1986]; *Feldman* [1982] and *Festou and Feldman* [1987]). In all comets observed with IUE, water was found to be the dominant species and the relative abundances of 2 major constituents, CO and CO_2 were highly variable. The dust/gas production ratio also varies by orders of magnitude from one comet to another. Although there appear many kinds of variability in comet spectra, the evidence suggests that all comets have the same chemical composition and that observed differences are due to evolution/aging processes. Nevertheless, comet Halley exhibited short outbursts [*Feldman et al.*, 1986b] which suggest comets are very inhomogeneous on a small scale.

While *in situ* observations have the disadvantage of being singular measurements they do provide "ground truth" for remote observers: measurements of the spatial and energy distribution of neutral and ionised material in the coma. Hence the IUE observations of comet Halley [*Feldman et al.*, 1986b] and comet Giacobini-Zinner [*A'Hearn et al.*, 1986] that were obtained during the Vega, Giotto and ICE cometary encounters are particularly important.

So one needs to ask is there anything special for comets in the LYMAN range? Clearly hydrogen is a major constituent of the outer coma as *McCoy et al.* [1986]'s dramatic image in Lymanα (taken from a rocket) showed the hydrogen cloud around Halley to fill a large fraction of the inner solar system. From measurements of abundances of *Ne* and *Ar* (and maybe *He*) one might be able to determine the age of the comet.

Giotto and Vega measurements indicate that *OII* is the dominant tail ion but it has not been imaged. Again *OII* (834 Å) would be very suitable for measurements of the solar wind interaction with the coma.

DIFFICULTIES OF PLANETARY OBSERVATIONS

The observation of solar system objects is more complicated than that required for the classes of stars and galaxies for which astronomical telescopes are usually designed. In outlining the difficulties of making planetary observations I shall quote extensively from reports by IUE observers [*Lane et al.*, 1978; *Encrenaz*, 1982; *Caldwell*, 1984; *Butterworth and Meadows*, 1985; *Feldman*, 1986a].

The major problems are:

1. Tracking. The range of visual magnitude brightness of objects in the solar system is very large, from -4 for Venus to fainter than +11 for some of the satellites of Saturn. This complicates acquisition and tracking. The brighter sources (the Moon, Venus, Mars, Jupiter) cannot be tracked directly with IUE. A planetary satellite (when one exists!) must be used for the tracking procedure; since both the satellite and the planet have different, non-sidereal motions, the tracking operation is difficult for exposures longer than 10 minutes. For example, Venus, which is too bright for the tracker and which has no satellite, was missed several times. To track asteroids which have large orbital velocities and planetary parallax values drift, rates must be specified for the spacecraft gyros and then updated several times an hour. Tracking has often been inaccurate, causing images to leave the selected spectrograph entrance aperture during exposures. Even the brightest asteroids have not been properly tracked, in spite of the availability, in this case of "spillover" light for the automatic correction of drift rates. The faint emissions from the magnetospheric nebulae must be tracked for many hours (exposures of nearly 14 hours have been achieved over contiguous European and US observing shifts) using the spacecraft gyros to keep the spectrograph aperture following the 10 hour wobble of the torus ansa.

2. Dynamic Range. All of the bright objects echo the time variable solar spectrum, to first order. To examine the spectral range from 1150 to 3200 Å with IUE one requires numerous exposures to cover a 10^6 brightness range with a detector system which is linear over about a ratio of 25 in object brightness in the UV.

3. The Solar Spectrum. The third problem is the acquisition of a solar comparison spectrum. The Sun is too bright to be observed with IUE and the Moon is too difficult an object to track. Most of the IUE data on solar system objects have been reduced with the use of UV solar spectra recorded with another instrument, at a different time. This lack of an accurate solar spectrum

often severely limited the interpretation of planetary observations.

Despite these difficulties many good planetary measurements have been made with IUE and the IUE observatory staff are highly commended for their efforts to adapt a system to cope with demands well beyond the specifications of the original design. Nevertheless, we should learn from the lessons of IUE and, more recently, Space Telescope, and incorporate the requirements for planetary observations in the earliest stages in the design of the instrument.

REQUIREMENTS FOR PLANETARY OBSERVATIONS

1. Tracking. The primary need for planetary work is to be able to track moving targets. Moreover, because planets are relatively close, they have significant parallax effects. For the case of Mars at opposition, this is at least 40 arc seconds per orbit. It is therefore extremely inefficient to guide on stars for planetary work. The ability to track on the centre of light of a bright, extended object like Venus, Mars, Jupiter or Saturn would be extremely useful. (Space Telescope will not have this capability, unfortunately, although OAO-A2 did in 1968!) Alternately, the ability to guide on a satellite and to offset to specific planetary locations would be appreciated. The offset range should be at least of the order of tens of arc minutes, to permit the observations of whole planetary systems, including magnetospheres, tori and faint satellites. The system should be smart enough to remember that the satellites are moving with respect to the planets, at a known but variable rate. Moreover, it would valuable to able to keep the limb of disk or a particular region of the planet centred in the field of view.

The maximum required tracking rate cannot be specified absolutely. The Moon has a drift rate of 3 ' per hour (i.e. 3" per second). The limiting class of object here is perhaps comets since these are probably too diffuse for self-guiding. A different technique would then be required, presumably tracking on gyros with appropriate selectable drift rates. It is noted that the maximum apparent rate for comet Halley in 1986 was 2" per second.

2. Field of View. While a large field of view is not necessary for the brighter objects it is essential for observing the faint, very extended (>50") regions of comet comae and magnetospheric tori. Ideally, a thin, narrow slit (1" x 50") would allow good spectral resolution, reasonable spatial resolution of bright objects in one direction (plus possibly imaging) while providing a large field of view for fainter, extended sources.

3. Spectral Range. The proposed prime spectral range (900-1200 Å) covers many important spectral lines of the main constituents of planetary atmospheres, ionospheres and magnetospheres. However there are two very important omissions. To understand the interactions between plasmas and neutral gas clouds it is essential that both neutral and ionised species are measured: (i) Although the first four ionisation states of sulfur are covered by the prime region the nearest strong *SI* line is 1479 Å. This would be covered if the FUV (1200-2000 Å) spectrograph were added. (ii) More serious is the lack of a *OII* line in *any* of the proposed spectral regions. Firstly, *OII* is the dominant ion in the Io plasma torus and secondly, measurements of *OII* ions for Venus, Mars and possibly comets could provide important information about the solar wind interaction with their atmospheres. Extension of the wavelength range of the prime region to include the strong *OII* and *OIII* lines near 833 Å would be extremely valuable. For planetary science one would ideally extend the range down to the *HeI* line at 584 Å. Emission lines of several of the noble gasses and the lower ionisation states of C, N, O and S would then be included.

4. Dynamic Range. Because of the large range in emission intensity between the strong Lyman α lines and the other atomic lines nearby it is important that the detectors have as large a dynamic range as possible. For planetary sources that depend on the Sun a large dynamic range is also essential because of the steep slope in the solar spectrum in the UV.

5. Solar Spectra. Perhaps the most pressing complication facing planetary observers is the acquisition of comparison solar spectra. Ideally they should be acquired by the instrument itself so that all the instrumental parameters are removed. Since the telescope cannot be expected to be able to look at the Sun directly, perhaps this could be achieved with tiny "wing mirrors". The next best choice would to be able to monitor the solar spectrum by looking at the fully-illuminated disk of the Moon near zero phase angle, but the accuracy of the resulting solar spectrum would be limited by the non-uniformity and spectral dependence of the Moon's albedo.

6. Venus. Venus has always been a problem because previous spacecraft designs have not included the capability to point easily within 45° of the Sun. Certainly it becomes increasingly difficult to approach the Sun, but there is no apparent physical discontinuity at 45°; The capability to point within 35°, 40°, 45° of the Sun allows observations of Venus to be made over 1/2, 1/5, 1/7 of its orbit, respectively.

7. Spectroscopic data. The study of emission from space plasmas is a unique opportunity for vacuum UV spectroscopy. Many of the emissions have not been measured in the laboratory and observers have had to rely on theoretical calculations of atomic parameters to interpret their data. In several cases the observations have preceded laboratory measurements or provoked further studies (e.g. *Brown et al.*, [1983a]; *Roncin et al.*, [1984]; *Shemansky et al.*, [1985a, b]). Thus planetary UV astronomy has made a major contribution to UV spectroscopy which must be important for the interpretation of UV emissions from extra-solar-system sources. At the same time it is clear that to benefit from improved sensitivity and spectral resolution, laboratory and theoretical studies must continue to improve the accuracy of atomic data.

SUMMARY

1. Planetary UV astronomy has made significant contributions to planetary science in the areas of (i) surface composition of asteroids and satellites via reflectance spectroscopy; (ii) the atmospheric chemistry of Venus, Mars, Jupiter, Saturn and Uranus; (iii) the composition and evolution of cometary comae; (iv) the aurorae of Jupiter, Saturn and Uranus; and (v) the stability of the Io plasma torus in the Jovian magnetosphere.

2. The primary planetary objectives for LYMAN are (i) the hydrogen emissions from the giant planets to investigate atmospheric composition, the dayside airglow and the response of auroral emissions to magnetospheric activity; (ii) To investigate the plasma production in the Jovian magnetosphere by monitoring the spatial and temporal variability of Io's corona and the plasma torus. In addition to the *OI* and *SII-IV* lines in the prime 900-1200 Å region, measurements of the *OII* and *OIII* lines near 833 Å and *SI* emission at 1479 Å are particularly important; (iii) The composition and evolution of cometary comae; (iv) The atmospheres of Io, Titan and, possibly Triton; and (v) The interaction of the solar wind with the atmospheres of Venus and Mars. It is to be noted that LYMAN may overlap with Galileo and Ulysses missions to Jupiter and the Cassini mission to Jupiter and Saturn. Hence it may be possible to simultaneously monitor plasma emissions and make *in situ* measurements of local plasma conditions.

3. The special instrumental requirements for planetary observations are (i) accurate tracking of moving targets; (ii) a large field of view; (iii) the spectral range to be extended below the *OII* and *OIII* emission lines near 833 Å and above the *SI* line at 1479 Å; (iv) detectors with as large a dynamic range as possible; (v) acquisition of comparison solar spectra; and (vi) the capability to point within 45° of the Sun in order that measurements of Venus can be made for a reasonable fraction of its orbit.

4. Planetary observations have made a significant contribution to UV astrophysics. Nevertheless, if UV astronomy and the LYMAN observatory are to make a major contribution to planetary science our special instrumental requirements must be given serious consideration. It is important to capitalise on the lessons we have learned from IUE and Space Telescope and to plan for planetary observations from the very beginning of the mission.

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VILSPA PUBLICATIONS LIST

IN MAIN JOURNALS

Published 1 May - 31 December 1987

This list contains all Vilspa papers that have appeared betweeen 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).

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MERGED LOG OF IUE OBSERVATIONS

1 June - 31 October 1987

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 eighth round in ESA IUE Newsletter No.23 p11 and 17, and for the ninth round in IUE ESA Newsletter No.26 p13 and p21 respectively.

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).

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

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
PHCAL	NULL	99	04.58	0000000	+000000	L	2	18112	L	31266	FO	87063002	025700	000000	000	V LWR:4.5kV SAFETY REA
PHCAL	NULL	99	99.99	0000000	+000000	L	1	11125				87063004	043800	000000	002	V LWR 4.5KV
JI023	NULL	99	99.99	0000000	+000000		3	31939				87092619	000000	000000		V
PHCAL	NULL	99	99.99	0000000	+000000	L	1	11778				87100114	140500	000000	009	V LWP BASELINE
PHCAL	60%CALUV	99	99.99	0000000	+000000	L	1	11779				87100114	144504	000204	007	V
PHCAL	20%CALUV	99	99.99	0000000	+000000	L	1	11780				87100115	153727	000041	003	V
PHCAL	120%CALUV	99	99.99	0000000	+000000	L	1	11781				87100116	161121	000408	009	V
PHCAL	60%CALUV	99	99.99	0000000	+000000	L	1	11782				87100116	164757	000204	007	V
PHCAL	100% TFLOO	99	99.99	0000000	+000000	L	1	11783				87100118	185838	000140	009	V
PHCAL	160%CALUV	99	99.99	0000000	+000000	L	1	11784				87100119	193422	000531	009	V
PHCAL	NULL	99	99.99	0000000	+000000	L	1	11785				87100119	195400	000000	002	V
PHCAL	NULL	99	99.99	0000000	+000000	L	1	11786				87100120	201700	000000	009	V
PHCAL	NULL	99	99.99	0000000	+000000	L	1	11787				87100120	204400	000000	002	V
PHCAL	NULL	99	99.99	0000000	+000000	L	3	31958				87100213	135300	000000	004	V
PHCAL	60%CALUV	99	99.99	0000000	+000000	L	3	31959				87100214	142251	000149	004	V
PHCAL	20%CALUV	99	99.99	0000000	+000000	L	3	31960				87100214	145128	000036	002	V
PHCAL	120%CALUV	99	99.99	0000000	+000000	L	3	31961				87100216	161454	000338	007	V
PHCAL	60%CALUV	99	99.99	0000000	+000000	L	3	31962				87100216	165148	000149	004	V
PHCAL	100%TFLOOD	99	99.99	0000000	+000000	L	3	31963				87100217	171610	000016	009	V
PHCAL	160% CALUV	99	99.99	0000000	+000000	L	3	31964				87100217	174539	000451	009	V
PHCAL	NULL	99	99.99	0000000	+000000	L	3	31965				87100217	174539	000451		V 2ND READ
PHCAL	NULL	99	99.99	0000000	+000000	L	3	31966	L			87100218	183700	000000	003	V
PHCAL	NULL	99	99.99	0000000	+000000	L	3	31967				87100218	185800	000000	000	V
JA077	NULL	99	99.99	0000000	+000000		3	32000				87100513	000000	000000		V
JA077	NULL	99	99.99	0000000	+000000	L	3	32008				87100614	141500	000000		V
PHCAL	NULL	99	99.99	0000000	+000000		2	18134				87102613	134000	000000		V
PHCAL	NULL	99	05.78	0000000	+000000	L	2	18136		15522	FO	87102616	161500	000000		V HIGH GAIN READ
PHCAL	50% TFLOOD	99	99.99	0000000	+000000	L	2	18137				87102616	165455	000015		V
PHCAL	20% TFLOOD	99	99.99	0000000	+000000	L	2	18138				87102617	173605	000006		V
PHCAL	40% TFLOOD	99	99.99	0000000	+000000	L	2	18139				87102618	180429	000012		V
PHCAL	50% TFLOOD	99	99.99	0000000	+000000	L	2	18140				87102618	185936	000015		V
PHCAL	100% TFLOO	99	99.99	0000000	+000000	L	2	18141				87102619	193807	000030		V
PHCAL	SECOND REA	99	99.99	0000000	+000000	L	2	18142				87102619	194000	000000		V
PHCAL	NULL	99	99.99	0000000	+000000	L	2	18143				87102620	201200	000000		V
PHCAL	NULL	99	99.99	0000000	+000000	L	1	11959				87102620	202615	000000		V PREAD
SAJCW	HD 225094	23	6.20	0000506	+632145	L	3	31261	T	6898	FO	87062717	171400	000000		G ABORTED TRAIL
SAJCW	HD 225094	23	6.20	0000506	+632145	L	3	31262	T	7500	FO	87062717	175300	000330		G C=215,B=21
SAJCW	HD 225094	23	6.20	0000506	+632145	L	1	11103	T	7054	FO	87062718	181000	000050		G C=205,B=35
DSJFW	HD 432	40	2.27	0006297	+585226	L	3	31589	L	2397	FU	87081913	134200	001100		G C=100X,B=150
OD27Y	HD 432	40	2.27	0006297	+585226	H	1	11431	L	2310	FU	87081914	144400	000120		G C=245,B=50
DSJTA	HD 432	40	2.3	0006298	+585227	L	3	31970	M	2420	FU	87100305	054500	001000		G E=124,C=60X,B=63
DSJTA	HD 432	40	2.3	0006298	+585227	L	3	31971	M	2557	FU	87100306	063700	001000		G E=139,C=60X,B=57
DSJTA	HD 432	40	2.3	0006298	+585227	L	3	31972	M	2598	FU	87100307	073000	001000		G E=141,C=60X,B=61
DSJTA	HD 432	40	2.3	0006298	+585227	L	3	31973	M	2605	FU	87100308	082300	001000		G E=109,C=60X,B=48
DSJTA	HD 432	40	2.3	0006298	+585227	L	3	31979	M	2435	FU	87100406	060000	001000		G E=126,C=60X,B=65

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
DSJTA	HD	432	40	2.3	0006298	+585227	L	3	31980	M	2543	FU	87100406	065200	001000	G E=118,C=60X,B=61
DSJTA	HD	432	40	2.3	0006298	+585227	L	3	31981	M	2619	FU	87100407	074600	001000	G E=119,C=60X,B=65
DSJTA	HD	432	40	2.3	0006298	+585227	L	3	31982	M	2597	FU	87100408	084000	001000	G E=115,C=60X,B=58
DSJTA	HD	432	40	2.3	0006298	+585227	L	3	31983	M	2548	FU	87100409	093200	001000	G E=128,C=60X,B=68
DSJTA	HD	432	40	2.3	0006298	+585227	L	3	31984	M	2627	FU	87100410	102400	001000	G E=116,C=60X,B=70
DSJTA	HD	432	40	2.3	0006298	+585227	L	3	31985	M	2580	FU	87100411	111700	001000	G E=116,C=60X,B=66
DSJTA	HD	432	40	2.3	0006298	+585227	L	3	31986	M	2571	FU	87100412	120600	001000	G E=125,C=60X,B=65
DSJTA	HD	432	40	2.3	0006298	+585227	L	3	31992	M	2610	FU	87100505	054000	001000	G E=134,C=60X,B=67
DSJTA	HD	432	40	2.3	0006298	+585227	L	3	31993	M	2579	FU	87100506	062900	001000	G E=141,C=60X,B=67
DSJTA	HD	432	40	2.3	0006298	+585227	L	3	31994	M	2554	FU	87100507	071800	001000	G E=124,C=60X,B=62
DSJTA	HD	432	40	2.3	0006298	+585227	L	3	31995	M	2623	FU	87100508	080600	001000	G E=138,C=60X,B=75
DSJTA	HD	432	40	2.3	0006298	+585227	H	3	32002	L	2570	FU	87100521	214100	050000	G E=174,C=80X,B=80X
DSJTA	HD	432	40	2.3	0006298	+585227	H	3	32003	L			87100606	063600	000008	G B=162
DSJTA	HD	432	40	2.3	0006298	+585227	L	3	32004	M	2378	FU	87100607	071300	001000	G E=144,C=40X,B=80
DSJTA	HD	432	40	2.3	0006298	+585227	L	3	32005	M	2606	FU	87100608	080400	001000	G E=143,C=40X,B=80
DSJTA	HD	432	40	2.3	0006298	+585227	L	3	32006	M	2608	FU	87100608	085300	001000	G E=133,C=40X,B=88
DSJTA	HD	432	40	2.3	0006298	+585227	L	3	32007	M	2555	FU	87100609	094500	001000	G E=117,C=40X,B=100
JQ100	PG0026+129	85	15.00	0026380	+125929	L	1	11533	L		BO	87083019	194302	014400	304	V
JQ100	PG0026+12	85	15.00	0026380	+125929	L	3	31680	L		BO	87083119	193218	015500	341	V
DSJFW	HD 3112	31	6.1	0031168	-713231	L	3	31882	L	8088	FO	87091902	022000	015000		G E=103,C=80X,B=85
PHCAL	HD 3360	20	03.88	0034100	+533719	L	1	11855	L	803	FU	87101117	175705	000000	503	V
PHCAL	HD 3360	20	03.88	0034100	+533719	L	1	11856	L	800	FU	87101118	185702	000000	503	V
PHCAL	HD 3360	20	03.88	0034100	+533719	L	1	11857	L	807	FU	87101119	195742	000000	503	V
PHCAL	HD 3360	20	03.88	0034100	+533719	L	3	32070	L	801	FU	87101119	190314	000000	500	V
PHCAL	HD 3360	20	03.86	0034100	+533719	L	3	32071	L	815	FU	87101120	200650	000000	500	V PREAD
PHCAL	HD 3360	20	03.86	0034100	+533719	H	1	11858	L	809	FU	87101120	204140	000021	503	V
PHCAL	HD 3360	20	03.87	0034103	+533720	L	1	11829	L	812	FU	87100913	135926	000000	600	V
PHCAL	HD 3360	20	3.7	0034103	+533719	H	3	31525	L	844	FU	87080914	143300	000024		G C=186,B=35
PHCAL	HD 3360	20	03.88	0034103	+533720	L	1	11830	L	807	FU	87100914	144321	000000	600	V
PHCAL	HD 3360	20	3.7	0034103	+533719	H	1	11363	L	832	FU	87080914	143900	000021		G C=228,B=46
PHCAL	HD 3360	20	03.88	0034103	+533720	L	1	11831	L	801	FU	87100915	151407	000000	600	V
PHCAL	HD 3360	20	3.7	0034103	+533719	H	2	18122	L	801	FU	87082102	020800	000029		G C=208,B=32
PHCAL	HD 3360	20	03.88	0034103	+533720	L	1	11832	L	807	FU	87100915	154841	000001	800	V
PHCAL	HD 3360	20	3.7	0034103	+533719	H	1	11970	L	832	FU	87102809	091300	000021		G C=228,B=45
PHCAL	HD 3360	20	03.86	0034103	+533720	L	1	11833	L	819	FU	87100916	162259	000001	800	V
PHCAL	HD 3360	20	3.7	0034103	+533719	H	3	32178	L	809	FU	87102809	092400	000024		G C=185,B=36
PHCAL	HD 3360	20	03.88	0034103	+533720	L	1	11834	L	800	FU	87100916	165653	000001	800	V
PHCAL	HD 3360	20	3.7	0034103	+533719	H	2	18149	L	799	FU	87103011	110700	000029		G C=160,B=33
JC167	HD 3627	47	09.00	0036388	+303515	E	9	01956	2	970	FO	87070520	202500	016000		V
LSJSD	HD 3627	47	3.3	0036389	+303516	H	1	11151	L	946	FU	87070603	035200	003000		G E=166,C=97,B=59
LSJSD	HD 3627	47	3.3	0036389	+303516	L	3	31296	L	970	FU	87070604	043000	057000		G E=252,C=148,B=87
LSJSD	HD 3627	47	3.3	0036389	+303516	H	1	11152	L	949	FU	87070606	064800	024000		G E=5X,C=2X,B=80
IBJBH	V523 CAS	66	10.9	0037179	+495753	L	1	11397	L	101	SO	87081416	161300	003600		G E=131,C=78,B=55
QFJCG	MRK 957	85	15.5	0039097	+400451	L	3	31908	L		BO	87092300	000900	040500		G E=15X,C=114,B=70
SDITS	HD 4128	47	2.4	0041048	-181536	H	1	11082	L	2837	FU	87062506	060100	000500		G E=196,C=190,B=32

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
QSJMM	PG 0044+030	85	16.0	0044312	+030335	L	1	11391	L		BO	87081403	034900	014500		G E=152,C=130,B=72
QSJMM	PG 0044+030	85	16.0	0044312	+030335	L	3	31564	L			87081406	062100	015000		G C=112,B=65
HBJAP	HD 4772	38	6.3	0047059	-233802	L	3	31138	L	7887	FO	87061216	160500	000024		G C=60,B=19
HBJAP	HD 4772	38	6.3	0047059	-233802	L	3	31139	L	8043	FO	87061216	164200	000130		G C=146,B=20
DSJFW	HD 4818	40	6.4	0048050	+511410	L	3	31875	L	6731	FO	87091805	053600	007300		G E=50,C=45X,B=50
PRJCG	HD 5394	26	2.1	0053402	+602646	H	3	31350	L	3126	FU	87071714	140400	000008		G C=210,B=42
PRJCG	HD 5394	26	2.1	0053402	+602646	H	3	31513	L	3249	FU	87080812	125900	000008		G C=212,B=40
PRJCG	HD 5394	26	2.1	0053402	+602646	H	3	31903	L	3173	FU	87092210	102400	000008		G C=212,B=38
XQJME	PHL909	85	16.7	0054320	+142957	L	1	11207	L		BO	87071404	041900	039000		G C=187,B=105
HEJSS	HD 5737	27	4.4	0056119	-293743	H	3	31998	L	450	FU	87100512	121100	000200		G C=220,B=37
HEJSS	HD 5737	27	4.4	0056119	-293738	L	3	31999	L	449	FU	87100512	124000	000001		G C=98,B=17
HEJSS	HD 5737	27	4.4	0056119	-293738	H	3	32012	L	439	FU	87100705	055900	000200		G C=210,B=36
HEJSS	HD 5737	27	4.4	0056119	-293738	H	3	32023	L	429	FU	87100808	081800	000200		G C=220,B=39
HEJSS	HD 5737	27	4.4	0056119	-293738	H	3	32032	L	424	FU	87100907	072700	000200		G C=205,B=38
HEJSS	HD 5737	27	4.4	0056119	-293738	H	3	32035	L	441	FU	87100910	104900	000200		G C=215,B=37
HEJSS	HD 5737	27	4.4	0056119	-293738	H	3	32055	L	424	FU	87101010	103200	000200		G C=210,B=38
HEJSS	HD 5737	27	4.4	0056119	-293738	H	3	32065	L	422	FU	87101108	084400	000200		G C=218,B=38
HEJSS	HD 5737	27	4.4	0056119	-293738	H	3	32075	L	433	FU	87101207	074700	000200		G C=210,B=35
HEJSS	HD 5737	27	4.4	0056119	-293738	H	3	32093	L	450	FU	87101409	095900	000200		G C=215,B=52
HEJSS	HD 5737	27	4.4	0056119	-293738	H	3	32095	L	444	FU	87101412	122200	000200		G C=215,B=38
HEJSS	HD 5737	27	4.4	0056119	-293738	H	3	32106	L	423	FU	87101606	061600	000200		G
HEJSS	HD 5737	27	4.4	0056119	-293738	H	3	32108	L	440	FU	87101608	085200	000200		G C=225,B=60
HEJSS	HD 5737	27	4.4	0056119	-293738	H	3	32116	L	435	FU	87101710	101300	000200		G C=232,B=60
HEJSS	HD 5737	27	4.4	0056119	-293738	H	3	32137	L	456	FU	87102207	071300	000200		G C=205,B=37
WDJHS	G270-124	29	13.9	0100530	-064813	L	3	31382	S	37	SO	87072204	041400	018000		G C=217,B=44
WDJHS	G270-124	29	13.9	0100535	-064812	L	3	31203	S	11	SO	87061906	064200	011500		G B=30
CSJJB	HD 6833	47	6.7	0106513	+542819	L	1	11428	L	4842	FO	87081907	071200	001500		G C=220,B=39
CSJJB	HD 6833	47	6.7	0106513	+542819	L	3	31586	L	4789	FO	87081907	073400	004500		G E=78,B=25
WDJHS	PG 0112+104	29	14.7	0112000	+102514	L	3	31204	S		BO	87061909	094400	018000		G C=132,B=50
WDJHS	PG 0112+104	29	14.7	0112000	+102514	L	3	31383	S		BO	87072208	083100	014000		G C=127,B=36
SDITS	HD 7672	45	5.93	0114037	-024546	L	3	31246	L	13528	FO	87062506	062900	009000		G E=210,C=172,B=79
SDITS	HD 7672	45	5.93	0114037	-024546	H	1	11083	L	13749	FO	87062508	080700	001500		G E=150,C=83,B=34
SDITS	HD 7672	45	5.93	0114037	-024546	L	3	31246	S	13512	FO	87062508	083600	024000		G E=1.1X,C=218,B=79
SDITS	HD 7672	45	5.93	0114037	-024546	L	1	11084	M	15482	FO	87062512	124200	000700		G E=15X,C=4X,B=35
SDITS	HD 7672	45	5.4	0114038	-024547	H	1	11085	L	14842	FO	87062515	150700	002500		G E=241,C=130,B=45
JQ043	F-9	84	14.04	0121512	-590359	L	3	31175	L	43	SO	87061621	214914	005000	350	V
JQ043	F-9	84	14.07	0121512	-590359	L	1	11027	L	42	SO	87061622	225039	006500	451	V
JQ043	F-9	84	14.07	0121512	-590359	L	3	31176	L	42	SO	87061700	000333	010000	461	V
JQ043	F-9	84	14.10	0121512	-590359	L	3	31541	L	41	SO	87081122	223610	005000	350	V
JQ043	F-9	84	14.15	0121512	-590359	L	1	11377	L	39	SO	87081123	233509	005500	451	V PARTIAL READ
WDJFW	0130-196	17	15.1	0130151	-193700	L	3	31695	L		BO	87090223	234400	005000		G C=80,B=20
WDJFW	0130-196	17	15.1	0130151	-193700	L	1	11558	L		BO	87090300	003900	010000		G C=150,B=55
WDJFW	0130-196	17	15.1	0130151	-193700	L	3	31696	L		BO	87090302	024700	007000		G C=155,B=32
WDJFW	0130-196	17	15.1	0130151	-193701	L	3	32193	L		BO	87103023	231200	009000		G C=230,B=30
WDJFW	0131-164	37	13.6	0131579	-162225	L	3	31279	L	36	SO	87070211	110400	001000		G C=160,B=16

PRO	Object	CL	MAG	R.A.	DEC	D C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
WDJFW	0131-164	37	13.6	0131579	-162236	L 1	11134	L	36	SO	87070211	112400	002000		G C=188,B=38
WDJFW	0131-164	37	13.6	0131579	-162225	L 3	31280	L	39	SO	87070211	115900	001400		G C=202,B=18
PHCAL	TFLOOD	99		0132111	-155554	L 1	11582	S			87090906	063500	000025		G E=10X,B=105
PHCAL	WAVCAL	98		0132111	-155554	L 1	11582	S			87090906	063600	000001		G E=10X,B=105
PHCAL	TFLOOD	99		0132111	-155554	H 1	11583	S			87090907	070500	000025		G E=60X,B=105
PHCAL	WAVCAL	98		0132111	-155554	H 1	11583	S			87090907	070600	000016		G E=60X,B=105
PHCAL	TFLOOD	99		0132111	-155554	L 3	31812	S			87090907	072700	000005		G E=10X,B=104
PHCAL	WAVCAL	98		0132111	-155554	L 3	31812	S			87090907	072900	000002		G E=10X,B=104
PHCAL	SAFTY RD	99		0132111	-155554	H 2	18124				87090907	073400	000000		G C=50,B=20
PHCAL	TFLOOD	99		0132111	-155554	H 3	31813	S			87090908	082100	000005		G E=60X,B=125
PHCAL	WAVCAL	98		0132111	-155554	H 3	31813	S			87090908	082300	000200		G E=60X,B=125
PHCAL	TFLOOD	99		0132111	-155554	L 2	18125	S			87090908	085400	000010		G E=10X,B=95
PHCAL	WAVCAL	98		0132111	-155554	L 2	18125	S			87090908	085600	000001		G E=10X,B=95
PHCAL	TFLOOD	99		0132111	-155554	H 2	18126	S			87090909	092100	000010		G E=60X,B=115
PHCAL	WAVCAL	98		0132111	-155554	H 2	18126	S			87090909	092300	000022		G E=60X,B=115
JM142	HD 9672	74	05.99	0132112	-155554	H 3	31265	L	13230	FO	87063000	003245	004000	601	V
IGJTS	BD +60 0310	39	9.29	0138510	+611007	L 3	32111	L	673	FO	87101700	003400	013000		G C=162,B=67
IGJTS	BD +60 0310	39	9.29	0138510	+611007	L 1	11890	L	684	FO	87101702	025600	002700		G C=213,B=53
HBJAP	HD 10562	38	10.3	0139489	-511304	L 3	31137	L	265	FO	87061214	145200	001050		G B=15
LDJDB	HD 200580	41	5.63	0144064	+633624	L 1	11177	M	12446	FO	87071014	145800	000330		G C=255,B=37
SJJDS	JUPITER	03	-1.0	0146305	+093349	L 3	31407	L			87072504	041400	001500		G E=138,C=2X,B=20
SJJDS	JUPITER	03	-1.0	0146305	+093349	L 3	31408	L			87072505	050500	001500		G E=134,C=2X,B=20
SJJDS	JUPITER	03	-1.0	0146305	+093349	L 3	31409	L			87072505	055700	009000		G E=4X,C=12X,B=41
SJJDS	JUPITER	03	-1.0	0146305	+093349	L 3	31409	S			87072506	063700	009000		G
SJJDS	JUPITER	03	-1.0	0146305	+093349	L 3	31410	L			87072508	082200	005000		G E=2X,C=8X,B=30
SJJDS	JUPITER	03	-1.0	0146305	+093349	L 3	31410	S			87072508	085700	005000		G
SJJDS	JUPITER	03	-1	0146364	+093417	L 3	31412	L			87072510	104700	001500		G E=152,C=2X,B=15
SJJDS	JUPITER	07	-1	0146417	+093539	L 3	31411	L			87072509	095500	002000		G E=38,B=18
SJJHM	IO	04	5.0	0148095	+094134	H 1	11308	L			87073104	040600	042000		G C=225,B=120
SJJHM	IO	04	-2.5	0148095	+094134	L 3	31433	L			87073111	114700	001500		G C=3X,B=21
SJJHM	SKYBKGND	04	-2.5	0148095	+094134	L 3	31434	L			87073112	124800	001500		G E=37,B=23
SJJHM	JUPITER	03	-2.5	0148095	+094134	L 3	31435	L			87073113	134100	001500		G E=138,C=2X,B=37
SJJHM	JUPITER	03	-2.5	0148095	+094134	L 3	31436	L			87073114	144400	001500		G E=160,C=2X,B=47
SJJHM	JUPITER	03	-2.5	0148095	+094134	L 3	31437	L			87073115	154300	001500		G E=177,C=2X,B=24
SJJHM	JUPITER	03	-2.5	0148095	+094134	L 3	31438	L			87073116	163300	001500		G E=172,C=2X,B=20
SJJHM	JUPITER	03	-2.5	0148095	+094134	L 3	31439	L			87073117	172100	001500		G C=2X,B=20
SJJHM	JUPITER	03	-2.5	0148095	+094134	L 3	31442	L		FU	87080110	105200	001500		G E=157,C=2X,B=20
SJJHM	JUPITER	03	-2.5	0148095	+094134	L 3	31443	L		FU	87080111	114400	001500		G E=198,C=2X,B=21
SJJHM	JUPITER	03	-2.5	0148095	+094134	L 3	31444	L		FU	87080112	123200	001500		G E=191,C=2X,B=25
SJJHM	JUPITER	03	-2.5	0148095	+094134	L 3	31445	L		FU	87080113	131800	001500		G E=162,C=2X,B=34
SJJHM	JUPITER	03	-2.5	0148095	+094134	L 3	31446	L		FU	87080114	140600	001500		G E=158,C=2X,B=43
SJJHM	JUPITER	03	-2.5	0148109	+094144	L 3	31459	L			87080216	161900	001500		G E=151,C=2X,B=25
SJJHM	IO	03	-2.5	0148183	+093212	L 9	01973	2			87073119	193300	016000		G NO COMMENTS
SJJHM	IO	04		0148191	+094218	L 3	31440	L			87073118	185200	084000		G E=5X,C=198,B=150
SJJHM	IO	04		0148191	+094218	H 1	11309	L			87073119	192900	042000		G B=100

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
SIJHM	JUPITER	03		0148273	+094254	L	3	31441	L		FU	87080110	100100	001500		G E=143,C=2X,B=20
SJJHM	IO	04	-2.5	0148319	+094314	L	9	01974	2			87080115	151700	016000		G NO COMMENTS
SIJHM	IO	04		0148319	+094314	H	1	11310	L			87080116	165400	042000		G B=100
SIJHM	IO	04		0148319	+094314	L	3	31447	L			87080116	165600	080000		G E=5X,C=170,B=145
SJJHM	JUPITER	03		0148319	+094314	L	3	31448	L			87080207	071100	001500		G E=157,C=3X,B=18
SJJHM	JUPITER	03		0148319	+094314	L	3	31449	L			87080208	080200	001500		G E=191,C=3.0X,B=19
SJJHM	JUPITER	03	-2.5	0148319	+094314	L	3	31450	L			87080208	085500	001500		G E=157,C=2X,B=20
SJJHM	JUPITER	03	-2.5	0148319	+094314	L	3	31451	L			87080209	094400	001500		G E=138,C=2X,B=20
SJJHM	JUPITER	03	-2.5	0148319	+094314	L	3	31452	L			87080210	103300	001500		G E=122,C=2X,B=21
SJJHM	JUPITER	03	-2.5	0148319	+094314	L	3	31453	L			87080211	112300	001500		G E=141,C=4X,B=24
SJJHM	JUPITER	03	-2.5	0148319	+094314	L	3	31454	L			87080212	121200	001500		G E=124,C=2X,B=25
SJJHM	JUPITER	03	-2.5	0148319	+094314	L	3	31455	L			87080213	130000	001500		G E=162,C=3X,B=35
SJJHM	JUPITER	03	-2.5	0148319	+094314	L	3	31456	L			87080213	134800	001500		G E=165,C=2X,B=31
SJJHM	JUPITER	03	-2.5	0148319	+094314	L	3	31457	L			87080214	143700	001500		G E=154,C=2X,B=32
SJJHM	JUPITER	03	-2.5	0148319	+094314	L	3	31458	L			87080215	153000	001500		G E=149,C=2X,B=35
JS108	IO	04	99.99	0148320	+094315	E	9	01975	2			87080120	205500	016000		V SWP31447
JS139	JUPITER	03	-02.60	0149521	+094847	L	3	31519	L		BO	87080822	220429	002000	750	V GUIDING ON EUROPA
JA014	NGC752-209	30	10.20	0154387	+371452	L	1	11457	L	331	FO	87082215	152124	001000	703	V
JA014	NGC752-209	30	10.16	0154387	+371452	L	3	31618	L	344	FO	87082215	154651	002656	500	V
CCJTS	HD 12311	40	2.9	0157117	-614845	L	3	32139	L	1399	FU	87102209	094800	001000		G C=60X,B=20
IEJDM	HD 14092	20	9.2	0215100	+563148	L	1	11408	L	516	FO	87081611	110700	002400		G C=8X,B=145
IEJDM	HD 14092	20	9.2	0215100	+563148	L	1	11408	S	604	FO	87081611	114100	000545		G C=2X,B=145
IEJDM	HD 14092	20	9.2	0215100	+563148	L	3	31575	L	553	FO	87081611	115400	000520		G C=192,B=68
IEJDM	HD 14092	20	9.2	0215100	+563148	L	3	31575	S	568	FO	87081612	121300	000245		G C=95,B=68
WDJJH	PG 0216+033	37	14.6	0216429	+031307	L	3	31281	L		SO	87070213	134400	002230		G C=190,B=19
WDJJH	PG 0216+033	37	14.6	0216429	+031307	L	1	11135	L	28	SO	87070214	141800	003000		G C=182,B=40
IEJDM	BD +56 0586	20	9.9	0219110	+565136	L	1	11407	L	632	FO	87081609	092000	002500		G C=5X,B=58
IEJDM	BD +56 0586	20	9.9	0219110	+565136	L	1	11407	S	640	FO	87081609	095500	000530		G C=5X,B=58
IEJDM	BD +56 0586	20	9.9	0219110	+565136	L	3	31574	L	598	FO	87081610	100800	000500		G C=110,B=17
LDJDB	HD 14802	44	5.2	0220152	-240234	L	1	11112	T	16409	FO	87062818	180500	000140		G C=225,B=38
CBJNE	HD 14662	53	6.2	0220239	+550859	L	1	11421	L	6886	FO	87081810	102100	000230		G C=190,B=38
CBJNE	HD 14662	53	6.2	0220239	+550859	L	3	31580	L	7049	FO	87081810	103300	002000		G B=30
QSJGM	BAL QSO	85	16	0226126	-102433	L	1	11704	L		BO	87092323	235900	041500		G C=142,B=117
PHCAL	NULL	99	0.0	0226126	-102433	L	3	31918				87092400	002400	000000		G B=23
PHCAL	SKY BKGD	07	0.0	0226126	-102433	L	3	31919	L			87092400	005600	030000		G B=55
QSJGM	QSO 0226-104	85	16.3	0226126	-102433	L	1	11716	L		BO	87092500	000800	040500		G C=140,B=106
PHCAL	NULL	99		0226126	-102433	L	3	31926				87092500	001100	000000		G B=22
PHCAL	SKY BKGD	07		0226126	-102433	H	3	31927	L			87092500	003400	035500		G B=88
AGJFB	NGC 1068	07		0240052	-001411	L	3	31311	L		BO	87070904	041200	040000		G C=140,B=82
AGJFB	SKY BKGD	07		0240052	-001411	L	1	11162				87070904	041700	036500		G B=93
AGJFB	NGC 1068	84		0240052	-001411	S	9	01965	2			87070906	062300	002000		G NO COMMENTS
FSJCA	HD 17433	44	6.8	0245419	+305435	L	3	32066	L	4063	FO	87101109	095600	003500		G E=93,C=65,B=45
FSJCA	HD 17433	44	6.8	0245419	+305435	H	1	11850	L	3995	FO	87101110	104200	003000		G E=166,C=100,B=70
FSJCA	HD 17433	44	6.8	0245419	+305435	L	3	32067	L	4208	FO	87101111	111900	006000		G E=90,C=62,B=41
FSJCA	HD 17433	44	6.8	0245419	+305435	H	1	11851	L	4140	FO	87101112	122800	002300		G E=133,C=62,B=41

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
FSJCA	HD 17433	44	6.8	0245420	+305436	H	1	11861	L	4500	FO	87101209	094200	003000		G E=170,C=110,B=67
FSJCA	HD 17433	44	6.8	0245420	+305436	L	3	32077	L	4465	FO	87101210	102100	005000		G E=95,C=63,B=47
FSJCA	HD 17433	44	6.8	0245420	+305436	H	1	11862	L	4553	FO	87101211	112400	003000		G E=147,C=80,B=45
FSJCA	HD 17433	44	6.8	0245420	+305436	L	3	32078	L	4437	FO	87101212	120800	004200		G E=52,C=70,B=34
FSJCA	HD 17433	44	6.8	0245420	+305436	L	3	32084	L	4597	FO	87101305	053000	006000		G E=73,C=48,B=35
FSJCA	HD 17433	44	6.8	0245420	+305436	H	1	11870	L	4616	FO	87101306	064800	003000		G E=146,C=80,B=41
FSJCA	HD 17433	44	6.8	0245420	+305436	L	3	32085	L	4713	FO	87101307	072600	005500		G E=60,C=55,B=38
FSJCA	HD 17433	44	6.8	0245420	+305436	L	3	32091	L	4405	FO	87101405	054400	005500		G E=62,C=45,B=32
FSJCA	HD 17433	44	6.8	0245420	+305436	H	1	11877	L	4406	FO	87101406	065200	003000		G E=165,C=90,B=45
FSJCA	HD 17433	44	6.8	0245420	+305436	L	3	32092	L	4399	FO	87101407	073000	005000		G E=100,C=87,B=69
FSJCA	HD 17433	44	6.8	0245420	+305436	H	1	11878	L	4500	FO	87101408	082800	002500		G E=254,B=160
FSJCA	HD 17433	44	6.8	0245420	+305436	L	3	32099	L	4153	FO	87101506	062400	006000		G E=65,C=48,B=34
FSJCA	HD 17433	44	6.8	0245420	+305436	H	1	11882	L	4236	FO	87101507	073400	003000		G E=189,C=105,B=66
FSJCA	HD 17433	44	6.8	0245420	+305436	L	3	32100	L	4299	FO	87101508	081200	003500		G E=130,B=121
JA020	HD17576	39	08.34	0246077	-371123	H	3	31643	L	1741	FO	87082615	154431	006000	401	V
JA020	HD 17576	39	08.24	0246077	-371123	H	3	31659	L	1902	FO	87082816	161319	006000	401	V
ICJDY	HD 17573	22	3.6	0247020	+270321	H	3	31934	M	827	FU	87092610	104600	000406		G C=5X,B=70
ICJDY	HD 17573	22	3.6	0247020	+270321	H	3	31935	M	823	FU	87092611	114700	000406		G C=5X,B=70
ICJDY	HD 17573	22	3.6	0247020	+270321	H	3	31936	M	801	FU	87092612	124700	000406		G C=5X,B=72
ICJDY	HD 17573	22	3.6	0247020	+270321	H	3	31937	M	791	FU	87092613	133100	000432		G C=5X,B=70
ICJDY	HD 17573	22	3.6	0247020	+270321	H	3	31938	M	790	FU	87092614	142300	000406		G C=5X,B=62
ICJDY	HD 17573	22	3.6	0247020	+270321	H	3	31945	M	804	FU	87092710	105800	000406		G C=5X,B=73
ICJDY	HD 17573	22	3.6	0247020	+270321	H	3	31946	M	801	FU	87092711	114700	000406		G C=5X,B=70
ICJDY	HD 17573	22	3.6	0247020	+270321	H	3	31947	M	810	FU	87092712	123600	000406		G C=5X,B=70
MGJEB	R HOR	51	7.0	0252130	-500539	L	1	11091	L	1207	FO	87062616	162500	001000		G B=37
MGJEB	R HOR	51	7.0	0252130	-500539	L	1	11262	L	1694	FO	87072212	123500	002000		G E=73,B=53
MGJEB	R HOR	51	7.0	0252130	-500539	L	1	11490	L	3566	FO	87082612	123700	001800		G B=102
MGJEB	R HOR	51	7.0	0252130	-500539	L	1	11912	L	20938	FO	87101912	121700	002000		G C=80,B=42
SYJJH	NGC 1144	84	13.2	0252388	-002307	L	3	31422	L	25	SO	87072704	040400	027000		G C=90,B=65
PHCAL	NULL	99		0252388	-002306	L	1	11283	L			87072704	041500	000000		G B=32
PHCAL	SKY BKGD	07		0252388	-002306	L	1	11284	L			87072704	044100	020000		G B=64
SYJJH	NGC 1144	84	13.2	0252388	-002307	L	1	11285	L			87072708	083900	013500		G C=93,B=62
JE063	CPD-71 172	41	11.14	0253140	-713438	L	1	11098	L	144	FO	87062702	021127	000200	401	V
JE063	CPD-71 172	04	11.14	0253140	-713438	L	3	31257	L	144	FO	87062702	020110	000300	501	V
JA143	PK255-591	70	14.61	0255096	-442218	L	1	11432	L	26	SO	87081916	162437	001700	301	V
USSBS	HD 18622	30	2.91	0256218	-403013	H	1	10922	L	1961	FU	87060514	143700	000136		G C=218,B=43
USSBS	HD 18622	30	2.91	0256218	-403013	H	3	31105	L	1984	FU	87060514	144300	000350		G C=200,B=34
USSBS	HD 18622	30	2.91	0256218	-403013	H	3	31106	L	2006	FU	87060515	155400	001248		G C=3X,B=63
NBJHB	HFG 1	70	14.0	0259320	+644258	L	1	11876	L	30	SO	87101322	222400	013000		G C=195,B=75
NBJHB	HFG 1	70	14.0	0259320	+644258	L	3	32090	L	35	SO	87101323	232900	022500		G C=150,B=59
NBJHB	HFG 1	70	14.0	0259320	+644258	L	1	11885	L	36	SO	87101522	223200	009000		G C=125,B=54
NBJHB	HFG 1	70	14.0	0259320	+644258	L	3	32105	L	257	SO	87101523	235700	027000		G C=175,B=83
USSBS	HD 18925	45	2.93	0301095	+531843	H	3	31689	L	1305	FU	87090214	144400	000700		G C=130,B=43
MGJJE	HD 19058	49	3.4	0301578	+383853	H	1	11659	L	1284	FU	87091909	093200	001500		G E=2X,B=180
MGJJE	HD 19058	49	3.4	0301578	+383853	H	1	11772	L	1211	FU	87100106	064900	001000		G E=158,C=86,B=43

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
MGJJE	HD 19058	49	3.4	0301578	+383853	H	1	11901	L	1129	FU	87101811	112000	001000		G E=181,B=47
DAJJH	FEIGE 31	37	14.9	0302012	+024528	L	3	31977	L		BO	87100403	031600	003500		G C=150,B=15
DAJJH	FEIGE 31	37	14.9	0302012	+024528	L	3	31978	L		BO	87100404	043700	001500		G C=92,B=17
DAJJH	FEIGE 31	37	14.9	0302012	+024528	L	3	31978	S		BO	87100404	043800	001500		G C=92,B=17
JC087	HD19445	40	08.42	0305287	+260908	H	1	11287	L	1626	FO	87072719	195127	021000	703	V
MSJRP	HD 20365	21	5.0	0315034	+500226	L	1	11381	L	19744	FO	87081212	121400	000002		G C=197,B=35
MSJRP	HD 20365	21	5.0	0315034	+500226	L	3	31546	L	19942	FO	87081212	123500	000003		G C=182,B=17
MSJRP	HD 20418	22	5.1	0315334	+495450	L	1	11446	L	21527	FO	87082107	072300	000002		G C=225,B=35
MSJRP	HD 20418	22	5.1	0315334	+495450	L	3	31602	L	21291	FO	87082107	075700	000004		G C=215,B=19
JC199	HD20766	44	05.96	0316408	-624558	L	3	32088	L	13483	FO	87101313	133923	020000	641	V
JC199	HD20766	44	05.98	0316408	-624558	L	1	11874	L	13282	FO	87101317	170738	000500	802	V
JC028	HD20630	44	05.21	0316441	+031117	H	1	11304	L	22548	FO	87073020	205856	002500	650	V
JC028	HD20630	64	05.35	0316441	+031117	H	1	11322	L	20727	FO	87080418	184353	002500	651	V
JC199	HD20807	44	05.71	0317074	-624148	L	3	32089	L	16318	FO	87101317	175357	014000	601	V
JC199	HD20807	44	05.69	0317074	-624148	L	1	11875	L	16485	FO	87101320	202050	000220	801	V
MSJRP	HD 20809	22	5.4	0319399	+490210	L	1	11447	L	17643	FO	87082108	083800	000003		G C=1.5X,B=35
MSJRP	HD 20809	22	5.4	0319399	+490210	L	3	31603	L	17930	FO	87082109	091100	000005		G C=220,B=19
MSJRP	HD 20931	30	8.0	0320566	+485749	L	1	11448	L	1851	FO	87082109	095600	000130		G C=240,B=38
MSJRP	HD 20931	30	8.0	0320566	+485749	L	3	31604	L	1869	FO	87082110	103000	000340		G C=200,B=22
JA014	BD48-906	30	08.27	0320567	+485749	L	3	31619	L	1864	FO	87082217	172803	000600	700	V
JA014	BD48-906	30	08.33	0320567	+485749	L	1	11458	L	1757	FO	87082217	172053	000135	503	V
JC156	UX ARI	46	06.81	0323330	+283232	L	1	11751	L	6712	FO	87092900	174144	000130	465	V 5 SEC TFLOOD ADDED
RSJTA	HD 21242	46	6.5	0323330	+283232	H	1	11745	L	5554	FO	87092908	080400	005000		G E=6X,C=240,B=62
JC156	UX ARI	46	06.80	0323330	+283232	L	1	11752	L	6772	FO	87092900	204237	000130	455	V 5 SEC TFLOOD ADDEDD
RSJTA	HD 21242	46	6.5	0323330	+283232	H	1	11746	L	6771	FO	87092909	092800	002500		G E=226,C=115,B=83
JC156	HD21242	46	06.74	0323330	+283232	L	1	11764	L	7142	FO	87093017	173527	000130	452	V + 5 SECS TFLOOD
RSJTA	HD 21242	46	6.5	0323330	+283232	L	1	11747	L	5928	FO	87092910	102700	000130		G E=250,C=174,B=40
JC156	HD21242	46	06.71	0323330	+283232	L	1	11765	L	7317	FO	87093020	203701	000130	452	V + 5 SECS TFLOOD
RSJTA	HD 21242	46	6.5	0323330	+283232	L	1	11748	L	5875	FO	87092911	110100	000130		G E=254,C=173,B=37
RSJTA	HD 21242	46	6.5	0323330	+283232	H	1	11749	L	6629	FO	87092911	115600	002500		G E=230,C=118,B=72
RSJTA	HD 21242	46	6.5	0323330	+283232	H	1	11750	L	6396	FO	87092913	130200	007000		G E=3X,C=167,B=63
RSJTA	HD 21242	46	6.5	0323330	+283232	H	3	31952	L	6358	FO	87092914	142100	099900		G E=1.8X,B=4X
RSJTA	HD 21242	46	6.5	0323330	+283232	L	1	11753	L	5818	FO	87092923	233400	000130		G E=255,C=180,B=45
RSJTA	HD 21242	46	6.5	0323330	+283232	L	1	11754	L	6047	FO	87093002	023900	000130		G E=255,C=190,B=50
RSJTA	HD 21242	46	6.5	0323330	+283232	L	1	11755	L	6540	FO	87093005	053300	000130		G E=224,C=170,B=50
RSJTA	HD 21242	46	6.5	0323330	+283232	H	1	11756	L	6504	FO	87093006	061200	005000		G E=246,C=125,B=42
RSJTA	HD 21242	46	6.5	0323330	+283232	H	1	11757	L	7401	FO	87093007	074000	002500		G E=179,C=101,B=39
RSJTA	HD 21242	46	6.5	0323330	+283232	H	1	11758	L	7404	FO	87093008	084400	002500		G E=178,C=106,B=52
RSJTA	HD 21242	46	6.5	0323330	+283232	L	1	11760	L	6616	FO	87093011	112000	000130		G E=207,C=173,B=52
RSJTA	HD 21242	46	6.5	0323330	+283232	L	1	11761	L	6424	FO	87093011	115500	000130		G E=223,C=171,B=42
RSJTA	HD 21242	46	6.5	0323330	+283232	H	1	11762	L	6426	FO	87093012	123600	005000		G E=1.1X,C=132,B=53
RSJTA	HD 21242	46	6.5	0323330	+283232	L	1	11763	L	6125	FO	87093014	140100	000130		G E=228,C=189,B=48
RSJTA	HD 21242	46	6.5	0323330	+283232	L	1	11766	L	7321	FO	87093023	233400	000130		G E=205,C=180,B=50
RSJTA	HD 21242	46	6.5	0323330	+283232	L	1	11767	L	6602	FO	87100102	020400	000130		G E=196,C=165,B=50
RSJTA	HD 21242	46	6.5	0323330	+283232	L	1	11768	L	6807	FO	87100102	024200	000130		G E=195,C=170,B=50

PRO	Object	CL	MAG	R.A.	DEC	D C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
RSJTA	HD	21242	46	6.5	0323330	+283232	L	1	11769	L	6882	FO	87100103	031700	000130		G E=190,C=165,B=50
RSJTA	HD	21242	46	6.5	0323330	+283232	L	1	11770	L	7012	FO	87100103	035400	000130		G E=195,C=150,B=50
RSJTA	HD	21242	46	6.5	0323330	+283232	H	1	11771	L	7102	FO	87100104	043600	009000		G E=4X,C=216,B=115
RSJTA	HD	21242	46	6.5	0323330	+283232	H	3	31953	L			87100105	050300	000008		G B=160
MSJRP	HD	21279	22	7.1	0324245	+473347	L	1	11380	L	3453	FO	87081211	110100	000013		G C=115,B=36
MSJRP	HD	21279	22	7.1	0324245	+473347	L	3	31545	L	3476	FO	87081211	110600	000030		G C=90,B=17
MSJRP	HD	21279	22	7.1	0324245	+473347	L	1	11401	L	3873	FO	87081512	122300	000029		G C=180,B=41
MSJRP	HD	21279	22	7.1	0324245	+473347	L	3	31571	L	3799	FO	87081512	122800	000116		G C=190,B=19
ICJDY	HD	21379	30	6.28	0324331	+123342	H	3	31929	M	7844	FO	87092600	000900	006000		G C=1.2X,B=58
ICJDY	HD	21933	22	5.8	0324331	+123342	H	3	31931	M	7679	FO	87092603	032000	012000		G C=2X,B=98
ICJDY	HD	21379	30	6.28	0324331	+123342	H	3	31932	M	7661	FO	87092606	060000	012000		G C=5X,B=100
ICJDY	HD	21379	30	6.28	0324331	+123342	H	1	11733	M	8683	FO	87092708	080800	002530		G C=204,B=53
ICJDY	HD	21379	30	6.28	0324332	+123343	H	1	11734	M	8338	FO	87092709	092300	002530		G C=200,B=60
MSJRP	HD	21362	22	5.7	0325165	+494036	L	1	11399	L	14379	FO	87081509	095400	000004		G C=205,B=35
MSJRP	HD	21362	22	5.7	0325165	+494036	L	3	31569	L	14913	FO	87081510	102700	000007		G C=165,B=17
MSJRP	HD	21551	22	5.8	0327045	+475600	L	1	11379	L	12320	FO	87081209	095200	000005		G C=180,B=32
MSJRP	HD	21551	22	5.8	0327045	+475600	L	3	31544	L	12132	FO	87081209	095700	000009		G C=130,B=17
JI086	GK PER		54	13.29	0327475	+434403	L	1	11316	L	84	SO	87080317	174529	006000	442	V
JI086	GK PER		54	13.33	0327475	+434403	L	3	31472	L	81	SO	87080319	190949	033900	333	V
JA064	GK PER		54	13.51	0327476	+434404	L	3	32174	L	69	SO	87102714	141535	030000	332	V
JA064	GK PER		54	13.41	0327476	+434404	L	1	11965	L	76	SO	87102719	192302	008100	332	V PREAD
MSJRP	HD	21641	22	6.8	0328010	+474135	L	1	11400	L	5741	FO	87081511	110500	000016		G C=198,B=35
MSJRP	HD	21641	22	6.8	0328010	+474135	L	3	31570	L	5847	FO	87081511	113700	000040		G C=205,B=17
MSJRP	HD	21672	22	6.5	0328198	+483357	L	1	11388	L	5541	FO	87081315	152000	000012		G C=240,B=33
MSJRP	HD	21672	22	6.5	0328198	+483357	L	3	31561	L	5534	FO	87081315	152500	000028		G C=210,B=18
HEJSS	HD	21699	27	5.49	0328358	+475116	H	3	31997	L	16258	FO	87100510	105700	000700		G C=250,B=55
HEJSS	HD	21699	27	5.5	0328359	+475117	H	3	32013	L	15734	FO	87100707	071100	000700		G C=220,B=39
HEJSS	HD	21699	27	5.5	0328359	+475117	H	3	32033	L	15239	FO	87100908	084100	000700		G C=235,B=43
HEJSS	HD	21699	27	5.5	0328359	+475117	H	3	32056	L	15161	FO	87101011	115300	000700		G C=230,B=41
HEJSS	HD	21699	27	5.5	0328359	+475117	H	3	32094	L	15716	FO	87101411	111800	000700		G C=230,B=52
HEJSS	HD	21699	27	5.5	0328359	+475117	H	3	32117	L	15196	FO	87101711	112900	000700		G C=250,B=58
HEJSS	HD	21699	27	5.5	0328359	+475117	H	3	32136	L	16492	FO	87102205	055700	000700		G C=227,B=41
ICJDY	HD	21933	22	5.8	0329534	+091221	H	3	31930	M	12063	FO	87092602	020900	002400		G C=250,B=55
ICJDY	HD	21933	22	5.8	0329534	+091221	H	3	31933	M	12953	FO	87092609	090300	004800		G C=5X,B=86
ICJDY	HD	21933	22	5.8	0329534	+091221	H	1	11735	M	11949	FO	87092713	133100	001630		G C=1.2X,B=57
ICJDY	HD	21933	22	5.8	0329534	+091221	H	1	11736	M	11949	FO	87092714	143400	001630		G C=1.5X,B=56
JC028	HD22049		46	04.17	0330343	-093735	H	1	11321	L	622	FU	87080417	174644	001000	461	V
JC028	HD22049		46	04.12	0330344	-093735	H	1	11303	L	647	FU	87073019	194759	000135	110	V EXPOSURE INTERRUPTED
MSJRP	HD	21931	22	7.0	0330386	+482703	L	1	11385	L	3001	FO	87081311	115300	000035		G C=222,B=35
MSJRP	HD	21931	22	7.0	0330386	+482703	L	3	31558	L	3436	FO	87081312	122500	000120		G C=190,B=17
JA143	NGC 1360		70	11.60	0331066	-260212	L	1	11433	L	382	SO	87081917	174618	000200	501	V PREAD
JA143	NGC 1360		70	11.61	0331066	-260212	L	3	31590	S	378	SO	87081917	174154	000040	400	V
JA143	NGC 1360		70	11.61	0331066	-260212	L	3	31590	L	378	SO	87081917	173720	000040	500	V
MSJRP	HD	22136	22	6.8	0332270	+465934	L	1	11387	L	4561	FO	87081314	141100	000018		G C=1.2X,B=35
MSJRP	HD	22136	22	6.8	0332270	+465934	L	3	31560	L	4838	FO	87081314	144200	000045		G C=245,B=20

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
JS201	C BORRELLY	06	12.87	0333278	-380027	L	1	11940	L	123	SO	87102320	200954	004500	231	V PREAD
JS201	C BORRELLY	06	12.87	0333278	-380027	E	9	01994	2			87102320	200500	002000		V
MSJRP	HD 22401	25	7.7	0334419	+472459	L	1	11386	L	2827	FO	87081313	130200	000040		G C=226,B=38
MSJRP	HD 22401	25	6.8	0334419	+472459	L	3	31559	L	2797	FO	87081313	133400	000130		G C=195,B=17
GKJTS	HZII 303	44	10.5	0341161	+235646	L	1	11791	L	166	FO	87100205	055200	007500		G C=191,B=55
MSJLW	HD 23246	31	8.5	0341269	+241419	H	1	11788	L	1397	FO	87100122	222800	013000		G C=180,B=68
GKJTS	HZ 345	44	11.7	0341272	+242603	L	1	11933	L	268	SO	87102212	120500	004000		G C=84,B=40
JA019	HD23089	30	05.30	0341387	+631121	H	3	31871	L	21401	FO	87091715	154742	006000	600	V
JA019	HD23089	30	05.24	0341387	+631121	H	1	11648	L	22188	FO	87091716	165418	001200	400	V
MSINE	HD 23288	22	5.07	0341494	+240800	L	3	31597	L	15116	FO	87082012	124100	000006		G C=155,B=19
GKJTS	HZII 625	46	12.7	0342230	+233422	L	1	11792	L	114	SO	87100208	081800	006000		G B=2.5X
GKJTS	HZ 625	46	12.7	0342231	+233423	L	1	11814	L	106	SO	87100722	222500	010500		G E=80,C=78,B=55
MSJLW	HD 23361	30	8.1	0342277	+235248	H	1	11789	L	1507	FO	87100201	012300	010000		G C=184,B=82
GKJTS	HZII686	46	13.5	0342342	+240856	L	1	11868	L	74	SO	87101222	222500	018000		G E=115,C=1[illegible],B=66
MSINE	HD 23432	22	5.60	0342563	+242359	L	1	11443	L	12051	FO	87082014	142600	000003		G C=135,B=37
MSINE	HD 23432	22	5.60	0342563	+242359	L	3	31599	L	11883	FO	87082014	143100	000012		G C=185,B=18
MSINE	HD 23441	22	6.28	0343037	+242223	L	1	11442	L	7002	FO	87082013	132200	000011		G C=190,B=39
MSINE	HD 23441	22	6.28	0343037	+242223	L	3	31598	L	6955	FO	87082013	132700	000028		G C=190,B=22
MSJLW	HD 23479	30	8.4	0343173	+240207	L	1	11489	L	1652	FO	87082611	113400	000200		G C=195,B=37
MSJLW	HD 23479	30	8.4	0343174	+240208	H	1	11740	L	1713	FO	87092805	054100	007000		G C=127,B=50
GKJTS	HZIII039	46	13.0	0343295	+232621	L	1	11869	L	72	SO	87101302	022000	015000		G C=85,B=62
GKJTS	HZ 1124	46	12.3	0343408	+235235	L	1	11938	L	133	SO	87102311	114300	006500		G C=78,B=45
MSINE	HD 23568	22	6.55	0344002	+242159	L	1	11440	L	5203	FO	87082010	101000	000015		G C=160,B=35
MSINE	HD 23568	22	6.55	0344002	+242159	L	3	31595	L	4942	FO	87082010	101500	000036		G C=130,B=21
MSJLW	HD 23628	30	7.5	0344247	+242607	L	1	11487	L	2265	FO	87082609	095500	000200		G C=245,B=36
MSJLW	HD 23628	30	7.5	0344248	+242608	H	1	11738	L	2137	FO	87092723	234800	015000		G C=250,B=75
MSJLW	HD 23643	30		0344286	+233130	L	1	11488	L	2053	FO	87082610	104800	000200		G C=253,B=33
MSJLW	HD 23643	30	8.4	0344287	+233131	H	1	11739	L	2075	FO	87092802	025800	012000		G C=215,B=62
MSINE	HD 23642	30	6.71	0344305	+240807	L	1	11441	L	4919	FO	87082011	112500	000023		G C=190,B=38
MSINE	HD 23642	30	6.71	0344305	+240807	L	3	31596	L	4885	FO	87082011	113000	000120		G C=190,B=23
GKJTS	HZ 1883	46	12.7	0345301	+230856	L	1	11815	L	85	SO	87100801	011100	018000		G E=135,C=115,B=79
MSJLW	HD 23863	31	8.6	0346136	+234408	H	1	11790	L	1580	FO	87100203	034800	006200		G C=134,B=58
WDJJH	GD 50	37	14.0	0346172	-010732	L	3	31974	L	56	SO	87100310	105200	001112		G C=200,B=82
WDJJH	GD 50	37	14.0	0346172	-010738	L	3	31975	S	42	SO	87100311	115200	002600		G C=162,B=30
WDJJH	GD 50	37	14.0	0346172	-010738	D	9	01992	2			87100312	124800	002000		G NO COMMENTS
WDJJH	GD 50	37	14.0	0346173	-010738	H	3	31976	L	34	SO	87100313	130500	078000		G C=1.5X,B=170
MSINE	HD 23923	22	6.07	0346451	+233339	L	1	11438	L	8866	FO	87082007	074000	000009		G C=210,B=35
MSINE	HD 23923	22	6.07	0346451	+233339	L	3	31593	L	8571	FO	87082007	074500	000023		G C=205,B=18
CMJES	V471 TAU	37		0347339	+170623	L	3	31610	L	378	FO	87082123	234200	001400		G C=55,B=18
CMJES	V471 TAU	37	9.8	0347339	+170623	H	3	31611	L	503	FO	87082200	004300	019000		G C=120,B=55
CMJES	V471 TAU	37	9.8	0347339	+170623	H	1	11455	L	430	FO	87082207	072900	012000		G E=193,C=195,B=135
CMJES	V471 TAU	37	9.8	0347339	+170623	L	3	31612	L	434	FO	87082209	093600	000500		G C=100,B=19
CMJES	V471 TAU	37	9.8	0347339	+170623	L	1	11456	L	434	FO	87082210	101500	000500		G E=119,C=115,B=42
CMJES	V471 TAU	37	9.8	0347339	+170623	L	3	31613	L	404	FO	87082211	111800	001200		G C=220,B=78
CMJES	V471 TAU	37	9.8	0347339	+170623	L	3	31614	L	404	FO	87082212	123700	000500		G C=130,B=60

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
CMJES	V471 TAU	37	9.8	0347339	+170623	L	3	31615	L	410	FO	87082213	131200	000500		G C=140,B=61
CMJES	V471 TAU	37	9.8	0347339	+170623	L	3	31616	L	420	FO	87082213	135200	000500		G C=130,B=58
CMJES	V471 TAU	37	9.8	0347339	+170623	L	3	31617	L	418	FO	87082214	142600	000500		G C=120,B=40
CMJES	V471 TAU	37	9.8	0347339	+170623	L	1	11461	L	466	FO	87082303	032000	001000		G E=184,C=154,B=36
CMJES	V471 TAU	37	9.8	0347339	+170623	L	3	31622	L	479	FO	87082303	033600	001000		G C=182,B=16
CMJES	SKY	07		0347339	+170623	L	1	11471	L			87082323	235700	021000		G B=72
CMJES	V471 TAU	37	9.8	0347339	+170623	H	1	11475	L	438	FO	87082423	231400	010600		G E=98,C=116,B=50
CMJES	V471 TAU	37	9.8	0347339	+170623	H	1	11476	L	472	FO	87082501	014400	010000		G C=115,B=52
CMJES	V471 TAU	37	9.8	0347339	+170623	L	3	31637	L	491	FO	87082503	033900	000500		G C=104,B=16
CMJES	V471 TAU	37	9.8	0347339	+170623	L	3	31638	L	438	FO	87082507	070600	000500		G C=95,B=16
CMJES	V471 TAU	37	9.8	0347339	+170623	L	3	31639	L	418	FO	87082507	074200	000500		G C=96,B=16
CMJES	V471 TAU	37	9.8	0347339	+170623	H	1	11477	L		FO	87082508	080000	010000		G E=109,C=96,B=24
CMJES	V471 TAU	37	9.8	0347339	+170623	H	1	11478	L	408	FO	87082510	102000	010000		G E=191,C=193,B=125
CMJES	V471 TAU	37	9.8	0347339	+170623	L	3	31640	L	391	FO	87082514	140300	001400		G C=215,B=24
CMJES	V471 TAU	37	9.8	0347339	+170623	L	3	31640	S	387	FO	87082514	142600	002400		G C=92,B=25
CMJES	V471 TAU	37	9.8	0347340	+170624	H	3	31630	L	404	FO	87082323	233300	039000		G C=170,B=99
CMJES	V471 TAU	37	9.8	0347340	+170624	H	1	11472	L	397	FO	87082409	090100	012000		G E=121,C=126,B=65
CMJES	V471 TAU	37	9.8	0347340	+170624	L	3	31631	L	424	FO	87082411	111000	000500		G C=103,B=15
CMJES	V471 TAU	37	9.8	0347340	+170624	L	3	31632	L	418	FO	87082412	121400	000500		G C=120,B=19
CMJES	V471 TAU	37	9.8	0347340	+170624	L	3	31633	L	409	FO	87082412	125200	000500		G C=105,B=19
CMJES	V471 TAU	37	9.8	0347340	+170624	L	3	31634	L	392	FO	87082413	133400	001400		G C=88,B=63
CMJES	V471 TAU	37	9.8	0347340	+170624	L	3	31634	S	392	FO	87082413	135700	002800		G
CMJES	V471 TAU	37	9.8	0347340	+170624	L	1	11473	L	392	FO	87082414	143100	001000		G C=162,B=40
MSINE	HD 24076	30	6.53	0347536	+234843	L	1	11439	L	4382	FO	87082008	085500	000024		G C=180,B=35
MSINE	HD 24076	30	6.53	0347536	+234843	L	3	31594	L	4328	FO	87082009	090000	000115		G C=160,B=21
MSJRP	HD 24504	22	5.3	0352215	+474335	L	1	11383	L	15920	FO	87081309	093400	000004		G C=1.2X,B=35
MSJRP	HD 24504	22	5.3	0352215	+474335	L	3	31556	L	15926	FO	87081310	100700	000004		G C=170,B=17
JA060	HD24912	15	04.43	0355430	+353900	H	3	31746	L	490	FU	87090616	161351	000110	501	V
MLJCG	HD 24912	14	4.0	0355430	+353900	H	3	31716	L	568	FU	87090508	082600	000110		G C=235,B=42
JA060	HD24912	15	04.39	0355430	+353900	H	3	31748	L	510	FU	87090618	183417	000110	501	V
MLJCG	HD 24912	14	4.0	0355430	+353900	H	3	31719	L	583	FU	87090511	111800	000120		G C=1X,B=50
JA060	HD24912	15	04.36	0355430	+353900	H	3	31750	L	525	FU	87090620	200711	000110	501	V
MLJCG	HD 24912	14	4.0	0355430	+353900	H	3	31721	L	563	FU	87090513	130200	000115		G C=2X,B=48
JA060	HD24912	15	04.34	0355430	+353900	H	3	31752	L	534	FU	87090621	211931	000110	501	V
MLJCG	HD 24912	14	4.0	0355430	+353900	H	3	31726	L	553	FU	87090523	233800	000115		G C=240,B=40
JA060	HD24912	15	04.32	0355430	+353900	H	3	31754	L	545	FU	87090622	224302	000110	501	V
MLJCG	HD 24912	14	4.0	0355430	+353900	H	3	31728	L	551	FU	87090600	005600	000115		G C=240,B=40
JA060	HD 24912	15	04.29	0355430	+353900	H	3	31773	L	559	FU	87090715	152742	000110	501	V
MLJCG	HD 24912	14	4.0	0355430	+353900	H	3	31731	L	550	FU	87090603	031700	000115		G C=240,B=41
JA060	HD 24912	15	04.27	0355430	+353900	H	3	31775	L	566	FU	87090716	165839	000110	501	V
MLJCG	HD 24912	14	4.0	0355430	+353900	H	3	31734	L	554	FU	87090606	065200	000115		G C=244,B=42
JA060	HD 24912	15	04.39	0355430	+353900	H	3	31800	L	511	FU	87090815	152057	000110	501	V
MLJCG	HD 24912	14	4.0	0355430	+353900	H	3	31737	L	557	FU	87090609	091700	000120		G C=253,B=43
JA060	HD 24912	15	04.33	0355430	+353900	H	3	31802	L	537	FU	87090818	182143	000110	501	V
MLJCG	HD 24912	14	4.0	0355430	+353900	H	3	31739	L	564	FU	87090610	105800	000120		G C=254,B=44

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
JA060	HD 24912	15	04.29	0355430	+353900	H	3	31805	L	564	FU	87090820	204243	000110	501	V
MLJCG	HD 24912	14	4.0	0355430	+353900	H	3	31741	L	559	FU	87090612	123100	000115		G C=253,B=44
JA060	HD 24912	15	04.39	0355430	+353900	H	3	31807	L	512	FU	87090822	223541	000110	501	V
MLJCG	HD 24912	14	4.0	0355430	+353900	H	3	31744	L	548	FU	87090614	144700	000120		G C=253,B=43
MLJCG	HD 24912	14	4.0	0355430	+353900	H	3	31757	L	559	FU	87090701	010500	000120		G C=255,B=41
MLJCG	HD 24912	14	4.0	0355430	+353900	H	3	31767	L	562	FU	87090710	103200	000120		G C=250,B=45
MLJCG	HD 24912	14	4.0	0355430	+353900	H	3	31770	L	560	FU	87090712	125900	000120		G C=252,B=42
MLJCG	HD 24912	14	4.0	0355430	+353900	H	3	31780	L	545	FU	87090723	231800	000120		G C=255,B=41
MLJCG	HD 24912	14	4.0	0355430	+353900	H	3	31782	L	556	FU	87090801	010100	000120		G C=255,B=41
MLJCG	HD 24912	14	4.0	0355430	+353900	H	3	31784	L	557	FU	87090802	022400	000120		G C=255,B=41
MLJCG	HD 24912	14	4.0	0355430	+353900	H	3	31787	L	559	FU	87090804	043800	000120		G C=255,B=41
MLJCG	HD 24912	14	4.0	0355430	+353900	H	3	31790	L	568	FU	87090808	081400	000120		G C=1.1X,B=41
MLJCG	HD 24912	14	4.0	0355430	+353900	H	3	31792	L	564	FU	87090809	093000	000110		G C=250,B=41
MLJCG	HD 24912	14	4.0	0355430	+353900	H	3	31795	L	569	FU	87090811	114100	000110		G C=235,B=45
MLJCG	HD 24912	14	4.0	0355430	+353900	H	3	31798	L	557	FU	87090813	134600	000110		G C=235,B=41
MSJRP	HD 25940	22	3.7	0405013	+473452	L	1	11384	L	572	FU	87081310	104500	000001		G C=205,B=33
MSJRP	HD 25940	22	3.7	0405013	+473452	L	3	31557	L	613	FU	87081311	111900	000001		G C=125,B=17
PHCAL	TFLOOD	99	0.0	0409094	-420722	L	2	18116	S			87081012	125400	000010		G E=10X,B=88
PHCAL	WAVCAL	98	0.0	0409094	-420722	L	2	18116	S			87081012	125500	000001		G E=10X,B=88
PHCAL	WAVCAL	98	0.0	0409094	-420722	H	2	18117	S			87081013	132800	000010		G E=60X,B=124
PHCAL	WAVCAL	98	0.0	0409094	-420722	H	2	18117	S			87081013	133000	000022		G E=60X,B=124
PHCAL	TFLOOD	99	0.0	0409094	-420722	L	3	31532	S			87081013	134500	000005		G E=10X,B=102
PHCAL	WAVCAL	98	0.0	0409094	-420722	L	3	31532	S			87081013	134700	000002		G E=10X,B=102
PHCAL	TFLOOD	99	0.0	0409094	-420722	H	3	31533	S			87081014	142000	000005		G E=60X,B=117
PHCAL	WAVCAL	98	0.0	0409094	-420722	H	3	31533	S			87081014	142100	000200		G E=60X,B=117
PHCAL	NULL	99		0409095	-420723	H	2	18115			FO	87081012	122000	000000		G B=22
CCJTS	HD 27176	31	5.65	0415253	+212730	L	3	32184	L	12537	FO	87102910	100300	002500		G C=18X,B=68
TTJFW	HD 283572	44	9.0	0418525	+281107	H	1	11795	L	558	FO	87100221	211500	036000		G E=201,C=205,B=139
JQ100	PKS0422+00	87	16.00	0422125	+002917	L	1	11538	L		BO	87083116	161623	015000	303	V
JQ100	PKS0422+00	87	16.00	0422125	+002917	L	3	31687	L		BO	87090115	155410	036300	303	V
CCJTS	HD 28052	40	4.5	0423296	+153023	L	3	32102	L	331	FO	87101510	105200	001200		G E=59,C=20X,B=75
CCJTS	HD 28052	40	4.5	0423296	+153023	L	3	32140	L	320	FO	87102210	105600	003500		G E=81,C=50X,B=20
TTJFW	N23	46	10.3	0424173	+174402	L	3	32183	L	172	FO	87102821	215800	044000		G E=1.5X,C=180,B=135
TTJFW	N23	46	10.3	0424173	+174402	L	1	11976	L	187	FO	87102905	053200	008000		G E=255,C=1.5X,B=144
CCJTS	HD 28556	31	5.40	0427482	+133701	L	3	32101	L	14967	FO	87101509	094700	002000		G E=139,C=20X,B=170
JQ100	3C 120	85	14.50	0430315	+051459	L	3	31668	L		BO	87082916	164723	020000	110	V
AGJBP	3C 120	84	0.0	0430315	+051501	L	3	31682	L	20	SO	87090101	014400	012500		G E=118,C=64,B=42
JQ100	3C120	85	14.50	0430315	+051459	L	1	11524	L		BO	87082921	211942	005000	332	V P READ
AGJBP	3C 120	84	14.5	0430315	+051501	L	3	32156	L		BO	87102500	003300	016000		G E=131,C=75,B=52
AGJBP	3C 120	84	14.5	0430315	+051501	L	1	11946	L			87102503	032500	008500		G E=144,C=105,B=49
JQ100	3C120	86	14.50	0430316	+051500	L	3	31675	L		BO	87083015	155030	018000	331	V
TTJFW	HD 28867	22	6.2	0430390	+175445	H	3	31968	L	7683	FO	87100303	033600	001800		G C=115,B=38
TTJFW	HD 28867	22	6.2	0430390	+175445	H	1	11796	L	7562	FO	87100304	041100	001000		G C=143,B=46
TTJFW	HD 28867	22	6.2	0430390	+175445	L	3	31969	L	7623	FO	87100304	044000	000024		G C=134,B=17
ICJJH	SAO 94100	22	8.6	0442387	+191415	L	1	11505	M	1113	FO	87082800	004800	000600		G C=230,B=32

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
ICJJH	SAO	94100	22	8.6	0442387	+191415	L	3	31652	M	1097	FO	87082801	010900	001800		G	C=117,B=20
ICJJH	SAO	94100	22	8.6	0442388	+191416	L	1	11498	M	1069	FO	87082712	120800	000720		G	C=1.5X,B=103
ICJJH	SAO	94100	22	8.6	0442388	+191416	L	3	31649	L	1032	FO	87082712	125900	000430		G	C=100,B=40
ICJJH	SAO	94102	25	9.3	0442528	+191130	L	3	31653	L	489	FO	87082802	022800	003200		G	C=180,B=21
ICJJH	SAO	94102	25	9.3	0442528	+191130	L	1	11506	M	497	FO	87082803	031200	002100		G	C=2X,B=40
ICJJH	SAO	94102	25	9.3	0442529	+191131	L	1	11510	L	587	FO	87082813	133500	000500		G	C=210,B=66
ICJJH	SAO	94113	25	9.7	0443267	+190657	L	1	11522	L	361	FO	87082912	120700	000800		G	C=3X,B=154
ICJJH	SAO	94118	25	9.1	0443592	+185929	L	3	31657	L	609	FO	87082811	115900	000900		G	C=167,B=44
ICJJH	SAO	94118	25	9.1	0443592	+185929	L	1	11509	L	609	FO	87082812	123300	000250		G	C=195,B=50
CGJEB	HD	30282	53	7.5	0444259	+363805	H	1	11406	L	2330	FO	87081601	012200	030500		G	C=195,B=125
JI029	HD30353		30	08.21	0445200	+431118	L	1	11984	L	1956	FO	87103113	134719	000200	401	V	
JI029	HD30353		30	08.18	0445200	+431118	L	1	11985	L	2017	FO	87103114	145958	000200	501	V	
JI029	HD30353		30	08.22	0445201	+431119	H	3	32200	L	1950	FO	87103114	141506	033000	363	V	
PMJMG		SU AUR	58	9.2	0452481	+302920	H	1	11895	L	564	FO	87101722	221600	039500		G	E=246,C=230,B=171
PMJMG		SU AUR	58	9.2	0452481	+302920	H	1	11904	L	548	FO	87101822	221200	030000		G	E=246,C=1.1X,B=185
PMJMG		SU AUR	58	9.2	0452481	+302920	L	1	11905	L	591	FO	87101903	034700	001500		G	E=190,C=155,B=50
PMJMG		SU AUR	58	9.2	0452481	+302920	L	1	11916	L	528	FO	87101922	220600	040300		G	E=188,C=190,B=120
PMJMG		SU AUR	58	9.2	0452481	+302920	H	1	11932	L	550	FO	87102121	215600	041000		G	E=207,C=175,B=112
PMJMG		SU AUR	58	9.2	0452481	+302920	H	1	11935	L	588	FO	87102222	220000	040800		G	E=196,C=190,B=100
PMJMG		SU AUR	58	9.2	0452481	+302920	H	1	11941	L	574	FO	87102322	221100	039800		G	E=195,C=166,B=104
WDJFW		0453-296	37	14.6	0453386	-293343	L	1	11559	L		BO	87090306	062100	005000		G	C=148,B=81
WDJFW		0453-296	37	14.7	0453387	-293343	L	3	31697	L		BO	87090307	072300	009000		G	E=127,C=145,B=88
WDJFW		0455-282	37	13.4	0455140	-281229	L	1	11560	L	49	SO	87090309	092700	002000		G	C=3X,B=110
WDJFW		0455-282	37	13.4	0455140	-281229	L	3	31698	L	49	SO	87090310	101700	001000		G	C=221,B=76
WDJFW		0501-289	17	13.6	0501567	-285837	L	1	11561	L	75	SO	87090311	111600	001200		G	C=2X,B=295
WDJFW		0501-289	17	13.6	0501567	-285837	L	3	31699	L	76	SO	87090311	115000	000800		G	C=242,B=142
NPJST		J320	70	0.0	0502490	+103825	L	3	31827	L	110	SO	87091114	141300	003500		G	E=115,C=105,B=25
PRJCG	HD	33328	26	4.3	0506450	-084900	H	3	31902	L	487	FU	87092209	093300	000048		G	C=195,B=37
PRJCG	HD	33328	26	4.3	0506450	-084900	H	3	32113	L	511	FU	87101707	075500	000048		G	C=210,B=41
CSJJB		W191	48	8.9	0509410	-445954	.	1	11429	L	455	FO	87081909	090900	001500		G	C=111,B=39
CSJJB		W191	48	8.9	0509410	-445954	L	3	31587	L	460	FO	87081909	093200	006000		G	E=84,B=39
OSJCG		SK-67	51 13	12.6	0509519	-675748	L	1	11209	L	114	SO	87071415	153300	001054		G	C=222,B=38
OSJCG		SK-67	51 13	12.6	0509519	-675749	H	3	31341	L	120	SO	87071517	173900	099900		G	C=2X,B=188
OSJCG		SK-67	51 13	12.6	0509519	-675749	L	1	11213	L	114	SO	87071610	103600	001054		G	C=226,B=40
JA104	SK-66	51	13	12.89	0509520	-675749	E	9	01968	2	120	SO	87071519	190000	004000		V	
OSJCG		SK-67	51 13	12.6	0509520	-675749	D	9	01967	2			87071517	170400	002000		G	NO COMMENTS
HSJEF	HD	34085	25	0.1	0512080	-081529	L	1	11654	T	16047	FU	87091813	134700	000001		G	C=1.3X,B=41
HSJEF	HD	34085	25	0.1	0512080	-081529	L	3	31880	T	15679	FU	87091814	143700	000001		G	C=167,B=27
HSJEF	HD	34085	25	0.1	0512080	-081529	L	1	11667	T	15252	FU	87092007	072000	000001		G	C=1.3X,B=45
HSJEF	HD	34085	25	0.1	0512080	-081529	L	3	31887	T	15426	FU	87092008	080800	000001		G	C=210,B=30
HSJEF	HD	34085	25	0.1	0512080	-081529	L	3	31888	T	15319	FU	87092008	085000	000001		G	C=220,B=39
AGJBP		AKN 120	84	0.0	0513378	-001214	L	3	31681	L	48	SO	87083123	231500	008000		G	E=124,C=96,B=32
AGJBP		AKN 120	84	0.0	0513378	-001214	L	1	11539	L	45	SO	87090100	004200	003600		G	E=176,C=139,B=41
AGJBP		AKN 120	84	0.0	0513378	-001214	L	3	32155	L	48	SO	87102421	215500	008000		G	E=188,C=90,B=35
AGJBP		AKN 120	84	0.0	0513378	-001214	L	1	11945	L	46	SO	87102423	232300	003600		G	E=188,C=158,B=40

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
JQ043	AKN 120	84	13.73	0513379	-001216	L	3	31898	L	57	SO	87092120	200648	013300	451	V
IBJBB	HD 242257	39	10.0	0514290	+340225	L	3	32165	L	315	FO	87102608	082300	002200		G C=143,B=88
PHCAL	HD 34816	20	4.3	0517162	-131337	H	2	18121	L	483	FU	87082101	010800	000035		G C=210,B=32
PHCAL	HD 34816	20	4.3	0517162	-131337	H	2	18146	L	499	FU	87103008	081900	000035		G C=198,B=39
XSJRB	X 0523-118	84	15.0	0521473	-121250	L	1	11666	L		BO	87092000	001100	017000		G E=169,C=170,B=75
PHCAL	SKY BKGD	07	0.0	0521473	-121250	H	3	31885	L			87092000	002300	006000		G B=22
XSJRB	X 0523-118	84	15.0	0521473	-121250	L	3	31886	L		BO	87092003	030800	020000		G E=213,C=230,B=185
USSBS	HD 35497	24	1.6	0523077	+283355	H	3	31878	L	4705	FU	87091811	112100	000010		G C=180,B=39
USSBS	HD 35497	24	1.6	0523077	+283355	H	1	11653	L	4781	FU	87091811	112600	000008		G C=225,B=51
SRJWB	N 132 D	75		0525300	-694046	L	1	11410	L			87081622	221600	032500		G B=90
JE179	N 132 D	75	16.00	0525301	-694045	D	9	01980	2			87081616	160200	004000		V
SRJWB	N 132 D	75		0525301	-694046	L	3	31578	L		BO	87081616	164100	068500		G E=178,C=150,B=92
JETOO	SN1987A	56	05.52	0525502	-691759	H	1	11793	L	18524	FO	87100213	134736	009000	333	V
JA104	SK-66 100	13	13.58	0527490	-665810	E	9	01966	2	65	SO	87071419	194600	004000		V
OSJCG	SK-66100	12	13.3	0527490	-665810	L	1	11211	L	62	SO	87071418	180400	001754		G C=232,B=39
OSJCG	SK-66100	13	13.3	0527490	-665810	H	3	31339	L	65	SO	87071418	183100	099900		G C=2X,B=180
JA060	HD36486	12	02.32	0529270	-002004	H	3	31745	L	3209	FU	87090615	153213	000005	501	V
MLJCG	HD 36486	14	2.2	0529270	-002004	H	3	31727	L	3214	FU	87090600	002300	000005		G C=215,B=39
JA060	HD 36486	12	02.32	0529270	-002004	H	3	31774	L	3212	FU	87090716	161348	000005	501	V
MLJCG	HD 36486	14	2.2	0529270	-002004	H	3	31760	L	3047	FU	87090703	032200	000006		G C=230,B=40
JA060	HD 36489	12	02.37	0529270	-002004	H	3	31801	L	3071	FU	87090816	161154	000005	501	V
MLJCG	HD 36486	13	2.2	0529270	-002004	H	3	31765	L	3176	FU	87090707	072500	000007		G C=1.2X,B=45
MLJCG	HD 36486	14	2.2	0529270	-002004	H	3	31783	L	3200	FU	87090801	014200	000006		G C=235,B=41
MLJCG	HD 36486	14	2.2	0529270	-002004	H	3	31791	L	3245	FU	87090808	085000	000007		G C=1.2X,B=45
JC176	GL 206	48	11.71	0529300	+094711	L	3	32127	L	344	SO	87102019	192222	002500	030	V PREAD
JC176	GL 206	48	11.69	0529300	+094711	L	1	11925	L	351	SO	87102019	195323	005400	342	V
OD23Y	HD 269665	16	11.4	0531154	-684713	H	3	31103	L	108	FO	87060414	141400	015000		G C=233,B=87
HSJEF	HD 37128	23	1.69	0533405	-011356	L	1	11651	T	4975	FU	87091808	081200	000001		G C=235,B=40
HSJEF	HD 37128	23	1.69	0533405	-011356	L	3	31876	T	5009	FU	87091809	090200	000001		G C=1.2X,B=19
HSJEF	HD 37128	23	1.69	0533405	-011356	L	1	11652	T	5020	FU	87091809	094400	000001		G C=250,B=57
HSJEF	HD 37128	23	1.69	0533405	-011356	L	3	31877	T	5016	FU	87091810	100200	000001		G C=225,B=38
HSJEF	HD 37128	23	1.7	0533405	-011356	L	3	31879	T	5063	FU	87091812	125100	000001		G C=220,B=38
OSJCG	SK-67211	13	12.3	0535160	-673554	L	1	11210	L	160	SO	87071416	164800	000612		G C=200,B=37
JM031	HH 43	76	99.99	0535454	-071104	D	9	01984	2			87091119	190500	004000		V
HHJKB	HH43	19	16.0	0535454	-071104	L	3	31828	L		BO	87091205	054000	078100		G C=190,B=138
JI051	HDE 245770	59	09.33	0535480	+261718	H	3	31948	L	719	FO	87092715	154914	039900	303	V
JI051	HDE 245770	59	09.34	0535480	+261718	L	1	11737	L	715	FO	87092722	223246	000300	501	V P READ
OD17Y	SN 1987A	56	3.43	0535499	-691758	L	1	10888	L	1095	FU	87060116	165900	000235		G C=185,B=30
OD17Y	SN 1987A	56	3.41	0535499	-691758	L	1	10889	L	1098	FU	87060117	174800	001500		G C=4X,B=45
OD17Y	SN 1987A	56	3.60	0535499	-691759	L	1	10939	L	920	FU	87060713	135500	000240		G C=201,B=28
OD17Y	SN 1987A	56	3.60	0535499	-691759	L	1	10940	L	926	FU	87060714	144600	001300		G C=4X,B=33
SNJRK	SN 1987A	56	3	0535499	-691758	L	1	10965	L	867	FU	87060918	181600	000240		G C=200,B=35
SNJRK	SN 1987A	56	4.5	0535499	-691758	L	1	11073	L	459	FU	87062320	200400	000400		G C=213,B=35
SNJRK	SN 1987A	56	4.3	0535499	-691758	L	1	11824	L	17381	FO	87100821	214700	000300		G C=233,B=35
SNJRK	SN 1987A	56	4.3	0535499	-691758	L	3	32030	L	17592	FO	87100821	215700	024000		G C=2X,B=69

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
SNJRK	SN 1987A	56	4.3	0535499	-691758	L	1	11825	L	17265	FO	87100902	020600	001200		G C=4X,B=40
SNJRK	SN 1987A	56	4.3	0535499	-691758	L	3	32031	L	17385	FO	87100902	023600	009000		G E=152,C=220,B=43
SNJRK	SN 1987A	56	4.3	0535499	-691758	L	1	11826	L	17378	FO	87100904	041400	003500		G C=12X,B=50
OD17Y	SN 1987A	56	3.1	053550	-691758	L	1	10909	L	1013	FU	87060417	171900	000240		G C=210,B=35
OD17Y	SN 1987A	56	3.1	053550	-691758	L	1	10910	L	1012	FU	87060418	180200	001300		G C=4X,B=43
SNJRK	LMCSN87A	56	4.4	0535500	-691758	L	1	11060	L	477	FU	87062120	202800	000405		G C=227,B=33
JETOO	SN1987A	56	03.84	0535501	-691758	H	1	10959	L	833	FU	87060821	214039	014000	404	V
SNJRK	SN 1987A	56	3.3	0535501	-691759	H	1	10920	L	980	FU	87060505	053600	043000		G C=2X,B=127
JETOO	SN 1987A	56	03.79	0535501	-691758	L	3	31125	L	869	FU	87060900	000516	020000	502	V
OD17Y	SN 1987A	56	3.3	0535501	-691759	L	1	10921	L	1014	FU	87060513	132400	000240		G C=208,B=30
JETOO	SN1987A	56	03.77	0535501	-691758	L	1	10960	L	886	FU	87060900	004120	000230	503	V
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	10970	L	807	FU	87061022	221400	000250		G C=183,B=35
JETOO	SN1987A	56	03.78	0535501	-691758	L	1	10961	L	878	FU	87060903	034553	006000	703	V
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	10971	L	809	FU	87061022	225500	001700		G C=4.5X,B=40
JETOO	SN 1987A	56	03.89	0535501	-691758	L	3	31132	L	795	FU	87061101	011047	019500	502	V
SNJRK	SN 1987A	56	3.3	0535501	-691759	L	1	10991	L	734	FU	87061213	135100	000300		G C=180,B=35
JETOO	LMC SN1987	56	03.88	0535501	-691758	L	1	10972	L	800	FU	87061103	035023	000240	501	V
SNJRK	SN 1987A	56	3.9	0535501	-691759	L	1	11007	L	693	FU	87061405	051000	000330		G C=230,B=35
JETOO	SN1987A	56	04.56	0535501	-691758	L	1	11080	L	438	FU	87062421	215640	000410	503	V
SNJRK	SN 1987A	56	3.7	0535501	-691759	L	3	31166	L	628	FU	87061605	054800	018000		G C=240,B=53
JETOO	SN 1987A	56	04.58	0535501	-691758	L	3	31245	L	429	FU	87062422	222514	026000	653	V
SNJRK	SN 1987A	56	3.7	0535501	-691759	H	1	11024	L	614	FU	87061608	085400	022000		G C=200,B=80
JETOO	LMC SN1987	56	04.67	0535501	-691758	H	1	11129	L	397	FU	87063022	220846	035800	506	V
SNJRK	SN 1987A	56	3.7	0535501	-691759	L	1	11025	L	609	FU	87061613	131000	000320		G C=191,B=35
JETOO	SN 1987A	56	04.75	0535501	-691758	L	3	31319	L	369	FU	87071019	194704	024000	652	V
SNJRK	SN 1987A	56	3.8	0535501	-691759	L	1	11029	L	597	FU	87061705	050800	000325		G C=206,B=32
JETOO	SN1987A	56	04.77	0535501	-691758	L	1	11182	L	362	FU	87071020	203758	000420	501	V
SNJRK	LMCSN87A	56	3.8	0535501	-691759	L	1	11041	L	519	FU	87061913	133900	000330		G C=185,B=32
JETOO	SN1987A	56	04.77	0535501	-691758	L	1	11183	L	362	FU	87071100	001358	002500	702	V PREAD
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	11086	L	430	FU	87062518	180400	000405		G C=205,B=35
JETOO	SN 1987A	56	04.76	0535501	-691758	L	3	31320	L	367	FU	87071100	005027	012000	541	V PREAD
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	3	31249	L	439	FU	87062518	181400	011500		G C=103,B=35
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	11087	L	434	FU	87062518	185600	002000		G C=4X,B=46
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	11116	L	409	FU	87062913	133900	000410		G C=193,B=35
SNJRK	LMC SN87	56	4.3	0535501	-691759	L	3	31273	L	398	FU	87070104	044900	024000		G C=1.5X,B=42
SNJRK	LMC SN87	56	4.3	0535501	-691759	L	1	11130	L	406	FU	87070106	065700	000410		G C=205,B=35
SNJRK	LMC SN87	56	4.3	0535501	-691759	L	1	11131	L	398	FU	87070109	091800	002000		G C=4X,B=43
SNJRK	LMC SN87	56	4.3	0535501	-691759	L	3	31274	L	401	FU	87070109	095000	014000		G C=215,B=37
SNJRK	LMC SN87	56	4.3	0535501	-691759	L	1	11144	L	390	FU	87070416	162200	000420		G C=215,B=34
SNJRK	LMC SN87	56	4.3	0535501	-691759	L	1	11153	L	377	FU	87070611	114700	000420		G C=200,B=33
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	11156	L	393	FU	87070718	184500	000700		G C=1.5X,B=35
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	11163	L	359	FU	87070911	113300	000420		G C=225,B=33
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	11201	L	361	FU	87071216	164700	000420		G C=250,B=35
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	3	31334	L	359	FU	87071217	170100	008000		G C=155,B=40
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	11202	L	355	FU	87071218	182700	002000		G C=4X,B=41

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
SNJRK	LMC SN87	56	4.3	0535501	-691759	L	1	11208	L	354	FU	87071411	113500	000410		G C=220,B=35
SNJRK	LMC SN87	56	4.3	0535501	-691759	L	1	11214	L	26789	FO	87071611	113900	000355		G C=205,B=35
SNJRK	LMC SN87	56	4.3	0535501	-691759	L	1	11242	L	27040	FO	87071815	152900	000355		G C=202,B=55
SNJRK	LMC SN87	56	4.4	0535501	-691759	L	1	11254	L	28162	FO	87072004	040600	000350		G C=220,B=35
SNJRK	LMC SN87	56	4.4	0535501	-691759	L	3	31371	L	337	FU	87072004	042900	024000		G C=2X,B=48
SNJRK	LMC SN87	56	4.4	0535501	-691759	L	1	11255	L	364	FU	87072008	083700	001600		G C=4X,B=40
SNJRK	LMC SN87	56	4.4	0535501	-691759	L	3	31372	L	335	FU	87072009	091300	010500		G E=153,C=185,B=50
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	11266	L	332	FU	87072216	163300	000345		G C=223,B=42
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	11274	L	318	FU	87072512	120200	000340		G C=200,B=35
SNJRK	SN 1987A	56	4.6	0535501	-691759	L	1	11290	L	25811	FO	87072818	184300	000340		G C=225,B=35
SNJRK	SN 1987A	56	4.6	0535501	-691759	L	1	11298	L	25192	FO	87072915	155900	001500		G C=4.3X,B=45
SNJRK	LMC SN87	56	4.3	0535501	-691759	F	9	01976	2			87080301	014400	016000		G NO COMMENTS
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	11311	L	25704	FO	87080302	020700	000340		G C=200,B=35
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	3	31462	L	26160	FO	87080302	022100	024000		G C=1.5X,B=73
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	11312	L	26530	FO	87080304	042900	001500		G C=4X,B=41
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	3	31463	L	27407	FO	87080307	072600	008500		G C=170,B=35
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	11349	L	298	FU	87080714	140800	000340		G C=220,B=45
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	11356	L	293	FU	87080814	141600	000330		G C=213,B=45
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	11368	L	281	FU	87081016	162300	000330		G C=210,B=33
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	11389	L	22721	FO	87081316	164100	000330		G C=202,B=35
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	11411	L	23404	FO	87081706	065000	000330		G C=210,B=35
SNJRK	LMC SN87	56	4.3	0535501	-691759	L	1	11436	L	22808	FO	87081923	231200	000330		G C=248,B=33
SNJRK	LMC SN87	56	4.3	0535501	-691759	L	3	31592	L	22617	FO	87081923	232200	024000		G E=231,C=1.5X,B=48
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	11503	L	272	FU	87082722	223500	000310		G C=214,B=33
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	11504	L	257	FU	87082723	231500	001200		G C=4X,B=36
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	3	31676	L	22025	FO	87083023	232200	024000		G C=1.5X,B=60
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	11534	L	21533	FO	87083101	012900	000310		G C=202,B=35
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	11535	L	22307	FO	87083106	063500	001200		G C=3X,B=37
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	11573	L	21716	FO	87090507	073200	000310		G C=208,B=35
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	11588	L	20535	FO	87091000	001400	000310		G C=227,B=38
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	3	31818	L	21153	FO	87091000	002500	009000		G C=209,B=40
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	11589	L	21497	FO	87091002	020400	001200		G C=3.4X,B=38
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	3	31819	L	21479	FO	87091002	023500	024000		G C=2.2X,B=70
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	11613	L	20684	FO	87091412	121800	000300		G C=220,B=75
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	11660	L	19920	FO	87091910	104600	000250		G C=250,B=102
SNJRK	LMC SN87	56	4.3	0535501	-691759	L	1	11705	L	20142	FO	87092407	074600	000250		G C=186,B=33
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	11759	L	19852	FO	87093010	101600	000900		G C=4X,B=120
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	11871	L	18368	FO	87101509	093500	000300		G C=185,B=40
SNJRK	SN 1987A	56	4.3	0535501	-691759	L	1	11892	L	17638	FO	87101706	063700	001200		G C=4X,B=43
SNJRK	LMC SN87	56	5.5	0535501	-691759	L	1	11926	L	16856	FO	87102106	061000	000300		G C=205,B=35
SNJRK	SN 1987A	56	5.5	0535501	-691759	L	1	11953	L	16421	FO	87102603	030200	000300		G C=220,B=38
SNJRK	SN 1987A	56	5.5	0535501	-691759	L	1	11954	L	16536	FO	87102603	034900	001200		G C=4X,B=40
SNJRK	SN 1987A	56	5.5	0535501	-691759	L	1	11981	L	15760	FO	87103006	060500	000300		G C=200,B=35
JETOO	SN 1987A	56	04.06	0535502	-691759	L	3	31154	L	682	FU	87061401	012325	018000	501	U 40 + 140 MIN
SNJRK	SN 1987A	56	4.7	0535502	-691759	L	1	11437	L	23876	FO	87082003	033000	001300		G

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
JETOO	SN1987A	56	04.07	0535502	-691759	L	1	11006	L	679	FU	87061402	021032	000300	501	V
JETOO	SN 1987A	56	04.22	0535502	-691759	L	3	31177	L	595	FU	87061702	023848	012800	501	V
JETOO	SN1987A	56	04.22	0535502	-691759	L	1	11028	L	594	FU	87061702	021351	000340	500	V
JETOO	SN1987A	56	04.42	0535502	-691759	L	1	11049	L	495	FU	87062021	211940	000350	501	V
JETOO	SN1987A	56	04.56	0535502	-691759	L	1	11081	L	437	FU	87062502	025631	011000	803	V
JETOO	SN1987A	56	04.60	0535502	-691759	L	1	11095	L	421	FU	87062621	213413	000410	501	V
JETOO	SN1987A	56	04.70	0535502	-691759	L	1	11150	L	387	FU	87070519	192949	000420	503	V
JETOO	SN1987A	56	04.83	0535502	-691759	L	1	11225	L	343	FU	87071623	234137	002000	462	V
JETOO	SN1987A	56	04.83	0535502	-691759	L	1	11226	L	343	FU	87071700	003832	000400	352	V
JETOO	SN 1987A	56	04.95	0535502	-691759	L	3	31420	L	26077	FO	87072619	194106	024000	661	V
JETOO	SN1987A	56	04.90	0535502	-691759	L	1	11281	L	26855	FO	87072620	204806	000430	551	V
JETOO	SN1987A	56	04.98	0535502	-691759	L	1	11282	L	25717	FO	87072700	000714	003500	771	V
JETOO	SN 1987A	56	04.95	0535502	-691759	L	3	31421	L	26156	FO	87072700	004852	012000	541	V PREAD
JETOO	SN1987A	56	05.04	0535502	-691759	L	1	11341	L	24867	FO	87080621	212356	000430	550	V
JETOO	SN 1987A	56	05.04	0535502	-691759	L	1	11369	L	24904	FO	87081017	173606	000420	550	V
JETOO	SN 1987A	56	05.03	0535502	-691759	L	3	31534	L	25088	FO	87081018	180913	022000	602	V EXPOSURE TIME = 60+6
JETOO	SN 1987A	56	04.97	0535502	-691759	L	1	11370	L	25793	FO	87081022	222608	004000	771	V
JETOO	SN1987A	56	05.26	0535502	-691759	L	1	11424	L	21943	FO	87081815	153152	000400	552	V
JETOO	SN1987A	56	05.14	0535502	-691759	L	3	31651	L	260	FU	87082715	155824	021000	451	V
JETOO	SN1987A	56	05.32	0535502	-691759	L	1	11500	L	21085	FO	87082716	163455	000340	352	V
JETOO	SN1987A	56	05.23	0535502	-691759	L	1	11501	L	22367	FO	87082717	172319	002000	363	V
JETOO	SN1987A	56	05.14	0535502	-691759	L	1	11502	L	260	FU	87082718	182652	009000	373	V
JETOO	SN1987A	56	05.33	0535502	-691759	L	1	11595	L	220	FU	87091121	210543	000300	501	V
JETOO	SN1987A	56	05.49	0535502	-691759	L	1	11673	L	18931	FO	87092000	184901	002000	700	V
JETOO	SN1987A	56	05.47	0535502	-691759	L	3	31892	L	19225	FO	87092015	154536	015000	641	V 25+125 MIN
JETOO	SN1987A	56	05.46	0535502	-691759	L	1	11672	L	19292	FO	87092016	161924	000300	500	V
JETOO	SN1987A	56	05.49	0535502	-691759	L	3	31893	L	18978	FO	87092019	192424	020000	652	V
JETOO	SN1987A	56	05.54	0535502	-691759	L	3	31954	L	18326	FO	87100113	135630	020000	651	V
JETOO	SN1987A	56	05.50	0535502	-691759	H	1	11794	L	18789	FO	87100216	160229	022000	344	V
JETOO	SN1987A	56	05.78	0535502	-691759	L	2	18135	L	15522	FO	87102614	142222	001300	702	V
JETOO	SN1987A	56	05.76	0535502	-691759	L	3	32168	L	15681	FO	87102614	144324	015500	641	V
IBJBB	HD 37453	39	8.2	0536443	+300337	L	1	11955	L	1573	FO	87102605	053400	000412		G C=210,B=35
IBJBB	HD 37453	39	8.2	0536443	+300337	L	3	32163	L	1585	FO	87102605	054600	002000		G C=175,B=17
JA065	R 127	27	09.29	0537097	-693127	L	3	32182	L	746	FO	87102817	172353	001500	450	V
JA065	R 127	23	09.28	0537097	-693127	H	1	11975	L	754	FO	87102818	180153	016500	404	V
PRJCG	HD 37795	26	2.6	0537502	-340559	H	3	31901	L	1910	FU	87092208	085300	000104		G C=2.5X,B=53
HSJEF	HD 37742	13	1.77	0538139	-015756	L	1	11671	T	4824	FU	87092014	142400	000001		G C=250,B=39
JE179	SNR0540-69	75	99.99	0540343	-692123	E	9	01981	2			87081716	164500	016000		V FOR SWP 31579
SRJWB	QSO 0540-693	75		0540343	-692123	L	1	11419	L			87081716	165200	064300		G C=225,B=147
SRJWB	QSO 0540-693	75		0540343	-692123	L	3	31579	L		BO	87081800	001100	066500		G C=145,B=110
JI056	H0540-407	59	15.00	0541444	-410312	L	3	32134	L		BO	87102113	135124	009600	340	V
JI056	H0540-407	59	15.00	0541445	-410313	L	1	11930	L		BO	87102113	132524	006000	301	V EXPOSURE 20MIN+40MIN
HSJEF	HD 38771	23	2.1	0545230	-094109	L	1	11668	T	3419	FU	87092009	094700	000001		G C=250,B=75
HSJEF	HD 38771	23	2.1	0545230	-094109	L	3	31889	L	3961	FU	87092010	100300	000001		G C=240,B=58
HSJEF	HD 38771	23	2.1	0545230	-094109	L	1	11669	L	3456	FU	87092012	122200	000001		G C=250,B=78

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmsstt	ECC	Comment
HSJEF	HD 38771	23	2.1	0545230	-094109	L	3	31891	T	3409	FU	87092013	130900	000001		G C=220,B=35
HSJEF	HD 38771	23	2.1	0545230	-094109	L	1	11670	T	3514	FU	87092013	132500	000001		G C=225,B=41
JM142	HD 39060	74	04.23	0546050	-510502	H	3	31263	L	590	FU	87062921	214700	001000	500	V
JM142	HD39060	74	04.19	0546050	-510502	H	1	11123	L	607	FU	87062922	221759	000400	502	V
JM142	HD 39060	74	04.21	0546050	-510502	H	3	31264	L	597	FU	87062922	224935	001000	500	V
JM142	HD39060	74	04.22	0546050	-510502	H	1	11124	L	591	FU	87062923	232119	000400	503	V
JM142	HD 39060	31	04.23	0546050	-510502	H	3	31343	L	589	FU	87071619	193229	001000	500	V
JM142	HD39060	31	04.21	0546050	-510502	H	1	11222	L	598	FU	87071620	200209	000400	502	V
JM142	HD 39060	31	04.27	0546050	-510502	H	3	31347	L	569	FU	87071620	203521	001000	500	V
JM142	HD39060	31	04.21	0546050	-510502	H	1	11223	L	598	FU	87071621	211020	000400	502	V
JM142	HD 39060	31	04.19	0546050	-510502	H	3	31344	L	611	FU	87071621	213908	001000	500	V
JM142	HD39060	31	04.25	0546050	-510502	H	1	11224	L	580	FU	87071622	221310	000400	502	V
JM142	HD 39060	31	04.21	0546050	-510502	H	3	31345	L	600	FU	87071622	224944	001000	500	V
JM142	HD39060	31	04.21	0546050	-510502	H	3	31497	L	596	FU	87080617	174500	001000	500	V
JM142	HD39060	31	04.26	0546050	-510502	H	1	11338	L	572	FU	87080618	180135	000400	500	V
JM142	HD39060	31	04.24	0546050	-510502	H	3	31498	L	581	FU	87080618	183141	001000	500	V
JM142	HD39060	31	04.24	0546050	-510502	H	1	11339	L	584	FU	87080619	190438	000400	500	V
JM142	HD39060	31	04.25	0546050	-510502	H	3	31499	L	576	FU	87080619	193323	001000	500	V
JM142	HD39060	31	04.23	0546050	-510502	H	1	11340	L	589	FU	87080620	200547	000400	500	V
JM142	HD 39060	31	04.23	0546050	-510502	H	1	11512	L	590	FU	87082817	175125	000400	502	V
JM142	HD 39060	31	04.24	0546050	-510502	H	3	31668	L	583	FU	87082818	182017	001000	500	V
JM142	HD 39060	31	04.21	0546050	-510502	H	1	11513	L	599	FU	87082818	185455	000400	503	V
JM142	HD 39060	31	04.22	0546050	-510502	H	3	31661	L	592	FU	87082819	192649	001000	501	V
JM142	HD39060	31	04.25	0546050	-510502	H	1	11514	L	575	FU	87082820	200327	000400	502	V
JM142	HD 39060	31	04.26	0546050	-510502	H	3	31899	L	570	FU	87092115	155843	001000	500	V
JM142	HD 39060	31	04.24	0546050	-510502	H	1	11683	L	581	FU	87092116	161602	000400	502	V
JM142	HD39060	31	04.26	0546050	-510502	H	3	31896	L	574	FU	87092116	164454	001000	500	V
JM142	HD 39060	31	04.26	0546050	-510502	H	1	11684	L	574	FU	87092117	171941	000400	502	V
JM142	HD 39060	31	04.26	0546050	-510502	H	3	31897	L	574	FU	87092117	174912	001000	500	V
JM142	HD 39060	31	04.25	0546050	-510502	H	1	11685	L	577	FU	87092118	182414	000400	502	V
JM142	HD 39060	31	04.20	0546059	-510502	H	3	31151	L	604	FU	87061321	214054	001000	500	V
JM142	HD39060	31	04.21	0546059	-510502	H	1	11003	L	601	FU	87061322	220830	000400	501	V
JM142	HD39060	31	04.19	0546059	-510502	H	1	11004	L	618	FU	87061323	232225	000400	600	V
JM142	HD 39060	31	04.17	0546059	-510502	H	3	31153	L	620	FU	87061323	235215	001000	500	V
JM142	HD39060	31	04.24	0546059	-510502	H	1	11005	L	582	FU	87061400	002820	000400	601	V
JM142	HD 39060	31	04.24	0546059	-510502	H	3	31152	L	584	FU	87061422	224959	001000	500	V
JM142	HD39060	31	04.25	0546059	-510502	H	3	31500	L	580	FU	87080620	203447	001000	500	V
CSJJB	HD 39364	45	3.8	0549100	-205230	L	1	11624	L	600	FU	87091511	111700	000045		G C=1.2,B=45
CSJJB	HD 39364	45	3.8	0549100	-205230	L	3	31851	L	602	FU	87091511	112400	001000		G E=130,C=170,B=136
CSJJB	HD 39364	45	3.8	0549100	-205230	L	3	31852	L	600	FU	87091512	124800	002000		G E=142,C=192,B=160
OSJCG	SK-70115	13	12.2	0549210	-700424	L	1	11212	L	181	SD	87071516	161300	001000		G C=218,B=38
OSJCG	SK-70115	13	12.2	0549210	-700424	L	3	31340	L	179	SD	87071516	163300	001400		G C=178,B=19
JC172	HD39801	49	99.99	0552278	+072358	E	9	01985	2			87091216	161200	016000		V FOR LWP 11598
CSJRS	HD 39801	49	0.5	0552278	+072358	L	1	11598	L	13619	FU	87091223	234700	048000		G E=188,C=122,B=109
CSJRS	HD 39801	49	0.5	0552278	+072358	L	1	11598	S	13619	FU	87091223	234800	048000		G E=188,C=122,B=109

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
CSJRS	HD 39801	49	0.5	0552278	+072358	L	1	11599	L	13605	FU	87091301	012100	022500		G E=242,C=137,B=90
CSJRS	HD 39801	49	0.5	0552278	+072358	L	1	11600	L	14362	FU	87091305	054100	000005		G E=187,C=65,B=32
LSJAD	HD 39801	49	0.5	0552280	+072358	H	1	11688	L	13473	FU	87092211	113300	000200		G E=200,C=93,B=44
LSJAD	HD 39801	49	0.5	0552280	+072358	L	3	31904	L	13708	FU	87092211	114200	000500		G E=95,C=50,B=24
LSJAD	HD 39801	49	0.5	0552280	+072358	L	1	11689	L	13756	FU	87092212	124300	000005		G E=171,C=72,B=33
LSJAD	HD 39801	49	0.5	0552280	+072358	L	1	11689	S		FU	87092212	124700	000035		G E=5X,C=97,B=31
LSJAD	HD 39801	49	0.5	0552280	+072358	L	3	31905	L	13691	FU	87092212	125600	005000		G E=4X,C=130,B=25
LSJAD	HD 39801	49	0.5	0552280	+072358	H	1	11690	S	13597	FU	87092213	135500	004500		G C=230,B=44
LSJAD	HD 39801	49	0.5	0552280	+072358	L	3	32086	L	12679	FU	87101310	103600	004000		G E=3X,C=165,B=45
LSJAD	HD 39801	49	0.5	0552280	+072358	H	1	11872	L	13041	FU	87101311	112100	000215		G E=154,C=65,B=40
LSJAD	HD 39801	49	0.5	0552280	+072358	L	1	11873	L	13398	FU	87101312	122400	000005		G E=162,C=65,B=38
LSJAD	HD 39801	49	0.5	0552280	+072358	L	3	32087	L	12946	FU	87101312	123100	001000		G E=148,C=45,B=27
LSJAD	HD 39801	49	0.5	0552280	+072358	L	3	32170	L	12183	FU	87102705	053600	005000		G E=4X,C=182,B=25
LSJAD	HD 39801	49	0.5	0552280	+072358	H	1	11960	S	12487	FU	87102706	063600	004500		G E=10X,C=209,B=101
LSJAD	HD 39801	49	0.5	0552280	+072358	L	3	32171	L	12766	FU	87102707	072900	001000		G E=176,C=82,B=37
LSJAD	HD 39801	49	0.5	0552280	+072358	H	1	11961	L	13117	FU	87102708	080300	000215		G E=210,C=112,B=60
LSJAD	HD 39801	49	0.5	0552280	+072358	L	1	11962	L	12538	FU	87102708	084000	000005		G E=213,C=76,B=34
USSBS	HD 40183	30	1.9	0555514	+445641	H	1	11584	L	3655	FU	87090911	112600	000040		G C=240,B=45
USSBS	HD 40183	30	1.9	0555514	+445641	H	3	31814	L	3693	FU	87090911	113000	000058		G C=195,B=35
FEJRR	X 0558-504	85	15.0	0558346	-502655	L	1	11686	L		BD	87092123	235200	018000		G C=205,B=70
FEJRR	X 0558-504	85	15.0	0558346	-502655	L	3	31899	L		BD	87092202	025900	023000		G E=195,C=150,B=48
CSJJB	HD 41312	47	5.0	0601150	-261700	L	3	31860	L	20169	FD	87091611	113700	002000		G E=203,B=1.1X
CSJJB	HD 41312	47	5.0	0601150	-261700	L	1	11635	L	20416	FD	87091612	122200	000300		G E=160,C=118,B=80
CSJJB	HD 41312	47	5.0	0601150	-261700	L	3	31861	L	20670	FD	87091612	124900	004000		G E=136,B=130
JA019	HD43246	22	07.82	0613117	+285212	H	3	31872	L	2761	FD	87091718	180731	006000	300	V
IBJBB	HD 43246	39	7.4	0613117	+285212	H	1	11956	L	2731	FD	87102606	064100	004500		G E=205,C=208,B=65
JA019	HD43246	22	07.81	0613117	+285212	H	1	11649	L	2803	FD	87091719	194403	003500	401	V
IBJBB	HD 43246	39	7.4	0613117	+285212	L	3	32164	L	2865	FD	87102607	073100	000154		G C=158,B=17
JA019	HD43246	22	07.78	0613117	+285212	H	3	31873	L	2872	FD	87091720	202843	012549	501	V
PHCAL	NULL	99	0.0	0623067	-695724	L	2	18144				87103006	065200	000000		G B=9
NGIDV	HD 46484	25	8.4	0631152	+044207	H	3	31866	L	2219	FD	87091708	080900	002200		G C=65,B=30
NGIDV	HD 46484	25	8.4	0631152	+044207	H	1	11644	L	2162	FD	87091708	084800	001200		G C=105,B=45
NGIDV	HD 46484	25	8.4	0631152	+044207	H	3	31867	L	2252	FD	87091709	092000	004000		G C=175,B=115
NGIDV	HD 46484	25	8.4	0631152	+044207	H	3	31868	L	2564	FD	87091710	105200	001400		G C=1.5X,B=195
NGIDV	HD 46484	25	8.4	0631152	+044207	H	1	11646	L	2355	FD	87091711	113000	000700		G C=240,B=180
NGIDV	HD 46484	25	8.4	0631152	+044207	H	3	31869	L	2491	FD	87091712	120000	001000		G C=225,B=160
NGIDV	HD 46484	25	8.4	0631152	+044207	H	3	31870	L	2284	FD	87091714	141000	004000		G C=95,B=38
NGIDV	HD 46885	25	6.5	0633211	+043223	H	1	11643	L	6524	FD	87091707	074900	000700		G C=130,B=41
NGIDV	HD 46885	25	6.5	0633211	+043223	H	1	11645	L	7077	FD	87091710	101300	001000		G C=225,B=125
NGIDV	HD 46885	25	6.5	0633211	+043223	H	1	11647	L	7318	FD	87091712	124100	000700		G C=200,B=108
STJRP	ALP CMAA	30	-1.4	0642567	-163846	H	3	31815	L		FU	87090913	132600	000002		G C=180,B=35
STJRP	ALP CMAA	30	-1.4	0642567	-163846	L	3	31909	T		FU	87092308	082500	000001		G C=1.3X,B=16
STJRP	ALP CMAA	30	-1.4	0642567	-163846	L	1	11695	T		FU	87092309	091800	000001		G C=3X,B=40
STJRP	ALP CMAA	30	-1.4	0642567	-163846	L	3	31910	T		FU	87092310	100800	000001		G C=1.3X,B=16
STJRP	ALP CMAA	30	-1.4	0642567	-163846	L	1	11696	T		FU	87092310	105600	000001		G C=3X,B=43

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
STJRP	ALP CMAA	30	-1.4	0642567	-163846	L	3	31911	T		FU	87092311	114800	000001		G C=1.3X,B=18
STJRP	ALP CMAA	30	-1.4	0642567	-163846	L	1	11697	T		FU	87092312	124700	000001		G C=3X,B=40
PHCAL	TFLOOD	99	0.0	0651231	-200939	L	1	11366	S	26160	FO	87081010	103800	000025		G E=10X,B=103
PHCAL	WAVCAL	98	0.0	0651231	-200939	L	1	11366	S	26160	FO	87081010	104000	000001		G E=10X,B=103
PHCAL	TFLOOD	99	0.0	0651231	-200939	H	1	11367	S			87081011	111900	000025		G E=60X,B=101
PHCAL	WAVCAL	98	0.0	0651231	-200939	H	1	11367	S			87081011	112100	000016		G E=60X,B=101
PRJCG HD	52918	26	4.9	0700257	-040955	H	3	32115	L	22651	FO	87101709	091700	000110		G C=185,B=52
MGJEB	L2 PUP	51	5.0	0712007	-443326	L	1	11090	L	760	FU	87062615	152200	001500		G C=85,B=35
MGJEB	L2 PUP	51	3.5	0712007	-443326	L	1	11263	L	779	FU	87072213	134100	001500		G E=160,C=115,B=81
MGJEB	L2 PUP	51	5.0	0712007	-443326	L	1	11906	L	575	FU	87101905	052800	002000		G E=90,C=90,B=59
MGJEB	L2 PUP	51	4.2	0712007	-443326	L	1	11921	L	568	FU	87102011	112100	003000		G E=101,C=110,B=63
MGJEB	L2 PUP	51	5.0	0712030	-443326	0	1	11677	L	356	FU	87092108	085600	002000		G E=113,C=57,B=41
USSBS HD	58715	22	2.9	0724262	+082328	H	3	31890	L	1507	FU	87092011	112700	000048		G C=200,B=50
PRJCG HD	58978	26	5.5	0724522	-225903	H	3	31900	L	13774	FO	87092207	073900	000240		G C=192,B=36
PRJCG HD	58978	26	5.5	0724522	-225903	H	1	11687	L	13846	FO	87092207	074500	000130		G C=201,B=44
PRJCG HD	58978	26	5.5	0724522	-225903	H	3	32114	L	14423	FO	87101708	083700	000240		G C=235,B=65
PHCAL HD	60753	21	06.96	0732080	-502829	L	2	18114	L	5890	FO	87063004	041800	000007	402	V LWR 4.5KV
PHCAL HD	60753	21	6.7	0732080	-502828	L	1	10973	T	6030	FO	87061105	053400	000026		G C=190,B=35
PHCAL HD	60753	21	07.00	0732080	-502829	L	3	31267	L	5713	FO	87063004	041358	000010	500	V LWR 4.5KV
PHCAL HD	60753	21	6.7	0732080	-502828	L	1	10974	T	6066	FO	87061106	061600	000010		G C=113,B=35
PHCAL HD	60753	21	6.7	0732080	-502828	L	1	10975	T	6038	FO	87061106	065600	000031		G C=207,B=35
PHCAL HD	60753	21	6.7	0732080	-502828	L	1	10976	T	6032	FO	87061107	073500	000041		G C=245,B=38
PHCAL HD	60753	21	6.7	0732080	-502828	L	1	10977	L	6075	FO	87061108	081400	000026		G C=190,B=35
PHCAL	NULL	99	6.7	0732080	-502828	L	1	10978				87061108	085000	000000		G B=33
PHCAL HD	60753	21	6.7	0732080	-502828	L	1	10979	T	6033	FO	87061109	092200	000015		G C=142,B=35
PHCAL HD	60753	21	6.7	0732080	-502828	L	1	10980	T	6128	FO	87061110	100100	000005		G C=83,B=35
PHCAL HD	60753	21	6.7	0732080	-502828	L	1	10981	T	6113	FO	87061110	103900	000051		G C=2X,B=39
PHCAL HD	60753	21	6.7	0732080	-502828	L	1	10982	T	5981	FO	87061111	112000	000010		G C=115,B=35
PHCAL HD	60753	21	6.7	0732080	-502828	L	1	10983	T	5979	FO	87061111	115900	000026		G C=188,B=35
PHCAL	T FLOOD	99		0732080	-502828	L	3	31160	S			87061418	180100	000005		G E=10X,B=98
PHCAL	WAVECAL	98		0732080	-502828	L	3	31160	S			87061418	180200	000002		G E=10X,B=98
PHCAL	T FLOOD	99		0732080	-502828	H	3	31161	S			87061418	182800	000002		G E=60X,B=130
PHCAL	WAVECAL	98		0732080	-502828	H	3	31161	S			87061418	183000	000200		G E=60X,B=130
PHCAL	T FLOOD	99		0732080	-502828	L	1	11012	S			87061418	185200	000025		G E=10X,B=105
PHCAL	WAVECAL	98		0732080	-502828	L	1	11012	S			87061418	185400	000001		G E=10X,B=105
PHCAL	WAVECAL	98		0732080	-502828	H	1	11013	S			87061419	192200	000016		G E=60X,B=105
PHCAL	T FLOOD	99		0732080	-502828	H	1	11013	S			87061419	192200	000025		G E=60X,B=105
PHCAL HD	60753	21	6.7	0732080	-502828	L	3	31162	T	6154	FO	87061420	205100	000041		G C=200,B=15
PHCAL HD	60753	21	6.69	0732080	-502828	L	1	11132	L	5500	FO	87070113	130400	000006		G C=195,B=33
PHCAL HD	60753	21	6.69	0732080	-502828	L	3	31275	L	5563	FO	87070113	131000	000010		G C=187,B=15
PHCAL	TFLOOD	99	0.0	0732080	-502828	L	3	31920	S		S	87092408	084400	000005		G E=10X,C=176,B=93
PHCAL	WAVCAL	98	0.0	0732080	-502828	L	3	31920	S			87092408	084600	000002		G E=10X,C=176,B=93
PHCAL	TFLOOD	99	0.0	0732080	-502828	H	3	31921	S			87092409	091100	000005		G E=60X,C=255X,B=123
PHCAL	WAVCAL	98	0.0	0732080	-502828	H	3	31921	S			87092409	091300	000200		G E=60X,C=255X,B=123
PHCAL	TFLOOD	99	0.0	0732080	-502828	L	1	11706	S			87092409	094300	000025		G E=10X,C=150,B=62

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
PHCAL	WAVCAL	98	0.0	0732080	-502828	L	1	11706	S			87092409	094500	000001		G E=10X,C=150,B=62
PHCAL	TFLOOD	99	0.0	0732080	-502828	H	1	11707	S			87092410	101300	000025		G E=60X,B=106
PHCAL	WAVCAL	98	0.0	0732080	-502828	H	1	11707	S			87092410	101500	000016		G E=60X,B=106
PHCAL	TFLOOD	99	0.0	0732080	-502828	L	3	31922	S			87092411	110000	000005		G B=100
PHCAL	TFLOOD	99	0.0	0732080	-502828	L	1	11708	S			87092411	110200	000025		G B=103
PHCAL	60753	21	6.7	0732080	-502828	L	3	31923	L	6189	FO	87092412	124100	000010		G C=155,B=17
PHCAL	HD60753	21	06.75	0732081	-502829	L	1	10899	L	7079	FO	87060221	213943	000006	502	V
PHCAL	HD 60753	21	6.7	0732081	-502829	L	1	10887	L	5910	FO	87060116	160500	000006		G C=180,B=30
PHCAL	HD 60753	21	06.94	0732081	-502829	L	3	31090	L	5989	FO	87060221	214411	000010	500	V
PHCAL	HD 60753	21	6.7	0732081	-502829	L	3	31075	L	5912	FO	87060116	161000	000010		G C=180,B=12
PHCAL	HD60753	21	06.82	0732081	-502829	L	1	10900	L	6681	FO	87060222	224412	000012	601	V
PHCAL	HD 60753	21	6.7	0732081	-502829	L	2	18104	T	5704	FO	87061507	075800	000043		G C=195,B=23
PHCAL	HD 60753	21	6.7	0732081	-502829	L	2	18105	T	5722	FO	87061508	083500	000017		G C=115,B=24
PHCAL	HD 60753	21	6.7	0732081	-502829	L	2	18106	T	5747	FO	87061509	091200	000051		G C=205,B=25
PHCAL	HD 60753	21	6.7	0732081	-502829	L	2	18107	T	5796	FO	87061509	094800	000109		G C=250,B=25
PHCAL	HD 60753	21	6.7	0732081	-502829	L	2	18108	T	5855	FO	87061510	102500	000043		G C=180,B=24
PHCAL	HD 60753	21	6.7	0732081	-502829	L	2	18109	T	5866	FO	87061511	110500	000046		G C=195,B=23
PHCAL	HD 60753	21	6.7	0732081	-502829	L	2	18110	T	5792	FO	87061511	114200	000026		G C=135,B=25
PHCAL	HD 60753	21	6.7	0732081	-502829	L	2	18111	T	5882	FO	87061512	121700	000009		G C=90,B=25
PHCAL	HD 60753	21	6.7	0732081	-502829	L	1	11139	L	5444	FO	87070311	114100	000006		G C=205,B=33
PHCAL	HD 60753	21	6.7	0732081	-502829	L	1	11140	M	6956	FO	87070312	121800	000012		G C=200,B=32
PHCAL	HD 60753	21	6.7	0732081	-502829	L	1	11141	M	6916	FO	87070313	130300	000012		G C=198,B=33
PHCAL	HD 60753	21	6.7	0732081	-502829	L	1	11142	M	7024	FO	87070313	134600	000012		G C=205,B=33
PHCAL	HD 60753	21	6.7	0732081	-502829	L	1	11143	L	5675	FO	87070314	143300	000006		G C=192,B=33
PHCAL	HD 60753	21	6.69	0732081	-502829	L	1	11252	T	5622	FO	87071918	182700	000026		G C=188,B=35
PHCAL	HD 60753	21	6.7	0732081	-502829	L	1	11357	L	5792	FO	87080815	154400	000006		G C=195,B=34
PHCAL	HD 60753	21	6.7	0732081	-502829	L	3	31514	L	5842	FO	87080815	155800	000010		G C=180,B=16
PHCAL	HD 60753	21	6.7	0732081	-502829	L	2	18120	L	5576	FO	87082100	002300	000009		G C=185,B=23
PHCAL	HD 60753	21	6.7	0732081	-502829	L	1	11709	L	6180	FO	87092412	123600	000006		G C=158,B=33
PHCAL	HD 60753	21	6.7	0732081	-502829	L	3	32039	T	5509	FO	87100921	215800	000041		G C=190,B=16
PHCAL	HD 60753	21	6.7	0732081	-502829	L	3	32040	T	5504	FO	87100922	223700	000041		G C=197,B=17
PHCAL	HD 60753	21	6.7	0732081	-502829	L	3	32041	T	5599	FO	87100923	231000	000016		G C=104,B=15
PHCAL	HD 60753	21	6.7	0732081	-502829	L	3	32042	T	5675	FO	87100923	234300	000049		G C=220,B=17
PHCAL	HD 60753	21	6.7	0732081	-502829	L	3	32043	T	5630	FO	87101000	002100	000105		G C=1.2X,B=18
PHCAL	HD 60753	21	6.7	0732081	-502829	L	3	32044	T	5764	FO	87101000	005600	000041		G C=195,B=17
PHCAL	NULL	99		0732081	-502829	L	3	32045	L		FO	87101001	012600	000000		G B=18
PHCAL	HD 60753	21	6.7	0732081	-502829	L	3	32046	T	6009	FO	87101001	015300	000044		G C=205,B=16
PHCAL	HD 60753	21	6.7	0732081	-502829	L	3	32047	T	6048	FO	87101002	023400	000018		G C=110,B=16
PHCAL	HD 60753	21	6.7	0732081	-502829	L	3	32048	L	6057	FO	87101003	030700	000011		G C=190,B=15
PHCAL	HD 60753	21	6.7	0732081	-502829	L	3	32049	L	5945	FO	87101003	033600	000005		G C=95,B=16
PHCAL	HD 60753	21	6.7	0732081	-502829	L	3	32050	L	5892	FO	87101004	040500	000014		G C=210,B=16
PHCAL	HD 60753	21	6.7	0732081	-502829	L	3	32051	L	5876	FO	87101004	043400	000011		G C=190,B=17
PHCAL	HD 60753	21	6.7	0732081	-502829	L	1	11929	L	5972	FO	87102111	115800	000006		G C=203,B=32
PHCAL	HD 60753	21	6.7	0732081	-502829	L	3	32134	L	5486	FO	87102112	120400	000010		G C=181,B=17
PHCAL	HD 60753	21	6.7	0732081	-502829	L	2	18145	L	5743	FO	87103007	073300	000009		G C=169,B=13

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
GKJBS	HD 62542	23	8.1	0740581	-420636	H	1	11847	L	1544	FO	87101022	220100	007000		G C=237,B=56
GKJBS	HD 62542	23	8.1	0740581	-420636	H	3	32062	L	1599	FO	87101023	231800	033000		G C=2X,B=105
MLJRS	HD 65750	49	6.3	0755546	-585926	L	3	31951	L	6267	FO	87092903	033100	003000		G B=19
MLJRS	HD 65750	49	6.3	0755546	-585926	L	1	11744	L	6130	FO	87092904	040900	015900		G E=3X,C=156,B=74
BEJTS	HD 66194	26	5.8	0758006	-604113	D	9	01949	2			87062218	182500	016000		G NO COMMENTS
BEJTS	HD 66194	26	5.8	0758006	-604113	H	3	31232	L	11399	FO	87062218	184400	000730		G C=244,B=44
BEJTS	HD 66194	26	5.8	0758006	-604113	H	1	11066	L	12917	FO	87062219	191800	000200		G C=160,B=40
PHCAL	BD+75 325	16	09.73	0804430	+750648	L	1	11551	L	504	FO	87090216	162016	000020	503	V
PHCAL	BD+75 325	16	09.73	0804430	+750648	L	3	31690	L	503	FO	87090216	161629	000014	500	V
PHCAL	BD+75 325	16	09.70	0804430	+750648	L	1	11552	S	519	FO	87090217	172607	000100	503	V
PHCAL	BD+75 325	16	09.69	0804430	+750648	L	3	31691	S	522	FO	87090217	172055	000045	500	V
PHCAL	BD+75 325	16	09.84	0804430	+750648	L	1	11568	S	457	FO	87090300	195325	000100	503	V
PHCAL	BD+75 325	16	09.74	0804430	+750648	L	1	11567	L	499	FO	87090318	185630	000020	502	V
PHCAL	BD+75 325	16	09.78	0804430	+750648	L	3	31702	L	484	FO	87090318	185308	000014	500	V
PHCAL	BD+75 325	16	09.87	0804430	+750648	L	3	31703	S	447	FO	87090319	194744	000045	500	V
PHCAL	BD +75 0325	16	9.5	0804432	+750648	L	1	11971	L	459	FO	87102810	104400	000020		G C=200,B=33
PHCAL	BD +75 0325	16	9.5	0804432	+750648	L	3	32179	L	459	FO	87102810	104900	000014		G C=178,B=17
PHCAL	BD +75 0325	16	9.5	0804432	+750648	L	2	18148	L	469	FO	87103010	101700	000033		G C=186,B=22
BEJTS	HD 67888	26	6.4	0806476	-373204	H	3	31233	L	7411	FO	87062220	200800	002500		G C=1.2X,B=45
BEJTS	HD 67888	26	6.4	0806476	-373204	H	1	11067	L	8583	FO	87062220	204300	000540		G C=168,B=43
JI096	RX PUP	57	99.99	0812280	-413312	E	9	01954	2			87070219	194000	016000		V
MPJAM	RX PUP	57	9.8	0812282	-413318	H	3	31285	L	127	FO	87070303	034400	086500		G E=5X,B=160
JM031	HH47	73	99.90	0824227	-504959	L	3	32154	L		BO	87102413	135633	041100	303	V
OSJFW	HD 71935	31	5.1	0826142	-525521	L	3	31883	L	18484	FO	87091905	053700	007200		G C=60X,B=79
SCIMA	WILSON	06	11.8	0842518	-121516	D	9	01942	2			87060813	135500	002000		G NO COMMENTS
SCIMA	WILSON	06	11.8	0842518	-121516	L	1	10955	L	320	SO	87060814	141900	001500		G E=216,B=35
SCIMA	WILSON	06	11.8	0842518	-121516	L	3	31124	L	320	SO	87060814	144100	001500		G E=172,B=15
SCIMA	WILSON	06	11.8	0842518	-121516	L	1	10956	L	314	SO	87060815	152900	007000		G E=4X,C=115,B=79
SCIMA	WILSON	06	11.8	0842518	-121516	L	1	10957	L	315	SO	87060817	174600	001000		G E=173,B=48
SCIMA	WILSON	06	11.8	084434	-122515	H	1	10958	L	316	SO	87060818	184000	007500		G E=177,C=95,B=62
JC054	HD 76151	44	06.53	0851501	-051437	H	1	11974	L	8544	FO	87102815	154054	006000	502	V
XQJCU	OJ 287	87	16.	0851572	+201757	L	1	11980	L		BO	87103003	031300	012000		G C=86,B=54
JQ043	OJ 287	87	14.00	0851573	+201758	L	3	32192	L	10	SO	87103014	140846	040000	303	V NOT PRFECTLY CENTERE
CCJTS	HD 76644	31	3.1	0855475	+481421	L	3	31955	L	1160	FO	87100210	100900	000200		G C=20X,B=51
IEJDM	-42 4819	20	9.8	0855520	-423012	L	3	31237	L	365	FO	87062314	143800	003000		G C=185,B=30
IEJDM	-42 4819	20	9.8	0855520	-423012	L	1	11070	L	368	FO	87062315	151400	006500		G C=6X,B=120
IEJDM	-42 4819	20	9.8	0855520	-423012	L	1	11071	L	354	FO	87062316	165500	001400		G C=2X,B=58
CCJTS	HD 78209	35	4.48	0905212	+514827	L	3	31956	L	343	FO	87100211	111900	000600		G C=20X,B=72
CCJTS	HD 78209	40	4.50	0905212	+514827	L	3	32103	L	333	FO	87101511	114500	001400		G E=44,C=20X,B=42
HEJSS	HD 79158	27	5.4	0910325	+432531	H	3	31996	L	18850	FO	87100509	095000	000500		G C=184,B=46
HEJSS	HD 79158	27	5.4	0910325	+432531	H	3	32014	L	18209	FO	87100708	080500	000500		G C=198,B=37
HEJSS	HD 79158	27	5.4	0910325	+432531	H	3	32015	L	18116	FO	87100708	084100	000300		G C=1.2X,B=50
HEJSS	HD 79158	27	5.4	0910325	+432531	H	3	32024	L	17575	FO	87100809	093100	000500		G C=190,B=38
HEJSS	HD 79158	27	5.4	0910325	+432531	H	3	32034	L	17508	FO	87100909	093100	000700		G C=240,B=46
HEJSS	HD 79158	27	5.4	0910325	+432531	H	3	32057	L	16754	FO	87101012	123600	000700		G C=243,B=41

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
HEJSS	HD 79158	27	5.4	0910325	+432531	H	3	32076	L	16928	FO	87101208	085200	000700		G C=245,B=41
HEJSS	HD 79158	27	5.4	0910325	+432531	H	3	32107	L	17711	FO	87101607	072500	000700		G C=250,B=53
HEJSS	HD 79158	27	5.4	0910325	+432531	H	3	32118	L	17776	FO	87101712	123000	000700		G C=240,B=40
HEJSS	HD 79158	27	5.4	0910325	+432531	H	3	32138	L	18150	FO	87102208	083800	000700		G C=245,B=49
JA181	WR15	10	11.04	0911310	-495401	L	1	11272	L	157	FO	87072400	002046	006000	343	V
JA181	WR 15	10	11.04	0911310	-495401		3	31396	L	157	FO	87072401	012602	008500	332	V
CSJAB	HD 81797	47	2.0	0925077	-082626	H	3	31126	L	3231	FU	87060910	101700	095000		G E=1.5X,C=250,B=165
JC165	HD81797	47	02.37	0925078	-082627	H	1	11023	L	3082	FU	87061522	220913	038800	774	V
CSJAB	HD 81797	47	2.0	0925078	-082627	H	1	10963	L	3084	FU	87060914	143600	009000		G E=2.5X,C=1.5X,B=72
CSJAB	HD 81797	47	2.0	0925078	-082627	D	9	01943	2			87060919	190200	016000		G NO COMMENTS
CSJAB	HD 81797	47	2.0	0925078	-082627	H	1	10966	L	3139	FU	87060919	191700	003000		G E=1.2X,C=150,B=42
MGJEB	R CAR	51	5.0	0930592	-623401	L	1	11089	L	12037	FO	87062614	142600	000800		G E=255,C=75,B=35
MGJEB	R CAR	51	5.0	0930592	-623401	L	1	11264	L	6713	FO	87072214	144700	000100		G E=101,B=40
MGJEB	R CAR	51	5.0	0930592	-623401	L	1	11678	L	2392	FO	87092109	095800	000800		G E=201,C=90,B=58
MGJEB	R CAR	51	5.0	0930592	-623401	L	1	11910	L	2680	FO	87101910	103100	000500		G E=120,C=100,B=75
PHCAL	TFLOOD	99	5.5	0931146	-725133	L	1	11927	S			87102107	070100	000025		G E=10X,B=101
PHCAL	WAVCAL	98	5.5	0931146	-725133	L	1	11927	S			87102107	070300	000001		G
PHCAL	TFLOOD	99	5.5	0931146	-725133	H	1	11928	S			87102107	074000	000025		G E=60X,B=105
PHCAL	WAVCAL	98	5.5	0931146	-725133	H	1	11928	S			87102107	074200	000016		G E=60X,B=105
PHCAL	TFLOOD	99	5.5	0931146	-725133	L	3	32132	S			87102107	075300	000005		G E=10X,B=98
PHCAL	WAVCAL	98	5.5	0931146	-725133	L	3	32132	S			87102107	075500	000002		G E=10X,B=98
PHCAL	TFLOOD	99	5.5	0931146	-725133	H	3	32133	S			87102108	082100	000005		G E=60X,B=126
PHCAL	WAVCAL	98	5.5	0931146	-725133	H	3	32133	S			87102108	082300	000200		G E=60X,B=126
PHCAL	NULL	99	0.0	0931146	-725133	H	2	18131				87102108	084800	000000		G B=11
PHCAL	TFLOOD	99	0.0	0931146	-725133	L	2	18132	S			87102109	091200	000010		G E=10X,B=90
PHCAL	WAVCAL	98	0.0	0931146	-725133	L	2	18132	S			87102109	091400	000001		G E=10X,B=90
PHCAL	TFLOOD	99	0.0	0931146	-725133	H	2	18133	S			87102109	094000	000010		G E=60X,B=115
PHCAL	WAVCAL	98	0.0	0931146	-725133	H	2	18133	S			87102109	094100	000022		G E=60X,B=115
OD29Y	UNKNIRAS	65	9.5	0935511	-532319	D	9	01971	2			87072815	152500	016000		G NO COMMENTS
OD29Y	IRAS OBJ	65	9.5	0935511	-532319	L	1	11289	L	616	FO	87072815	154800	013000		G C=135,B=58
BEJRP	UNKNOWN	65	9.5	0935512	-532322	D	9	01969	2			87072616	165600	016000		G NO COMMENTS
BEJRP	UNKNOWN	65	9.5	0935512	-532322	L	3	31419	L	622	FO	87072617	170200	000300		G B=22
BEJRP	UNKNOWN	65	9.5	0935512	-532322	L	1	11280	L	613	FO	87072617	175800	001000		G C=50,B=38
BEJRP	UNKNOWN	65	9.5	0935512	-532322	D	9	01970	2			87072618	183300	002000		G NO COMMENTS
BEJRP	HD 83597	26	9.22	0936100	-532714	L	3	31418	L	542	FO	87072616	161100	000230		G C=200,B=19
BEJRP	HD 83597	26	9.22	0936100	-532714	L	1	11279	L	533	FO	87072616	161800	000115		G C=215,B=40
BEJRP	HD 83597	26	9.22	0936100	-532714	L	1	11279	S		FO	87072616	162700	000730		G C=3X,B=40
CCJTS	HD 84999	40	3.8	0947270	+591629	L	3	32104	L	625	FU	87101512	124100	000600		G E=25,C=20X,B=27
BEJTS	HD 87543	26	6.1	1002015	-613828	H	3	31230	L	9251	FO	87062215	154000	002000		G C=240,B=58
BEJTS	HD 87543	26	6.1	1002015	-613828	H	1	11064	L	9185	FO	87062216	161700	000800		G C=215,B=59
PHCAL	HD 87901	22	1.3	1005427	+121244	L	1	10928	T	5791	FU	87060614	140300	000001		G C=195,B=32
PHCAL	HD 87901	22	1.3	1005427	+121244	L	1	10929	T	5883	FU	87060614	144600	000001		G C=195,B=30
PHCAL	HD 87901	22	1.3	1005427	+121244	L	1	10930	T	5909	FU	87060615	152600	000001		G C=185,B=30
PHCAL	HD 87901	22	1.3	1005427	+121244	L	1	10931	T	5983	FU	87060616	161100	000001		G C=185,B=33
MGJEB	S CAR	51	6.0	1007462	-611814	L	1	11088	L	3764	FO	87062613	133400	000330		G E=81,B=33

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
MGJEB	S CAR	51	6.0	1007462	-611814	L	1	11265	L	2718	FO	87072215	153800	000600		G E=106,B=65
MGJEB	S CAR	51	6.0	1007462	-611814	L	1	11679	L	13691	FO	87092110	104900	002000		G C=3X,B=172
MGJEB	S CAR	51	6.0	1007462	-611814	L	1	11681	L	13589	FO	87092113	130100	000800		G C=175,B=55
MGJEB	S CAR	51	6.0	1007462	-611814	L	1	11911	L	10173	FO	87101911	112200	000500		G E=137,C=80,B=45
MGJEB	S CAR	51	6.3	1007462	-611814	L	1	11922	L	10048	FO	87102012	124300	000800		G E=176,C=75,B=33
BEJTS HD	88825	26	6.1	1011196	-594012	H	3	31231	L	9410	FO	87062217	171000	001200		G C=207,B=48
BEJTS HD	88825	26	6.1	1011196	-594012	H	1	11065	L	9693	FO	87062217	174800	000500		G C=180,B=50
JE063 HR4049		25	05.86	1015499	-284429	L	3	31256	L	14548	FO	87062623	233526	001600	501	V
JE063 HR4049		25	05.89	1015499	-284429	H	1	11097	L	14288	FO	87062700	000712	006000	503	V
USSBS HD	89484	47	2.61	1017138	+200536	H	1	10941	L	3094	FU	87060716	164100	000905		G C=165,B=37
BEJTS HD	89890	26	4.5	1019029	-554727	H	3	31229	L	428	FU	87062214	144700	000250		G C=245,B=43
BEJTS HD	89890	26	4.5	1019029	-554727	H	1	11063	L	432	FU	87062214	145400	000100		G C=180,B=40
CCJTS HD	90277	40	4.7	1023032	+340305	L	3	32151	L	24901	FO	87102409	094300	001700		G E=51,C=20X,B=21
CCJTS HD	91480	40	5.2	1031574	+572027	L	3	32160	L	17800	FO	87102509	093100	002500		G E=76,C=20X,B=24
JA065 HD 93308		61	00.57	1043070	-592500	H	3	31535	L	14153	FO	87081000	001610	003000	360	V
BEJTS HD	93563	26	5.2	1044561	-562935	H	3	31223	L	20153	FO	87062020	201400	001000		G C=248,B=42
BEJTS HD	93563	26	5.2	1044561	-562935	H	1	11062	L	19862	FO	87062213	135900	000300		G C=170,B=42
PHCAL HD	93521	12	7.0	1045336	+375004	L	1	10890	L	4918	FO	87060119	191700	000003		G C=170,B=30
PHCAL HD	93521	12	7.0	1045336	+375004	L	3	31076	L	4741	FO	87060119	192200	000003		G C=140,B=12
PHCAL HD	93521	12	7.0	1045336	+375004	L	2	18147	L	4491	FO	87103009	092500	000004		G C=159,B=22
JM112 CHA F2		22	10.42	1049363	-774213	L	3	31917	L	272	FO	87092321	211754	006000	300	V
JM112 CHA F2		22	10.22	1049363	-774213	L	1	11703	L	327	FO	87092322	222158	002600	501	V
JM112 CHA F2		22	10.39	1049363	-774213	L	1	11715	L	281	FO	87092421	214601	006300	701	V PREAD
JM112 HD94414		20	08.42	1049492	-765131	L	3	31912	L	1619	FO	87092315	154118	000500	400	V
JM112 HD94414		20	08.38	1049492	-765131	L	1	11698	L	1686	FO	87092315	155219	000500	801	V
JM112 HD94414		20	08.21	1049492	-765131	L	1	11710	L	1961	FO	87092415	155456	000130	401	V
JA064 AGCAR		23	08.43	1054105	-601111	L	1	11275	L	1615	FO	87072519	192855	000040	401	V
JA064 AG CAR		23	08.36	1054106	-601111	H	3	31405	L	1718	FO	87072419	194844	013500	402	V
JA064 AGCAR		23	08.38	1054106	-601111	H	1	11273	L	1681	FO	87072422	221053	004500	402	V
JA064 AG CAR-B		73	14.00	1054122	-601100	L	3	31413	L		BO	87072519	194305	042700	501	V PREAD
JM112 CHA F7		21	10.76	1054563	-761949	L	3	31924	L	201	FO	87092416	161011	005500	401	V
JM112 CHA F7		21	10.74	1054563	-761949	L	1	11711	L	205	FO	87092417	171057	001800	501	V
JM112 CHA F7		21	10.61	1054563	-761949	L	1	11712	L	230	FO	87092418	180436	006000	801	V
JC053 SZ3		58	13.67	1055173	-765533	L	1	11881	L	60	SO	87101419	191006	008400	332	V NO GUIDE STAR IN THE
JC053 SZ 5		58	13.79	1057422	-770634	L	1	11884	L	54	SO	87101519	190605	013000	352	V
JC053 SZ9		58	12.05	1101077	-771717	L	1	11879	L	254	SO	87101413	132839	002000	131	V
JC053 SZ9		58	12.04	1101077	-771717	L	1	11880	L	258	SO	87101414	142607	020000	353	V
XQJCU	MRK 421	87	14.0	1101405	+382843	L	3	32191	L		BO	87102921	215500	018000		G C=165,B=70
ISJJN HD	96287	22	7.6	1102509	-642044	H	1	11148	L	3503	FO	87070515	155100	003500		G C=185,B=48
ISJJN HD	96716	23	8.4	1105266	-610637	H	3	31271	L	1317	FO	87063016	162000	006600		G C=205,B=46
JC053 SZ 24		58	12.97	1106381	-772612	L	1	11883	L	112	SO	87101513	135727	020000	352	V
ISJJN HD	306097	13	9.96	1106429	-602258	H	1	11126	L	410	FO	87063014	141700	010000		G C=158,B=58
ISJJN HD	97136	23	9.4	1107443	-633122	H	1	11149	L	590	FO	87070517	172000	006500		G C=73,B=50
JA019 HD 97152		10	08.38	1107569	-604227	H	3	31297	L	1681	FO	87070619	192805	004000	451	V
JA021 HD 97152		10	08.39	1107569	-604227	H	3	31305	L	1664	FO	87070719	194225	004000	451	V

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
JA020	HD 97152	10	08.33	1107569	-604227	H	3	31427	L	1757	FO	87072819	193153	004000	450	V
JA020	HD97152	10	08.38	1107569	-604227	H	3	31644	L	1682	FO	87082617	173735	004000	451	V
JA020	HD97152	10	08.36	1107569	-604227	H	1	11492	L	1717	FO	87082618	182554	003000	503	V
ISJJN	HD 97522	23	7.7	1110129	-645648	H	3	31295	L	2241	FO	87070512	121400	018500		G C=218,B=64
ISJJN	HD 97522	23	7.7	1110130	-645649	H	1	11128	L	2072	FO	87063020	202200	002600		G C=145,B=44
USSBS	HD 97603	31	2.5	1111274	+204748	H	1	10896	L	2077	FU	87060215	153900	000112		G C=220,B=37
USSBS	HD 97603	31	2.5	1111274	+204748	H	3	31085	L	1877	FU	87060215	154400	013500		G C=170,B=28
USSBS	HD 97603	31	2.5	1111274	+204748	H	3	31086	L	1875	FU	87060216	162800	000700		G C=5X,B=45
ISJJN	HD 97707	23	8.1	1111291	-602808	H	3	31272	L	1525	FO	87063019	191800	004500		G C=80,B=28
ISJJN	HD 97851	23	8.3	1112144	-653707	H	1	11127	L	1047	FO	87063017	174900	006000		G C=208,B=52
JM112	HD98143	25	08.03	1113428	-771443	L	3	31916	L	2293	FO	87092319	195629	001500	500	V
JM112	HD98143	25	07.94	1113428	-771442	L	1	11702	L	2496	FO	87092320	202829	000800	701	V
JM112	HD98143	25	07.81	1113428	-771443	L	1	11714	L	2792	FO	87092420	205553	000300	501	V
JM112	HD98561	30	08.80	1116576	-750832	L	3	31915	L	1154	FO	87092318	184516	001500	300	V
JM112	HD98561	30	08.80	1116576	-750832	L	1	11701	L	1158	FO	87092319	191659	000400	401	V
JM112	HD98561	31	08.74	1116576	-750832	L	3	31925	L	1217	FO	87092419	191936	002500	401	V
JM112	HD98561	31	08.71	1116576	-750832	L	1	11713	L	1256	FO	87092419	195430	001500	701	V
JM112	HD99759	22	08.98	1125215	-753934	L	3	31913	L	987	FO	87092316	163253	002000	700	V
JM112	HD99759	22	08.94	1125215	-753934	L	1	11699	L	1023	FO	87092317	170445	001000	702	V
JM112	HD99759	22	08.87	1125215	-753934	L	3	31914	L	1087	FO	87092317	173427	001500	501	V
JM112	HD99759	22	08.74	1125215	-753934	L	1	11700	L	1223	FO	87092318	180744	000400	600	V
IEJDM	HD 99872	21	6.1	1126150	-721154	L	3	31239	L	8877	FO	87062319	194000	000036		G C=3X,B=18
JA173	PG1127+019	28	14.21	1127299	+015411	L	1	10994	L	37	SO	87061304	042343	002000	500	V
CVJPS	T LEO	54	15.5	1135530	+033847	L	3	31303	L		BO	87070703	035500	015000		G E=139,C=80,B=41
CVJPS	T LEO	54	15.5	1135530	+033847	L	1	11155	L		BO	87070706	063200	009000		G E=175,C=99,B=48
LDJDB	HD 101501	44	5.3	1138253	+342903	L	1	11113	T	15437	FO	87062819	193400	000205		G C=200,B=35
JE063	HD 101584	42	07.30	1138337	-551748	L	3	31255	L	4371	FO	87062622	220944	002500	601	V
JE063	HD101584	42	07.34	1138337	-551748	L	1	11096	L	4232	FO	87062622	224101	000200	601	V
JA020	HD101947	39	05.44	1141070	-621300	H	3	31629	L	19632	FO	87082320	203317	006000	501	V
JA020	HD101947	39	05.46	1141070	-621300	H	1	11470	L	19276	FO	87082321	214004	001000	302	V
LDJDD	HD 102077	46	9.0	1142110	-490821	L	3	31495	L	683	FO	87080602	020200	045000		G E=166,C=115,B=87
LDJDD	HD 102077	46	9.0	1142110	-490821	H	1	11347	L	640	FO	87080702	020200	024000		G E=214,C=135,B=81
USSBS	HD 102647	20	2.14	1146293	+145101	H	1	10926	L	2771	FU	87060520	202600	000042		G C=222,B=37
USSBS	HD 102647	20	2.14	1146293	+145101	H	3	31108	L	2782	FU	87060520	203300	000126		G C=195,B=30
USSBS	HD 102647	30	2.14	1146293	+145101	H	3	31117	L	2820	FU	87060715	155900	000350		G C=2.5X,B=47
STJRP	BET LEO	30	2.2	1146306	+145106	L	1	10996	L	2719	FU	87061313	135400	000001		G C=160,B=35
STJRP	BET LEO	30	2.2	1146306	+145106	L	3	31145	L	2769	FU	87061314	142600	000002		G C=185,B=15
STJRP	BET LEO	30	2.2	1146306	+145106	L	1	10997	T	2788	FU	87061315	150100	000002		G C=190,B=35
STJRP	BET LEO	30	2.2	1146306	+145106	L	3	31146	T	2116	FU	87061315	151100	000007		G C=230,B=18
STJRP	BET LEO	30	2.2	1146306	+145106	L	1	10998	T	2738	FU	87061316	161000	000002		G C=195,B=35
STJRP	BET LEO	30	2.2	1146306	+145106	L	3	31147	T	2734	FU	87061316	161900	000006		G C=218,B=20
STJRP	BET LEO	30	2.2	1146306	+145106	L	1	10999	T	2748	FU	87061317	173000	000003		G C=2X,B=44
STJRP	BET LEO	30	2.2	1146306	+145106	L	1	11000	L	2954	FU	87061318	180800	000001		G C=161,B=35
STJRP	BET LEO	30	2.2	1146306	+145106	L	3	31148	L	2788	FU	87061318	181200	000002		G C=200,B=15
STJRP	BET LEO	30	2.2	1146306	+145106	L	1	11001	L	2727	FU	87061319	191300	000001		G C=165,B=32

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
STJRP	BET LEO	30	2.2	1146306	+145106	L	3	31149	L	2741	FU	87061319	191700	000002		G C=195,B=19
STJRP	BET LEO	30	2.2	1146306	+145106	L	1	11002	T	2777	FU	87061320	201900	000003		G C=2X,B=40
STJRP	BET LEO	30	2.2	1146306	+145106	L	3	31150	T	2789	FU	87061320	202800	000013		G C=2X,B=30
SYJJH NGC	3982	84	12.5	1153522	+552408	D	9	01946	2			87061305	055200	002000		G NO COMMENTS
SYJJH NGC	3982	84	12.5	1153522	+552408	L	3	31144	L	50	SO	87061306	060300	028000		G C=98,B=70
SYJJH NGC	3982	84	12.5	1153522	+552408	L	1	10995	L	48	SO	87061310	105100	012000		G C=102,B=61
AGJJS NGC	4051	84	13.0	1200360	+444843	L	1	11100	L	73	SO	87062706	060800	012000		G E=217,C=160,B=60
AGJJS NGC	4051	84	13.0	1200360	+444843	L	3	31258	L	69	SO	87062708	081400	025000		G E=173,C=117,B=58
SDJJL F	55	28	13.6	1202068	+604850	H	3	31178	L	55	SO	87061706	065400	044500		G C=210,B=115
SDJJL F	55	28	13.6	1202068	+604850	L	1	11030	L	58	SO	87061714	142900	001800		G C=243,B=39
SDJJL F	55	28	13.6	1202068	+604850	L	3	31179	L	55	SO	87061715	150500	001100		G C=240,B=17
GIJBS HD	105058	30	8.9	1203112	+495738	L	1	11966	L	730	FO	87102721	214700	000330		G C=187,B=33
GIJBS HD	105058	30	8.9	1203112	+495738	H	1	11967	L	740	FO	87102722	223000	022500		G C=210,B=84
BEJRP HD	105753	26	9.21	1207519	-634905	L	3	31380	L	529	FO	87072118	182800	000700		G C=3X,B=18
BEJRP HD	105753	26	9.21	1207519	-634905	L	1	11278	L	556	FO	87072613	135200	000110		G C=195,B=40
BEJRP HD	105753	26	9.21	1207519	-634905	L	1	11278	S		FO	87072614	140000	000700		G C=3X,B=40
BEJRP HD	105753	26	9.21	1207520	-634906	L	3	31417	L	559	FO	87072613	134600	000230		G C=190,B=19
MLJEB HD	106111	53	6.1	1210042	-695200	H	3	31542	L	6770	FO	87081201	012000	024000		G C=215.B=75
MLJEB HD	106111	53	6.1	1210042	-695226	L	1	11378	L	6862	FO	87081205	052700	000500		G C=3X,B=38
MLJEB HD	106111	53	6.1	1210042	-695226	H	3	31543	L	6899	FO	87081205	055700	017500		G C=180,B=60
WDJJH PG	1210+533	37	14.1	1210556	+532039	D	9	01953	2			87070118	182900	002000		G NO COMMENTS
WDJJH PG	1210+533	37	14.1	1210556	+532039	H	3	31277	L	32	SO	87070119	190200	078000		G C=1.2X,B=160
WDJJH PG	1210+533	37	14.1	1210556	+532039	L	3	31278	L	28	SO	87070208	084300	001300		G C=198,B=18
WDJJH PG	1210+533	37	14.1	1210556	+532039	L	3	31278	S	30	SO	87070209	092100	002800		G C=240,B=18
HEJES	HZ21	17	14.6	1211250	+331307	L	3	31286	L	21	SO	87070316	161600	001500		G C=144,B=16
HEJES	HZ21	17	14.6	1211250	+331307	H	3	31287	L	21	SO	87070317	170800	099900		G E=3.5X,C=3.5X,B=194
HEJES	HZ21	17	14.6	1211252	+331309	D	9	01955	2			87070316	165800	004000		G NO COMMENTS
USSBS HD	106490	20	2.80	1212283	-582814	H	1	10925	L	1865	FU	87060519	194000	000009		G C=250,B=40
SPJMA	C ENCKE	06	10.	1215162	-121637	D	9	01979	2			87081515	151300	002000		G NO COMMENTS
SPJMA	C ENCKE	06	10.	1215162	-121637	L	1	11402	L	53	SO	87081515	153100	001000		G B=50
SPJMA	C ENCKE	06	10.	1215162	-121637	H	1	11403	L	53	SO	87081516	161900	002200		G C=77,B=41
XQJME	1217+023	85	16.50	1217383	+022020	L	1	11206	L		BO	87071320	202313	038700	404	V
JQ147	3C 273	85	13.23	1226330	+021942	L	3	31079	L	89	SO	87060200	002644	004000	350	V
JQ147	3C 273	85	13.31	1226332	+021943	L	3	31077	L	83	SO	87060121	213820	003000	350	V
JQ147	3C273	85	13.25	1226332	+021943	L	1	10892	L	87	SO	87060122	221544	003000	502	V
JQ147	3C 273	85	13.23	1226332	+021943	L	3	31078	L	89	SO	87060122	225238	004000	350	V
JQ147	3C273	85	13.22	1226332	+021943	L	1	10893	L	90	SO	87060123	234324	003700	503	V
JQ147	3C 273	85	13.35	1226332	+021943	L	3	31353	L	80	SO	87071719	195852	003500	350	V
JQ147	3C273	85	13.32	1226332	+021943	L	1	11233	L	82	SO	87071720	204338	003500	452	V
JQ147	3C 273	85	13.36	1226332	+021943	L	3	31354	L	79	SO	87071721	212543	005000	360	V
JQ147	3C273	85	13.42	1226332	+021943	L	1	11234	L	75	SO	87071722	222544	004500	561	V
ISJPF HD	108767	25	3.0	1227164	-161414	H	3	31192	L	1421	FU	87061813	135200	000315		G C=1.5X,B=57
ISJPF HD	108767	25	3.0	1227164	-161414	H	3	31193	M	1415	FU	87061814	142900	000215		G C=212,B=44
ISJPF HD	108767	25	3.0	1227164	-161414	H	3	31194	L	1425	FU	87061815	150700	000212		G C=215,B=45
ISJPF HD	108767	25	3.0	1227164	-161414	H	3	31195	M	1419	FU	87061815	154400	000209		G C=216,B=43

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
ISJPF	HD 108767	25	3.0	1227164	-161414	H	3	31196	M	1450	FU	87061816	161800	000209		G C=218,B=44
ISJPF	HD 108767	25	3.0	1227164	-161414	H	3	31205	M	1417	FU	87061914	142800	000206		G C=215,B=41
ISJPF	HD 108767	25	3.0	1227164	-161414	H	3	31206	M	1417	FU	87061915	150700	000206		G C=215,B=43
ISJPF	HD 108767	25	3.0	1227164	-161414	H	3	31207	M	1444	FU	87061915	154000	000203		G C=215,B=43
ISJPF	HD 108767	25	3.0	1227164	-161414	H	3	31208	M	1419	FU	87061916	161500	000200		G C=204,B=42
ISJPF	HD 108767	25	3.0	1227164	-161414	H	3	31209	M	1409	FU	87061916	164900	000200		G C=208,B=43
ISJPF	HD 108767	25	3.0	1227164	-161414	H	3	31210	M	1408	FU	87061917	172300	000200		G C=204,B=43
MGJJE	HD 108903	49	1.6	1228227	-565000	L	1	11122	L	5326	FU	87062920	204600	000230		G E=8X,C=240,B=35
MGJJE	HD 108903	49	1.6	1228227	-565000	H	1	11221	L	5182	FU	87071618	184700	000200		G E=145,C=55,B=34
MGJKC	HD 108903	49	1.6	1228227	-565000	H	1	11326	L	5507	FU	87080501	014000	000200		G E=164,C=70,B=32
MGJKC	HD 108903	49	1.6	1228227	-565000	H	1	11327	L	5473	FU	87080502	022000	003000		G E=10X,C=100,B=37
MGJKC	HD 108903	49	1.6	1228227	-565000	H	1	11328	L	5416	FU	87080503	032500	006000		G E=20X,C=140,B=41
MGJKC	HD 108903	49	1.6	1228227	-565000	L	3	31484	L	5429	FU	87080504	043300	002000		G E=155,C=50,B=28
MGJKC	HD 108903	49	1.6	1228227	-565000	H	1	11329	L	5415	FU	87080505	050800	013000		G E=40X,C=220,B=68
MGJKC	HD 108903	49	1.6	1228227	-565000	L	3	31485	L	5421	FU	87080507	072500	006000		G E=4X,C=64,B=28
MGJKC	HD 108903	49	1.6	1228227	-565000	L	1	11330	L	5407	FU	87080508	084000	000040		G E=1.5X,C=115,B=33
APIJH	HD 108945	36	5.5	1228307	+245034	L	3	31087	M	17698	FO	87060217	175500	000200		G C=2X,B=15
APIJH	HD 108945	36	5.5	1228307	+245034	L	1	10897	L	17734	FO	87060218	180600	000020		G C=200,B=30
APIJH	HD 108945	36	5.5	1228307	+245034	L	1	10898	M	18057	FO	87060219	191700	000020		G C=19?,B=30
APIJH	HD 108945	36	5.5	1228307	+245034	H	3	31089	L	15451	FO	87060219	195800	004000		G C=253,B=40
JA039	HD109387	26	04.10	1231216	+700349	H	3	32186	L	660	FU	87102913	133802	000125	500	V
USSBS	HD 109668	20	2.69	1234103	-685136	H	1	10924	L	2022	FU	87060518	185000	000009		G C=218,B=38
JQ075	NGC 4593	84	13.53	1237047	-050410	L	3	31250	L	68	SO	87062521	215722	011500	331	V
SYJGR	NGC 4593	84	13.4	1237047	-050410	L	3	31252	L	71	SO	87062603	035700	011500		G E=103,C=80,B=45
JQ075	NGC 4593	84	13.47	1237047	-050410	L	3	31251	L	72	SO	87062600	002219	011500	331	V
SYJGR	NGC 4593	84	13.4	1237047	-050410	L	3	31253	L	67	SO	87062606	062400	011500		G E=137,C=98,B=52
JQ075	NGC 4593	84	13.50	1237047	-050410	D	9	01950	2			87062603	034500	016000		V
SYJGR	NGC 4593	84	13.4	1237047	-050410	L	3	31254	L	68	SO	87062610	100100	016500		G E=131,C=95,B=53
APIJH	HD 108945	36	5.5	1238307	+245034	L	3	31088	M	17950	FO	87060219	190600	000100		G C=170,B=15
USSBS	HD 110304	30	2.17	1238441	-484106	H	3	31107	L	2818	FU	87060517	171800	000350		G C=3X,B=72
USSBS	HD 110304	30	2.17	1238441	-484106	H	1	10923	L	2829	FU	87060517	173000	000035		G C=238,B=44
BEJTS	HD 110335	26	4.9	1239030	-592441	H	3	31222	L	22338	FO	87062019	190000	000830		G C=247,B=43
BEJTS	HD 110335	26	4.9	1239030	-592441	H	1	11048	L	22931	FO	87062019	193100	000210		G C=165,B=42
HBJAP	SS 194 2	38	11.3	1239419	+321159	L	3	31141	L	223	SO	87061220	200300	003200		G C=52,B=21
IEJDM	HD 110946	20	9.2	1243270	-643842	L	3	31238	L	532	FO	87062317	174100	001100		G C=200,B=27
IEJDM	HD 110946	20	9.2	1243270	-643842	L	1	11072	L	513	FO	87062318	181700	002500		G C=6X,B=59
IEJDM	HD 110946	20	9.2	1243270	-643842	L	1	11072	S	513	FO	87062318	185100	000820		G C=1.5X,B=59
PHCAL	HD 111613	36	5.9	1248189	-600327	F	9	01957	2			87070711	114700	016000		G NO COMMENTS
PHCAL	HD 111613	36	5.9	1248189	-600327	F	9	01958	2			87070712	121300	016000		G NO COMMENTS
PHCAL	HD 111613	36	5.9	1248189	-600327	F	9	01959	1			87070712	123700	016000		G NO COMMENTS
PHCAL	HD 111613	36	5.9	1248189	-600327	F	9	01960	1			87070713	130200	016000		G NO COMMENTS
PHCAL	HD 111613	36	5.9	1248189	-600327	D	9	01961	1			87070713	133000	002000		G NO COMMENTS
PHCAL	HD 111613	36	5.9	1248189	-600327	D	9	01962	1			87070713	134900	004000		G NO COMMENTS
PHCAL	SAO 252069	27	5.9	1250218	-600325	F	9	01963	1			87070717	170000	016000		G NO COMMENTS
PHCAL	SAO 252069	27	5.9	1250218	-600325	F	9	01964	2			87070717	171300	016000		G NO COMMENTS

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
DAJJH	1305-017	37	16.2	1305408	-014304	L	3	31268	L		BD	87063005	054900	021000		G C=180,B=40
DAJJH	SKY BKGD	37	16.2	1305408	-014304	L	3	31268	S		BD	87063005	055000	021000		G B=40
LOJDB HD	117176	44	5.0	1325590	+140243	L	1	11114	T	20032	FO	87062820	203500	000200		G C=225,B=38
MGJEB	R HYA	51	5.0	1326585	-230124	L	1	11093	L	25011	FU	87062618	185100	001500		G E=163,B=39
MGJEB	R HYA	51	5.0	1326585	-230124	L	1	11268	L	397	FU	87072218	182900	002000		G E=49,B=38
WDJHS	GD 325	29	13.9	1333589	+484359	L	3	31216	L	39	SO	87062009	091100	006000		G C=93,B=23
WDJHS	GD 325	29	13.9	1333589	+484358	L	3	31373	S	31	SO	87072104	044300	024000		G C=105,B=57
WDJHS PG	1334+487	29	13.9	1334006	+484136	L	3	31215	L		BD	87062006	065600	006000		G B=20
DAJJH	SKY BKGD	37	12.8	1337403	+703231	L	3	31270	L	94	SO	87063012	124000	001200		G B=18
DAJJH	EG 102	37	12.8	1337403	+703231	L	3	31270	S	94	SO	87063012	124100	001200		G C=95,B=18
PHCAL HD	120315	20	01.99	1345340	+493344	H	3	31104	L	4311	FU	87060421	215721	000006	400	V
PHCAL HD	120315	20	02.03	1345340	+493344	H	1	10911	L	4170	FU	87060422	220211	000005	402	V
PHCAL HD	120315	21	1.8	1345343	+493344	L	1	10932	T	4068	FU	87060617	172900	000001		G C=165,B=30
PHCAL HD	120315	21	1.8	1345343	+493344	L	1	10933	T	4023	FU	87060618	181800	000001		G C=160,B=32
PHCAL HD	120315	21	1.8	1345343	+493344	L	1	10934	T	4033	FU	87060619	191000	000001		G C=162,B=30
PHCAL HD	120315	21	1.8	1345343	+493344	L	1	10935	T	4100	FU	87060619	195700	000001		G B=30
PHCAL HD	120315	21	1.8	1345343	+493344	H	1	10936	L	4064	FU	87060620	204300	000005		G C=205,B=39
PHCAL HD	120315	21	1.8	1345343	+493344	H	1	11145	L	3950	FU	87070417	174400	000005		G C=223,B=44
PHCAL HD	120315	21	1.8	1345343	+493344	H	3	31288	L	4070	FU	87070418	181300	000006		G C=170,B=32
PHCAL HD	120315	21	1.8	1345343	+493344	H	3	31289	L	4387	FU	87070418	184300	000006		G C=195,B=35
ECJMK	A1795	90	0.0	1346343	+265004	L	1	11276	L		BD	87072603	035300	036000		G B=90
ECJMK	A1795	07	0.0	1346344	+265005	L	3	31414	L			87072603	035500	032000		G B=58
JQ180 NGC	5347	84	99.90	1351050	+334408	L	1	11245	L		BD	87071820	203122	037400	115	V 2 MIN OUT OF APER
JQ180 NGC	5347	84	14.90	1351050	+334411	L	1	11253	L	20	SO	87071919	195557	041200	315	V BLIND OFFSET
SDJJL PG	1352-023	28	12.1	1352296	-021541	L	3	31182	L	177	SO	87061720	203800	000320		G C=200,B=18
SDJJL PG	1352-023	28	12.5	1352296	-021541	L	1	11037	L	193	SO	87061806	062300	000400		G C=180,B=33
SDJJL PG	1352-023	28	12.5	1352296	-021541	H	3	31190	L	199	SO	87061806	063100	018000		G C=160,B=64
SDJJL PG	1352-023	28	12.5	1352296	-021541	H	3	31191	L	190	SO	87061810	100100	017500		G C=158,B=65
GIJBS HD	121800	20	9.11	1353543	+662138	H	3	32175	L	717	FO	87102802	024600	012000		G C=237,B=58
MGJJE HD	122250	49	5.5	1400233	-763325	L	1	11016	L	24339	FO	87061513	134600	003000		G E=170,C=67,B=40
MGJJE HD	122250	49	5.5	1400233	-763325	L	1	11117	L	26409	FO	87062914	143100	003000		G E=161,C=68,B=40
MGJJE HD	122250	49	5.5	1400233	-763325	L	1	11215	L	364	FU	87071612	123100	003000		G E=1.5X,C=100,B=58
MGJJE HD	122250	49	5.5	1400233	-763325	L	1	11295	L	400	FU	87072912	120000	003000		G E=1.5X,C=95,B=21
MGJJE HD	122250	49	5.5	1400233	-763325	L	1	11302	L	399	FU	87073018	183900	001300		G E=156,C=67,B=36
MGJJE HD	122250	49	5.5	1400233	-763325	L	1	11412	L	390	FU	87081707	074100	002000		G E=229,C=80,B=48
MGJJE HD	122250	49	5.5	1400233	-763325	L	1	11530	L	356	FU	87083011	113200	002000		G E=231,C=132,B=90
MGJJE HD	122250	49	5.5	1400233	-763325	L	1	11548	L	27894	FO	87090211	114500	000600		G E=202,B=154
MGJJE HD	122250	49	5.5	1400233	-763325	L	1	11657	L	25827	FO	87091907	071900	002000		G E=165,C=80,B=52
MGJJE HD	122250	49	5.5	1400233	-763325	L	1	11773	L	26746	FO	87100108	080700	002000		G E=159,C=108,B=79
MGJJE HD	122250	49	5.5	1400233	-763325	L	1	11896	L	344	FU	87101805	055400	002000		G E=118,C=59,B=41
WDJNO HD	122742	44	6.4	1401050	+110138	L	3	31351	L	6775	FO	87071715	154200	001500		G B=38
WDJNO HD	122742	44	6.4	1401050	+110138	L	1	11231	L	6927	FO	87071716	165400	000500		G C=3X,B=42
BEJRP HD	122669	26	8.96	1401427	-621607	L	3	31379	L	557	FO	87072116	164200	000245		G C=150,B=18
BEJRP HD	122669	26	8.96	1401427	-621607	L	1	11260	S	571	FO	87072117	171900	001600		G C=6X,B=45
BEJRP HD	122669	26	8.96	1401427	-621607	L	1	11260	L	571	FO	87072117	171900	000240		G C=2X,B=45

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
BEJRP	HD 122669	26	8.96	1401427	-621607	L	3	31416	L	632	FO	87072612	120400	000330		G C=165,B=18
BEJRP	HD 122669	26	8.96	1401427	-621607	L	1	11277	L	647	FO	87072612	121200	000120		G C=195,B=40
BEJRP	HD 122669	26	8.96	1401427	-621607	L	1	11277	S		FO	87072612	122000	000800		G C=3X,B=40
SDJJL	PG 1409-103	28	14.2	1409478	-101857	L	1	11031	L	31	SO	87061716	163100	002800		G C=220,B=46
SDJJL	PG 1409-103	28	14.2	1409478	-101857	L	3	31180	L	30	SO	87061717	173600	001500		G C=153,B=19
MGJEB	R CEN	51	6.0	1412569	-594055	L	1	11094	L			87062619	195800	002000		G B=40
MGJEB	R CEN	51	6.0	1412569	-594055	L	1	11267	L	7041	FO	87072217	172500	002000		G E=53,B=40
MGJEB	R CEN	51	6.0	1412569	-594055	L	1	11491	L	6154	FO	87082614	140200	002500		G B=87
MGJEB	R CEN	51	6.0	1412569	-594055	L	1	11680	L	8053	FO	87092111	115700	001500		G B=170
JA173	PG1413+114	16	16.00	1413226	+112612	L	3	31135	L		BO	87061122	220024	025000	502	V
JA173	PG1413+114	16	16.00	1413226	+112612	L	1	10989	L		BO	87061202	021655	015000	502	V
CCJTS	HD 126661	40	5.4	1424077	+192703	L	3	31248	L	16390	FO	87062516	163500	002000		G C=13X,B=21
JC189	G200-39	29	15.00	1425579	+540150	L	3	31310	S		BO	87070820	205603	035100	302	V
JC189	G200-39	29	15.00	1425579	+540150	L	3	31310	L		BO	87070820	200321	004000	302	V
IC112	HD 127700	47	04.63	1427362	+755506	L	3	31224	L	411	FO	87061922	221911	032300	243	V
IC112	HD127700	47	04.63	1427362	+755506	H	1	11050	L	411	FO	87062103	034752	006000	343	V
GIJBS	HD 127557	30	8.9	1427581	+673442	H	3	32169	L	694	FO	87102622	220400	039000		G C=190,B=125
JQ180	NGC5643	84	13.71	1429275	-435716	L	1	11061	L	58	SO	87062121	215257	041400	336	V
LDJDD	HD 127535	46	8.7	1430308	-601118	H	1	11335	L	856	FO	87080610	101700	014000		G E=172,B=48
LDJDD	HD 127535	46	8.7	1430308	-601118	L	3	31508	L	953	FO	87080801	014600	042500		G E=169,C=120,B=92
SYJJH	NGC 5674	84	13.7	1431225	+054038	L	3	31136	L	20	SO	87061205	055700	028500		G E=141,C=88,B=43
SYJJH	NGC 5674	84	13.7	1431225	+054038	L	1	10990	L		BO	87061210	105200	011800		G C=90,B=67
JC028	ALP CEN B	46	99.99	1435520	-603732	H	1	11323	L		BO	87080420	204048	000145	551	V
JC028	HD128621	46	01.30	1436104	-600000	H	1	11306	L		BO	87073100	005359	000145	110	V FINDBRIT ON ALF CEN
NSJRF	LY 130	21	10.2	1436419	-622310	L	3	31361	L	219	FO	87071812	125500	003500		G C=148,B=53
NSJRF	LY 130	21	10.2	1436419	-622310	L	1	11241	L	208	FO	87071813	134100	001000		G C=170,B=65
NSJRF	LY 130	21	10.2	1436419	-622310	L	3	31362	L	202	FO	87071814	141400	003000		G C=185,B=110
NSJRF	LY 131	23	10.4	1436580	-624300	L	1	11247	L	176	FO	87071911	113500	001500		G C=1.5X,B=50
NSJRF	LY 131	23	10.4	1436580	-624300	L	3	31367	L	177	FO	87071912	120700	004500		G C=1.2X,B=70
NSJRF	LY 131	23	10.4	1436580	-624300	L	1	11248	L	177	FO	87071912	125900	001000		G C=242,B=60
NSJRF	LY 131	23	10.4	1436580	-624300	L	3	31368	L	180	FO	87071913	133100	003000		G C=228,B=92
NSJRF	LY 131	23	10.4	1436580	-624300	L	1	11249	L	177	FO	87071914	140800	001000		G C=1.2X,B=89
NSJRF	HD 128765	25	10.1	1437318	-621739	L	1	11240	L	271	FO	87071812	120100	000700		G C=248,B=41
NSJRF	HD 128765	25	10.1	1437319	-621739	L	3	31357	L	258	FO	87071804	042600	009000		G C=3.4X,B=32
NSJRF	HD 128765	25	10.1	1437319	-621739	L	1	11237	L	281	FO	87071806	060400	002500		G C=2X,B=41
NSJRF	HD 128765	25	10.1	1437319	-621739	L	3	31358	L	275	FO	87071806	064200	002500		G C=1X,B=20
NSJRF	HD 128765	25	10.1	1437319	-621739	L	1	11238	L	279	FO	87071807	073600	001500		G C=1.5X,B=40
NSJRF	HD 128765	25	10.1	1437319	-621739	L	3	31360	L	262	FO	87071811	111700	001700		G C=322,B=20
NSJRF	LY 135	25	11.1	1437349	-615950	L	3	31359	L	207	SO	87071808	083400	010000		G C=160,B=51
NSJRF	LY 135	25	11.1	1437349	-615949	L	1	11239	L	200	SO	87071810	102200	002500		G C=186,B=52
NSJRF	LY 135	25	11.1	1437349	-615949	L	3	31365	L	212	SO	87071905	050000	017000		G C=210,B=48
NSJRF	LY 135	25	11.1	1437349	-615949	L	1	11246	L	198	SO	87071908	080000	003000		G C=208,B=50
NSJRF	LY 135	25	11.1	1437349	-615949	L	3	31366	L	210	SO	87071908	084000	015000		G C=220,B=92
JS186	PLUTO	03	13.99	1439343	+015726	L	1	11043	L	45	SO	87061922	223711	032500	305	V 82 CTS FESCAMT @ R.P
JQ180	NGC5728	88	13.77	1439370	-170225	L	1	11256	L	55	SO	87072020	200827	040000	316	V

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MO	Obs.date	Exptim	mmmmsstt	ECC	Comment
JQ180	NGC 5728	88	13.69	1439370	-170225	L	3	31381	L	59	SO	87072119	194756	042000	314	V
JS186	PLUTO	03	15.00	1439387	+015732	L	1	11040	L		BO	87061823	233958	030000	114	V MOVING GUIDE DX=-2,D
USSBS	HD 129989	47	2.70	1442479	+271704	H	1	10942	L	2160	FU	87060717	173900	000218		G C=140,B=35
USSBS	HD 129989	47	2.70	1442479	+271702	H	1	10944	L	2153	FU	87060720	204100	000245		G C=160,B=40
SCJPF	LMC 1987	06		1443318	-182007	D	9	01982	2			87083123	233800	002000		G NO COMMENTS
SCJPF	C BRAD	06		1443318	-182007	L	1	11542	L	284	SO	87090123	234600	001500		G E=80,B=35
SCJPF	C BRAD	06		1443318	-182007	L	3	31688	L	290	SO	87090200	000600	001500		G E=131,B=15
SCJPF PG	C BRAD	06		1443318	-182008	L	1	11543	L	281	SO	87090200	004200	012000		G E=2X,C=118,B=58
STJRP	109 VIR	30	3.74	1443430	+020608	L	3	31547	L	668	FU	87081213	132700	000002		G C=118,B=17
STJRP	109 VIR	30	3.74	1443430	+020608	L	3	31548	L	663	FU	87081213	135600	000005		G C=210,B=17
STJRP	109 VIR	30	3.74	1443430	+020608	L	3	31549	L	670	FU	87081214	142700	000005		G C=212,B=17
STJRP	109 VIR	30	3.74	1443430	+020608	L	3	31550	T	661	FU	87081214	145800	000018		G C=240,B=18
STJRP	109 VIR	30	3.74	1443430	+020608	L	3	31551	L	677	FU	87081215	153100	000010		G C=2X,B=17
STJRP	109 VIR	30	3.74	1443430	+020608	L	3	31552	L	660	FU	87081216	160000	000010		G C=2X,B=18
STJRP	109 VIR	30	3.74	1443430	+020608	L	3	31553	T	661	FU	87081216	163400	000030		G C=2X,B=18
USSBS	HD 130481	30	2.75	144806	-155009	D	9	01945	2			87061018	181700	016000		G NO COMMENTS
USSBS	HD 130481	30	2.75	1448060	-155008	D	9	01944	2			87061018	181700	016000		G NO COMMENTS
USSBS	HD 130481	30	2.75	1448060	-155008	L	1	10969	L	1590	FU	87061018	183400	000001		G
WDJNO	HD 131511	46	6.0	1451063	+192119	L	1	11232	L	8912	FO	87071717	173900	000130		G C=188,B=35
LDJDB	HD 134083	41	4.9	1505062	+250346	L	1	11178	T	19744	FO	87071016	161400	000015		G C=120,B=35
LDJDB	HD 134083	41	4.9	1505062	+250346	L	1	11181	T	21221	FO	87071018	184000	000100		G C=1.5X,B=39
SDJJL	PG 1506-052	28	14.0	1506408	-050931	L	1	11032	L	38	SO	87061718	184200	002300		G C=205,B=40
SDJJL	PG 1506-052	28	14.0	1506408	-050931	L	3	31181	L	39	SO	87061719	191500	001300		G C=141,B=28
EGJDW	CG 657	88	16.	1510331	+472740	L	3	31473	L		BO	87080401	015900	041200		G E=1.3X,C=120,B=90
ISJPF	HD 135382	30	2.9	1514125	-682949	H	3	31167	M	1482	FU	87061615	155100	000245		G C=170,B=39
ISJPF	HD 135382	30	2.9	1514125	-682949	H	1	11026	M	1470	FU	87061616	160300	000106		G C=158,B=45
ISJPF	HD 135382	30	2.9	1514125	-682949	H	3	31168	M	1479	FU	87061616	164700	000315		G C=199,B=42
ISJPF	HD 135382	30	2.9	1514125	-682949	H	3	31169	M	1478	FU	87061617	172200	000324		G C=205,B=44
ISJPF	HD 135382	30	2.9	1514125	-682949	H	3	31170	M	1458	FU	87061617	175600	000324		G C=211,B=44
ISJPF	HD 135382	30	2.9	1514125	-682949	H	3	31171	M	1488	FU	87061618	183300	000324		G C=207,B=43
ISJPF	HD 135382	30	2.9	1514125	-682949	H	3	31172	M	1500	FU	87061619	191100	000321		G C=208,B=42
ISJPF	HD 135382	30	2.9	1514125	-682949	H	3	31173	M	1487	FU	87061619	194600	000321		G C=212,B=41
ISJPF	HD 135382	30	2.9	1514125	-682949	H	3	31174	M	1513	FU	87061620	202100	000321		G C=205,B=41
USSBS	HD 135742	22	2.6	1514185	-091200	D	9	01947	2			87061406	061500	016000		G NO COMMENTS
USSBS	HD 135742	22	2.6	1514185	-091200	H	1	11008	L	1958	FU	87061406	062700	000026		G C=210,B=42
IPJRP	U CRB	66	7.5	1516088	+314943	L	3	31099	L	2053	FO	87060316	163500	000030		G C=153,B=15
IPJRP	U CRB	59	7.2	1516088	+314943	L	1	10905	L	2028	FO	87060317	170600	000030		G C=1.5X,B=35
IPJRP	U CRB	59	7.2	1516088	+314943	L	1	10905	S	2041	FO	87060317	171400	000300		G C=3X,B=35
JA039	HD 138749	22	04.24	1530547	+313136	H	3	31188	L	584	FU	87061803	031503	000145	500	V
JA039	HD 138749	22	04.29	1530547	+313136	H	3	31300	L	556	FU	87070623	235211	000145	500	V
JA039	HD 138749	22	04.42	1530547	+313136	H	3	31516	L	498	FU	87080818	182913	000145	500	V
JM032	G104 +43	74	14.20	1536358	+690154	L	3	31881	L		BO	87091816	162830	001000	300	V
JM032	G104 +43	74	14.20	1536358	+690154	H	1	11655	L		BO	87091816	164737	036000	303	V
JM032	G104+43	74	14.20	1536358	+690154	L	1	11950	L		BO	87102513	134519	042200	307	V
JM032	G104+43	74	14.15	1536369	+690203	L	3	31566	L		BO	87081417	174217	001000	110	V

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
QAJDT	QSO 1538+477	85	16.0	1538005	+474514	L	3	31240	L		BO	87062406	065000	035000		G C=120,B=84
QSJMM	PG 1538+477	85	16.0	1538006	+474510	L	1	11382	L		BO	87081302	021000	019000		G E=150,C=123,B=67
QSJMM	PG 1538+477	85	16.0	1538009	+474510	L	3	31555	L			87081305	052700	020500		G C=88,B=65
JC087	HD140283	41	07.60	1540225	-104618	H	1	11288	L	3363	FO	87072800	004108	012600	703	V
JA173	PG1544+49	28	13.14	1544413	+484753	L	1	10992	L	96	SO	87061221	213543	001500	600	V
JA173	PG 1544+49	28	13.09	1544413	+484753	L	3	31142	L	101	SO	87061222	220134	001500	600	V
PHCAL	BD +33 2642	20	10.8	1550018	+330527	L	3	31370	L	136	FO	87071916	165200	000400		G C=180,B=20
PHCAL	BD +33 2642	20	10.8	1550018	+330527	L	1	11251	L	136	FO	87071917	172500	000310		G C=221,B=39
PHCAL	BD +33 2642	20	10.8	1550019	+330528	L	1	10891	L	134	FO	87060120	204200	000310		G C=195,B=30
PHCAL	BD +33 2642	20	10.8	1550019	+330528	L	3	31526	L	131	FO	87080915	155100	000400		G C=183,B=16
PHCAL	BD +33 2642	20	10.8	1550019	+330528	L	1	11364	L	136	FO	87080916	160000	000310		G C=230,B=35
PHCAL	NULL	99		1550019	+330528		2	18118				87082022	224400	000000		G B=10
PHCAL	BD +33 2642	20	10.8	1550019	+330528	L	2	18119	L	135	FO	87082023	231300	000420		G C=175,B=24
BEJRP	HD 141926	26	8.59	1550263	-551053	L	3	31377	L	943	FO	87072114	144100	001500		G C=2.5X,B=80
BEJRP	HD 141926	26	8.59	1550263	-551053	L	1	11259	L	934	FO	87072115	151100	000230		G C=240,B=52
BEJRP	HD 141926	26	8.59	1550263	-551053	L	3	31378	L	906	FO	87072115	154500	000600		G C=160,B=32
LDJDB	HD 142373	41	4.6	1550567	+423526	L	1	11180	T	288	FU	87071017	175800	000048		G C=235,B=42
LDJDB	HD 142860	41	3.9	1554085	+154925	L	1	11179	T	576	FU	87071017	170800	000019		G C=235,B=38
SYJDC	MRK 493	84	14.9	1557163	+351015	L	3	31646	L		BO	87082623	230800	027000		G E=179,C=110,B=65
II094	T CRB	87	10.21	1557240	+260339	L	3	31095	L	329	FO	87060303	034217	004500	460	V PREAD
II094	TCR B	87	10.20	1557240	+260339	L	1	10902	L	333	FO	87060304	043505	001400	561	V PREAD
JA173	PG1559+22	28	14.90	1559036	+221408	L	1	10993	L		BO	87061223	231020	011500	601	V
JA173	PG 1559+22	28	14.90	1559036	+221408	L	3	31143	L		BO	87061301	012027	010000	600	V
JA021	HD 144208	39	06.21	1601289	+364607	L	3	31307	L	11130	FO	87070802	024425	000500	701	V
JM119	IC4593	71	10.69	1609233	+121208	L	3	31290	L	215	FO	87070419	193927	000400	550	V REF PNT=(2,-212)
JM119	IC4593	71	10.65	1609233	+121208	L	3	31291	L	223	FO	87070420	201515	004000	110	V REF POINT=(75,-231)
SAJCW	HD 146051	49	2.7	1611433	-033401	L	1	11105	T	1848	FU	87062720	203300	000533		G E=1.2X,B=102,B=34
SAJCW	HD 146051	49	2.7	1611433	-033401	L	1	11462	T	1747	FU	87082307	073200	000320		G E=195,C=75,B=35
BCJEB	S NOR	53	6.6	1614424	-574643	L	3	31715	L	7056	FO	87090502	024200	016000		G C=239,B=48
DAJJH	EG 118	37	13.5	1615059	-152829	L	3	31269	L	58	SO	87063010	103900	000830		G C=180,B=40
DAJJH	EG 118	37	13.5	1615059	-152829	L	3	31269	S	53	SO	87063010	105900	001830		G C=155,B=19
JS036	TITAN	04	08.88	1615275	-210243	E	9	01978	2	1081	FO	87080917	175800	016000		V FES FOR LWP 11365, T
JM032	G081+44	74	99.99	1619226	+521314	H	1	11398	L	65	SO	87081419	192647	032000	306	V
JM032	G081+44	74	13.53	1619228	+521311	L	3	31562	L	68	SO	87081318	181155	001000	500	V
JM032	G081+44	74	13.55	1619228	+521311	H	1	11390	L	67	SO	87081318	183943	036800	306	V
JM032	G081+44	74	13.65	1619229	+521312	L	3	31884	L	61	SO	87091915	154020	001000	500	V
JM032	G081+44	74	13.62	1619229	+521312	H	1	11665	L	63	SO	87091916	160859	039600	404	V
SAJCW	HD 149038	13	4.9	1630313	-435628	L	3	31624	T	262	FU	87082310	101300	000007		G C=180,B=19
SAJCW	HD 149038	13	4.9	1630313	-435628	L	1	11464	T	260	FU	87082310	102300	000006		G C=225,B=40
CMJFB	HD 149630	22	4.2	1632292	+423220	H	3	31415	L	446	FU	87072610	103900	001500		G C=2.5X,B=60
PHCAL	HD 149438	20	2.84	1632459	-280651	H	3	31369	L	1807	FU	87071915	152700	000006		G C=180,B=34
PHCAL	HD 149438	20	2.84	1632459	-280651	H	1	11250	L	1807	FU	87071915	155700	000006		G C=217,B=45
PHCAL	HD 149438	20	2.8	1632459	-280651	H	3	31581	L	1821	FU	87081812	120600	000006		G C=185,B=37
PHCAL	HD 149438	20	2.8	1632459	-280651	H	1	11422	L	1826	FU	87081812	121100	000006		G C=220,B=45
PHCAL	HD 149438	20	2.8	1632459	-280651	H	3	31582	S	1807	FU	87081813	131100	000009		G C=175,B=38

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
PHCAL	HD 149438	20	2.8	1632459	-280651	H	1	11423	S	1797	FU	87081814	140300	000011		G C=205,B=45
PHCAL	TAU SCO	20	02.93	1632460	-280651	H	3	31693	L	1868	FU	87090221	210246	000006	500	V
PHCAL	TAU SCO	20	02.94	1632460	-280651	H	1	11556	L	1850	FU	87090221	210710	000006	502	V
PHCAL	TAU SCO	20	02.94	1632460	-280651	H	3	31694	L	1869	FU	87090222	220655	000006	500	V
PHCAL	TAU SCO	20	02.94	1632460	-280651	H	1	11557	L	1860	FU	87090222	221030	000006	502	V
PHCAL	TAU SCO	20	02.94	1632460	-280651	H	1	11569	L	1858	FU	87090321	213116	000006	503	V
PHCAL	TAU SCO	20	03.02	1632460	-280651	H	3	31704	L	1726	FU	87090321	212706	000006	500	V
PHCAL	TAU SCO	20	02.89	1632460	-280651	H	3	31705	L	1941	FU	87090322	220945	000006	500	V
NPJST	PC11	70	0.0	1633369	-553624	L	1	11590	L	240	SO	87091007	073700	006000		G E=108,C=95,B=50
NPJST	PC11	70		1633369	-553624	L	3	31820	L	230	SO	87091008	084300	009000		G E=131,B=58
NPJST	PC11	70	0.0	1633370	-553624	L	3	31829	L	203	SO	87091207	074900	012000		G E=150,B=75,B=50
SRJEB	UU HER	52	9.0	1634130	+380406	L	1	11719	L	542	FO	87092511	111000	001500		G C=160,B=46
SRJEB	UU HER	52	9.0	1634130	+380406	L	1	11802	L	849	FO	87100611	113700	001000		G C=148,B=50
SRJEB	UU HER	52	9.0	1634130	+380406	L	1	11920	L	685	FO	87102009	093500	001500		G E=233,C=2X,B=176
JE187	PG1634+706	85	15.00	1634514	+703737	L	1	11893	L		BO	87101713	133758	007500	353	V
IQ140	PG1634+706	85	15.02	1634517	+703737	L	1	11445	L	18	SO	87082019	193740	015300	573	V PREAD
MGJJE	HD 150450	49	4.9	1637232	+490131	L	1	11022	L	23670	FO	87061520	204000	000800		G E=205,C=140,B=35
MGJJE	HD 150450	49	4.9	1637232	+490131	L	1	11219	L	22435	FO	87071616	163500	000800		G E=244,C=209,B=48
MGJJE	HD 150450	49	4.9	1637232	+490131	L	1	11418	L	22720	FO	87081714	143700	000145		G E=138,C=115,B=72
MGJJE	HD 150450	49	4.9	1637232	+490131	L	1	11527	L	23838	FO	87083007	074900	000800		G E=244,C=267,B=37
MGJJE	HD 150450	49	4.9	1637232	+490131	L	1	11545	L	24590	FO	87090208	080700	000800		G E=255,C=174,B=37
MGJJE	HD 150450	49	4.9	1637232	+490131	L	1	11662	L	23706	FO	87091912	122300	000345		G E=212,C=182,B=118
MGJJE	HD 150450	49	4.9	1637232	+490131	L	1	11776	L	24192	FO	87100111	111500	000345		G E=195,C=183,B=120
MGJJE	HD 150450	49	4.9	1637232	+490131	L	1	11902	L	23142	FO	87101812	122000	000800		G E=245,C=190,B=38
JA190	BRNRD 29	19	13.1	1639463	+363147	H	3	31823	L	108	SO	87091016	160200	083000		G C=1.1X,B=160
JA190	BRNRD 29	19	13.1	1639463	+363147	L	3	31824	L	108	SO	87091106	063300	002000		G C=150,B=18
JA190	BARNARD 29	19	99.99	1639464	+363147	D	9	01983	2			87091015	154500	016000		V
SAJCW	HD 150997	45	3.5	1641108	+390058	L	1	11104	T	763	FU	87062719	193200	000112		G C=235,B=35
WDJHS	GD 358	29	13.6	1645249	+323348	L	3	31217	S	47	SO	87062011	113200	008000		G C=165,B=35
WDJHS	GD 358	29	13.7	1645250	+323348	L	3	31374	S	46	SO	87072109	095400	005500		G C=147,B=30
HEJES	GD358	29	13.6	1645250	+323342	F	9	01972	2			87072917	174600	002000		G NO COMMENTS
HEJES	GD358	29	13.6	1645250	+323342	H	3	31432	L	48	SO	87072917	175900	099900		G E=2X,C=2X,B=180
SAJCW	HD 151515	13	7.2	1646171	-415457	L	3	31625	T	3629	FO	87082311	113900	000155		G C=236,B=27
SAJCW	HD 151515	13	7.2	1646171	-415457	L	1	11465	T	3531	FO	87082311	115200	000120		G C=1.5X,B=48
SAJCW	HD 151515	13	7.2	1646171	-415457	L	1	11467	T	3357	FO	87082314	140700	000040		G C=185,B=40
JA019	HD 152270	10	06.97	1650487	-414421	H	3	31298	L	5881	FO	87070621	210646	002000	451	V
JA019	HD152270	10	07.03	1650487	-414421	H	1	11154	L	5566	FO	87070621	213612	001500	451	V
JA021	HD 152270	10	06.99	1650487	-414422	H	3	31306	L	5776	FO	87070800	005948	002000	451	V
JA021	HD152270	10	06.93	1650487	-414421	H	1	11157	L	6070	FO	87070801	012901	001500	503	V
JA020	HD 152270	10	06.90	1650487	-414421	H	1	11291	L	5880	FO	87072820	205909	001500	601	V
JA020	HD 152270	10	99.99	1650487	-414421	H	3	31428	L	6141	FO	87072821	215044	002000	450	V
JA020	HD152270	10	07.02	1650487	-414421	H	3	31628	L	5593	FO	87082319	191418	002000	450	V
JA020	HD 152270	10	06.95	1650487	-414421	H	1	11469	L	5954	FO	87082319	194125	001500	553	V
JA020	HD152270	10	07.04	1650487	-414421	H	1	11474	L	5502	FO	87082416	164037	001500	453	V
JA020	HD152270	10	07.14	1650487	-414421	H	3	31635	L	5066	FO	87082418	180614	002000	451	V

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
JC071	HD153751	47	04.66	1651009	+820722	H	1	11574	L	401	FU	87090515	154228	003000	453	V
JC071	HD153751	47	04.68	1651009	+820722	L	3	31724	L	395	FU	87090516	161845	004000	661	V
JC071	HD153751	47	04.67	1651009	+820722	H	1	11575	L	396	FU	87090517	170910	012000	773	V
JS036	SKY	07	08.88	1651275	-210243	L	3	31527	L	1081	FO	87080918	181250	012000	040	V FES FOR LWP 11365, T
JS139	TITAN	04	08.81	1651315	-210300	E	9	01977	2	1145	FO	87080823	234500	016000		V FES FOR LWP 11359
JS036	SKY	07	99.99	1651430	-210240	L	3	31528	L			87080921	215140	012000	040	V
JS139	SATURN	03	00.30	1651435	-210236	L	3	31520	L		BO	87080823	235356	005000	730	V GUIDING ON TITAN9
JS139	SATURN	03	14.00	1652180	-210217	L	3	31460	L		BO	87080218	185123	005000	731	V GUIDING ON TITAN
SAJCW	HD 152723	13	7.1	1653261	-402603	L	3	31626	T	3324	FO	87082313	130700	000115		G C=190,B=38
SAJCW	HD 151515	13	7.2	1653261	-412603	L	1	11466	T	3429	FO	87082313	132000	000045		G C=204,B=45
SSJDS	SATCORON	07		1653359	-210255	L	3	31398	L			87072405	052600	006000		G E=96,B=24
SSJDS	SATCORON	07		1653359	-210255	L	3	31400	L		BO	87072408	085300	006000		G B=34
SSJDS	SATURN	03	-0.5	1653361	-210251	L	3	31404	L			87072417	173900	004000		G
SSJDS	SATURN	03	-0.5	1653375	-210252	L	3	31403	L			87072414	144500	012000		G E=2.5X,C=8X,B=200
SSJDS	SATURN	03	-0.5	1653375	-210252	L	3	31403	S			87072415	152200	012000		G
SSJDS	SATURN	03	0.2	1653422	-210255	L	3	31397	L		FU	87072404	040900	003000		G E=94,C=1.5X,B=20
SSJDS	SKYBKGRD	07		1653422	-210255	L	3	31399	L		BO	87072407	070800	006000		G E=97,B=27
SSJDS	SATURN	03	-0.5	1653423	-210255	L	3	31401	L			87072410	103800	003000		G E=126,C=1.5X,B=26
SSJDS	SATURN	03	-0.5	1653423	-210255	L	3	31402	L			87072411	114900	012000		G E=2X,C=8X,B=148
SSJDS	SATURN	03	-0.5	1653423	-210255	L	3	31402	S			87072412	122500	012000		G
SSJDS	SATURN	03	+0.3	1653461	-210257	L	3	31394	S			87072316	165200	007500		G E=185,C=5X,B=43
SSJDS	SATURN	03	+0.3	1653461	-210257	L	3	31394	L			87072316	165300	007500		G E=185,C=5X,B=43
SSJDS	SATURN	03	+0.3	1653477	-210258	L	3	31392	L			87072314	143300	003000		G E=170,C=2X,B=115
SSJDS	SATURN	03	+0.3	1653492	-210258	L	3	31391	L			87072311	112900	012000		G E=2X,C=8X,B=152
SSJDS	SATURN	03	+0.3	1653492	-210258	L	3	31391	S			87072311	113000	012000		G E=2X,C=8X,B=152
SSJDS	SATURN	03	0.2	1653527	-210300	L	3	31386	L		FU	87072304	040200	001500		G E=55,C=242,B=17
SSJDS	SATURN	03	0.2	1653527	-210300	L	3	31387	L		FU	87072304	045500	002500		G E=83,C=1.5X,B=20
SSJDS	SKYBKGRD	07		1653527	-210300	L	3	31388	L			87072305	055800	002500		G E=45,B=18
SSJDS	SATURN	03	0.2	1653527	-210300	L	3	31389	L		FU	87072307	070300	012000		G E=212,C=8X,B=43
SSJDS	SATURN	03	0.2	1653527	-210300	L	3	31389	S		FU	87072307	070400	012000		G E=212,C=8X,B=43
SSJDS	SATURN	03	0.2	1653527	-210300	L	3	31390	L		FU	87072310	102500	002500		G E=96,C=1.5X,B=27
SSJDS	SKY BKGD	07		1653527	-210200	L	3	31393	L			87072315	154400	003000		G E=129,B=78
SPJRW	TITAN	04	8.5	1653572	-210614	L	1	11359	L	1145	FO	87080900	005600	003500		G C=200,B=40
SPJRW	TITAN	04	8.5	1653572	-210614	L	1	11360	L	1106	FO	87080902	021900	009000		G C=2X,B=50
SPJRW	SKY BKGD	04		1653572	-210614	L	3	31521	L			87080902	022000	012000		G E=140,B=20
SPJRW	TITAN	04	8.5	1653572	-210614	L	1	11361	L	1152	FO	87080904	043900	022000		G C=5X,B=74
SPJRW	SKY BKGD	04		1653572	-210614	L	3	31522	L			87080905	055200	012000		G E=130,B=20
SPJRW	TITAN	04	8.5	1653572	-210614	L	1	11365	L	1081	FO	87080917	175500	078000		G C=17X,B=160
SPJRW	SKY BKGD	07		1653572	-210614	L	3	31529	L			87081000	003700	012000		G E=140,B=20
SPJRW	SKY BKGD	07		1653572	-210614	L	3	31530	L			87081003	035400	012000		G E=136,B=21
SPJRW	SKY BKGD	07		1653572	-210614	L	3	31531	L			87081007	070100	009000		G E=24,B=33
QAJDT	QSO 1656+053	85	16.5	1656056	+051946	L	3	31236	L		BO	87062306	060500	040500		G C=130,B=103
BEJTS	HD 153261	26	6.1	1657266	-585308	H	3	31221	L	8472	FO	87062017	174300	000806		G C=250,B=44
BEJTS	HD 153261	26	6.1	1657266	-585308	H	1	11047	L	8439	FO	87062018	181500	000245		G C=166,B=42
JC120	AS 218	46	12.49	1704041	-270944	L	3	31385	L	172	SO	87072201	010215	011000	122	V PREAD

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
JC120	AS 218	46	12.54	1704041	-270944	L	3	31406	L	165	SO	87072423	234127	018900	233	V PREAD
JM196	CPD-568032	10	11.64	1704480	-565101	L	1	11203	L	92	FO	87071220	200219	003000	561	V
JM196	CPD-568032	10	11.69	1704480	-565101	H	3	31335	L	88	FO	87071220	203915	037000	343	V
SCJPF	C BRAD	06	9.5	1705422	-025847	D	9	01995	2			87102522	220800	002000		G NO COMMENTS
SCJPF	COMET	06	9.5	1705422	-025847	L	1	11951	L	593	FO	87102522	222300	000300		G E=97,C=54,B=35
SCJPF	C BRAD	06	9.5	1705422	-025847	L	1	11952	L	584	FO	87102600	002100	004000		G E=3X,C=151,B=46
USSBS	HD 155125	30	2.4	1707306	-153949	H	3	31686	L	2181	FU	87090114	143200	000152		G C=205,B=38
PHCAL	HD155763	25	03.41	1708381	+654634	L	1	10951	L	1219	FU	87060801	013622	000000	503	V
PHCAL	HD155763	25	03.39	1708381	+654634	L	1	10952	L	1240	FU	87060802	020513	000000	503	V
PHCAL	HD 155763	25	03.39	1708381	+654634	L	3	31121	L	1243	FU	87060802	022053	000001	500	V
PHCAL	HD155763	25	03.39	1708381	+654634	L	1	11495	L	1242	FU	87082622	220110	000000	503	V
PHCAL	HD155763	24	03.45	1708381	+654634	L	1	11553	L	1177	FU	87090218	184518	000000	503	V
PHCAL	HD155763	24	03.38	1708381	+654634	L	3	31692	L	1200	FU	87090218	184117	000001	500	V
PHCAL	HD155763	24	03.38	1708381	+654634	L	1	11554	L	1250	FU	87090219	194119	000000	503	V
PHCAL	HD155763	24	03.38	1708381	+654634	L	1	11555	L	1250	FU	87090220	201050	000000	503	V
PHCAL	HD155763	25	03.46	1708381	+654634	L	1	11562	L	1170	FU	87090315	151741	000000	503	V
PHCAL	HD155763	25	03.45	1708381	+654634	L	1	11563	L	1179	FU	87090316	160754	000000	503	V
PHCAL	HD155763	25	03.41	1708381	+654634	L	3	31701	L	1218	FU	87090316	160339	000001	500	V
PHCAL	HD155763	25	03.44	1708381	+654634	L	1	11565	L	1186	FU	87090317	172901	000000	503	V
PHCAL	HD155763	25	03.40	1708381	+654634	L	1	11566	L	1236	FU	87090317	175912	000000	503	V
PHCAL	HD155763	25	03.44	1708381	+654634	L	1	11564	L	1186	FU	87090318	165637	000000	502	V
LDJDD	HD 155555	46	6.7	1712182	-665340	L	3	31496	L	4726	FO	87080613	130900	004500		G E=124,C=125,B=96
LDJDD	HD 155555	46	6.7	1712182	-665340	H	1	11336	L	4562	FO	87080614	140900	002500		G E=166,C=164,B=114
LDJDD	HD 155555	46	6.7	1712182	-665340	H	1	11337	L	4390	FO	87080616	160000	004700		G E=164,C=112,B=57
LDJDD	HD 155555	46	6.7	1712182	-665340	L	3	31502	L	4646	FO	87080715	150900	003000		G E=72,C=63,B=46
LDJDD	HD 155555	46	6.7	1712182	-665340	H	1	11350	L	5510	FO	87080715	154700	006000		G E=168,C=148,B=62
JC150	HD156015	45	05.40	1712223	+142644	H	1	11192	L		BO	87071123	235021	018000	784	V RP -16,-227 ON HD156
SRJEB	V453 OPH	52	10.8	1724147	-022130	L	1	11718	L	191	FO	87092509	095100	003000		G C=90,B=45
DAJJH	PG 1725+587	37	15.4	1725581	+583957	L	3	31700	L		BO	87090314	142700	002000		G C=160,B=108
USSBS	HD 158408	20	2.7	1727217	-371530	H	1	11541	L	2052	FU	87090113	132400	000009		G C=240,B=47
USSBS	HD 158408	20	2.7	1727217	-371530	H	3	31685	L	2043	FU	87090113	133000	000009		G C=190,B=38
JS139	URANUS	03	06.20	1727319	-232324	L	3	31461	S	11241	FO	87080220	204744	021500	332	V PREAD
JS139	URANUS	03	06.20	1727319	-232324	L	3	31461	L	11241	FO	87080220	204744	011906	042	V PREAD
SJIHM	URANUS	03	5.7	1728140	-232406	L	3	32010	L	10569	FO	87100621	214400	015000		G E=173,C=175,B=55
SJIHM	URANUS	03	5.7	1728140	-232406	L	3	32011	L	10431	FO	87100701	011500	018000		G E=218,C=200,B=73
ISJPF	HD 159561	33	2.08	1732366	+123541	H	3	31211	M	2930	FU	87061918	182600	000257		G C=217,B=40
ISJPF	HD 159561	33	2.08	1732366	+123541	H	3	31212	M	2917	FU	87061919	190900	000255		G C=200,B=39
ISJPF	HD 159561	33	2.08	1732366	+123541	H	3	31213	M	2928	FU	87061919	194800	000254		G C=203,B=39
ISJPF	HD 159561	33	2.08	1732366	+123541	H	3	31214	M	2881	FU	87061920	202300	000254		G C=200,B=39
ISJPF	HD 159561	33	2.08	1732366	+123541	H	1	11042	L	2846	FU	87061920	204700	000100		G C=233,B=42
ISJPF	HD 159561	33	2.08	1732367	+123542	H	3	31197	M	2916	FU	87061817	172600	000239		G C=192,B=38
ISJPF	HD 159561	33	2.08	1732367	+123542	H	3	31198	M	2936	FU	87061818	181600	000251		G C=197,B=38
ISJPF	HD 159561	33	2.08	1732367	+123542	H	3	31199	M	2948	FU	87061818	184900	000254		G C=200,B=39
ISJPF	HD 159561	33	2.08	1732367	+123542	H	3	31200	M	2895	FU	87061819	192500	000254		G C=204,B=39
ISJPF	HD 159561	33	2.08	1732367	+123542	H	3	31201	M	2922	FU	87061820	200000	000257		G C=203,B=40

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
ISJPF	HD	159561	33	2.08	1732367	+123542	H	3	31202	M	2911	FU	87061820	203600	000257	G C=199,B=39
CSJAB	HD	160635	47	3.62	1740492	-654210	H	1	10962	L	717	FU	87060906	060200	018000	G C=3X,B=78
ICJJH	SAO	122675	22	8.2	1741225	+052630	L	1	11519	M	935	FO	87082907	072800	000320	G C=185,B=36
ICJJH	SAO	122675	22	8.2	1741225	+052630	L	3	31665	M	1939	FO	87082907	074400	001000	G C=175,B=20
ICJJH	SAO	122676	22	7.6	1741248	+055157	L	1	11499	M	1455	FO	87082714	141900	000200	G C=208,B=40
ICJJH	SAO	122676	22	7.6	1741248	+055157	L	3	31650	L	1476	FO	87082714	144700	000200	G C=150,B=16
ICJJH	SAO	122676	22	7.6	1741248	+055157	L	3	31674	L	1648	FO	87083006	064500	000240	G C=172,B=17
ICJJH	SAO	122687	22	7.9	1741486	+054407	L	1	11520	M	1327	FO	87082909	091200	000300	G C=210,B=36
ICJJH	SAO	122687	22	7.9	1741486	+054407	L	3	31666	M	1327	FO	87082909	092400	000900	G C=240,B=19
ICJJH	SAO	122709	22	7.1	1743065	+054406	L	1	11521	M	2304	FO	87082910	105200	000040	G C=183,B=35
ICJJH	SAO	122709	22	7.1	1743065	+054406	L	3	31667	M	2182	FO	87082913	134800	000150	G C=215,B=24
HEJSS	HD	161480	27	7.7	1743065	+054406	H	3	32022	L	2250	FO	87100806	062700	004500	G C=150,B=40
HEJSS	HD	161480	27	7.7	1743065	+054406	H	3	32053	L	2301	FO	87101006	065300	004500	G C=180,B=40
HEJSS	HD	161480	27	7.7	1743065	+054406	H	3	32074	L	2329	FO	87101205	055800	004000	G C=145,B=39
ICJJH	SAO	122716	22	7.1	1743299	+054246	L	1	11523	M	3039	FO	87082914	143700	000040	G C=220,B=34
ICJJH	SAO	122716	22	7.1	1743299	+054246	L	3	31669	M	2347	FO	87082923	231900	000150	G C=235,B=17
ICJJH	SAO	122723	21	6.3	1743401	+053255	L	1	11496	M	4783	FO	87082707	074800	000017	G C=190,B=33
ICJJH	SAO	122723	21	6.3	1743401	+053255	L	3	31647	M	4743	FO	87082708	082700	000036	G C=200,B=16
ICJJH	SAO	122725	21	6.8	1743437	+054035	L	1	11511	L	3011	FO	87082814	144500	000014	G C=190,B=32
ICJJH	SAO	122725	21	6.8	1743437	+054035	L	3	31658	L	2924	FO	87082814	145000	000030	G C=167,B=16
ICJJH	SAO	122725	21	6.8	1743437	+054035	L	3	31673	M	3314	FO	87083003	034100	000120	G C=230,B=17
ICJJH	SAO	122730	30	8.1	1743597	+054307	L	3	31664	M	800	FO	87082901	013400	003200	G C=155,B=17
ICJJH	SAO	122730	30	8.1	1743597	+054307	L	1	11518	M	900	FO	87082902	022400	000800	G C=155,B=35
ICJJH	SAO	122734	22	8.8	1744098	+060818	L	1	11517	M	2178	FO	87082900	003500	000040	G C=198,B=35
ICJJH	SAO	122734	22	7.3	1744098	+060818	L	3	31663	M	2651	FO	87082900	004400	000150	G C=215,B=17
ICJJH	SAO	122735	21	7.1	1744140	+054731	L	1	11516	M	3795	FO	87082823	231500	000026	G C=190,B=35
ICJJH	SAO	122735	21	6.5	1744140	+054731	L	3	31662	M	4676	FO	87082823	232500	000100	G C=182,B=17
ICJJH	SAO	122738	22	7.5	1744194	+053458	L	3	31654	M	1431	FO	87082807	074700	001200	G C=1.5X,B=20
ICJJH	SAO	122738	22	7.5	1744194	+053458	L	1	11507	M	1369	FO	87082808	083900	000200	G C=205,B=34
ICJJH	SAO	122738	22	7.5	1744194	+053458	L	3	31655	M	1369	FO	87082809	091600	000700	G C=213,B=19
ICJJH	SAO	122741	22	8.9	1744303	+052639	L	1	11526	M	760	F	87083001	012200	000400	G C=220,B=37
ICJJH	SAO	122741	22	8.9	1744303	+052635	L	3	31671	M	938	FO	87083001	013500	000840	G C=170,B=17
ICJJH	SAO	122742	22	7.4	1744350	+054233	L	1	11525	M	1658	FO	87083000	000400	000100	G C=195,B=35
ICJJH	SAO	122742	22	7.4	1744350	+054233	L	3	31670	M	2078	FO	87083000	001300	000230	G C=180,B=17
BEJRP	HD	161774	26	8.64	1745327	-335048	L	1	11257	L	930	FO	87072111	115700	000115	G C=188,B=35
BEJRP	HD	161774	26	8.64	1745327	-335048	L	3	31375	L	922	FO	87072112	120900	000900	G C=1.5X,B=17
BEJRP	HD	161774	26	8.64	1745327	-335048	L	1	11258	L	911	FO	87072112	125100	000345	G C=3X,B=45
BEJRP	HD	161774	26	8.64	1745327	-335048	L	3	31376	L	937	FO	87072113	134000	000600	G C=225,B=37
ICJJH	SAO	122763	30	8.8	1745438	+061715	L	1	11497	M	495	FO	87082709	091900	000920	G C=185,B=37
ICJJH	SAO	122763	30	8.8	1745438	+061715	L	3	31648	M	487	FO	87082710	101700	000800	G C=67,B=20
ICJJH	SAO	122763	30	8.8	1745438	+061715	L	3	31672	M	490	FO	87083002	022700	003200	G C=180,B=19
ICJJH	SAO	122776	22	7.1	1746163	+054259	L	1	11508	M	2651	FO	87082810	101000	000040	G C=200,B=33
ICJJH	SAO	122776	22	7.1	1746163	+054259	L	3	31656	M	2675	FO	87082810	104600	000200	G C=215,B=17
JA039	HD	162732	22	07.17	1748447	+482425	H	3	31189	L	4907	FO	87061804	040809	002000	500 V
BEJGP	HD	162732	26	6.7	1748447	+482424	L	3	31493	L	4862	FO	87080516	162000	000015	G C=152,B=16

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
JA039	HD162732	22	07.14	1748447	+482425	H	1	11036	L	5058	FO	87061804	043638	001200	401	V
BEJGP	HD 162732	26	6.7	1748447	+482424	L	3	31510	L	4938	FO	87080810	102100	000025		G C=193,B=15
JA168	HD163296	34	07.26	1753207	-215657	H	1	11811	L	4549	FO	87100718	180646	002500	452	V
ABJTS	HD 163296	30	6.8	1753207	-215657	H	1	11806	L	4653	FO	87100709	094500	003000		G E=2X,C=1.2X,B=145
JA168	HD 163296	34	07.27	1753207	-215657	L	3	32020	L	4524	FO	87100718	183917	000800	680	V
ABJTS	HD 163296	30	6.8	1753207	-215657	L	3	32016	L	4604	FO	87100710	102100	000800		G E=80,C=2.5X,B=45
JA168	HD 163296	34	07.23	1753207	-215657	H	1	11812	L	4668	FO	87100719	191602	003500	483	V
ABJTS	HD 163296	30	6.8	1753207	-215657	H	1	11807	L	4505	FO	87100710	105900	002000		G E=223,C=180,B=82
JA168	HD 163296	34	07.13	1753207	-215657	L	3	32021	L	5087	FO	87100719	195856	001800	580	V
ABJTS	HD 163296	30	6.8	1753207	-215657	L	3	32017	L	5064	FO	87100711	112800	001600		G E=156,C=5X,B=51
JA168	HD 163296	34	07.22	1753207	-215657	L	1	11813	L	4727	FO	87100720	203453	000023	452	V
ABJTS	HD 163296	30	6.8	1753207	-215657	H	1	11808	L	5398	FO	87100712	120600	003500		G E=1.5X,C=210,B=50
JA168	HD163296	34	07.27	1753207	-215657	H	1	11821	L	4519	FO	87100817	175129	002500	453	V
ABJTS	HD 163296	30	6.8	1753207	-215657	H	1	11816	L	4589	FO	87100805	052800	003500		G E=1.2X,C=198,B=50
JA168	HD 163296	34	07.27	1753207	-215657	L	3	32028	L	4524	FO	87100818	182342	000800	701	V
ABJTS	HD 163296	30	6.8	1753207	-215657	H	1	11817	L	4647	FO	87100810	104500	002500		G E=240,C=195,B=72
JA168	HD 163296	34	07.27	1753207	-215657	L	3	32029	L	4298	FO	87100819	194352	001800	700	V
ABJTS	HD 163296	30	6.8	1753207	-215657	L	3	32025	L	4586	FO	87100811	111900	001600		G E=154,C=4X,B=40
JA168	HD 163296	34	07.24	1753207	-215657	H	1	11822	L	4633	FO	87100819	190050	003500	572	V
ABJTS	HD 163296	30	6.8	1753207	-215657	H	1	11818	L	4661	FO	87100811	115500	003500		G E=1.2X,C=215,B=50
JA168	HD 163296	34	07.34	1753207	-215657	H	1	11823	L	4232	FO	87100820	202748	002000	352	V
ABJTS	HD 163296	30	6.8	1753207	-215657	L	3	32026	L	4755	FO	87100812	123700	000800		G E=78,C=2X,B=18
JA168	HD 163296	34	07.27	1753207	-215657	H	1	11835	L	4497	FO	87100917	175032	002500	451	V
ABJTS	HD 163296	30	6.8	1753207	-215657	H	1	11827	L	4653	FO	87100905	055800	003500		G E=2X,C=198,B=50
JA168	HD 163296	34	07.23	1753207	-215657	L	3	32037	L	4661	FO	87100918	182240	000800	700	V
ABJTS	HD 163296	30	6.8	1753207	-215657	H	1	11828	L	4593	FO	87100911	114400	003500		G E=1.5X,C=208,B=50
JA168	HD 163296	34	07.19	1753207	-215657	H	1	11836	L	4826	FO	87100918	185838	003500	471	V
ABJTS	HD 163296	30	6.8	1753207	-215657	L	3	32036	L	4938	FO	87100912	122500	001600		G E=161,C=4X,B=35
JA168	HD 163296	34	07.23	1753207	-215657	L	3	32038	L	4687	FO	87100919	194041	001800	700	V
ABJTS	HD 163296	30	6.8	1753207	-215657	L	3	32052	L	4922	FO	87101005	053500	000800		G E=85,C=3X,B=55
JA168	HD 163296	34	07.23	1753207	-215657	H	1	11837	L	4687	FO	87100920	202122	002500	451	V
ABJTS	HD 163296	30	6.8	1753207	-215657	H	1	11838	L	4887	FO	87101005	055100	003500		G E=1.5X,C=210,B=48
JA168	HD 163296	34	07.26	1753207	-215657	H	1	11841	L	4550	FO	87101013	135328	002500	452	V
ABJTS	HD 163296	30	6.8	1753207	-215657	H	1	11839	L	4639	FO	87101007	075800	002500		G E=242,C=180,B=43
JA168	HD 163296	34	07.28	1753207	-215657	L	3	32058	L	4475	FO	87101014	142807	000800	700	V
ABJTS	HD 163296	30	6.8	1753207	-215657	L	3	32054	L	4667	FO	87101008	083100	001600		G E=160,C=5X,B=40
JA168	HD 163296	34	07.26	1753207	-215657	H	1	11842	L	4541	FO	87101015	150441	003500	573	V
ABJTS	HD 163296	30	6.8	1753207	-215657	H	1	11840	L	4782	FO	87101009	091000	002500		G E=247,C=195,B=70
JA168	HD 163296	34	07.25	1753207	-215657	L	3	32059	L	4586	FO	87101015	154642	001800	700	V
ABJTS	HD 163296	30	6.8	1753207	-215657	H	1	11848	L	4759	FO	87101105	054700	003500		G E=2X,C=198,B=60
JA168	HD 163296	34	07.24	1753207	-215657	H	1	11843	L	4645	FO	87101016	162004	002500	453	V
ABJTS	HD 163296	30	6.8	1753207	-215657	L	3	32063	L	4891	FO	87101106	062800	000800		G E=92,C=2.5X,B=20
JA168	HD 163296	34	07.30	1753207	-215657	H	1	11852	L	4402	FO	87101114	141809	002500	453	V
ABJTS	HD 163296	30	6.8	1753207	-215657	H	1	11849	L	4776	FO	87101107	070100	002500		G E=239,C=185,B=43
JA168	HD 163296	34	07.27	1753207	-215657	L	3	32068	L	4521	FO	87101114	145318	000800	500	V

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
ABJTS	HD 163296	30	6.8	1753207	-215657	L	3	32064	L	4917	FO	87101107	073200	001600		G E=171,C=4.5X,B=40
JA168	HD 163296	34	07.25	1753207	-215657	H	1	11853	L	4605	FO	87101115	152717	003500	562	V
ABJTS	HD 163296	30	6.8	1753207	-215657	H	1	11860	L	4823	FO	87101204	043900	002500		G E=212,C=155,B=43
JA168	HD 163296	34	07.22	1753207	-215657	L	1	11854	L	4711	FO	87101116	165621	000023	452	V
ABJTS	HD 163296	30	6.8	1753207	-215657	H	1	11886	L	4657	FO	87101612	120500	002500		G E=230,C=180,B=55
JA168	HD163296	34	07.25	1753207	-215657	L	3	32069	L	4576	FO	87101116	161155	001800	600	V
JA168	HD163296	34	07.24	1753207	-215657	H	1	11863	L	4635	FO	87101214	140723	002500	453	V
JA168	HD163296	34	07.26	1753207	-215657	L	3	32079	L	4544	FO	87101214	144006	000800	700	V
JA168	HD163296	34	07.22	1753207	-215657	H	1	11864	L	4697	FO	87101215	151308	002500	453	V
JA168	HD163296	34	07.20	1753207	-215657	L	3	32080	L	4803	FO	87101215	154523	001800	700	V
JA168	HD163296	34	07.18	1753207	-215657	H	1	11865	L	4876	FO	87101216	162056	002500	453	V
JA143	PK11+4 1	70	13.77	1753263	-162840	L	3	31572	L	55	SO	87081518	181411	003000	111	V
GKJBS	HD 163522	23	8.43	1754599	-422855	H	1	11859	L	1204	FO	87101122	220400	006000		G C=1.5X,B=60
GKJBS	HD 163522	23	8.43	1754599	-422855	H	3	32072	L	1276	FO	87101123	231100	012000		G C=235,B=57
GKJBS	HD 163522	23	8.43	1754599	-422855	H	3	32073	L	1260	FO	87101201	014300	015000		G C=1.2X,B=70
GKJBS	HD 163899	23	8.3	1756377	-335319	H	3	32098	L	1206	FO	87101501	011500	020500		G C=225,B=82
CVJSS	V394 CRA	55	13.2	1756581	-390028	L	1	11449	L	84	SO	87082112	125800	001000		G C=190,B=145
CVJSS	V394 CRA	55	13.2	1756581	-390038	L	3	31605	L	85	SO	87082113	131500	001000		G E=126,C=115,B=98
CVJSS	V394 CRA	55	13.2	1756581	-390038	L	1	11450	L	91	SO	87082113	135100	001000		G C=170,B=121
CVJSS	V394 CRA	55	13.2	1756581	-390028	L	3	31606	L	84	SO	87082114	141900	003000		G E=167,C=160,B=122
CVJSS	V394 CRA	55	13	1756581	-390029	L	3	31621	L	55	SO	87082223	232700	010000		G E=165,C=104,B=43
CVJSS	V394 CRA	55	13	1756581	-390029	L	1	11460	L	60	FO	87082301	011900	004000		G C=130,B=42
HI069	V394 CRA	55	13.32	1756582	-390028	L	3	31583	L	82	SO	87081816	163527	004000	340	V
HI069	V394 CRA	55	13.45	1756582	-390028	L	1	11425	L	73	SO	87081817	172259	012000	703	V
HI069	V394 CRA	55	13.48	1756582	-390028	L	3	31584	L	71	SO	87081819	193011	013500	451	V
HI069	V394 CRA	55	13.48	1756582	-390028	L	1	11426	L	71	SO	87081821	214739	002300	302	V PREAD
GKJBS	HD 164032	23	7.4	1757158	-294923	H	3	32097	L	2858	FO	87101423	232500	006500		G C=240,B=52
BEJGP	HD 164284	26	4.6	1757471	+042211	H	3	31425	L	23830	FO	87072717	175200	000210		G C=220,B=40
BEJGP	HD 164284	26	4.6	1757471	+042211	L	1	11286	L	23814	FO	87072718	180000	000001		G C=220,B=35
BEJGP	HD 164284	26	4.6	1757471	+042211	L	3	31426	L	24231	FO	87072718	183100	000001		G C=230,B=12
PRJCG	HD 164284	26	4.8	1757480	+042130	H	3	31347	L	301	FU	87071711	113600	000210		G C=213,B=39
PRJCG	HD 164284	26	4.8	1757480	+042130	H	3	31509	L	310	FU	87080809	093300	000210		G C=213,B=42
PRJCG	HD 164284	26	4.8	1757480	+042130	H	3	32112	L	323	FU	87101705	053600	000210		G C=210,B=40
JA181	WR104	10	13.36	1759010	-233743	L	1	11271	L	79	SO	87072319	194845	010000	113	V
JA181	WR 104	10	13.36	1759011	-233744	L	3	31395	L	79	SO	87072321	213818	004700	113	V
JC028	HD165341	46	04.37	1802555	+023034	H	1	11305	L	518	FU	87073023	230617	001200	450	V
JC028	HD165341	46	04.35	1802556	+023035	L	3	31483	L	527	FU	87080500	002918	001800	300	V
JC028	HD165341	46	04.35	1802556	+023035	H	1	11325	L	529	FU	87080500	001301	001200	451	V
JA089	HD 165040	31	04.68	1803460	-634024	H	3	31112	L	392	FU	87060621	215706	006000	701	V
JA089	HD 165040	31	04.68	1803460	-634024	H	3	31113	L	392	FU	87060623	232614	018000	702	V
MLJRS	VX SGR	49	9.	* 1805049	-221359	L	1	11743	L	1665	FO	87092815	155800	050300		G B=115
JC018	VX SGR	49	99.99	1805050	-221400	E	9	01991	2			87092815	154500	016000		V FOR LWP 11743
GKJBS	HD 167003	23	8.4	1811247	-330923	H	3	32096	L	1285	FO	87101421	214800	005200		G C=250,B=50
BEJTS	HD 167128	26	5.3	1812548	-560229	H	3	31220	L	16460	FO	87062016	161700	000625		G C=241,B=43
BEJTS	HD 167128	26	5.3	1812548	-560229	H	1	11046	L	16055	FO	87062016	165100	000150		G C=166,B=41

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
SAJCW	HD 167659	13	7.4	1814019	-185912	L	3	31623	T	3031	FO	87082308	083600	000200		G C=197,B=25
SAJCW	HD 167659	13	7.4	1814019	-185912	L	1	11463	T	3091	FO	87082308	085100	000145		G C=1.5X,B=40
XBJJH	AM HER	59	14	1814585	+495054	L	3	31098	L	39	SO	87060314	142600	001500		G E=124,C=48,B=17
XBJJH	AM HER	59	14	1814585	+495054	L	1	10904	L	62	SO	87060315	152100	003000		G C=150,B=45
XBJJH	AM HER	59	14.0	1814585	+495054	L	1	10906	L	50	SO	87060318	183400	003000		G C=170,B=63
XBJJH	AM HER	59	14.0	1814585	+495054	L	3	31100	L	50	SO	87060319	191300	002000		G E=157,C=58,B=20
XBJJH	AM HER	59	14.0	1814585	+495054	L	1	10907	L	29	SO	87060319	195700	003000		G C=145,B=40
XBJJH	AM HER	59	14.0	1814585	+495054	L	3	31101	L	31	SO	87060320	203200	001500		G E=112,C=48,B=17
JA143	PK 38+121	70	12.24	1815107	+100802	L	1	11434	L	216	SO	87081919	192649	001500	401	V
JA143	PK 38+121	70	12.29	1815107	+100802	L	3	31591	L	205	SO	87081919	195922	001000	300	V
JA143	PK 38+121	70	12.24	1815107	+100802	L	1	11435	L	216	SO	87081920	204956	008000	803	V LACKS 200% READERASE
JA143	PK 38+121	70	12.26	1815107	+100802	L	3	31600	L	211	SO	87082016	161255	008000	601	V
JA143	PK 38+121	70	12.18	1815107	+100802	L	1	11444	L	226	SO	87082017	173958	005500	702	V PREAD
JA143	PK 38+121	70	12.21	1815107	+100802	L	3	32027	L	215	SO	87100814	140414	001500	300	V
JA143	PK 38+121	70	12.21	1815107	+100802	L	1	11819	L	220	SO	87100814	143635	002000	501	V PREAD
JA019	HD 168339	39	04.72	1818371	-613109	L	3	31299	L	379	FU	87070622	225052	000500	210	V
SNJJC	NEPTUNE	03	8.0	1821339	-221925	L	3	31567	L	1682	FO	87081502	022000	016000		G E=169,C=84,B=36
SNJJC	SKYBKGND	07		1821339	-221925	L	3	31568	L			87081506	062300	013000		G E=168,B=41
XQJJH	X 1821+643	85	14.1	1821416	+641900	L	3	31431	L	30	SO	87072903	033500	030000		G E=2X,C=207,B=68
XQJJH	X 1821+643	85	14.1	1821416	+641900	L	1	11294	L			87072908	084100	013000		G C=220,B=55
OD30Y	X 1821+643	85	14.1	1821416	+641900	L	3	31523	L	30	SO	87080910	100600	012000		G E=213,C=110,B=44
JA143	NGC 6629	70	11.90	1822412	-231345	L	1	11515	L	292	SO	87082821	214806	002000	302	V
JC141	HD169689	45	06.19	1823144	+080009	H	1	11068	L	11315	FO	87062222	221823	007000	501	V
JC141	HD 169689	45	06.10	1823144	+080009	H	3	31234	L	12093	FO	87062223	234249	009000	401	V
JC150	HD169689	45	06.18	1823144	+080008	H	1	11191	L	11420	FO	87071119	194709	006000	502	V
JC150	HD 169689	45	06.21	1823144	+080008	H	3	31325	L	11133	FO	87071120	205507	014000	502	V
IPJRP	RZ SCT	66	8.25	1823489	-091355	L	3	32128	L	1455	FO	87102022	224100	004500		G C=194,B=26
IPJRP	RZ SCT	66	8.25	1823489	-091355	L	3	32129	L	1383	FO	87102100	001200	006000		G C=219,B=30
IPJRP	RZ SCT	66	8.25	1823489	-091355	L	3	32130	L	1231	FO	87102101	015000	007000		G E=118,C=237,B=32
IPJRP	RZ SCT	66	8.25	1823489	-091355	L	3	32131	L	1172	FO	87102103	033800	007000		G E=112,C=205,B=25
USSBS	HD 169916	47	2.8	1824529	-252711	H	1	11544	L	1429	FU	87090206	063700	001500		G E=162,C=235,B=44
SRJEB	AC HER	52	7.7	1828070	+215006	L	1	11720	L	2037	FO	87092512	121100	000300		G C=86,B=34
SRJEB	AC HER	52	7.7	1828070	+215006	L	1	11801	L	2136	FO	87100610	105300	000300		G C=110,B=45
SRJEB	AC HER	52	7.7	1828070	+215006	L	1	11918	L	2842	FO	87102007	071500	000300		G E=96,C=137B=37
IC060	ACHER	40	07.90	1828091	+214952	H	1	10886	L	2581	FO	87060100	001148	031500	304	V 2-3" RP. DRIFT
NPJST	NGC 6644	70	11.5	1829300	-251008	L	3	31711	L	401	SO	87090414	141200	003000		G E=2X,C=132,B=101
NPJST	NGC 6644	70	0.0	1829300	-251008	L	1	11596	L	323	SO	87091211	111800	002000		G E=1.5X,C=190,B=148
NPJST	NGC 6644	70	0.0	1829300	-251008	L	3	31830	L	95	FO	87091211	114900	001000		G E=235,C=80,B=63
NPJST	NGC 6644	70	0.0	1829300	-251008	L	1	11597	L	319	SO	87091212	122300	001000		G E=194,C=116,B=82
PHCAL	HD 172167	30	0.03	1835147	+384409	L	3	31155	L	15929	FU	87061411	113600	000001		G C=2.5X,B=22
PHCAL	HD 172167	30	0.03	1835147	+384409	L	3	31156	L	15808	FU	87061412	121300	000001		G C=2.5X,B=22
JA014	IC4756-155	30	09.93	1835416	-051911	L	1	11451	L	423	FO	87082115	153539	000500	401	V
JA014	IC4756-155	30	09.92	1835416	-051911	L	3	31607	L	428	FO	87082116	160246	003500	501	V
JA014	IC4756-236	31	10.42	1836175	-051721	L	1	11452	L	274	FO	87082116	165228	001200	401	V
JA014	IC4756-236	31	10.41	1836175	+051721	L	3	31608	L	275	FO	87082117	172429	006500	301	V

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
NPJGF	23-02-1	70	12.0	1840359	-090752	L	3	31677	L	72	SO	87083108	082800	002000		G B=19
NPJGF	23-02-1	70	12.0	1840359	-090752	L	1	11536	L	72	SO	87083109	093200	003000		G B=39
CVJSS	NOVA HER	55	12	1841266	+151615	L	1	10984	L	220	SO	87061114	140600	000300		G E=83,B=35
CVJSS	NOVA HER	55	12	1841266	+151615	L	3	31133	L	213	SO	87061114	142200	003000		G E=249,B=30
CVJSS	NOVA HER	55	12.5	1841266	+151615	L	1	10988	L	184	SO	87061119	194200	006500		G E=3X,C=182,B=47
CVJSS	NOVA HER	55	12	1841267	+151616	L	1	10985	L	220	SO	87061115	152800	001400		G E=208,C=100,B=45
PHCAL	HD 172167	30	0.03	184409	+384409	L	3	31157	L	16171	FU	87061412	124200	000001		G C=2.5X,B=21
SRJEB	R SCT	52	5.4	1844430	-054536	L	1	11721	L	19266	FO	87092513	131000	000600		G C=145,B=36
SRJEB	R SCT	52	5.4	1844430	-054536	L	1	11919	L	13684	FO	87102008	080700	000700		G C=145,B=78
JQ043	3C390.3	84	14.40	1845376	+794306	L	3	31109	L		BO	87060521	215807	041000	353	V
JQ043	3C390.3	86	14.40	1845376	+794306	L	3	31554	L		BO	87081217	174350	042400	254	V
JC176	GL 729	48	10.55	1846469	-235337	L	1	11913	L	243	FO	87101913	135304	007000	263	V
JC176	GL 729	48	10.42	1846470	-235338	L	3	32120	L	274	FO	87101915	151317	003000	031	V
NPJGF	26-02-3	70	2.0	1847028	-070506	L	3	31679	L	54	SO	87083114	140900	002000		G B=24
NPJGF	26-02-3	70	2.0	1847028	-070506	L	1	11537	L	42	SO	87083114	143400	001500		G C=64,B=40
LDJDD	HD 174429	46	8.4	1849137	-501427	L	3	31501	L	946	FO	87080706	064000	024000		G E=125,C=92,B=68
LDJDD	HD 174429	46	8.4	1849137	-501427	H	1	11348	L	1137	FO	87080710	105000	013500		G E=216,C=220,B=165
JC071	HD175306	47	04.82	1850278	+591936	H	1	11577	L	27851	FO	87090521	215443	001500	333	V
JI056	4U1849-31	59	13.39	1851490	-311339	L	3	32141	L	77	SO	87102214	144146	007424	340	V TWO REF POINTS -30,-
JI056	4U1849-31	59	13.45	1851490	-311339	L	1	11934	L	73	SO	87102216	160849	004936	441	V TWO REF POINTS:-30,-
MGJJE	HD 175588	49	4.3	1852452	+365003	H	1	11021	L	500	FU	87061519	193100	003000		G E=204,C=79,B=40
MGJJE	HD 175588	49	4.3	1852452	+365003	H	1	11301	L	551	FU	87073017	171000	003000		G E=203,C=82,B=40
MGJJE	HD 175588	49	4.3	1852452	+365003	H	1	11413	L	534	FU	87081709	090000	003000		G E=199,C=85,B=45
MGJJE	HD 175588	49	4.3	1852452	+365003	H	1	11528	L	533	FU	87083008	085100	003000		G E=169,C=69,B=39
MGJJE	HD 175588	49	4.3	1852452	+365003	H	1	11546	L	542	FU	87090209	090900	003000		G E=197,C=117,B=67
MGJJE	HD 175588	49	4.3	1852452	+365003	H	1	11664	L	526	FU	87091914	141700	003000		G E=205,C=80,B=42
MGJJE	HD 175588	49	4.3	1852452	+365003	H	1	11897	L	580	FU	87101807	071000	003000		G E=200,B=100
MGJJE	HD 175865	49	4.0	1853487	+435246	H	1	11020	L	776	FU	87061518	182500	002000		G E=227,C=65,B=43
MGJJE	HD 175865	49	4.0	1853487	+435246	H	1	11121	L	796	FU	87062919	193000	002000		G E=191,B=40
MGJJE	HD 175865	49	4.0	1853487	+435246	H	1	11220	L	776	FU	87071617	173800	002000		G E=218,C=62,B=40
MGJJE	HD 175865	49	4.0	1853487	+435246	H	1	11300	L	857	FU	87073016	160400	002000		G E=222,C=95,B=32
MGJJE	HD 175865	49	4.0	1853487	+435246	H	1	11414	L	771	FU	87081710	102400	002000		G E=214,C=100,B=60
MGJJE	HD 175865	49	4.0	1853487	+435246	H	1	11529	L	771	FU	87083010	100300	002000		G E=203,C=85,B=44
MGJJE	HD 175865	49	4.0	1853487	+435246	H	1	11547	L	790	FU	87090210	101600	002000		G B=118
MGJJE	HD 175865	49	4.0	1853487	+435246	H	1	11663	L	835	FU	87091913	132300	001200		G E=204,B=100
MGJJE	HD 175865	49	4.0	1853487	+435246	H	1	11898	L	718	FU	87101808	081700	001500		G E=1.1X,B=146
JA114	HD176386	30	07.74	1858166	-365748	H	1	11887	L	2985	FO	87101613	135300	006000	501	V
JA114	TY CRA	26	09.80	1858186	-365650	H	1	11888	L	473	FO	87101615	153454	031100	303	V
NPILA	AB 53	70	14.0	1904192	+061914	L	3	31074	L		BO	87060107	075700	030000		G B=60
BCJEB	TT AQL	53	7.7	1905410	+011307	L	3	31714	L	5717	FO	87090422	225400	018000		G C=98,B=58
JC163	N6752 A	59 47	99.99	1906080	-600203	E	9	01951	2			87062722	220000	004000		V LWP 11106
GCJAD	A59	47	10.9	1906080	-600203	L	1	11106	L		BO	87062805	055500	085500		G C=220,B=180
JC163	A59	47	11.23	1906080	-600203	E	9	01952	2	132	FO	87062821	215800	004000		V FES FOR LWP11115
GCJAD	A59	47	10.9	1906080	-600203	L	1	11115	L	132	FO	87062822	223000	083000		G E=205,C=235,B=180
JA143	IC 1297	70	11.78	1913573	-394211	L	1	11404	L	324	SO	87081519	195522	004000	353	V

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
PRJCG	HD 180968	26	5.3	1915366	+225603	H	3	31127	L	14492	FO	87061014	140300	000630		G C=205,B=35
PRJCG	HD 180968	26	5.3	1915366	+225603	H	3	31511	L	16020	FO	87080811	110700	000630		G C=200,B=40
SRJEB	EP LYR	52	10.4	1916170	+274500	L	1	11682	L	188	FO	87092114	141400	003000		G C=98,B=40
SRJEB	EP LYR	52	10.4	1916170	+274500	L	1	11717	L	199	FO	87092508	081600	004500		G C=95,B=40
SRJEB	EP LYR	52	10.4	1916170	+274500	L	1	11908	L	239	FO	87101907	075600	002000		G C=235,B=170
AGJMM	ES141G55	84	14.1	1916570	-584552	L	3	31563	L	35	SO	87081402	020000	003000		G E=108,C=52,B=27
CCJTS	HD 181333	40	5.5	1917192	+121651	L	3	31957	L	14268	FO	87100212	122500	001800		G E=93,C=20X,B=38
NPJST	NGC 6790	70	0.0	1920250	+012502	L	3	31831	L	353	SO	87091213	134800	006000		G E=219,B=50
JI083	BF CYG	57	10.97	1921552	+293434	L	3	31539	L	167	FO	87081117	174017	001000	341	V ALSO EXPOSED 110 MIN
JI083	BF CYG	57	10.97	1921552	+293434	H	3	31539	L	167	FO	87081117	175157	011000	251	V ALSO EXPOSED 10 MIN
JI083	BF CYG	57	10.99	1921552	+293434	L	1	11376	L	164	FO	87081119	195152	002500	350	V
JI083	BF CYG	57	10.96	1921552	+293434	L	3	31540	L	168	FO	87081120	202452	003000	360	V PARTIAL READ
CSJJB	HD 182572	45	5.2	1922349	+115029	L	1	11010	L	16834	FO	87061413	133900	000100		G E=1.5X,C=205,B=35
CSJJB	HD 182572	45	5.2	1922349	+115029	L	3	31158	L	17062	FO	87061413	134800	004000		G C=55,B=25
LDJDB	HD 182572	44	5.2	1922351	+115009	L	1	11174	T	17978	FO	87071011	113400	000228		G C=200,B=35
OD25Y	CH CYGNI	57	6.5	1923140	+500829	L	3	31336	L	8625	FO	87071316	160000	001000		G E=146,C=48,B=30
OD25Y	CH CYGNI	57	6.5	1923140	+500829	L	3	31336	S	8511	FO	87071316	162500	000500		G E=146,C=48,B=30
OD25Y	CH CYGNI	57	6.5	1923140	+500829	L	1	11204	L	8448	FO	87071317	170300	000500		G E=2X,C=60,B=35
OD25Y	CH CYGNI	57	6.5	1923140	+500829	L	1	11204	S	8586	FO	87071317	171200	000200		G E=120,B=35
OD25Y	CH CYGNI	57	6.5	1923140	+500829	L	3	31337	L	8461	FO	87071317	172100	003500		G E=2.5X,C=65,B=32
OD25Y	CH CYGNI	57	6.5	1923140	+500829	L	1	11205	L	8857	FO	87071318	180000	000130		G E=190,C=50,B=32
OD25Y	CH CYGNI	57	6.5	1923140	+500829	L	3	31338	L	8806	FO	87071318	183100	001800		G E=204,C=50,B=30
JE187	TOL 1924-4	88	14.24	1924292	-414038	L	3	32119	L	36	SO	87101813	134508	041400		V
PHCAL	NULL	99	99.99	1924292	-414038	L	2	18127				87101813	134900	000000		V LWR 5.0 KV
PHCAL	FLARE	99	99.99	1924292	-414038	L	2	18128				87101814	141941	002000	003	V LWR 5 KV
PHCAL	FLARE	99	99.99	1924292	-414038	L	2	18129				87101815	155342	002000	003	V LWR 5.0 KV
PHCAL	FLARE	99	99.99	1924292	-414038	L	2	18130				87101819	190625	002000	003	V LWR 5.0 KV
PHCAL	NULL	99	99.99	1924292	-414038	L	1	11903				87101820	200000	000000		V LWR 5.0 KV
JE187	TOL 1924-4	88	14.07	1924293	-414110	L	1	11894	L	42	SO	87101716	160341	028400	304	V
BEJTS	HD 183362	26	6.3	1925510	+375018	H	3	31218	L	8406	FO	87062013	133100	001130		G C=230,B=42
BEJTS	HD 183362	26	6.3	1925510	+375018	H	1	11044	L	8270	FO	87062013	135000	000345		G C=172,B=40
JA143	M1-91	71	15.00	1930549	+264613	L	1	11405	L		BO	87081921	213758	007500	114	V
JA143	M1-91	71	15.00	1930550	+264613	L	3	31573	L		BO	87081922	225848	006900	111	V
NPJGF	55-00-1	70	3.0	1934148	+193537	L	3	31678	L	39	SO	87083111	110400	002000		G B=25
FEJJR	X 1935-063	84	14.3	1934525	-061953	L	1	11674	L	33	SO	87092100	001300	012000		G E=124,C=93,B=54
FEJRR	X 1935-063	84	14.3	1934525	-061953	L	3	31894	L	343	SO	87092102	022600	014000		G E=55,C=60,B=45
FEJRR	X 1935-063	84	14.3	1934525	-061953	L	1	11675	L	33	SO	87092104	045400	012000		G E=112,C=100,B=52
SDJTS	HD 185510	47	8.5	1936584	-061045	L	3	32143	L	1311	FO	87102305	055600	002000		G E=53,C=175,B=18
SDJTS	HD 185510	47	8.5	1936584	-061045	L	1	11936	L	1350	FO	87102306	062300	000600		G E=118,C=104,B=33
SDJTS	HD 185510	47	8.5	1936584	-061045	L	3	32144	L	1388	FO	87102306	065500	002000		G E=75,C=166,B=20
SDJTS	HD 185510	47	8.5	1936584	-061045	L	1	11937	L	1394	FO	87102307	072900	001800		G E=229,C=190,B=44
SDJTS	HD 185510	47	8.5	1936584	-061045	L	3	32145	L	1444	FO	87102308	081100	002500		G E=160,C=200,B=33
SDJTS	HD 185510	47	8.5	1936584	-061045	L	3	32148	L	1349	FO	87102406	060600	002500		G E=64,C=187,B=17
SDJTS	HD 185510	47	8.5	1936584	-061045	L	1	11942	L	1430	FO	87102406	063800	000600		G E=116,C=100,B=33
SDJTS	HD 185510	47	8.5	1936584	-061045	L	3	32149	L	1444	FO	87102407	070900	002500		G E=88,C=185,B=20

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
SDJTS	HD 185510	47	8.5	1936584	-061045	L	1	11943	L	1488	FO	87102407	074400	001800		G E=228,C=190,B=50
SDJTS	HD 185510	47	8.5	1936584	-061045	L	3	32150	L	1512	FO	87102408	081500	002000		G E=160,C=170,B=26
SDJTS	HD 185510	47	8.5	1936584	-061045	L	3	32152	L	1351	FO	87102411	111200	002500		G E=92,C=190,B=17
SDJTS	HD 185510	47	8.5	1936584	-061045	L	1	11944	L	1327	FO	87102411	114400	001800		G E=247,C=210,B=37
SDJTS	HD 185510	47	8.5	1936584	-061045	L	3	32153	L	1347	FO	87102412	121500	002500		G E=97,C=207,B=17
SDJTS	HD 185510	47	8.5	1936584	-061045	L	3	32157	L	1322	FO	87102506	060900	002500		G E=68,C=200,B=17
SDJTS	HD 185510	47	8.5	1936584	-061045	L	1	11947	L	1409	FO	87102506	064300	001800		G E=220,C=200,B=38
SDJTS	HD 185510	47	8.5	1936584	-061045	L	3	32158	L	1404	FO	87102507	071300	002500		G E=122,C=180,B=20
SDJTS	HD 185510	47	8.5	1936584	-061045	L	1	11948	L	1410	FO	87102507	074900	001800		G E=215,C=184,B=45
SDJTS	HD 185510	47	8.5	1936584	-061045	L	3	32159	L	1425	FO	87102508	082200	002000		G E=182,B=23
SDJTS	HD 185510	47	8.5	1936584	-061045	L	3	32161	L	1308	FO	87102511	110400	002500		G E=93,B=17
SDJTS	HD 185510	47	8.5	1936584	-061045	L	1	11949	L	1291	FO	87102511	113600	001800		G E=190,C=150,B=37
SDJTS	HD C BRAD	47	8.5	1936584	-061045	L	3	32162	L	1280	FO	87102512	120800	004200		G E=92,B=17
SDJTS	HD 185510	47	8.5	1936584	-061045	L	1	11963	L	1174	FO	87102710	104400	001800		G C=198,B=40
SDJTS	HD 185510	47	8.5	1936584	-061045	L	3	32172	L	1240	FO	87102711	111000	002500		G C=226,B=27
SDJTS	HD 185510	47	8.5	1936584	-061045	L	1	11964	L	1176	FO	87102711	115500	001200		G E=204,C=182,B=36
SDJTS	HD 185510	47	8.5	1936584	-061045	L	3	32173	L	1168	FO	87102712	122500	002500		G C=228,B=18
SDJTS	HD 185510	47	8.5	1936584	-061045	L	3	32176	L	1244	FO	87102805	054500	002500		G C=202,B=18
SDJTS	HD 185510	47	8.5	1936584	-061045	L	1	11968	L	1294	FO	87102806	061800	001500		G E=229,C=190,B=43
SDJTS	HD 185510	47	8.5	1936584	-061045	L	3	32180	L	1199	FO	87102811	115000	002500		G C=205,B=17
SDJTS	HD 185510	47	8.5	1936584	-061045	L	1	11972	L	1207	FO	87102812	123000	001500		G E=59,C=198,B=36
SDJTS	HD 185510	47	8.5	1936584	-061045	L	3	32185	L	1301	FO	87102911	115000	002500		G C=198,B=18
SDJTS	HD 185510	47	8.5	1936584	-061045	L	1	11977	L	1329	FO	87102912	122300	001500		G E=208,C=178,B=39
JS186	HD186408	44	06.39	1940290	+502429	L	1	11038	L	9588	FO	87061821	212830	000050	500	V
JS186	HD186427	44	06.64	1940320	+502403	L	1	11039	L	7808	FO	87061822	220212	000050	500	V
PHCAL	NULL	99	0.0	1942484	+290833	L	1	11427				87081903	032300	000000		G B=32
OD20Y	HD 186688	53	6.9	1942485	+290834	H	1	11420	L	4114	FO	87081807	071300	014000		G C=240,B=90
OD20Y	HD 186688	53	6.9	1942485	+290834	H	3	31585	L	3447	FO	87081823	232900	027000		G C=170,B=75
CCJTS	HD 187642	31	0.2	1948205	+084405	H	3	31247	L	8676	FU	87062513	134900	003000		G C=45X
NPJST	NGC 6833	70	12	1948210	+485001	L	3	31708	L	123	SO	87090408	084100	006000		G E=3X,C=203,B=145
NPJST	NGC 6833	70	12	1948210	+485001	L	1	11570	L	120	SO	87090409	095000	003000		G C=2X,B=186
NPJST	NGC 6833	70	0.0	1948210	+485001	L	1	11593	L	120	SO	87091111	111600	006000		G C=2X,B=175
NPJST	NGC 6833	70	0.0	1948210	+485001	L	3	31826	L	129	SO	87091112	122300	003000		G E=181,C=102,B=75
NPJST	NGC 6833	70	0.0	1948210	+485001	L	1	11594	L	130	SO	87091112	125900	002500		G C=156,B=82
LDJDB	HD 187691	41	5.1	1948379	+101721	L	1	11175	T	19162	FO	87071012	123000	000130		G C=235,B=38
BCJEB	SV VUL	53	7.3	1949280	+271952	L	3	31706	L	2273	FO	87090322	225900	024000		G C=95,B=65
CVJPS	EY CYG	54	15.0	1952403	+321308	L	3	31304	L		BO	87070708	085900	011000		G E=40,C=50,B=35
CVJPS	EY CYG	54	15.0	1952404	+321309	L	1	11147	L		BO	87070509	095200	006000		G E=66,C=75,B=43
MGJJE	HD 189124	49	5.1	1957326	-593052	L	1	11017	L	325	FU	87061514	145900	000700		G E=255,C=80,B=35
MGJJE	HD 189124	49	5.1	1957326	-593052	L	1	11118	L	335	FU	87062915	155500	000500		G E=209,C=65,B=36
MGJJE	HD 189124	49	5.1	1957326	-593052	L	1	11216	L	26397	FO	87071613	134200	000300		G E=155,C=57,B=39
MGJJE	HD 189124	49	5.1	1957326	-593052	L	1	11217	L	26295	FO	87071614	142200	000800		G E=2X,C=100,B=58
MGJJE	HD 189124	49	5.1	1957326	-593052	L	1	11296	L	26668	FO	87072913	131600	000500		G E=255,C=70,B=36
MGJJE	HD 189124	49	5.1	1957326	-593052	L	1	11416	L	24077	FO	87081712	125200	000300		G E=211,C=139,B=110
MGJJE	HD 189124	49	5.1	1957326	-593052	L	1	11417	L	23934	FO	87081713	132900	000400		G E=255,C=180,B=148

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptm	mmmmsstt	ECC	Comment
MGJJE	HD 189124	49	5.1	1957326	-593052	L	1	11532	L	22434	FO	87083014	141100	000300		G E=172,C=70,B=38
MGJJE	HD 189124	49	5.1	1957326	-593052	L	1	11549	L	22527	FO	87090212	123500	000300		G E=247,C=165,B=135
MGJJE	HD 189124	49	5.1	1957326	-593052	L	1	11661	L	23742	FO	87091911	113400	000240		G E=216,B=120
MGJJE	HD 189124	49	5.1	1957326	-593052	L	1	11774	L	26306	FO	87100109	091300	000300		G E=170,C=89,B=65
MGJJE	HD 189124	49	5.1	1957326	-593052	L	1	11899	L	296	FU	87101809	091800	000300		G E=197,C=115,B=92
PHCAL	RR TEL	57	11.00	2000201	-555204	L	3	31080	L	163	FO	87060202	021022	000200	360	U
PHCAL	RR TEL	57	10.99	2000201	-555204	H	3	31081	L	164	FO	87060202	024040	012700	361	U
PHCAL	RRTEL	57	11.03	2000201	-555204	L	1	10918	L	158	FO	87060503	032342	000200	362	U
PHCAL	RRTEL	57	10.99	2000201	-555204	H	1	10919	L	164	FO	87060504	040552	004000	362	U
BCJEB	CD CYG	53	9.0	2002320	+335811	L	3	31707	L	1051	FO	87090403	033700	007500		G E=122,B=68
CSJJB	HD 190658	49	6.3	2003083	+152122	L	1	11011	L	7851	FO	87061415	153200	000100		G E=60,B=35
CSJJB	HD 190658	49	6.3	2003083	+152122	L	3	31159	L	7707	FO	87061415	154200	006000		G B=39
IEJDM	HD 190991	20	8.2	2004150	+395512	L	1	11079	L	1318	FO	87062420	201900	000320		G C=4X,B=35
IEJDM	HD 190991	20	8.2	2004150	+395512	L	1	11079	S	1318	FO	87062420	203800	000120		G C=245,B=35
IEJDM	HD 190991	20	8.2	2004150	+395512	L	3	31577	L	1379	FO	87081614	144500	000200		G C=240,B=22
CVJPS	WZ SGE	54	15.0	2005205	+173330	L	1	11146	L		BO	87070503	033200	012000		G E=149,C=135,B=52
CVJPS	WZ SGE	54	15.0	2005205	+173330	L	3	31294	L		BO	87070505	054400	018000		G C=115,B=42
JS201	COMET SWI	06	13.50	2007203	-204212	L	1	11939	L		BO	87102314	144631	024000	113	V PREAD
JE063	FGSGE	41	09.78	2009430	+201054	L	1	11099	L	483	FO	87062703	030942	010000	501	U
IC100	FGSGE	41	09.57	2009430	+201054	L	1	11269	L	584	FO	87072221	210101	010000	501	U
IC107	FG SGE	41	09.63	2009430	+201054	L	1	11585	L	553	FO	87090918	182008	010000	502	U
JC107	FG SGE	41	09.78	2009430	+201054	L	1	11820	L	482	FO	87100816	161437	004200	231	V PREAD
IEJDM	HD 228365	20	10.0	2011150	+405224	L	1	11078	L	258	FO	87062418	184100	002700		G C=4X,B=43
IEJDM	HD 228365	20	10.0	2011150	+405224	L	1	11078	S	258	FO	87062419	191700	000915		G C=205,B=43
IEJDM	HD 228365	20	10.0	2011150	+405224	L	3	31244	L	261	FO	87062419	193300	001300		G C=220,B=21
JA133	HD 192641	10	08.31	2012394	+363028	L	3	31505	L	1787	FO	87080721	212134	000800	880	U
JA133	HD 192641	10	08.30	2012394	+363028	L	1	11354	L	1812	FO	87080721	215540	000700	881	U
JA133	HD 192641	10	08.27	2012394	+363028	L	3	31506	L	1858	FO	87080722	223619	000230	450	U
JA133	HD 192641	10	08.30	2012394	+363028	H	3	31507	L	1805	FO	87080723	232228	007300	331	U 30 MIN + 43 MIN AT 0
JA133	HD 192641	10	08.31	2012394	+363028	L	1	11355	L	1800	FO	87080723	235939	000200	770	U
JM119	NGC 6891	71	11.19	2012480	+123254	L	3	31292	L	137	FO	87070422	221851	001000	440	U REF PNT=(2,-212)
JM119	NGC 6891	71	11.18	2012480	+123254	L	3	31293	L	138	FO	87070423	230811	022000	112	U REF PNT=(75,-231)
JC141	HD0192713	45	05.62	2013200	+232117	H	1	11069	L	17296	FO	87062301	014802	008000	561	U
JC141	HD 192713	45	05.57	2013200	+232117	H	3	31235	L	17942	FO	87062303	031532	009200	301	U
IA099	HD193237	23	05.22	2015565	+375236	H	1	10908	L	22480	FO	87060322	225128	000400	561	U
JC120	PCYG	23	05.17	2015565	+375236	H	1	11270	L	23059	FO	87072222	224443	000400	501	U
JC120	P CYG	23	99.99	2015565	+375236	H	3	31384		23239		87072222	229739	003000	510	U
JA166	HD193237	23	99.99	2015565	+375236	H	3	31816	L	23122	FO	87090920	203412	003000	570	U
JA166	HD193237	23	05.09	2015565	+375236	H	1	11586	L	24217	FO	87090921	211239	000400	552	U
JA066	HD193237	23	05.23	2015565	+375236	H	1	11866	L	22372	FO	87101217	175547	000400	502	U
JA066	HD 193237	23	05.22	2015565	+375236	H	3	32081	L	22483	FO	87101218	180703	002500	500	U
CDJTS	HD 193322	12	5.8	2016206	+403431	H	3	31309	L	10793	FO	87070818	184200	001000		G C=200,B=37
CDJTS	HD 193322	12	5.8	2016206	+403431	H	1	11166	L	12880	FO	87070918	180000	001100		G C=2X,B=55
CDJTS	HD 193322	12	5.8	2016206	+403431	H	3	31312	L	11530	FO	87070918	182100	001100		G C=200,B=38
CDJTS	HD 193322	12	5.8	2016206	+403431	H	1	11167	L	11791	FO	87071003	032500	000500		G C=212,B=42

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
CDJTS	HD 193322	12	5.8	2016206	+403431	H	3	31314	L	11903	FO	87071003	034900	001100		G C=160,B=35
CDJTS	HD 193322	12	5.8	2016206	+403431	H	1	11168	L	12962	FO	87071004	042500	000500		G
CDJTS	HD 193322	12	5.8	2016206	+403431	H	3	31315	L	13537	FO	87071004	045600	001100		G C=203,B=39
CDJTS	HD 193322	12	5.8	2016206	+403431	H	1	11169	L	12389	FO	87071005	055500	000500		G C=205,B=44
CDJTS	HD 193322	12	5.8	2016206	+403431	H	3	31316	S	11491	FO	87071006	063300	002200		G C=187,B=38
CDJTS	HD 193322	12	5.8	2016206	+403431	H	1	11170	L	13252	FO	87071007	070900	000500		G C=213,B=43
CDJTS	HD 193322	12	5.8	2016206	+403431	H	1	11171	L	13397	FO	87071007	075600	000500		G C=211,B=45
CDJTS	HD 193322	12	5.8	2016206	+403431	H	1	11172	S	11332	FO	87071008	083400	001000		G C=232,B=46
CDJTS	HD 193322	12	5.8	2016206	+403431	H	3	31326	L	11646	FO	87071204	041200	002000		G C=2X,B=47
CDJTS	HD 193322	12	5.8	2016206	+403431	H	1	11193	S	11344	FO	87071204	044200	001000		G C=220,B=41
CDJTS	HD 193322	12	5.8	2016206	+403431	H	3	31327	L	11721	FO	87071205	051500	002000		G C=2X,B=53
CDJTS	HD 193322	12	5.8	2016206	+403431	H	1	11194	S	11431	FO	87071205	054900	001000		G C=210,B=45
CDJTS	HD 193322	12	5.8	2016206	+403431	H	3	31328	L	11540	FO	87071206	062100	002000		G C=2X,B=45
CDJTS	HD 193322	12	5.8	2016206	+403431	H	1	11195	S	11502	FO	87071206	065600	001000		G C=215,B=41
CDJTS	HD 193322	12	5.8	2016206	+403431	H	3	31329	L	11859	FO	87071207	072600	002000		G C=2X,B=56
NPJGF	PK58-101	70	11.4	2017512	+163421	L	3	31683	L	493	SO	87090110	101900	003000		G E=6X,C=65,B=38
NPJGF	PK58-101	70	11.4	2017512	+163421	L	1	11540	L	486	SO	87090110	105700	003000		G E=2X,C=1.5X,B=100
NPJGF	PK58-101	70	11.4	2017512	+163421	L	3	31684	L	488	SO	87090111	113600	001000		G E=2X,C=69,B=50
JA133	HD 193793	10	07.19	2018467	+434143	L	3	31503	L	4847	FO	87080718	180414	000110	450	V
JA133	HD 193793	10	07.12	2018467	+434143	L	1	11351	L	5144	FO	87080718	181312	000040	600	V
JA133	HD 193793	10	07.19	2018467	+434143	H	3	31504	L	4846	FO	87080718	184625	007500	440	V 50 MIN + 25 MIN AT 1
JA133	HD 193793	10	07.20	2018467	+434143	L	1	11352	L	4791	FO	87080719	194456	000020	500	V
JA133	HD 193793	10	07.23	2018467	+434143	H	1	11353	L	4686	FO	87080720	202655	003000	401	V
JI086	PU VUL	57	09.47	2019011	+212443	L	3	32181	L	638	FO	87102813	135557	003000	350	V
JI086	PU VUL	57	09.47	2019011	+212443	L	1	11973	L	639	FO	87102814	143352	001000	703	V
JC176	GL 791	48	11.70	2024400	-275438	L	3	32124	L	348	SO	87102013	135807	003000	030	V
JC176	GL 791	48	11.69	2024400	-275406	L	1	11923	L	352	SO	87102014	143521	011000	232	V
JC176	SKY	07	99.99	2024400	-275406	L	3	32125	L			87102015	150036	003000	030	V SERENDIPITY FOR LWP1
CNJSS	N VUL #2	55	12.7	2024407	+274041	L	1	11199	L	82	SO	87071211	114700	002500		G E=166,C=65,B=44
CNJSS	N VUL #2	55	12.7	2024407	+274041	L	3	31332	L	82	SO	87071212	122400	009000		G E=127,C=70,B=50
JA014	NGC 6940-153	30	12.49	2032515	+280300	L	1	11454	L	172	SO	87082120	204236	008500	502	V
JA014	NGC 6940-153	30	12.52	2032515	+280300	L	3	31620	L	167	SO	87082218	183236	013000	301	V
JA014	N6940-172	20	11.88	2033033	+282030	L	1	11453	L	296	SO	87082119	190640	001200	501	V PREAD
JA014	N6940-172	20	11.85	2033033	+282030	L	3	31609	L	305	SO	87082119	194423	001800	300	V
JA014	NGC 6940-175	30	12.05	2033046	+281400	L	1	11459	L	256	SO	87082221	210426	006000	503	V
SRJEB	V VUL	52	8.7	2034290	+262454	L	1	11722	L	929	FO	87092514	141400	003000		G E=125,C=70,B=37
SRJEB	V VUL	52	8.7	2034290	+262454	L	1	11803	L	521	FO	87100612	123100	001800		G E=82,C=65,B=40
SRJEB	V VUL	52	8.7	2034290	+262454	L	1	11907	L	781	FO	87101906	064600	003000		G E=177,C=170,B=122
SRJEB	V VUL	52	8.7	2034290	+262454	L	1	11917	L	879	FO	87102005	054900	004000		G E=121,C=115,B=43
FSIKL	VW CEP	44	7.1	2038063	+752519	L	3	31226	M	2180	FO	87062113	134700	003000		G B=20
FSIKL	VW CEP	44	7.1	2038063	+752519	H	1	11053	L	2408	FO	87062114	143300	001500		G C=75,B=39
FSIKL	VW CEP	44	7.1	2038063	+752519	L	1	11054	L	2718	FO	87062115	153500	001000		G C=2X,B=47
FSIKL	VW CEP	44	7.1	2038063	+752519	L	3	31227	L	2715	FO	87062115	155200	002800		G E=46,C=58,B=41
FSIKL	VW CEP	44	7.1	2038063	+752519	L	1	11055	L	2473	FO	87062116	163000	000500		G E=208,C=205,B=41
FSIKL	VW CEP	44	7.1	2038063	+752519	L	1	11056	L	2026	FO	87062117	171500	000500		G E=202,C=189,B=42

PRO	Object	CL	MAG	R.A.	DEC	D C Image A	FES	MD Obs.date Exptim mmmmsstt	ECC	Comment
FSIKL	VW CEP	44	7.1	2038063	+752519	L 1 11057 L	2234	FO 87062117 175500 000500		G E=226,C=199,B=40
FSIKL	VW CEP	44	7.1	2038063	+752519	L 1 11058 L	2547	FO 87062118 183100 000500		G E=226,C=208,B=38
FSIKL	VW CEP	44	7.1	2038063	+752519	L 1 11059 M	2678	FO 87062119 190800 000500		G E=231,C=228,B=34
JA073	DX DEL	51	10.20	2045059	+121559	L 1 11691 L	331	FO 87092215 155128 003500	601	V
JA073	DX DEL	51	10.30	2045059	+121559	L 3 31906 L	304	FO 87092216 163259 002800	200	V
JA073	DX DEL	51	10.34	2045059	+121559	L 1 11692 L	292	FO 87092217 171042 007500	502	V RP (2,-212) (-34,-20
JA073	DX DEL	51	10.37	2045059	+121559	L 3 31907 L	285	FO 87092218 184826 005500	200	V 25 + 30 MIN
JA073	DX DEL	51	10.45	2045059	+121559	L 1 11693 L	265	FO 87092219 192411 008000	502	V RP (2,-212) (-34,-20
JA073	DX DEL	51	10.66	2045059	+121559	L 1 11694 L	221	FO 87092221 213919 006300	502	V RP (2,-212) (-34,-20
JA073	DX DEL	53	10.51	2045059	+121559	L 1 11723 L	251	FO 87092516 160420 008000	601	V RP1(+2,-212) RP2(-34
JA073	DX DEL	53	10.54	2045059	+121559	L 1 11724 L	245	FO 87092518 180434 003000	501	V
JA073	DX DEL	53	10.86	2045059	+121559	L 1 11725 L	184	FO 87092519 191514 002500	401	V RP(2,-212)
JA073	DX DEL	53	10.68	2045059	+121559	L 1 11726 L	217	FO 87092520 201345 002500	501	V RP1(+2,-212) RP2(-34
JA073	DX DEL	53	10.07	2045059	+121559	L 3 31928 L	374	FO 87092520 205136 002700	300	V MULTIPLE RP1(2,-212)
JA073	DX DEL	53	09.83	2045059	+121559	L 1 11727 L	461	FO 87092521 212653 001400	401	V MULTIPLE RP1(2,-212)
JA073	DX DEL	53	09.92	2045059	+121559	L 1 11728 L	425	FO 87092522 223048 001900	501	V MULTIPLE RP1(2,-212)
NSJWB	CYGLP-FO	75		2045331	+311432	L 3 31346 L		BO 87071703 033400 043500		G B=80
NSJWB	CYGLP-FO	75		2045331	+311432	L 1 11230 L		87071703 035700 038500		G B=117
JI007	HBV 475	57	13.03	2049026	+352337	L 3 31712 L	106	SO 87090415 155558 006000	350	V
JI007	HBV 475	57	13.04	2049026	+352337	L 1 11572 L	105	SO 87090417 170439 006000	352	V
JI007	HBV 475	57	13.04	2049026	+352337	H 3 31713 L	105	SO 87090418 181230 023400	342	V
CSJAB	HD 198700	47	3.6	2050551	-583840	H 1 10954 L	654	FU 87060805 055100 041500		G E=6X,C=4X,B=140
CSJAB	HD 198700	47	3.6	2050551	-583840	H 1 10964 L	661	FU 87060917 170200 003000		G E=235,C=180,B=82
JC162	HD199178	47	07.67	2052072	+441145	H 1 11628 L	3155	FO 87091519 195510 009000	343	V
FKJFW	HD 199178	45	7.3	2052072	+441144	L 3 31840 L	3423	FO 87091403 031200 009000		G E=81,C=82,B=34
JC162	HD199178	47	07.66	2052072	+441145	L 3 31862 L	3194	FO 87091616 163542 006000	230	V
FKJFW	HD 199178	45	7.3	2052072	+441144	H 1 11610 L		87091404 045100 009000		G E=158,C=125,B=50
JC162	HD199178	47	07.70	2052072	+441154	H 1 11637 L	3092	FO 87091617 174256 009000	341	V
FKJFW	HD 199178	45	7.3	2052072	+441144	L 3 31849 L	3460	FO 87091503 033700 009000		G E=87,C=85,B=42
FKJFW	HD 199178	45	7.3	2052072	+441144	H 1 11621 L	3382	FO 87091505 052100 009000		G E=196,C=178,B=88
FKJFW	HD 199178	45	7.3	2052072	+441144	L 3 31856 L	3306	FO 87091521 213300 009000		G E=101,C=79,B=37
FKJFW	HD 199178	45	7.3	2052072	+441144	L 3 31864 L	3414	FO 87091623 234400 009000		G E=87,C=64,B=39
FKJFW	HD 199178	45	7.3	2052072	+441144	H 1 11640 L	3198	FO 87091701 012800 009000		G E=163,C=128,B=57
FKJFW	HD 199178	45	7.3	2052072	+441144	H 1 11650 L	3298	FO 87091723 235600 009000		G E=160,C=128,B=53
FKJFW	HD 199178	45	7.3	2052072	+441144	H 1 11656 L	3349	FO 87091823 234900 009000		G E=170,C=130,B=53
NSJJR	CYG LOOP	75		2054197	+301339	L 3 31642 L		BO 87082523 231300 027000		G E=93,B=59
NSJJR	SKY BKGD	75		2054197	+301339	L 1 11485 L		87082523 233900 022500		G B=77
CDJTS	HD 199579	12	5.9	2054486	+444352	H 1 11188 L	9846	FO 87071114 143000 000400		G C=200,B=42
CDJTS	HD 199579	12	5.9	2054486	+444352	H 3 31322 L	11325	FO 87071114 144100 000800		G C=122,B=30
CDJTS	HD 199579	12	5.9	2054486	+444352	H 1 11189 L	10145	FO 87071115 151800 000400		G C=200,B=41
CDJTS	HD 199579	12	5.9	2054486	+444352	H 3 31323 L	9937	FO 87071115 155000 000900		G C=215,B=40
CDJTS	HD 199579	12	5.9	2054486	+444352	H 3 31324 S	9442	FO 87071117 170500 001800		G C=175,B=36
CDJTS	HD 199579	15	5.9	2054487	+444353	H 3 31317 L	12586	FO 87071009 091100 000700		G C=175,B=35
CDJTS	HD 199579	15	5.9	2054487	+444353	H 1 11173 L	12498	FO 87071009 095100 000400		G C=200,B=54
CDJTS	HD 199579	15	5.9	2054487	+444353	H 3 31318 L	10988	FO 87071010 102800 000800		G C=198,B=36

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
CDJTS	HD 199579	15	5.9	2054487	+444353	H	1	11196	S	10631	FO	87071208	081900	000800		G C=210,B=45
CDJTS	HD 199579	15	5.9	2054487	+444353	H	3	31330	L	10808	FO	87071208	085000	001800		G C=250,B=43
CDJTS	HD 199579	15	5.9	2054487	+444353	H	1	11197	S	11266	FO	87071209	093900	000800		G C=210,B=43
CDJTS	HD 199579	12	5.9	2054487	+444353	H	3	31331	L	10549	FO	87071210	101200	001800		G C=2X,B=38
CDJTS	HD 199579	15	5.9	2054487	+444353	H	1	11198	L	12114	FO	87071210	104500	000400		G C=210,B=42
PRJCG	HD 200120	26	4.5	2058074	+471930	H	3	31128	L	24531	FO	87061014	144500	000130		G C=218,B=38
PRJCG	HD 200120	26	4.5	2058074	+471930	H	3	31348	L	25350	FO	87071712	121900	000130		G C=206,B=39
PRJCG	HD 200120	26	4.5	2058074	+471930	H	3	31423	L	23618	FO	87072716	160900	000130		G C=210,B=38
PRJCG	HD 200120	26	4.5	2058074	+471930	L	3	31424	T	24381	FO	87072716	165000	000004		G C=240,B=19
LOJDB	HD 200580	41	5.63	2101368	+024800	L	1	11176	M	3139	FO	87071013	132500	000400		G C=200,B=35
AGJAB	H2106-09	84	14.3	2106282	-095229	L	3	31110	L	28	SO	87060606	060500	004500		G E=45,C=40,B=26
AGJAB	H2106-09	84	14.3	2106282	-095229	L	1	10927	L	25	SO	87060606	065900	003000		G E=75,C=73,B=33
AGJAB	H2106-09	84	14.3	2106282	-095229	L	3	31111	L	24	SO	87060607	073900	031000		G E=189,C=137,B=68
AGJAB	H2106-09	84	14.3	2106282	-095229	L	1	10937	M	27	SO	87060705	053400	024000		G E=209,C=175,B=76
AGJAB	H2106-09	84	14.3	2106282	-095229	L	1	10938	L	27	SO	87060710	102600	015000		G E=210,C=170,B=65
MGJEB	T CEP	51	7.0	2108529	+681712	L	1	11092	L	25150	FO	87062617	173500	001000		G E=1.1X,C=72,B=37
MGJEB	T CEP	51	7.0	2108529	+681712	L	1	11261	L	178	FO	87072211	113300	000600		G E=1.5X,C=80,B=37
MGJEB	T CEP	51	7.0	2108529	+681712	L	1	11486	L	9423	FO	87082607	074500	000300		G C=67,B=37
MGJEB	T CEP	51	7.0	2108529	+681712	L	1	11676	L	5505	FO	87092107	074300	000100		G E=149,C=42,B=35
MGJEB	T CEP	51	7.0	2108529	+681712	L	1	11909	L	3227	FO	87101909	090200	000200		G E=232,C=79,B=61
HBJAP	HD 202759	38	8.8	2116019	-340744	L	3	31140	L	619	FO	87061217	173000	008320		G C=3X,B=42
MLJCG	HD 203064	14	5.0	2116350	+434404	H	3	31796	L	20410	FO	87090812	122500	000230		G C=240,B=43
JA060	HD203064	12	05.26	2116351	+434405	H	3	31747	L	21895	FO	87090616	165333	000220	501	V
MLJCG	HD 203064	14	5.0	2116351	+434405	H	3	31717	L	21555	FO	87090509	093700	000250		G C=255,B=44
JA060	HD203064	12	05.33	2116351	+434405	H	3	31749	L	220	FU	87090619	192129	000220	501	V
MLJCG	HD 203064	14	5.0	2116351	+434405	H	3	31720	L	20332	FO	87090512	120900	000245		G C=4X,B=64
JA060	HD203064	12	05.37	2116351	+434405	H	3	31751	L	213	FU	87090620	204344	000220	501	V
MLJCG	HD 203064	14	5.0	2116351	+434405	H	3	31723	L	20504	FO	87090514	144600	000240		G C=242,B=42
JA060	HD203064	12	05.28	2116351	+434405	H	3	31753	L	231	FU	87090622	220325	000220	501	V
MLJCG	HD 203064	14	5.0	2116351	+434405	H	3	31725	L	20455	FO	87090522	224600	000250		G C=245,B=40
JA060	HD203064	12	05.24	2116351	+434405	H	3	31776	L	238	FU	87090717	175134	000220	501	V
MLJCG	HD 203064	14	5.0	2116351	+434405	H	3	31730	L	20084	FO	87090602	022700	000250		G C=250,B=42
JA060	HD 203064	12	05.43	2116351	+434405	H	3	31778	L	19771	FO	87090719	194818	000220	501	V
MLJCG	HD 203064	14	5.0	2116351	+434405	H	3	31733	L	20591	FO	87090605	055800	000250		G C=255,B=42
JA060	HD 203064	12	05.43	2116351	+434405	H	3	31803	L	19664	FO	87090819	190342	000220	501	V
MLJCG	HD 203064	14	5.0	2116351	+434405	H	3	31736	L	20481	FO	87090608	082600	000250		G C=1.1X,B=44
MLJCG	HD 203064	14	5.0	2116351	+434405	H	3	31740	L	20525	FO	87090611	114300	000250		G C=254,B=52
MLJCG	HD 203064	14	5.0	2116351	+434405	H	3	31743	L	19567	FO	87090614	140200	000245		G C=254,B=43
MLJCG	HD 203064	14	5.0	2116351	+434405	H	3	31756	L	20436	FO	87090700	001600	000250		G C=250,B=40
MLJCG	HD 203064	14	5.0	2116351	+434405	H	3	31759	L	225	FU	87090702	022800	000250		G C=255,B=41
MLJCG	HD 203064	14	5.0	2116351	+434405	H	3	31761	L	20088	FO	87090704	042400	000250		G C=245,B=42
MLJCG	HD 203064	14	5.0	2116351	+434405	H	3	31764	L	20519	FO	87090706	063100	000250		G C=252,B=44
MLJCG	HD 203064	14	5.0	2116351	+434405	H	3	31766	L	20999	FO	87090708	082300	000250		G C=250,B=44
MLJCG	HD 203064	14	5.0	2116351	+434405	H	3	31768	L	20544	FO	87090711	111900	000250		G C=241,B=45
MLJCG	HD 203064	14	5.0	2116351	+434405	H	3	31771	L	20253	FO	87090713	134100	000250		G C=253,B=45

PRO	Object	CL	MAG	R.A.	DEC	D C Image A	FES	MD Obs.date Exptim mmmmsstt	ECC	Comment
MLJCG	HD 203064	14	5.0	2116351	+434405	H 3 31781 L	20405	FO 87090800 001400	000250	G C=250,B=41
MLJCG	HD 203064	14	5.0	2116351	+434405	H 3 31785 L	230	FU 87090803 030900	000250	G C=255,B=40
MLJCG	HD 203064	14	5.0	2116351	+434405	H 3 31789 L	20631	FO 87090806 061000	000250	G C=250,B=41
MLJCG	HD 203064	14	5.0	2116351	+434405	H 3 31793 L	20888	FO 87090810 101400	000230	G C=248,B=41
MLJCG	HD 203064	14	5.0	2116351	+434405	H 3 31799 L	19431	FO 87090814 142800	000240	G C=240,B=41
USSBS	HD 203280	31	2.44	2117239	+622225	H 1 10943 L	2032	FU 87060718 182600	000125	G C=243,B=45
USSBS	HD 203280	31	2.44	2117239	+622225	H 3 31118 L	2019	FU 87060718 183400	000430	G C=223,B=39
USSBS	HD 203280	31	2.44	2117239	+622225	H 3 31119 L	2026	FU 87060719 192500	001500	G C=3X,B=65
USSBS	HD 203280	31	2.4	2117240	+622226	L 1 11009 L	2097	FU 87061409 091800	000003	G C=2X,B=36
USSBS	HD 203280	31	2.4	2117240	+622226	D 9 01948 2		87061410 103900	016000	G NO COMMENTS
PRJCG	HD 203467	26	5.4	2118201	+643934	H 3 31129 L	18613	FO 87061015 152500	001000	G C=2X,B=50
IEJDM	HD 203532	21	6.4	2125580	-825418	L 1 11409 L	7116	FO 87081613 131800	000045	G C=4.5X,B=70
IEJDM	HD 203532	21	6.4	2125580	-825418	L 1 11409 S	7103	FO 87081613 132300	000025	G C=1.5X,B=70
IEJDM	HD 203532	21	6.4	2125580	-825418	L 3 31576 L	7148	FO 87081613 132700	000040	G C=1.5X,B=21
XCJJR	AC 211	59	16.8	2127333	+115650	L 3 31874 L		BO 87091802 024700	012000	G E=113,C=144,B=66
XCJJR	AC211	59		2127334	+115647	L 3 31942 L	525	FO 87092622 221600	015000	G E=120,C=165,B=60
XCJJR	AC211	59		2127334	+115647	L 1 11731 L	522	FO 87092700 005900	003000	G C=180,B=62
XCJJR	AC211	59		2127334	+115647	L 3 31943 L	527	FO 87092701 013500	015000	G C=150,B=40
XCJJR	AC211	59		2127334	+115647	L 1 11732 L	520	FO 87092704 041200	003000	G C=175,B=41
XCJJR	AC211	59		2127334	+115647	L 3 31944 L	529	FO 87092704 045000	012000	G E=91,C=125,B=32
XCJJR	NGC 7078	59	6.6	2127334	+115647	L 3 31989 L	520	FO 87100420 200100	015000	G E=113,C=138,B=50
XCJJR	NGC 7078	59	6.6	2127334	+115647	L 1 11799 L	516	FO 87100422 224500	003000	G C=175,B=40
XCJJR	NGC 7078	59	6.6	2127334	+115647	L 3 31990 L	515	FO 87100423 232300	015000	G E=112,C=150,B=55
XCJJR	NGC 7078	59	6.6	2127334	+115647	L 1 11800 L	526	FO 87100501 015900	003000	G C=180,B=40
XCJJR	NGC 7078	59	6.6	2127334	+115647	L 3 31991 L	524	FO 87100502 023500	013500	G E=98,C=137,B=52
JI023	NGC7078-AC	59	09.67	2127358	+115659	L 3 31987 L	532	FO 87100413 133427	015000	432 V
JI023	NGC7078-AC	59	09.67	2127358	+115659	E 9 01993 2	532	FO 87100413 132500	016000	V FOR SWP 31989
JI023	NGC7078-AC	59	09.68	2127358	+115659	L 1 11797 L	526	FO 87100416 160955	003000	502 V
JI023	NGC7078-AC	59	09.69	2127358	+115659	L 3 31988 L	522	FO 87100416 164959	015000	331 V
JI023	NGC7078-AC	59	09.70	2127358	+115659	L 1 11798 L	521	FO 87100419 192524	003000	502 V
JI023	M15 AC211	59	16.00	2127359	+115700	L 3 31940 L		BO 87092615 154506	015000	402 V EXPOSED ON CENTER OF
JI023	M15-AC211	59	16.00	2127359	+115700	L 1 11729 L		BO 87092618 182546	003000	502 V EXPOSED ON CENTER OF
JI023	M15 AC211	59	16.00	2127359	+115700	L 3 31941 L		BO 87092619 190244	015000	402 V EXPOSED ON CENTER OF
JI023	M15-AC211	59	16.00	2127359	+115700	L 1 11730 L		BO 87092621 214006	003000	402 V EXPOSED CENTER LIGHT
JA077	LDS749B	29	14.31	2129422	+000156	L 3 32001 L	34	SO 87100514 145233	035500	503 V
JA077	LDS749B	29	14.04	2129422	+000156	L 1 11804 L	43	SO 87100614 141349	016000	604 V
JA077	SKY-BKG	07	99.99	2129422	+000156	L 3 32009		87100614 144229	035200	004 V
JA077	LDS749B	29	15.02	2129422	+000156	L 1 11805 L	18	SO 87100617 173217	013000	504 V
NPJST	IC5117	70	0.0	2130360	+442229	L 3 31825 L	161	SO 87091107 075600	015000	G E=168,C=65,B=55
MGJJE	HD 205730	49	5.5	2134082	+450900	L 1 11019 L	18674	FO 87061517 173000	001000	G E=220,C=63,B=40
MGJJE	HD 205730	49	5.5	2134082	+450900	L 1 11120 L	20702	FO 87062918 183600	001000	G E=129,B=37
MGJJE	HD 205730	49	5.5	2134082	+450900	L 1 11218 L	21811	FO 87071615 153600	001000	G E=121,C=83,B=60
MGJJE	HD 205730	49	5.5	2134082	+450900	L 1 11299 L	22275	FO 87073014 145500	001000	G E=135,C=105,B=70
MGJJE	HD 205730	49	5.5	2134082	+450900	L 1 11415 L	22321	FO 87081711 114000	001000	G E=191,C=130,B=103
MGJJE	HD 205730	49	5.5	2134082	+450900	L 1 11531 L	22280	FO 87083013 130000	001000	G E=169,C=124,B=90

PRO	Object	CL	MAG	R.A.	DEC	D C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
MGJJE	HD 205730	49	5.5	2134082	+450900	L	1	11550	L	22224	FO	87090213	134400	000700	G E=201,C=175,B=122
MGJJE	HD 205730	49	5.5	2134082	+450900	L	1	11658	L	23178	FO	87091908	084300	001000	G E=169,C=92,B=65
MGJJE	HD 205730	49	5.5	2134082	+450900	L	1	11775	L	23803	FO	87100110	102000	000800	G B=205
MGJJE	HD 205730	49	5.5	2134082	+450900	L	1	11777	L	22123	FO	87100112	122800	001000	G E=139,C=98,B=73
MGJJE	HD 205730	49	5.5	2134082	+450900	L	1	11900	L	21701	FO	87101810	102800	001000	G E=176,C=144,B=120
WDJNO	BD +27 4120	48	9.8	2135480	+273000	L	3	31352	L	333	FO	87071718	183300	001500	G B=16
JI048	HD 206697	54	11.64	2140439	+432120	L	1	11844	L	367	SO	87101017	175040	001100	773 V
JI048	HD206697	54	11.66	2140439	+432120	L	3	32060	L	361	SO	87101018	181313	002600	760 V
JI048	HD 206697	54	11.71	2140439	+432120	L	1	11845	L	344	SO	87101018	184955	000600	552 V
JI048	HD 206697	54	11.70	2140439	+432120	L	3	32061	L	347	SO	87101019	193923	001600	550 V
JI048	HD 206697	54	11.58	2140439	+432120	L	1	11846	L	386	SO	87101020	201736	000600	553 V
JI048	HD 206697	54	11.01	2140440	+432121	L	3	31183	L	161	FO	87061721	214620	004000	880 V
JI048	HD206697	54	11.11	2140440	+432121	L	1	11033	L	147	FO	87061722	223243	001500	770 V
JI048	HD 206697	54	11.10	2140440	+432121	L	3	31184	L	149	FO	87061723	230503	001500	550 V
JI048	HD206697	54	11.08	2140440	+432121	L	1	11034	L	151	FO	87061723	233804	000600	550 V
JI048	HD 206697	54	11.02	2140440	+432121	L	3	31185	L	160	FO	87061800	000540	001400	550 V
JI048	HD206697	54	11.05	2140440	+432121	L	1	11035	L	155	FO	87061800	003734	000530	550 V PREAD
JI048	SSCYGNI	54	12.33	2140440	+432121	L	1	11235	L	198	SO	87071800	001912	001500	452 V
JI048	SS CYGNI	54	12.33	2140440	+432121	L	3	31355	L	199	SO	87071800	004332	004000	341 V
JI048	SSCYGNI	54	12.27	2140440	+432121	L	1	11236	L	195	SO	87071801	013023	001500	452 V
JI048	SS CYGNI	54	12.27	2140440	+432121	L	3	31356	L	209	SO	87071802	020358	004300	351 V
JI048	SS CYGNI	54	10.49	2140440	+432121	L	3	32018	L	256	FO	87100713	135500	000900	800 V
JI048	SSCYGNI	54	10.49	2140440	+432121	H	1	11809	L	257	FO	87100714	141528	002500	303 V
JI048	SS CYGNI	54	10.44	2140440	+432121	H	3	32019	L	267	FO	87100715	151616	008400	401 V
JI048	SS CYGNI	54	10.44	2140440	+432121	L	1	11810	L	242	FO	87100716	164856	000100	402 V
USSBS	HD 207098	33	2.9	2144175	-162128	H	1	10895	L	1443	FU	87060213	135000	000212	G C=253,B=37
USSBS	HD 207098	33	2.9	2144175	-162128	H	3	31084	L	1433	FU	87060213	135900	000730	G C=200,B=30
JC189	G188-27	29	14.60	2147401	+280255	L	3	31313	L		BO	87070920	203251	037500	402 V
IBJBB	HD 207739	39	8.6	2147598	+434354	L	1	11957	L	918	FO	87102609	095300	000330	G E=251,C=205,B=47
IBJBB	HD 207739	39	8.6	2147598	+434354	L	3	32166	L	907	FO	87102610	100400	001200	G C=160,B=30
IBJBB	HD 207739	39	8.6	2147598	+434354	H	1	11958	L	966	FO	87102610	104000	011000	G E=202,C=165,B=84
IBJBB	HD 207739	39	8.6	2147598	+434354	L	3	32167	L	998	FO	87102612	123600	001400	G C=150,B=17
PHCAL	BD+28 4211	16	10.82	2148560	+283734	L	3	31091	S	191	FO	87060223	235144	000120	600 V
PHCAL	BD+28 4211	16	10.82	2148560	+283734	L	3	31091	L	191	FO	87060223	234603	000026	500 V
PHCAL	BD+28 4211	16	10.68	2148560	+283734	L	3	31092	S	216	FO	87060300	002520	000120	500 V
PHCAL	BD+28 4211	16	10.68	2148560	+283734	L	3	31092	L	216	FO	87060300	001942	000026	600 V
PHCAL	BD+28 4211	16	10.78	2148560	+283734	L	3	31093	S	198	FO	87060300	005937	000120	500 V
PHCAL	BD+28 4211	16	10.78	2148560	+283734	L	3	31093	L	198	FO	87060300	005351	000026	600 V
PHCAL	BD+28 4211	16	10.74	2148560	+283734	L	1	10901	L	206	FO	87060301	010506	000050	502 V
PHCAL	BD+28 4211	16	10.61	2148560	+283734	H	3	31094	L	231	FO	87060301	013835	004500	501 V
PHCAL	BD+28 4211	16	10.76	2148560	+283735	L	3	31122	S	201	FO	87060803	031311	000118	500 V
PHCAL	BD+28 4211	16	10.76	2148560	+283735	L	3	31122	L	201	FO	87060803	030909	000026	500 V
PHCAL	BD+28 4211	16	10.77	2148560	+283735	L	1	10953	S	200	FO	87060803	035328	000230	503 V
PHCAL	BD+28	16	10.77	2148560	+283735	L	1	10953	L	200	FO	87060803	034712	000050	503 V
PHCAL	BD+28 4211	16	10.76	2148560	+283735	H	3	31123	L	210	FO	87060804	042425	002500	401 V

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
PHCAL	BD+28 4211	16	10.75	2148560	+283735	L	3	31266	L	203	FO	87063002	021705	000026	500	V
PHCAL	BD+28 4211	16	10.50	2148560	+283734	L	2	18113	L	255	FO	87063003	032334	000120	502	V LWR 4.5KV
PHCAL	BD+28 4211	16	10.74	2148560	+283735	H	3	31429	L	205	FO	87072823	230544	004500	500	V
PHCAL	BD+28 4211	16	10.72	2148560	+283735	H	1	11292	L	208	FO	87072823	235802	006000	401	V
PHCAL	BD+28 4211	16	10.77	2148560	+283735	L	3	31430	L	200	FO	87072901	013701	000026	500	V
PHCAL	BD+28 4211	16	10.79	2148560	+283735	L	1	11293	L	197	FO	87072901	014531	000050	500	V
PHCAL	BD+28-4211	16	10.55	2148560	+283734	L	3	31645	L	244	FO	87082620	201302	000026	500	V
PHCAL	BD+28-4211	16	10.70	2148560	+283734	L	1	11493	L	212	FO	87082620	201734	000050	502	V
PHCAL	BD+28-4211	16	10.63	2148560	+283734	L	1	11494	L	226	FO	87082620	210438	000140	603	V
PHCAL	BD +28 4211	16	10.5	2148573	+283733	L	1	11133	L	190	FO	87070115	151400	000050		G C=215,B=32
PHCAL	BD +28 4211	16	10.5	2148573	+283733	L	3	31276	L	193	FO	87070115	151900	000026		G C=207,B=15
PHCAL	BD +28 4211	16	10.5	2148574	+283734	L	3	31524	L	197	FO	87080913	130800	000026		G C=205,B=16
PHCAL	BD +28 4211	16	10.5	2148574	+283734	L	1	11362	L	202	FO	87080913	131600	000050		G C=197,B=35
PHCAL	BD +28 4211	16	10.5	2148574	+283734	L	2	18123	L	199	FO	87082103	030300	000122		G C=188,B=25
PHCAL	BD +28 4211	16	10.5	2148574	+283734	L	3	31601	L	205	FO	87082103	032100	000026		G C=185,B=15
PHCAL	BD +28 4211	16	10.5	2148574	+283734	L	3	31808	L	191	FO	87090823	233700	000026		G C=220,B=10
PHCAL	BD +28 4211	16	10.5	2148574	+283734	H	1	11578	L	189	FO	87090823	234800	006000		G C=190,B=50
PHCAL	BD +28 4211	16	10.5	2148574	+283734	H	3	31809	L	189	FO	87090901	010000	004000		G C=190,B=41
PHCAL	BD +28 4211	16	10.5	2148574	+283734	L	1	11579	L	192	FO	87090901	014600	000050		G C=200,B=38
PHCAL	BD +28 4211	16	10.5	2148574	+283734	L	3	31810	L	193	FO	87090902	021600	000026		G C=205,B=12
PHCAL	BD +28 4211	16	10.5	2148574	+283734	H	3	31811	L	199	FO	87090902	024800	004000		G C=200,B=40
PHCAL	BD +28 4211	16	10.5	2148574	+283734	H	1	11580	L	200	FO	87090903	033503	006000		G C=185,B=58
PHCAL	BD +28 4211	16	10.5	2148574	+283734	L	1	11581	L	197	FO	87090905	051000	000050		G C=200,B=37
PHCAL	BD +28 4211	16	10.5	2148574	+283734	L	3	32177	L	197	FO	87102807	073500	000026		G C=207,B=18
PHCAL	BD +28 4211	16	10.5	2148574	+283734	L	1	11969	L	203	FO	87102807	074000	000050		G C=199,B=35
PHCAL	BD +28 4211	16	10.5	2148574	+283734	L	2	18150	L	188	FO	87103012	120600	000122		G C=184,B=23
JA039	HD 208057	21	05.08	2150471	+254121	H	3	31187	L	24410	FO	87061802	021709	000210	500	V
JA039	HD 208057	26	05.44	2150471	+254121	H	3	32189	L	19600	FO	87102916	162324	000210	400	V
JA039	HD 208057	21	05.35	2150477	+254121	H	3	31518	L	20768	FO	87080820	202907	000210	500	V
CCJTS	HD 208450	47	4.40	2154316	-551352	L	3	32109	L	343	FU	87101611	111600	001200		G E=76,C=20X,B=68
IEJDM	HD 209145	20	7.6	2157450	+600330	L	1	11075	L	2282	FO	87062413	131100	001130		G C=4X,B=46
IEJDM	HD 209145	20	7.6	2157450	+600330	L	1	11075	S		BO	87062413	134200	000300		G C=1.5X,B=46
IEJDM	HD 209145	20	7.6	2157450	+600330	L	3	31241	L	2179	FO	87062413	135300	000440		G C=1.3X,B=22
IEJDM	HD 209145	20	7.6	2157450	+600330	L	3	31241	S	2179	FO	87062414	141200	000420		G C=145,B=22
BEJTS	HD 209014	26	5.4	2157581	-284140	H	3	31219	L	15966	FO	87062014	145200	001105		G C=255,B=44
BEJTS	HD 209014	26	5.4	2157581	-284140	H	1	11045	L	15859	FO	87062015	152500	000315		G C=168,B=41
JC028	HD209100	64	05.05	2159330	-565934	H	1	11324	L	24752	FO	87080421	215713	001800	351	V
JC028	HD209100	46	05.06	2159340	-565934	H	1	11307	L	281	FU	87073102	023434	001600	350	V
JC013	HD209813	47	07.38	2202570	+465927	H	1	11468	L	4091	FO	87082315	153236	006000	354	V
JC013	HD209813	47	07.35	2202570	+465927	L	3	31627	L	4219	FO	87082316	163931	010000	331	V
JC013	HD209813	47	07.40	2202570	+465927	H	1	11479	L	4012	FO	87082515	154159	006000	353	V
JC071	HD209813	47	07.16	2202574	+465927	H	1	11576	L	4955	FO	87090520	203203	003500	343	V
JC013	HD209813	47	07.45	2202580	+465928	L	3	31641	L	3849	FO	87082516	164725	011500	331	V
JA060	HD 209975	13	05.49	2203361	+620210	H	3	31777	L	18928	FO	87090718	183942	000600	501	V
MLJCG	HD 209975	13	5.2	2203361	+620209	H	3	31722	L	18659	FO	87090513	135800	000500		G C=242,B=48

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
MLJCG	HD	209975	13	5.2	2203361	+620209	H	3	31729	L	18652	FO	87090601	014000	000530	G C=240,B=41
MLJCG	HD	209975	13	5.2	2203361	+620209	H	3	31735	L	18953	FO	87090607	073900	000530	G C=245,B=42
MLJCG	HD	209975	13	5.2	2203361	+620210	H	3	31742	L	18631	FO	87090613	131800	000500	G C=237,B=46
MLJCG	HD	209975	13	5.2	2203361	+620209	H	3	31758	L	18660	FO	87090701	014200	000545	G C=235,B=42
MLJCG	HD	209975	13	5.2	2203361	+620209	H	3	31762	L	18784	FO	87090705	050100	000545	G C=245,B=42
MLJCG	HD	209975	13	5.2	2203361	+620209	H	3	31769	L	18321	FO	87090712	121000	000545	G C=254,B=55
MLJCG	HD	209975	13	5.2	2203361	+620209	H	3	31786	L	19212	FO	87090803	034900	000600	G C=255,B=41
MLJCG	HD	209975	13	5.2	2203361	+620209	H	3	31794	L	19395	FO	87090810	105600	000530	G C=254,B=45
JA060	HD	209975	13	05.48	2203362	+620210	H	3	31804	L	19033	FO	87090819	195040	000600	501 V
CDJTS	HD	210072	20	7.6	2204298	+550010	H	3	31321	L	2245	FO	87071105	052200	040000	G C=1.2X,B=108
CDJTS	HD	210072	20	7.6	2204298	+550010	H	1	11187	L	2442	FO	87071112	120900	008000	G C=255,B=75
CDJTS	HD	210072	12	7.6	2204298	+550010	H	1	11190	L	2263	FO	87071117	174200	006800	G C=240,B=40
CDJTS	HD	210072	20	7.6	2204299	+550011	H	1	11158	L	2896	FO	87070803	034900	008000	G C=220,B=60
CDJTS	HD	210072	20	7.6	2204299	+550011	H	3	31308	L	2886	FO	87070805	051700	042500	G C=1.2X,B=105
CDJTS	HD	210072	20	7.6	2204299	+550011	H	1	11159	L	2350	FO	87070812	123900	008000	G C=230,B=50
CDJTS	HD	210072	20	7.6	2204299	+550011	H	1	11160	L	2364	FO	87070814	143800	008000	G C=250,B=60
CDJTS	HD	210072	20	7.6	2204299	+550011	H	1	11161	L	2664	FO	87070816	163500	008000	G C=250,B=58
CDJTS	HD	210072	20	7.6	2204299	+550011	H	1	11164	L	2706	FO	87070912	123800	008000	G C=250,B=67
CDJTS	HD	210072	20	7.6	2204299	+550011	H	1	11165	S	2150	FO	87070914	144400	014000	G C=240,B=72
CDJTS	HD	210072	20	7.6	2204299	+550011	H	1	11184	L	2346	FO	87071103	035200	008000	G C=240,B=60
PHCAL		NULL	99		2204299	+550011	H	1	11185				87071106	060100	000000	G B=37
PHCAL	SKY	BKGD	07		2204299	+550011	H	1	11186	L			87071106	062800	030000	G B=101
LDJDB	HD	210027	41	3.8	2204408	+250601	L	1	11109	T	613	FU	87062815	151800	000014	G C=205,B=38
JC137	HD210334		53	07.17	2206355	+452945	L	3	31863	L	4930	FO	87091621	212736	003000	240 V
JC137	HD210334		53	06.85	2206389	+452944	H	1	11607	L	6516	FO	87091321	214407	006000	352 V
RSJJL	HD	210334	39	6.1	2206389	+452947	H	3	31082	L	9076	FO	87060205	055400	033000	G E=126,C=120,B=90
RSJJL	HD	210334	39	6.1	2206389	+452947	H	1	10894	L	8599	FO	87060211	113400	004000	G E=153,C=130,B=50
RSJJL	HD	210334	39	6.1	2206389	+452947	L	3	31083	L	8493	FO	87060212	122200	003000	G E=66,C=57,B=20
RSJJL	HD	210334	39	6.1	2206389	+452947	H	3	31096	L	8465	FO	87060305	053800	033000	G E=127,C=140,B=90
RSJJL	HD	210334	39	6.1	2206389	+452947	H	1	10903	L	8287	FO	87060311	111800	005500	G E=195,C=170,B=50
RSJJL	HD	210334	39	6.1	2206389	+4529[illegible]	L	3	31097	L	8174	FO	87060312	122100	002500	G E=59,C=65,B=19
FKJFW		AR	LAC	46	6.1	2206389	+452944	H	1	11601	L	8191	FO	87091308	081400	006000	G E=206,C=185,B=65
FKJFW		AR	LAC	46	6.1	2206389	+452944	L	3	31832	M	8278	FO	87091309	092300	005000	G E=167,C=200,B=155
FKJFW		AR	LAC	46	6.1	2206389	+452944	H	1	11602	L	8431	FO	87091309	095900	004000	G E=154,C=1.2X,B=175
FKJFW		AR	LAC	46	6.1	2206389	+452944	L	3	31833	L	7674	FO	87091313	132000	003000	G E=140,C=140,B=100
FKJFW		AR	LAC	46	6.1	2206389	+452944	H	1	11603	L	7549	FO	87091313	135600	006000	G E=224,C=195,B=65
JC137	HD210334		53	06.61	2206390	+452945	L	3	31843	L	7979	FO	87091414	145033	004000	330 V
JC137	HD210334		53	06.58	2206390	+452945	L	3	31844	L	8177	FO	87091416	160215	003000	330 V
JC137	HD210334		53	06.59	2206390	+452945	H	1	11615	L	8135	FO	87091416	164011	006000	442 V
JC137	HD210334		53	06.59	2206390	+452945	L	3	31845	L	8105	FO	87091417	174908	003000	330 V
JC137	HD210334		53	06.66	2206390	+452945	H	1	11616	L	7631	FO	87091418	183109	006000	342 V
JC137	HD210334		53	06.95	2206390	+452945	L	3	31846	L	5966	FO	87091419	193939	003500	330 V
JC137	HD210334		53	07.12	2206390	+452945	H	1	11617	L	5147	FO	87091420	202311	006000	342 V
JC137	HD210334		53	07.16	2206390	+452945	L	3	31847	L	4951	FO	87091421	213423	003000	230 V
JC137	HD210334		53	99.99	2206390	+452945	D	9	01987	2			87091422	221000	016000	V FOR LWP 11618

PRO	Object	CL	MAG	R.A.	DEC	D C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
FKJFW	HD 210334	46	6.1	2206394	+452944	H 1	11608	L	7147	FO	87091323	234100	006000		G E=210,C=170,B=47
FKJFW	HD 210334	46	6.1	2206394	+452944	L 3	31839	L	8268	FO	87091400	004900	003000		G E=72,C=65,B=19
FKJFW	HD 210334	46	6.1	2206394	+452944	H 1	11609	L	8426	FO	87091401	013200	006000		G E=203,C=165,B=51
FKJFW	AR LAC	46	6.1	2206394	+452944	L 3	31841	M	8802	FO	87091406	065000	006000		G E=80,C=82,B=32
FKJFW	AR LAC	46	6.1	2206394	+452944	H 1	11611	L	8926	FO	87091407	072800	006000		G E=202,C=165,B=50
FKJFW	AR LAC	46	6.1	2206394	+452944	H 1	11612	L	9153	FO	87091409	091300	006000		G E=235,C=215,B=105
FKJFW	AR LAC	46	6.1	2206394	+452944	L 3	31842	L	8883	FO	87091410	102100	003000		G E=125,C=132,B=93
FKJFW	AR LAC	46	6.1	2206394	+452944	H 1	11614	L	8262	FO	87091413	134300	006000		G E=238,C=205,B=90
FKJFW	HD 210334	46	6.1	2206394	+452944	H 1	11618	L	4934	FO	87091422	221600	006000		G E=173,C=112,B=46
FKJFW	HD 210334	46	6.1	2206394	+452944	L 3	31848	M	6233	FO	87091423	232600	006000		G E=69,C=75,B=30
FKJFW	HD 210334	46	6.1	2206394	+452944	H 1	11619	L	7465	FO	87091500	001000	006000		G E=165,C=160,B=48
FKJFW	HD 210334	46	6.1	2206394	+452944	H 1	11620	L	8871	FO	87091502	020200	006000		G E=170,C=164,B=52
FKJFW	AR LAC	46	6.1	2206394	+452944	L 3	31850	M	8630	FO	87091507	071300	006000		G E=86,C=102,B=60
FKJFW	AR LAC	46	6.1	2206394	+452944	H 1	11622	L	8755	FO	87091507	074900	006000		G E=178,C=165,B=50
FKJFW	AR LAC	46	6.1	2206394	+452944	H 1	11623	L	8957	FO	87091509	093800	003000		G E=211,C=210,B=145
FKJFW	AR LAC	65	6.1	2206394	+452944	L 9	01988	2			87091514	143400	016000		G NO COMMENTS
FKJFW	HD 210334	46	6.1	2206394	+452944	H 1	11629	L	7409	FO	87091523	233100	006000		G E=181,C=166,B=48
FKJFW	HD 210334	46	6.1	2206394	+452944	L 3	31857	M	8018	FO	87091600	004200	006500		G E=81,C=88,B=32
FKJFW	HD 210334	46	6.1	2206394	+452944	H 1	11630	L	7909	FO	87091601	012300	006000		G E=223,C=74,B=50
FKJFW	HD 210334	46	6.1	2206394	+452944	H 1	11631	L	8445	FO	87091603	031600	006000		G E=211,C=170,B=53
FKJFW	HD 210334	46	6.1	2206394	+452944	L 3	31858	M	8787	FO	87091604	042600	007000		G E=82,C=90,B=40
FKJFW	HD 210334	46	6.1	2206394	+452944	H 1	11632	L	8836	FO	87091605	051400	006000		G E=206,C=173,B=63
FKJFW	HD 210334	46	6.1	2206394	+452944	H 1	11633	L	8669	FO	87091607	070800	006000		G E=194,C=160,B=50
FKJFW	HD 210334	46	6.1	2206394	+452944	L 3	31859	M	8489	FO	87091608	081600	006000		G E=135,C=145,B=100
FKJFW	HD 210334	46	6.1	2206394	+452944	H 1	11634	L	8466	FO	87091608	085500	006000		G E=247,C=205,B=102
FKJFW	HD 210334	46	6.1	2206394	+452944	D 9	01989	2			87091615	151100	016000		G NO COMMENTS
FKJFW	HD 210334	46	6.1	2206394	+452944	H 1	11639	L	5029	FO	87091622	221000	006000		G E=172,C=122,B=47
FKJFW	HD 210334	46	6.1	2206394	+452944	L 3	31865	M	8259	FO	87091703	033200	006000		G E=72,C=70,B=44
FKJFW	HD 210334	46	6.1	2206394	+452944	H 1	11641	L	8386	FO	87091704	041900	005500		G E=197,C=165,B=60
FKJFW	HD 210334	46	6.1	2206394	+452944	H 1	11642	L	8599	FO	87091706	060900	004000		G E=130,C=135,B=58
JC137	HD210334	53	06.64	2206395	+452945	L 3	31834	L	7753	FO	87091315	152539	003000	330	V
RSJJL	HD 210334	46	6.1	2206395	+452945	L 3	31588	L	8228	FO	87081911	115100	003000		G E=145,C=160,B=122
JC137	HD210334	53	06.63	2206395	+452945	H 1	11604	L	7862	FO	87091316	160429	006000	452	V
RSJJL	HD 210334	46	6.1	2206395	+452945	L 1	11430	T	8218	FO	87081912	124200	000700		G C=3X,B=210
JC137	HD210334	53	06.65	2206395	+452945	L 3	31835	L	7690	FO	87091317	171517	003000	330	V
FKJFW	HD 210334	46	6.1	2206395	+452944	L 3	31838	L	6590	FO	87091322	225200	004000		G E=65,C=80,B=20
JC137	HD210334	53	06.66	2206395	+452945	H 1	11605	L	7685	FO	87091318	180133	006000	342	V
JC137	HD210334	53	06.76	2206395	+452945	H 1	11606	L	7015	FO	87091319	195237	006000	342	V
JC137	HD210334	53	06.71	2206395	+452945	L 3	31836	L	7345	FO	87091319	191145	003000	330	V
JC137	HD210334	53	06.85	2206395	+452945	L 3	31837	L	6524	FO	87091321	210133	003000	330	V
JC137	HD210334	53	99.99	2206395	+452945	D 9	01986	2			87091322	222600	016000		V
JC137	HD210334	53	06.56	2206395	+452945	H 1	11625	L	8316	FO	87091514	141556	006000	444	V
JC137	HD210334	53	06.63	2206395	+452945	L 3	31853	L	7854	FO	87091515	152627	003000	330	V
JC137	HD210334	53	06.62	2206395	+452945	H 1	11626	L	7945	FO	87091516	160416	006000	453	V
JC137	HD210334	53	06.63	2206395	+452945	L 3	31854	L	7829	FO	87091517	171126	003000	330	V

PRO	Object	CL	MAG	R.A.	DEC	D C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
JC137	HD210334	53	06.62	2206395	+452945	H 1	11627	L	7900	FO	87091517	174902	006000	443	V
JC137	HD210334	53	06.73	2206395	+452945	L 3	31855	L	7196	FO	87091518	185828	003000	330	V
JC137	HD210334	53	06.53	2206395	+452945	H 1	11636	L	8550	FO	87091614	142819	006000	452	V STARTED AT GSFC
JC137	HD210334	53	99.99	2206395	+452945	E 9	01990	2			87091619	193000	016000		V FES FOR LWP 11639
JC137	HD210334	53	07.15	2206395	+422945	H 1	11638	L	5001	FO	87091620	202000	006000	341	V
IEJDM	BD +52 3122	20	9.3	2206550	+524342	L 1	11076	L	495	FO	87062414	145400	002700		G C=4X,B=70
IEJDM	BD +52 3122	20	9.3	2206550	+524342	L 1	11076	S	495	FO	87062415	153500	000700		G C=190,B=70
IEJDM	BD +52 3122	20	9.3	2206550	+524342	L 3	31242	L	544	FO	87062415	154900	002000		G C=2X,B=45
IEJDM	BD +52 3122	20	9.3	2206550	+524342	L 3	31242	S	544	FO	87062416	162400	000900		G C=110,B=45
JA020	CX CEP	11	12.56	2207487	+572945	L 3	31636	L	162	SO	87082419	194343	014200	351	V
IGJTS	HD 235749	39	8.93	2209459	+550115	L 1	11891	L	1200	FO	87101704	042100	002700		G C=2X,B=43
MLJCG	HD 210839	13	5.04	2209485	+591002	H 3	31718	L	19252	FO	87090510	102500	000940		G C=235,B=46
MLJCG	HD 210839	13	5.04	2209485	+591002	H 3	31732	L	18370	FO	87090603	035600	001000		G C=225,B=41
MLJCG	HD 210839	13	5.04	2209485	+591002	H 3	31738	L	18982	FO	87090610	100400	001000		G C=232,B=43
MLJCG	HD 210839	13	5.04	2209485	+591002	H 3	31755	L	19201	FO	87090623	232700	001030		G C=225,B=42
MLJCG	HD 210839	13	5.04	2209485	+591002	H 3	31763	L	20450	FO	87090705	054500	001030		G C=235,B=42
MLJCG	HD 210839	13	5.04	2209485	+591002	H 3	31772	L	18753	FO	87090714	142300	001100		G C=248,B=45
MLJCG	HD 210839	13	5.04	2209485	+591002	H 3	31788	L	19479	FO	87090805	052200	001100		G C=235,B=42
MLJCG	HD 210839	13	5.04	2209485	+591002	H 3	31797	L	19076	FO	87090813	130100	000930		G C=240,B=50
JA060	HD 210839	15	05.29	2209486	+591003	H 3	31779	L	21490	FO	87090722	221050	001100	501	V
SAJCW	HD 210839	13	5.0	2209486	+591002	L 3	31259	T	18787	FO	87062714	141100	000020		G C=180,B=20
JA060	HD 210839	15	05.46	2209486	+591003	H 3	31806	L	19345	FO	87090821	213404	001100	501	V
SAJCW	HD 210839	13	5.0	2209486	+591002	L 1	11101	T	18602	FO	87062714	142000	000010		G C=200,B=35
PHCAL	TFLOOD	99	0.0	2211323	-211926	L 1	11243	S			87071816	165200	000025		G E=20X,B=102
PHCAL	WAVCAL	98	0.0	2211323	-211926	L 1	11243	S			87071816	165400	000001		G E=20,B=102
PHCAL	TFLOOD	99	0.0	2211323	-211926	H 1	11244	S			87071817	172900	000025		G E=60X,B=110
PHCAL	WAVCAL	98	0.0	2211323	-211926	H 1	11244	S			87071817	173000	000016		G E=60X,B=110
PHCAL	TFLOOD	99	0.0	2211323	-211926	L 3	31363	S			87071817	174100	000005		G E=20X,B=100
PHCAL	WAVCAL	98	0.0	2211323	-211926	L 3	31363	S			87071817	174300	000002		G E=20X,B=100
PHCAL	TFLOOD	99	0.0	2211323	-211926	H 3	31364	S			87071818	181600	000005		G E=60X,B=122
PHCAL	WAVCAL	98	0.0	2211323	-211926	H 3	31364	S			87071818	181800	000200		G E=60X,B=122
OD31Y	IW-2	70	17.7	2211556	+653901	L 3	31949	L		BO	87092807	075500	012000		G C=62,B=35
OD31Y	IW-2	70	17.7	2211556	+653901	L 1	11741	L		BO	87092810	100900	003100		G B=57
OD31Y	IW-2	70	17.7	2211556	+653901	L 3	31950	L		BO	87092810	105100	023500		G C=112,B=80
IEJDM	BD +53 2820	20	9.9	2211580	+540936	L 1	11077	L	267	FO	87062416	165100	001315		G C=4X,B=63
IEJDM	BD +53 2820	20	9.9	2211580	+540936	L 1	11077	S	267	FO	87062417	172100	000515		G C=220,B=63
IEJDM	BD +53 2820	20	9.9	2211580	+540936	L 3	31243	L	324	FO	87062417	173300	001000		G C=1.5X,B=35
IEJDM	BD +53 2820	20	9.9	2211580	+540936	L 3	31243	S	342	FO	87062418	180100	000830		G C=175,B=35
CCJTS	HD 211336	40	4.19	2213113	+564736	L 3	32146	L	433	FU	87102309	092200	000800		G E=43,C=20X,B=17
CSJAB	HD 211388	47	4.13	2213472	+372958	H 1	10967	L	451	FU	87061006	063100	018000		G E=1.5X,C=168,B=68
JI056	H2215-086	59	13.99	2215171	-083606	L 3	32135	L	45	SO	87102117	172545	010200	341	V TWO REF POINTS:-30,-
JI056	H2215-086	59	14.04	2215171	-083606	L 1	11931	L	43	SO	87102119	193440	006300	401	V TWO REF POINTS:-30,-
QAJDT	QSO 2216-038	85	16.4	2216164	-035040	L 3	31225	L		BO	87062106	060100	040800		G C=145,B=101
PHCAL	NULL	99		2216164	-035040	H 1	11051				87062106	062800	000000		G B=40
PHCAL	SKY BKGD	07		2216164	-035040	L 1	11052	L		BO	87062106	065500	019000		G B=75

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
JA089	HD 213320	30	-00.23	2228000	-105604	H	3	31114	L	24254	FO	87060703	031542	000900	500	V
JA089	HD 213320	30	05.09	2228000	-105604	H	3	31115	L	24257	FO	87060703	035158	000930	501	V
JA089	HD 213320	30	05.09	2228000	-105604	H	3	31116	L	24254	FO	87060704	043348	001500	601	V
NPJST	ME2-2	70	0.0	2229360	+473246	L	3	31709	L	267	SO	87090411	110100	002000		G E=236,C=230,B=168
NPJST	ME2-2	70	12	2229360	+473246	L	1	11571	L	229	SO	87090411	114100	001500		G C=2X,B=2X
NPJST	ME2-2	70	12	2229360	+473246	L	3	31710	L	227	SO	87090412	122400	001000		G C=187,B=147
NPJST	ME2-2	70	0.0	2229360	+473246	L	1	11591	L	202	SO	87091011	112100	003000		G C=1.5X,B=122
NPJST	ME2-2	70	0.0	2229360	+473246	L	3	31821	L	210	SO	87091012	121900	006000		G C=210,B=115
NPJST	ME2-2	70	0.0	2229360	+473246	L	1	11592	L	212	SO	87091013	132500	001500		G C=145,B=50
NPJST	ME2-2	70	0.0	2229360	+473246	L	3	31822	L	222	SO	87091013	135600	005200		G C=130,B=30
IGJTS	HD 214369	39	7.30	2234326	+580959	L	3	32110	L	3435	FO	87101621	215500	008200		G C=208,B=26
IGJTS	HD 214369	39	7.30	2234326	+580959	L	1	11889	L	3410	FO	87101623	232700	002200		G C=2X,B=42
PHCAL	HD214680	12	05.05	2237010	+384722	L	1	10912	L	24733	FO	87060423	233600	000000	402	V
PHCAL	HD214680	12	05.05	2237010	+384722	L	1	10913	L	24733	FO	87060500	001826	000000	403	V
PHCAL	HD214680	12	05.05	2237010	+384722	L	1	10914	L	24733	FO	87060500	004944	000000	403	V
PHCAL	HD214680	12	05.05	2237010	+384722	L	1	10915	L	24733	FO	87060501	012444	000001	602	V
PHCAL	HD214680	12	05.05	2237010	+384722	L	1	10916	L	24733	FO	87060501	015749	000001	603	V
PHCAL	HD214680	12	05.05	2237010	+384722	L	1	10917	L	24733	FO	87060502	022726	000001	602	V
PHCAL	HD214680	12	04.95	2237010	+380722	L	1	10945	L	26066	FO	87060721	214037	000000	403	V
PHCAL	HD214680	12	05.08	2237010	+380722	L	1	10946	L	24389	FO	87060722	221234	000000	403	V
PHCAL	HD214680	12	05.08	2237010	+380722	L	1	10947	L	24327	FO	87060722	224322	000000	403	V
PHCAL	HD214680	12	05.07	2237010	+380722	L	1	10948	L	24449	FO	87060723	231434	000001	503	V
PHCAL	HD214680	12	05.08	2237010	+380722	L	1	10949	L	24371	FO	87060723	234353	000001	503	V
PHCAL	HD214680	12	05.09	2237010	+380722	L	1	10950	L	24221	FO	87060800	001313	000001	503	V
PHCAL	HD 214680	12	05.08	2237010	+380722	L	3	31120	L	24367	FO	87060800	004359	000000	401	V
PHCAL	HD214680	12	05.09	2237010	+384722	L	1	11227	L	24202	FO	87071701	012824	000000	402	V
PHCAL	HD214680	12	04.82	2237010	+384722	L	1	11228	L	27951	FO	87071702	020142	000001	603	V
PHCAL	HD214680	12	05.11	2237010	+384722	L	1	11229	L	23961	FO	87071702	023455	000000	402	V
PHCAL	HD214680	12	05.01	2237010	+384722	L	1	11342	L	25292	FO	87080622	223845	000000	400	V
PHCAL	HD124680	12	05.03	2237010	+384722	L	1	11343	L	25065	FO	87080623	230836	000000	400	V
PHCAL	HD214680	12	04.87	2237010	+384722	L	1	11344	L	27273	FO	87080623	234322	000001	600	V
PHCAL	HD214680	12	04.84	2237010	+384722	L	1	11345	L	27673	FO	87080700	001349	000001	600	V
PHCAL	HD214680	12	04.82	2237010	+384722	L	1	11346	L	27913	FO	87080700	004245	000001	600	V
PHCAL	HD214680	12	05.18	2237010	+384722	L	1	11480	L	22981	FO	87082519	190354	000001	602	V
PHCAL	HD214680	12	05.18	2237010	+384722	L	1	11481	L	22981	FO	87082519	195441	000001	602	V
PHCAL	HD214680	12	05.18	2237010	+384722	L	1	11482	L	22980	FO	87082520	204124	000001	602	V
PHCAL	HD 214680	12	05.18	2237010	+384722	L	1	11483	L	22980	FO	87082521	211052	000000	502	V
PHCAL	HD214680	12	05.18	2237010	+384722	L	1	11484	L	22980	FO	87082521	215518	000000	502	V
LDJDB	HD 215648	41	4.2	2244116	+115457	L	1	11107	T	445	FU	87062813	135300	000015		G C=150,B=35
LDJDB	HD 215648	41	4.2	2244116	+115457	L	1	11108	T	443	FU	87062814	143200	000040		G C=1.5X,B=38
LDJDB	HD 216385	41	5.2	2249519	+093409	L	1	11110	T	17106	FO	87062816	160900	000105		G C=225,B=38
JC176	GL 876	48	10.30	2250350	-143112	L	1	11914	L	303	FO	87101916	164003	006000	234	V
JC176	GL 876	48	10.31	2250350	-143112	L	3	32121	L	302	FO	87101917	174707	003000	011	V
QAJDT	QSO 2251+158	85	16.2	2251295	+155254	L	3	31228	L		BO	87062207	070800	034000		G E=149,C=112,B=90
JI056	H2252-035	59	13.71	2252431	-032640	L	3	32142	L	58	SO	87102218	183451	012036	451	V TWO REF POINTS:-30,-

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
JA065	HR8752	45	05.49	2257582	+564037	H	3	31494	L	18938	FO	87080517	172828	041500	304	V
JA065	HR8752	45	05.38	2257582	+564037	L	1	11334	L	20290	FO	87080518	185219	000500	701	V
JA039	HD 217543	21	06.88	2258348	+382621	H	3	31186	L	6324	FO	87061801	012413	001020	400	V
JA039	HD 217543	22	06.79	2258348	+382621	H	3	31302	L	6851	FO	87070701	013310	001100	500	V
JA039	HD 217543	22	06.80	2258348	+382621	H	3	31517	L	6807	FO	87080819	191023	001100	400	V
JA039	HD 217543	26	06.82	2258348	+382622	H	3	32188	L	6697	FO	87102915	152312	001100	400	V
JA039	HD 217675	22	03.78	2259369	+420325	H	3	31301	L	875	FU	87070700	004111	000110	500	V
PRJCG	HD 217675	26	3.6	2259369	+420325	H	3	31130	L	826	FU	87061016	160800	000110		G C=200,B=35
JA039	HD 217675	22	03.84	2259369	+420325	H	3	31515	L	835	FU	87080817	173951	000110	500	V
PRJCG	HD 217675	26	3.6	2259369	+420325	H	1	10968	L	822	FU	87061016	161300	000100		G C=1.5X,B=50
JA039	HD 217675	22	03.83	2259369	+420325	H	1	11358	L	838	FU	87080817	174515	000050	500	V
PRJCG	HD 217675	26	3.6	2259369	+420325	H	3	31131	L	836	FU	87061016	165700	000130		G C=250,B=40
JA039	HD 217675	26	03.82	2259369	+420325	H	3	32187	L	850	FU	87102914	143221	000110	500	V
PRJCG	HD 217675	26	3.6	2259369	+420325	H	3	31349	L	812	FU	87071713	130300	000330		G C=2.5X,B=68
JA039	HD 217675	26	03.82	2259369	+420325	H	1	11978	L	845	FU	87102914	142547	000050	501	V
HSJGP	HD 217675	26	3.6	2259369	+420325	L	3	31464	T	812	FU	87080310	100100	000001		G B=17
HSJGP	HD 217675	26	3.6	2259369	+420325	L	3	31465	T	807	FU	87080310	103900	000004		G C=180,B=17
HSJGP	HD 217675	26	3.6	2259369	+420325	L	1	11313	T	791	FU	87080311	112700	000003		G C=225,B=36
HSJGP	HD 217675	26	3.6	2259369	+420325	H	3	31466	L	794	FU	87080312	120400	000130		G C=230,B=40
HSJGP	HD 217675	26	3.6	2259369	+420325	L	3	31467	T	805	FU	87080312	124000	000004		G C=203,B=18
HSJGP	HD 217675	26	3.6	2259369	+420325	L	1	11314	T	809	FU	87080313	131500	000003		G C=225,B=40
HSJGP	HD 217675	26	3.6	2259369	+420325	H	3	31468	L	847	FU	87080314	140100	000130		G C=230,B=42
HSJGP	HD 217675	26	3.6	2259369	+420325	L	3	31469	T	805	FU	87080314	143800	000004		G C=203,B=20
HSJGP	HD 217675	26	3.6	2259369	+420325	L	1	11315	T	803	FU	87080315	151900	000003		G C=217,B=37
HSJGP	HD 217675	26	3.6	2259369	+420325	H	3	31470	L	794	FU	87080315	155600	000130		G C=222,B=38
HSJGP	HD 217675	26	3.6	2259369	+420325	L	3	31474	T	776	FU	87080409	094900	000004		G C=205,B=18
HSJGP	HD 217675	26	3.6	2259369	+420325	L	1	11317	T	793	FU	87080409	095900	000003		G C=222,B=16
HSJGP	HD 217675	26	3.6	2259369	+420325	H	3	31475	L	784	FU	87080411	110300	000130		G C=210,B=39
HSJGP	HD 217675	26	3.6	2259369	+420325	L	3	31476	T	783	FU	87080411	113700	000004		G C=203,B=17
HSJGP	HD 217675	26	3.6	2259369	+420325	L	1	11318	T	779	FU	87080411	114800	000003		G C=218,B=36
HSJGP	HD 217675	26	3.6	2259369	+420325	H	3	31477	T	794	FU	87080412	124600	000130		G C=210,B=39
HSJGP	HD 217675	26	3.6	2259369	+420325	L	3	31478	T	765	FU	87080413	131900	000004		G C=197,B=18
HSJGP	HD 217675	26	3.6	2259369	+420325	L	1	11319	T	774	FU	87080413	132900	000003		G C=224,B=36
HSJGP	HD 217675	26	3.6	2259369	+420325	H	3	31479	T	882	FU	87080414	142700	000130		G C=215,B=39
HSJGP	HD 217675	26	3.6	2259369	+420325	L	3	31480	L	771	FU	87080415	150400	000004		G C=198,B=18
HSJGP	HD 217675	26	3.6	2259369	+420325	L	1	11320	T	770	FU	87080415	151500	000003		G C=224,B=37
HSJGP	HD 217675	26	3.6	2259369	+420325	H	3	31481	L	764	FU	87080416	160900	000130		G C=212,B=40
HSJGP	HD 217675	26	3.6	2259369	+420325	L	3	31486	T	827	FU	87080510	100900	000004		G C=210,B=18
HSJGP	HD 217675	26	3.6	2259369	+420325	L	1	11331	T	820	FU	87080510	101800	000003		G C=226,B=35
HSJGP	HD 217675	26	3.6	2259369	+420325	H	3	31487	L	884	FU	87080511	112000	000130		G C=207,B=40
HSJGP	HD 217675	26	3.6	2259369	+420325	L	3	31488	L	806	FU	87080511	115900	000004		G C=210,B=18
HSJGP	HD 217675	26	3.6	2259369	+420325	L	1	11332	T	805	FU	87080512	121200	000003		G C=237,B=36
HSJGP	HD 217675	26	3.6	2259369	+420325	H	3	31489	T	811	FU	87080513	131200	000130		G C=220,B=41
HSJGP	HD 217675	26	3.6	2259369	+420325	L	3	31490	T	835	FU	87080513	134400	000004		G C=217,B=29
HSJGP	HD 217675	26	3.6	2259369	+420325	L	1	11333	T	838	FU	87080513	135400	000003		G C=237,B=38

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
HSJGP	HD 217675	26	3.6	2259369	+420325	H	3	31491	L	810	FU	87080514	145100	000130		G C=230,B=42
PRJCG	HD 217675	26	3.6	2259369	+420325	H	3	31512	L	823	FO	87080812	120300	000330		G C=1.5X,B=65
JC176	GL 887	48	07.72	2303009	-360742	L	3	32126	L	3020	FO	87102016	165919	003000	030	V
JC176	GL 887	48	07.70	2303000	-360742	L	1	11924	L	3078	FO	87102017	173907	002000	351	V
JC176	GL 889	48	10.03	2304260	-232536	L	1	11915	L	386	FO	87101918	184756	006000	333	V
JC176	SKY	07	99.99	2304260	-232536	L	3	32122	L			87101919	191106	003000	011	V GL 889 IN LWLA
JC176	GL 889	48	10.06	2304260	-232536	L	3	32123	L	378	FO	87101920	201422	003000	021	V
SAJCW	HD 218376	23	4.8	2304295	+590857	L	3	31260	T	22413	FO	87062715	153900	000006		G C=207,B=18
SAJCW	HD 218376	23	4.8	2304295	+590857	L	1	11102	T	22830	FO	87062715	154900	000005		G C=235,B=39
JQ180	NGC7496	84	14.24	2306593	-434157	L	1	11074	L	36	SO	87062321	215233	041500	604	V
HSJGP	HD 218674	26	6.7	2307010	+492246	L	3	31471	L	5201	FO	87080316	164100	000028		G C=235,B=15
HSJGP	HD 218674	26	6.7	2307010	+492246	L	3	31482	L	5075	FO	87080416	164500	000028		G C=3X,B=16
HSJGP	HD 218674	26	6.7	2307010	+492246	L	3	31492	L	5073	FO	87080515	153900	000025		G C=240,B=1[illegible]
CNJSS	NOVA AND	55	13.5	2309476	+471200	L	1	10986	L	72	SO	87061116	165100	001000		G C=70,B=35
CNJSS	NOVA AND	55	13.5	2309476	+471200	L	3	31134	L	66	SO	87061117	171600	002500		G E=177,B=41
CNJSS	NOVA AND	55	13.5	2309476	+471200	L	1	10987	L	71	SO	87061117	175400	004500		G E=162,C=120,B=90
CNJSS	NOVA AND	55	13.7	2309477	+471201	L	1	11200	L	54	SO	87071214	142800	004500		G E=97,C=90,B=62
CNJSS	NOVA AND	55	13.7	2309477	+471201	L	3	31333	L	62	SO	87071215	152300	003000		G E=150,B=35
CCJTS	HD 219080	40	4.5	2310151	+490758	L	3	32147	L	312	FU	87102310	101300	001000		G E=54,C=20X,B=17
IBJBH	BD +04 5012	66	10.2	2325140	+043442	L	1	11371	L	183	FO	87081102	025700	003500		G E=172,C=70,B=40
IBJBH	BD +04 5012	66	10.2	2325140	+043442	L	3	31536	L	194	FO	87081103	034700	038000		G E=95,C=115,B=87
IBJBH	BD +04 5012	66	10.2	2325140	+043442	L	1	11372	L	225	FO	87081110	105600	004500		G E=179,C=80,B=47
IBJBH	BD +04 5012	66	10.2	2325140	+043442	L	3	31537	L	217	FO	87081111	115400	002000		G E=52,C=21
IBJBH	BD +04 5012	66	10.2	2325140	+043442	L	1	11373	L	199	FO	87081112	123300	004500		G E=241,C=135,B=95
IBJBH	BD +04 5012	66	10.2	2325140	+043442	L	3	31538	L	220	FO	87081113	132900	002500		G E=104,B=41
IBJBH	BD +04 5012	66	10.2	2325140	+043442	L	1	11374	L	218	FO	87081114	140900	003500		G E=211,C=110,B=83
IBJBH	BD +04 5012	66	10.2	2325140	+043442	L	1	11392	L	190	FO	87081409	092600	004000		G E=212,C=93,B=50
IBJBH	BD +04 5012	66	10.2	2325140	+043442	L	1	11393	L	214	FO	87081411	111200	004000		G E=217,C=140,B=102
IBJBH	BD +04 5012	66	10.2	2325140	+043442	L	3	31565	L	186	FO	87081412	120500	002500		G E=104,B=60
IBJBH	BD +04 5012	66	10.2	2325140	+043442	L	1	11394	L	170	FO	87081412	124700	003000		G E=242,C=108,B=170
IBJBH	BD +04 5012	66	10.2	2325140	+043442	L	1	11395	L	206	FO	87081413	135400	002000		G E=207,C=175,B=147
IBJBH	BD +04 5012	66	10.2	2325140	+043442	L	1	11396	L	208	FO	87081414	145000	002000		G E=173,C=130,B=102
II134	ZAND	57	10.66	2331149	+483230	L	1	11014	L	220	FO	87061422	223914	000700	451	V
PHCAL	NULL	99		2331149	+483230	L	2	18102	L			87061505	052900	000000		G B=25
II134	Z AND	57	10.61	2331149	+483230	L	3	31164	L	230	FO	87061500	001340	000500	251	V
PHCAL	NULL	99		2331149	+483230		2	18103				87061506	060600	000000		G B=25
II134	Z AND	57	10.60	2331149	+483230	H	3	31165	L	233	FO	87061501	010113	022600	173	V
II134	Z AND	57	10.69	2331149	+483230	L	3	31163	L	215	FO	87061522	225923	003000	371	V
II134	ZAND	57	10.63	2331149	+483230	L	1	11015	L	227	FO	87061523	233655	005500	881	V
JI083	Z AND	57	10.53	2331150	+483231	L	3	31817	L	247	FO	87090922	221137	000500	250	V PREAD
JI083	Z AND	57	10.55	2331150	+483231	L	1	11587	L	242	FO	87090922	224609	000700	351	V PREAD
JI083	Z AND	57	10.59	2331150	+483231	H	3	32082	L	235	FO	87101219	195406	002600	140	V
JI083	Z AND	57	10.56	2331150	+483231	L	1	11867	L	241	FO	87101219	194013	000700	352	V
JI083	Z AND	57	10.59	2331150	+483231	L	3	32083	L	235	FO	87101220	204926	000500	250	V PREAD
LDJDB	HD 222368	41	4.1	2337226	+052119	L	1	11111	T	448	FU	87062817	170600	000028		G C=235,B=35

PRO	Object	CL	MAG	R.A.	DEC	D	C	Image	A	FES	MD	Obs.date	Exptim	mmmmsstt	ECC	Comment
MPJAM	R AQR	57		2341142	-153342	H	3	31102	L	2182	FO	87060407	072300	077000		G E=3X,C=218,B=157
IBJBH	V651 CAS	66	10.0	2346139	+572847	L	1	11375	L	222	FO	87081116	160800	004000		G C=255,B=45
JA062	HD 223385	32	05.91	2346232	+615612	H	1	11979	L	14054	FO	87102917	172629	003500	501	V
JA062	HD 223385	32	05.88	2346232	+615612	H	3	32190	L	14366	FO	87102918	180803	016000	501	V
PHCAL	WAVECAL	98		2347095	+360851	L	3	31282	S			87070215	154800	000002		G C=10X,B=103
PHCAL	TFLOOD	99		2347095	+360851	L	3	31282	S			87070215	154900	000005		G C=10X,B=103
PHCAL	WAVECAL	98		2347095	+360851	H	3	31283	S			87070216	161800	000200		G C=60X,B=125
PHCAL	TFLOOD	99		2347095	+360851	H	3	31283	S			87070216	162000	000005		G C=60X,B=125
PHCAL	WAVECAL	98		2347095	+360851	L	1	11136	S			87070216	165000	000001		G C=10X,B=97
PHCAL	TFLOOD	99		2347095	+360851	L	1	11136	S			87070216	165200	000025		G C=10X,B=97
PHCAL	WAVECAL	98		2347095	+360851	H	1	11137	S			87070217	172100	000016		G C=60X,B=105
PHCAL	TFLOOD	99		2347095	+360851	H	1	11137	S			87070217	172300	000025		G C=60X,B=105
PHCAL	T-FLOOD	99		2347095	+360851	H	3	31284	S			87070218	181000	000005		G B=100
PHCAL	T-FLOOD	99		2347095	+360851	H	1	11138	S			87070218	181300	000025		G B=95
MGJJE	HD 224427	49	4.7	2355124	+245149	H	1	11018	L	353	FU	87061516	161200	003000		G E=165,C=95,B=45
MGJJE	HD 224427	49	4.7	2355124	+245149	H	1	11119	L	361	FU	87062917	170700	004000		G E=189,C=90,B=42
MGJJE	HD 224427	49	4.7	2355124	+245149	H	1	11297	L	359	FU	87072914	142500	003000		G E=198,C=160,B=110

T A P E A R C H I V E R E T R I E V A L

DATA TAPE:

TAPE DENSITY ◯ 1600 bpi (default) ◯ 800 bpi

REQUESTED DATA ◯ Raw Data Only

◯ Complete: Raw image + Extracted Spectra

◯ Extracted Spectra Only

CAM #	IMAGE #	CAM #	IMAGE #	CAM #	IMAGE #	CAM #	IMAGE #

CAMERA NUMBERS: 1 = LWP / 2 = LWR / 3 = SWP / 4 = SWR

REASON DATA IS ACCESSIBLE:

◯ Normal Release (6 month rule)

◯ Special Release ◯ data from my programme .....

◯ maintenance data

◯ others (give details) .....

.....

REQUESTED BY: ..... DATE OF REQUEST: .....

MAILING ADDRESS: .....

.....

.....

DATA BANK R.A.

....

Dr. A. Cassatella,
Data Bank Resident Astronomer,
Villafranca Satellite Tracking Station
Apartado 54065
Madrid,
SPAIN

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