IUE esa NEWSLETTER

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NO.20 SEPTEMBER 1984

IUE ESA NEWSLETTER
Editor:- B.J.M. Hassall
Published by:- The ESA IUE Observatory
Apartado 54065
Madrid 28080, Spain.
Telephone:- +34-1-4019661
Telex:- 42555 VILS E
Typing:- C. Ramirez Palacios

OBSERVATORY CONTROLLER'S MESSAGE

Changes have occurred recently in the ESA management of the IUE project. We welcome Dr. Brian Taylor as the new project manager. He succeeds Dr. Brian Fitton, who resigned on the 1st of July 1984. I would like to express our appreciation to Brian Fitton for the many years of important, but often, as far as the Guest Observer is concerned, invisible work he has done for the IUE Project within the Space Sciences Department of ESTEC.

The undersigned has been appointed Observatory Controller of the ESA IUE Observatory in VILSPA. I want to welcome Jean Clavel who has returned to VILSPA as Resident Astronomer and has taken up duties as Deputy Observatory Controller. In addition to these personnel changes, structural alterations to the buildings of Villafranca are taking place. We apologise to the Users who have observed in August for the inconvenience they have suffered, such as the temporary loss of the visitor's room.

Although we are only half way through the 7th round of observing you will find the call for proposals for the 8th year of observing with IUE on page 4. Unfortunately, proposals arriving after the deadline of October 26th cannot be considered for the 8th round. Applicants are again encouraged to use the enclosed merged log (1978-84) microfiche in the preparation of their proposals.

During the 3-Agency meeting held in May at the ESOC centre of ESA, details on the expected lifetime for the satellite were discussed. It appears that in absence of major failures, (see Spacecraft Status Report page 20) the 8th year will not be the last year of IUE observing. The usage of the LWR camera has been severely restricted due to the presence of a flare (ESA IUE Newsletter No. 18, p20 and this Newsletter p64). Other satellite matters discussed in this issue are the IUE flux scale (p22) and the variation in the FES sensitivity (p55). After the successful experience with the construction of a new ITF for the LWR camera described on page 38, plans are now being made to make new ITF's for the two presently main operational cameras (LWP and SWP).

WILLEM WAMSTEKER
Observatory Controller.

NEW PERSONNEL

The new deputy observatory controller, Jean CLAVEL (33), is an old hand at the IUE operations, since he first joined the project in September 1977. A native of southern France, he started his astronomical life at the observatory of Meudon where, as a theoretician, he studied the chemical and thermal structure of dense molecular clouds. Not surprisingly, his interests shifted toward UV observations when he came to VILSPA. His favorite pets were then Seyfert Galaxies and Planetary Nebulae. In July 1980, he returned to Meudon where he spent four years working mainly on the variability of active galactic nuclei at X-ray, UV and optical energies. A bachelor, he enjoys skiing, windsurfing and good food.

PROPOSALS FOR OBSERVATIONS WITH IUE IN 1985

Dear Colleague

The International Ultraviolet Explorer (IUE) spacecraft is currently operating very successfully and continues to provide valuable UV spectroscopic data in the 1200 to 3000 Å wavelength region. Such data are obtained on a routine basis, 8 hours per day at the ESA Villafranca IUE Observatory and 16 hours per day at the NASA IUE Observatory at Goddard in Maryland. The observing programmes carried out have been those recommended by the relevant European and US selection committees.

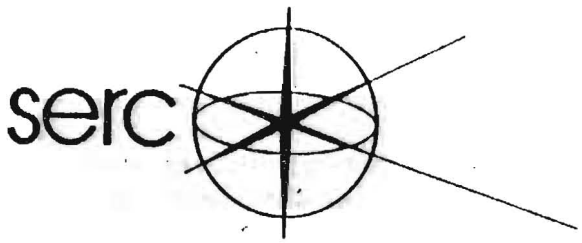
The present observing programmes extend to April 1985. Thereafter an additional year of observations will be initiated. In preparation for this, the European Selection Committee (a single committee which has replaced the separate ESA and SERC Selection Committees) will meet later this year to review those observing proposals which have been received by October 26, 1984. The recommendations of this committee will be the basis for the one year European observing programme starting April 1985.

We therefore invite European astronomers to submit proposals for IUE observations in accordance with the procedures set out in the attached papers.

Yours sincerely

Professor R.J. Bonnet
Director of Scientific Programmes
European Space Agency

Dr. B. Martin
Head of Astronomy, Space and Radio Division
UK Science and Engineering Research Council



Dear Colleague,

As previous users know, the International Ultraviolet Explorer (IUE) is an astronomical satellite designed to obtain ultraviolet spectra in the region from about 1200 to 3000 Angstroms. Its characteristics and performance have been described by Boggess, et al. in Nature, volume 275, pages 372 and 377, 1978. The satellite was built jointly by NASA, ESA and SERC and is operated 16 hours each day by NASA from a control center at the Goddard Space Flight Center and eight hours each day for ESA and SERC observers from the ESA control center at Villafranca.

The observing program for IUE is based on unsolicited proposals for use of the satellite. Proposals may be submitted at any time but, as a matter of practice, those in hand by 26 October 1984 will be reviewed in order to establish the year's observing program starting the following April. While proposals of a genuine emergency nature may be dealt with more promptly, other proposals received too late will be saved for subsequent review the following year. Applications are accepted both from observers proposing new programs and from current IUE observers who wish to apply for more time than they have currently been allotted.

Normally, the observer is expected to be present at either the Goddard or Villafranca control center. Observing procedures are flexible and adaptable to individual needs, the observer being able to direct his own program, monitor it in real time, and alter it if necessary to enhance its scientific value. Responsibility for actual operation of the spacecraft, however, lies with a trained operations staff. Scientists from all countries may apply to use the IUE. Those interested in observing with this facility should send a letter requesting current proposal instructions to the most appropriate one of the following addresses:

The Operations Scientist
Code 684.1
Goddard Space Flight Center
Greenbelt, MD 20771
USA

IUE Observatory Controller
ESA Villafranca Satelitte
Tracking Station
Apartado 54065
Madrid, SPAIN

Note: SERC and ESA have agreed to combine their allocating procedures with the adminstrative aspects handled by ESA.

Responders will receive additional information regarding the satellite operations and proposal submission procedures for the eighth observing episode.

Sincerely,

Yoji Kondo
NASA/IUE Project Scientist

Willem Wamsteker
ESA/IUE Observatory Controller

Robert Wilson
SERC/IUE Project Director

First Announcement of an International Colloquium

RECENT RESULTS ON CATACLYSMIC VARIABLES

The impact of IUE and EXOSAT results on our understanding of Catclysmic Variables and Low Mass X-ray Binaries.

Remeis Observatory, Bamberg, F.R.G.
15 - 19 April, 1985.

Dear Colleague,

We wish to announce plans to hold the above international colloquium on Cataclysmic Variables and Low Mass X-ray Binaries in Bamberg 15 - 19 April 1985. The purpose of this international meeting, is to bring together scientists, who are involved in the progress that has been made on cataclysmic variables, both theoretically and observationally. The latter will include not only ground-based observations, but also IUE and EXOSAT measurements, the simultaneous availability of which has given rise to a large number of coordinated observing programmes in this field.

The provisional programme includes generic properties and theoretical aspects of:- novae, dwarf novae, general accretion disc phenomena, nova-like and related objects, including low mass X-ray binaries. The presentations will consist of 30 minute invited talks plus short contributions. The papers will be published in the proceedings of the colloquium.

Those interested in receiving more detailed information on the Scientific Programme should return the attached form not later than 30 September 1984.

Yours sincerely,

The Scientific Organising Committee.

Please delete as appropriate.

I shall definitely attend the conference.

I will probably attend.

I may possibly attend.

Please send me more details.

NAME .....

ADDRESS .....

.....

.....

.....

I would like to present a short contribution.

Proposed Title:- .....

.....

This form should be returned to the following address

NOT LATER the 30 September 1984.

Remeis Observatory,
Cataclysmic Variables Colloquium,
Sternwartstr. 7
D - 8600, F.R.G.

JOINT INSTITUTE FOR LABORATORY ASTROPHYSICS

UNIVERSITY OF COLORADO
BOULDER, COLORADO 80309
25 June 1985

UNIVERSITY OF COLORADO

NATIONAL BUREAU OF STANDARDS

AAS Working Group on Ultraviolet Astronomy

Dear Colleague,

I would like to bring you up to speed concerning the proposal for an Ultraviolet Astronomy Division within the AAS. About 130 AAS members signed the petition circulated at the last Goddard IUE meeting and elsewhere, and many additional members have indicated to the Organizing Committee that they support the establishment of such a group within the AAS. This petition was sent to the AAS Council and discussed at its recent meeting in Baltimore on June 10. After much discussion the council approved two motions:

Motion No. 1. Establish a Working Group on Ultraviolet Astronomy within the AAS. This Working Group has a lifetime of one year, and at the end of the year the Working Group is to report back to the AAS Council on what it has accomplished. I was appointed Chair for the purpose of organization. The Council viewed this Working Group as a temporary solution to a clearly demonstrated need, but they could not come up with a permanent solution on short notice. So, they passed

Motion No. 2. Establish a Committee to report back to the AAS Council within one year to assess the need for technique-oriented subgroups within the AAS and to make recommendations on

1. Guidelines for advocacy on public policy by such subgroups
2. Internal organization of such subgroups
3. Possible representation of such subgroups on the AAS Council
4. Role of such subgroups in establishing AAS meeting programs
5. And other relevant matters

Cable Address: JILA

Telephone Number: 492-7789

It was clear that the AAS council felt that other technique-oriented groups would follow the example of the ultraviolet astronomers and that the Council needed a general policy on how to handle such requests. In the mean time the UV Astronomy WG (UVAWG) would be the prototype group. Art Code pointed out that the AAS bylaws say almost nothing concerning working groups, and therefore the scope and operations of this group are not constrained except by common sense.

It is important that the UVAWG become organized and active scientifically. After consulting with the Organizing Committee, (Bahcall, Bless, Dupree, Savage), I am proposing that we set up a one day Scientific Session and a Business Meeting at the Tucson AAS meeting (Jan. 13-16, 1985).

As a practical matter we need to know who wishes to be a member of the UV Astronomy Working Group, so please fill out and return the enclosed form. Dues are not requested at this time but are inevitable.

Jeffrey L. Linsky
Chair

Yes, I wish to become a member of the Ultraviolet Astronomy Working Group of the AAS. I recognize that I must be a member of the AAS to join the UVAWG.

Name _____
Address _____
_____
_____
_____

Please return this form to:

Jeffrey L. Linsky
JILA (Campus Box 440)
University of Colorado
Boulder, CO 80309

IUE LOW DISPERSION MICROFICHE PLOTS

A set of microfiches has been produced at SERC Rutherford Appleton Laboratory containing, as far as possible, all low dispersion spectra obtained by IUE (about 20000).

The fiches are designed to enable an astronomer to take a quick look at any low dispersion IUE spectrum previously taken. After assessing their quality and usefulness he/she may for example then request tape copies of the data from the appropriate Data Centre, or adjust his/her observing sequence or exposure times.

They were produced by Dr. D. Giaretta and Miss J. Arya, who's task was simplified by the provision by NASA of tape copies of all extracted spectra.

Due to the temporary unavailability of some tapes a certain number of spectra are missing - denoted by blanks on the fiches. Fiches containing such blanks will be replaced in due course, and regular updates with the latest spectra will be produced.

This first issue, of 82 microfiches, covers the period up to the second half of 1983, but there are also a few plots up to November 1983.

Description of the Fiches

The spectra are ordered by camera and image number, with one plot per image number. Headers on each fiche should make the location of any required plot an easy task.

Each plot has a header giving details of the exposure, in much the same format as the Merged Log.

If both apertures have been used, then two header entries are given, but there is only one plot. A caption specifies which aperture is plotted.

A caption: WARNING FOR QUICK LOOK ONLY emphasises the nature of the plots.

The abscissa is wavelength in Angstroms, with range 1800-3300A for LW and 1100-2100A for SW. Units for the ordinate are those provided by IUESIPS in the last record of the merged extracted file. In particular it will be ERG/CM ** 2/ANGSTROM, if the spectrum is absolutely calibrated.

With the exception of the Lyman alpha (1215A) and the 2200A hot-spot in the LWR large aperture, the plots are scaled so that the largest feature is well displayed at a convenient scale. This means that Geocoronal Lyman alpha and the LWR hot spot may be truncated.

Where possible spectra produced by the new extraction process of IUESIPS have been used in preference to the old extraction.

All points are plotted for old extractions.

However, for clarity the data for new extractions have been averaged in pairs. This is noted on the plot with the caption:

NEW EXTRACTION TWO-POINT BINNING

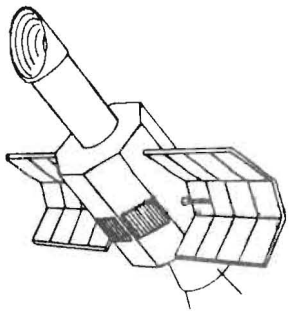
No other change has been made to the IUESIPS merged extracted spectra.

Inverted triangles on the plots indicate data points which had been given a negative quality flag by IUESIPS, e.g. data affected by reseau marks or by saturation. For new extraction points, if either of the averaged data had a negative flag then the plotted value is flagged.

Accompanying each set of fiches are cards containing the documentation. Included on these is a description of the plots, as well as a list of known peculiarities, for example high dispersion images which have a low dispersion extraction.

Sets of fiches will be distributed by SERC to all UV astronomical groups in the UK. Master copies will be sent to VILSPA and GSFC where they may be made available to ESA and NASA groups of observers.

David Giaretta
Rutherford Appleton Lab, SERC, UK



FOURTH EUROPEAN IUE CONFERENCE

Rome, 15-18 May, 1984

Rome, ...

- FOURTH EUROPEAN IUE CONFERENCE -

Rome, 15-18 May 1984

The 1984 Fourth European IUE Conference was organized by the Istituto di Astrofisica Spaziale (IAS) of Frascati, Italy under the auspices of the European Space Agency and of the Consiglio Nazionale delle Ricerche (CNR). The Conference was held in the main conference hall of the CNR Headquarters in Rome, from 15 to 18 May 1984.

The Scientific Organizing Committee consisted of P. Benvenuti, V. Castellani, K.S. de Boer, B. Fitton, M. Hack, H.J. Lamers, H. Nussbaumer, G.C. Perola, M.H. Ulrich and R. Wilson. The Local Organizing Committee consisted of A. Altamore, B. Battrick, V. Caloi, A. Cassatella, F. Giovannelli and R. Viotti (chairman).

The Conference was the seventh devoted to the IUE satellite after six years of very successful operation, and brought together 140 participants from 18 countries, also outside West Europe. A total of 103 papers were presented during five half-day sessions and two poster sessions. The posters were refereed by A.K. Dupree, M. Friedjung, H.J. Lamers, F. Paresce and M.V. Penston.

This meeting has been the occasion to discuss the inpact of the IUE observations on different astrophysical problems, and the perspectives of the Ultraviolet Astronomy. In this regard, a special session was devoted to the discussion of the future ultraviolet satellite named COLUMBUS, and to the ESA and NASA assessment studies. Speakers were R. Wilson, W. Werner and J. Osantowski.

The Proceedings of the Conference have been published as an ESA special publication (ESA SP-218) and can be ordered from the ESTEC Publications Department* for 175 FF.

Roberto Viotti

*ESTEC Publications Department
2200 AG Noordwijk
Postbus 299, Holland
Attn: Erica Rolfe

Contact address: Istituto Astrofisica Spaziale, CP 67, 00044 Frascati, Italy
Telephone: (0)6-9425651/2/3/4/5; Telex: 610261 CNRFRA

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A GHOSTLY REMINDER

Even after more than 6 years of continuous operation IUE still throws up a little surprise occasionally to give us RAs something to think about: on a perfectly normal maintenance shift in June this year a high dispersion SWP image of Eta U Ma, one of our bright high resolution standard stars, was read down. The one thing distinguishing this particular image from the hundreds of others of this star was the very prominent low dispersion "ghost" order cutting through the high dispersion orders. This is the sort of thing that would make a guest observer (and his RA!) very nervous if he saw it on his own image in real time. The "ghost" appeared to be the residual of a previous low dispersion exposure. However, this was a negative residual i.e. the DN level of the residual was below that of the surrounding region of the host high dispersion image.

Positive residuals are well known. They occur on long exposure images which directly follow heavy over-exposures and are due to phosphorescence of the ultraviolet-to-visible converter phosphor (see, for example, IUE ESA Newsletter No. 16, p10, 1983). However, no-one at VILSPA could recall seeing a negative residual before!

So how did it get there? No over-exposures had occurred and at handover GSFC reported only a minor (200%) low dispersion overexposure in the SWP. This had been followed by a normal SPREP. The first image of the VILSPA shift (the image immediately preceeding the one in question) was also an SWP low dispersion image of a standard star. The obvious first step in the ensuing detective work was to establish whether there had been a malfunction in the SPREP between this first image and the one exhibiting the ghost. An SPREP consists of two tungsten flood-lamp exposures each followed by a read. The corresponding images are actually read-down but not archived. However, they can be reconstructed from the history tape. It was found that the first flood, at a level of 200% (i.e. saturated), had worked perfectly. This would normally erase any information on the camera target remaining from a previous exposure. The fact that it worked therefore also erased any hope of explaining this

phenomenon in terms of residuals from previous exposures! However, the second flood image of the SPREP, at the 50% level, gave us a big clue: this image had a half-saturated low dispersion order across it. Still puzzled ? Read on.

The SPREP was performed during the slew to Eta U Ma. Unfortunately, however, the slew finished before completion of the PREP procedure: the second flood exposure was carried out with Eta U Ma (mag 1.8) only a few arcsec from the shortwave large aperture (the manoeuvre had been very occurate one, unfortunately!). The result was that scattered light from the bright star had contaminated the 50% flood exposure of the PREP, to the extent that a partially saturated low dispersion order appeared on it. Now when an image is read down, the camera target is left in a somewhat non-uniform state. This is precisely why a prep-sequence is performed before an exposure is made. One of the reasons for non-uniformity is imperfect cancellation of positive charge on the target by the read-beam. In fact a large concentration of charge will tend to be more effectively cancelled by electrons in the beam than the surrounding region, leaving a negative residual, or "ghost" image, as in this case.

The moral of the tale is that if you have a bright object in the aperture while preparing a camera, you might affect the camera target sufficiently to generate photometric errors. The secure way to avoid any problems is to have no star in the aperture during a PREP sequence.

Alan Harris
August 1984

IUE SPACECRAFT STATUS

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

Gyro-1 was switched off on December 12, 1983, at 18:10UT after the motor current dropped to 0 mA (torquer stopped). This gyroscope has been declared lost since March 1982, after a failure occurred in the electrical control circuits. In order to keep the remaining three gyros (Nr. 3,4,5) thermally stabilized, the high wattage heater (12 watts) of gyro-2 was swiched on.

The telemetry thermistor of gyro-4 ceased its proper function as seen by a slow but steady temperature decrease since February 18, 1984. Since the drift rate of the gyro did not change and the temperature does not change with beta, it is believed that the control thermistor regulates the duty cycle of its heater properly. There has been a history of this type of telemetry thermistor failures on IUE and HEAO-3.

The onboard computer (OBC) halted twice during the month of January. On the first occasion (January 12) the OBC halted shortly after execution of a Delta-V (orbital velocity change) manoeuvre. As a result of this an excessive momentum build up occurred which was magnified by a jet imbalance of the two 5 pounds thrusters putting IUE into a spin. The S/C was then commanded in sun-hold mode and attitude was recovered by slewing to beta = 0 (antisun). On January 18 the OBC halted at 05:33UT during the US-2 shift.

Both OBC halts are attributed to the high OBC temperature (54.6 °C), since the data from the OBC dumps taken did not provide any concrete information as to why the OBC halted. As a precautionary measure, the OBC software was reloaded onto the 8 K prime and the 4 K backup OBC on January 28 between 16:00UT and 21:00UT by GSFC.

Another Delta-V manoeuvre was performed on February 14. This time the manoeuvre was successfully executed and controlled by the OBC. The westward drift of IUE was stopped and a small (0.1°/day) eastward drift was induced into IUE's orbit.

The satellite emerged from the spring eclipse season (Nr. 13, February 25-March 21) without problems being noted. The two onboard batteries showed an excellent performance following the observing restrictions imposed after season Nr. 12 (ref. ESA IUE Newsletter Nr. 18). The maximum depth of discharge was 52.2% on battery-1 and 51.3% on battery-2 respectively.

The LWR flare investigation continues on both sides of the Atlantic. Detailed information about the status of the LWR camera is given elsewhere in this newsletter.

It has been known since the commisioning phase that the LWP may suffer from a scan control logic malfunction when commanding a read. This malfunction has decreased considerably since the LWP became the default camera (October 16, 1983). Moreover, since March 24 not a single bad scan has been seen at VILSPA. Nor has it been observed that the scan has failed to start after the LWP was switched off/on. Similar results have been reported by GSFC staff.

A new S/C control software has been implemented and released for operations as of June 19, 1984 at VILSPA. The package contains on an optional basis the IUE 2-gyro/fine sun sensor (FSS) backup attitude control S/W system, for use in the event of another gyroscope failure in the future.

JURGEN FAELKER

PHOTOMETRIC CALIBRATION OF THE IUE*

X. Fluxes of Stars Used for the SWP and LWR Sensitivities

R. C. Bohlin and A. V. Holm

I. Introduction

The recent promotion of the LWP camera to prime operational status has increased interest in the details of the derivation of the SWP and LWR calibration of Bohlin and Holm (1980) as published in Holm et al. (1982). In deriving those absolute calibrations all the available data was reviewed from the first year of operation between April 1978 and April 1979. The derivation of the Bohlin and Holm calibration was completed in May 1980 and has been used in production data processing since implementation of the present software (Bohlin, Lindler, and Turnrose 1981). The calibration of May 1980 replaced the preliminary version of Bohlin et al. (1980) that was published and widely circulated.

II. Procedure

The derivation of the May 1980 calibration of SWP and LWR followed these steps as resurrected from antiquity:

1. All IUE spectra of the selected calibration stars (Table 1) that were obtained between April 1978 and April 1979 were identified. The number of useful spectra for each camera is given in Table 1. In determining the average IUE spectrum for a star, each spectrum was weighted by the observed flux number (FN). The large-aperture point-source spectra determined the absolute level of the IUE calibration. Trailed and small aperture spectra aided in defining the shape of the calibration curve through normalization to the response to point sources in the large aperture, as described in detail by Wu et al. (1984). More details on the reduction of the IUE spectra are reported in Bohlin and Holm (1980). A more complete description of the precision of the IUE data is given in Wu et al. (1984). The spectra of ζ Aql listed in Table 1 are later in time than the interval reported here and were used only as a final check of the calibration.

2. OAO-2 fluxes (Code and Meade 1979) and TD-1 fluxes (Jamar et al. 1976) were obtained for the bright calibration stars. In addition, Carnochan (1978) provided TD-1 fluxes for the fainter stars HD 60753, HD 93521, BD+75°325, BD+28°4211, and BD+33°2642. These OAO-2 and TD-1 fluxes were corrected to the common IUE scale of Bohlin et al. (1980) using the correction factors given in Table 2. The derivation of these correction factors is based on the flux of η UMa using the technique detailed in Bohlin et al. (1980).

* Reprinted from NASA IUE Newsletter No. 24, page 74

The corrected fluxes are reported in Tables 3 and 4. Note that the OAO-2 flux of η UMa in Table 3 also appears in Bohlin et al. (1980) as the prime UV standard star. The TD-1 fluxes contain a linear interpolation from 2540Å to 2550Å using the 2740Å TD-1 data. Otherwise, no use is made of the broadband 2740Å TD-1 data. Since the corrected OAO and TD-1 fluxes differ by a typical one sigma of just 3 percent, only the OAO-2 fluxes are quoted for those stars which have been observed by both space experiments.

In the course of the derivation of the May 1980 calibration BD+33°2642 was determined to be too faint and to have too much noise in the TD-1 scan to be useful. Therefore, it was omitted from the derivation and is omitted from this report.

3. The inverse IUE sensitivity S^{-1} was derived for each corrected OAO-2 flux distribution in Table 3 and each corrected TD-1 spectrum shown in Table 4 by dividing the known fluxes by the IUE response in FN per second.

4. Because of the larger statistical weight of the IUE data with only TD-1 reference spectra, the 5 stars at the bottom of Table 1 define the IUE sensitivity from 1375 to 2550Å. A smooth curve was drawn through the IUE sensitivity curve for each star and then all 5 smooth curves were considered to determine the final S^{-1}.

5. Spectra of bright stars having OAO-2 reference fluxes were used longward of 2550Å and shortward of 1375Å. Despite some corrections needed to the IUE exposure times for the bright OAO-2 stars, the absolute calibration curves from the OAO-2 stars are continuous with the TD-1 calibration curves.

   Longward of 2550Å, a smoothed curve was drawn through the OAO-defined sensitivity curves in a procedure similar to that followed for the 1375 to 2550Å region. Applying the physical assumption that the final IUE calibration should be smooth, the May 1980 LWR calibration was drawn through all 10 of the results for individual stars.

   The region below 1375Å is complicated by the presence of strong absorption lines, so that a slightly different use was made of the results from the 6 OAO stars. The unsmoothed sensitivity curves (in bins of 25Å) from the 6 OAO stars were plotted along with the 5 smoothed TD-1 curves. Again, continuity between the independent TD-1 and OAO results was evident so that, above 1250Å, a smoothed curve was drawn through all available OAO and TD-1 curves. Below 1250Å the situation was even more complicated and is discussed specifically in Bohlin and Holm (1980).

III. Critique and Error Analysis

Improvements in the transfer of an absolute calibration to IUE could have been obtained by increasing the emphasis on OAO stars, since the full wavelength coverage of OAO-2 is required for a complete IUE calibration. The fainter TD-1 stars are required to set the overall absolute level of the sensitivity, which cannot be done directly for the brighter OAO stars because of the uncertainty in the short IUE exposure times. However, the use of the TD-1 data can be thought of as just setting one overall multiplicative factor for each star, whereas the OAO data is needed to define the detailed shape of the IUE sensitivity over the entire wavelength range. Therefore, the statistical confidence in the shape of the IUE calibration curve could have been as good at other wavelengths as it is from 1375 to 2550Å, if the distribution of the number of observations between TD-1 and OAO-2 stars could be reversed.

Between 1275 and 3100Å none of the calibrations from individual stars differs from the adopted mean by more than 7%; typical deviations are about 3 to 4%. Deviations from the mean exceed 7% at 1250Å and below, and also beyond 3100Å. At 3300Å the calibration from 10 Lac is 14% below the adopted mean, and deviations reach almost 40% near Lα. In both cases of the extreme wavelengths, lack of sufficient IUE response contributed to the observed lack of repeatability. In addition, small errors in wavelength scales and slightly different resolution of the IUE and OAO-2 spectra exacerbated the problem near Lα. In order to better understand the IUE calibration at the long and short wavelength limits, a larger statistical sample of spectra of OAO stars is needed. Some of these added spectra should be overexposures to enhance the signal near the limits of the wavelength coverage.

Since the May 1980 calibration was derived, several subtle effects have been found in IUE data which affect the accuracy of the transfer of the calibration from the other space experiments and the application of that calibration to other IUE observations. These effects include residual deviations from linearity in the intensities derived from both the SWP and the LWR cameras (e.g. Oliversen 1983) and wavelength-dependent differences between trailed and point source fluxes (Panek 1982) and between large aperture and small aperture fluxes (Holm unpublished). For the exposure levels used and over the range of spectral types used, none of these effects is larger than about 5 percent. Thus, the mean IUE spectrum for any star should differ from a pure point source in the large aperture for a theoretical and noise free IUE response by less than 2 to 3 percent, in agreement with the observed scatter. However, these effects may produce larger errors in applying the calibration to spectra that differ substantially from those used for the calibration.

As a final check, the IUE SWP fluxes were compared with ANS results for the subset of stars that had been observed with ANS. The IUE fluxes agree with ANS to within 2.5 percent after application of the correction factors for ANS that appear in Table 2.

TABLE 1

IUE Data Used to Derive the IUE Sensitivity for the First Year of Operations

Star	No. of SWP Spectra			No. of LWR Spectra			OAO-2	TD-1
	P	T	S	P	T	S		
μ Col	2	-	2	2	-	2	Y	Y
ζ Cas	-	1	2	2	1	1	Y	Y
η Aur	1	2	1	1	1	1	Y	Y
λ Lep	2	-	-	-	-	-	Y	Y
10 LAC	-	1	-	-	1	-	Y	Y
η UMa*	-	2	-	-	2	2	Y	Y
ζ Aql	-	-	-	5	-	-	Y	Y
77 Dra	2	2	-	2	6	-	N	Y
HD 60753	6	-	5	5	-	4	N	Y
BD +75° 325	7	-	6	7	-	6	N	Y
HD 93521	15	-	13	13	-	13	N	Y
BD +28° 4211	12	-	12	7	-	7	N	Y

Key to Table: P - Point source in large aperture
T - Trailed source in large aperture
S - Small aperture

* The η UMa spectra constrains the shape of the sensitivity curve but provides no independent measure of the absolute level, since exposure times at the rapid trail rate required for such bright stars are indeterminate.

Table 2

Correction Factors Used to Multiply other Data to Get to the IUE Scale

λ	OAO-2	TD-1	λ	OAO-2	TD-1	λ	OAO-2
1150	.840		1950	.894	.986	2750	1.005
1175	1.231		1975	.921	.978	2775	1.004
1200	1.156		2000	.955	1.000	2800	.986
1225	1.060		2025	.989	1.013	2825	1.005
1250	1.001		2050	1.003	1.020	2850	1.003
1275	.974		2075	1.005	1.025	2875	1.004
1300	.950		2100	.991	1.010	2900	1.001
1325	.930		2125	1.004	1.003	2925	1.006
1350	.913		2150	.996	.997	2950	1.028
1375	.896	1.106	2175	.999	1.010	2975	1.017
1400	.869	1.037	2200	1.002	.994	3000	1.024
1425	.852	1.054	2225	1.000	.989	3025	1.010
1450	.846	1.055	2250	1.000	.983	3050	1.006
1475	.833	1.065	2275	1.001	.968	3075	1.000
1500	.809	1.092	2300	.987	.972	3100	1.000
1525	.776	1.080	2325	.984	1.001	3125	1.000
1550	.777	1.034	2350	.985	1.007	3150	1.000
1575	.787	1.025	2375	.988	1.014	3175	1.000
1600	.800	1.008	2400	.990	1.021	3200	1.000
1625	.825	.942	2425	.992	1.043	3225	1.000
1650	.856	.936	2450	.995	1.080	3250	1.000
1675	.847	.906	2475	.994	1.063	3275	1.000
1700	.842	.917	2500	.994	1.067	3300	1.000
1725	.820	.908	2525	.991	1.064		
1750	.846	1.043	2550	1.004	1.066		
1775	.859	1.038	2575	1.000	1.120		
1800	.860	1.005	2600	1.001	1.114		
1825	.873	.986	2625	1.003	1.119		
1850	.868	.998	2650	.997	1.168		
1875	.868	.998	2675	1.003	1.185		
1900	.868	.980	2700	.995	1.188		
1925	.876	.992	2725	.996	1.188		

λ	ANS
1550	1.083
1800	.995
2200	.909
2500	1.046
3300	1.110

TABLE 3

Corrected Fluxes of OAO-2 Stars (10^{-10} erg s^{-1} cm^{-2} $Å^{-1}$)

λ(Å)	μCol	ζCas	ηAur	λLep	10Lac	ηUMa	ζAql
1175	27.7	47.4	44.2	51.1	20.1	155.	
1200	22.5	35.3	29.8	43.0	17.2	100.	
1225	19.4	28.6	17.3	38.0	14.3	65.7	
1250	24.5	44.3	41.0	48.5	21.0	146.	
1275	25.5	46.0	42.2	51.9	23.2	151.	
1300	25.2	38.3	37.1	49.4	22.9	132.	
1325	23.2	40.4	38.6	47.1	20.7	136.	
1350	21.3	37.9	38.2	44.0	19.6	133.	
1375	20.4	34.6	36.2	40.6	18.8	125.	2.42
1400	16.9	27.3	32.8	32.3	16.1	114.	2.38
1425	16.3	28.7	32.6	33.4	15.6	113.	2.67
1450	16.6	29.6	33.4	32.9	15.5	116.	2.88
1475	16.6	28.8	32.1	32.0	15.4	111.	3.21
1500	15.4	27.3	30.4	30.5	15.1	105.	3.47
1525	14.5	23.8	28.3	27.5	13.9	98.0	3.50
1550	10.3	20.0	27.2	21.2	10.9	95.0	3.46
1575	11.6	21.5	26.2	22.5	11.5	91.0	3.29
1600	11.0	20.7	24.8	22.3	10.8	86.0	3.15
1625	9.52	20.5	23.4	20.2	9.27	81.5	3.00
1650	10.4	21.7	23.8	21.6	10.4	82.5	3.01
1675	10.4	21.5	23.4	21.6	10.4	81.0	3.05
1700	10.5	20.9	22.7	21.2	10.2	78.5	3.06
1725	9.48	18.3	20.3	19.0	9.17	70.0	2.94
1750	9.96	19.2	21.1	19.8	9.86	72.5	3.13
1775	9.96	19.3	20.9	19.4	9.85	71.0	3.25
1800	9.24	19.1	19.9	18.8	9.67	70.6	3.07
1825	8.92	17.2	19.2	18.4	9.27	68.4	3.01
1850	8.42	16.3	18.5	17.2	8.73	64.8	3.02
1875	8.07	15.2	18.0	15.8	8.38	62.2	2.93
1900	7.74	14.3	17.0	14.7	7.86	59.5	2.88
1925	7.12	13.4	16.2	14.2	7.52	56.6	2.79
1950	7.00	13.5	16.1	13.9	7.07	56.0	2.71
1975	6.80	13.5	16.1	13.8	6.91	55.5	2.71
2000	6.92	13.6	16.1	14.0	6.83	55.0	2.74
2025	7.05	13.6	16.0	13.9	6.80	55.0	2.64
2050	6.84	13.0	15.5	13.2	6.34	53.5	2.70
2075	6.45	12.7	15.1	12.7	5.99	51.3	2.65
2100	6.16	12.2	15.0	12.2	5.75	49.3	2.56
2125	6.22	12.3	14.3	12.2	5.54	49.2	2.53
2150	5.94	11.8	13.6	11.7	5.29	47.4	2.48
2175	5.75	11.8	13.3	11.3	5.16	46.0	2.47
2200	5.56	11.3	13.0	11.0	5.02	44.6	2.49
2225	5.44	11.1	12.8	10.1	4.94	43.7	2.48

TABLE 3 (cont.)

λ(Å)	μCol	ζCas	ηAur	λLep	10Lac	ηUMa	ζAql
2250	5.23	10.8	12.2	10.4	4.82	42.2	2.41
2275	5.00	10.6	12.0	9.90	4.61	41.1	2.36
2300	4.61	10.3	11.7	9.40	4.46	40.4	2.45
2325	4.68	10.2	11.5	9.48	4.67	39.3	2.39
2350	4.69	9.92	10.9	9.34	4.61	37.8	2.34
2375	4.30	9.76	10.7	9.03	4.39	37.0	2.28
2400	4.19	9.64	10.5	8.72	4.42	36.3	2.22
2425	4.17	9.46	10.4	8.64	4.39	35.9	2.24
2450	4.13	9.35	10.2	8.48	4.45	35.2	2.27
2475	3.97	9.06	10.0	8.22	4.35	34.5	2.22
2500	3.85	8.79	9.84	7.97	4.14	34.0	2.23
2525	3.69	8.42	9.39	7.61	4.03	32.6	2.17
2550	3.59	8.10	9.18	7.42	4.06	31.8	2.08
2575	3.47	8.18	9.28	7.27	3.88	32.1	2.23
2600	3.34	8.06	9.34	7.06	3.74	31.7	2.22
2625	3.28	7.83	8.95	6.94	3.75	30.9	2.16
2650	3.18	7.54	8.72	6.60	3.54	30.0	2.24
2675	3.10	7.47	8.58	6.38	3.50	29.6	2.28
2700	3.00	7.24	8.40	6.25	3.44	29.0	2.27
2725	2.91	7.15	8.20	6.07	3.32	28.4	2.24
2750	2.81	7.07	7.98	5.96	3.29	27.8	2.22
2775	2.75	6.87	7.85	5.80	3.18	27.3	2.18
2800	2.48	6.46	7.42	5.45	3.02	26.1	2.07
2825	2.59	6.50	7.65	5.51	3.05	26.3	2.17
2850	2.51	6.35	7.44	5.30	2.99	25.5	2.17
2875	2.39	6.22	7.23	5.13	2.92	25.0	2.11
2900	2.31	6.01	7.03	4.96	2.79	24.5	2.11
2925	2.25	5.89	6.92	4.83	2.73	23.9	2.18
2950	2.22	5.78	6.85	4.80	2.66	23.7	2.18
2975	2.11	5.60	6.69	4.61	2.57	23.0	2.13
3000	2.06	5.47	6.65	4.47	2.53	22.8	2.17
3025	1.99	5.32	6.52	4.35	2.42	22.3	2.16
3050	1.93	5.23	6.35	4.28	2.36	21.9	2.16
3075	1.93	5.19	6.25	4.16	2.36	21.5	2.14
3100	1.93	5.06	6.23	4.09	2.32	21.3	2.13
3125	1.89	4.95	6.13	4.00	2.27	21.1	2.12
3150	1.84	4.93	5.99	3.93	2.28	20.7	2.14
3175	1.76	4.82	5.83	3.82	2.20	20.3	2.13
3200	1.71	4.74	5.72	3.76	2.15	20.0	2.12
3225	1.69	4.67	5.74	3.65	2.16	19.7	2.14
3250	1.65	4.59	5.68	3.55	2.04	19.4	2.13
3275	1.64	4.51	5.53	3.50	2.01	19.1	2.14
3300	1.60	4.43	5.48	3.40	2.02	18.9	2.15
3325	1.57	4.31	5.42	3.35	1.92	18.5	2.12
3350	1.53	...	5.32	...	1.86	18.2	2.09

Note to Table 3: The tabulated OAO-2 spectrophotometry is from Code and Meade (1979) after application of the corrections from Table 2. The fluxes in this table were used to determine the sensitivity of the SWP and LWR cameras.

TABLE 4

Corrected Fluxes of TD-1 Stars (10^{-12} erg s^{-1} cm^{-2} $Å^{-1}$)

λ(A)	77Dra	HD60753	BD+75°325	HD93521	BD+28°4211
1375	...	90.0	55.9	266	36.6
1400	74.0	81.7	50.0	218	31.7
1425	75.9	82.9	49.2	212	31.6
1450	77.2	85.9	47.3	218	30.4
1475	77.6	83.8	46.2	214	30.2
1500	76.4	80.9	45.4	209	29.0
1525	73.4	74.8	43.1	176	25.0
1550	69.7	68.2	39.8	141	22.8
1575	69.0	68.4	38.3	144	20.9
1600	65.0	65.1	34.6	130	19.6
1625	58.9	59.6	28.0	115	16.0
1650	59.2	61.4	30.0	129	16.2
1675	59.4	62.1	31.1	134	15.5
1700	57.8	57.7	29.3	130	15.4
1725	51.5	52.6	27.5	122	15.4
1750	51.2	58.2	29.5	139	13.4
1775	53.6	57.2	28.8	134	15.9*
1800	54.8	54.8	28.5	133	17.0*
1825	52.0	54.8	25.4	134	13.9*
1850	51.1	49.4	23.6	126	12.3
1875	51.0	48.1	22.5	117	12.8
1900	49.8	46.0	22.8	111	11.1
1925	47.6	45.0	21.6	109	11.4
1950	46.9	42.5	20.5	107	9.29
1975	47.4	43.2	18.8	105	8.67
2000	46.6	41.5	19.6	109	9.36
2025	45.6	41.1	20.8	107	8.41
2050	46.0	41.0	18.4	103	8.59
2075	44.9	39.1	17.7	100	8.24
2100	42.1	40.2	16.4	98.2	7.08
2125	40.5	37.6	14.7	98.7	7.95
2150	40.2	35.5	15.0	91.4	7.12
2175	40.7	34.1	15.6	93.3	6.23
2200	38.7	32.8	15.3	88.8	6.39
2225	38.0	31.6	15.2	89.2	5.44
2250	35.9	31.8	13.6	86.5	5.32
2275	35.9	33.3	12.6	83.4	5.83
2300	37.1	31.8	13.5	76.7	5.46
2325	35.5	31.2	13.0	76.3	4.89
2350	33.1	30.8	12.2	73.1	4.94
2375	31.0	31.2	10.8	71.8	4.72
2400	31.6	29.8	10.8	70.6	3.91
2425	32.7	31.8	10.9	71.2	4.30
2450	32.8	31.6	11.5	72.9	6.00*
2475	25.7	30.0	11.7	68.7	3.73
2500	29.6	30.2	12.1	68.1	3.64
2525	29.9	28.5	10.0	62.2	4.59*
2550	29.7	28.4	9.14	57.7	3.73

* Noise spikes.

Note to Table 4: The tabulated TD-1 spectrophotometry is from Jamar et al. (1976) and Carnochan (1978) after application of the corrections from Table 2. The fluxes in this table were used to determine the sensitivity of the SWP and LWR cameras as described in the text.

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THE LWP CAMERA: GETTING TO KNOW YOU *

Catherine L. Imhoff
5 June 1984

The LWP camera has been the default long-wavelength camera now for over seven months. The IUE staff and Guest Observers have been learning about the LWP, just as we did for the LWR and SWP cameras back in 1978. Basic information on the LWP is given by the references listed in the last "IUE News" (NASA IUE Newsletter No. 23). However, there are always detailed but useful bits of information that only come with experience. Here are some of the "tidbits" about the LWP camera that we have collected so far.

Exposure Times The following equations are approximate scaling factors to estimate LWP exposures from previous LWR exposures (all large aperture spectra):

T (LWP low disp) = 0.8 * T (LWR low disp) for 2800 A

T (LWP low disp) = 1.1 * T (LWR low disp) for 2400 A

T (LWP high disp) = 0.9 * T (LWR high disp) for 2800 A continuum

T (LWP high disp) = 0.8 * T (LWR high disp) for MgII emission lines

Scaling LWP low dispersion spectra to high dispersion (large aperture):

T (LWP high disp) = 70 * T (LWP low disp) for continuum sources

High Dispersion Wavelength Coverage Gaps in high dispersion wavelength coverage exist in the lower orders of the LWP echelle spectra, just as they do for the other two cameras. The regions of coverage for orders 77 and less are given in the following table.

Table 1

Wavelength Coverage in the Lower Orders of the LWP Camera

Order	Wavelength Range
77	2983 - 3022 A
76	3023 - 3061
75	3064 - 3101
74	3106 - 3142
73	3150 - 3184
72	3195 - 3226

* Reprinted from NASA IUE Newsletter No. 24, page 21

Radiation Sensitivity The LWP is more sensitive to radiation than the other two cameras. The nominal relation for the radiation background, 10^{FPM} DN/hour, must be multiplied by about 1.3 to 1.4 for the LWP camera near 2800 A.

Intensity Transfer Function The LWP camera characteristics have changed somewhat since the period of time when its ITF was created. Consequently there are some nonlinearities in the ITF; these are more or less comparable with the nonlinearities seen in the LWR (see the report by Oliversen in this Newsletter).* The background flux numbers for short exposures are often negative numbers due to these nonlinearities. There is noticeable noise at the shorter wavelength portion of the low dispersion spectrum which is apparently caused by a geometric mismatch between the ITF and the spectral data. The spectra used for the absolute calibration are affected by these problems; thus there is some uncertainty in the calibration at the shorter wavelengths. These problems are not major. However the IUE Project is planning to obtain a new LWP ITF in order to improve the quality of the spectral data. The observations are scheduled for this September.

Maximum DN levels are given in Table 2 for an LWP low dispersion spectrum in which the photometric accuracy of the ITF is preserved. Above these DN levels the ITF must be extrapolated.

Table 2

Maximum DN Levels for Best Accuracy in LWP Spectra

Wavelength	Max DN
2100 A	205
2300	220
2500	240
2700	245
2900	245
3100	245
3300	245

Ripple Correction The current ripple correction used in the standard image processing for LWP high dispersion spectra is not very good. The IUE staff is working to improve it; however GOs may wish to try empirical corrections of their high dispersion data at the RDAF or at their own analysis facilities.

Scan Problems It has been known for some time that the LWP may occasionally experience problems in performing a read scan. The ground software is written to deal with these "bad scans", so the chance of losing an image to a scan failure is very small. Indeed, since the LWP camera has become the default camera, the frequency of these bad scans has dropped dramatically. Apparently the camera functions best when used often.**

* The Newsletter, p. 38

** See also Spacecraft Status Report, This Newsletter p. 20

Reseau Motion Anomaly A few months ago, the anomalous motion of the LWP camera reseaux was noted on several wavelength calibration and spectral images. A shift of about 2 pixels was noticed for the reseau marks in the upper half of the image. These shifts correlate very well with the occurence of LWP "bad scans"; if bad scans are experienced during the read of the image, there is a 75% chance that the reseaux pattern would be shifted. This shift is only about a factor of 2 larger than the usual geometric errors. However observers examining high dispersion spectra, especially at the shorter wavelengths, should be alert to the possible misextraction of the data due to this shift. As noted above, the frequency of bad scans on the LWP has gone down dramatically now that the camera is in general use so this problem should rarely be encountered.

Camera Defects There is a large hole in the target, near 2880 A in order 80 for high dispersion spectra (this is not the reseau mark flagged at 2875 A). In addition there is a "bright spot", an artifact of the UV-flood images used to construct the LWP ITF, which falls in order 93 near 2482 A. Neither of these defects may be obvious from the extracted data nor flagged by the extraction routine, but the usefulness of the data in these regions is definitely affected. There is a troublesome reseau mark just off the high dispersion spectrum next to the MgII k line. It is usually included in the spectrum extraction at 2797 A. None of these defects lie near the low dispersion spectrum.

Finally, there is a "kink" in the LWP low dispersion spectrum at about 3240 A. This is apparently due to a 50 micron (one pixel = 37 microns) shear dislocation between fiber optic bundles in the camera. It should not appreciably affect the extracted data.

SHAZAM!

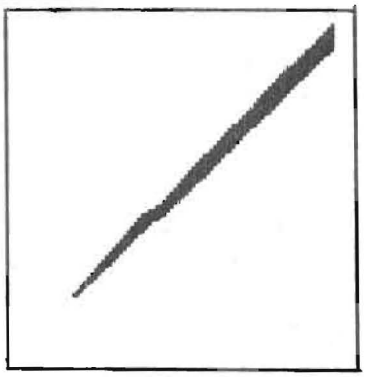

Figure 1: LWP low dispersion spectrum at the long wavelength end, copied off the expanded image at the observing console. The kink lies at about 3240 A.

THE RESPONSE TIME OF THE LWP CAMERA*

Catherine L. Imhoff
16 May 1984

Abstract: IUE's cameras require a small interval of time to respond to the commands to turn on and off. The response time for the LWP camera is here determined to be 126 msec (±16 msec). This value corresponds very closely to the previously derived mean value of 120 msec (±15 msec) for the LWR and SWP cameras.

Discussion: The SEC and UVC voltages of the IUE cameras respond to commands on and off in some characteristic time interval. If the time required for the voltages to rise does not exactly equal the time required for the voltages to fall, there will be a net "response time" for the camera. For short exposures, this delay can affect the actual exposure time by a significant amount. Such an effect is important for calibration spectra, which typically are short exposures of hot stars, as well as for spectra obtained for Guest Observer programs.

Schiffer and Holm (1980; also in Schiffer 1980) have determined the response time for the LWR and SWP cameras. They found that a camera response time of about 120 milliseconds (±15 msec) characterizes both cameras. This report presents a determination of the response time for the LWP camera using the same techniques.

The actual exposure time is affected not only by the camera response time but by the quantization of the commanded time into integral "tics" of the on-board computer timer. These tics are in units of 0.4096 seconds. Any given exposure time is rounded down to an integral number of "OBC tics". Thus the actual exposure time for a given spectrum may be represented by the following expression:

$$t(expo) = N * 0.4096 \text{ sec} - T_r,$$

where t(expo) is the actual exposure time, N is the number of OBC tics, and T_r is the camera response time. Take for example a nominal exposure of 4 seconds. Such an exposure would be rounded down to 9 OBC tics, or 3.69 seconds, less a response time of 0.12 sec, or an actual exposure time of 3.57 seconds. The resulting integration is only 89% of the nominal exposure time.

The following technique is used to determine the camera response time. If one compares a single exposure of N * 0.4096 sec duration to a multiple exposure consisting of M exposures of a single OBC tic (0.4096 sec), then

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$$\frac{M * (0.4096 - T_r)}{N * 0.4096 - T_r} = \frac{FN(M)}{FN(1)} = R,$$

where T_r is the camera response time, FN(1) is the flux level in flux numbers for the single exposure, FN(M) is the flux level for the M multiple exposures, and R is the ratio of the flux numbers. Solving for T_r,

$$T_r = \frac{M * 0.4096 - R * N * 0.4096}{M - R} .$$

LWP test images were obtained during a calibration shift on 1983 July 4. The following low dispersion spectra were acquired for the calibration star HD 93521 (spectral type O9 V):

LWP 1945	nominal 3 sec exposure (7 OBC tics)
LWP 1946	9 expos of 0.4096 sec each
LWP 1947	10 expos of 0.4096 sec each
LWP 1948	nominal 3 sec exposure

The exposure times were chosen so that the flux levels of the resulting spectra would be comparable. If this were not the case, significant errors can arise due to nonlinearities in the Intensity Transfer Function (see e.g., Holm, et al. 1982).

The flux numbers for each spectrum were obtained using the RDAF procedure IUELO. The two nominal exposures were then averaged to form the standard reference spectrum. The flux levels of those two spectra were in excellent agreement. The mean ratio of the flux numbers (LWP 1945/LWP 1948) was 0.996, or better than 1% overall agreement.

The next step is to form the ratio of the flux numbers for each of the multiple spectra to the reference spectrum. The wavelength range was limited to the relatively well exposed portion of the spectrum, i.e. FN > 10,000. Then the ratios were binned over 100 A intervals. These results are given in Table 1. For comparison, the original flux numbers were averaged over 100 A intervals then ratioed. The mean ratios were essentially the same, within 0.3%.

Substituting the mean ratios into the above equation for the response time, we obtain a value of 114 msec from the 9x exposure and 137 msec from the 10x exposure. The mean determination of the LWP response time is thus 126 msec (±16 msec). This value agrees very well with the previously determined value of 120 msec (±15 msec) for the response times of the LWR and SWP cameras (Holm and Schiffer 1980).

Table 1

Flux Ratios for Multiple Exposures to the Reference Spectrum

Wavelength	Mean FN	Ratio (9x/Ref)	Ratio (10x/Ref)
2000 A	12106	0.989	1.042
2100	13873	0.941	1.007
2200	12840	0.994	0.997
2300	15570	0.968	0.955
2400	20534	0.941	0.982
2500	25608	0.982	1.019
2600	28682	0.958	1.027
2700	30265	0.955	0.984
2800	25422	0.965	1.005
2900	20773	0.961	0.983
3000	13041	0.979	0.996
	Mean	0.967	1.000
	St. Dev.	0.018	0.024

References:

Holm, A., Bohlin, R. S., Cassatella, A., Ponz, D. P., and Schiffer, F. H. 1982, Astron. Ap., 112, 341.
Schiffer, F. H., III 1980, NASA IUE Newsletter, No. 11, pg. 33.
Schiffer, F. H., III, and Holm, A. V. 1980, internal memo.

Linearity of Low Dispersion Trailed Spectra*
Processed with the New LWR ITF

Nancy A. Oliversen

1. Introduction

On November 24-27, 1983 the observations for a new LWR ITF were obtained. Standard star spectra, processed with this new ITF, have been analyzed to study the reproducibility and linearity errors of non-optimum exposures. The observation and analysis techniques are briefly summarized in section II. The linearity errors of spectra obtained in September 1983 are discussed in section III. Sample linearity errors for spectra with high backgrounds is shown in section IV. Finally, linearity errors for spectra obtained in November 1978 is presented in section V.

II. Observation and Data Analysis Technique

The observation and analysis technique used for this study is similar to the method used in Oliversen (1983). The standard star HD 60753 is used for most of this report. The one exception is HD 6300, an early B star, which was conveniently located near to the attitude used for the ITF observations. For comparison, each image has been processed with both the current and new LWR ITF. The linearity errors are determined by ratioing a test image with a standard 100% exposure level image with low background. Each spectral ratio is corrected for camera head amplifier temperature-induced sensitivity changes (Sonneborn and Garhart, 1983) and was then smoothed with a 5 point median filter and with an 11 point boxcar filter. The resultant ratios are then plotted for both the current and new LWR ITF. Finally, each flux ratio was averaged over 100 angstrom bandpasses and are listed in the tables at the end of this report.

III. Linearity Errors for September 1983

The reproducibility of images processed with the current and new LWR ITFs is similar (Figure 1). The flux ratios as a function of wavelength of the two 100% images in Figures 1a and 1b are very similar, indicating that the differences between the two represent the true reproducibility of the camera and are not due to possible ITF errors.

On the average, the new LWR ITF 30% and 40% ratios are closer to unity than the ratios of spectra processed with the current ITF (Figures 2 and 4). The derived fluxes of a 30% image processed with the new ITF are too low relative to an optimum exposure by 3 to 5% between 2100 and 2800, compared to the current ITF which gives linearity errors of up to 9%. The maximum linearity error of the 40%/100% spectral ratio is 3 to 4% for the new ITF images. This is also improved over the current ITF, which gives errors of up to 10%.

Near 2800 angstroms, the derived fluxes of the 120% image processed with the new ITF were too high relative to the optimum exposure by about 3%. In comparison, the same image processed with the current ITF gave ratios very near unity, with average errors of no more than 2%.

* Reprinted from NASA IUE Newsletter No. 24, page 50

IV. Linearity Errors for High Background Spectra

Figures 5 to 7 illustrate linearity errors for spectra obtained with high backgrounds. The flux ratios averaged over 100 angstrom bandpasses are listed in Table 2. The images in Figure 5 were produced by exposing the camera to a 40% trailed stellar image and then exposing the camera to empty sky to build up the radiation-induced background level. The images in Figures 6 and 7 were produced by exposing the camera to a 40% trailed stellar image and then superimposing a tungsten flood lamp exposure. The radiation background image had a maximum average DN level in the continuum of 175 DN and an average background level of 65 DN. The tungsten flood background images had an average maximum DN level in the continuum of 185 to 200 DN and average background levels of about 110 DN.

The radiation background spectra processed with the new ITF produces a flatter 40%/100% flux ratio than images processed with the current ITF. At the shortest wavelengths the new ITF ratio is closer to unity than the current ITF ratio. At longer wavelengths (roughly 2400 to 3000A) the derived flux of the new ITF 40% spectra is too high by 5 to 10%. This is slightly worse than the current ITF image, which was too high by roughly 3 to 5%.

The tungsten flood background spectra processed with the new ITF also produce flatter 40%/100% flux ratios than images processed with the current ITF. The entire flux ratio for the new ITF images is increased and, on the average, is closer to unity. For the new ITF images, an individual 100 angstrom binned flux ratio can have linearity errors of 3 to 10%. In comparison, the current ITF images have linearity errors of 6 to 18%. The individual variations in the 100 angstrom bins are probably due to the inherent noisiness of the spectra.

V. Linearity Errors for November 1978

The under-exposed spectra processed with the new ITF produce flux ratios which are closer to unity than the spectra processed with the current ITF (see Figures 8 to 10). The new ITF ratios exhibit a slight curvature as a function of wavelength. The wavelength region between about 2100 to 2500 is enhanced relative to the wavelength region between about 2500 to 3000 angstroms. For example, at the short wavelength end, the new ITF 30%/100% ratio is too high by 2 to 4%, while near 2800 it is depressed by about 3%. These errors are considerably improved compared to the 4-10% errors seen with the current ITF processing.

The 120% spectrum processed with the current ITF shows linearity errors of 2 to 3% (Figure 11a). The derived flux has a slight slope as a function of wavelength. Below 2500 the flux is too low by up to 2%, while above this point the flux is too high by about 2%. The 120% spectra processed with the new ITF shows linearity errors of 2% to 5% in the region between about 2500 and 3000 angstroms (Figure 11b). Thus the linearity of the November 1978, 120% spectrum appears to be slightly poorer when processed with the new ITF compared to the current ITF. It should be noted that the 120% spectrum uses extrapolated ITFs for pixels between 2545 angstroms and 2900 angstroms.

VI Summary

On the average, the new LWR ITF improves the linearity of trailed low dispersion LWR spectra. The reproducibility of the current and new ITF is comparable. The linearity of under-exposed low dispersion trailed spectra with low and high backgrounds is significantly improved. The linearity of the 120% spectra is slightly worse with the new ITF, but only by a couple of percent.

The new ITF also improves the linearity of the 1978 images, despite the fact that they were taken 5 years prior to the new ITF observations. The linearity may be slightly poorer for the 1978 data compared to the 1983 data, but the new ITF still improves the linearity of under-exposed spectra. The linearity of the 120% spectra, taken in late 1978, is slightly worse when processed with the new LWR ITF compared to the current ITF. The LWR camera appears to have undergone a change in its sensitivity during the first six months following launch. If the camera characteristics changed as a function of time, then it is probable that some time prior to November 1978 the current ITF may be more appropriate than the 'new' ITF.

References

Sonneborn, G. and Garhart, M. 1983, IUE NASA Newsletter, No. 23, p 23.
(IUE ESA Newsletter, No. 19, p 50)

Table 1

Binned Flux Ratios for September 1983
(Figures 1 to 4)

Central Wavelength	100% / 100%		30% / 100%		40% / 100%		120% / 100%	
	Current ITF	New ITF	Current ITF	New ITF	Current ITF	New ITF	Current ITF	New ITF
2100	1.008	1.001	1.018	0.954	1.048	1.018	1.007	1.011
2200	1.013	1.008	1.023	0.981	1.053	1.040	1.007	1.011
2300	1.008	1.002	1.056	0.981	1.039	1.003	0.985	0.995
2400	1.009	1.002	1.063	0.969	1.069	1.006	0.992	1.013
2500	1.005	1.000	1.084	0.962	1.100	1.004	0.996	1.021
2600	1.000	0.996	1.091	0.976	1.098	0.998	0.997	1.016
2700	1.001	1.002	1.090	0.959	1.069	0.966	0.997	1.018
2800	1.002	1.005	1.071	0.967	1.063	0.970	1.011	1.031
2900	1.002	1.001	1.072	0.977	1.059	0.967	0.990	1.013
3000	1.011	1.007	1.073	1.000	1.048	0.976	1.003	1.016
3100	1.040	1.034	1.022	1.014	0.971	0.984	1.001	1.003
Deviations:								
Ave (%)	0.90	0.60	6.03	2.62	6.14	1.91	0.65	1.44
RMS (%)	0.46	0.36	2.18	0.97	2.15	0.77	0.26	0.53

Note: Ave Dev = ave[abs(1-FR)]

RMS Dev = $[\Sigma (FR-1)^2]^{1/2} / (n-1)$

Table 2
Binned Flux Ratios for High Background Spectra
(Figures 5 to 7)

Central Wavelength	HD 60753 (40% + Rad Bkg) / 100% ITF Current	HD 60753 (40% + Rad Bkg) / 100% ITF New	HD 60753 (40% + T-fld Bkg) / 100% ITF Current	HD 60753 (40% + T-fld Bkg) / 100% ITF New	HD 6300 (40% + T-fld Bkg) / 100% ITF Current	HD 6300 (40% + T-fld Bkg) / 100% ITF New
2100	0.932	0.981	0.752	0.892	0.705	0.820
2200	0.904	0.970	0.834	0.954	0.961	1.104
2300	0.950	1.046	0.910	1.077	0.820	1.024
2400	1.006	1.079	0.859	0.992	0.883	1.029
2500	1.056	1.111	0.903	0.996	0.905	0.960
2600	1.021	1.074	0.937	1.003	0.891	0.952
2700	1.036	1.085	0.936	0.997	0.954	1.007
2800	1.041	1.068	0.905	0.976	0.884	0.926
2900	1.004	1.049	0.939	1.051	0.899	1.013
3000	0.998	1.090	0.916	1.031	0.925	1.058
3100	1.068	1.118	1.104	1.210	1.121	1.227
Deviations:						
Ave (%)	4.07	6.99	18.69	5.14	11.76	7.31
RMS (%)	1.66	2.52	4.06	2.61	4.49	3.30

Table 3
Binned Flux Ratios for November, 1978
(Figures 8 to 11)

Central Wavelength	30% / 100%		40% / 100%		60% / 100%		120% / 100%	
	Current	New	Current	New	Current	New	Current	New
2100	1.061	1.044	1.033	1.013	1.040	1.042	0.977	1.006
2200	1.039	1.060	1.007	1.009	1.021	1.036	0.976	1.009
2300	1.066	1.042	1.040	1.007	1.036	1.021	0.990	1.008
2400	1.090	1.019	1.071	1.009	1.031	0.999	0.997	1.027
2500	1.095	1.000	1.075	1.001	1.046	1.011	1.000	1.041
2600	1.075	0.994	1.073	1.002	1.040	1.000	1.017	1.051
2700	1.090	0.991	1.065	0.976	1.032	0.979	1.018	1.051
2800	1.063	0.960	1.059	0.976	1.034	0.995	1.016	1.040
2900	1.074	0.975	1.089	1.002	1.041	0.984	1.014	1.024
3000	1.051	0.986	1.071	1.000	1.038	0.996	1.005	1.028
3100	1.004	0.998	1.061	1.043	1.058	1.045	1.013	1.020
Deviations:								
Ave (%)	6.44	2.37	5.85	1.22	3.79	1.84	1.30	2.77
RMS (%)	2.29	1.01	2.08	0.58	1.29	0.80	0.50	1.06

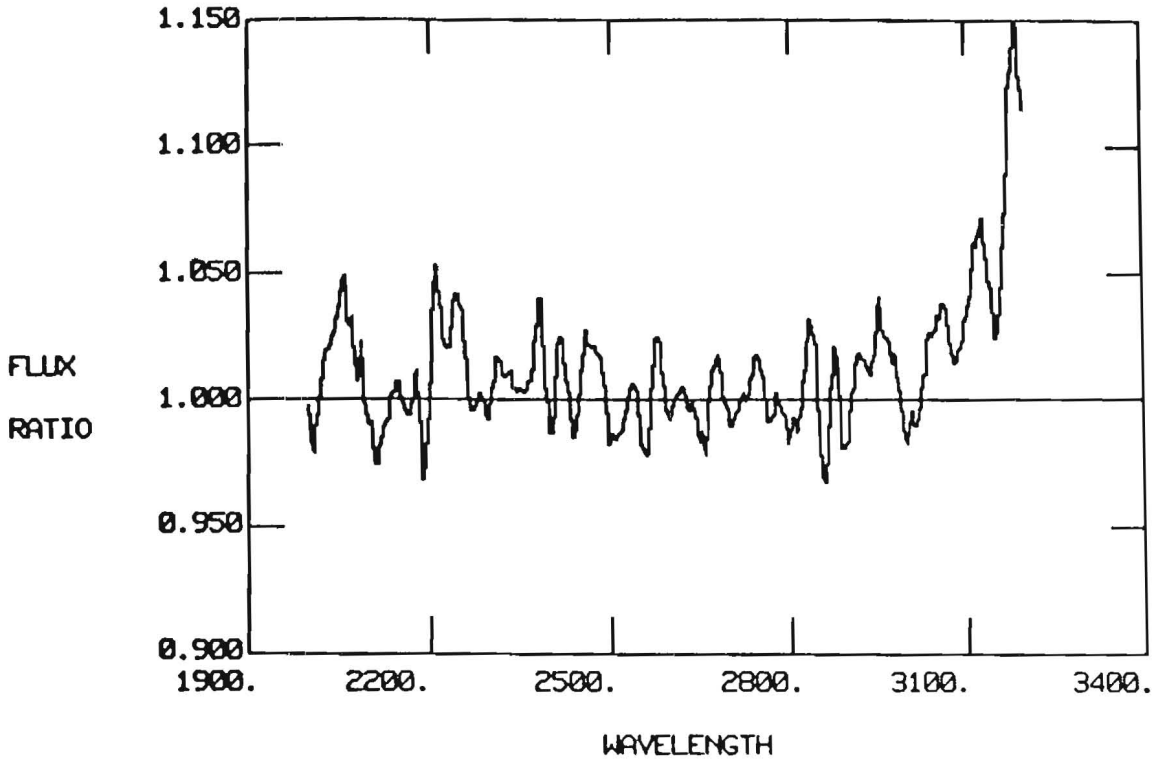

Figure 1a. Reproducibility - 100% / 100%
September, 1983
Current LWR ITF
LWR 16785 / LWR 16789

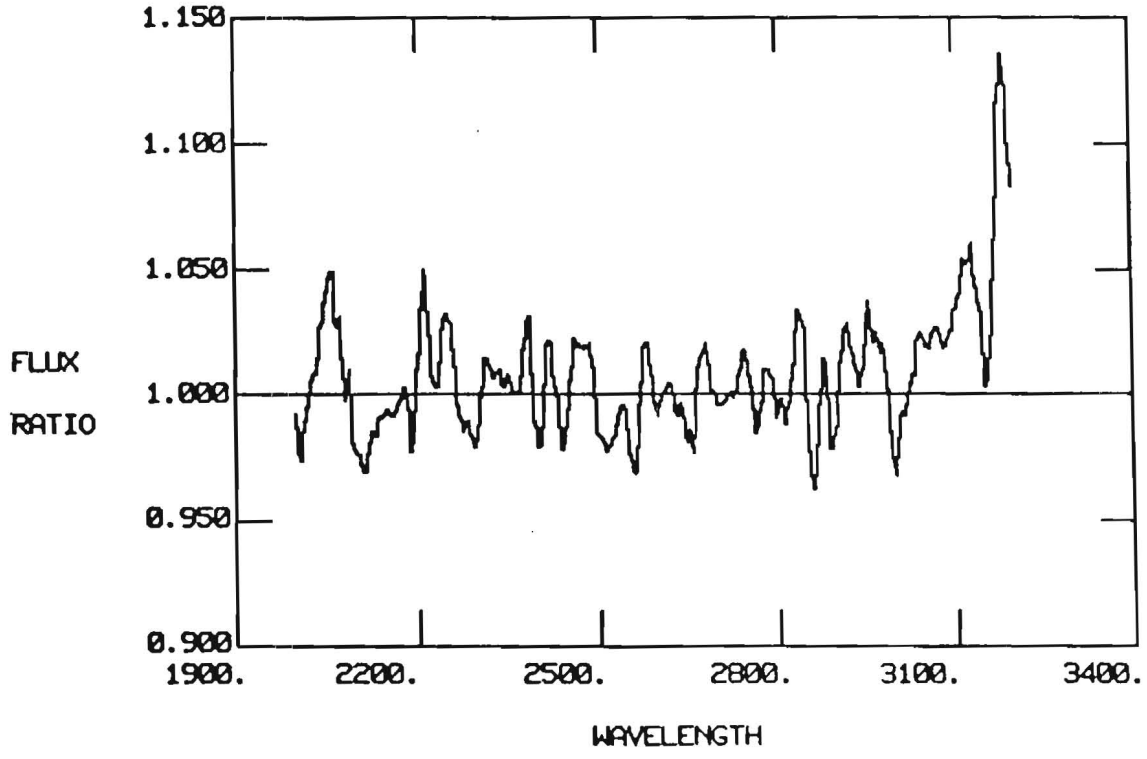

Figure 1b. 100% / 100% in September, 1983
New LWR ITF
LWR 16785 / LWR 16789

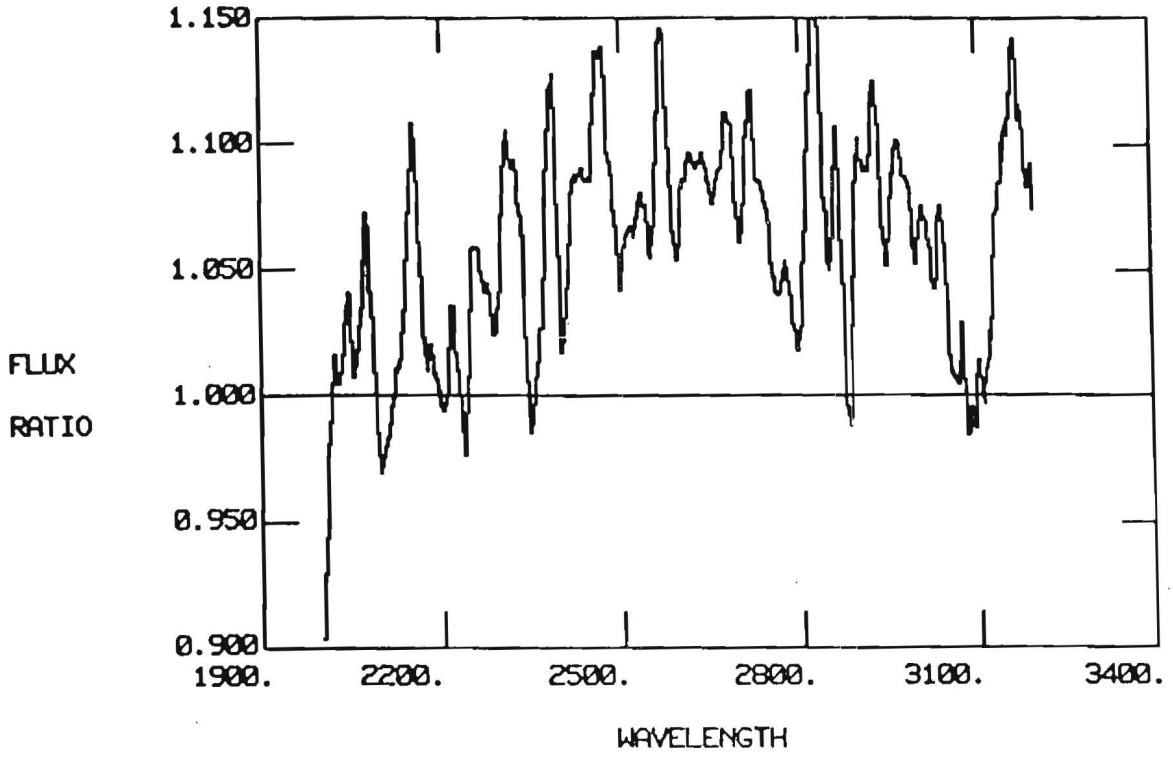

Figure 2a. 30% / 100% in September, 1983
Current LWR ITF
LWR 16786 / LWR 16789

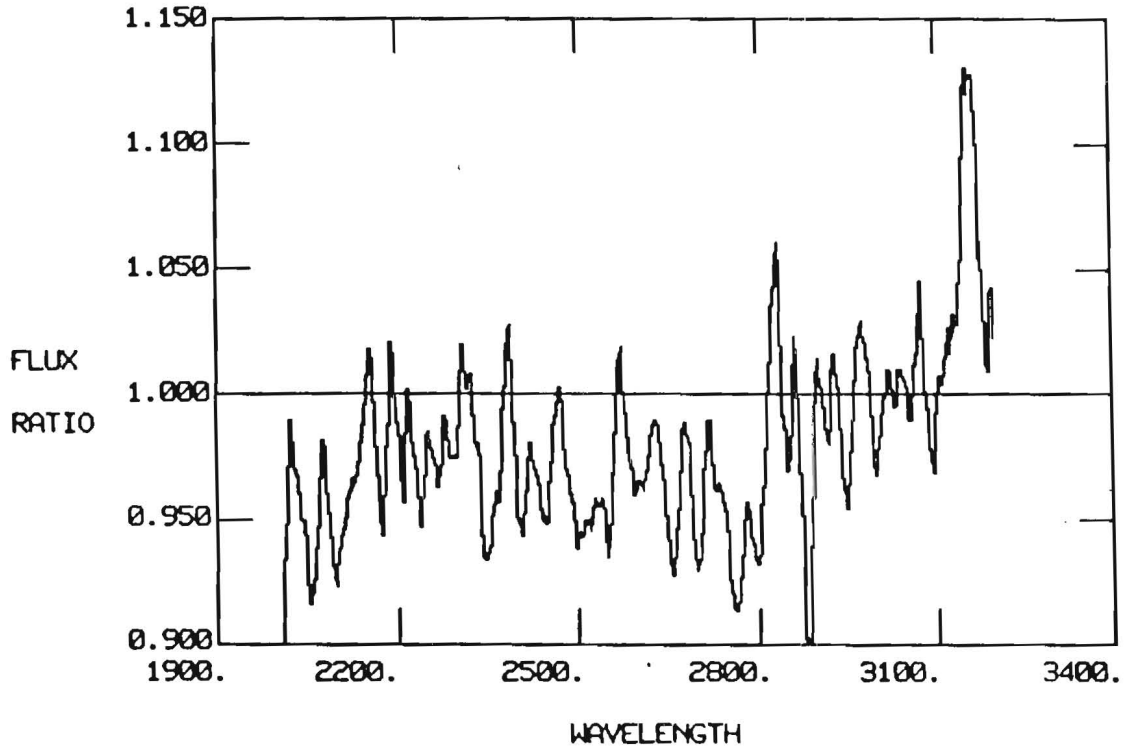

Figure 2b. 30% / 100% in September, 1983
New LWR ITF
LWR 16786 / LWR 16789

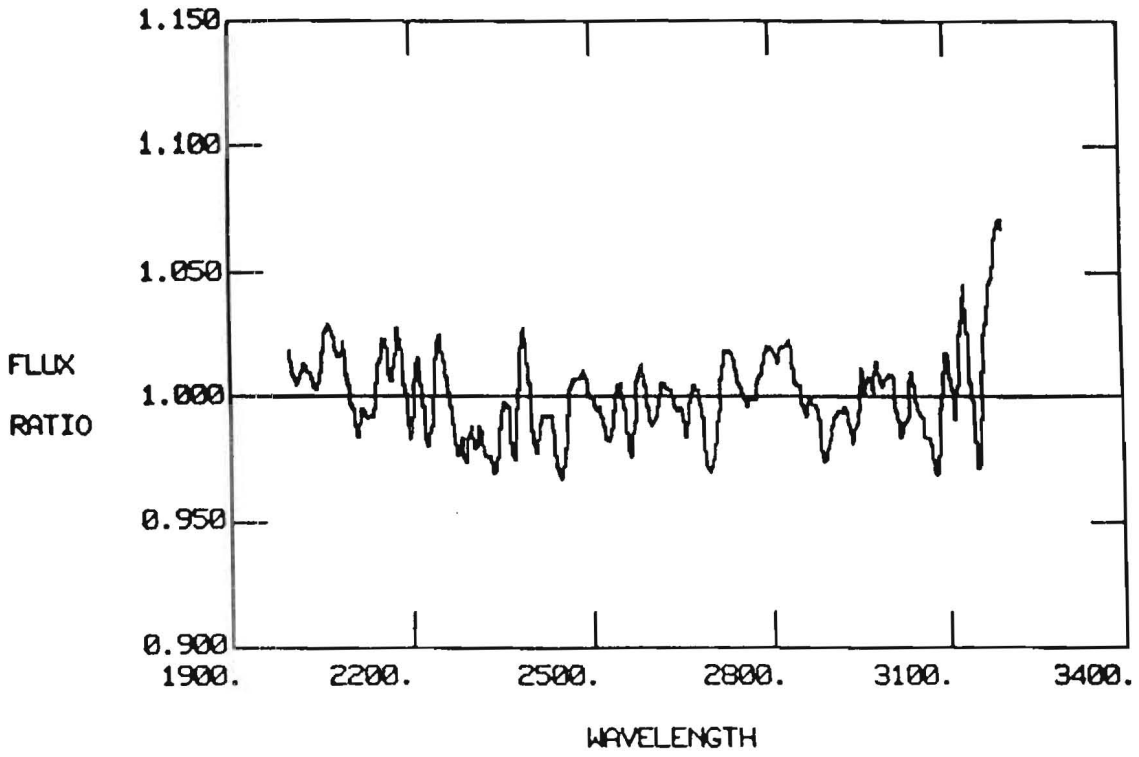

Figure 3a. 120% / 100% in September, 1983
Current LWR ITF
LWR 16787 / LWR 16789

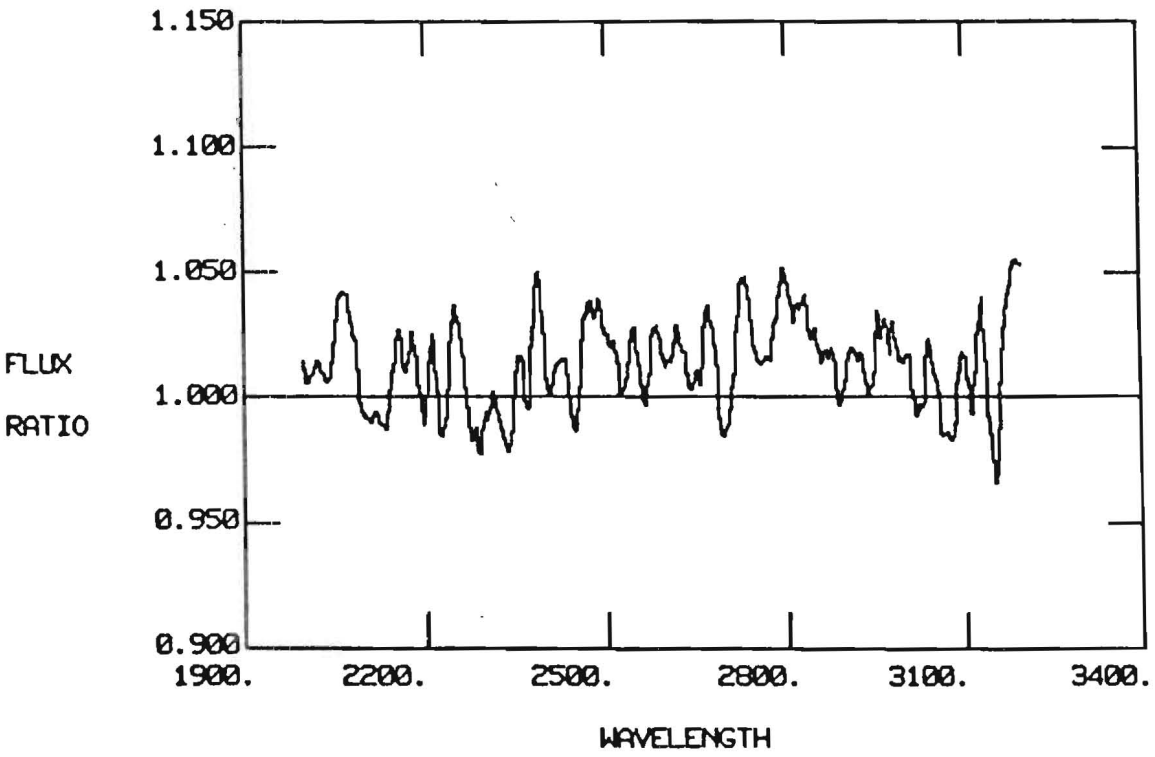

Figure 3b. 120% / 100% in September, 1983
New LWR ITF
LWR 16787 / LWR 16789

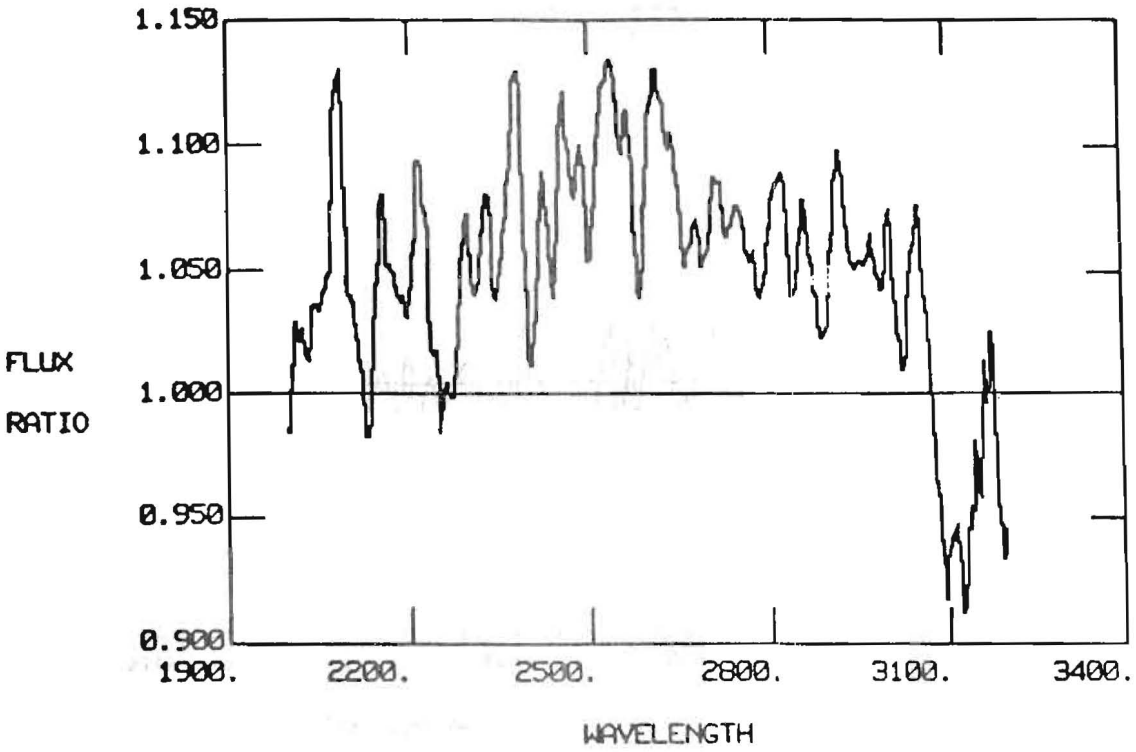

Figure 4a. 40% / 100% in September, 1983
Current LWR ITF
LWR 16788 / LWR 16789

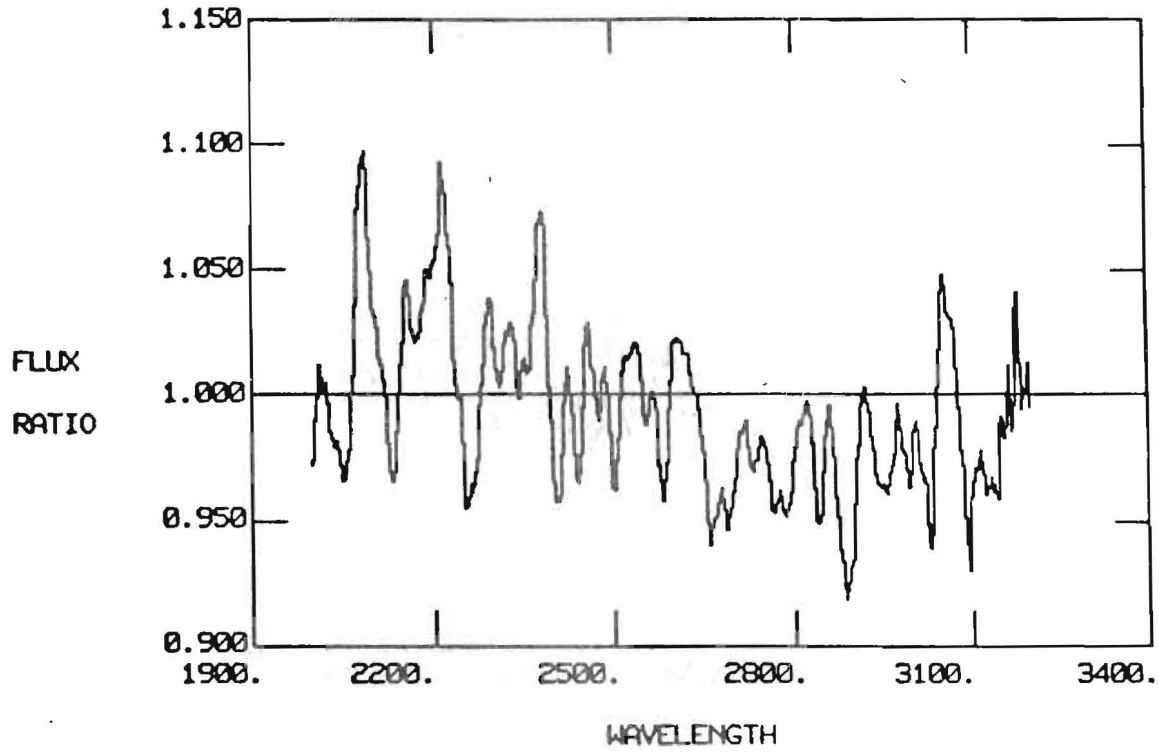

Figure 4b. 40% / 100% in September, 1983
New LWR ITF
LWR 16788 / LWR 16789

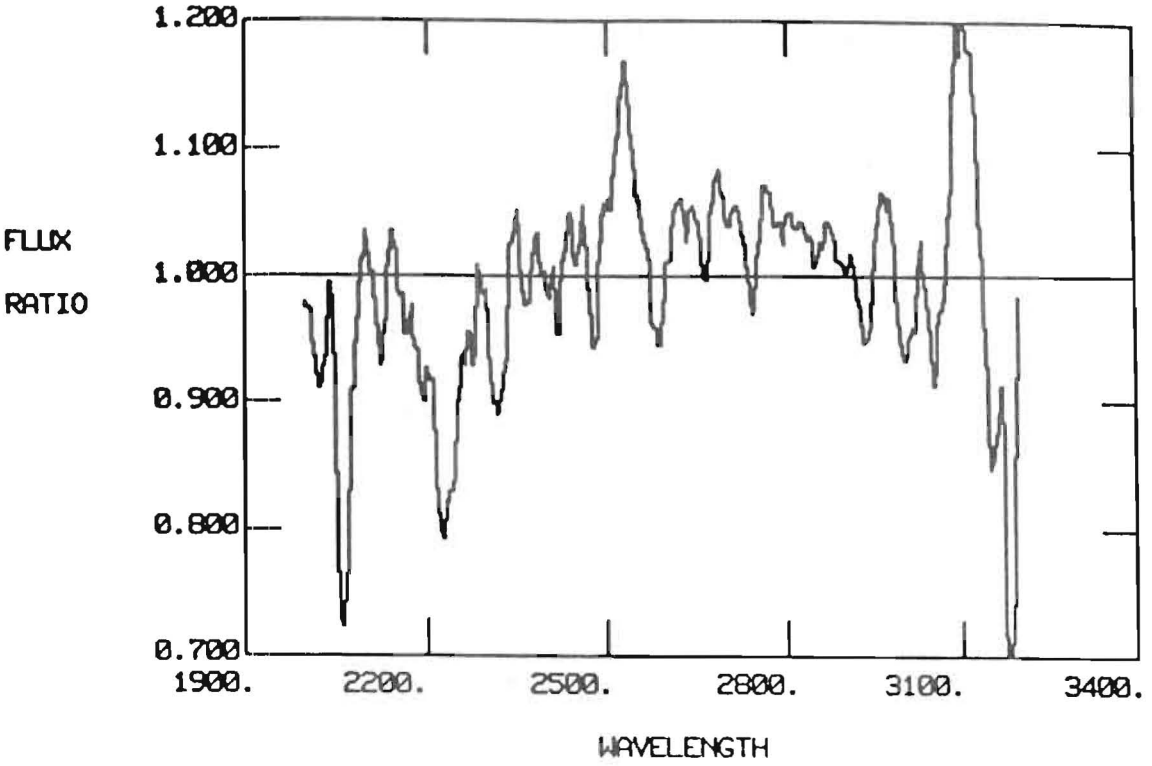

Figure 5a. (40% + high radiation bkg) / 100%
March, 1984
Current LWR ITF
LWR 17280 / 17250

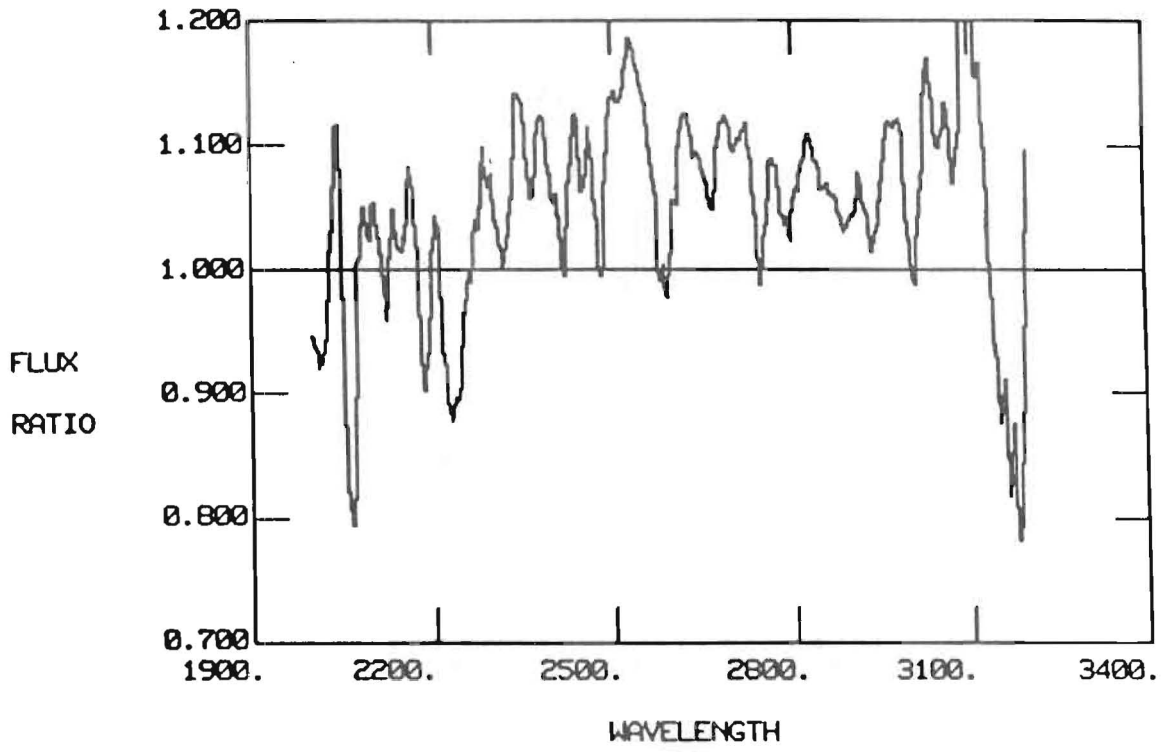

Figure 5b. (40% + radiation background) / 100%
March, 1984
New LWR ITF
LWR 17280 / LWR 17250

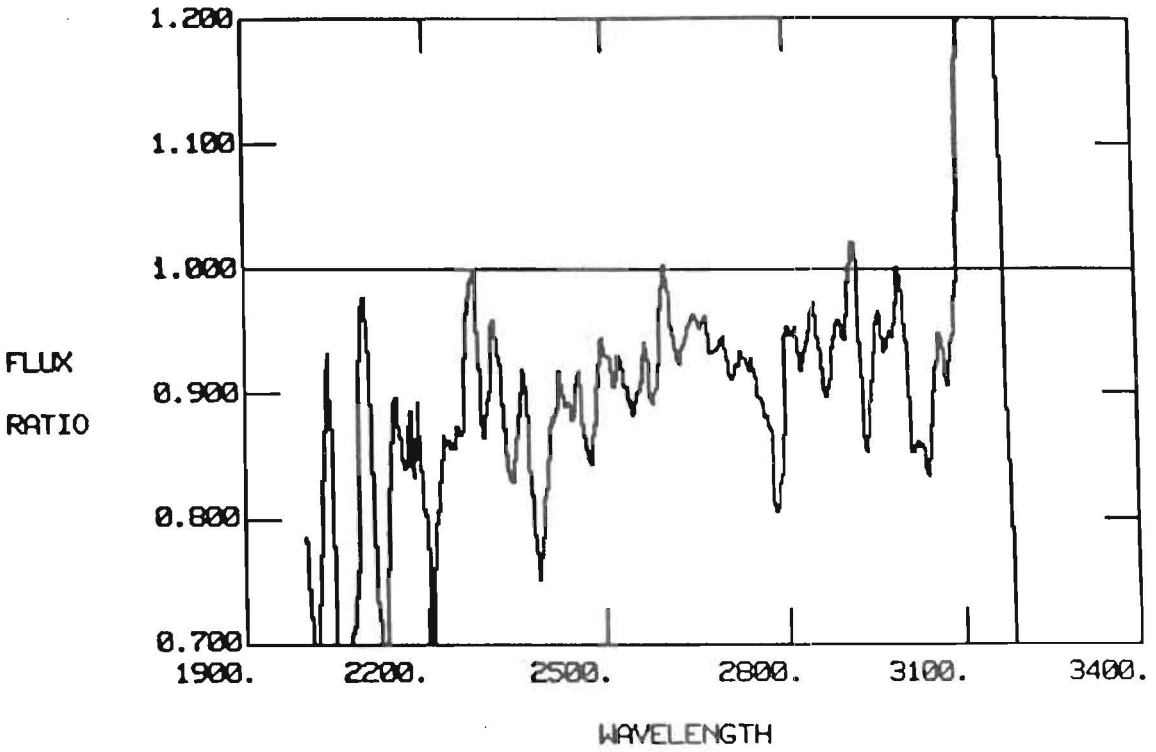

Figure 6a. (40% + T-flood background) / 100%
February, 1984
Current LWR ITF
LWR 17249 / LWR 17250

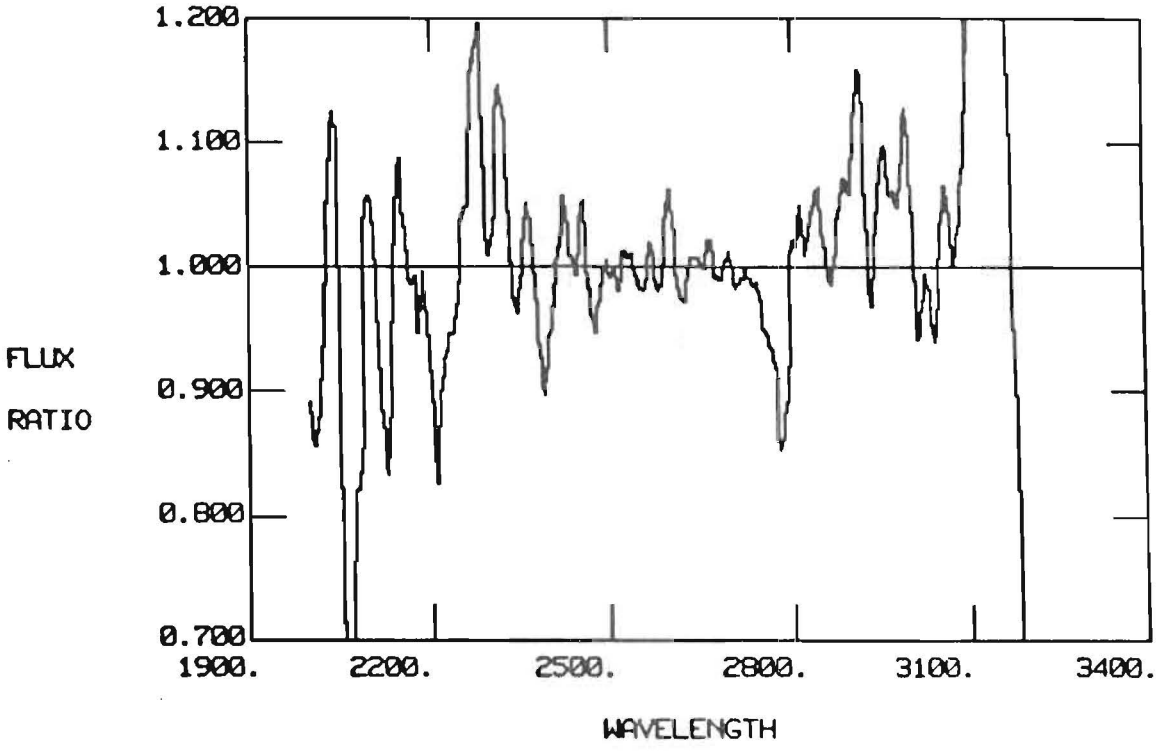

Figure 6b. (40% + T-flood background) / 100%
February, 1984
New LWR ITF
LWR 17249 / LWR 17250

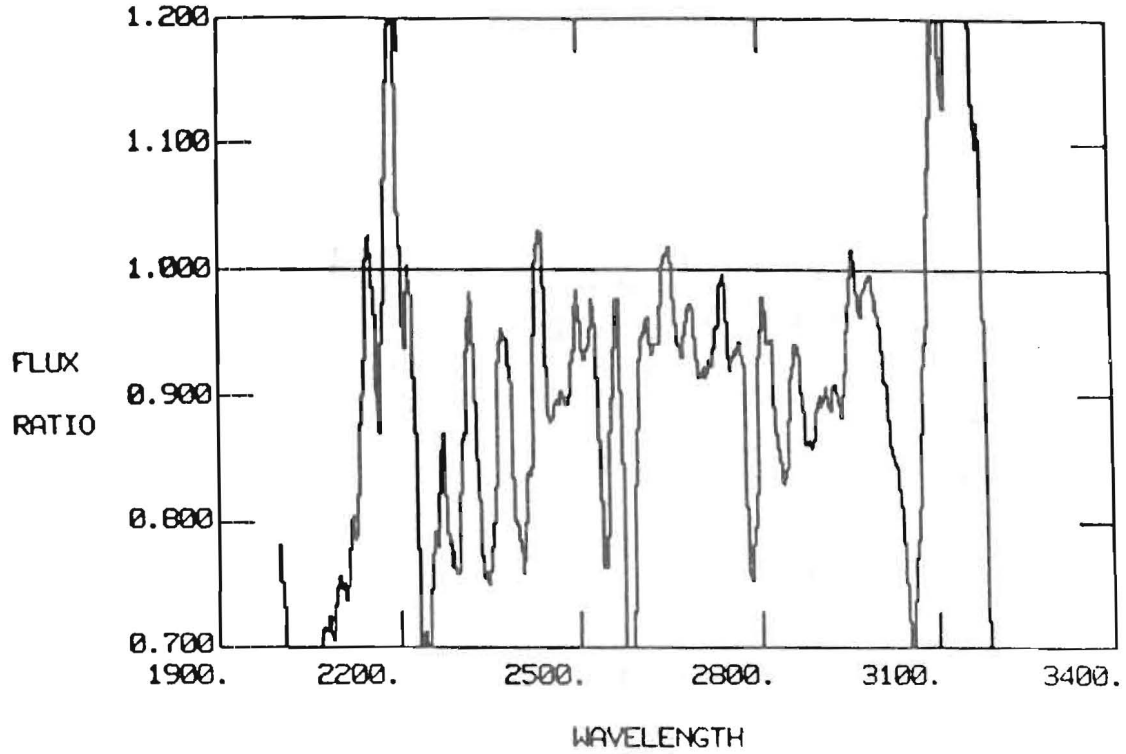

Figure 7a. (40% + T-flood background) / 100%
HD 6300 in November, 1983
Current LWR ITF
LWR 17162 / LWR 17163

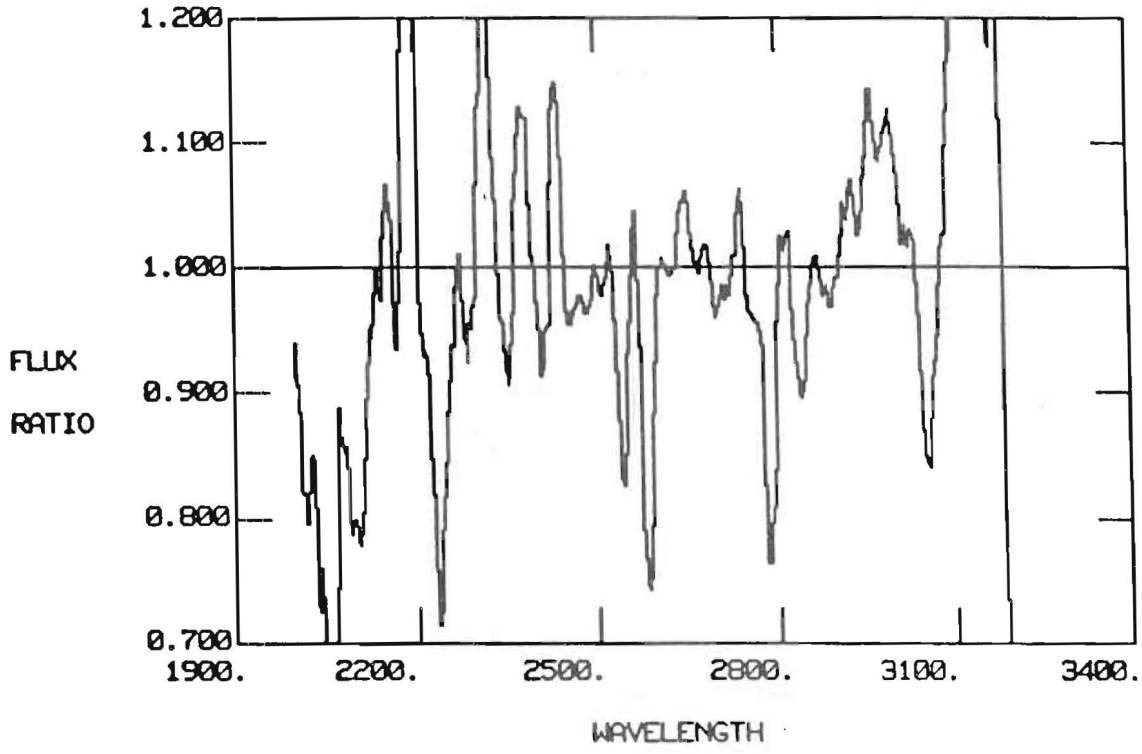

Figure 7b. (40% + T-flood background) / 100%
HD 6300 in November, 1983
New LWR ITF
LWR 17162 / LWR 17163

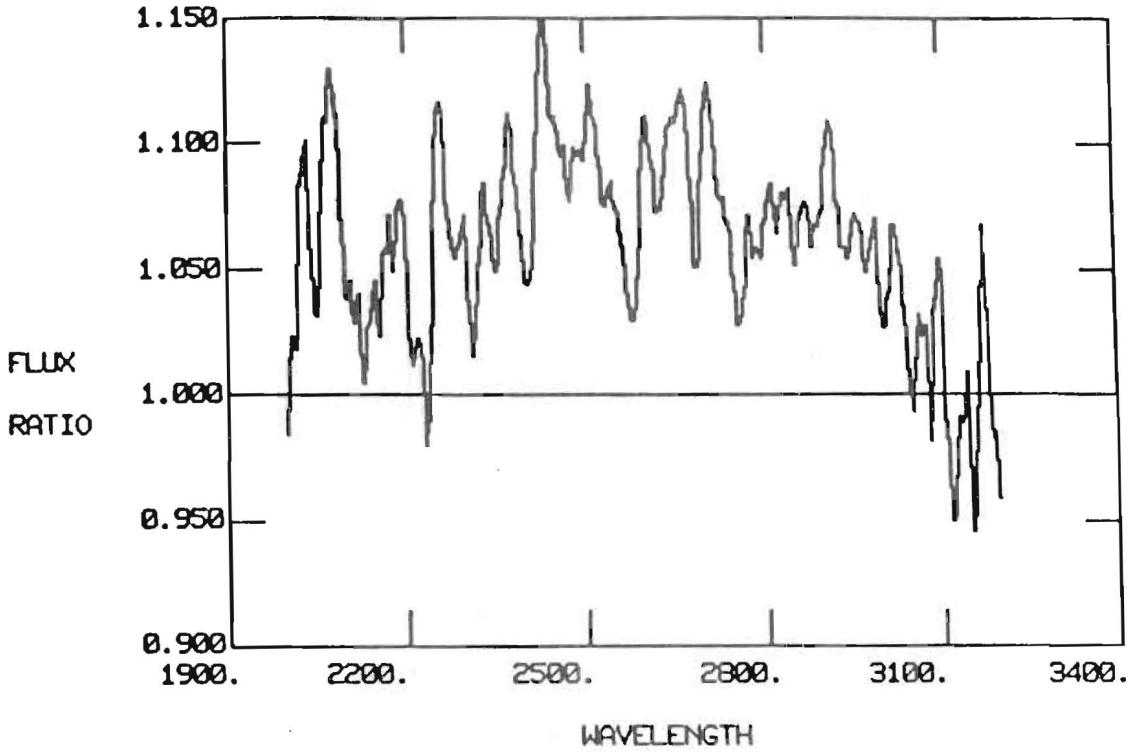

Figure 8a. 30% / 100% in November, 1978
Current LWR ITF
LWR 2825 / LWR 2822

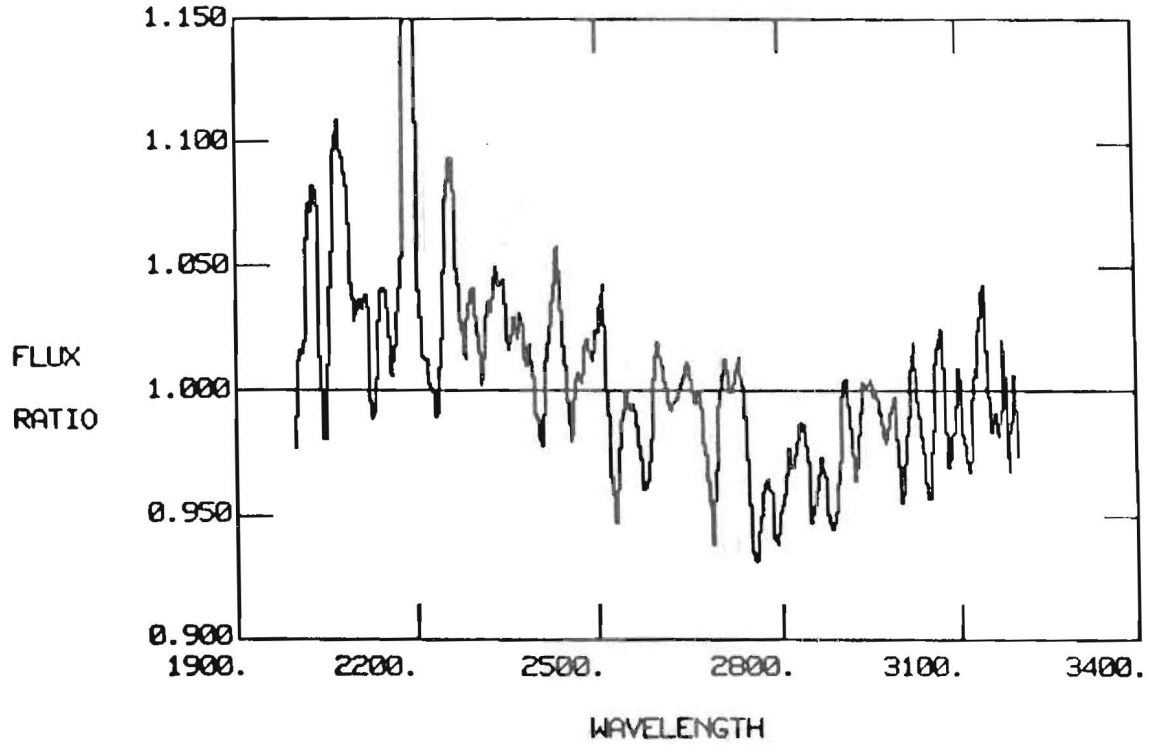

Figure 8b. 30% / 100% in November, 1978
New LWR ITF
LWR 2825 / LWR 2822

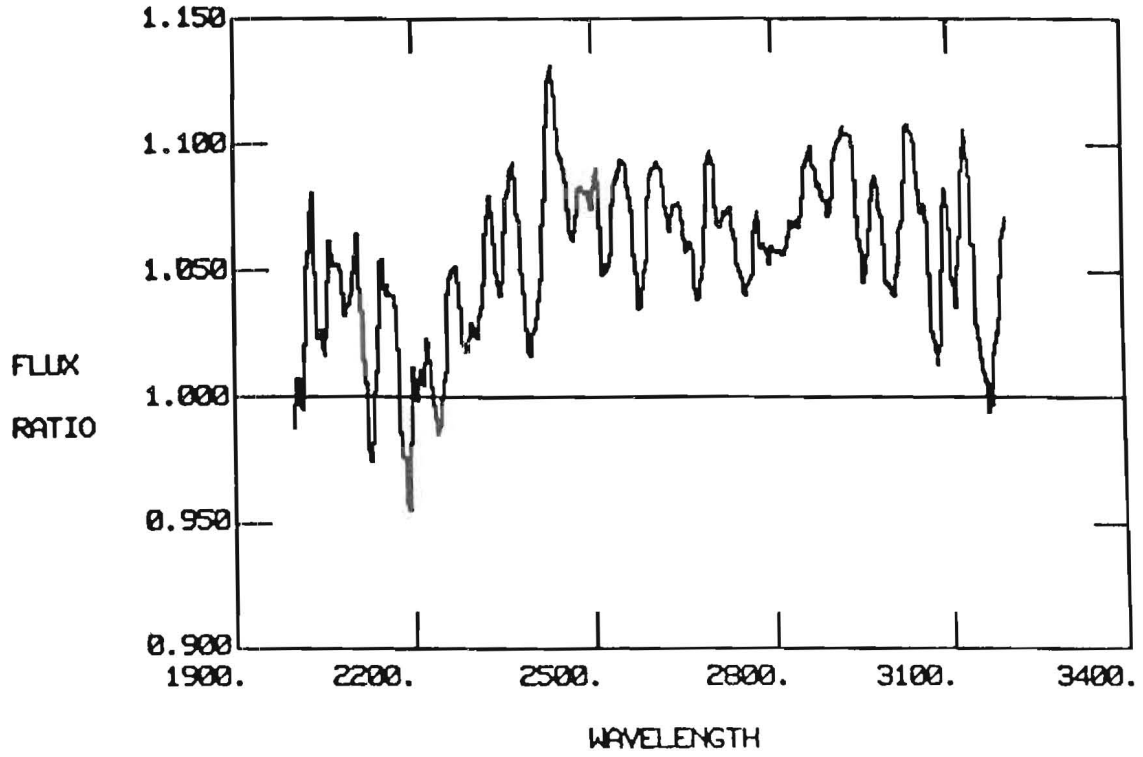

Figure 9a. 40% / 100% in November, 1978
Current LWR ITF
LWR 2824 / LWR 2822

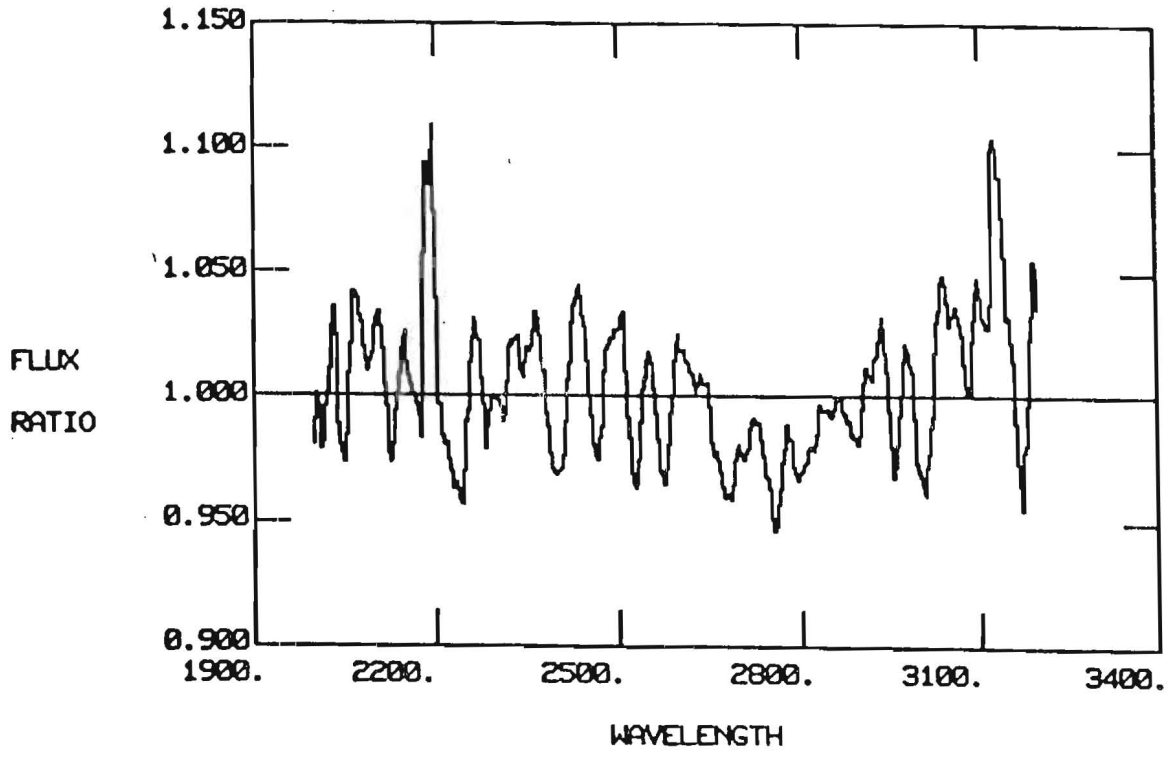

Figure 9b. 40% / 100% in November, 1978
New LWR ITF
LWR 2824 / LWR 2822

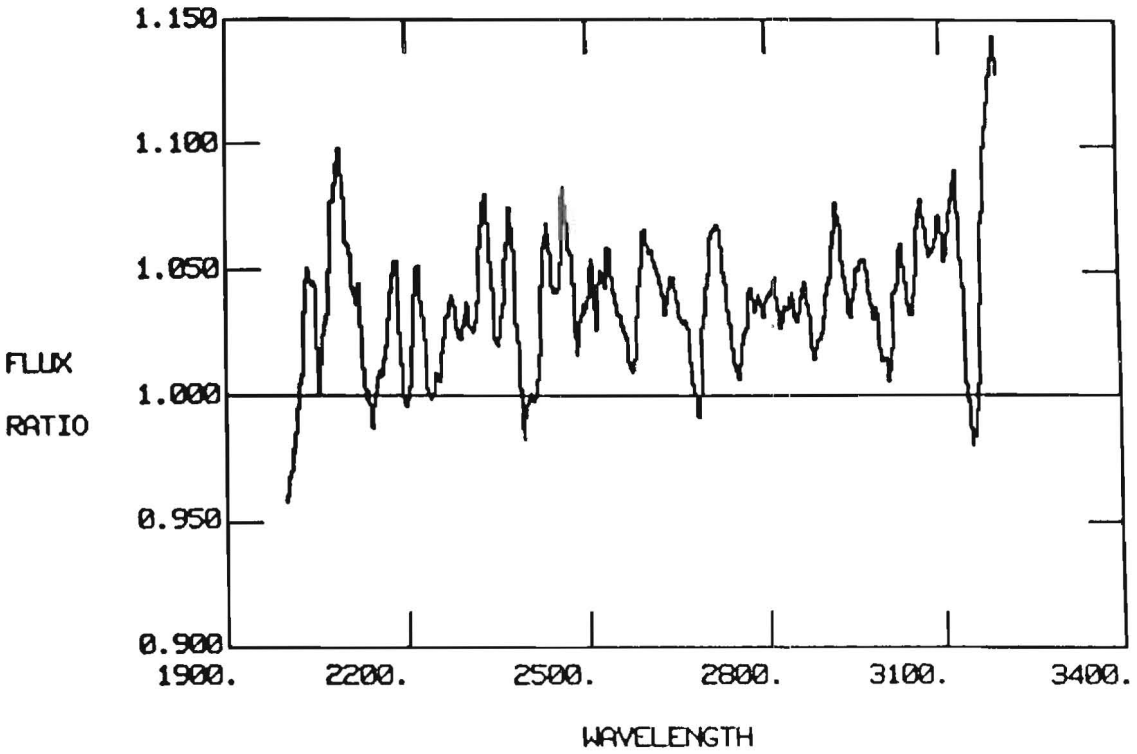

Figure 10a. 60% / 100% in November, 1978
Current LWR ITF
LWR 2826 / LWR 2822

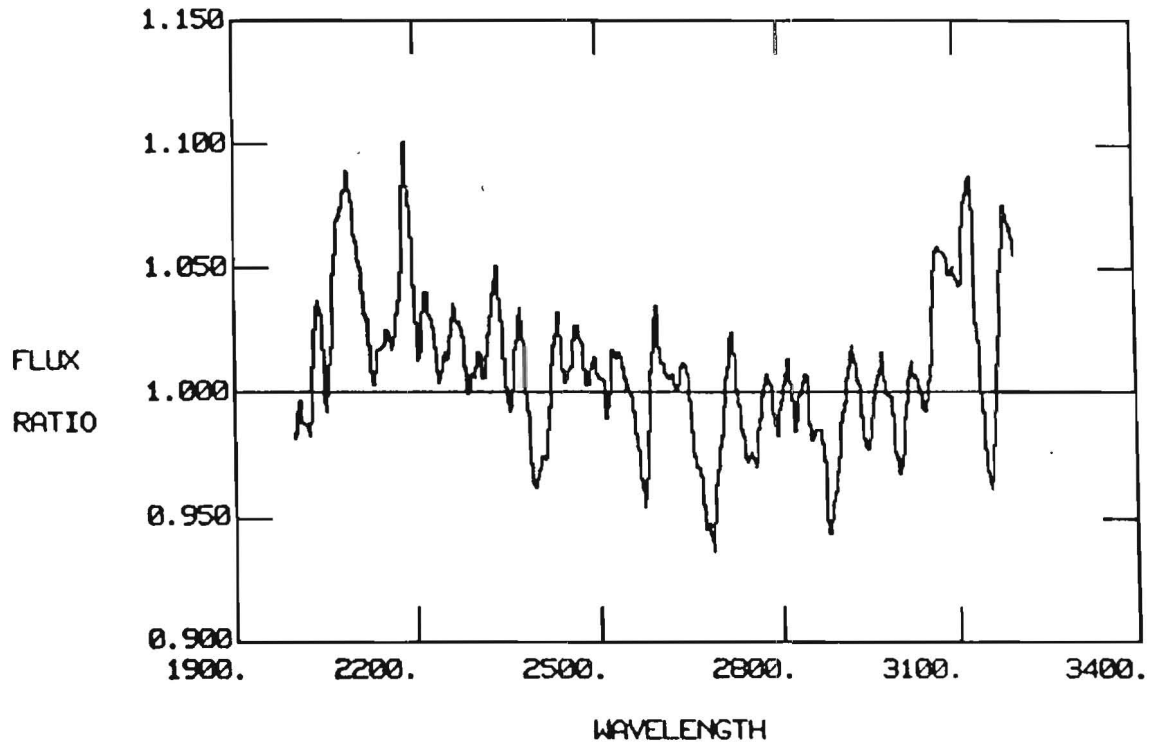

Figure 10b. 60% / 100% in November, 1978
New LWR ITF
LWR 2826 / LWR 2822

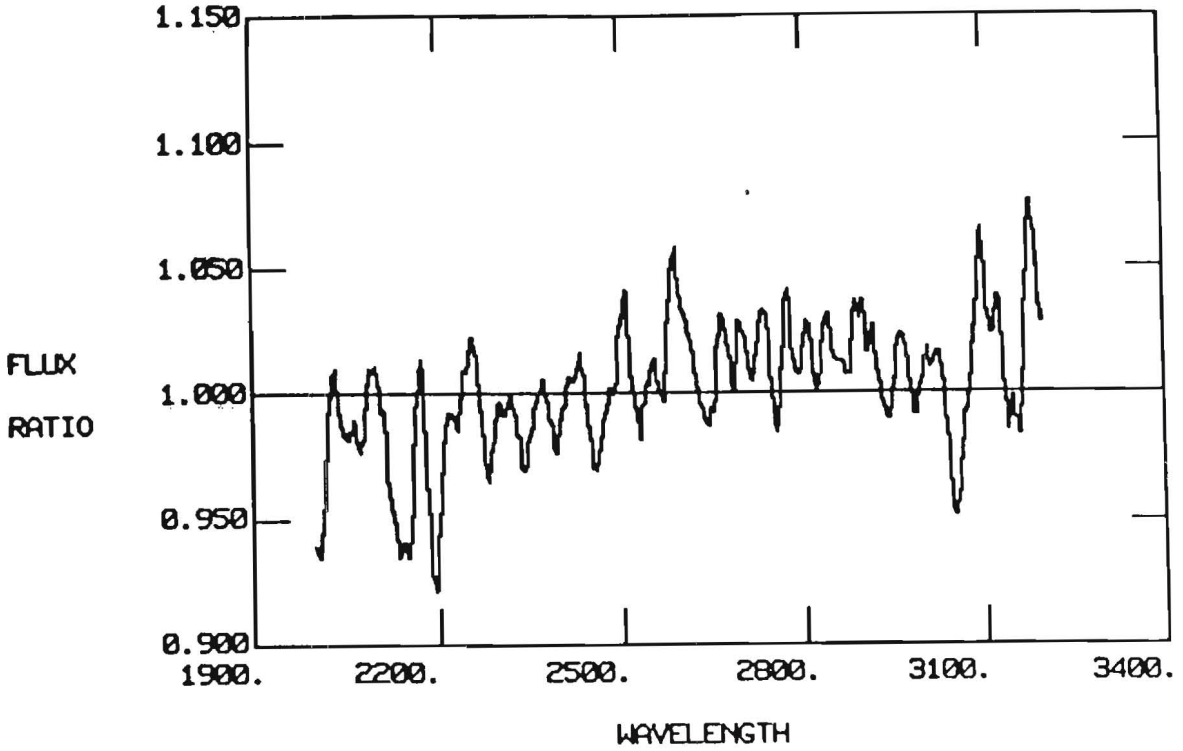

Figure 11a. 120% / 100% in November, 1978
Current LWR ITF
LWR 2830 / LWR 2822

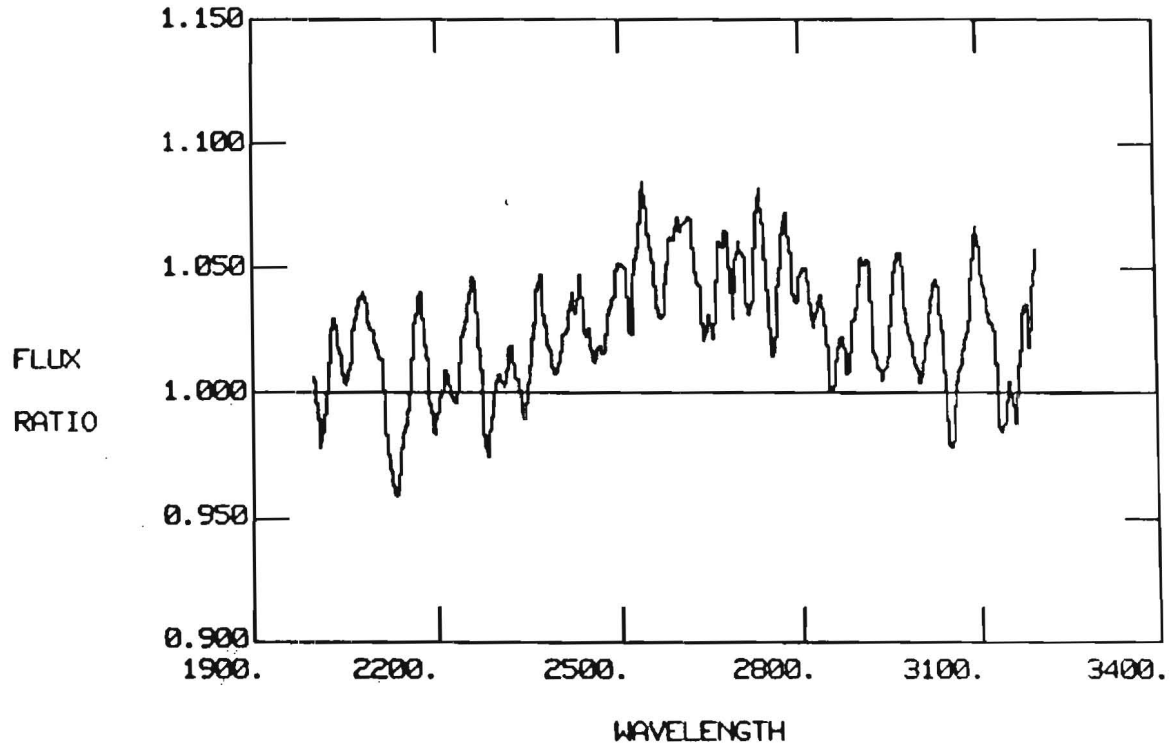

Figure 11b. 120% / 100% in November, 1978
New LWR ITF
LWR 2830 / LWR 2822

FES SENSITIVITY CHANGES

M. Barylak, R. Wasatonic, and C. Imhoff
20 July 1984

Summary

The behavior of the FES sensitivity has been studied using measurements of four standard stars and data for a number of other stars with published visual photoelectric photometry. A total decrease in FES sensitivity of about 9% has been seen from 1978 to mid-1984, with much of the decrease occurring since the end of 1981. An additional 3% decrease has been seen for the FES overlap tracking mode, apparently due to fatigue effects from repeated saturation, at the current reference point in the FES field.

Method of Analyses

The Fine Error Sensor (FES) is an image dissector used in the acquisition of targets with IUE. It is routinely utilized to provide rough estimates of the brightness of observed objects. Previous calibrations have taken into account the color sensitivity, track mode, and dead time corrections for converting FES counts to visual magnitudes (see Holm and Rice 1981 for discussion). However, there now appears to be a time-dependent term as well.

This paper represents a combination of the results of two investigations of the time dependence of the FES sensitivity performed at VILPSA and at NASA/GSFC. As will be seen, the results are similar although the techniques differ.

In the first study, 421 FES measurements obtained at VILSPA for the calibration stars BD+28 4211, BD+75 325, HD 60753, and HD 90521 were examined. Only the FES counts taken in the fast overlap (FO) tracking mode were considered. The overall mean FES counts for each star were determined, then normalized so that the measurements of the four stars could be intercompared.

Figures 1a through 1d depict the normalized FES counts for each of the four standard stars. In each plot, one can observe a decrease in the FES counts. The plots suggest that the FES sensitivity changes began near the end of 1981.

Figure 2 shows two linear fits, one for the period of May 1978 through the end of 1981, another one from the beginning of 1982 through the end of 1983. The first fit indicates that the sensitivity was fairly constant within this time interval. The second fit indicates a decrease in the sensitivity of about 3% per year. The residuals around the fits are typically ±0.05 mag.

A second study of the FES sensitivity uses the FES calibration data base collected at Goddard. These data consist of the FES counts for over 3000 stars observed with IUE which also have published photoelectric visual photometry. The FES data were collected from Guest Observer scripts and are therefore a rather inhomogeneous sample.

For each star, a visual magnitude is computed from the FES counts using the calibration given by Holm and Crabb (1979). The photoelectric V magnitude is obtained from the values published by Nicolet (1978). Then an "error" is derived, defined as $(V - m_v)$, where V is the photoelectric magnitude and m_v is the visual magnitude derived from the FES data.

Figure 3 depicts the FES magnitude error versus time for the FES calibration data. The same general behavior of the FES sensitivity is seen as in the previous plots. The data can be fit with two lines with a discontinuity near the end of 1981 or with a single line indicating a decrease in sensitivity of 0.017 mag/year.

Interpretation

The change in FES sensitivity could be due to a degradation in the image dissector tube performance, a change in the performance of the telescope optics, or a change in the procedures used to measure the FES counts.

Several changes in the technique of recording of the FES counts have occurred over the years. We have looked into several changes in the ground software and methods of recording the FES magnitudes. None are capable of explaining the changes seen here in the FES counts.

A change in the telescope optical performance could also cause an apparent change in the FES sensitivity. An upper limit to the degradation of the telescope reflectivity can be set by the minimum change in sensitivity seen in the IUE cameras (Sonneborn 1984), assuming that the degradation in the UV would be no less than that in the visual. Results for the LWP camera at 2750-2900 A indicate no camera sensitivity change (and thus no telescope reflectivity change) at the 1 percent per year level, based on spectra of calibration stars.

Therefore we conclude that a real decrease in the sensitivity of the FES has occurred. This change may be due to an overall decrease in the detector performance, possibly due to particle irradiation, or due to fatigue effects at the central reference point. A target is normally centered at the reference point before being placed in the aperture for an exposure. Repeated saturation by bright objects could potentially affect the FES sensitivity at that position. During 1978, one location(FES coordinates x=300, y=144) was used as the reference point. Because this location proved to be a problem due to its proximity to the low reflectivity patch on the aperture plate, a new

reference point (at x=-16, y=-208) was chosen. This reference point has been used for the determination of all FES counts after July 31, 1979, at Goddard and October 27, 1979, at VILSPA. We have examined FES counts obtained by Goddard for standard stars at both the old reference point (from 1978 through mid-1979) and at the new reference point (from mid-1979 through the end of 1980). Sensitivity changes over this period of time appear to be minimal, as discussed above, so the FES counts at the two locations should be roughly equal. Table 1 lists the mean FES counts for each star at the two reference points. It may be seen that the FES counts obtained at either reference point are essentially identical.

For comparison, we have obtained FES counts for the standard stars at both the new and old reference points in the FES during the summer of 1984. Table 1 gives the mean FES counts for the stars at both reference points. Thus far we have fewer measurements for this set of data than for the earlier data. However, it is clear that (1) most of the sensitivity change, about a 9% decrease, has occurred at both reference points but (2) an additional 3% degradation has occurred at the current reference point, apparently due to fatigue effects. It is interesting to note that the degradation is seen only in the overlap track mode of the FES, in which the FES aperture is tracked in a cross pattern on the star. In the underlap mode used for stars brighter than fifth magnitude, the degradation in sensitivity is about 9%, implying that these measurements are affected only by the overall loss of sensitivity and not fatigue effects. This is plausible, since the track pattern in the underlap mode samples the edges of a bright star's scattered light, not the location exactly at the reference point. This region of the FES would rarely be saturated with light. Thus the degradation in sensitivity due to fatigue effects is very local, confined to roughly a 6" radius around the current reference point.

Using the FES as a Photometer

Many observers have found the FES counts useful for checking the brightness of their target or to monitor variability (see e.g. Rucinski et al. 1980, Guinan and Sion 1981). However one must keep in mind that, even without an airmass correction, the FES must be treated as a very broad band photometer. Relatively precise FES magnitudes may be obtained for variable stars, for instance, by employing the techniques of differential photometry. The observer may choose a nearby comparison star of similar brightness and color to provide a "standard candle". The sky near the variable and comparison stars should be checked for background contamination from faint stars or scattered earth or moon light. Longer than normal integrations of the FES on the target may be requested of the Observatory staff in order to improve the precision of the measurement. (An indication of the typical error of measurement for the standard FES integration may be estimated from the means and standard deviations given in Table 1.) Observations of the target and comparison stars should be close together in time, to minimize the effects of gain drift, temperature changes, and so forth.

The wavelength sensitivity of the FES is that of its S-20 photocathode (see Figure 4; also Holm and Crabb 1979), covering a broad bandpass from 4000 to 7000 A. Thus the FES counts are dependent on the color of the object. The Holm and Crabb (1979) FES calibration includes a linear color term with (B - V), but this is not adequate for stars redder than about B - V = 1.3. Similarly the effective wavelength of the FES depends upon the energy distribution of the object it is detecting. For a blue star with Rayleigh-Jeans tail in the visual, the effective wavelength is 4880 A. For a uniform energy distribution, it is 5600 A; for a solar-type star, 5480 A. One may see that the effective wavelength can change by almost 1000 A from the bluest to the reddest stars. This effect is the reason for the color term in the FES calibration. Problems with the color sensitivity of the FES may be avoided by choosing a comparison star of similar color.

Recently we have measured the small but significant sensitivity of the FES to radiation. Integrations were performed with the FES tracking at the dark edge of the detector field when the radiation monitor (FPM) gave various readings. The data may be fit with the following relation:

$$\text{FES counts (F/O)} = 0.0762 * 10^{0.728\ \text{FPM}}$$

This shows that radiation can contribute about 12 FES counts (fast track, overlap) when the FPM = 3.0 volts.

One may note that the FES is known to phosphoresce after exposure to bright light from objects such as the Earth or a bright star. The FES sensitivity to detector temperature is currently indeterminate.

Conclusions

We conclude that a real decrease in the sensitivity of the FES has occurred. Much of the decrease appears to have occurred since the end of 1981. Most of the sensitivity loss has occurred generally across the FES detector surface, but an additional loss has occurred at the current reference point due to fatigue effects. At the current rate of decrease, the FES should completely lose its sensitivity around September 2012.

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Holm, A. V., and Rice, G. 1981, NASA IUE Newsletter, No. 15, p. 74.*
Nicolet, B. 1978, Astron. & Ap. Suppl., 34, 1.
Rucinski, S. C., Gondhalekhar, P., Pringle, J. E., and Whelan, J. A. J. 1980, IAU Info. Bull. Var. Stars, No. 1844.
Sonneborn, G. 1984, NASA IUE Newsletter, No. 24, p. 67.

* Reprinted in ESA IUE Newsletter No. 11, p. 15.

Table 1
FES Counts for Standard Stars at Old and New Reference Points

1978-1980 FES Data

Star	Mode	Old RP (300,144) Mean	St. Dev.	N	New RP (-16,-208) Mean	St. Dev.	N	Ratio
Eta Uma	FU	5054.9	120.6	10	5020.5	162.4	25	1.007
Zeta Cas	FU	1029.0	4.6	3	1051.6	16.0	7	0.979
HD 60753	FO	7540.0	222.6	23	7693.5	120.0	15	0.980
HD 93521	FO	6034.1	124.7	26	5980.5	209.4	23	1.009
BD+75 325	FO	667.2	20.7	22	661.5	18.4	45	1.009
BD+28 4211	FO	272.6	11.6	28	267.8	10.4	38	1.018
BD+33 2642	FO	189.3	3.1	8	191.4	10.9	15	0.989

Mean (all)	0.999
St. Dev.	0.016

1984 FES Data

Star	Mode	Old RP (300,144) Mean	St. Dev.	N	New RP (-16,-208) Mean	St. Dev.	N	Ratio
Eta UMa	FU	4400.4	63.3	5	4451.4	70.2	7	0.989
Tau Sco	FU	2116	-	1	2070.3	20.8	3	1.002:
Zeta Cas	FU	925	-	1	914	-	1	1.012:
HD 60753	FO	6962.3	71.2	7	6708.7	147.4	9	1.038
HD 93521	FO	5348.3	242.1	4	5227.3	263.2	4	1.023
BD+28 4211	FO	242.3	2.1	7	234.2	5.6	9	1.035
BD+33 2642	FO	175.3	5.5	3	170.3	8.1	6	1.029

Mean (FU only)	1.001
St. Dev.	0.012
Mean (FO only)	1.031
ST. Dev.	0.006

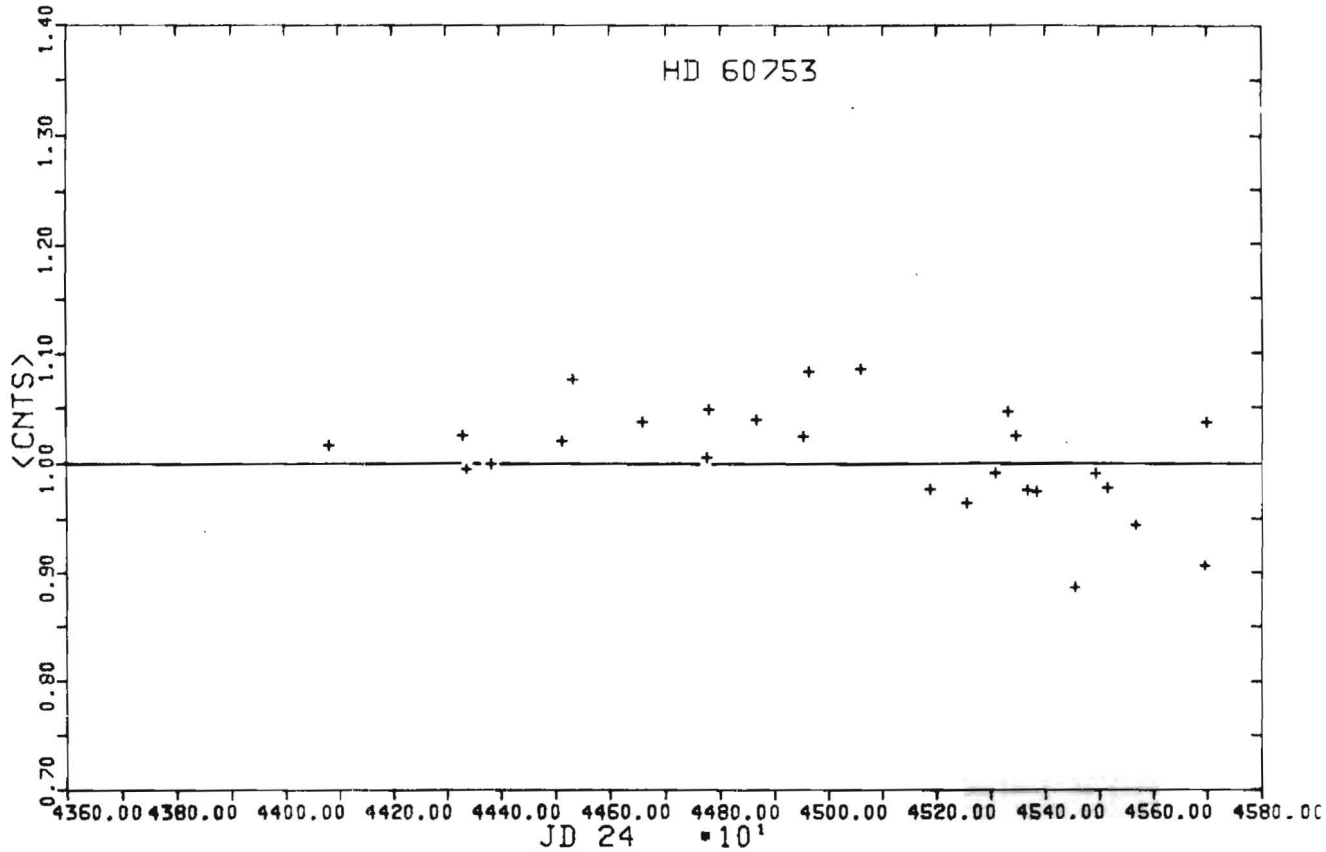

Fig. 1a. The FES counts of HD 60753 normalized to the mean (=7323).

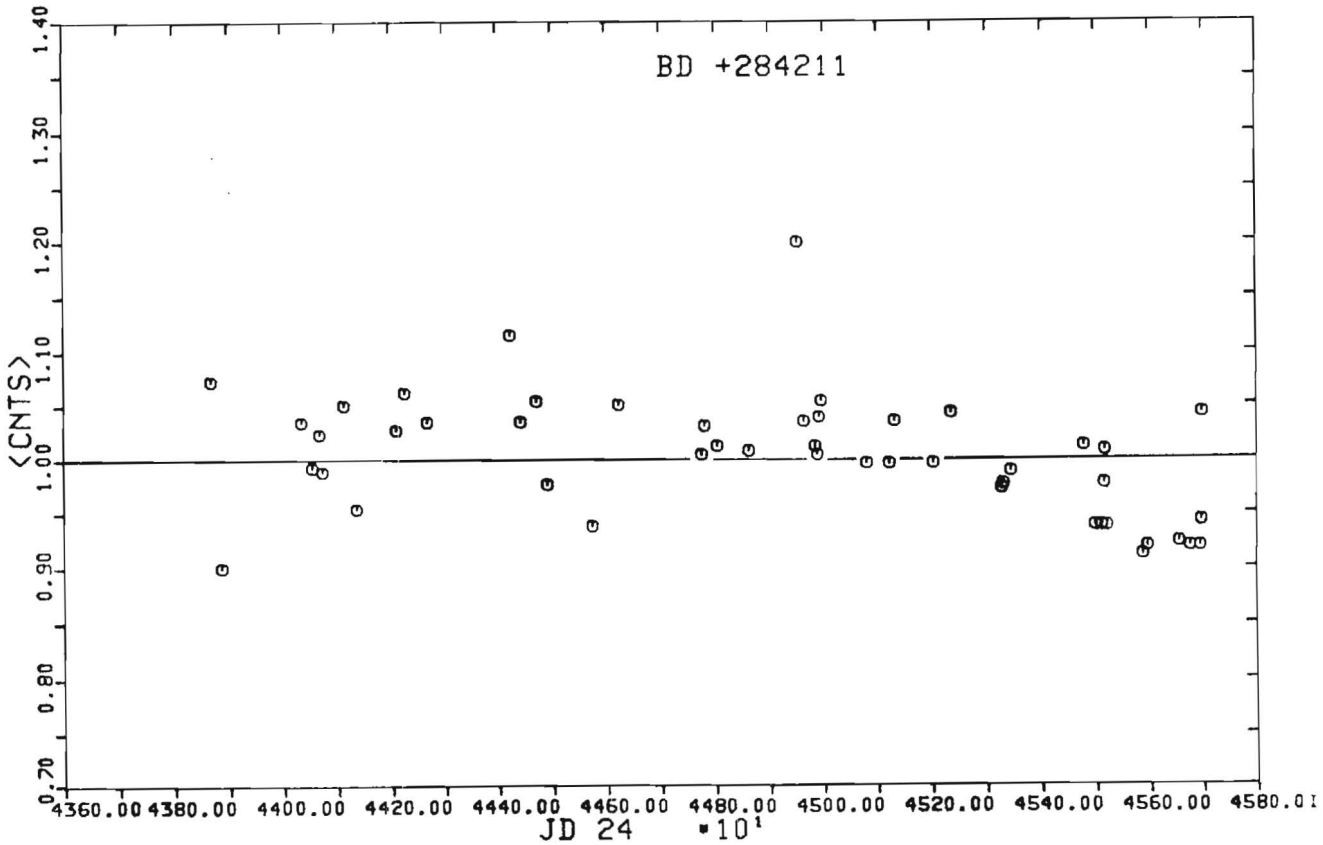

Fig. 1b. The FES counts of BD+28°4211 normalized to the mean (=261).

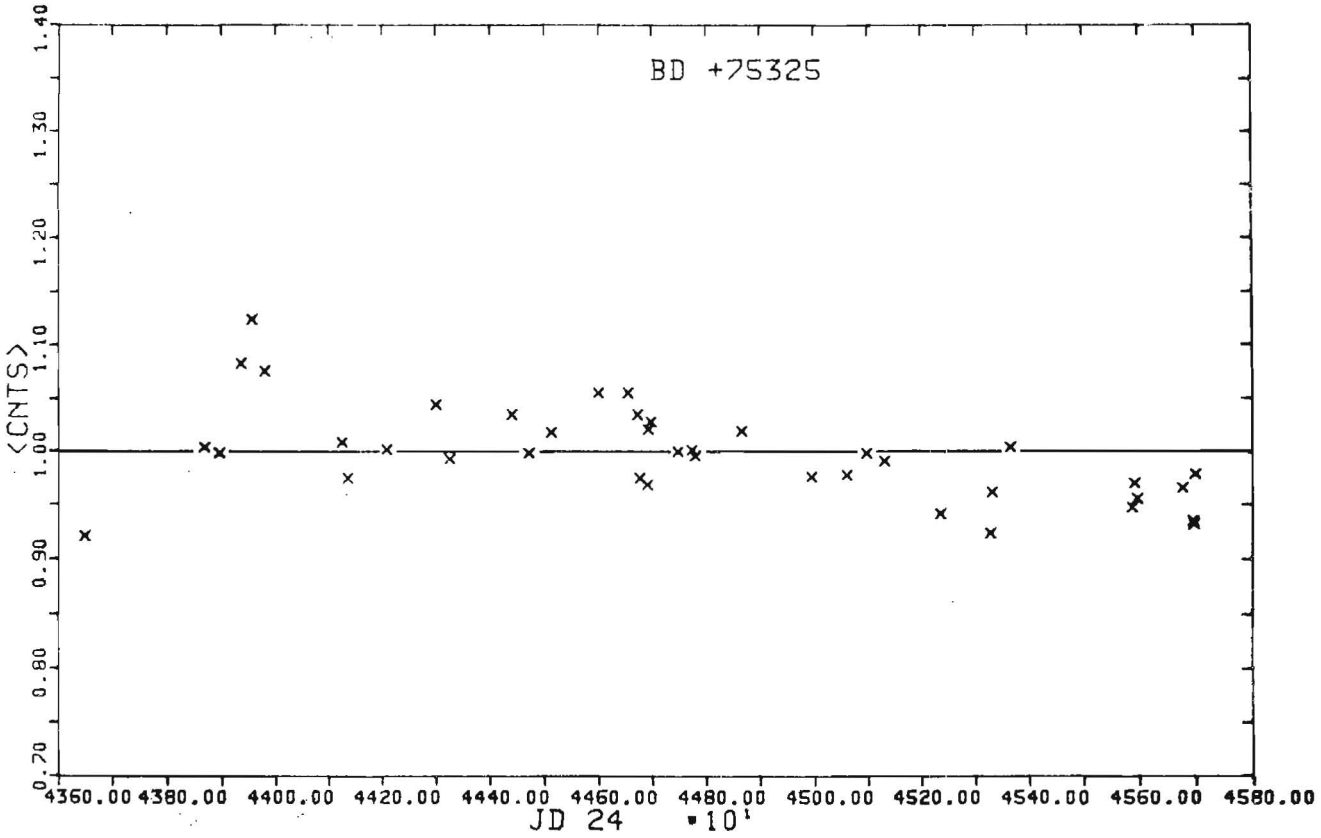

Fig. 1c. The FES counts of BD+75°325 normalized to the mean (=651).

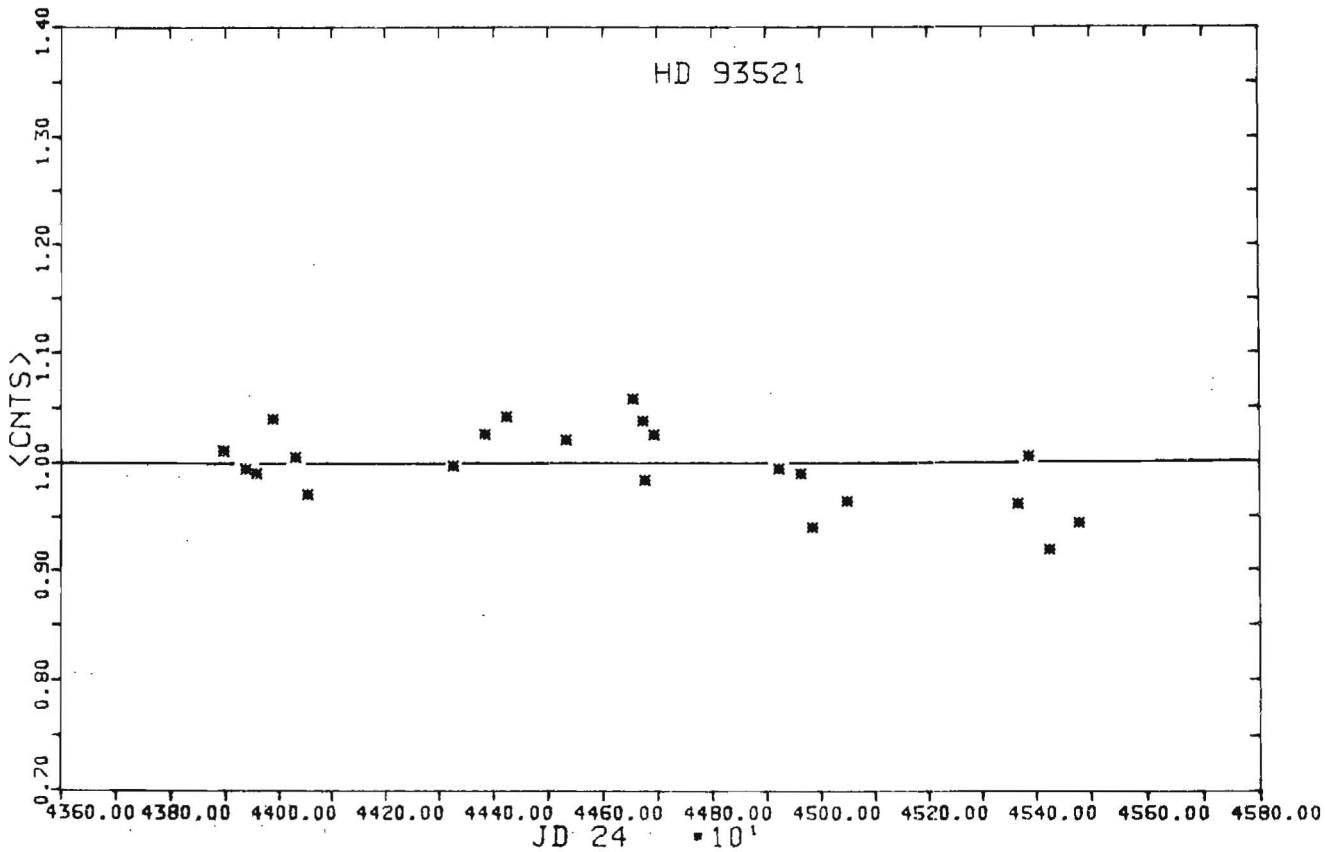

Fig. 1d. The FES counts of HD 93521 normalized to the mean (=6059).

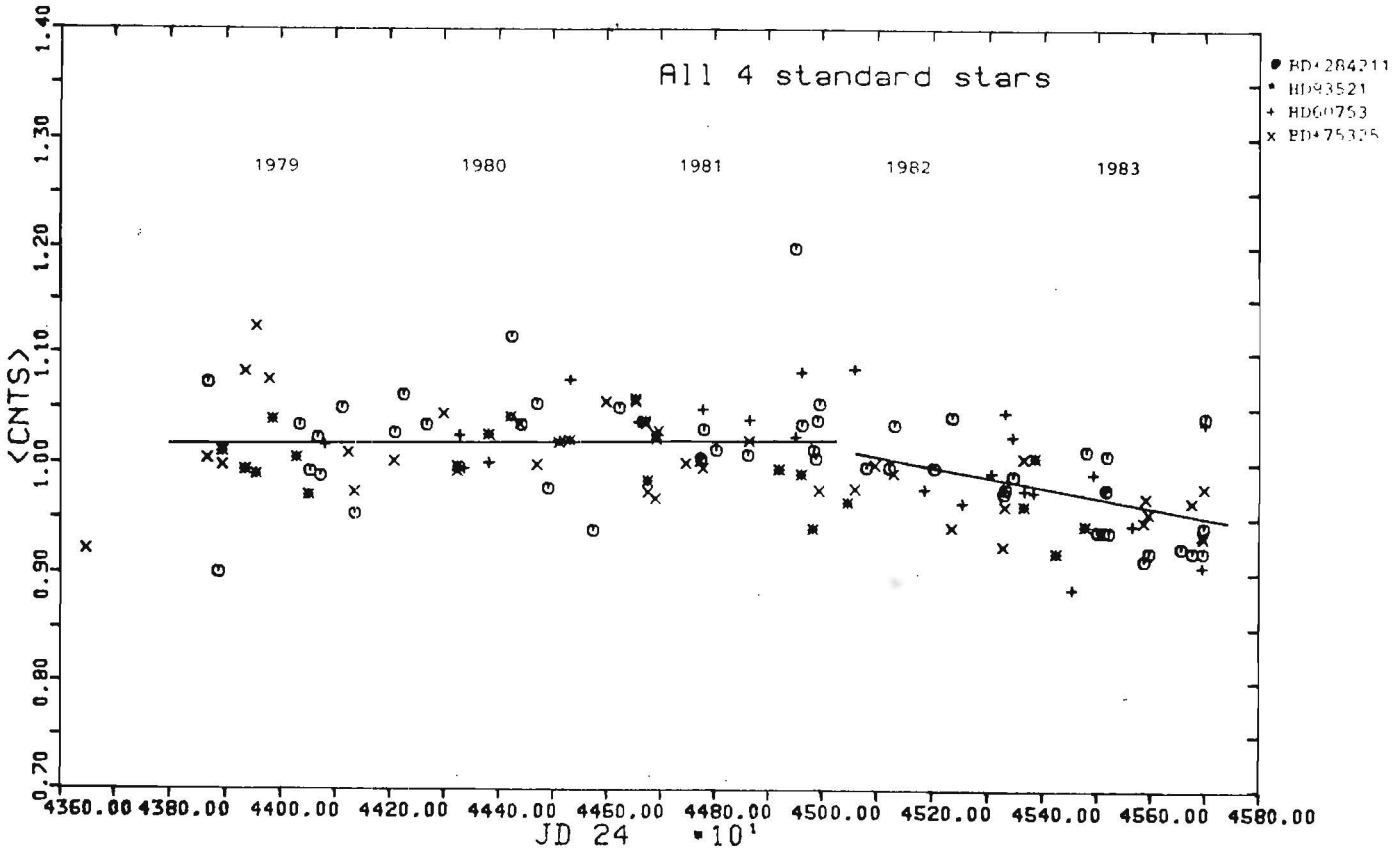

Fig. 2. FES count of the four standard stars normalized to their mean together with 2 linear fits.

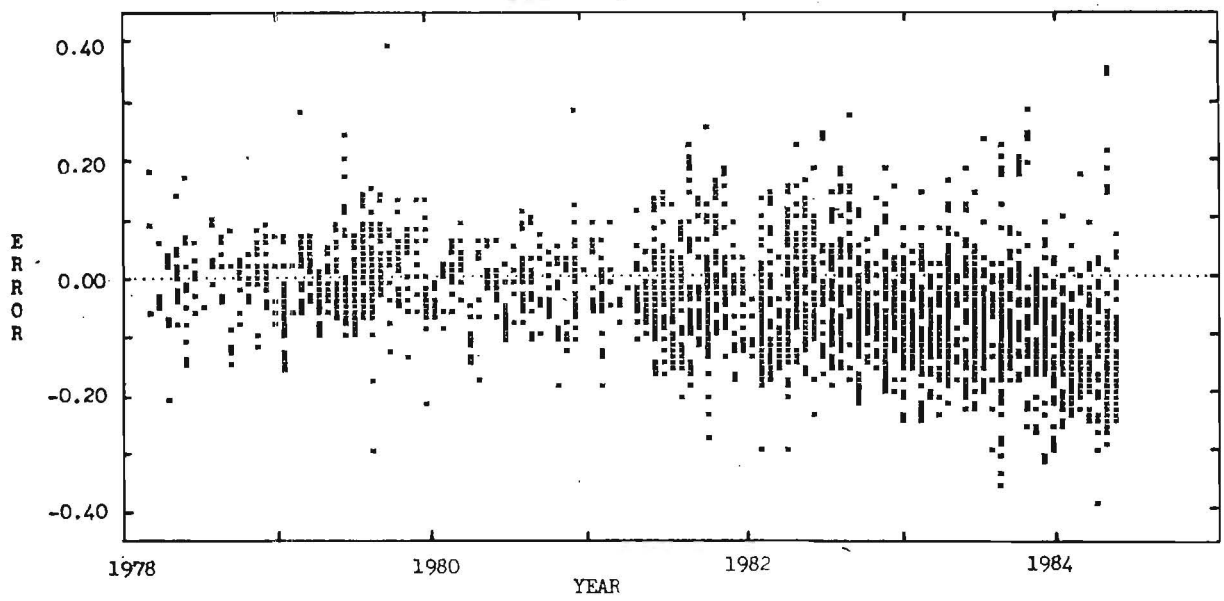

Figure 3. FES magnitude error, defined as photoelectric V magnitude minus visual magnitude computed from Holm and Crabb (1979), versus time for various stars observed at Goddard. The line of small dots represents an error of zero.

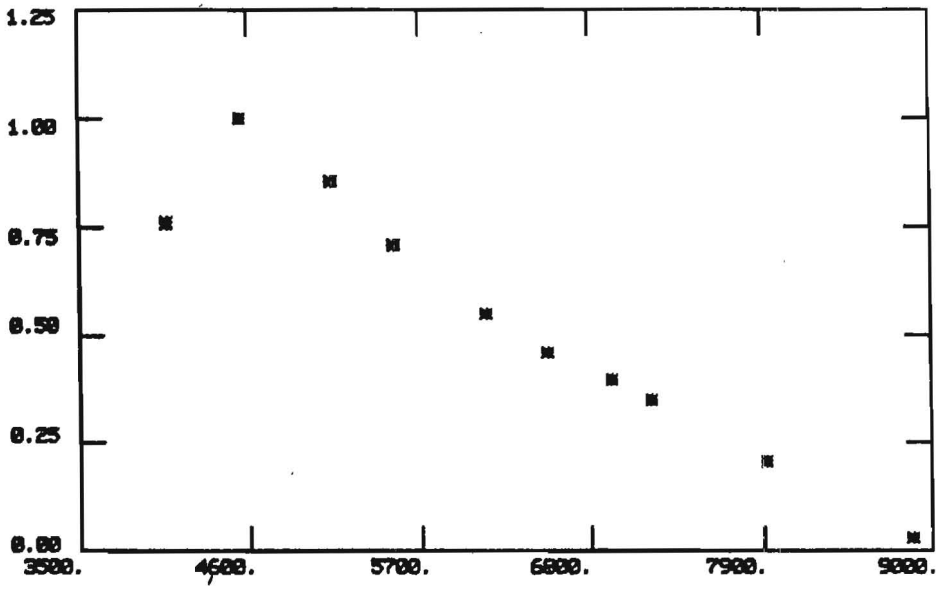

Figure 4. Relative sensitivity of the FES as a function of wavelength. Values from Holm and Crabb (1979) are plotted.

THE LWR CAMERA: A STATUS REPORT

In April, 1983, a small patch of enhanced background was discovered near the lower edge of the LWR image area. We now know that this patch is due to a flare discharge associated with the ultraviolet-to-visible converter (UVC) at the front of the camera. As many of you will know the flare intensity increased rapidly with time and began to impact seriously the long wavelength orders of high dispersion spectra. For this reason the decision was made at the October, 1983 3-Agency meeting to switch to the LWP as prime operational long-wave camera. It was recognised, however, that some observers might still wish to use the LWR (for example, for reasons of continuity in a monitoring programme, or study of 2200 A absorption in which region the signal/noise of the LWR is somewhat better that the LWP). Hence the project decided to continue to allow use of the LWR in special cases but on a restricted and controlled basis.

Now, nearly 18 months after its first appearance, the flare peak intensity continues to increase unabated. At the time of writing it exceeds a build-up rate of 1 DN/minute of exposure time and saturates on exposures of only a few hours duration. The area of the image impacted by the flare can be as much as 25% of the total. Both SERC and NASA are studying the development of the flare and the possibility of operating the LWR at a reduced UVC voltage setting, at which the flare does not appear. It is expected that the LWR could still serve as a fully operational camera, operated at the reduced UVC voltage, in the event of failure of the LWP. The project therefore wishes to protect the LWR from any damage the flare might be causing.

Recently, at the May, 1984 3-Agency meeting, it was decided to impose further restrictions on LWR usage: a limit of 200 hours/year has been set on total (VILSPA + GSFC) LWR exposure time and proposals by guest observers to use the camera will be entertained only if they can present a very convincing case. Guest observers who believe that use of the LWR would greatly enhance the scientific return from their observations should contact the Observatory Controller at VILSPA well in advance of ()2 weeks before) the date of the (first) shift in question (also, proposals

for 8th round observing time should contain details of any intended LWR usage). Each case will be reviewed on its own merits. Meanwhile, the projects'aim is to re-calibrate the LWR at the new, 10% lower, UVC voltage and then to adopt this as the standard operating voltage for the camera. The LWR will then continue to serve as a viable back-up camera for the long-wave spectrograph.

Alan Harris
VILSPA, 26 July 1984

VILSPA PUBLICATIONS LIST

IN MAIN JOURNALS

Published 1 Jan - 30 Apr 1983

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. 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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The typical interstellar extinction in the Small Magellanic Cloud
Astron. Astrophys., 132, 389-392, 1984

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A comparison between various UV photometric systems for late-type stars
Astron. Astrophys., 133, 363-368, 1984

Krautter, J., Reipurth, B., Eichendorf, W.
Spectrophotometry of southern Herbig-Haro and related objects
Astron. Astrophys., 133, 169-174, 1984

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BIBLIOGRAPHICAL INDEX OF OBJECTS OBSERVED BY IUE 1978-82 *

Jaylee M. Mead, Yoji Kondo and Albert Boggess

Laboratory for Astronomy and Solar Physics
Goddard Space Flight Center

ABSTRACT: We have made a literature search covering the years 1978-82 and identified 525 papers describing studies using data obtained with the International Ultraviolet Explorer (IUE) satellite. From a review of these papers, we have recorded the names of the astronomical objects discussed. These objects have been compiled into a list of 3767 entries, along with each reference, and sorted by object name or catalog number. This index enables a user to tell immediately where to find published papers describing IUE observations of the objects of interest.

* * * * *

Observations since 1978 with the International Ultraviolet Explorer (IUE) satellite have yielded over 37,000 spectra of many diverse astronomical objects. Most of this data is now in the public domain and can be obtained for further analysis upon request to the National Space Science Data Center or through the IUE Regional Data Analysis Facilities at the Goddard Space Flight Center and at the University of Colorado. First-time users of this archival data may not be familiar with the large body of literature which has been produced using observations with the IUE. The purpose of this project is to provide the prospective user of IUE data with a bibliographic index to the journal sources which describe observations made with or related to IUE.

We have searched six journals (Astrophys. J., Astron. & Astrophys., Mon. Not. Roy. Astron. Soc., Nature, Publ. Astron. Soc. Pacific, and Astron. J.) covering 1978 through 1982 to identify papers describing observations made using the IUE satellite. We have checked specific issues of several other journals for individual IUE citations. Table 1 gives a list of the journals included in the current coverage, along with the abbreviation used in the bibliographic citation of the Object List (Table 3).

Table 2 gives a breakdown of the number of IUE papers by journal covered in this survey. The 525 papers have been reviewed in order to record the names of the objects discussed by these authors. This data has been sorted by object name or catalog number for convenient use, and the bibliographical information retained for each entry.

* Reprinted from NASA IUE Newsletter No. 24, page 177

Table 1 - JOURNALS SEARCHED and ABBREVIATIONS Used in Object List

A&A	=	Astronomy and Astrophysics
A&AS	=	Astronomy and Astrophysics Supplement
AJ	=	Astronomical Journal
ApJ	=	Astrophysical Journal
ApJS	=	Astrophysical Journal Supplement
GRL	=	Geophysical Research Letters
Icar	=	Icarus
JGR	=	Journal of Geophysical Research
M&P	=	Moon and Planets
MN	=	Monthly Notices of the Royal Astronomical Society
Nat	=	Nature
PASP	=	Publications of the Astronomical Society of the Pacific
RGSP	=	Reviews of Geophysics and Space Physics

Table 2 - NUMBER OF IUE PAPERS BY JOURNAL AND YEAR

	'78	'79	'80	'81	'82	Totals
Astrophys. Journ.	2	18	59	68	86	233
Astron. & Astrophys.	2	18	25	50	55	150
Mon. Not. Roy. Astron. Soc.	-	5	22	26	19	72
Nature	10	7	8	5	7	37
Publ. Astron. Soc. Pacific	-	3	3	9	7	22
Miscel. Jour. (<3 articles/year)	-	-	-	5	6	11
Totals	14	51	117	163	180	525

Although some journals do provide periodic bibliographic indices by object name, usually the only names recorded are those which are explicitly given in the title, or sometimes in the abstract or key words, of the paper. Frequently an author reports data for a group of stars or galaxies in tabular form; objects in such tables are included in this coverage.

One of the earliest developments in the area of bibliographic astronomical data archival was led by Cayrel et al. (1974). His group compiled the Bibliographical Star Index (BSI), a machine-readable data file of stellar references covering twelve periodicals from 1950-72 and more than 30 since then. Updated versions of the BSI have been released periodically by the Centre de Donnees Stellaires (CDS) at Strasbourg; the most recent edition covers through 1980. The major difference between the BSI and the IUE Bibliographical Index is that the latter is restricted to IUE observations, and its coverage ranges from the solar system to extragalactic objects.

The following criteria were used in deciding which objects should be included in the final index: did the author provide new data or comments about the object, and should this paper be consulted if one were using IUE to study this object? In cases where an author states only that a certain object was observed by another worker, the object's name is not recorded unless the author used the object for comparison or included new data or comments about the object. In cases where multiple identifications of an object were given, all of the names were entered in our listing. The index of 3767 entries is ordered alphanumerically by astronomical object name or catalog number.

Table 3 is the Object Index. The double-columned listing gives the object's name or catalog number (as reported by the authors), the reference journal, volume, page, year, and the names of the author(s). Because nomenclature practices are not yet standardized for many of the objects included in this list, there is not always uniformity in the entry of the names. It is our hope that compilations such as this may be useful in pointing out and then helping to reconcile some of the ambiguous designations currently used in the naming of stellar and extragalactic objects.

Because the detailed coverage in this compilation was limited to only six journals, many significant papers in other journals were undoubtedly omitted. This is particularly true for observations of solar system objects. We would like to request all users of IUE observations to send us reprints of papers appearing in refereed journals which have not been included in this survey.

We welcome any comments and recommendations which will help us to make this a more useful reference tool. We thank Gilbert Mead for writing the programs to sort the data and generate Table 3. Beverly Carragher, Mollie Shea and Barbara Glover provided other valuable assistance.

Reprints of IUE-related papers or additional bibliographical listings should be sent to Jaylee Mead, Code 680, GSFC, for inclusion in the next version of this index.

REFERENCE: Cayrel, R., J. Jung, and A. Valbousquet. CDS Inform. Bull. 6, 24, (1974).

26 June 1984

Table 3 - OBJECT INDEX

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
+36.2242	ApJ	259	77	82	Welch
+60.2522	ApJS	50	551	82	Johnson
0115+61	PASP	93	486	81	Hutchings & Crampton
0310-68	ApJ	261	L87	82	Wegner
0716+71	A&A	100	1	81	Fricke et al.
1E 0643-1648	A&A	112	355	82	Bonnet-Bidaud et al.
2A 0311-227	Nat	290	119	81	Coe & Wickramasinghe
2A 0311-23	A&A	102	31	81	Mouchet et al.
2A 0526-328	Nat	290	119	81	Coe & Wickramasinghe
2A 0526-33	A&A	102	31	81	Mouchet et al.
2A 0620-00	MN	195	61	81	Barlow et al.
2A 1822-371	ApJ	255	603	82	Mason & Cordova
2A 2315-428	MN	192	769	80	Clavel et al.
3A 2254-033	MN	197	275	81	Hassall et al.
3C 58	MN	192	861	80	Panagia et al.
3C 84	Nat	300	336	82	Briggs et al.
3C 120	ApJ	231	L13	79	Oke & Zimmerman
3C 120	ApJ	242	14	80	Wu et al.
3C 120	ApJ	243	445	81	Oke & Goodrich
3C 120	ApJ	256	75	82	Lacy et al.
3C 120	A&A	97	94	81	Bergeron et al.
3C 227	ApJ	256	75	82	Lacy et al.
3C 232	Nat	275	404	78	Boksenberg et al.
3C 232	A&A	111	43	82	Dultzin-Hacyan et al.
3C 232	MN	199	409	82	Pettini et al.
3C 249.1	A&A	111	43	82	Dultzin-Hacyan et al.
3C 273	ApJ	226	L57	78	Baldwin et al.
3C 273	ApJ	230	L131	79	Boggess et al.
3C 273	MN	192	561	80	Ulrich et al.
3C 273	MN	197	235	81	Fosbury et al.
3C 273	Nat	275	377	78	Boggess et al.
3C 273	Nat	275	404	78	Boksenberg et al.
3C 273	ApJ	242	14	80	Wu et al.
3C 273	ApJ	254	22	82	Malkan & Sargent
3C 273	A&A	97	94	81	Bergeron et al.
3C 273	A&A	102	321	81	Joly
3C 273	MN	199	409	82	Pettini et al.
3C 273	MN	187	65p	79	Ferland et al.
3C 274	Nat	275	404	78	Boksenberg et al.
3C 351	ApJ	239	483	80	Green et al.
3C 390.3	ApJ	242	14	80	Wu et al.
3C 390.3	ApJ	243	445	81	Oke & Goodrich
3C 390.3	MN	187	65p	79	Ferland et al.
3U 1700-37	Nat	275	394	78	Grewing et al.
4C 31.63	ApJ	255	25	82	Grandi
4U 0352+30	A&A	94	345	81	Bernacca & Bianchi
4U 0352-130	A&A	85	119	80	Hammerschlag-Hensbg.etal
4U 0900-40	ApJ	238	969	80	Dupree et al.
4U 1145-61	A&A	85	119	80	Hammerschlag-Hensbg.etal
4U 1145-61	A&A	89	214	80	Bianchi & Bernacca
4U 1145-61	A&A	104	150	81	De Loore et al.
4U 1651+39	MN	189	873	79	Snijders et al.
4U 1656+35	Nat	275	400	78	Dupree et al.
4U 1700-37	ApJ	237	19	80	Bruhweiler et al.
4U 1700-37	Nat	275	400	78	Dupree et al.
4U 1700-37	ApJ	240	161	80	Hutchings & Dupree
4U 1849-31	A&A	112	355	82	Bonnet-Bidaud et al.
4U 1908+00	MN	195	61	81	Barlow et al.
4U 1956+35	Nat	275	400	78	Dupree et al.
4UMXB1735-44	ApJ	254	L1	82	Hammerschlag et al.
ADS 6104	PASP	94	642	82	Parsons
AO 538-66	ApJ	258	240	82	Raymond
AO 0235+164	MN	201	801	82	Snijders et al.
AS 205	RGSP	20	280	82	Zahnle & Walker
AS 205	ApJ	251	113	81	Giampapa et al.
AS 205	A&A	90	184	80	Appenzeller et al.
AS 374	MN	196	101	81	Barlow et al.
AS 422	MN	196	101	81	Barlow et al.
Abell 30	ApJ	245	124	81	Greenstein
Abell 46	AJ	87	555	82	Feibelman
Ak 120	A&A	102	321	81	Joly
Akn 120	A&A	102	L23	81	Kollatschny et al.
Akn 120	A&A	104	198	81	Kollatschny et al.
Alcyone	A&AS	47	547	82	Golay & Mauron
And 7	ApJ	258	628	82	Bohm-Vitense
And 23	A&A	115	280	82	Blanco et al.
And 51	ApJ	234	1023	79	Basri & Linsky
And 51	ApJ	238	221	80	Stencel & Mullan
And 51	ApJS	44	383	80	Stencel et al.
And AR	A&A	113	76	82	Klare et al.
And Beta	ApJ	234	1023	79	Basri & Linsky
And Beta	MN	197	791	81	Stickland & Sanner
And Beta	ApJ	252	214	82	Hartmann et al.
And EG	ApJ	238	929	80	Stencel & Sahade
And Lambda	ApJ	226	L35	78	Doschek et al.
And Lambda	ApJ	229	L27	79	Linsky & Haisch
And Lambda	ApJ	234	1023	79	Basri & Linsky
And Lambda	Nat	275	389	78	Linsky et al.
And Lambda	A&A	106	98	82	Djie et al.
And Lambda	ApJ	247	545	81	Ayres et al.
And Lambda	ApJ	251	113	81	Giampapa et al.
And Lambda	ApJ	252	214	82	Hartmann et al.
And Lambda	ApJ	252	668	82	Baliunas & Dupree
And Lambda	ApJ	256	206	82	Plavec et al.
And Lambda	ApJ	256	550	82	Ayres et al.
And Lambda	A&A	102	207	81	De Castro et al.
And Lambda	A&A	104	240	81	Saxner
And Mu	ApJ	244	938	81	Bohm-Vitense
And RX	ApJ	247	577	81	Szkody
And RX	A&A	113	76	82	Klare et al.
And Z	ApJ	245	630	81	Altamore et al.
And Zeta	A&A	102	207	81	De Castro et al.
And Zeta	A&A	104	240	81	Saxner
And1 RX	ApJ	261	200	82	Szkody
Aps Gamma	ApJ	238	221	80	Stencel & Mullan
Aps Gamma	ApJS	44	383	80	Stencel et al.
Aps Gamma	ApJ	244	504	81	Bohm-Vitense
Aql 31	ApJ	244	504	81	Bohm-Vitense

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
Aql 31	ApJ	258	628	82	Boha-Vitense
Aql Alpha	ApJ	236	560	80	Boha-Vitense & Dettmann
Aql Alpha	ApJ	244	938	81	Boha-Vitense
Aql Alpha	A&A	93	412	81	Mundt et al.
Aql Alpha53	A&A	115	280	82	Blanco et al.
Aql Eta	ApJ	238	L87	80	Mariska et al.
Aql Eta	ApJS	48	185	82	Schmidt & Parsons
Aql Gamma	ApJ	234	1023	79	Basri & Linsky
Aql Gamma	MN	197	791	81	Stickland & Sanner
Aql Gamma	A&A	107	292	82	Reimers
Aql Gamma	ApJ	257	225	82	Simon et al.
Aql R	A&A	92	320	80	Kafatos et al.
Aql V603	PASP	93	477	81	Lambert & Slovak
Aql V603	ApJ	248	1059	81	Slovak
Aql V603	A&A	112	341	82	Hola et al.
Aql V603	A&A	88	L9	80	Rahe et al.
Aql V603	A&A	99	166	81	Drechsel et al.
Aql V603	ApJ	260	794	82	Ferland et al.
Aql V603	A&A	102	337	81	Krautter et al.
Aql X-1	MN	195	61	81	Barlow et al.
Aql Zeta	ApJ	244	199	81	Witt et al.
Aqr 88	ApJ	234	1023	79	Basri & Linsky
Aqr AE	MN	191	559	80	Jameson et al.
Aqr AE	ApJ	247	577	81	Szkody
Aqr Alpha	ApJ	236	L143	80	Hartmann et al.
Aqr Alpha	ApJ	236	560	80	Boha-Vitense & Dettmann
Aqr Alpha	ApJ	238	221	80	Stencel & Mullan
Aqr Alpha	ApJ	239	555	80	Parsons
Aqr Alpha	ApJS	44	383	80	Stencel et al.
Aqr Alpha	ApJ	244	504	81	Boha-Vitense
Aqr Alpha	ApJ	244	552	81	Johnson
Aqr Alpha	ApJ	246	193	81	Hartmann et al.
Aqr Alpha	A&A	107	292	82	Reimers
Aqr Alpha	ApJ	251	162	81	Basri et al.
Aqr Alpha	ApJ	252	214	82	Hartmann et al.
Aqr Alpha	ApJ	253	716	82	Mullan & Stencel
Aqr Alpha	ApJ	257	225	82	Simon et al.
Aqr Alpha	A&A	104	240	81	Saxner
Aqr Alpha34	A&A	115	280	82	Blanco et al.
Aqr Beta	ApJ	234	1023	79	Basri & Linsky
Aqr Beta	ApJ	236	L143	80	Hartmann et al.
Aqr Beta	ApJ	236	560	80	Boha-Vitense & Dettmann
Aqr Beta	ApJ	238	221	80	Stencel & Mullan
Aqr Beta	ApJ	239	555	80	Parsons
Aqr Beta	ApJS	44	383	80	Stencel et al.
Aqr Beta	ApJ	244	504	81	Boha-Vitense
Aqr Beta	ApJ	244	552	81	Johnson
Aqr Beta	A&A	107	292	82	Reimers
Aqr Beta	ApJ	251	162	81	Basri et al.
Aqr Beta	ApJ	252	214	82	Hartmann et al.
Aqr Beta	ApJ	253	716	82	Mullan & Stencel
Aqr Beta	ApJ	257	225	82	Simon et al.
Aqr Beta	A&A	104	240	81	Saxner
Aqr Pi	ApJ	239	502	80	Black et al.
Aqr Pi	A&A	100	79	81	Ringuelet et al.
Aqr Pi	MN	199	591	82	De Freitas Pacheco
Aqr R	ApJ	237	506	80	Michalitsianos et al.
Aqr R	ApJ	237	840	80	Johnson
Aqr R	Nat	284	148	80	Michalitsianos et al.
Aqr R	ApJ	244	552	81	Johnson
Aqr R	ApJ	253	224	82	Johnson
Aqr R	ApJ	262	L47	82	Michalitsianos & Kafatos
Ara Beta	ApJ	252	214	82	Hartmann et al.
Ara Gamma	ApJ	245	201	81	Parsons
Ara OB1a	ApJ	248	528	81	Cowie et al.
Ara OB1a	ApJ	250	L25	81	Cowie et al.
Ara OB1b	ApJ	248	528	81	Cowie et al.
Ara OB1b	ApJ	250	L25	81	Cowie et al.
Ara Pi	A&A	107	75	82	Crivellari & Praderie
Ara Theta	ApJ	256	568	82	Odegard & Cassinelli
Arcturus	ApJ	235	519	80	Haisch et al.
Arcturus	ApJ	247	545	81	Ayres et al.
Arcturus	ApJ	248	L137	81	Ayres et al.
Arcturus	A&A	99	120	81	Nesci
Arcturus	ApJ	263	791	82	Ayres et al.
Arcturus	A&A	103	L11	81	Spite et al.
Ari Alpha	ApJ	234	1023	79	Basri & Linsky
Ari Alpha	ApJS	44	383	80	Stencel et al.
Ari Alpha	ApJ	253	716	82	Mullan & Stencel
Ari Alpha	ApJ	257	225	82	Simon et al.
Ari Kappa	A&A	107	75	82	Crivellari & Praderie
Ari TT	Nat	300	153	82	Jameson et al.
Ari TT	A&A	110	281	82	Wargau et al.
Ari TT	A&A	98	27	81	Krautter et al.
Ari TT	A&A	102	337	81	Krautter et al.
Ari TT	MN	200	455	82	Jameson et al.
Ari UX	ApJ	229	L27	79	Linsky & Haisch
Ari UX	RGSP	20	280	82	Zahnle & Walker
Ari UX	ApJ	234	1023	79	Basri & Linsky
Ari UX	ApJ	239	911	80	Simon et al.
Ari UX	ApJ	241	279	80	Ayres & Linsky
Ari UX	ApJ	241	759	80	Simon & Linsky
Ari UX	ApJ	247	L131	81	Bopp & Stencel
Ari UX	ApJ	251	113	81	Giampapa et al.
Ari UX	ApJ	252	214	82	Hartmann et al.
Ari UX	A&A	104	240	81	Saxner
Arp 152	Nat	275	404	78	Boksenberg et al.
Atlas	A&AS	47	547	82	Golay & Mauron
Aur AB	ApJ	246	161	81	Sitko et al.
Aur AB	ApJ	247	1024	81	Sitko
Aur AB	ApJ	254	658	82	Praderie et al.
Aur Alpha	ApJ	226	L35	78	Doschek et al.
Aur Alpha	ApJ	229	L27	79	Linsky & Haisch
Aur Alpha	ApJ	234	1023	79	Basri & Linsky
Aur Alpha	ApJ	235	519	80	Haisch et al.
Aur Alpha	ApJ	237	L65	80	Bertola et al.
Aur Alpha	Nat	275	389	78	Linsky et al.
Aur Alpha	ApJ	251	113	81	Giampapa et al.

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
Aur Alpha	ApJ	252	214	82	Hartmann et al.
Aur Alpha	A&A	102	207	81	De Castro et al.
Aur Delta	ApJ	234	1023	79	Basri & Linsky
Aur Epsilon	Nat	276	376	78	Hack & Selvelli
Aur Epsilon	ApJ	239	555	80	Parsons
Aur Epsilon	A&AS	50	233	82	Castelli et al.
Aur Epsilon	A&A	75	316	79	Hack & Selvelli
Aur Iota	ApJ	234	1023	79	Basri & Linsky
Aur Iota	A&A	107	292	82	Reimers
Aur Iota	ApJ	257	225	82	Simon et al.
Aur Kappa	ApJ	258	628	82	Bohm-Vitense
Aur RW	Nat	296	816	82	Canuto et al.
Aur RW	RGSP	20	280	82	Zahnle & Walker
Aur RW	ApJ	238	905	80	Cram et al.
Aur RW	ApJ	239	L115	80	Imhoff & Giampapa
Aur RW	A&A	106	98	82	Djie et al.
Aur RW	ApJ	251	113	81	Giampapa et al.
Aur RW	A&A	90	184	80	Appenzeller et al.
Aur SU	ApJ	251	113	81	Giampapa et al.
Aur Zeta	Nat	286	580	80	Chapman
Aur Zeta	ApJ	244	552	81	Johnson
Aur Zeta	ApJ	248	1043	81	Chapman
Aur Zeta	A&A	115	133	82	Hempe
Aur Zeta	ApJ	251	597	81	Stencel & Chapman
Aur Zeta	A&A	99	185	81	Hack
AurAbAlpha	ApJ	241	279	80	Ayres & Linsky
AurAbAlpha	ApJ	256	550	82	Ayres et al.
AurAbAlpha	A&A	104	240	81	Saxner
AurB Epsilon	A&A	107	36	82	Hempe & Reimers
B 29	ApJ	259	77	82	Welch
B2 1101+38	Nat	275	377	78	Boggess et al.
B2 1101+38	Nat	275	404	78	Boksenberg et al.
B2 1652+39	MN	189	873	79	Snijders et al.
BAC 209	ApJ	235	66	80	Johnson
BAC 209	MN	196	101	81	Barlow et al.
BAC 209	ApJ	256	559	82	Johnson
BBB 280	MN	201	1p	82	Nandy et al.
BBB 338	MN	201	1p	82	Nandy et al.
BC +19.5116	ApJ	233	L69	79	Hartmann et al.
BD + 0.4022	ApJ	248	1059	81	Slovak
BD + 0.4023	ApJ	248	1059	81	Slovak
BD + 0.4023	A&A	88	L9	80	Rahe et al.
BD + 0.4023	A&A	99	166	81	Drechsel et al.
BD +10.2179	A&A	116	273	82	Hamann et al.
BD +10.2179	A&A	70	L57	78	Schonberner & Hunger
BD +10.2179	A&A	101	269	81	Heber & Hunger
BD +14.693	ApJ	258	177	82	Zolcinski et al.
BD +15.640	ApJ	258	177	82	Zolcinski et al.
BD +16.592	ApJ	258	177	82	Zolcinski et al.
BD +16.598	ApJ	258	177	82	Zolcinski et al.
BD +16.601	ApJ	258	177	82	Zolcinski et al.
BD +25.2534	A&A	112	76	82	Baschek et al.
BD +25.723	ApJ	242	L83	80	Shaw & Seab
BD +28.4211	A&A	85	1	80	Bohlin et al.

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
BD +30.2431	A&A	81	L1	80	Hack
BD +30.3639	MN	190	1p	80	Clavel & Fowler
BD +30.3639	A&A	99	166	81	Drechsel et al.
BD +30.3659	AJ	87	555	82	Feibelman
BD +33.2642	A&A	81	L1	80	Hack
BD +33.2642	A&A	84	369	80	Stalio & Franco
BD +33.2642	A&A	85	1	80	Bohlin et al.
BD +35.4062	PASP	91	474	79	Koch et al.
BD +39.3226	A&A	85	1	80	Bohlin et al.
BD +39.4926	PASP	94	802	82	Saha & Oke
BD +40.4124	ApJ	246	161	81	Sitko et al.
BD +40.4124	ApJ	247	1024	81	Sitko
BD +40.4220	MN	190	1p	80	Clavel & Fowler
BD +40.501	MN	198	779	82	Morgan et al.
BD +43.44	ApJ	234	1023	79	Basri & Linsky
BD +43.44	ApJ	251	113	81	Giampapa et al.
BD +43.44	ApJ	258	740	82	Giampapa et al.
BD +54.494	MN	198	779	82	Morgan et al.
BD +55.393	MN	198	779	82	Morgan et al.
BD +55.534	MN	198	779	82	Morgan et al.
BD +56.545	MN	198	779	82	Morgan et al.
BD +59.374	MN	198	779	82	Morgan et al.
BD +59.562	MN	198	779	82	Morgan et al.
BD +60.2522	ApJ	235	66	80	Johnson
BD +60.497	A&A	107	43	82	Llorente de Andres et al
BD +60.497	A&A	79	L13	79	Burki&Lorente de Andres
BD +60.498	A&A	79	L13	79	Burki&Lorente de Andres
BD +60.501	A&A	107	43	82	Llorente de Andres et al
BD +60.501	A&A	79	L13	79	Burki&Lorente de Andres
BD +60.502	A&A	107	43	82	Llorente de Andres et al
BD +60.502	A&A	79	L13	79	Burki&Lorente de Andres
BD +60.504	A&A	107	43	82	Llorente de Andres et al
BD +60.504	A&A	79	L13	79	Burki&Lorente de Andres
BD +60.507	A&A	107	43	82	Llorente de Andres et al
BD +60.507	A&A	79	L13	79	Burki&Lorente de Andres
BD +60.513	A&A	107	43	82	Llorente de Andres et al
BD +60.513	A&A	79	L13	79	Burki&Lorente de Andres
BD +60.594	MN	198	779	82	Morgan et al.
BD +60.608	MN	198	779	82	Morgan et al.
BD +61.154	ApJ	246	161	81	Sitko et al.
BD +61.154	ApJ	247	1024	81	Sitko
BD +75.325	Nat	275	377	78	Boggess et al.
BD +75.325	Nat	275	385	78	Heap et al.
BD +75.325	Nat	275	404	78	Boksenberg et al.
BD +75.325	A&A	106	332	82	Crivellari & Morossi
BD +75.325	A&A	70	L53	78	Stickland & Harmer
BD +75.325	A&A	85	1	80	Bohlin et al.
BD +75.325	A&A	104	249	81	Hamann et al.
BD - 1.3438	A&A	70	L57	78	Schonberner & Hunger
BD - 3.5357	A&A	85	1	80	Bohlin et al.
BD - 4.5787	MN	197	275	81	Hassall et al.
BD - 8.3999	ApJ	247	L131	81	Bopp & Stencel
BD - 9.4395	A&A	116	273	82	Hamann et al.
BD - 9.4395	A&A	70	L57	78	Schonberner & Hunger

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
BD - 9.4395	A&A	101	269	81	Heber & Hunger
BD -21.6267	MN	197	791	81	Stickland & Sanner
BD -31.4800	A&A	85	1	80	Bohlin et al.
BD -59.2600	ApJ	250	660	81	Garmany et al.
BD -59.2603	ApJ	250	660	81	Garmany et al.
BI 150	ApJ	255	70	82	Hutchings
BPM 4834	A&A	95	L9	81	Weidemann et al.
BPM 27606	A&A	116	147	82	Koester et al.
BPM 27606	A&A	95	L9	81	Weidemann et al.
BS 21	ApJ	247	545	81	Ayres et al.
BS 188	ApJ	247	545	81	Ayres et al.
BS 1084	ApJ	235	519	80	Haisch et al.
BS 1084	ApJ	247	545	81	Ayres et al.
BS 1457	ApJ	235	519	80	Haisch et al.
BS 1708	ApJ	235	519	80	Haisch et al.
BS 2061	ApJ	235	519	80	Haisch et al.
BS 2326	ApJ	247	545	81	Ayres et al.
BS 2473	ApJ	235	519	80	Haisch et al.
BS 2943	ApJ	247	545	81	Ayres et al.
BS 2990	ApJ	235	519	80	Haisch et al.
BS 4216	ApJ	247	545	81	Ayres et al.
BS 4301	ApJ	247	545	81	Ayres et al.
BS 5340	ApJ	235	519	80	Haisch et al.
BS 5340	ApJ	247	545	81	Ayres et al.
BS 5435	ApJ	247	545	81	Ayres et al.
BS 5544	ApJ	247	545	81	Ayres et al.
BS 5854	ApJ	247	545	81	Ayres et al.
BS 6132	ApJ	235	519	80	Haisch et al.
BS 6241	ApJ	247	545	81	Ayres et al.
BS 6536	ApJ	235	519	80	Haisch et al.
BS 7310	ApJ	235	519	80	Haisch et al.
BS 8308	ApJ	235	519	80	Haisch et al.
BS 8465	ApJ	235	519	80	Haisch et al.
BS 8961	ApJ	247	545	81	Ayres et al.
Barnard 29	A&A	84	369	80	Stalio & Franco
Bo 158	ApJ	261	77	82	Cacciari et al.
Boo 44	ApJ	252	214	82	Hartmann et al.
Boo 44	A&A	104	240	81	Saxner
Boo Alpha	ApJ	229	L27	79	Linsky & Haisch
Boo Alpha	MN	191	37p	80	Brown & Jordan
Boo Alpha	ApJ	235	519	80	Haisch et al.
Boo Alpha	ApJ	238	221	80	Stencel & Mullan
Boo Alpha	MN	197	791	81	Stickland & Sanner
Boo Alpha	ApJS	44	383	80	Stencel et al.
Boo Alpha	ApJ	244	504	81	Boha-Vitense
Boo Alpha	ApJ	247	545	81	Ayres et al.
Boo Alpha	ApJ	257	225	82	Simon et al.
Boo Alpha	ApJ	263	791	82	Ayres et al.
Boo Eta	ApJ	241	279	80	Ayres & Linsky
Boo Eta	ApJ	261	220	82	Barry & Schoolman
Boo Gamma	ApJ	229	L27	79	Linsky & Haisch
Boo Gamma	A&A	107	75	82	Crivellari & Praderie
Boo Gamma	ApJ	247	545	81	Ayres et al.
Boo Kappa 2	A&A	107	326	82	Fracassini & Pasinetti

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
Boo Sigma	ApJ	258	628	82	Boha-Vitense
Boo Tau	ApJ	258	628	82	Boha-Vitense
BooA Xi	ApJ	229	L27	79	Linsky & Haisch
BooA Xi	ApJ	233	L69	79	Hartmann et al.
BooA Xi	ApJ	234	1023	79	Basri & Linsky
BooA Xi	ApJ	247	545	81	Ayres et al.
BooA Xi	ApJ	251	113	81	Giampapa et al.
BooA Xi	ApJ	252	214	82	Hartmann et al.
BooA Xi	ApJ	260	670	82	Linsky et al.
BooA Xi	A&A	104	240	81	Saxner
BooB Xi	ApJ	229	L27	79	Linsky & Haisch
Boss 1985	A&AS	49	511	82	Altamore et al.
Boss 5481	A&A	107	36	82	Hempe & Reimers
Burnham Neb	Nat	290	34	81	Brown et al.
C/1978XV	ApJ	256	331	82	Festou et al.
C/1978a	ApJ	242	L187	80	A'Hearn & Feldman
C/1978a	A&A	73	L7	79	Jackson et al.
C/1979X	ApJ	256	331	82	Festou et al.
C/1979l	Nat	286	132	80	Feldman et al.
C/1979l	ApJ	242	L187	80	A'Hearn & Feldman
C/1980h	ApJ	256	331	82	Festou et al.
C/1980q	ApJ	256	331	82	Festou et al.
C/1980u	ApJ	256	331	82	Festou et al.
C/Bennett	ApJ	251	809	81	Weaver et al.
C/Bester	ApJ	242	L187	80	A'Hearn & Feldman
C/Borrelly	Icar	47	449	81	Weaver et al.
C/Bradfield	M&P	26	101	82	Murty
C/Bradfield	Icar	47	449	81	Weaver et al.
C/Bradfield	Nat	286	132	80	Feldman et al.
C/Bradfield	ApJ	242	L187	80	A'Hearn & Feldman
C/Bradfield	A&A	107	385	82	Jackson et al.
C/Bradfield	ApJ	251	809	81	Weaver et al.
C/Bradfield	ApJ	256	331	82	Festou et al.
C/Bradfield	A&A	103	154	81	Festou & Feldman
C/Cunningham	ApJ	251	809	81	Weaver et al.
C/Encke	Icar	47	449	81	Weaver et al.
C/Encke	ApJ	256	331	82	Festou et al.
C/Encke	A&A	103	154	81	Festou & Feldman
C/Kobay.-B-M	ApJ	251	809	81	Weaver et al.
C/Kohoutek	ApJ	251	809	81	Weaver et al.
C/Kohoutek	A&A	103	154	81	Festou & Feldman
C/Meier	Icar	47	449	81	Weaver et al.
C/Meier	ApJ	256	331	82	Festou et al.
C/Mrkos	ApJ	251	809	81	Weaver et al.
C/Mrkos	A&A	103	154	81	Festou & Feldman
C/Panther	Icar	47	449	81	Weaver et al.
C/Panther	ApJ	256	331	82	Festou et al.
C/Seargent	Nat	286	132	80	Feldman et al.
C/Seargent	ApJ	242	L187	80	A'Hearn & Feldman
C/Seargent	A&A	73	L7	79	Jackson et al.
C/Seargent	ApJ	256	331	82	Festou et al.
C/Seargent	A&A	103	154	81	Festou & Feldman
C/Stph-Otera	Icar	47	449	81	Weaver et al.
C/Tago-S-K	ApJ	251	809	81	Weaver et al.

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
C/Tuttle	Icar	47	449	81	Weaver et al.
C/Tuttle	ApJ	256	331	82	Festou et al.
C/West	Nat	286	132	80	Feldman et al.
C/West	ApJ	242	L187	80	A'Hearn & Feldman
C/West	A&A	73	L7	79	Jackson et al.
C/West	A&A	103	154	81	Festou & Feldman
CD -23.12238	ApJ	250	596	81	Aller et al.
CD -26.4164	PASP	94	642	82	Parsons
CD -31.17815	MN	197	791	81	Stickland & Sanner
CD -35.10525	Nat	296	816	82	Canuto et al.
CD -35.10525	RGSP	20	280	82	Zahnle & Walker
CD -35.10525	ApJ	251	113	81	Giampapa et al.
CD -35.10525	A&A	90	184	80	Appenzeller et al.
CD -39.14192	MN	197	791	81	Stickland & Sanner
CD -42.14462	ApJ	258	217	82	Guinan & Sion
CD -48.3349	PASP	93	621	81	Koch et al.
CD -59.3946	A&A	110	246	82	Drechsel et al.
CD -59.3948	A&A	110	246	82	Drechsel et al.
CD -59.3950	A&A	110	246	82	Drechsel et al.
CG 135+1	PASP	91	657	79	Hutchings
CG 135+1	PASP	93	486	81	Hutchings & Crampton
CM 29	A&A	103	305	81	Lequeux et al.
CM 39	A&A	103	305	81	Lequeux et al.
CMa 15	ApJS	48	415	82	Kamp
CMa 27	A&A	100	79	81	Ringuelet et al.
CMa 29	PASP	93	626	81	Hutchings & van Heteren
CMa 29	ApJ	254	88	82	York & Jura
CMa 29	A&AS	45	473	81	Drechsel et al.
CMa 30	ApJ	254	88	82	York & Jura
CMa Alpha	ApJ	236	560	80	Bohm-Vitense & Dettmann
CMa Delta	ApJ	236	560	80	Bohm-Vitense & Dettmann
CMa Delta	ApJS	44	383	80	Stencel et al.
CMa Delta	ApJ	244	504	81	Bohm-Vitense
CMa Delta	ApJ	252	214	82	Hartmann et al.
CMa Delta	A&A	102	296	81	Stickland & Lambert
CMa Eta	ApJ	235	L149	80	Underhill
CMa Eta	ApJ	256	568	82	Odegard & Cassinelli
CMa Eta	A&A	97	L9	81	Underhill
CMa Nu 2	ApJ	238	221	80	Stencel & Mullan
CMa Nu 2	ApJ	244	504	81	Bohm-Vitense
CMa OB1	ApJ	248	528	81	Cowie et al.
CMa OB1	ApJ	250	L25	81	Cowie et al.
CMa OB1	ApJ	250	660	81	Garmany et al.
CMa Omicrn2	ApJ	235	L149	80	Underhill
CMa Sigma	ApJS	44	383	80	Stencel et al.
CMa Tau	ApJ	239	502	80	Black et al.
CMa UW	ApJ	229	L39	79	Bruhweiler et al.
CMa UW	ApJ	237	19	80	Bruhweiler et al.
CMa UW	ApJ	239	502	80	Black et al.
CMa UW	A&A	106	70	82	Drechsel & Rahe
CMa UW	A&AS	45	473	81	Drechsel et al.
CMa Upsiln2	ApJS	44	383	80	Stencel et al.
CMa Xi	ApJS	48	415	82	Kamp
CMa Z	ApJ	246	161	81	Sitko et al.

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
CMa Z	ApJ	247	1024	81	Sitko
CMi Alpha	ApJ	229	L27	79	Linsky & Haisch
CMi Alpha	ApJ	234	1023	79	Basri & Linsky
CMi Alpha	MN	196	757	81	Brown & Jordan
CMi Alpha	ApJ	247	545	81	Ayres et al.
CMi Alpha	A&A	93	412	81	Mundt et al.
CMi Alpha	A&A	102	207	81	De Castro et al.
CMi Alpha	A&A	104	240	81	Saxner
CMi Alpha	A&A	104	240	81	Saxner
CMi YZ	ApJ	251	113	81	Giampapa et al.
CMi YZ	ApJ	258	740	82	Giampapa et al.
CMi YZ	ApJ	260	670	82	Linsky et al.
CPD-46.3093	A&A	101	269	81	Heber & Hunger
CPD-48.1373	PASP	93	621	81	Koch et al.
CPD-52.9243	A&A	108	111	82	De Freitas Pacheco et al
CPD-57.8088	ApJ	234	L187	79	Wray et al.
CPD-59.2600	ApJ	252	156	82	Walborn & Hesser
CPD-59.2603	ApJ	252	156	82	Walborn & Hesser
CPD-59.3809	A&A	110	246	82	Drechsel et al.
CPD-62.2124	ApJ	250	701	81	Drilling
CPD-62.2125	ApJ	250	701	81	Drilling
CPD-62.2130	ApJ	250	701	81	Drilling
CPD-69.177	ApJ	261	L87	82	Wegner
CPD-69.389	A&A	106	254	82	Kudritzki et al.
CPD-74.1569	ApJ	260	561	82	Pettini & West
CPD-75.1197	ApJ	260	561	82	Pettini & West
CVn AM	ApJ	258	209	82	Greenstein & Oke
CVn Alpha 2	PASP	93	85	81	Adelman & Shore
CVn Alpha 2	ApJ	250	687	81	Leckrone
CVn Beta	A&A	82	221	80	Fernandez-Figueroa et al
CVn RS	ApJ	241	279	80	Ayres & Linsky
CVn Y	A&A	111	120	82	Querci et al.
Cae Alpha	ApJ	236	560	80	Bohm-Vitense & Dettmann
Cae Alpha	ApJ	258	628	82	Bohm-Vitense
Cae Beta	ApJ	244	504	81	Bohm-Vitense
Cae Beta	ApJ	258	628	82	Bohm-Vitense
Cam Alpha	ApJ	239	502	80	Black et al.
Cam Alpha	A&A	79	L28	79	De Jager et al.
Cam OB1	ApJ	250	660	81	Garmany et al.
Cam Z	ApJ	247	577	81	Szkody
Cam Z	A&A	113	76	82	Klare et al.
Cap Beta	A&AS	47	295	82	Beckman et al.
Cap Nu	Nat	299	535	82	Jacobs & Dworetsky
Cap Nu	ApJ	250	687	81	Leckrone
Cap Nu	A&A	97	L9	81	Underhill
Cap Psi	ApJ	258	628	82	Bohm-Vitense
Cap Zeta	ApJ	244	504	81	Bohm-Vitense
CapA Zeta	ApJ	239	L79	80	Bohm-Vitense
CapB Zeta	ApJ	239	L79	80	Bohm-Vitense
Capella	ApJ	237	L65	80	Bertola et al.
Capella	Nat	275	389	78	Linsky et al.
Capella	ApJ	241	279	80	Ayres & Linsky
Capella	A&A	112	341	82	Hole et al.
Capella	ApJ	256	550	82	Ayres et al.

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
Car AG	ApJ	235	66	80	Johnson
Car AG	ApJ	256	559	82	Johnson
Car AG	ApJS	50	551	82	Johnson
Car Alpha	ApJ	229	L27	79	Linsky & Haisch
Car Alpha	Nat	276	376	78	Hack & Selvelli
Car Alpha	ApJ	239	555	80	Parsons
Car Alpha	ApJ	247	545	81	Ayres et al.
Car Alpha	A&A	75	316	79	Hack & Selvelli
Car Epsilon	A&A	107	36	82	Hempe & Reimers
Car Eta	Nat	275	377	78	Boggess et al.
Car Eta	Nat	275	385	78	Heap et al.
Car Eta	A&A	71	L9	79	Cassatella et al.
Car Eta	ApJ	254	L47	82	Davidson et al.
Car Eta	ApJ	257	204	82	Kafatos et al.
Car Eta	A&A	99	351	81	Wolf et al.
Car Iota	ApJ	239	555	80	Parsons
Car Iota	ApJS	48	185	82	Schmidt & Parsons
Car OB1	ApJ	248	528	81	Cowie et al.
Car OB1	ApJ	250	L25	81	Cowie et al.
Car OB2	ApJ	248	528	81	Cowie et al.
Car OB2	ApJ	250	L25	81	Cowie et al.
Carina Neb.	ApJ	239	502	80	Black et al.
Carina Neb.	ApJ	252	156	82	Walborn & Hesser
Carina Neb.	ApJ	260	163	82	Laurent et al.
Cas A	ApJ	239	502	80	Black et al.
Cas AO	ApJ	229	L39	79	Bruhweiler et al.
Cas AO	ApJ	237	19	80	Bruhweiler et al.
Cas AO	ApJ	246	464	81	McCluskey & Kondo
Cas Alpha	ApJ	234	1023	79	Basri & Linsky
Cas Alpha	ApJ	238	221	80	Stencel & Mullan
Cas Alpha	ApJS	44	383	80	Stencel et al.
Cas Alpha	ApJ	253	716	82	Mullan & Stencel
Cas Alpha	ApJ	257	225	82	Simon et al.
Cas Alpha	A&A	102	207	81	De Castro et al.
Cas Beta	ApJ	229	L27	79	Linsky & Haisch
Cas Beta	A&A	107	326	82	Fracassini & Pasinetti
Cas Beta	ApJ	247	545	81	Ayres et al.
Cas Beta	ApJ	258	628	82	Boha-Vitense
Cas Eta	A&A	82	221	80	Fernandez-Figueroa et al
Cas Gamma	A&A	85	119	80	Hammerschlag-Hensbg.etal
Cas Kappa	ApJ	234	528	79	Underhill
Cas Kappa	ApJ	238	969	80	Dupree et al.
Cas Mu	ApJ	244	504	81	Boha-Vitense
Cas Mu	ApJ	258	628	82	Boha-Vitense
Cas OB14	ApJ	248	528	81	Cowie et al.
Cas OB5	ApJ	248	528	81	Cowie et al.
Cas OB6	ApJ	250	660	81	Garmany et al.
Cas Rho	ApJ	239	555	80	Parsons
Cas SX	ApJ	256	206	82	Plavec et al.
Cas V509	A&A	102	296	81	Stickland & Lambert
Cas WZ	A&A	111	120	82	Querci et al.
Cas Zeta	ApJ	249	109	81	Bohlin & Savage
Cas Zeta	A&A	85	1	80	Bohlin et al.
Cen Alpha	ApJ	241	279	80	Ayres & Linsky
Cen Alpha	ApJ	254	168	82	Ayres & Linsky
Cen BV	MN	190	185	80	Bath et al.
Cen BV	ApJ	247	577	81	Szkody
Cen BV	A&A	102	337	81	Krautter et al.
Cen Delta	MN	199	591	82	De Freitas Pacheco
Cen OB2	ApJ	250	701	81	Drilling
Cen SV	A&A	106	70	82	Drechsel & Rahe
Cen SV	A&A	110	246	82	Drechsel et al.
Cen Theta	ApJ	238	221	80	Stencel & Mullan
Cen Theta	ApJS	44	383	80	Stencel et al.
Cen Theta	ApJ	257	225	82	Simon et al.
Cen V645	ApJ	245	1009	81	Haisch et al.
Cen V810	ApJ	245	201	81	Parsons
Cen V810	A&A	93	L5	81	Eichendorf et al.
Cen Zeta	A&A	74	L4	79	Hack
Cen Proxima	ApJ	236	L33	80	Haisch & Linsky
Cen Proxima	ApJ	245	1009	81	Haisch et al.
Cen Proxima	ApJ	251	113	81	Giampapa et al.
Cen Proxima	ApJ	258	740	82	Giampapa et al.
Cen Proxima	ApJ	260	670	82	Linsky et al.
Cen Proxima	A&A	104	240	81	Saxner
CenA 3	PASP	93	60	81	Sadakane & Jugaku
CenA 3	A&A	74	L4	79	Hack
CenA Alpha	ApJ	229	L27	79	Linsky & Haisch
CenA Alpha	ApJ	234	1023	79	Basri & Linsky
CenA Alpha	ApJ	235	76	80	Ayres & Linsky
CenA Alpha	ApJ	248	L73	81	Hallam & Wolff
CenA Alpha	ApJ	256	550	82	Ayres et al.
CenA Alpha	ApJ	260	670	82	Linsky et al.
CenA Alpha	ApJ	261	220	82	Barry & Schoolman
CenA Alpha	ApJ	263	791	82	Ayres et al.
CenA Alpha	A&A	104	240	81	Saxner
CenA Beta	ApJ	245	201	81	Parsons
CenB Alpha	ApJ	229	L27	79	Linsky & Haisch
CenB Alpha	ApJ	234	1023	79	Basri & Linsky
CenB Alpha	ApJ	235	76	80	Ayres & Linsky
CenB Alpha	ApJ	248	L73	81	Hallam & Wolff
CenB Alpha	ApJ	256	550	82	Ayres et al.
CenB Alpha	ApJ	260	670	82	Linsky et al.
CenB Alpha	A&A	104	240	81	Saxner
CenC Alpha	ApJ	236	L33	80	Haisch & Linsky
CenC Alpha	ApJ	245	1009	81	Haisch et al.
Cep 9	MN	192	417	80	Tarafdar et al.
Cep 9	ApJ	247	860	81	Koornneef & Code
Cep 9	ApJ	256	568	82	Odegard & Cassinelli
Cep 19	ApJ	239	502	80	Black et al.
Cep 26	ApJ	239	502	80	Black et al.
Cep 26	ApJ	247	860	81	Koornneef & Code
Cep Delta	ApJ	234	1023	79	Basri & Linsky
Cep Delta	ApJ	239	555	80	Parsons
Cep Delta	ApJS	48	185	82	Schmidt & Parsons
Cep Epsilon	ApJ	238	221	80	Stencel & Mullan
Cep Eta	ApJ	238	221	80	Stencel & Mullan
Cep Eta	ApJS	44	383	80	Stencel et al.

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
Cep Eta	ApJ	244	504	81	Boha-Vitense
Cep Gamma	ApJ	238	221	80	Stencel & Mullan
Cep Gamma	ApJS	44	383	80	Stencel et al.
Cep Gamma	ApJ	244	504	81	Boha-Vitense
Cep Gamma	ApJ	253	716	82	Mullan & Stencel
Cep Iota	ApJ	238	221	80	Stencel & Mullan
Cep Iota	ApJS	44	383	80	Stencel et al.
Cep Lambda	ApJ	250	660	81	Garmany et al.
Cep OB1	A&A	102	296	81	Stickland & Lambert
Cep OB3	A&A	111	130	82	Barsella et al.
Cep U	ApJ	233	906	79	Kondo et al.
Cep U	ApJ	247	202	81	Kondo et al.
Cep VV	ApJ	238	203	80	Hagen et al.
Cep VV	ApJ	244	552	81	Johnson
Cep VV	ApJ	251	597	81	Stencel & Chapman
Cep VV	A&A	76	L18	79	Faraggiana & Selvelli
Cep VW	ApJ	252	214	82	Hartmann et al.
Cep VW	A&A	104	240	81	Saxner
Cep Zeta	ApJ	235	519	80	Haisch et al.
Ceres	Nat	287	701	80	Butterworth et al.
Cet 48	ApJ	244	199	81	Witt et al.
Cet Alpha	ApJ	234	1023	79	Basri & Linsky
Cet Alpha	MN	197	791	81	Stickland & Sanner
Cet Beta	ApJ	229	L27	79	Linsky & Haisch
Cet Beta	ApJ	234	1023	79	Basri & Linsky
Cet Beta	ApJ	234	1023	79	Basri & Linsky
Cet Beta	ApJ	238	221	80	Stencel & Mullan
Cet Beta	ApJS	44	383	80	Stencel et al.
Cet Beta	ApJ	247	545	81	Ayres et al.
Cet Beta	ApJ	257	225	82	Simon et al.
Cet Chi	A&A	76	249	79	Rego &Fernandez-Figueroa
Cet Chi	A&A	82	221	80	Fernandez-Figueroa et al
Cet Iota	ApJ	238	221	80	Stencel & Mullan
Cet Iota	ApJS	44	383	80	Stencel et al.
Cet Kappa	A&A	99	141	81	Fernandez-Figueroa et al
Cet Kappa	A&A	102	207	81	De Castro et al.
Cet Kappa	A&AS	39	251	80	Rego et al.
Cet Omicron	ApJ	244	552	81	Johnson
Cet Pi	MN	191	33p	80	Stickland & Dworetsky
Cet Pi	A&A	97	L9	81	Underhill
Cet Rho	MN	197	791	81	Stickland & Sanner
Cet Tau	A&AS	47	295	82	Beckman et al.
Cet UV	ApJ	251	113	81	Giampapa et al.
Cet UV	ApJ	258	740	82	Giampapa et al.
Cet UV	ApJ	260	670	82	Linsky et al.
Cet WW	A&A	113	76	82	Klare et al.
Cha Z	MN	196	73	81	Rayne & Whelan
Cir Beta	ApJ	244	938	81	Boha-Vitense
Cir Delta	ApJ	237	19	80	Bruhweiler et al.
CnV Beta	A&A	76	249	79	Rego &Fernandez-Figueroa
Cnc K	PASP	93	60	81	Sadakane & Jugaku
Cnc Kappa	A&A	111	362	82	Davidson & Bord
Cnc Kappa	ApJ	250	687	81	Leckrone
Cnc Kappa	ApJ	258	674	82	Bord & Davidson
Cnc Nu	PASP	93	60	81	Sadakane & Jugaku
Cnc Nu	ApJ	250	687	81	Leckrone
Cnc SY	ApJ	247	577	81	Szkody
Cnc YZ	ApJ	247	577	81	Szkody
Cohen-Schwtz	ApJ	263	L35	82	Boha & Boha-Vitense
Col Mu	Nat	275	377	78	Boggess et al.
Col Mu	Nat	275	404	78	Boksenberg et al.
Col Mu	ApJ	239	502	80	Black et al.
Col Mu	ApJ	249	109	81	Bohlin & Savage
Col Mu	ApJ	250	660	81	Garmany et al.
Col Mu	A&A	85	1	80	Bohlin et al.
Com 31	ApJ	258	628	82	Boha-Vitense
Com Beta	A&A	113	94	82	De Castro et al.
Com Beta	A&A	76	249	79	Rego &Fernandez-Figueroa
Com Beta	A&A	82	221	80	Fernandez-Figueroa et al
Com Beta	ApJ	258	628	82	Boha-Vitense
Com Beta	A&A	102	207	81	De Castro et al.
Com FK	ApJ	247	L131	81	Bopp & Stencel
Com Gamma	ApJ	238	221	80	Stencel & Mullan
Com Gamma	ApJS	44	383	80	Stencel et al.
Com T132	ApJ	261	220	82	Barry & Schoolman
Com T58	ApJ	261	220	82	Barry & Schoolman
Com T85	ApJ	261	220	82	Barry & Schoolman
Com T90	ApJ	261	220	82	Barry & Schoolman
Cr 228	ApJ	250	660	81	Garmany et al.
CrA S	Nat	296	816	82	Canuto et al.
CrA S	RGSP	20	280	82	Zahnle & Walker
CrA S	ApJ	251	113	81	Giampapa et al.
CrA S	A&A	73	L4	79	Gaha et al.
CrA S	A&A	75	164	79	Appenzeller & Wolf
CrA S	A&A	90	184	80	Appenzeller et al.
CrB Beta	ApJ	236	560	80	Boha-Vitense & Dettmann
CrB Gamma	A&A	107	326	82	Fracassini & Pasinetti
CrB Iota	Nat	299	535	82	Jacobs & Dworetsky
CrB Iota	ApJ	250	687	81	Leckrone
CrB R	MN	195	71p	81	Rao et al.
CrB Sigma	ApJ	252	214	82	Hartmann et al.
CrB T	MN	195	61	81	Barlow et al.
CrB T	ApJ	251	205	81	Ferguson et al.
CrB T	ApJ	251	221	81	Williams et al.
CrB T	A&A	102	337	81	Krautter et al.
Crab Neb	ApJ	253	696	82	Davidson et al.
Crab Neb SN	MN	192	861	80	Panagia et al.
Crt Delta	ApJ	238	221	80	Stencel & Mullan
Crt Delta	ApJS	44	383	80	Stencel et al.
Crt Delta	ApJ	253	716	82	Mullan & Stencel
Crt Delta	ApJ	257	225	82	Simon et al.
Cru Epsilon	ApJ	234	1023	79	Basri & Linsky
Cru Gamma	MN	197	791	81	Stickland & Sanner
Cru OB1	ApJ	250	L25	81	Cowie et al.
Cru OB1	ApJ	250	660	81	Garmany et al.
Crv Beta	ApJ	252	214	82	Hartmann et al.
Crv Beta	ApJ	257	225	82	Simon et al.
Crv OB1	ApJ	248	528	81	Cowie et al.

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
Cyg 1	MN	197	235	81	Fosbury et al.
Cyg 1	ApJ	238	601	80	Benvenuti et al.
Cyg 2	ApJ	238	601	80	Benvenuti et al.
Cyg V382	PASP	91	474	79	Koch et al.
Cyg V444	MN	196	101	81	Barlow et al.
Cyg V819	ApJ	245	201	81	Parsons
Cyg 31	ApJ	237	19	80	Bruhweiler et al.
Cyg 32	ApJ	233	621	79	Stencel et al.
Cyg 32	ApJ	237	19	80	Bruhweiler et al.
Cyg 32	ApJ	244	552	81	Johnson
Cyg 32	A&A	107	36	82	Heape & Reimers
Cyg 32	A&A	115	133	82	Heape
Cyg 32	ApJ	251	597	81	Stencel & Chapman
Cyg 33	ApJ	244	938	81	Boha-Vitense
Cyg 47	A&A	107	36	82	Heape & Reimers
Cyg 55	ApJ	235	L149	80	Underhill
Cyg 55	ApJ	256	568	82	Odegard & Cassinelli
Cyg 59	ApJ	235	L17	80	Doazan et al.
Cyg 61	A&A	115	280	82	Blanco et al.
Cyg 68	ApJ	239	502	80	Black et al.
Cyg Alpha	ApJ	235	L149	80	Underhill
Cyg Alpha	A&A	76	L18	79	Faraggiana & Selvelli
Cyg Alpha	A&A	88	15	80	Wolf et al.
Cyg Alpha	A&A	101	161	81	Hellings et al.
Cyg CH	Nat	279	305	79	Hack
Cyg CH	A&A	107	200	82	Hack & Selvelli
Cyg CI	A&A	112	341	82	Holm et al.
Cyg CI	ApJ	253	L77	82	Stencel et al.
Cyg EM	ApJ	247	577	81	Szkody
Cyg Epsilon	ApJ	238	221	80	Stencel & Mullan
Cyg Gamma	ApJ	234	1023	79	Basri & Linsky
Cyg Gamma	ApJ	236	560	80	Boha-Vitense & Dettmann
Cyg Gamma	MN	195	71p	81	Rao et al.
Cyg Gamma	ApJ	239	555	80	Parsons
Cyg Gamma	ApJS	44	383	80	Stencel et al.
Cyg Gamma	ApJ	244	504	81	Boha-Vitense
Cyg Iota	ApJ	244	938	81	Boha-Vitense
Cyg Iota	A&A	107	326	82	Fracassini & Pasinetti
Cyg Loop	MN	192	83p	80	Danziger et al.
Cyg Loop	ApJ	238	881	80	Raymond et al.
Cyg Loop	Nat	277	99	79	Benvenuti at al.
Cyg Loop	ApJ	246	100	81	Raymond et al.
Cyg Loop	A&A	92	22	80	D'Odorico et al.
Cyg OB1	ApJ	250	701	81	Drilling
Cyg OB3	ApJ	248	528	81	Cowie et al.
Cyg OB3	ApJ	250	L25	81	Cowie et al.
Cyg OB3	ApJ	250	660	81	Garmany et al.
Cyg OB7	ApJ	248	528	81	Cowie et al.
Cyg OB7	ApJ	250	L25	81	Cowie et al.
Cyg P	ApJ	233	913	79	Hutchings
Cyg P	ApJ	234	528	79	Underhill
Cyg P	ApJ	238	969	80	Dupree et al.
Cyg P	PASP	93	626	81	Hutchings & van Heteren
Cyg P	ApJ	246	464	81	McCluskey & Kondo
Cyg P	A&A	78	15	79	Wolf & Appenzeller
Cyg P	A&A	79	L13	79	Burki&Lorente de Andres
Cyg P	A&A	79	223	79	Cassatella et al.
Cyg P	A&A	97	L9	81	Underhill
Cyg P	A&A	99	351	81	Wolf et al.
Cyg P	A&A	103	94	81	Wolf et al.
Cyg P	A&A	104	L7	81	Goldberg
Cyg SS	MN	196	73	81	Rayne & Whelan
Cyg SS	Nat	275	385	78	Heap et al.
Cyg SS	ApJ	243	911	81	Fabbiano et al.
Cyg SS	ApJ	247	577	81	Szkody
Cyg SS	A&A	102	31	81	Mouchet et al.
Cyg Sigma	ApJ	256	568	82	Odegard & Cassinelli
Cyg Tau	A&A	107	326	82	Fracassini & Pasinetti
Cyg Theta	ApJ	258	628	82	Boha-Vitense
Cyg U	A&A	111	120	82	Querci et al.
Cyg V1016	ApJ	238	929	80	Stencel & Sahade
Cyg V1016	ApJ	245	630	81	Altamore et al.
Cyg V1016	A&A	116	265	82	Kindl et al.
Cyg V1016	A&A	72	L1	79	Flower et al.
Cyg V1016	ApJ	258	548	82	Feibelman
Cyg V1016	A&A	101	118	81	Nussbaumer & Schild
Cyg V1016	ApJ	263	L69	82	Feibelman
Cyg V1329	ApJ	258	548	82	Feibelman
Cyg V1331	A&A	93	412	81	Mundt et al.
Cyg V1341	ApJ	241	L23	80	Maraschi et al.
Cyg V1668	MN	197	107	81	Stickland et al.
Cyg V1668	A&A	93	320	81	Friedjung
Cyg X-1	ApJ	237	L71	80	Pravdo et al.
Cyg X-1	Nat	275	400	78	Dupree et al.
Cyg X-1	ApJ	242	1114	80	Treves et al.
Cyg X-2	ApJ	241	L23	80	Maraschi et al.
Cyg Xi	ApJ	238	221	80	Stencel & Mullan
Cyg Xi	ApJS	44	383	80	Stencel et al.
Cyg Xi	ApJ	244	504	81	Boha-Vitense
Cyg Zeta	ApJ	234	1023	79	Basri & Linsky
Cyg Zeta	ApJ	238	221	80	Stencel & Mullan
Cyg Zeta	ApJ	239	L79	80	Boha-Vitense
Cyg Zeta	ApJS	44	383	80	Stencel et al.
Cyg Zeta	ApJ	244	504	81	Boha-Vitense
Cyg Zeta	ApJ	252	214	82	Hartmann et al.
Cyg Zeta	ApJ	253	716	82	Mullan & Stencel
Cyg Zeta	ApJ	257	225	82	Simon et al.
CygA 61	ApJ	248	L73	81	Hallam & Wolff
CygB 16	ApJ	261	220	82	Barry & Schoolman
CygB 61	ApJ	248	L73	81	Hallam & Wolff
CygB 61	ApJ	251	113	81	Giampapa et al.
CygB 61	ApJ	258	740	82	Giampapa et al.
CygB 61	ApJ	260	670	82	Linsky et al.
D 1-9	ApJ	255	70	82	Hutchings
Del HR	PASP	91	661	79	Hutchings
Del HR	PASP	92	458	80	Hutchings
Del HR	A&A	108	243	82	Rosino et al.
Del HR	A&A	114	351	82	Friedjung et al.

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Del HR	A&A	99	166	81	Drechsel et al.
Del HR	A&A	102	337	81	Krautter et al.
Dor 30	ApJ	230	L77	79	Savage & de Boer
Dor 30	MN	192	769	80	Clavel et al.
Dor 30	MN	193	875	80	Gondhalekar et al.
Dor 30	ApJ	236	769	80	De Boer et al.
Dor 30	Nat	276	478	78	Nandy & Morgan
Dor 30	Nat	282	272	79	Benvenuti et al.
Dor 30	Nat	283	725	80	Nandy et al.
Dor 30	ApJ	245	49	81	Koornneef & Mathis
Dor 30	ApJ	246	788	81	Seab et al.
Dor 30	ApJ	247	860	81	Koornneef & Code
Dor 30	ApJ	252	461	82	Dufour et al.
Dor 30	ApJ	255	447	82	De Boer & Nash
Dor 30	A&A	101	184	81	Bonnet-Bidaud et al.
Dor 30	A&A	103	305	81	Lequeux et al.
Dor AA	A&A	106	254	82	Kudritzki et al.
Dor Beta	ApJ	239	555	80	Parsons
Dor Beta	ApJS	48	185	82	Schmidt & Parsons
Dor Gamma	ApJ	244	504	81	Bohm-Vitense
Dor Gamma	ApJ	258	628	82	Bohm-Vitense
Dor S	A&A	88	15	80	Wolf et al.
Dor S	A&A	99	351	81	Wolf et al.
Dor S	A&A	103	94	81	Wolf et al.
Dra 4	A&A	107	292	82	Reimers
Dra 45	ApJ	236	560	80	Bohm-Vitense & Dettmann
Dra 45	ApJ	244	504	81	Bohm-Vitense
Dra 46	ApJ	250	687	81	Leckrone
Dra 73	PASP	93	60	81	Sadakane & Jugaku
Dra 73	ApJ	250	687	81	Leckrone
Dra AB	ApJ	247	577	81	Szkody
Dra BY	ApJ	241	279	80	Ayres & Linsky
Dra Beta	ApJ	229	L27	79	Linsky & Haisch
Dra Beta	ApJ	234	1023	79	Basri & Linsky
Dra Beta	ApJ	235	519	80	Haisch et al.
Dra Beta	ApJ	236	560	80	Bohm-Vitense & Dettmann
Dra Beta	ApJ	238	221	80	Stencel & Mullan
Dra Beta	ApJS	44	383	80	Stencel et al.
Dra Beta	ApJ	251	162	81	Basri et al.
Dra Beta	ApJ	253	716	82	Mullan & Stencel
Dra Beta	ApJ	256	550	82	Ayres et al.
Dra Beta	ApJ	257	225	82	Simon et al.
Dra Chi	ApJ	258	628	82	Bohm-Vitense
Dra Delta	ApJ	235	519	80	Haisch et al.
Dra Eta	ApJ	235	519	80	Haisch et al.
Dra Eta	ApJ	252	214	82	Hartmann et al.
Dra Eta	ApJ	257	225	82	Simon et al.
Dra Gamma	MN	197	791	81	Stickland & Sanner
Dra Gamma	ApJ	257	225	82	Simon et al.
Dra Iota	ApJ	238	221	80	Stencel & Mullan
Dra Iota	ApJS	44	383	80	Stencel et al.
Dra Mu	ApJ	241	279	80	Ayres & Linsky
Dra Nu 1	ApJ	236	560	80	Bohm-Vitense & Dettmann
Dra Nu 1	A&A	92	219	80	Bohm-Vitense

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
Dra Nu 2	ApJ	236	560	80	Bohm-Vitense & Dettmann
Dra Zeta	A&A	97	L9	81	Underhill
Dra Zeta	A&A	101	161	81	Hellings et al.
Dumbbell	ApJ	252	635	82	Bohlin et al.
EG 9	A&A	100	113	81	Vauclair et al.
EG 15	ApJ	229	L141	79	Greenstein & Oke
EG 20	ApJ	229	L141	79	Greenstein & Oke
EG 21a	ApJ	261	L87	82	Wegner
EG 33	ApJ	241	L89	80	Greenstein
EG 39	ApJ	229	L141	79	Greenstein & Oke
EG 50	ApJ	229	L141	79	Greenstein & Oke
EG 50	ApJ	241	L89	80	Greenstein
EG 54	A&A	113	L13	82	Koester et al.
EG 82	A&A	83	L13	80	Weidemann et al.
EG 86	ApJ	229	L141	79	Greenstein & Oke
EG 98	ApJ	229	L141	79	Greenstein & Oke
EG 131	ApJ	245	L27	81	Wegner
EG 134	ApJ	229	L141	79	Greenstein & Oke
EG 139	ApJ	229	L141	79	Greenstein & Oke
EG 139	ApJ	241	L89	80	Greenstein
EG 144	ApJ	229	L141	79	Greenstein & Oke
EG 144	ApJ	241	L89	80	Greenstein
EG 182	A&A	83	L13	80	Weidemann et al.
EG 184	ApJ	229	L141	79	Greenstein & Oke
EG 245	ApJ	248	L129	81	Wegner
EG 264	A&A	113	L13	82	Koester et al.
ESO 113-1645	MN	199	409	82	Pettini et al.
ESO 141-655	ApJ	242	14	80	Wu et al.
Electron	A&AS	47	547	82	Golay & Mauron
Eri 27	ApJ	258	628	82	Bohm-Vitense
Eri Alpha	MN	199	591	82	De Freitas Pacheco
Eri Beta	ApJ	244	938	81	Bohm-Vitense
Eri Epsilon	ApJ	229	L27	79	Linsky & Haisch
Eri Epsilon	ApJ	234	1023	79	Basri & Linsky
Eri Epsilon	ApJ	234	1023	79	Basri & Linsky
Eri Epsilon	ApJ	235	519	80	Haisch et al.
Eri Epsilon	ApJ	237	72	80	Simon et al.
Eri Epsilon	Nat	275	389	78	Linsky et al.
Eri Epsilon	ApJ	247	545	81	Ayres et al.
Eri Epsilon	ApJ	248	L73	81	Hallam & Wolff
Eri Epsilon	ApJ	252	214	82	Hartmann et al.
Eri Epsilon	ApJ	260	670	82	Linsky et al.
Eri Epsilon	A&A	102	207	81	De Castro et al.
Eri Epsilon	A&A	104	240	81	Saxner
Eri Gamma	ApJ	234	1023	79	Basri & Linsky
Eri Omicron1	A&A	107	326	82	Fracassini & Pasinetti
EriB 40	ApJ	241	L89	80	Greenstein
EriC 40	ApJ	241	L89	80	Greenstein
Europa	Nat	292	38	81	Lane et al.
FB 103	A&A	112	76	82	Baschek et al.
FD 70	MN	193	875	80	Gondhalekar et al.
FD 70	MN	193	43p	80	Nandy et al.
Fairall 9	ApJ	242	14	80	Wu et al.
Fairall 9	ApJ	255	467	82	York et al.

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Fairall 9	ApJ	261	30	82	Gregory et al.
Feige 4	PASP	94	553	82	Hola & Boggess
Feige 24	ApJ	229	L141	79	Greenstein & Oke
Feige 66	A&A	108	387	82	Baschek et al.
Feige 66	A&A	112	76	82	Baschek et al.
Feige 86	A&A	74	L4	79	Hack
Feige 86	A&A	81	L1	80	Hack
Feige 86	ApJ	259	77	82	Welch
For Alpha	ApJ	234	1023	79	Basri & Linsky
G 10-11	A&A	116	147	82	Koester et al.
G 33-49	A&A	109	7	82	Vauclair et al.
G 33-49	A&A	116	147	82	Koester et al.
G 33-49	A&A	100	113	81	Vauclair et al.
G 35-29	ApJ	229	L141	79	Greenstein & Oke
G 42-43	A&A	116	147	82	Koester et al.
G 47-18	A&A	116	147	82	Koester et al.
G 47-18	A&A	83	L13	80	Weidemann et al.
G 61-29	PASP	93	477	81	Lambert & Slovak
G 87-29	A&A	116	147	82	Koester et al.
G 87-7	ApJ	229	L141	79	Greenstein & Oke
G 102-39	A&A	116	147	82	Koester et al.
G 126-27	A&A	116	147	82	Koester et al.
G 126-27	A&A	100	113	81	Vauclair et al.
G 130-49	A&A	116	147	82	Koester et al.
G 142-50	ApJ	229	L141	79	Greenstein & Oke
G 175-34B	A&A	116	147	82	Koester et al.
G 175-34B	A&A	100	113	81	Vauclair et al.
G 184-12	A&A	116	147	82	Koester et al.
G 186-31	ApJ	229	L141	79	Greenstein & Oke
G 187-15	A&A	116	147	82	Koester et al.
G 191-B2B	ApJ	248	L123	81	Bruhweiler & Kondo
G 191-B2B	ApJ	259	232	82	Bruhweiler & Kondo
G 195-19	A&A	116	147	82	Koester et al.
G 218-8	ApJ	248	L129	81	Wegner
G 218-8	A&A	116	147	82	Koester et al.
G 261-43	ApJ	229	L141	79	Greenstein & Oke
G 268-40	A&A	116	147	82	Koester et al.
G 273-13	A&A	113	L13	82	Koester et al.
G 295.2-0.6	ApJ	245	201	81	Parsons
GD 140	ApJ	229	L141	79	Greenstein & Oke
GD 229	PASP	93	105	81	Green & Liebert
GD 401	ApJ	238	941	80	Cottrell & Greenstein
GG 2-1	A&A	93	412	81	Mundt et al.
GL 380	ApJ	251	113	81	Giampapa et al.
GL 380	ApJ	258	740	82	Giampapa et al.
GL 393	ApJ	258	740	82	Giampapa et al.
GL 411	ApJ	251	113	81	Giampapa et al.
GL 411	ApJ	258	740	82	Giampapa et al.
GL 526	ApJ	258	740	82	Giampapa et al.
GL 616.2	ApJ	258	740	82	Giampapa et al.
GT 0236+610	PASP	91	657	79	Hutchings
GT 0236+610	PASP	93	486	81	Hutchings & Crampton
GT 0236+610	ApJ	248	977	81	Jenkins et al.
GT 0236+610	ApJ	248	1010	81	Maraschi et al.

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GX 263+3	ApJ	238	969	80	Dupree et al.
Ganymede	Nat	275	414	78	Lane et al.
Ganymede	Nat	292	38	81	Lane et al.
Gem 3	ApJ	256	568	82	Odegard & Cassinelli
Gem Beta	ApJ	234	1023	79	Basri & Linsky
Gem Beta	ApJ	235	519	80	Haisch et al.
Gem Beta	ApJ	238	221	80	Stencel & Mullan
Gem Beta	ApJS	44	383	80	Stencel et al.
Gem Beta	ApJ	258	628	82	Bohm-Vitense
Gem Beta	A&A	102	207	81	De Castro et al.
Gem Epsilon	ApJ	229	L27	79	Linsky & Haisch
Gem Epsilon	ApJ	234	1023	79	Basri & Linsky
Gem Epsilon	ApJ	235	519	80	Haisch et al.
Gem Epsilon	ApJ	238	221	80	Stencel & Mullan
Gem Epsilon	ApJ	251	162	81	Basri et al.
Gem Epsilon	ApJ	257	225	82	Simon et al.
Gem Mu	ApJ	234	1023	79	Basri & Linsky
Gem OB1	ApJ	248	528	81	Cowie et al.
Gem OB1	ApJ	250	L25	81	Cowie et al.
Gem OB1	ApJ	250	660	81	Garmany et al.
Gem Sigma	ApJ	241	279	80	Ayres & Linsky
Gem Sigma	ApJ	252	214	82	Hartmann et al.
Gem TV	ApJ	241	774	80	Michalitsianos et al.
Gem U	MN	196	73	81	Rayne & Whelan
Gem U	ApJ	243	911	81	Fabbiano et al.
Gem U	ApJ	247	577	81	Szkody
Gem Xi	ApJS	48	185	82	Schmidt & Parsons
Gem Zeta	ApJ	239	555	80	Parsons
Gliese 551	ApJ	245	1009	81	Haisch et al.
Gliese 803	MN	197	791	81	Stickland & Sanner
Gliese 825	MN	197	791	81	Stickland & Sanner
Gliese 867A	MN	197	791	81	Stickland & Sanner
Gr 333	PASP	93	105	81	Green & Liebert
Gru Beta	MN	191	37p	80	Brown & Jordan
Gru Beta	MN	197	791	81	Stickland & Sanner
Grw +73.8031	ApJ	229	L141	79	Greenstein & Oke
Grw +73.8031	ApJ	241	L89	80	Greenstein
Gum Nebula	ApJ	229	L39	79	Bruhweiler et al.
Gum Nebula	ApJ	248	977	81	Jenkins et al.
H 2252-035	MN	197	275	81	Hassall et al.
HB 12	ApJ	258	562	82	Feibelman
HBV 475	ApJ	258	548	82	Feibelman
HD 108	ApJ	238	909	80	Hutchings & von Rudloff
HD 108	PASP	93	626	81	Hutchings & van Heteren
HD 108	ApJ	248	528	81	Cowie et al.
HD 108	ApJ	251	126	81	Bruhweiler et al.
HD 432	A&A	107	326	82	Fracassini & Pasinetti
HD 829	ApJ	246	788	81	Seab et al.
HD 905	A&A	115	280	82	Blanco et al.
HD 1326A	ApJ	260	670	82	Linsky et al.
HD 1337	ApJ	237	19	80	Bruhweiler et al.
HD 1337	ApJ	246	464	81	McCluskey & Kondo
HD 1522	ApJS	44	383	80	Stencel et al.
HD 1581	A&AS	47	295	82	Beckman et al.

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
HD 2151	ApJ	234	1023	79	Basri & Linsky
HD 2151	ApJS	44	383	80	Stencel et al.
HD 2151	A&AS	47	295	82	Beckman et al.
HD 2261	ApJS	44	383	80	Stencel et al.
HD 2261	ApJ	257	225	82	Simon et al.
HD 2905	ApJ	248	528	81	Cowie et al.
HD 3360	ApJ	249	109	81	Bohlin & Savage
HD 3712	ApJ	234	1023	79	Basri & Linsky
HD 3712	ApJS	44	383	80	Stencel et al.
HD 3712	ApJ	257	225	82	Simon et al.
HD 3712	A&A	102	207	81	De Castro et al.
HD 4004	MN	196	101	81	Barlow et al.
HD 4128	ApJ	234	1023	79	Basri & Linsky
HD 4128	ApJS	44	383	80	Stencel et al.
HD 4128	ApJ	257	225	82	Simon et al.
HD 4174	ApJ	238	929	80	Stencel & Sahade
HD 4174	ApJS	44	383	80	Stencel et al.
HD 4502	A&A	102	207	81	De Castro et al.
HD 4862	ApJ	255	70	82	Hutchings
HD 4976	MN	201	1p	82	Nandy et al.
HD 5005	ApJ	248	528	81	Cowie et al.
HD 5045	ApJ	255	70	82	Hutchings
HD 5980	ApJ	238	86	80	De Boer & Savage
HD 5980	ApJ	243	460	81	Savage & de Boer
HD 6680	A&A	115	280	82	Blanco et al.
HD 6860	ApJ	234	1023	79	Basri & Linsky
HD 7099	ApJ	255	70	82	Hutchings
HD 8890	ApJ	234	1023	79	Basri & Linsky
HD 8890	ApJS	44	383	80	Stencel et al.
HD 9132	ApJ	244	199	81	Witt et al.
HD 9132	ApJ	246	161	81	Sitko et al.
HD 9927	ApJ	234	1023	79	Basri & Linsky
HD 9927	ApJS	44	383	80	Stencel et al.
HD 9974	A&AS	47	257	82	Nussbaumer et al.
HD 10144	MN	199	591	82	De Freitas Pacheco
HD 10250	ApJ	246	161	81	Sitko et al.
HD 10700	A&AS	47	295	82	Beckman et al.
HD 10747	ApJ	243	460	81	Savage & de Boer
HD 12311	A&AS	47	295	82	Beckman et al.
HD 12869	A&A	107	75	82	Crivellari & Praderie
HD 12929	ApJ	234	1023	79	Basri & Linsky
HD 12929	ApJS	44	383	80	Stencel et al.
HD 12929	ApJ	257	225	82	Simon et al.
HD 13854	ApJ	239	502	80	Black et al.
HD 14143	MN	196	533	81	Phillips & Gondhalekar
HD 14143	ApJ	238	909	80	Hutchings & von Rudloff
HD 14633	AJ	86	881	81	Feibelman et al.
HD 14818	MN	196	533	81	Phillips & Gondhalekar
HD 14947	ApJ	238	190	80	Conti & Garmany
HD 14947	ApJ	250	660	81	Garmany et al.
HD 15558	ApJ	238	190	80	Conti & Garmany
HD 15558	A&A	107	43	82	Llorente de Andres et al
HD 15558	A&A	79	L13	79	Burki&Lorente de Andres
HD 15570	MN	190	27p	80	Willis & Stickland

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
HD 15570	MN	193	43p	80	Nandy et al.
HD 15570	ApJ	238	190	80	Conti & Garmany
HD 15570	A&A	107	43	82	Llorente de Andres et al
HD 15570	A&A	79	L13	79	Burki&Lorente de Andres
HD 15629	ApJ	238	190	80	Conti & Garmany
HD 15629	A&A	107	43	82	Llorente de Andres et al
HD 15629	ApJ	250	660	81	Garmany et al.
HD 15629	A&A	79	L13	79	Burki&Lorente de Andres
HD 16429	ApJ	238	190	80	Conti & Garmany
HD 16523	A&AS	47	257	82	Nussbaumer et al.
HD 16691	ApJ	238	190	80	Conti & Garmany
HD 18100	ApJ	260	561	82	Pettini & West
HD 18256	A&A	96	17	81	Garcia-Alegre et al.
HD 18884	ApJ	234	1023	79	Basri & Linsky
HD 19445	A&A	93	290	81	Norgaard-Nlsn&Kjaergaard
HD 20010	ApJ	234	1023	79	Basri & Linsky
HD 20630	A&A	99	141	81	Fernandez-Figueroa et al
HD 20630	A&A	102	207	81	De Castro et al.
HD 20722	PASP	93	285	81	Johnson
HD 20902	ApJ	234	1023	79	Basri & Linsky
HD 20902	ApJ	239	555	80	Parsons
HD 21242	ApJ	239	911	80	Simon et al.
HD 21291	ApJ	235	L149	80	Underhill
HD 21389	ApJ	235	L149	80	Underhill
HD 22049	ApJ	234	1023	79	Basri & Linsky
HD 22049	ApJ	248	L73	81	Hallam & Wolff
HD 22586	ApJ	260	561	82	Pettini & West
HD 23180	ApJ	239	502	80	Black et al.
HD 23302	A&AS	47	547	82	Golay & Mauron
HD 23324	A&AS	47	547	82	Golay & Mauron
HD 23338	A&AS	47	547	82	Golay & Mauron
HD 23408	ApJ	239	502	80	Black et al.
HD 23408	PASP	93	60	81	Sadakane & Jugaku
HD 23408	A&AS	47	547	82	Golay & Mauron
HD 23480	ApJ	239	502	80	Black et al.
HD 23480	A&AS	47	547	82	Golay & Mauron
HD 23512	ApJ	244	199	81	Witt et al.
HD 23568	A&AS	47	547	82	Golay & Mauron
HD 23630	A&AS	47	547	82	Golay & Mauron
HD 23850	A&AS	47	547	82	Golay & Mauron
HD 23862	A&AS	47	547	82	Golay & Mauron
HD 24534	A&A	94	345	81	Bernacca & Bianchi
HD 24760	ApJ	254	88	82	York & Jura
HD 25025	ApJ	234	1023	79	Basri & Linsky
HD 25340	ApJ	246	161	81	Sitko et al.
HD 25340	ApJ	259	77	82	Welch
HD 26574	A&A	107	326	82	Fracassini & Pasinetti
HD 26676	A&A	77	359	79	Stickland
HD 27442	ApJS	44	383	80	Stencel et al.
HD 27819	A&A	107	75	82	Crivellari & Praderie
HD 29138	ApJ	260	561	82	Pettini & West
HD 29138	MN	200	431	82	Tarafdar & Krishna Swamy
HD 29139	ApJ	234	1023	79	Basri & Linsky
HD 29139	A&A	115	280	82	Blanco et al.

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
HD 29139	ApJ	257	225	82	Simon et al.
HD 29335	ApJ	246	161	81	Sitko et al.
HD 29335	ApJ	259	77	82	Welch
HD 29589	ApJ	246	161	81	Sitko et al.
HD 29647	ApJ	242	L83	80	Snow & Seab
HD 29647	ApJ	246	788	81	Seab et al.
HD 30353	A&A	113	L22	82	Drilling & Schonberner
HD 30614	ApJ	239	502	80	Black et al.
HD 31293	ApJ	254	658	82	Praderie et al.
HD 31398	ApJ	234	1023	79	Basri & Linsky
HD 31398	A&A	107	292	82	Reimers
HD 31398	ApJ	257	225	82	Simon et al.
HD 31512	ApJ	246	161	81	Sitko et al.
HD 31512	ApJ	259	77	82	Welch
HD 31648	ApJ	246	161	81	Sitko et al.
HD 31648	ApJ	247	1024	81	Sitko
HD 31726	MN	198	779	82	Morgan et al.
HD 31964	ApJ	239	555	80	Parsons
HD 31964	A&AS	50	233	82	Castelli et al.
HD 32068	A&A	99	185	81	Hack
HD 32228	ApJ	255	70	82	Hutchings
HD 32633	ApJ	250	687	81	Leckrone
HD 32887	ApJ	234	1023	79	Basri & Linsky
HD 33256	A&A	96	17	81	Garcia-Alegre et al.
HD 33579	A&A	88	15	80	Wolf et al.
HD 33599	ApJ	243	460	81	Savage & de Boer
HD 34085	ApJ	235	L149	80	Underhill
HD 34816	ApJ	249	109	81	Bohlin & Savage
HD 35039	ApJS	48	415	82	Kamp
HD 35296	ApJ	248	L73	81	Hallam & Wolff
HD 35296	A&A	96	17	81	Garcia-Alegre et al.
HD 35411	ApJ	237	19	80	Bruhweiler et al.
HD 35708	ApJS	48	415	82	Kamp
HD 36079	ApJ	234	1023	79	Basri & Linsky
HD 36079	ApJ	257	225	82	Simon et al.
HD 36402	ApJ	238	86	80	De Boer & Savage
HD 36402	ApJ	243	460	81	Savage & de Boer
HD 36402	ApJ	255	70	82	Hutchings
HD 36402	ApJ	255	447	82	De Boer & Nash
HD 36402	ApJ	256	578	82	Fitzpatrick et al.
HD 36486	ApJ	254	88	82	York & Jura
HD 36665	MN	191	13p	80	Gondhalekar & Phillips
HD 36665	MN	195	485	81	Phillips et al.
HD 36673	ApJ	239	555	80	Parsons
HD 36861	ApJ	239	502	80	Black et al.
HD 36879	ApJ	239	502	80	Black et al.
HD 36959	ApJS	48	415	82	Kamp
HD 36960	ApJS	48	415	82	Kamp
HD 37020	ApJ	249	109	81	Bohlin & Savage
HD 37020	ApJ	255	541	82	Franco & Savage
HD 37021	ApJ	249	109	81	Bohlin & Savage
HD 37022	ApJ	238	614	80	Perinotto & Patriarchi
HD 37022	ApJ	249	109	81	Bohlin & Savage
HD 37022	ApJ	255	541	82	Franco & Savage

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
HD 37023	ApJ	249	109	81	Bohlin & Savage
HD 37023	ApJ	255	541	82	Franco & Savage
HD 37041	ApJ	238	614	80	Perinotto & Patriarchi
HD 37041	ApJ	249	109	81	Bohlin & Savage
HD 37041	ApJ	255	541	82	Franco & Savage
HD 37042	ApJ	249	109	81	Bohlin & Savage
HD 37043	ApJ	254	88	82	York & Jura
HD 37128	ApJ	238	909	80	Hutchings & von Rudloff
HD 37128	ApJ	254	88	82	York & Jura
HD 37350	ApJ	239	555	80	Parsons
HD 37468	A&A	116	64	82	Groote & Hunger
HD 37490	ApJ	253	L33	82	Peters
HD 37742	ApJ	238	909	80	Hutchings & von Rudloff
HD 37742	ApJ	254	88	82	York & Jura
HD 37974	ApJ	247	860	81	Koornneef & Code
HD 38206	ApJ	246	161	81	Sitko et al.
HD 38268	ApJ	230	L77	79	Savage & de Boer
HD 38268	MN	193	875	80	Gondhalekar et al.
HD 38268	ApJ	236	769	80	De Boer et al.
HD 38268	ApJ	238	86	80	De Boer & Savage
HD 38268	ApJ	243	460	81	Savage & de Boer
HD 38268	ApJ	245	49	81	Koornneef & Mathis
HD 38268	ApJ	247	860	81	Koornneef & Code
HD 38268	ApJ	255	70	82	Hutchings
HD 38282	ApJ	230	L77	79	Savage & de Boer
HD 38282	MN	193	875	80	Gondhalekar et al.
HD 38282	MN	193	43p	80	Nandy et al.
HD 38282	ApJ	236	769	80	De Boer et al.
HD 38282	ApJ	238	86	80	De Boer & Savage
HD 38282	ApJ	243	460	81	Savage & de Boer
HD 38666	Nat	275	377	78	Boggess et al.
HD 38666	ApJ	239	502	80	Black et al.
HD 38666	A&A	111	130	82	Barsella et al.
HD 38666	ApJ	249	109	81	Bohlin & Savage
HD 38771	ApJ	254	88	82	York & Jura
HD 39283	ApJ	246	161	81	Sitko et al.
HD 39587	A&A	96	17	81	Garcia-Alegre et al.
HD 39801	ApJ	234	1023	79	Basri & Linsky
HD 39801	ApJ	257	225	82	Simon et al.
HD 40035	ApJ	234	1023	79	Basri & Linsky
HD 40111	MN	191	13p	80	Gondhalekar & Phillips
HD 40111	MN	195	485	81	Phillips et al.
HD 40894	ApJ	248	528	81	Cowie et al.
HD 41117	ApJ	235	L149	80	Underhill
HD 41117	ApJ	238	909	80	Hutchings & von Rudloff
HD 41117	ApJ	239	502	80	Black et al.
HD 41117	MN	200	431	82	Tarafdar & Krishna Swamy
HD 42088	ApJ	248	528	81	Cowie et al.
HD 42088	ApJ	250	L25	81	Cowie et al.
HD 42088	ApJ	250	660	81	Garmany et al.
HD 42088	AJ	86	1916	81	Snow & Joseph
HD 42690	ApJ	246	161	81	Sitko et al.
HD 42690	ApJ	259	77	82	Welch
HD 42933	ApJ	237	19	80	Bruhweiler et al.

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
HD 42933	PASP	92	688	80	Kondo et al.
HD 44179	ApJ	246	161	81	Sitko et al.
HD 44179	ApJ	247	1024	81	Sitko
HD 44478	ApJ	234	1023	79	Basri & Linsky
HD 45348	ApJ	239	555	80	Parsons
HD 45677	ApJ	237	82	80	Sitko & Savage
HD 45677	ApJ	246	161	81	Sitko et al.
HD 45677	A&A	108	111	82	De Freitas Pacheco et al
HD 45677	ApJ	247	1024	81	Sitko
HD 46056	ApJ	248	201	81	Massa & Conti
HD 46056	ApJ	250	660	81	Garmany et al.
HD 46149	ApJ	248	201	81	Massa & Conti
HD 46149	ApJ	250	660	81	Garmany et al.
HD 46150	ApJ	248	201	81	Massa & Conti
HD 46150	ApJ	250	660	81	Garmany et al.
HD 46150	ApJ	262	234	82	Ebbets & Savage
HD 46202	ApJ	248	201	81	Massa & Conti
HD 46223	ApJ	239	502	80	Black et al.
HD 46223	ApJ	248	201	81	Massa & Conti
HD 46223	ApJ	250	660	81	Garmany et al.
HD 46328	ApJS	48	415	82	Kamp
HD 46769	ApJ	256	568	82	Odegard & Cassinelli
HD 46966	ApJ	248	528	81	Cowie et al.
HD 46966	ApJ	250	L25	81	Cowie et al.
HD 47129	ApJ	229	L39	79	Bruhweiler et al.
HD 47129	ApJ	237	19	80	Bruhweiler et al.
HD 47129	ApJ	248	528	81	Cowie et al.
HD 47129	ApJ	250	L25	81	Cowie et al.
HD 47129	MN	200	431	82	Tarafdar & Krishna Swamy
HD 47205	ApJS	44	383	80	Stencel et al.
HD 47240	ApJ	248	528	81	Cowie et al.
HD 47240	ApJ	250	L25	81	Cowie et al.
HD 47432	ApJ	248	528	81	Cowie et al.
HD 47839	A&A	111	130	82	Barsella et al.
HD 48099	ApJ	238	190	80	Conti & Garmany
HD 48099	ApJ	238	190	80	Conti & Garmany
HD 48099	ApJ	248	528	81	Cowie et al.
HD 48099	ApJ	250	L25	81	Cowie et al.
HD 48099	ApJ	250	660	81	Garmany et al.
HD 48250	ApJ	246	161	81	Sitko et al.
HD 48329	ApJ	257	225	82	Simon et al.
HD 48682	A&A	96	17	81	Garcia-Alegre et al.
HD 49798	ApJS	46	255	81	Bruhweiler et al.
HD 49798	ApJ	251	126	81	Bruhweiler et al.
HD 49798	A&A	104	249	81	Hamann et al.
HD 50138	ApJ	246	161	81	Sitko et al.
HD 50138	A&A	108	111	82	De Freitas Pacheco et al
HD 50138	ApJ	247	1024	81	Sitko
HD 50241	A&AS	47	295	82	Beckman et al.
HD 50707	ApJS	48	415	82	Kamp
HD 50896	MN	191	339	80	Smith et al.
HD 50896	MN	192	73p	80	Smith & Hartquist
HD 50896	MN	196	101	81	Barlow et al.
HD 50896	MN	197	1p	81	Willis & Stickland
HD 50896	Nat	278	697	79	Huber et al.
HD 50896	A&AS	47	257	82	Mussbaumer et al.
HD 50896	A&A	87	L7	80	Sahade
HD 50896	MN	198	897	82	Willis
HD 51418	PASP	93	85	81	Adelman & Shore
HD 52721	MN	200	431	82	Tarafdar & Krishna Swamy
HD 52877	ApJS	44	383	80	Stencel et al.
HD 52973	ApJ	239	555	80	Parsons
HD 53138	ApJ	235	L149	80	Underhill
HD 53975	ApJ	248	528	81	Cowie et al.
HD 53975	ApJ	250	L25	81	Cowie et al.
HD 54605	ApJS	44	383	80	Stencel et al.
HD 54662	ApJ	238	190	80	Conti & Garmany
HD 54662	ApJ	238	190	80	Conti & Garmany
HD 54662	ApJ	248	528	81	Cowie et al.
HD 54662	ApJ	250	660	81	Garmany et al.
HD 55879	ApJ	248	528	81	Cowie et al.
HD 55879	ApJ	250	L25	81	Cowie et al.
HD 56014	A&A	100	79	81	Ringuelet et al.
HD 56925	ApJ	235	66	80	Johnson
HD 57060	ApJ	237	19	80	Bruhweiler et al.
HD 57060	ApJ	238	909	80	Hutchings & von Rudloff
HD 57060	ApJ	239	502	80	Black et al.
HD 57060	ApJ	254	88	82	York & Jura
HD 57060	A&AS	45	473	81	Drechsel et al.
HD 57061	ApJ	239	502	80	Black et al.
HD 57061	ApJ	254	88	82	York & Jura
HD 57146	PASP	94	642	82	Parsons
HD 57146	ApJ	239	555	80	Parsons
HD 57682	ApJS	48	415	82	Kamp
HD 58350	ApJ	235	L149	80	Underhill
HD 58350	ApJ	238	909	80	Hutchings & von Rudloff
HD 58350	ApJ	248	528	81	Cowie et al.
HD 59067	PASP	94	642	82	Parsons
HD 59067	ApJ	239	555	80	Parsons
HD 59068	PASP	94	642	82	Parsons
HD 60414	A&AS	49	511	82	Altamore et al.
HD 60753	Nat	275	377	78	Boggess et al.
HD 60753	Nat	275	404	78	Boksenberg et al.
HD 60753	A&A	85	1	80	Bohlin et al.
HD 61421	ApJ	234	1023	79	Basri & Linsky
HD 61421	A&A	104	240	81	Saxner
HD 62509	ApJ	234	1023	79	Basri & Linsky
HD 62509	ApJS	44	383	80	Stencel et al.
HD 62509	A&A	102	207	81	De Castro et al.
HD 63700	ApJ	234	1023	79	Basri & Linsky
HD 63700	ApJS	44	383	80	Stencel et al.
HD 63975	ApJ	246	161	81	Sitko et al.
HD 65699	ApJ	239	L79	80	Boha-Vitense
HD 65699	ApJ	244	504	81	Boha-Vitense
HD 65818	PASP	93	621	81	Koch et al.
HD 65904	ApJ	246	161	81	Sitko et al.
HD 65904	ApJ	259	77	82	Welch
HD 66811	ApJ	238	909	80	Hutchings & von Rudloff

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
HD 66811	ApJ	254	88	82	York & Jura
HD 67228	A&A	96	17	81	Garcia-Alegre et al.
HD 67523	ApJ	234	1023	79	Basri & Linsky
HD 67523	A&A	107	326	82	Fracassini & Pasinetti
HD 68273	ApJ	237	19	80	Bruhweiler et al.
HD 68273	MN	196	101	81	Barlow et al.
HD 68273	ApJ	254	88	82	York & Jura
HD 68860	PASP	93	285	81	Johnson
HD 72350	ApJ	248	977	81	Jenkins et al.
HD 74180	ApJ	239	555	80	Parsons
HD 74371	ApJ	256	568	82	Odegard & Cassinelli
HD 75149	ApJ	248	528	81	Cowie et al.
HD 75149	ApJ	256	568	82	Odegard & Cassinelli
HD 76294	ApJS	44	383	80	Stencel et al.
HD 76294	ApJ	257	225	82	Simon et al.
HD 77350	PASP	93	60	81	Sadakane & Jugaku
HD 77581	ApJ	238	909	80	Hutchings & von Rudloff
HD 77581	ApJ	238	969	80	Dupree et al.
HD 77581	ApJ	240	161	80	Hutchings & Dupree
HD 78316	PASP	93	60	81	Sadakane & Jugaku
HD 78647	ApJ	234	1023	79	Basri & Linsky
HD 78647	ApJS	44	383	80	Stencel et al.
HD 78647	ApJ	257	225	82	Simon et al.
HD 79186	ApJ	256	568	82	Odegard & Cassinelli
HD 80404	ApJ	239	555	80	Parsons
HD 81797	ApJS	44	383	80	Stencel et al.
HD 82210	ApJ	257	225	82	Simon et al.
HD 84441	ApJ	234	1023	79	Basri & Linsky
HD 84441	ApJS	44	383	80	Stencel et al.
HD 84903	A&A	103	L11	81	Spite et al.
HD 86161	A&AS	47	257	82	Nussbaumer et al.
HD 86248	ApJ	260	561	82	Pettini & West
HD 86606	ApJ	260	561	82	Pettini & West
HD 87643	A&A	108	111	82	De Freitas Pacheco et al
HD 88015	A&A	74	L4	79	Hack
HD 88015	A&A	85	1	80	Bohlin et al.
HD 88230	ApJ	260	670	82	Linsky et al.
HD 89358	MN	197	1p	81	Willis & Stickland
HD 89358	ApJ	256	559	82	Johnson
HD 89484	ApJS	44	383	80	Stencel et al.
HD 89822	PASP	93	60	81	Sadakane & Jugaku
HD 90089	A&A	104	240	81	Saxner
HD 90706	ApJ	256	L49	82	Bruhweiler et al.
HD 91316	ApJ	239	502	80	Black et al.
HD 91619	ApJ	256	568	82	Odegard & Cassinelli
HD 91943	ApJ	256	L49	82	Bruhweiler et al.
HD 91969	ApJ	248	528	81	Cowie et al.
HD 91969	ApJ	250	L25	81	Cowie et al.
HD 91969	ApJ	256	L49	82	Bruhweiler et al.
HD 92740	MN	191	339	80	Smith et al.
HD 92740	MN	192	73p	80	Smith & Hartquist
HD 92740	MN	196	101	81	Barlow et al.
HD 92740	A&AS	47	257	82	Nussbaumer et al.
HD 92740	ApJ	252	156	82	Malborn & Hesser
HD 92740	A&A	87	L7	80	Sahade
HD 92740	MN	198	897	82	Willis
HD 92741	ApJ	256	L49	82	Bruhweiler et al.
HD 92964	ApJ	256	568	82	Odegard & Cassinelli
HD 92964	ApJ	256	L49	82	Bruhweiler et al.
HD 93129	ApJ	238	190	80	Conti & Garmany
HD 93129	ApJ	238	909	80	Hutchings & von Rudloff
HD 93129A	ApJ	252	156	82	Malborn & Hesser
HD 93130	ApJ	252	156	82	Malborn & Hesser
HD 93131	MN	190	27p	80	Willis & Stickland
HD 93131	MN	191	339	80	Smith et al.
HD 93131	MN	192	73p	80	Smith & Hartquist
HD 93131	MN	196	101	81	Barlow et al.
HD 93131	A&AS	47	257	82	Nussbaumer et al.
HD 93131	ApJ	252	156	82	Malborn & Hesser
HD 93131	A&A	87	L7	80	Sahade
HD 93131	MN	198	897	82	Willis
HD 93146	ApJ	252	156	82	Malborn & Hesser
HD 93160	ApJ	252	156	82	Malborn & Hesser
HD 93162	MN	196	101	81	Barlow et al.
HD 93162	ApJ	252	156	82	Malborn & Hesser
HD 93162	ApJ	261	L91	82	Fitzpatrick
HD 93204	ApJ	250	660	81	Garmany et al.
HD 93204	ApJ	252	156	82	Malborn & Hesser
HD 93205	ApJ	252	156	82	Malborn & Hesser
HD 93205	ApJ	260	163	82	Laurent et al.
HD 93206	ApJ	252	156	82	Malborn & Hesser
HD 93222	ApJ	250	660	81	Garmany et al.
HD 93222	ApJ	252	156	82	Malborn & Hesser
HD 93250	ApJ	238	190	80	Conti & Garmany
HD 93250	ApJ	238	190	80	Conti & Garmany
HD 93250	ApJ	239	502	80	Black et al.
HD 93250	ApJ	250	660	81	Garmany et al.
HD 93250	ApJ	252	156	82	Malborn & Hesser
HD 93403	ApJ	237	19	80	Bruhweiler et al.
HD 93403	ApJ	252	156	82	Malborn & Hesser
HD 93497	ApJ	257	225	82	Simon et al.
HD 93521	Nat	275	377	78	Boggess et al.
HD 93521	Nat	275	394	78	Grewing et al.
HD 93521	A&A	106	332	82	Crivellari & Morossi
HD 93521	A&A	85	1	80	Bohlin et al.
HD 93521	A&A	90	146	80	Ramella et al.
HD 93521	ApJ	260	561	82	Pettini & West
HD 93521	ApJ	262	234	82	Ebbets & Savage
HD 93813	ApJ	234	1023	79	Basri & Linsky
HD 93843	ApJ	248	528	81	Cowie et al.
HD 93843	ApJ	250	L25	81	Cowie et al.
HD 94264	ApJS	44	383	80	Stencel et al.
HD 95689	ApJ	234	1023	79	Basri & Linsky
HD 95689	ApJS	44	383	80	Stencel et al.
HD 95689	ApJ	257	225	82	Simon et al.
HD 95735	ApJ	260	670	82	Linsky et al.
HD 96248	ApJ	248	528	81	Cowie et al.
HD 96248	ApJ	250	L25	81	Cowie et al.

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
HD 96446	ApJ	250	701	81	Drilling
HD 96548	MN	191	339	80	Smith et al.
HD 96548	MN	192	73p	80	Smith & Hartquist
HD 96548	A&AS	47	257	82	Nussbaumer et al.
HD 96548	MN	198	897	82	Willis
HD 96670	ApJ	248	528	81	Cowie et al.
HD 96670	ApJ	250	L25	81	Cowie et al.
HD 96715	ApJ	248	528	81	Cowie et al.
HD 96715	ApJ	250	L25	81	Cowie et al.
HD 96833	ApJS	44	383	80	Stencel et al.
HD 96917	ApJ	248	528	81	Cowie et al.
HD 96917	ApJ	250	L25	81	Cowie et al.
HD 97991	MN	192	561	80	Ulrich et al.
HD 97991	ApJ	260	561	82	Pettini & West
HD 98430	ApJS	44	383	80	Stencel et al.
HD 98430	ApJ	257	225	82	Simon et al.
HD 101070	A&A	85	119	80	Hammerschlag-Hensbg.etal
HD 101131	ApJ	248	528	81	Cowie et al.
HD 101131	ApJ	250	L25	81	Cowie et al.
HD 101190	ApJ	250	660	81	Garmany et al.
HD 101205	ApJ	248	528	81	Cowie et al.
HD 101205	ApJ	250	L25	81	Cowie et al.
HD 101223	A&A	85	119	80	Hammerschlag-Hensbg.etal
HD 101298	ApJ	250	660	81	Garmany et al.
HD 101413	ApJ	250	660	81	Garmany et al.
HD 101436	ApJ	250	660	81	Garmany et al.
HD 101545	ApJ	250	L25	81	Cowie et al.
HD 101545A	ApJ	248	528	81	Cowie et al.
HD 101947	ApJ	245	201	81	Parsons
HD 101947	A&A	93	L5	81	Eichendorf et al.
HD 102552	A&A	110	246	82	Drechsel et al.
HD 102567	A&A	85	119	80	Hammerschlag-Hensbg.etal
HD 102567	A&A	89	214	80	Bianchi & Bernacca
HD 102567	A&A	104	150	81	De Loore et al.
HD 102870	A&A	115	280	82	Blanco et al.
HD 105056	ApJ	238	909	80	Hutchings & von Rudloff
HD 105056	ApJ	240	161	80	Hutchings & Dupree
HD 105056	ApJ	248	528	81	Cowie et al.
HD 105435	MN	199	591	82	De Freitas Pacheco
HD 106343	ApJ	256	568	82	Odegard & Cassinelli
HD 107328	ApJS	44	383	80	Stencel et al.
HD 107446	ApJ	234	1023	79	Basri & Linsky
HD 108230	ApJ	260	561	82	Pettini & West
HD 108381	ApJS	44	383	80	Stencel et al.
HD 108907	A&A	107	292	82	Reimers
HD 109358	A&A	96	17	81	Garcia-Alegre et al.
HD 109379	ApJ	257	225	82	Simon et al.
HD 109995	ApJ	243	213	81	Bohm-Vitense
HD 109995	ApJ	244	504	81	Bohm-Vitense
HD 110311	A&A	109	274	82	Eichendorf et al.
HD 110379A	A&A	115	280	82	Blanco et al.
HD 111456	ApJ	261	220	82	Barry & Schoolman
HD 112185	PASP	93	60	81	Sadakane & Jugaku
HD 112244	ApJ	238	909	80	Hutchings & von Rudloff

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
HD 112244	ApJ	239	502	80	Black et al.
HD 113226	ApJ	234	1023	79	Basri & Linsky
HD 113226	ApJS	44	383	80	Stencel et al.
HD 113226	ApJ	257	225	82	Simon et al.
HD 113904	ApJ	237	19	80	Bruhweiler et al.
HD 113904	MN	196	101	81	Barlow et al.
HD 113904	ApJ	238	909	80	Hutchings & von Rudloff
HD 114710	A&A	113	94	82	De Castro et al.
HD 114710	A&A	96	17	81	Garcia-Alegre et al.
HD 114710	A&A	102	207	81	De Castro et al.
HD 115043	ApJ	261	220	82	Barry & Schoolman
HD 116084	ApJ	256	568	82	Odegard & Cassinelli
HD 116713	ApJ	239	L79	80	Bohm-Vitense
HD 116713	ApJ	244	504	81	Bohm-Vitense
HD 116713	ApJ	258	628	82	Bohm-Vitense
HD 116852	ApJ	260	561	82	Pettini & West
HD 117176	A&A	96	17	81	Garcia-Alegre et al.
HD 117555	ApJ	247	L131	81	Bopp & Stencel
HD 119608	ApJ	260	561	82	Pettini & West
HD 120086	ApJ	260	561	82	Pettini & West
HD 120315	ApJ	249	109	81	Bohlin & Savage
HD 120315	ApJ	254	88	82	York & Jura
HD 120709	PASP	93	60	81	Sadakane & Jugaku
HD 120934	A&A	89	255	80	Gustafsson et al.
HD 122365	A&A	89	255	80	Gustafsson et al.
HD 122563	ApJ	244	504	81	Bohm-Vitense
HD 122563	A&A	89	255	80	Gustafsson et al.
HD 122563	ApJ	258	628	82	Bohm-Vitense
HD 122563	A&A	99	120	81	Nesci
HD 122563	A&A	103	L11	81	Spite et al.
HD 123139	ApJS	44	383	80	Stencel et al.
HD 123139	ApJ	257	225	82	Simon et al.
HD 124448	A&A	70	L57	78	Schonberner & Hunger
HD 124570	A&A	96	17	81	Garcia-Alegre et al.
HD 124675	A&A	107	326	82	Fracassini & Pasinetti
HD 124850	A&A	113	94	82	De Castro et al.
HD 124850	A&A	96	17	81	Garcia-Alegre et al.
HD 124850	A&A	102	207	81	De Castro et al.
HD 124897	ApJS	44	383	80	Stencel et al.
HD 124897	ApJ	257	225	82	Simon et al.
HD 125288	ApJ	256	568	82	Odegard & Cassinelli
HD 125335	A&A	89	255	80	Gustafsson et al.
HD 125924	ApJ	260	561	82	Pettini & West
HD 127493	A&A	104	249	81	Hamann et al.
HD 127739	A&A	104	240	81	Saxner
HD 127762	A&A	107	75	82	Crivellari & Praderie
HD 128220B	A&A	104	249	81	Hamann et al.
HD 128620	ApJ	248	L73	81	Hallam & Wolff
HD 128621	ApJ	248	L73	81	Hallam & Wolff
HD 129929	MN	200	687	82	Phillips et al.
HD 131156	ApJ	233	L69	79	Hartmann et al.
HD 131873	ApJS	44	383	80	Stencel et al.
HD 131873	ApJ	257	225	82	Simon et al.
HD 132200	MN	200	687	82	Phillips et al.

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
HD 132960	MN	200	687	82	Phillips et al.
HD 134411	MN	200	687	82	Phillips et al.
HD 135240	ApJ	237	19	80	Bruhweiler et al.
HD 135240	ApJ	248	528	81	Cowie et al.
HD 135348	MN	200	687	82	Phillips et al.
HD 135591	ApJ	238	190	80	Conti & Garmany
HD 135591	ApJ	238	190	80	Conti & Garmany
HD 136298	MN	200	687	82	Phillips et al.
HD 136664	MN	200	687	82	Phillips et al.
HD 137389	Nat	275	404	78	Boksenberg et al.
HD 137759	ApJS	44	383	80	Stencel et al.
HD 138403	A&A	116	80	82	Surdej & Heck
HD 138403	MN	200	7p	82	Adams & Seaton
HD 138679	A&A	85	1	80	Bohlin et al.
HD 140283	ApJ	258	628	82	Bohm-Vitense
HD 140436	A&A	107	326	82	Fracassini & Pasinetti
HD 140573	ApJS	44	383	80	Stencel et al.
HD 140573	ApJ	257	225	82	Simon et al.
HD 141004	A&A	96	17	81	Garcia-Alegre et al.
HD 141795	A&A	107	75	82	Crivellari & Praderie
HD 141891	A&AS	47	295	82	Beckman et al.
HD 142373	A&A	113	94	82	De Castro et al.
HD 142373	A&A	96	17	81	Garcia-Alegre et al.
HD 142373	A&A	102	207	81	De Castro et al.
HD 142983	A&A	100	79	81	Ringuelet et al.
HD 143018	A&A	111	130	82	Barsella et al.
HD 143761	A&A	96	17	81	Garcia-Alegre et al.
HD 144197	A&A	107	75	82	Crivellari & Praderie
HD 144206	PASP	93	60	81	Sadakane & Jugaku
HD 144941	ApJ	250	701	81	Drilling
HD 145544	A&A	107	292	82	Reimers
HD 147394	ApJS	48	415	82	Kamp
HD 147419	MN	197	1p	81	Willis & Stickland
HD 147675	ApJS	44	383	80	Stencel et al.
HD 147889	PASP	92	411	80	Walker et al.
HD 147889	PASP	92	411	80	Walker et al.
HD 147889	ApJ	246	788	81	Seab et al.
HD 147889	ApJ	249	109	81	Bohlin & Savage
HD 147889	ApJ	249	109	81	Bohlin & Savage
HD 147933	ApJ	239	502	80	Black et al.
HD 147933	ApJ	246	788	81	Seab et al.
HD 147934	ApJ	239	502	80	Black et al.
HD 147934	ApJ	246	788	81	Seab et al.
HD 148367	A&A	107	75	82	Crivellari & Praderie
HD 148387	ApJ	257	225	82	Simon et al.
HD 148478	ApJ	234	1023	79	Basri & Linsky
HD 148856	ApJ	257	225	82	Simon et al.
HD 148937	ApJ	238	909	80	Hutchings & von Rudloff
HD 148937	ApJ	239	502	80	Black et al.
HD 148937	PASP	93	626	81	Hutchings & van Heteren
HD 148937	ApJ	251	126	81	Bruhweiler et al.
HD 149038	ApJ	248	528	81	Cowie et al.
HD 149038	ApJ	250	L25	81	Cowie et al.
HD 149212	ApJ	246	161	81	Sitko et al.

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HD 149382	A&A	108	387	82	Baschek et al.
HD 149382	A&A	112	76	82	Baschek et al.
HD 149404	ApJ	238	909	80	Hutchings & von Rudloff
HD 149404	ApJ	239	502	80	Black et al.
HD 149404	PASP	93	626	81	Hutchings & van Heteren
HD 149404	MN	200	431	82	Tarafdar & Krishna Swamy
HD 149499AB	ApJ	255	232	82	Sion et al.
HD 149499B	ApJ	234	L187	79	Wray et al.
HD 149499B	ApJ	248	L123	81	Bruhweiler & Kondo
HD 149499B	ApJ	255	232	82	Sion et al.
HD 149499B	ApJ	259	232	82	Bruhweiler & Kondo
HD 149757	Nat	275	394	78	Grewing et al.
HD 150041	ApJ	248	528	81	Cowie et al.
HD 150041	ApJ	250	L25	81	Cowie et al.
HD 150135	ApJ	251	126	81	Bruhweiler et al.
HD 150136	ApJ	251	126	81	Bruhweiler et al.
HD 150168	ApJ	248	528	81	Cowie et al.
HD 150168	ApJ	250	L25	81	Cowie et al.
HD 150798	ApJ	234	1023	79	Basri & Linsky
HD 150798	A&A	107	292	82	Reimers
HD 150798	ApJ	257	225	82	Simon et al.
HD 150997	ApJ	257	225	82	Simon et al.
HD 151680	ApJ	234	1023	79	Basri & Linsky
HD 151680	ApJS	44	383	80	Stencel et al.
HD 151680	ApJ	257	225	82	Simon et al.
HD 151804	ApJ	238	190	80	Conti & Garmany
HD 151804	ApJ	238	909	80	Hutchings & von Rudloff
HD 151804	ApJ	239	502	80	Black et al.
HD 151804	ApJ	248	528	81	Cowie et al.
HD 151804	ApJ	250	L25	81	Cowie et al.
HD 151804	ApJ	250	660	81	Garmany et al.
HD 151804	ApJ	251	126	81	Bruhweiler et al.
HD 151804	AJ	86	1916	81	Snow & Joseph
HD 151932	MN	191	339	80	Smith et al.
HD 151932	MN	192	73p	80	Smith & Hartquist
HD 151932	MN	196	101	81	Barlow et al.
HD 151932	ApJ	238	909	80	Hutchings & von Rudloff
HD 151932	A&AS	47	257	82	Nussbaumer et al.
HD 151932	MN	198	897	82	Willis
HD 152147	ApJ	256	L49	82	Bruhweiler et al.
HD 152233	ApJ	238	190	80	Conti & Garmany
HD 152233	ApJ	238	190	80	Conti & Garmany
HD 152233	ApJ	250	660	81	Garmany et al.
HD 152233	ApJ	256	L49	82	Bruhweiler et al.
HD 152234	ApJ	238	909	80	Hutchings & von Rudloff
HD 152234	ApJ	256	L49	82	Bruhweiler et al.
HD 152235	ApJ	256	L49	82	Bruhweiler et al.
HD 152236	ApJ	233	913	79	Hutchings
HD 152236	MN	192	59p	80	Heck et al.
HD 152236	A&A	107	205	82	Burki et al.
HD 152236	ApJ	256	L49	82	Bruhweiler et al.
HD 152236	A&AS	38	51	79	Appenzeller & Wolf
HD 152236	MN	200	431	82	Tarafdar & Krishna Swamy
HD 152249	ApJ	238	190	80	Conti & Garmany

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HD 152270	ApJ	237	19	80	Bruhweiler et al.
HD 152270	MN	196	101	81	Barlow et al.
HD 152405	A&A	93	219	81	Howarth et al.
HD 152408	ApJ	238	190	80	Conti & Garmany
HD 152408	ApJ	238	909	80	Hutchings & von Rudloff
HD 152408	ApJ	248	528	81	Cowie et al.
HD 152408	ApJ	250	L25	81	Cowie et al.
HD 152408	ApJ	250	660	81	Garmany et al.
HD 152408	ApJ	251	126	81	Bruhweiler et al.
HD 152424	ApJ	238	190	80	Conti & Garmany
HD 152424	ApJ	239	502	80	Black et al.
HD 152424	ApJ	256	L49	82	Bruhweiler et al.
HD 152667	ApJ	237	19	80	Bruhweiler et al.
HD 152667	ApJ	240	161	80	Hutchings & Dupree
HD 152667	A&A	93	219	81	Howarth et al.
HD 152723	A&A	93	219	81	Howarth et al.
HD 153210	ApJ	234	1023	79	Basri & Linsky
HD 153210	ApJS	44	383	80	Stencel et al.
HD 153210	ApJ	257	225	82	Simon et al.
HD 153919	MN	191	339	80	Smith et al.
HD 153919	ApJ	237	19	80	Bruhweiler et al.
HD 153919	Nat	275	377	78	Boggess et al.
HD 153919	ApJ	238	909	80	Hutchings & von Rudloff
HD 153919	Nat	275	394	78	Grewing et al.
HD 153919	Nat	275	400	78	Dupree et al.
HD 153919	Nat	278	697	79	Huber et al.
HD 153919	ApJ	240	161	80	Hutchings & Dupree
HD 155985	ApJ	248	528	81	Cowie et al.
HD 156014	ApJ	234	1023	79	Basri & Linsky
HD 156014	ApJS	44	383	80	Stencel et al.
HD 156359	ApJ	260	561	82	Pettini & West
HD 156385	MN	191	339	80	Smith et al.
HD 156385	MN	192	73p	80	Smith & Hartquist
HD 156385	Nat	278	697	79	Huber et al.
HD 156385	A&AS	47	257	82	Nussbaumer et al.
HD 156385	MN	198	897	82	Willis
HD 156738	ApJ	256	559	82	Johnson
HD 159181	ApJS	44	383	80	Stencel et al.
HD 159181	ApJ	257	225	82	Simon et al.
HD 159492	A&A	107	75	82	Crivellari & Praderie
HD 160641	A&A	116	273	82	Hamann et al.
HD 161096	ApJ	234	1023	79	Basri & Linsky
HD 161096	ApJS	44	383	80	Stencel et al.
HD 161096	ApJ	257	225	82	Simon et al.
HD 161797	A&A	115	280	82	Blanco et al.
HD 161817	ApJ	243	213	81	Bohm-Vitense
HD 161817	ApJ	244	504	81	Bohm-Vitense
HD 162978	ApJ	248	528	81	Cowie et al.
HD 163181	ApJ	238	909	80	Hutchings & von Rudloff
HD 163181	PASP	93	626	81	Hutchings & van Heteren
HD 163296	ApJ	246	161	81	Sitko et al.
HD 163296	ApJ	247	1024	81	Sitko
HD 163758	ApJ	250	660	81	Garmany et al.
HD 163770	A&A	107	292	82	Reimers

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
HD 164058	ApJ	257	225	82	Simon et al.
HD 164270	A&AS	47	257	82	Nussbaumer et al.
HD 164284	ApJ	253	L33	82	Peters
HD 164284	MN	200	431	82	Tarafdar & Krishna Swamy
HD 164353	MN	200	431	82	Tarafdar & Krishna Swamy
HD 164637	ApJ	248	528	81	Cowie et al.
HD 164637	ApJ	250	L25	81	Cowie et al.
HD 164794	MN	190	27p	80	Willis & Stickland
HD 164794	ApJ	248	528	81	Cowie et al.
HD 164794	ApJ	250	L25	81	Cowie et al.
HD 164794	A&A	74	L15	79	Pottasch et al.
HD 164816	A&A	74	L15	79	Pottasch et al.
HD 165135	ApJ	234	1023	79	Basri & Linsky
HD 165688	MN	196	101	81	Barlow et al.
HD 165763	MN	191	339	80	Smith et al.
HD 165763	MN	192	73p	80	Smith & Hartquist
HD 165763	MN	196	101	81	Barlow et al.
HD 165763	Nat	278	697	79	Huber et al.
HD 165763	A&AS	47	257	82	Nussbaumer et al.
HD 165763	MN	198	897	82	Willis
HD 166937	ApJ	237	19	80	Bruhweiler et al.
HD 166937	ApJ	246	788	81	Seab et al.
HD 167264	MN	200	431	82	Tarafdar & Krishna Swamy
HD 167618	ApJ	234	1023	79	Basri & Linsky
HD 167659	ApJ	250	660	81	Garmany et al.
HD 167756	ApJ	246	788	81	Seab et al.
HD 167771	ApJ	238	190	80	Conti & Garmany
HD 167771	ApJ	248	528	81	Cowie et al.
HD 168723	ApJS	44	383	80	Stencel et al.
HD 168905	Nat	279	305	79	Hack
HD 168905	A&A	74	L4	79	Hack
HD 168905	A&A	85	1	80	Bohlin et al.
HD 169454	ApJ	238	909	80	Hutchings & von Rudloff
HD 169454	ApJ	246	788	81	Seab et al.
HD 172044	PASP	93	60	81	Sadakane & Jugaku
HD 174638	ApJ	237	19	80	Bruhweiler et al.
HD 174933	PASP	93	60	81	Sadakane & Jugaku
HD 174974	A&A	107	292	82	Reimers
HD 175191	PASP	92	411	80	Walker et al.
HD 175754	A&A	74	L15	79	Pottasch et al.
HD 175754	A&A	100	183	81	Carrasco et al.
HD 177566	ApJ	260	561	82	Pettini & West
HD 177716	ApJ	234	1023	79	Basri & Linsky
HD 177724	ApJ	244	199	81	Witt et al.
HD 180183	A&A	74	L4	79	Hack
HD 180809	ApJS	44	383	80	Stencel et al.
HD 180809	ApJ	257	225	82	Simon et al.
HD 181615	ApJ	237	19	80	Bruhweiler et al.
HD 181615	A&A	101	161	81	Hellings et al.
HD 181858	ApJ	248	528	81	Cowie et al.
HD 182308	PASP	93	60	81	Sadakane & Jugaku
HD 182917	A&A	107	200	82	Hack & Selvelli
HD 183143	PASP	92	411	80	Walker et al.
HD 183143	ApJ	246	788	81	Seab et al.

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
HD 184006	A&A	107	326	82	Fracassini & Pasinetti
HD 184279	ApJ	248	528	81	Cowie et al.
HD 184711	A&A	103	L11	81	Spite et al.
HD 186791	ApJ	234	1023	79	Basri & Linsky
HD 186791	A&A	107	292	82	Reimers
HD 186791	ApJ	257	225	82	Simon et al.
HD 186980	ApJ	248	528	81	Cowie et al.
HD 187282	MN	197	1p	81	Willis & Stickland
HD 187282	A&AS	47	257	82	Nussbaumer et al.
HD 187642	A&A	115	280	82	Blanco et al.
HD 188001	ApJ	238	909	80	Hutchings & von Rudloff
HD 189849	A&A	107	75	82	Crivellari & Praderie
HD 190073	ApJ	246	161	81	Sitko et al.
HD 190073	ApJ	247	1024	81	Sitko
HD 190248	A&AS	47	295	82	Beckman et al.
HD 190429	ApJ	238	190	80	Conti & Garmany
HD 190603	ApJ	234	528	79	Underhill
HD 190603	ApJ	238	909	80	Hutchings & von Rudloff
HD 190864	ApJ	250	660	81	Garmany et al.
HD 190918	ApJ	237	19	80	Bruhweiler et al.
HD 190918	MN	196	101	81	Barlow et al.
HD 190918A	ApJ	248	528	81	Cowie et al.
HD 190918A	ApJ	250	L25	81	Cowie et al.
HD 191243	ApJ	248	528	81	Cowie et al.
HD 191243	ApJ	250	L25	81	Cowie et al.
HD 191456	ApJ	248	528	81	Cowie et al.
HD 191765	MN	191	339	80	Smith et al.
HD 191765	MN	192	73p	80	Smith & Hartquist
HD 191765	MN	196	101	81	Barlow et al.
HD 191765	MN	197	1p	81	Willis & Stickland
HD 191765	A&AS	47	257	82	Nussbaumer et al.
HD 191765	MN	198	897	82	Willis
HD 191877	A&A	74	L15	79	Pottasch et al.
HD 192103	MN	191	339	80	Smith et al.
HD 192103	MN	192	73p	80	Smith & Hartquist
HD 192103	MN	196	101	81	Barlow et al.
HD 192103	A&AS	47	257	82	Nussbaumer et al.
HD 192103	MN	198	897	82	Willis
HD 192163	MN	191	339	80	Smith et al.
HD 192163	MN	192	73p	80	Smith & Hartquist
HD 192163	MN	196	101	81	Barlow et al.
HD 192163	MN	197	1p	81	Willis & Stickland
HD 192163	Nat	278	697	79	Huber et al.
HD 192163	A&A	106	70	82	Drechsel & Rahe
HD 192163	A&AS	47	257	82	Nussbaumer et al.
HD 192163	MN	198	897	82	Willis
HD 192518	A&A	115	280	82	Blanco et al.
HD 192577	ApJ	237	19	80	Bruhweiler et al.
HD 192578	ApJ	237	19	80	Bruhweiler et al.
HD 192685	PASP	92	411	80	Walker et al.
HD 192909	ApJ	233	621	79	Stencel et al.
HD 192909	ApJ	237	19	80	Bruhweiler et al.
HD 193077	MN	196	101	81	Barlow et al.
HD 193077	A&A	87	L7	80	Sahade

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
HD 193217	A&A	107	292	82	Reimers
HD 193237	A&A	79	223	79	Cassatella et al.
HD 193322	ApJ	248	528	81	Cowie et al.
HD 193322	MN	200	431	82	Tarafdar & Krishna Swamy
HD 193452	Nat	299	535	82	Jacobs & Dworetsky
HD 193495	A&AS	47	295	82	Beckman et al.
HD 193576	MN	196	101	81	Barlow et al.
HD 193793	ApJ	256	578	82	Fitzpatrick et al.
HD 193793	A&A	99	166	81	Drechsel et al.
HD 193793	ApJ	261	L91	82	Fitzpatrick
HD 194093	ApJ	234	1023	79	Basri & Linsky
HD 194093	ApJ	239	555	80	Parsons
HD 194093	ApJS	44	383	80	Stencel et al.
HD 194839	PASP	92	411	80	Walker et al.
HD 195455	ApJ	260	561	82	Pettini & West
HD 195592	PASP	92	411	80	Walker et al.
HD 195965	ApJ	248	528	81	Cowie et al.
HD 195965	ApJ	250	L25	81	Cowie et al.
HD 196502	PASP	93	60	81	Sadakane & Jugaku
HD 196629	A&A	115	280	82	Blanco et al.
HD 197345	ApJ	235	L149	80	Underhill
HD 197345	PASP	92	411	80	Walker et al.
HD 197702	ApJ	246	100	81	Raymond et al.
HD 198149	ApJS	44	383	80	Stencel et al.
HD 198478	ApJ	235	L149	80	Underhill
HD 198481	MN	197	791	81	Stickland & Sanner
HD 199081	MN	200	431	82	Tarafdar & Krishna Swamy
HD 199140	A&A	107	320	82	Burger et al.
HD 199178	ApJ	247	L131	81	Bopp & Stencel
HD 200775	PASP	92	411	80	Walker et al.
HD 200775	ApJ	244	199	81	Witt et al.
HD 200775	ApJ	247	1024	81	Sitko
HD 200775	A&A	90	290	80	Altamore et al.
HD 200775	ApJ	261	492	82	Witt et al.
HD 200905	ApJS	44	383	80	Stencel et al.
HD 201091	ApJ	248	L73	81	Hallam & Wolff
HD 201091	A&A	115	280	82	Blanco et al.
HD 201092	ApJ	248	L73	81	Hallam & Wolff
HD 202109	ApJ	234	1023	79	Basri & Linsky
HD 202109	ApJS	44	383	80	Stencel et al.
HD 202109	ApJ	257	225	82	Simon et al.
HD 202444	A&A	107	326	82	Fracassini & Pasinetti
HD 202560	MN	197	791	81	Stickland & Sanner
HD 203064	ApJ	239	502	80	Black et al.
HD 203064	ApJ	248	528	81	Cowie et al.
HD 203064	ApJ	250	L25	81	Cowie et al.
HD 203064	MN	200	431	82	Tarafdar & Krishna Swamy
HD 204076	ApJ	260	561	82	Pettini & West
HD 204172	PASP	92	411	80	Walker et al.
HD 204867	ApJ	234	1023	79	Basri & Linsky
HD 204867	ApJ	239	555	80	Parsons
HD 204867	ApJS	44	383	80	Stencel et al.
HD 204867	A&A	107	292	82	Reimers
HD 204867	ApJ	257	225	82	Simon et al.

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
HD 206144	ApJ	260	561	82	Pettini & West
HD 206165	MN	192	417	80	Tarafdar et al.
HD 206165	ApJ	247	860	81	Koornneef & Code
HD 206165	MN	200	431	82	Tarafdar & Krishna Swamy
HD 206778	ApJ	234	1023	79	Basri & Linsky
HD 206778	ApJS	44	383	80	Stencel et al.
HD 206778A	PASP	94	647	82	Kondo et al.
HD 206859	ApJS	44	383	80	Stencel et al.
HD 206859	A&A	107	292	82	Reimers
HD 206859	ApJ	257	225	82	Simon et al.
HD 206860	Nat	280	661	79	Blanco et al.
HD 206860	A&A	115	280	82	Blanco et al.
HD 207089	A&A	107	292	82	Reimers
HD 207260	PASP	92	411	80	Walker et al.
HD 209750	ApJ	239	555	80	Parsons
HD 209750	ApJS	44	383	80	Stencel et al.
HD 209750	A&A	107	292	82	Reimers
HD 209750	A&A	115	280	82	Blanco et al.
HD 209750	ApJ	257	225	82	Simon et al.
HD 209975	ApJ	239	502	80	Black et al.
HD 210027	A&A	115	280	82	Blanco et al.
HD 210809	A&A	102	296	81	Stickland & Lambert
HD 210839	ApJ	238	909	80	Hutchings & von Rudloff
HD 210839	MN	200	431	82	Tarafdar & Krishna Swamy
HD 211416	ApJ	234	1023	79	Basri & Linsky
HD 211416	ApJS	44	383	80	Stencel et al.
HD 211416	ApJ	257	225	82	Simon et al.
HD 212571	ApJ	239	502	80	Black et al.
HD 212571	A&A	100	79	81	Ringuelet et al.
HD 212571	MN	199	591	82	De Freitas Pacheco
HD 213087	ApJ	239	502	80	Black et al.
HD 213087	ApJ	247	860	81	Koornneef & Code
HD 213306	ApJ	239	555	80	Parsons
HD 213307	ApJ	234	1023	79	Basri & Linsky
HD 214080	ApJ	260	561	82	Pettini & West
HD 214479	MN	197	791	81	Stickland & Sanner
HD 214680	ApJS	48	415	82	Kamp
HD 215182	ApJ	234	1023	79	Basri & Linsky
HD 215733	ApJ	260	561	82	Pettini & West
HD 216131	ApJ	257	225	82	Simon et al.
HD 216228	ApJS	44	383	80	Stencel et al.
HD 216385	A&A	96	17	81	Garcia-Alegre et al.
HD 216532	A&A	111	130	82	Barsella et al.
HD 216701	A&A	106	98	82	Djie et al.
HD 216898	A&A	111	130	82	Barsella et al.
HD 217086	A&A	111	130	82	Barsella et al.
HD 217463	A&A	111	130	82	Barsella et al.
HD 217476	A&A	102	296	81	Stickland & Lambert
HD 217505	ApJ	260	561	82	Pettini & West
HD 217906	ApJS	44	383	80	Stencel et al.
HD 218356	ApJS	44	383	80	Stencel et al.
HD 218356	ApJ	257	225	82	Simon et al.
HD 218356	ApJ	263	269	82	Schindler et al.
HD 218376	ApJ	239	502	80	Black et al.
HD 218594	ApJ	234	1023	79	Basri & Linsky
HD 218915	ApJ	248	528	81	Cowie et al.
HD 219188	MN	192	561	80	Ulrich et al.
HD 219188	ApJ	260	561	82	Pettini & West
HD 219571	ApJ	234	1023	79	Basri & Linsky
HD 219615	ApJ	234	1023	79	Basri & Linsky
HD 220061	A&A	107	326	82	Fracassini & Pasinetti
HD 222107	ApJ	252	668	82	Baliunas & Dupree
HD 222404	ApJS	44	383	80	Stencel et al.
HD 222661	PASP	94	647	82	Kondo et al.
HD 223173	A&A	107	292	82	Reimers
HD 223385	ApJ	238	909	80	Hutchings & von Rudloff
HD 224014	ApJ	239	555	80	Parsons
HD 228854	PASP	91	474	79	Koch et al.
HD 237844	Nat	296	415	82	Gondhalekar & Wilson
HD 237844	Nat	285	461	80	Gondhalekar & Wilson
HD 245770	PASP	93	486	81	Hutchings & Crampton
HD 259431	ApJ	246	161	81	Sitko et al.
HD 259431	ApJ	247	1024	81	Sitko
HD 268605	ApJ	243	460	81	Savage & de Boer
HD 269357	ApJ	238	86	80	De Boer & Savage
HD 269357	ApJ	243	460	81	Savage & de Boer
HD 269676	MN	193	875	80	Gondhalekar et al.
HD 269676	MN	193	43p	80	Nandy et al.
HD 270952	MN	193	43p	80	Nandy et al.
HD 316285	A&A	108	111	82	De Freitas Pacheco et al
HD 327083	A&A	108	111	82	De Freitas Pacheco et al
HDE 226868	ApJ	237	L71	80	Pravdo et al.
HDE 226868	Nat	275	400	78	Dupree et al.
HDE 226868	ApJ	242	1114	80	Treves et al.
HDE 232078	A&A	103	L11	81	Spite et al.
HDE 250550	ApJ	256	559	82	Johnson
HDE 259105	ApJ	248	201	81	Massa & Conti
HDE 269006	ApJ	255	70	82	Hutchings
HDE 269006	A&A	103	94	81	Wolf et al.
HDE 269128	A&A	99	351	81	Wolf et al.
HDE 269546	ApJ	255	70	82	Hutchings
HDE 269696	A&A	106	254	82	Kudritzki et al.
HDE 269698	ApJ	250	660	81	Garmany et al.
HDE 269698	ApJ	255	70	82	Hutchings
HDE 269700	ApJ	255	70	82	Hutchings
HDE 269810	ApJ	250	660	81	Garmany et al.
HDE 303308	ApJ	250	660	81	Garmany et al.
HDE 303308	ApJ	252	156	82	Walborn & Hesser
HDE 319703A	ApJ	256	559	82	Johnson
HDE 319703B	ApJ	256	559	82	Johnson
HH 1	ApJ	245	L113	81	Bohm et al.
HH 1	A&A	114	367	82	Meaburn
HH 1	A&A	83	L8	80	Ortolani & D'Odorico
HH 1	ApJ	262	224	82	Bohm-Vitense et al.
HH 1	ApJ	263	L35	82	Bohm & Bohm-Vitense
HH 2	ApJ	262	224	82	Bohm-Vitense et al.
HH 2	ApJ	263	L35	82	Bohm & Bohm-Vitense
HH 2H	ApJ	262	L35	82	Brugel et al.

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
HII S119	ApJ	239	502	80	Black et al.
HII S150	ApJ	239	502	80	Black et al.
HII S264	ApJ	239	502	80	Black et al.
HII S310	ApJ	239	502	80	Black et al.
HII 0842+163	ApJ	246	L109	81	Meier & Terlevich
HII 1084	ApJ	244	199	81	Witt et al.
HII 1543+091	ApJ	246	L109	81	Meier & Terlevich
HR 21	A&A	107	326	82	Fracassini & Pasinetti
HR 21	ApJ	258	628	82	Boha-Vitense
HR 98	ApJ	258	628	82	Boha-Vitense
HR 321	ApJ	258	628	82	Boha-Vitense
HR 337	MN	197	791	81	Stickland & Sanner
HR 544	ApJ	258	628	82	Boha-Vitense
HR 591	ApJ	258	628	82	Boha-Vitense
HR 660	ApJ	258	628	82	Boha-Vitense
HR 911	MN	197	791	81	Stickland & Sanner
HR 921	MN	197	791	81	Stickland & Sanner
HR 976	MN	191	33p	80	Stickland & Dworetsky
HR 1035	ApJ	235	L149	80	Underhill
HR 1040	ApJ	235	L149	80	Underhill
HR 1099	ApJ	226	L35	78	Doschek et al.
HR 1099	ApJ	229	L27	79	Linsky & Haisch
HR 1099	MN	191	33p	80	Stickland & Dworetsky
HR 1099	RGSP	20	280	82	Zahnle & Walker
HR 1099	ApJ	234	1023	79	Basri & Linsky
HR 1099	Nat	275	389	78	Linsky et al.
HR 1099	ApJ	239	911	80	Simon et al.
HR 1099	ApJ	241	279	80	Ayres & Linsky
HR 1099	ApJ	241	759	80	Simon & Linsky
HR 1099	ApJ	247	L131	81	Bopp & Stencel
HR 1099	ApJ	251	113	81	Giampapa et al.
HR 1099	ApJ	252	214	82	Hartmann et al.
HR 1099	ApJ	254	168	82	Ayres & Linsky
HR 1099	ApJ	256	206	82	Plavec et al.
HR 1099	A&A	102	207	81	De Castro et al.
HR 1099	A&A	104	240	81	Saxner
HR 1173	ApJ	258	628	82	Boha-Vitense
HR 1292	ApJ	258	628	82	Boha-Vitense
HR 1298	A&A	107	326	82	Fracassini & Pasinetti
HR 1302	ApJ	258	628	82	Boha-Vitense
HR 1307	A&A	77	359	79	Stickland
HR 1319	ApJ	258	628	82	Boha-Vitense
HR 1338	ApJ	258	628	82	Boha-Vitense
HR 1354	ApJ	258	628	82	Boha-Vitense
HR 1387	ApJ	258	628	82	Boha-Vitense
HR 1408	ApJ	258	628	82	Boha-Vitense
HR 1457	MN	197	791	81	Stickland & Sanner
HR 1502	ApJ	258	628	82	Boha-Vitense
HR 1503	ApJ	258	628	82	Boha-Vitense
HR 1767	ApJ	258	628	82	Boha-Vitense
HR 1861	A&A	97	L9	81	Underhill
HR 1886	ApJS	48	415	82	Kamp
HR 1887	ApJS	48	415	82	Kamp
HR 1934	ApJ	253	L33	82	Peters

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
HR 2061	MN	197	791	81	Stickland & Sanner
HR 2085	ApJ	258	628	82	Boha-Vitense
HR 2219	ApJ	258	628	82	Boha-Vitense
HR 2290	ApJ	261	220	82	Barry & Schoolman
HR 2392	ApJ	258	628	82	Boha-Vitense
HR 2786	PASP	94	642	82	Parsons
HR 2786	ApJ	239	555	80	Parsons
HR 2806	ApJS	48	415	82	Kamp
HR 2859	PASP	94	642	82	Parsons
HR 2859	ApJ	239	555	80	Parsons
HR 2902	A&A	107	36	82	Hempe & Reimers
HR 2902	A&AS	49	511	82	Altamore et al.
HR 2990	ApJ	258	628	82	Boha-Vitense
HR 3018	ApJ	258	628	82	Boha-Vitense
HR 3123	ApJ	258	628	82	Boha-Vitense
HR 3129	PASP	93	621	81	Koch et al.
HR 3185	A&A	107	326	82	Fracassini & Pasinetti
HR 3445	ApJ	239	555	80	Parsons
HR 3482	ApJ	258	628	82	Boha-Vitense
HR 3578	ApJ	258	628	82	Boha-Vitense
HR 3579	ApJ	258	628	82	Boha-Vitense
HR 3684	ApJ	236	560	80	Boha-Vitense & Dettmann
HR 3684	ApJ	244	504	81	Boha-Vitense
HR 3684	ApJ	258	628	82	Boha-Vitense
HR 4069	MN	197	791	81	Stickland & Sanner
HR 4072	MN	191	33p	80	Stickland & Dworetsky
HR 4072	PASP	93	60	81	Sadakane & Jugaku
HR 4072	ApJ	250	687	81	Leckrone
HR 4138	ApJ	236	560	80	Boha-Vitense & Dettmann
HR 4216	ApJ	258	628	82	Boha-Vitense
HR 4399	ApJ	258	628	82	Boha-Vitense
HR 4474	ApJ	258	628	82	Boha-Vitense
HR 4511	ApJ	236	560	80	Boha-Vitense & Dettmann
HR 4511	ApJ	245	201	81	Parsons
HR 4511	A&A	93	L5	81	Eichendorf et al.
HR 4540	ApJ	258	628	82	Boha-Vitense
HR 4665	ApJ	252	214	82	Hartmann et al.
HR 4665	A&A	104	240	81	Saxner
HR 4763	MN	197	791	81	Stickland & Sanner
HR 4883	ApJ	258	628	82	Boha-Vitense
HR 4931	ApJ	258	628	82	Boha-Vitense
HR 4932	ApJ	258	628	82	Boha-Vitense
HR 4983	ApJ	258	628	82	Boha-Vitense
HR 5058	ApJ	258	628	82	Boha-Vitense
HR 5171	A&A	70	L53	78	Stickland & Harmer
HR 5185	ApJ	258	628	82	Boha-Vitense
HR 5270	A&A	89	255	80	Gustafsson et al.
HR 5270	ApJ	258	628	82	Boha-Vitense
HR 5329	A&A	107	326	82	Fracassini & Pasinetti
HR 5340	MN	197	791	81	Stickland & Sanner
HR 5447	ApJ	258	628	82	Boha-Vitense
HR 5487	ApJ	258	628	82	Boha-Vitense
HR 5580	A&A	93	219	81	Howarth et al.
HR 5849	A&A	107	326	82	Fracassini & Pasinetti

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
HR 5999	A&A	106	98	82	Djie et al.
HR 6056	MN	197	791	81	Stickland & Sanner
HR 6146	MN	197	791	81	Stickland & Sanner
HR 6212	ApJ	258	628	82	Boha-Vitense
HR 6262	MN	192	59p	80	Heck et al.
HR 6262	A&A	107	205	82	Burki et al.
HR 6380	ApJ	258	628	82	Boha-Vitense
HR 6458	ApJ	258	628	82	Boha-Vitense
HR 6561	ApJ	258	628	82	Boha-Vitense
HR 6705	MN	197	791	81	Stickland & Sanner
HR 6721	ApJ	253	L33	82	Peters
HR 6927	ApJ	258	628	82	Boha-Vitense
HR 6997	PASP	93	60	81	Sadakane & Jugaku
HR 6997	ApJ	250	687	81	Leckrone
HR 7157	MN	197	791	81	Stickland & Sanner
HR 7361	PASP	93	60	81	Sadakane & Jugaku
HR 7361	ApJ	250	687	81	Leckrone
HR 7373	ApJ	258	628	82	Boha-Vitense
HR 7420	A&A	107	326	82	Fracassini & Pasinetti
HR 7469	ApJ	258	628	82	Boha-Vitense
HR 7525	MN	197	791	81	Stickland & Sanner
HR 7775	Nat	299	535	82	Jacobs & Dworetsky
HR 7936	ApJ	258	628	82	Boha-Vitense
HR 8130	A&A	107	326	82	Fracassini & Pasinetti
HR 8181	ApJ	258	628	82	Boha-Vitense
HR 8387	MN	197	791	81	Stickland & Sanner
HR 8515	ApJ	258	628	82	Boha-Vitense
HR 8636	MN	197	791	81	Stickland & Sanner
HR 8752	ApJ	236	560	80	Boha-Vitense & Dettmann
HR 8752	A&A	70	L53	78	Stickland & Harmer
HR 8752	A&A	102	296	81	Stickland & Lambert
HR 8775	MN	197	791	81	Stickland & Sanner
HR 8830	ApJ	258	628	82	Boha-Vitense
HR 8880	A&A	107	326	82	Fracassini & Pasinetti
HR 8969	ApJ	258	628	82	Boha-Vitense
HU 2-1	ApJ	247	144	81	Lutz
HZ 7	ApJ	229	L141	79	Greenstein & Oke
HZ 21	ApJ	229	L141	79	Greenstein & Oke
HZ 43	ApJ	229	L141	79	Greenstein & Oke
HZ 43	Nat	275	377	78	Boggess et al.
HZ 43	Nat	275	385	78	Heap et al.
HZ 43	Nat	275	404	78	Boksenberg et al.
HZ 1200	ApJ	261	220	82	Barry & Schoolman
Hb 12	ApJ	250	590	81	Johnson
He 2-131	A&A	116	80	82	Surdej & Heck
He 2-131	MN	200	7p	82	Adams & Seaton
Helix	ApJ	252	635	82	Bohlin et al.
Hen 715	PASP	93	486	81	Hutchings & Crampton
Hen 715	A&A	104	150	81	De Loore et al.
Her 36	ApJ	263	L39	82	Hecht et al.
Her 72	ApJ	258	628	82	Boha-Vitense
Her 111	ApJ	244	938	81	Boha-Vitense
Her 112	PASP	93	60	81	Sadakane & Jugaku
Her 112	ApJ	250	687	81	Leckrone

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
Her AH	ApJ	247	577	81	Szkody
Her AM	ApJ	230	L95	79	Raymond et al.
Her AM	Nat	290	119	81	Coe & Mickramasinghe
Her AM	ApJ	243	911	81	Fabbiano et al.
Her AM	ApJ	251	205	81	Ferguson et al.
Her AM	A&A	83	270	80	Tanzi et al.
Her AM	ApJ	257	686	82	Szkody et al.
Her AM	A&A	102	31	81	Mouchet et al.
Her Alpha	ApJS	44	383	80	Stencel et al.
Her Alpha	ApJ	244	504	81	Boha-Vitense
Her Alpha 1	ApJ	234	1023	79	Basri & Linsky
Her Beta	ApJ	257	225	82	Simon et al.
Her Chi	A&A	113	94	82	De Castro et al.
Her Chi	A&A	102	207	81	De Castro et al.
Her DQ	PASP	93	477	81	Lambert & Slovak
Her DQ	ApJ	248	1059	81	Slovak
Her Epsilon	ApJ	244	504	81	Boha-Vitense
Her Eta	ApJ	257	225	82	Simon et al.
Her HZ	ApJ	237	163	80	Gursky et al.
Her HZ	Nat	275	400	78	Dupree et al.
Her Iota	A&A	97	L9	81	Underhill
Her Iota	A&A	101	161	81	Hellings et al.
Her Mu	ApJ	252	214	82	Hartmann et al.
Her Mu 86	A&A	115	280	82	Blanco et al.
Her Nu	ApJ	250	687	81	Leckrone
Her Omega	ApJ	236	560	80	Boha-Vitense & Dettmann
Her Phi	MN	191	33p	80	Stickland & Dworetsky
Her Phi	ApJ	236	560	80	Boha-Vitense & Dettmann
Her Tau	A&A	97	L9	81	Underhill
Her Tau	ApJS	48	415	82	Kamp
Her Theta	A&A	107	292	82	Reimers
Her Upsilon	PASP	93	60	81	Sadakane & Jugaku
Her X-1	ApJ	237	163	80	Gursky et al.
Her X-1	Nat	275	400	78	Dupree et al.
Her X-1	A&A	93	290	81	Norgaard-Nlsn&Kjaergaard
Her YY	ApJ	253	735	82	Michalitsianos et al.
Her Zeta	ApJ	258	628	82	Boha-Vitense
Hiltner 188	MN	198	779	82	Morgan et al.
Hor Delta	ApJ	258	628	82	Boha-Vitense
Hrtzsprng 3	ApJ	229	L141	79	Greenstein & Oke
Hrtzsprng 3	ApJ	241	L89	80	Greenstein
Hu 1-2	ApJ	246	807	81	Feibelman et al.
Hu 1-2	AJ	87	555	82	Feibelman
Hya Alpha	ApJ	238	221	80	Stencel & Mullan
Hya Alpha	ApJS	44	383	80	Stencel et al.
Hya Alpha	A&A	107	292	82	Reimers
Hya Alpha	ApJ	253	716	82	Mullan & Stencel
Hya EX	MN	190	185	80	Bath et al.
Hya EX	ApJ	247	577	81	Szkody
Hya EX	A&A	102	31	81	Mouchet et al.
Hya EX	A&A	102	337	81	Krautter et al.
Hya Epsilon	ApJ	252	214	82	Hartmann et al.
Hya Epsilon	ApJ	258	628	82	Boha-Vitense
Hya RW	ApJ	240	114	80	Kafatos et al.

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
Hya RW	Nat	284	148	80	Michalitsianos et al.
Hya Upsilon	ApJ	234	1023	79	Basri & Linsky
Hya VB102	ApJ	261	220	82	Barry & Schoolman
Hya VB106	ApJ	261	220	82	Barry & Schoolman
Hya VB57	ApJ	261	220	82	Barry & Schoolman
Hya VB64	ApJ	261	220	82	Barry & Schoolman
Hya VB77	ApJ	261	220	82	Barry & Schoolman
Hya VB97	ApJ	261	220	82	Barry & Schoolman
Hya W	A&A	92	320	80	Kafatos et al.
Hya Zeta	ApJ	238	221	80	Stencel & Mullan
Hya Zeta	ApJS	44	383	80	Stencel et al.
Hya Zeta	ApJ	253	716	82	Mullan & Stencel
Hya Zeta	ApJ	257	225	82	Simon et al.
Hyi Alpha	ApJ	236	560	80	Boha-Vitense & Dettmann
Hyi Alpha	A&AS	47	295	82	Beckman et al.
Hyi Alpha	ApJ	258	628	82	Boha-Vitense
Hyi Beta	ApJ	234	1023	79	Basri & Linsky
Hyi Beta	ApJ	238	221	80	Stencel & Mullan
Hyi Beta	ApJS	44	383	80	Stencel et al.
Hyi Beta	A&AS	47	295	82	Beckman et al.
Hyi Beta	ApJ	258	628	82	Boha-Vitense
Hyi VW	MN	190	185	80	Bath et al.
Hyi VW	ApJ	247	577	81	Szkody
Hyi VW	A&A	102	31	81	Mouchet et al.
Hyi VW	A&A	102	337	81	Krautter et al.
Hyi WX	A&A	98	27	81	Krautter et al.
Hz 371	ApJ	244	199	81	Witt et al.
IC 351	ApJ	246	807	81	Feibelman et al.
IC 351	AJ	87	555	82	Feibelman
IC 418	MN	190	1p	80	Clavel & Fowler
IC 418	MN	191	13	80	Harrington et al.
IC 418	MN	194	13p	81	Flower & Penn
IC 418	MN	195	21p	81	Harrington et al.
IC 418	ApJ	238	133	80	Torres-Peimbert et al.
IC 418	MN	197	301	81	Clavel et al.
IC 418	ApJ	241	725	80	Feibelman et al.
IC 418	AJ	87	555	82	Feibelman
IC 418	AJ	86	881	81	Feibelman et al.
IC 434	ApJS	50	551	82	Johnson
IC 443	A&A	92	22	80	D'Odorico et al.
IC 1297	ApJ	241	725	80	Feibelman et al.
IC 1297	AJ	87	555	82	Feibelman
IC 1644	ApJ	252	461	82	Dufour et al.
IC 1805	A&A	107	43	82	Llorente de Andres et al
IC 1805	A&A	79	L13	79	Burki&Lorente de Andres
IC 2111	ApJ	252	461	82	Dufour et al.
IC 2149	A&A	108	314	82	Perinotto et al.
IC 2149	AJ	87	555	82	Feibelman
IC 2149	A&A	100	241	81	Perinotto & Benevenuti
IC 2149	AJ	86	881	81	Feibelman et al.
IC 2165	ApJ	246	807	81	Feibelman et al.
IC 2165	AJ	87	555	82	Feibelman
IC 2184	MN	198	825	82	Benvenuti et al.
IC 2944	ApJ	250	701	81	Drilling

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
IC 3568	ApJ	246	807	81	Feibelman et al.
IC 3568	AJ	87	555	82	Feibelman
IC 3568	AJ	86	881	81	Feibelman et al.
IC 4329A	MN	199	409	82	Pettini et al.
IC 4846	AJ	87	555	82	Feibelman
IC 4997	MN	193	511	80	Flower
IC 4997	MN	194	13p	81	Flower & Penn
IC 4997	ApJ	246	807	81	Feibelman et al.
IC 4997	AJ	87	555	82	Feibelman
IC 4997	A&A	72	L1	79	Flower et al.
IC 4997	ApJ	258	562	82	Feibelman
IC 5217	ApJ	246	807	81	Feibelman et al.
IRC 10216	ApJ	248	569	81	Shields et al.
IRC +20134	ApJ	241	774	80	Michalitsianos et al.
Ind Epsilon	MN	197	791	81	Stickland & Sanner
Ind Epsilon	ApJ	252	214	82	Hartmann et al.
Ind Nu	ApJ	258	628	82	Boha-Vitense
Io	Nat	275	414	78	Lane et al.
Io	Nat	285	308	80	Butterworth et al.
Io Torus	ApJ	247	354	81	Moos & Clarke
J 320	AJ	87	555	82	Feibelman
J 900	ApJ	246	807	81	Feibelman et al.
J 900	AJ	87	555	82	Feibelman
JL 212	ApJ	260	561	82	Pettini & West
Johnson 2	ApJ	248	201	81	Massa & Conti
Johnson 3	ApJ	248	201	81	Massa & Conti
Johnson 4	ApJ	248	201	81	Massa & Conti
Johnson 6	ApJ	248	201	81	Massa & Conti
Johnson 7	ApJ	248	201	81	Massa & Conti
Johnson 10	ApJ	248	201	81	Massa & Conti
Johnson 11	ApJ	248	201	81	Massa & Conti
Johnson 14	ApJ	248	201	81	Massa & Conti
Jupiter	GRL	9	652	82	Durrance et al.
Jupiter	RSPT	303	225	81	Hunt
Jupiter	ApJ	236	L39	80	Owen et al.
Jupiter	Nat	275	414	78	Lane et al.
Jupiter	ApJ	241	L179	80	Clarke et al.
Jupiter	ApJ	245	L127	81	Clarke et al.
Jupiter	ApJ	255	806	82	Clarke et al.
Jupiter	ApJS	9	652	82	Durrance et al.
Jupiter	AJ	86	298	81	Caldwell et al.
L 93-12	A&A	83	L13	80	Weidemann et al.
L 97-3	A&A	116	147	82	Koester et al.
L 97-3	A&A	95	L9	81	Weidemann et al.
L 97-3	A&A	100	113	81	Vauclair et al.
L 145-141	ApJ	245	L27	81	Wegner
L 145-141	A&A	109	7	82	Vauclair et al.
L 145-141	A&A	116	147	82	Koester et al.
L 145-141	A&A	83	L13	80	Weidemann et al.
L 145-141	A&A	95	L9	81	Weidemann et al.
L 145-141	A&A	100	113	81	Vauclair et al.
L 745-46A	A&A	113	L13	82	Koester et al.
L 791-40	A&A	113	L13	82	Koester et al.
L 879-14	ApJ	245	L27	81	Wegner

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
L 879-14	A&A	116	147	82	Koester et al.
L1363-3	A&A	109	7	82	Vauclair et al.
L1363-3	A&A	95	L9	81	Weidemann et al.
L1363-3	A&A	100	113	81	Vauclair et al.
LB 3303	ApJ	261	L87	82	Wegner
LB 3459	A&A	106	254	82	Kudritzki et al.
LDS 678B	ApJ	245	L27	81	Wegner
LDS 678B	A&A	116	147	82	Koester et al.
LDS 678B	A&A	100	113	81	Vauclair et al.
LFT 122	A&A	100	113	81	Vauclair et al.
LH 77	ApJ	255	447	82	De Boer & Nash
LHS 235	A&A	113	L13	82	Koester et al.
LHS 1227	A&A	100	113	81	Vauclair et al.
LMC	ApJ	230	L77	79	Savage & de Boer
LMC	MN	192	905	80	Nandy & Morgan
LMC	MN	193	875	80	Gondhalekar et al.
LMC	MN	193	43p	80	Nandy et al.
LMC	ApJ	236	769	80	De Boer et al.
LMC	ApJ	237	285	80	Hutchings
LMC	MN	196	955	81	Nandy et al.
LMC	ApJ	238	86	80	De Boer & Savage
LMC	ApJ	238	601	80	Benvenuti et al.
LMC	Nat	276	478	78	Nandy & Morgan
LMC	Nat	283	725	80	Nandy et al.
LMC	ApJ	243	460	81	Savage & de Boer
LMC	ApJ	245	49	81	Koornneef & Mathis
LMC	ApJ	246	100	81	Raymond et al.
LMC	ApJ	246	788	81	Seab et al.
LMC	ApJ	247	860	81	Koornneef & Code
LMC	ApJ	248	105	81	Weedman et al.
LMC	ApJ	250	660	81	Garmany et al.
LMC	ApJ	252	461	82	Dufour et al.
LMC	ApJ	255	70	82	Hutchings
LMC	ApJ	255	447	82	De Boer & Nash
LMC	A&A	88	15	80	Wolf et al.
LMC	A&A	90	L13	80	Prevot et al.
LMC	A&A	92	22	80	D'Odorico et al.
LMC	A&A	99	L5	81	Rocca-Volmerange et al.
LMC	A&A	99	351	81	Wolf et al.
LMC	A&A	103	94	81	Wolf et al.
LMC	A&A	103	305	81	Lequeux et al.
LMC P40	ApJ	253	L43	82	Maran et al.
LMC P40	ApJ	262	L41	82	Stecher et al.
LMC X-4	A&A	106	339	82	Van der Klis et al.
LMC X-4	A&A	101	184	81	Bonnet-Bidaud et al.
LMC X-4	A&AS	43	353	81	Tarenghi et al.
LMi 30	ApJ	244	938	81	Bohm-Vitense
LMi 46	ApJ	238	221	80	Stencel & Mullan
LMi 46	ApJS	44	383	80	Stencel et al.
LSI +61.303	PASP	91	657	79	Hutchings
LSI +61.303	PASP	93	486	81	Hutchings & Crampton
LSI +61.303	ApJ	248	977	81	Jenkins et al.
LSI +61.303	ApJ	248	1010	81	Maraschi et al.
LSII +36.37	ApJ	250	701	81	Drilling

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
LSS 2394	ApJ	250	701	81	Drilling
LSV +27.23	ApJ	251	620	81	Szkody & Crosa
LTT 7659	ApJ	245	L27	81	Wegner
LTT 17144	ApJ	248	L129	81	Wegner
Lac 10	ApJS	48	415	82	Kamp
Lac AR	ApJ	241	279	80	Ayres & Linsky
Lac BL	Nat	275	404	78	Boksenberg et al.
Lac HK	ApJ	241	279	80	Ayres & Linsky
Lanning 10	ApJ	251	620	81	Szkody & Crosa
Lanning 33	ApJ	251	620	81	Szkody & Crosa
Leo 60	ApJ	236	560	80	Bohm-Vitense & Dettmann
Leo 60	A&A	92	219	80	Bohm-Vitense
Leo Epsilon	ApJ	234	1023	79	Basri & Linsky
Leo Epsilon	ApJ	238	221	80	Stencel & Mullan
Leo Epsilon	ApJS	44	383	80	Stencel et al.
Leo Gamma	ApJS	44	383	80	Stencel et al.
Leo Gamma	ApJ	244	504	81	Bohm-Vitense
Leo Iota	ApJ	236	560	80	Bohm-Vitense & Dettmann
Leo Iota	ApJ	236	560	80	Bohm-Vitense & Dettmann
Leo Iota	ApJ	258	628	82	Bohm-Vitense
Leo Rho	ApJ	234	528	79	Underhill
Leo Rho	ApJ	239	502	80	Black et al.
Leo Rho	ApJ	245	201	81	Parsons
Leo Rho	A&A	74	L15	79	Pottasch et al.
Leo Rho	A&A	84	369	80	Stalio & Franco
Leo Rho	A&A	101	161	81	Hellings et al.
Lep Alpha	ApJ	239	555	80	Parsons
Lep Alpha	ApJ	244	504	81	Bohm-Vitense
Lep Beta	ApJ	234	1023	79	Basri & Linsky
Lep Beta	ApJ	257	225	82	Simon et al.
Lep Epsilon	ApJ	234	1023	79	Basri & Linsky
Lep Eta	A&A	92	219	80	Bohm-Vitense
Lep Eta	ApJ	258	628	82	Bohm-Vitense
Lep Lambda	ApJ	249	109	81	Bohlin & Savage
Lep Lambda	A&A	85	1	80	Bohlin et al.
Lep Mu	ApJ	250	687	81	Leckrone
Lep Theta	ApJ	236	560	80	Bohm-Vitense & Dettmann
Lep Theta	ApJ	244	938	81	Bohm-Vitense
Lep Zeta	ApJ	244	938	81	Bohm-Vitense
Lib 48	A&A	100	79	81	Ringuelet et al.
Lib UZ	ApJ	247	L131	81	Bopp & Stencel
Lk H-alp 120	A&A	93	412	81	Mundt et al.
Lup Chi	ApJ	250	687	81	Leckrone
Lup RU	Nat	296	816	82	Canuto et al.
Lup RU	RGSP	20	280	82	Zahnle & Walker
Lup RU	ApJ	238	905	80	Cram et al.
Lup RU	A&A	106	98	82	Djie et al.
Lup RU	ApJ	251	113	81	Giampapa et al.
Lup RU	A&A	73	L4	79	Gaha et al.
Lup RU	A&A	75	164	79	Appenzeller & Wolf
Lup RU	A&A	90	184	80	Appenzeller et al.
Lyr AY	ApJ	261	200	82	Szkody
Lyr Alpha	A&A	75	164	79	Appenzeller & Wolf
Lyr Alpha	A&A	101	161	81	Hellings et al.

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
Lyr Beta	ApJ	237	19	80	Bruhweiler et al.
Lyr Beta	Nat	279	305	79	Hack
Lyr MV	PASP	94	328	82	Szkody & Downs
Lyr MV	ApJ	251	205	81	Ferguson et al.
Lyr MV	ApJ	258	236	82	Chiappetti et al.
Lyr R	MN	197	791	81	Stickland & Sanner
Lyr Theta	ApJ	238	221	80	Stencel & Mullan
Lyr Theta	ApJS	44	383	80	Stencel et al.
Lyr Theta	ApJ	244	504	81	Boha-Vitense
Lyr Theta	ApJ	253	716	82	Mullan & Stencel
Lyr Theta	ApJ	257	225	82	Simon et al.
Lyr5 AY	ApJ	261	200	82	Szkody
M 3	A&A	103	386	81	Caloi et al.
M 5	A&A	103	386	81	Caloi et al.
M 5	A&A	103	424	81	Altamore et al.
M 13	ApJ	243	L33	81	De Boer & Code
M 13	A&A	84	369	80	Stalio & Franco
M 13	A&A	103	386	81	Caloi et al.
M 13	A&A	103	L11	81	Spite et al.
M 13- B 140	A&A	103	L11	81	Spite et al.
M 15	ApJ	230	L89	79	Dupree et al.
M 15	A&A	103	386	81	Caloi et al.
M 15	A&A	103	424	81	Altamore et al.
M 15	MN	199	409	82	Pettini et al.
M 16	A&A	114	367	82	Meaburn
M 31	ApJ	230	L137	79	Johnson
M 31	ApJ	243	453	81	Oke et al.
M 31	ApJ	245	845	81	Peimbert&Torres-Peimbert
M 31	A&A	93	290	81	Norgaard-Nlsn&Kjaergaard
M 31	ApJ	259	77	82	Welch
M 31	ApJ	260	495	82	Bruzual et al.
M 31	ApJ	261	77	82	Cacciari et al.
M 32	ApJ	230	L137	79	Johnson
M 32	ApJ	243	453	81	Oke et al.
M 32	A&A	93	290	81	Norgaard-Nlsn&Kjaergaard
M 33	A&A	85	L21	80	Rosa
M 33	A&A	103	305	81	Lequeux et al.
M 33	A&A	103	305	81	Lequeux et al.
M 42	PASP	92	411	80	Walker et al.
M 42	ApJ	255	541	82	Franco & Savage
M 51	MN	201	223	82	Ellis et al.
M 80	A&A	103	386	81	Caloi et al.
M 81	MN	201	223	82	Ellis et al.
M 81	Nat	275	404	78	Boksenberg et al.
M 81	ApJ	243	L65	81	Benacchio & Galletta
M 81	ApJ	245	845	81	Peimbert&Torres-Peimbert
M 81	ApJ	260	495	82	Bruzual et al.
M 82	ApJ	248	105	81	Weedman et al.
M 87	ApJ	237	L65	80	Bertola et al.
M 87	Nat	275	404	78	Boksenberg et al.
M 87	ApJ	240	447	80	Perola & Tarenghi
M 87	ApJ	243	453	81	Oke et al.
M 87	ApJ	243	L65	81	Benacchio & Galletta
M 87	ApJ	254	494	82	Bertola et al.

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
M 87	A&A	93	290	81	Norgaard-Nlsn&Kjaergaard
M 92	ApJ	230	L89	79	Dupree et al.
M 92	A&A	103	386	81	Caloi et al.
M 92	A&A	103	424	81	Altamore et al.
M 96	ApJ	243	453	81	Oke et al.
M1-67	ApJ	235	66	80	Johnson
M100	MN	192	861	80	Panagia et al.
M101	A&A	85	L21	80	Rosa
M101	A&A	103	305	81	Lequeux et al.
MCG-2-58-2	ApJ	247	449	81	Wu et al.
MCG-2-58-22	ApJ	242	14	80	Wu et al.
MCG-5-23-16	MN	192	769	80	Clavel et al.
MCG-8-11-11	ApJ	256	75	82	Lacy et al.
MHalp328-116	ApJ	258	548	82	Feibelman
MHalp328-116	A&A	101	118	81	Nussbaumer & Schild
MK 509	MN	199	409	82	Pettini et al.
MKN 297	Nat	282	272	79	Benvenuti et al.
MKn 8	MN	198	825	82	Benvenuti et al.
MKn 325	MN	198	825	82	Benvenuti et al.
MR 111	MN	196	101	81	Barlow et al.
MR 112	MN	196	101	81	Barlow et al.
MR 2251-178	ApJ	242	14	80	Wu et al.
MWC 117	ApJ	253	L33	82	Peters
MWC 278	ApJ	253	L33	82	Peters
MX 0053+60	A&A	85	119	80	Hammerschlag-Hensbg.etal
Maia	A&AS	47	547	82	Golay & Mauron
Malmqst 229	A&A	112	76	82	Baschek et al.
Mars	Nat	275	414	78	Lane et al.
Me 2-1	ApJ	250	596	81	Aller et al.
Men TU	A&A	113	76	82	Klare et al.
Merope	ApJ	249	99	81	Mathis et al.
Merope	A&AS	47	547	82	Golay & Mauron
Merope	A&A	103	305	81	Lequeux et al.
Mic AT	ApJ	260	670	82	Linsky et al.
Mic AU	MN	197	791	81	Stickland & Sanner
Mic AU	ApJ	258	740	82	Giampapa et al.
Mic AU	ApJ	260	670	82	Linsky et al.
Mira A	MN	199	1113	82	Stickland et al.
Mira B	MN	199	1113	82	Stickland et al.
Mk 501	MN	189	873	79	Snijders et al.
Mkn 1095	A&A	104	198	81	Kollatschny et al.
Mon 15	ApJS	46	255	81	Bruhweiler et al.
Mon 15	ApJ	250	660	81	Garmany et al.
Mon 15	ApJ	251	126	81	Bruhweiler et al.
Mon AU	PASP	94	113	82	Sahade & Ferrer
Mon BX	ApJ	253	735	82	Michalitsianos et al.
Mon OB2	ApJ	248	528	81	Cowie et al.
Mon OB2	ApJ	250	L25	81	Cowie et al.
Mon OB2	ApJ	250	660	81	Garmany et al.
Mon T	ApJ	242	1083	80	Mariska et al.
Mon V616	MN	195	61	81	Barlow et al.
Moon	Nat	275	414	78	Lane et al.
Mrk 9	ApJ	243	445	81	Oke & Goodrich
Mrk 9	ApJ	254	22	82	Malkan & Sargent

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
Mrk 10	ApJ	243	445	81	Oke & Goodrich
Mrk 10	ApJ	254	22	82	Malkan & Sargent
Mrk 12	ApJ	246	L109	81	Meier & Terlevich
Mrk 64	ApJ	255	25	82	Grandi
Mrk 78	ApJ	242	14	80	Wu et al.
Mrk 79	ApJ	242	14	80	Wu et al.
Mrk 79	ApJ	243	445	81	Oke & Goodrich
Mrk 79	ApJ	254	22	82	Malkan & Sargent
Mrk 79	A&A	97	94	81	Bergeron et al.
Mrk 124	ApJ	256	75	82	Lacy et al.
Mrk 231	ApJ	256	75	82	Lacy et al.
Mrk 279	ApJ	256	75	82	Lacy et al.
Mrk 335	ApJ	242	14	80	Wu et al.
Mrk 335	ApJ	254	22	82	Malkan & Sargent
Mrk 348	ApJ	256	75	82	Lacy et al.
Mrk 376	ApJ	256	75	82	Lacy et al.
Mrk 421	Nat	275	404	78	Boksenberg et al.
Mrk 421	Nat	285	555	80	Maraschi et al.
Mrk 421	ApJ	243	690	81	Kondo et al.
Mrk 478	ApJ	242	14	80	Wu et al.
Mrk 486	ApJ	256	75	82	Lacy et al.
Mrk 501	Nat	285	555	80	Maraschi et al.
Mrk 501	ApJ	243	690	81	Kondo et al.
Mrk 509	ApJ	242	14	80	Wu et al.
Mrk 509	ApJ	247	449	81	Wu et al.
Mrk 509	ApJ	254	22	82	Malkan & Sargent
Mrk 509	ApJ	255	467	82	York et al.
Mrk 509	ApJ	256	75	82	Lacy et al.
Mrk 538	ApJ	248	105	81	Weedman et al.
Mrk 830	ApJ	255	25	82	Grandi
Mus Lambda	ApJ	236	560	80	Bohm-Vitense & Dettmann
Mus R	A&A	109	274	82	Eichendorf et al.
Mus SY	A&A	109	136	82	Michalitsianos et al.
Mus SY	ApJ	253	735	82	Michalitsianos et al.
Mus Theta	ApJ	237	19	80	Bruhweiler et al.
Mus Theta	MN	196	101	81	Barlow et al.
Mus Theta	A&A	87	L7	80	Sahade
N 4A	ApJ	252	461	82	Dufour et al.
N 9	ApJ	238	86	80	De Boer & Savage
N 39	A&A	103	305	81	Lequeux et al.
N 49	ApJ	238	601	80	Benvenuti et al.
N 49	ApJ	246	100	81	Raymond et al.
N 49	A&A	92	22	80	D'Odorico et al.
N 51D	ApJ	238	86	80	De Boer & Savage
N 51D	ApJ	255	447	82	De Boer & Nash
N 63	ApJ	238	601	80	Benvenuti et al.
N 63A	A&A	92	22	80	D'Odorico et al.
N 66	ApJ	238	86	80	De Boer & Savage
N 66	A&A	90	L13	80	Prevot et al.
N 66A	ApJ	252	461	82	Dufour et al.
N 66NW	ApJ	252	461	82	Dufour et al.
N 76	ApJ	238	86	80	De Boer & Savage
N 76	A&A	90	L13	80	Prevot et al.
N 79A	ApJ	252	461	82	Dufour et al.

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
N 81	ApJ	252	461	82	Dufour et al.
N 119	ApJ	238	86	80	De Boer & Savage
N 157	ApJ	252	461	82	Dufour et al.
N 157A	ApJ	238	86	80	De Boer & Savage
N 159	ApJ	252	461	82	Dufour et al.
N.Amer.Neb.	A&A	103	305	81	Lequeux et al.
N1068	ApJ	256	75	82	Lacy et al.
N1275	ApJ	256	75	82	Lacy et al.
N3227	ApJ	256	75	82	Lacy et al.
N3516	ApJ	256	75	82	Lacy et al.
N4151	ApJ	256	75	82	Lacy et al.
N5548	ApJ	256	75	82	Lacy et al.
N7469	ApJ	256	75	82	Lacy et al.
NGC 104	A&A	99	120	81	Nesci
NGC 104	ApJ	261	77	82	Cacciari et al.
NGC 288	ApJ	261	77	82	Cacciari et al.
NGC 346	ApJ	252	461	82	Dufour et al.
NGC 362	ApJ	261	77	82	Cacciari et al.
NGC 362	A&A	103	386	81	Caloi et al.
NGC 595	A&A	103	305	81	Lequeux et al.
NGC 604	Nat	282	272	79	Benvenuti et al.
NGC 604	A&A	85	L21	80	Rosa
NGC 604	A&A	103	305	81	Lequeux et al.
NGC 985	ApJ	242	14	80	Wu et al.
NGC 985	MN	199	409	82	Pettini et al.
NGC 1052	MN	197	235	81	Fosbury et al.
NGC 1058	MN	199	409	82	Pettini et al.
NGC 1068	ApJ	238	502	80	Neugebauer et al.
NGC 1068	Nat	275	404	78	Boksenberg et al.
NGC 1068	ApJ	245	49	81	Koornneef & Mathis
NGC 1068	ApJ	247	449	81	Wu et al.
NGC 1068	A&A	97	94	81	Bergeron et al.
NGC 1068	MN	199	409	82	Pettini et al.
NGC 1261	ApJ	261	77	82	Cacciari et al.
NGC 1275	Nat	300	336	82	Briggs et al.
NGC 1316	MN	199	409	82	Pettini et al.
NGC 1365	MN	192	769	80	Clavel et al.
NGC 1535	AJ	87	555	82	Feibelman
NGC 1535	AJ	86	881	81	Feibelman et al.
NGC 1714	ApJ	252	461	82	Dufour et al.
NGC 1851	ApJ	230	L89	79	Dupree et al.
NGC 1851	A&A	99	120	81	Nesci
NGC 1851	ApJ	261	77	82	Cacciari et al.
NGC 1904	ApJ	261	77	82	Cacciari et al.
NGC 1976	ApJ	255	541	82	Franco & Savage
NGC 2079	ApJ	252	461	82	Dufour et al.
NGC 2110	MN	192	769	80	Clavel et al.
NGC 2244	ApJ	248	201	81	Massa & Conti
NGC 2298	ApJ	261	77	82	Cacciari et al.
NGC 2359	ApJ	235	66	80	Johnson
NGC 2363	A&A	103	305	81	Lequeux et al.
NGC 2366	A&A	103	305	81	Lequeux et al.
NGC 2371	A&A	109	182	82	Pottasch et al.
NGC 2371	A&A	102	237	81	Pottasch et al.

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
NGC 2372	A&A	102	237	81	Pottasch et al.
NGC 2440	ApJ	248	569	81	Shields et al.
NGC 2440	A&A	100	241	81	Perinotto & Benevenuti
NGC 2867	MN	197	647	81	Aller et al.
NGC 2992	MN	192	769	80	Clavel et al.
NGC 3031	MN	201	223	82	Ellis et al.
NGC 3067	Nat	275	404	78	Boksenberg et al.
NGC 3077	ApJ	243	L65	81	Benacchio & Galletta
NGC 3132	AJ	87	555	82	Feibelman
NGC 3199	MN	197	1p	81	Willis & Stickland
NGC 3211	ApJ	241	725	80	Feibelman et al.
NGC 3211	AJ	87	555	82	Feibelman
NGC 3242	ApJ	241	725	80	Feibelman et al.
NGC 3242	AJ	87	555	82	Feibelman
NGC 3242	A&A	85	L15	80	Koppen & Wehrse
NGC 3242	A&A	100	241	81	Perinotto & Benevenuti
NGC 3242	AJ	86	881	81	Feibelman et al.
NGC 3368	ApJ	243	453	81	Oke et al.
NGC 3372	ApJ	252	156	82	Walborn & Hesser
NGC 3379	ApJ	243	453	81	Oke et al.
NGC 3379	ApJ	254	494	82	Bertola et al.
NGC 3379	A&A	93	290	81	Norgaard-Nlsn&Kjaergaard
NGC 3603	A&A	103	305	81	Lequeux et al.
NGC 3783	ApJ	242	14	80	Wu et al.
NGC 3783	ApJ	261	30	82	Gregory et al.
NGC 3783	MN	199	409	82	Pettini et al.
NGC 4151	MN	189	45p	79	Penston et al.
NGC 4151	MN	196	857	81	Penston et al.
NGC 4151	Nat	275	404	78	Boksenberg et al.
NGC 4151	ApJ	242	14	80	Wu et al.
NGC 4151	ApJ	247	449	81	Wu et al.
NGC 4151	ApJ	254	22	82	Malkan & Sargent
NGC 4151	ApJ	255	25	82	Grandi
NGC 4151	A&A	97	94	81	Bergeron et al.
NGC 4151	ApJ	261	30	82	Gregory et al.
NGC 4151	MN	199	409	82	Pettini et al.
NGC 4151	MN	200	293	82	Perola et al.
NGC 4258	MN	201	223	82	Ellis et al.
NGC 4321	MN	192	861	80	Panagia et al.
NGC 4321	MN	199	409	82	Pettini et al.
NGC 4374	ApJ	254	494	82	Bertola et al.
NGC 4449	A&A	103	305	81	Lequeux et al.
NGC 4449	A&A	103	305	81	Lequeux et al.
NGC 4472	ApJ	243	453	81	Oke et al.
NGC 4472	ApJ	254	494	82	Bertola et al.
NGC 4472	A&A	93	290	81	Norgaard-Nlsn&Kjaergaard
NGC 4486	ApJ	237	L65	80	Bertola et al.
NGC 4486	Nat	275	404	78	Boksenberg et al.
NGC 4486	ApJ	240	447	80	Perola & Tarenghi
NGC 4486	ApJ	254	494	82	Bertola et al.
NGC 4507	A&A	97	94	81	Bergeron et al.
NGC 4593	A&A	97	94	81	Bergeron et al.
NGC 4594	MN	201	223	82	Ellis et al.
NGC 4649	ApJ	254	494	82	Bertola et al.

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
NGC 5024	ApJ	261	77	82	Cacciari et al.
NGC 5139	ApJ	261	77	82	Cacciari et al.
NGC 5189	ApJ	250	590	81	Johnson
NGC 5194	MN	201	223	82	Ellis et al.
NGC 5253	MN	192	861	80	Panagia et al.
NGC 5272	ApJ	261	77	82	Cacciari et al.
NGC 5461	A&A	103	305	81	Lequeux et al.
NGC 5471	A&A	85	L21	80	Rosa
NGC 5471	A&A	103	305	81	Lequeux et al.
NGC 5506	A&A	97	94	81	Bergeron et al.
NGC 5548	ApJ	242	14	80	Wu et al.
NGC 5548	ApJ	247	449	81	Wu et al.
NGC 5548	ApJ	254	22	82	Malkan & Sargent
NGC 5548	ApJ	261	30	82	Gregory et al.
NGC 5824	A&A	99	120	81	Nesci
NGC 5824	A&A	103	386	81	Caloi et al.
NGC 5897	ApJ	261	77	82	Cacciari et al.
NGC 5904	ApJ	261	77	82	Cacciari et al.
NGC 5904	A&A	103	424	81	Altamore et al.
NGC 5986	ApJ	261	77	82	Cacciari et al.
NGC 6052	Nat	282	272	79	Benvenuti et al.
NGC 6093	A&A	112	341	82	Holm et al.
NGC 6093	A&A	99	120	81	Nesci
NGC 6093	ApJ	261	77	82	Cacciari et al.
NGC 6093	A&A	103	386	81	Caloi et al.
NGC 6121	ApJ	261	77	82	Cacciari et al.
NGC 6164	ApJ	251	126	81	Bruhweiler et al.
NGC 6165	ApJ	251	126	81	Bruhweiler et al.
NGC 6193	ApJ	251	126	81	Bruhweiler et al.
NGC 6205	ApJ	261	77	82	Cacciari et al.
NGC 6210	A&A	85	L15	80	Koppen & Wehrse
NGC 6210	AJ	86	881	81	Feibelman et al.
NGC 6218	ApJ	261	77	82	Cacciari et al.
NGC 6231	ApJ	250	660	81	Garmany et al.
NGC 6254	ApJ	261	77	82	Cacciari et al.
NGC 6266	ApJ	261	77	82	Cacciari et al.
NGC 6302	MN	197	95	81	Aller et al.
NGC 6309	AJ	87	555	82	Feibelman
NGC 6341	A&A	99	120	81	Nesci
NGC 6341	ApJ	261	77	82	Cacciari et al.
NGC 6341	A&A	103	386	81	Caloi et al.
NGC 6388	ApJ	261	77	82	Cacciari et al.
NGC 6397	A&A	107	145	82	Caloi et al.
NGC 6397	ApJ	261	77	82	Cacciari et al.
NGC 6402	ApJ	261	77	82	Cacciari et al.
NGC 6441	ApJ	261	77	82	Cacciari et al.
NGC 6541	ApJ	261	77	82	Cacciari et al.
NGC 6542	MN	194	13p	81	Flower & Penn
NGC 6543	MN	190	1p	80	Clavel & Fowler
NGC 6543	MN	194	547	81	Castor et al.
NGC 6565	AJ	87	555	82	Feibelman
NGC 6572	ApJ	241	725	80	Feibelman et al.
NGC 6572	AJ	87	555	82	Feibelman
NGC 6611	A&A	114	367	82	Meaburn

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
NGC 6624	ApJ	230	L89	79	Dupree et al.
NGC 6624	ApJ	243	453	81	Oke et al.
NGC 6624	ApJ	261	77	82	Cacciari et al.
NGC 6626	ApJ	261	77	82	Cacciari et al.
NGC 6644	ApJ	246	807	81	Feibelman et al.
NGC 6644	AJ	87	555	82	Feibelman
NGC 6656	ApJ	261	77	82	Cacciari et al.
NGC 6681	ApJ	261	77	82	Cacciari et al.
NGC 6715	ApJ	261	77	82	Cacciari et al.
NGC 6720	ApJ	253	167	82	Barker
NGC 6720	MN	199	15p	82	Flower
NGC 6723	ApJ	261	77	82	Cacciari et al.
NGC 6752	ApJ	230	L89	79	Dupree et al.
NGC 6752	A&A	99	120	81	Nesci
NGC 6752	ApJ	261	77	82	Cacciari et al.
NGC 6752	A&A	103	386	81	Caloi et al.
NGC 6809	ApJ	261	77	82	Cacciari et al.
NGC 6818	ApJ	241	725	80	Feibelman et al.
NGC 6818	AJ	87	555	82	Feibelman
NGC 6826	Nat	275	385	78	Heap et al.
NGC 6826	A&A	100	241	81	Perinotto & Benevenuti
NGC 6853	A&A	109	182	82	Pottasch et al.
NGC 6853	ApJ	252	635	82	Bohlin et al.
NGC 6864	ApJ	261	77	82	Cacciari et al.
NGC 6888	MN	191	339	80	Smith et al.
NGC 6888	MN	197	1p	81	Willis & Stickland
NGC 6888	Nat	278	697	79	Huber et al.
NGC 6888	A&A	106	70	82	Drechsel & Rahe
NGC 6891	ApJ	246	807	81	Feibelman et al.
NGC 6891	AJ	87	555	82	Feibelman
NGC 6891	AJ	86	881	81	Feibelman et al.
NGC 6905	ApJ	250	590	81	Johnson
NGC 6905	ApJ	258	562	82	Feibelman
NGC 6946	MN	199	409	82	Pettini et al.
NGC 7009	MN	195	21p	81	Harrington et al.
NGC 7009	ApJ	246	807	81	Feibelman et al.
NGC 7009	AJ	87	555	82	Feibelman
NGC 7009	A&A	85	L15	80	Koppen & Wehrse
NGC 7009	A&A	100	241	81	Perinotto & Benevenuti
NGC 7009	A&A	101	88	81	Perinotto & Benvenuti
NGC 7023	PASP	92	411	80	Walker et al.
NGC 7023	ApJ	244	199	81	Witt et al.
NGC 7023	A&A	90	290	80	Altamore et al.
NGC 7023	ApJ	261	492	82	Witt et al.
NGC 7027	MN	187	785	79	Seaton
NGC 7027	MN	190	1p	80	Clavel & Fowler
NGC 7027	Nat	275	377	78	Boggess et al.
NGC 7027	ApJ	238	929	80	Stencel & Sahade
NGC 7027	Nat	275	394	78	Grewing et al.
NGC 7027	A&A	109	182	82	Pottasch et al.
NGC 7027	ApJ	248	569	81	Shields et al.
NGC 7027	A&A	75	L17	79	Nussbaumer & Schild
NGC 7027	A&A	85	332	80	Perinotto et al.
NGC 7027	A&A	95	127	81	Benvenuti & Perinotto
NGC 7027	A&A	100	241	81	Perinotto & Benevenuti
NGC 7027	A&A	101	88	81	Perinotto & Benvenuti
NGC 7078	A&A	99	120	81	Nesci
NGC 7078	ApJ	261	77	82	Cacciari et al.
NGC 7078	A&A	103	386	81	Caloi et al.
NGC 7099	ApJ	261	77	82	Cacciari et al.
NGC 7293	ApJ	252	635	82	Bohlin et al.
NGC 7469	ApJ	242	14	80	Wu et al.
NGC 7469	ApJ	247	449	81	Wu et al.
NGC 7582	MN	192	769	80	Clavel et al.
NGC 7582	A&A	97	94	81	Bergeron et al.
NGC 7635	ApJ	235	66	80	Johnson
NGC 7635	ApJS	50	551	82	Johnson
NGC 7662	MN	201	39p	82	Flower et al.
NGC 7662	MN	191	13	80	Harrington et al.
NGC 7662	MN	195	21p	81	Harrington et al.
NGC 7662	A&A	109	182	82	Pottasch et al.
NGC 7662	ApJ	248	569	81	Shields et al.
NGC 7662	A&A	95	127	81	Benvenuti & Perinotto
NGC 7662	A&A	97	94	81	Bergeron et al.
NGC 7662	A&A	100	241	81	Perinotto & Benevenuti
NGC 7662	A&A	101	88	81	Perinotto & Benvenuti
NGC 7662	A&A	102	237	81	Pottasch et al.
NGC 7662	A&A	103	305	81	Lequeux et al.
NGC 7662	MN	199	517	82	Harrington et al.
NGC 7662	AJ	86	881	81	Feibelman et al.
NGC 7662	MN	187	1p	79	Lutz & Seaton
NGC 7673	MN	198	825	82	Benvenuti et al.
NGC 7714	ApJ	248	105	81	Weedman et al.
NGC 7715	ApJ	248	105	81	Weedman et al.
Neptune	AJ	86	298	81	Caldwell et al.
Nor Delta	A&A	107	75	82	Crivellari & Praderie
Nova Aquilae	ApJ	248	1059	81	Slovak
Nova Aquilae	A&A	99	166	81	Drechsel et al.
Nova Cygni	A&A	74	L18	79	Cassatella et al.
Nova Cygni	A&A	99	166	81	Drechsel et al.
Nova Cygni78	MN	197	107	81	Stickland et al.
Nova Cygni78	A&A	112	341	82	Holm et al.
NovaDelphini	PASP	92	458	80	Hutchings
OAO 1653-40	A&A	93	219	81	Howarth et al.
OJ 287	ApJ	261	403	82	Worrall et al.
Oph 66	ApJ	253	L33	82	Peters
Oph 67	ApJ	256	568	82	Odegard & Cassinelli
Oph 67	A&A	97	L9	81	Underhill
Oph 70	ApJ	241	279	80	Ayres & Linsky
Oph Alpha	Nat	293	377	81	Frisch
Oph Alpha	ApJ	244	938	81	Boha-Vitense
Oph Beta	ApJ	234	1023	79	Basri & Linsky
Oph Beta	ApJ	238	221	80	Stencel & Mullan
Oph Beta	ApJS	44	383	80	Stencel et al.
Oph Beta	ApJ	253	716	82	Mullan & Stencel
Oph Beta	ApJ	257	225	82	Simon et al.
Oph Chi	Nat	293	377	81	Frisch
Oph Delta	MN	197	791	81	Stickland & Sanner

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
Oph Kappa	ApJ	234	1023	79	Basri & Linsky
Oph Kappa	ApJ	238	221	80	Stencel & Mullan
Oph Kappa	ApJS	44	383	80	Stencel et al.
Oph Kappa	ApJ	244	504	81	Bohm-Vitense
Oph Kappa	ApJ	253	716	82	Mullan & Stencel
Oph Kappa	ApJ	257	225	82	Simon et al.
Oph Mu	ApJ	236	560	80	Bohm-Vitense & Dettmann
Oph Mu	ApJ	262	213	82	Cardelli & Bohm-Vitense
Oph Nu	A&A	107	75	82	Crivellari & Praderie
Oph RS	MN	195	61	81	Barlow et al.
Oph RS	A&A	108	243	82	Rosino et al.
Oph RS	ApJ	251	221	81	Williams et al.
Oph Rho	ApJ	239	502	80	Black et al.
Oph Rho	ApJ	246	788	81	Seab et al.
Oph Rho	ApJ	249	109	81	Bohlin & Savage
Oph V2048	ApJ	253	L33	82	Peters
Oph Zeta	MN	191	339	80	Smith et al.
Oph Zeta	Nat	275	377	78	Boggess et al.
Oph Zeta	Nat	275	394	78	Grewing et al.
Oph Zeta	Nat	275	400	78	Dupree et al.
Oph Zeta	Nat	278	697	79	Huber et al.
Oph Zeta	Nat	293	377	81	Frisch
Oph Zeta	ApJ	246	788	81	Seab et al.
Oph Zeta	A&A	74	L15	79	Pottasch et al.
OphA 70	ApJ	234	1023	79	Basri & Linsky
OphA 70	ApJ	251	113	81	Giampapa et al.
Ori 1	ApJ	235	L13	80	Perinotto & Patriarchi
Ori 1	ApJ	238	133	80	Torres-Peimbert et al.
Ori 1	ApJ	238	614	80	Perinotto & Patriarchi
Ori 2	ApJ	235	L13	80	Perinotto & Patriarchi
Ori 2	ApJ	238	133	80	Torres-Peimbert et al.
Ori 2	ApJ	238	614	80	Perinotto & Patriarchi
Ori 3	ApJ	238	133	80	Torres-Peimbert et al.
Ori 6	ApJ	238	133	80	Torres-Peimbert et al.
Ori 7	ApJ	238	133	80	Torres-Peimbert et al.
Ori 22	ApJS	48	415	82	Kamp
Ori 62	A&A	101	161	81	Hellings et al.
Ori 64	Nat	286	580	80	Chapman
Ori 64	ApJ	248	1043	81	Chapman
Ori Alpha	ApJ	229	L27	79	Linsky & Haisch
Ori Alpha	ApJ	234	1023	79	Basri & Linsky
Ori Alpha	ApJ	234	1023	79	Basri & Linsky
Ori Alpha	ApJ	235	519	80	Haisch et al.
Ori Alpha	ApJ	238	203	80	Hagen et al.
Ori Alpha	MN	197	791	81	Stickland & Sanner
Ori Alpha	ApJ	244	552	81	Johnson
Ori Alpha	ApJ	251	162	81	Basri et al.
Ori Alpha	ApJ	251	597	81	Stencel & Chapman
Ori Alpha	A&A	76	L18	79	Faraggiana & Selvelli
Ori Alpha	A&A	92	320	80	Kafatos et al.
Ori Alpha	ApJ	257	225	82	Simon et al.
Ori Beta	MN	190	611	80	Bates et al.
Ori Beta	ApJ	234	528	79	Underhill
Ori Beta	ApJ	235	L149	80	Underhill
Ori Beta	MN	195	9p	81	Bates et al.
Ori Beta	ApJ	256	568	82	Odegard & Cassinelli
Ori Beta	A&A	101	161	81	Hellings et al.
Ori CD	ApJ	251	113	81	Giampapa et al.
Ori Chi 1	ApJ	241	279	80	Ayres & Linsky
Ori Chi 2	ApJ	235	L149	80	Underhill
Ori Chi 2	ApJ	239	502	80	Black et al.
Ori Chi 2	ApJ	256	568	82	Odegard & Cassinelli
Ori Delta	ApJ	238	190	80	Conti & Garmany
Ori Delta	ApJ	250	660	81	Garmany et al.
Ori Delta	ApJ	254	88	82	York & Jura
Ori Epsilon	ApJ	254	88	82	York & Jura
Ori Epsilon	A&A	93	219	81	Howarth et al.
Ori Epsilon	A&A	101	168	81	Stalio et al.
Ori Eta	ApJ	237	19	80	Bruhweiler et al.
Ori GW	Nat	296	816	82	Canuto et al.
Ori GW	RGSP	20	280	82	Zahnle & Walker
Ori GW	ApJ	251	113	81	Giampapa et al.
Ori GW	A&A	90	184	80	Appenzeller et al.
Ori Gamma	ApJ	250	701	81	Drilling
Ori Iota	ApJ	250	660	81	Garmany et al.
Ori Iota	ApJ	254	88	82	York & Jura
Ori Kappa	ApJ	254	88	82	York & Jura
Ori Kappa	A&A	101	168	81	Stalio et al.
Ori Lambda	ApJ	238	190	80	Conti & Garmany
Ori Lambda	ApJ	239	502	80	Black et al.
Ori Lambda	ApJ	250	660	81	Garmany et al.
Ori Nu	ApJ	244	199	81	Witt et al.
Ori Nu	A&A	87	31	80	Ortolani et al.
Ori OB1	ApJ	250	L25	81	Cowie et al.
Ori Omega	ApJ	253	L33	82	Peters
Ori Thet1+2	MN	192	769	80	Clavel et al.
Ori Thet1+2	ApJ	246	788	81	Seab et al.
Ori Theta 1	ApJ	244	199	81	Witt et al.
Ori Theta1A	ApJ	255	541	82	Franco & Savage
Ori Theta1C	ApJ	255	541	82	Franco & Savage
Ori Theta1D	ApJ	255	541	82	Franco & Savage
Ori Theta2A	Nat	275	377	78	Boggess et al.
Ori Theta2A	ApJ	255	541	82	Franco & Savage
Ori V380	ApJ	246	161	81	Sitko et al.
Ori V380	ApJ	247	1024	81	Sitko
Ori V380	A&A	90	184	80	Appenzeller et al.
Ori YY	A&A	75	164	79	Appenzeller & Wolf
Ori Zeta	ApJ	238	190	80	Conti & Garmany
Ori Zeta	ApJ	250	660	81	Garmany et al.
Ori Zeta	ApJ	254	88	82	York & Jura
OriA Sigma 1	ApJS	50	551	82	Johnson
OriA Sigma 2	ApJS	50	551	82	Johnson
OriA Theta 1	ApJ	249	99	81	Mathis et al.
OriA Theta 1	ApJ	249	109	81	Bohlin & Savage
OriA Theta 2	ApJ	238	190	80	Conti & Garmany
OriA Theta 2	ApJ	238	614	80	Perinotto & Patriarchi
OriA Theta 2	ApJ	249	109	81	Bohlin & Savage
OriA Theta 2	A&A	94	345	81	Bernacca & Bianchi

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OriB Sigma	ApJS	50	551	82	Johnson
OriB Theta 1	ApJ	249	99	81	Mathis et al.
OriB Theta 1	ApJ	249	109	81	Bohlin & Savage
OriB Theta 2	ApJ	249	109	81	Bohlin & Savage
OriC Theta 1	ApJ	238	614	80	Perinotto & Patriarchi
OriC Theta 1	ApJ	249	99	81	Mathis et al.
OriC Theta 1	ApJ	249	109	81	Bohlin & Savage
OriC Theta1	ApJ	261	L91	82	Fitzpatrick
OriD Theta 1	ApJ	249	99	81	Mathis et al.
OriD Theta 1	ApJ	249	109	81	Bohlin & Savage
OriE Sigma	ApJ	250	701	81	Drilling
OriE Sigma	A&A	116	64	82	Groote & Hunger
OriE Sigma	ApJS	50	551	82	Johnson
Orion	ApJ	255	447	82	De Boer & Nash
Orion Nebula	MN	191	13	80	Harrington et al.
Orion Nebula	ApJ	235	L13	80	Perinotto & Patriarchi
Orion Nebula	ApJ	238	133	80	Torres-Peimbert et al.
Orion Nebula	ApJ	238	614	80	Perinotto & Patriarchi
Orion Nebula	ApJ	245	49	81	Koornneef & Mathis
Orion Nebula	ApJ	249	99	81	Mathis et al.
Orion Nebula	ApJ	249	109	81	Bohlin & Savage
Orion Nebula	ApJ	252	461	82	Dufour et al.
Orion Nebula	ApJ	255	541	82	Franco & Savage
Orion Nebula	A&A	103	305	81	Lequeux et al.
Oxf +25.6725	ApJ	229	L141	79	Greenstein & Oke
PG 0026+12	A&A	97	94	81	Bergeron et al.
PG 0026+129	ApJ	226	L57	78	Baldwin et al.
PG 0026+129	MN	187	65p	79	Ferland et al.
PG 0953+415	ApJ	239	483	80	Green et al.
PG 0953+415	ApJ	255	25	82	Grandi
PG 1115+080	ApJ	239	483	80	Green et al.
PG 1155+492	ApJ	251	205	81	Ferguson et al.
PG 1247+268	ApJ	239	483	80	Green et al.
PHL 459	A&A	113	L13	82	Koester et al.
PHL 1092	A&A	102	321	81	Joly
PK 60-3.1	A&A	109	182	82	Pottasch et al.
PK 61-9.1	ApJ	250	590	81	Johnson
PK 111-2.1	ApJ	250	590	81	Johnson
PK 118-8.1	ApJ	250	590	81	Johnson
PK 189+19.1	A&A	102	237	81	Pottasch et al.
PK 278-05	MN	197	647	81	Aller et al.
PK 307-3	ApJ	250	590	81	Johnson
PK 342+27.1	ApJ	250	596	81	Aller et al.
PKS 0044+030	ApJ	255	25	82	Grandi
PKS 0215+015	MN	199	409	82	Pettini et al.
PKS 0405-123	ApJ	239	483	80	Green et al.
PKS 0430+05	ApJ	231	L13	79	Oke & Zimmerman
PKS 0548-322	ApJ	261	12	82	Urry et al.
PKS 0735+178	ApJ	249	13	81	Bregman et al.
PKS 0735+178	MN	199	409	82	Pettini et al.
PKS 0736+01	ApJ	255	25	82	Grandi
PKS 0736+017	ApJ	255	25	82	Grandi
PKS 1302-102	ApJ	239	483	80	Green et al.
PKS 2020-370	MN	199	409	82	Pettini et al.
PKS 2128-123	ApJ	255	25	82	Grandi
PKS 2155-304	Nat	285	555	80	Maraschi et al.
PKS 2158-380	MN	201	991	82	Fosbury et al.
PKS 2315-426	MN	192	769	80	Clavel et al.
PKS 2344+092	ApJ	255	25	82	Grandi
PN 315-13.1	A&A	116	80	82	Surdej & Heck
Pallas	Nat	287	701	80	Butterworth et al.
Pav AR	PASP	94	107	82	Hutchings & Cowley
Pav Delta	A&AS	47	295	82	Beckman et al.
Pav Delta	ApJ	252	214	82	Hartmann et al.
Pav Gamma	ApJ	244	504	81	Boha-Vitense
Pav Gamma	ApJ	258	628	82	Boha-Vitense
Peg 9	ApJ	238	221	80	Stencel & Mullan
Peg 9	ApJS	44	383	80	Stencel et al.
Peg 9	ApJ	244	504	81	Boha-Vitense
Peg 9	A&A	107	292	82	Reimers
Peg 9	ApJ	253	716	82	Mullan & Stencel
Peg 9	ApJ	257	225	82	Simon et al.
Peg 12	A&A	107	292	82	Reimers
Peg 56	ApJ	238	221	80	Stencel & Mullan
Peg 56	ApJS	44	383	80	Stencel et al.
Peg 56	ApJ	244	504	81	Boha-Vitense
Peg 56	ApJ	253	716	82	Mullan & Stencel
Peg 56	ApJ	257	225	82	Simon et al.
Peg 56	ApJ	263	269	82	Schindler et al.
Peg Beta	ApJ	238	221	80	Stencel & Mullan
Peg Beta	MN	197	791	81	Stickland & Sanner
Peg Beta	ApJS	44	383	80	Stencel et al.
Peg EQ	ApJ	233	L69	79	Hartmann et al.
Peg EQ	A&A	106	98	82	Djie et al.
Peg EQ	ApJ	252	214	82	Hartmann et al.
Peg EQ	ApJ	260	670	82	Linsky et al.
Peg EQ	A&A	104	240	81	Saxner
Peg Epsilon	ApJ	234	1023	79	Basri & Linsky
Peg Epsilon	ApJ	235	519	80	Haisch et al.
Peg Epsilon	ApJ	238	221	80	Stencel & Mullan
Peg Epsilon	ApJS	44	383	80	Stencel et al.
Peg Eta	ApJ	234	1023	79	Basri & Linsky
Peg Iota	A&A	115	280	82	Blanco et al.
Peg Mu	ApJ	257	225	82	Simon et al.
Peg Pi	ApJ	236	560	80	Boha-Vitense & Dettmann
Peg RU	A&A	98	27	81	Krautter et al.
Peg RU	A&A	102	337	81	Krautter et al.
Peg Tau	A&A	107	326	82	Fracassini & Pasinetti
Per 10	ApJ	256	568	82	Odegard & Cassinelli
Per A	Nat	300	336	82	Briggs et al.
Per Alpha	ApJ	234	1023	79	Basri & Linsky
Per Alpha	ApJ	236	560	80	Boha-Vitense & Dettmann
Per Alpha	ApJ	239	555	80	Parsons
Per Chi	PASP	93	486	81	Hutchings & Crampton
Per Chi	A&A	85	119	80	Hammerschlag-Hensbg.etal
Per Chi	A&A	94	345	81	Bernacca & Bianchi
Per Epsilon	ApJ	245	201	81	Parsons
Per Epsilon	ApJ	254	88	82	York & Jura

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
Per GK	A&A	108	243	82	Rosino et al.
Per GK	ApJ	251	205	81	Ferguson et al.
Per KS	A&A	113	L22	82	Drilling & Schonberner
Per LX	ApJ	241	279	80	Ayres & Linsky
Per Nu	ApJ	236	560	80	Bohm-Vitense & Dettmann
Per Omicron	Nat	275	385	78	Heap et al.
Per Omicron	ApJ	239	502	80	Black et al.
Per Phi	MN	198	457	82	Kitchin
Per Psi	MN	196	67	81	Tarafdar & Krishna Swamy
Per TZ	A&A	113	76	82	Klare et al.
Per Zeta	ApJ	245	201	81	Parsons
Per Zeta	ApJ	246	788	81	Seab et al.
Per Zeta	A&A	84	369	80	Stalio & Franco
Phe Alpha	ApJ	238	221	80	Stencel & Mullan
Phe Alpha	ApJS	44	383	80	Stencel et al.
Phe Alpha	ApJ	244	504	81	Bohm-Vitense
Phe Alpha	ApJ	253	716	82	Mullan & Stencel
Phe Alpha	ApJ	257	225	82	Simon et al.
Pic Alpha	A&AS	47	295	82	Beckman et al.
Pic Delta	ApJ	237	19	80	Bruhweiler et al.
Pic Delta	PASP	92	688	80	Kondo et al.
Pic RR	A&A	108	243	82	Rosino et al.
Pic RR	A&A	99	166	81	Drechsel et al.
Pic RR	A&A	102	337	81	Krautter et al.
Pic Zeta	ApJ	236	560	80	Bohm-Vitense & Dettmann
Pic Zeta	ApJ	244	504	81	Bohm-Vitense
Pic Zeta	ApJ	258	628	82	Bohm-Vitense
Pleione	A&AS	47	547	82	Golay & Mauron
Pro Theta 1	PASP	92	411	80	Walker et al.
Procyon	MN	196	757	81	Brown & Jordan
Procyon	ApJ	247	545	81	Ayres et al.
PsA Alpha	ApJ	260	L91	82	Bruhweiler & Kondo
Psc 78	A&A	115	280	82	Blanco et al.
Psc Gamma	ApJ	234	1023	79	Basri & Linsky
Psc Iota	ApJ	244	504	81	Bohm-Vitense
Psc Iota	ApJ	258	628	82	Bohm-Vitense
Psc Lambda	ApJ	236	560	80	Bohm-Vitense & Dettmann
Pup 12	ApJ	258	628	82	Bohm-Vitense
Pup A	A&A	92	22	80	D'Odorico et al.
Pup KQ	A&AS	49	511	82	Altamore et al.
Pup KS	PASP	93	285	81	Johnson
Pup RX	ApJ	257	204	82	Kafatos et al.
Pup Rho	ApJ	234	1023	79	Basri & Linsky
Pup Rho	ApJ	236	560	80	Bohm-Vitense & Dettmann
Pup Rho	ApJ	244	504	81	Bohm-Vitense
Pup Rho	A&A	107	326	82	Fracassini & Pasinetti
Pup V	PASP	93	621	81	Koch et al.
Pup Xi	ApJ	234	1023	79	Basri & Linsky
Pup Xi	ApJ	238	221	80	Stencel & Mullan
Pup Xi	ApJS	44	383	80	Stencel et al.
Pup Xi	ApJ	244	504	81	Bohm-Vitense
Pup Zeta	MN	190	27p	80	Willis & Stickland
Pup Zeta	ApJ	238	190	80	Conti & Garmany
Pup Zeta	ApJ	238	909	80	Hutchings & von Rudloff
Pup Zeta	Nat	275	385	78	Heap et al.
Pup Zeta	Nat	275	400	78	Dupree et al.
Pup Zeta	ApJ	244	504	81	Bohm-Vitense
Pup Zeta	ApJ	250	660	81	Garmany et al.
Pup Zeta	A&A	74	L15	79	Pottasch et al.
Pup Zeta	ApJ	254	88	82	York & Jura
Pup Zeta	A&A	104	249	81	Hamann et al.
Pyx T	MN	195	61	81	Barlow et al.
Q 0957+561AB	Nat	296	415	82	Gondhalekar & Wilson
Q 1115+080	MN	199	409	82	Pettini et al.
QSO UB1	ApJ	248	105	81	Weedman et al.
QSO 0957+561	Nat	285	461	80	Gondhalekar & Wilson
QSO 1011+25	A&A	75	L17	79	Nussbaumer & Schild
QSO 1101-264	MN	194	353	81	Boksenberg & Snijders
QSO 1101-264	ApJ	245	386	81	Snijders et al.
QSO 1225+31	ApJ	245	386	81	Snijders et al.
QSO 2204-408	Nat	277	457	79	Wilson et al.
R 31	MN	193	43p	80	Nandy et al.
R 31	ApJ	237	285	80	Hutchings
R 51	ApJ	237	285	80	Hutchings
R 51	ApJ	255	70	82	Hutchings
R 67	ApJ	237	285	80	Hutchings
R 67	ApJ	255	70	82	Hutchings
R 71	A&A	99	351	81	Wolf et al.
R 71	A&A	103	94	81	Wolf et al.
R 81	A&A	99	351	81	Wolf et al.
R 81	A&A	103	94	81	Wolf et al.
R 84	ApJ	237	285	80	Hutchings
R 84	ApJ	255	70	82	Hutchings
R 93	ApJ	255	70	82	Hutchings
R 94	ApJ	237	285	80	Hutchings
R 99	MN	193	43p	80	Nandy et al.
R 99	ApJ	237	285	80	Hutchings
R 99	ApJ	255	70	82	Hutchings
R 108	ApJ	255	70	82	Hutchings
R 112	ApJ	237	285	80	Hutchings
R 112	ApJ	255	70	82	Hutchings
R 113	ApJ	237	285	80	Hutchings
R 113	ApJ	255	70	82	Hutchings
R 122	ApJ	255	70	82	Hutchings
R 129	ApJ	237	285	80	Hutchings
R 129	ApJ	255	70	82	Hutchings
R 133	ApJ	245	49	81	Koornneef & Mathis
R 135	ApJ	245	49	81	Koornneef & Mathis
R 136	ApJ	236	769	80	De Boer et al.
R 136	ApJ	245	49	81	Koornneef & Mathis
R 136	ApJ	247	860	81	Koornneef & Code
R 136	A&A	103	305	81	Lequeux et al.
R 136a	A&A	108	49	82	Ledoux et al.
R 137	ApJ	245	49	81	Koornneef & Mathis
R 138	ApJ	245	49	81	Koornneef & Mathis
R 139	ApJ	245	49	81	Koornneef & Mathis
R 140	ApJ	245	49	81	Koornneef & Mathis
R 144	ApJ	236	769	80	De Boer et al.

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
R 144	A&A	103	305	81	Lequeux et al.
R 145	ApJ	245	49	81	Koornneef & Mathis
R 148	ApJ	255	70	82	Hutchings
R 640	A&A	95	L9	81	Weidemann et al.
RCW 104	MN	197	1p	81	Willis & Stickland
RCW 108	ApJ	239	502	80	Black et al.
RCW 113	ApJ	239	502	80	Black et al.
RDB 162	A&A	107	145	82	Caloi et al.
RWT 152	ApJ	262	234	82	Ebbets & Savage
Rasalhague	Nat	293	377	81	Frisch
Red Rect.Neb	ApJ	246	161	81	Sitko et al.
Red Rect.Neb	ApJ	247	1024	81	Sitko
Ret Epsilon	ApJ	238	221	80	Stencel & Mullan
Ret Epsilon	ApJS	44	383	80	Stencel et al.
Ring Nebula	ApJ	253	167	82	Barker
Ring Nebula	MN	199	15p	82	Flower
Rosette Neb.	ApJ	239	502	80	Black et al.
Ross 640	ApJ	238	941	80	Cottrell & Greenstein
S 86	A&A	99	351	81	Wolf et al.
S 147	MN	191	13p	80	Gondhalekar & Phillips
S 155	A&A	103	94	81	Wolf et al.
S 308	MN	191	339	80	Smith et al.
S 308	MN	197	1p	81	Willis & Stickland
S 111-68	ApJ	255	70	82	Hutchings
S-68 63	A&A	99	351	81	Wolf et al.
SMC	MN	193	43p	80	Nandy et al.
SMC	ApJ	237	285	80	Hutchings
SMC	ApJ	238	86	80	De Boer & Savage
SMC	ApJ	238	601	80	Benvenuti et al.
SMC	ApJ	243	460	81	Savage & de Boer
SMC	ApJ	252	461	82	Dufour et al.
SMC	ApJ	255	70	82	Hutchings
SMC	A&A	90	L13	80	Prevot et al.
SMC	A&A	99	L5	81	Rocca-Volmerange et al.
SMC	A&A	103	305	81	Lequeux et al.
SMC N2	ApJ	253	L43	82	Maran et al.
SMC N2	ApJ	262	L41	82	Stecher et al.
SMC N5	ApJ	253	L43	82	Maran et al.
SMC N5	ApJ	262	L41	82	Stecher et al.
SMC X-1	A&A	106	339	82	Van der Klis et al.
SMC X-1	A&A	101	184	81	Bonnet-Bidaud et al.
SMC X-1	A&AS	43	353	81	Tarenghi et al.
SMC X-2	A&AS	43	353	81	Tarenghi et al.
SN 1181	MN	192	861	80	Panagia et al.
SN 1972e	MN	192	861	80	Panagia et al.
SN 1979c	MN	192	861	80	Panagia et al.
SN 1979c	A&A	111	140	82	Fransson
SN 1980k	A&A	111	140	82	Fransson
SN 1980k	MN	199	409	82	Pettini et al.
SN Johnson	A&A	111	140	82	Fransson
SNR 147	MN	195	485	81	Phillips et al.
Sag Nu1	PASP	94	647	82	Kondo et al.
Saturn	ApJ	229	L107	79	Moos & Clarke
Saturn	RSPT	303	225	81	Hunt
Saturn	Nat	275	414	78	Lane et al.
Saturn	Nat	290	226	81	Clarke et al.
Saturn	ApJ	255	806	82	Clarke et al.
Saturn	JGR	87	4567	82	Cheng et al.
Saturn	AJ	86	298	81	Caldwell et al.
Scl VY	ApJ	251	205	81	Ferguson et al.
Sco 1B	AJ	86	298	81	Caldwell et al.
Sco Alpha	ApJ	234	1023	79	Basri & Linsky
Sco Alpha 1	ApJ	252	644	82	Bernat
Sco Alpha 2	ApJ	252	644	82	Bernat
Sco CL	ApJ	253	735	82	Michalitsianos et al.
Sco Delta	ApJ	246	788	81	Seab et al.
Sco Epsilon	ApJ	229	L27	79	Linsky & Haisch
Sco Epsilon	ApJ	234	1023	79	Basri & Linsky
Sco Epsilon	ApJ	238	221	80	Stencel & Mullan
Sco Epsilon	ApJS	44	383	80	Stencel et al.
Sco Epsilon	ApJ	247	545	81	Ayres et al.
Sco Epsilon	ApJ	253	716	82	Mullan & Stencel
Sco Epsilon	ApJ	257	225	82	Simon et al.
Sco Eta	ApJ	236	560	80	Bohm-Vitense & Dettmann
Sco Eta	ApJ	244	504	81	Bohm-Vitense
Sco Eta	ApJ	258	628	82	Bohm-Vitense
Sco OB1	ApJ	248	528	81	Cowie et al.
Sco OB1	ApJ	250	L25	81	Cowie et al.
Sco OB1	ApJ	250	660	81	Garmany et al.
Sco OB1	A&AS	38	51	79	Appenzeller & Wolf
Sco Psi	ApJ	244	938	81	Bohm-Vitense
Sco Sigma	PASP	92	411	80	Walker et al.
Sco Sigma	ApJ	244	199	81	Witt et al.
Sco Sigma	ApJ	245	201	81	Parsons
Sco Sigma	ApJ	249	109	81	Bohlin & Savage
Sco Tau	ApJ	238	190	80	Conti & Garmany
Sco Tau	A&A	84	369	80	Stalio & Franco
Sco Tau	A&A	85	119	80	Hammerschlag-Hensbg.etal
Sco Tau	A&A	104	249	81	Hamann et al.
Sco U	MN	195	61	81	Barlow et al.
Sco U	ApJ	251	221	81	Williams et al.
Sco V818	ApJ	237	596	80	Willis et al.
Sco V818	PASP	93	626	81	Hutchings & van Heteren
Sco V861	ApJ	237	19	80	Bruhweiler et al.
Sco V861	A&A	93	219	81	Howarth et al.
Sco X-1	ApJ	237	596	80	Willis et al.
Sco X-1	ApJ	254	L1	82	Hammerschlag et al.
Sco Zeta	PASP	93	626	81	Hutchings & van Heteren
Sco Zeta 1	ApJ	233	913	79	Hutchings
Sco Zeta 1	MN	192	59p	80	Heck et al.
Sco Zeta 1	A&A	107	205	82	Burki et al.
Sco Zeta 1	A&A	78	15	79	Wolf & Appenzeller
Sco Zeta 1	A&AS	38	51	79	Appenzeller & Wolf
Ser B	ApJ	244	938	81	Bohm-Vitense
Ser Alpha	ApJ	229	L27	79	Linsky & Haisch
Ser Alpha	ApJ	238	221	80	Stencel & Mullan
Ser Alpha	ApJS	44	383	80	Stencel et al.
Ser Alpha	ApJ	247	545	81	Ayres et al.

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
Ser Alpha	ApJ	253	716	82	Mullan & Stencel
Ser Alpha	ApJ	257	225	82	Simon et al.
Ser Epsilon	ApJ	236	560	80	Bohm-Vitense & Dettmann
Ser Epsilon	A&A	107	75	82	Crivellari & Praderie
Ser Eta	ApJ	238	221	80	Stencel & Mullan
Ser Eta	ApJS	44	383	80	Stencel et al.
Ser Eta	ApJ	244	504	81	Bohm-Vitense
Ser UZ	MN	197	565	81	Echevarria et al.
Ser Xi	ApJ	244	938	81	Bohm-Vitense
Ser Xi	A&A	92	219	80	Bohm-Vitense
Ser Xi	ApJ	258	628	82	Bohm-Vitense
Sex RX	ApJ	258	209	82	Greenstein & Oke
Sge 9	ApJ	250	660	81	Garmany et al.
Sge Delta	A&A	107	36	82	Hempe & Reimers
Sge HM	ApJ	238	929	80	Stencel & Sahade
Sge HM	ApJ	241	725	80	Feibelman et al.
Sge HM	A&A	72	L1	79	Flower et al.
Sge HM	ApJ	258	548	82	Feibelman
Sge V	MN	195	61	81	Barlow et al.
Sge WZ	MN	191	457	80	Fabian et al.
Sge WZ	A&A	87	31	80	Ortolani et al.
Sge WZ	A&A	99	226	81	Friedjung
Sgr 9	ApJ	238	190	80	Conti & Garmany
Sgr 9	ApJ	250	660	81	Garmany et al.
Sgr Eta	ApJ	234	1023	79	Basri & Linsky
Sgr Gamma	ApJ	234	1023	79	Basri & Linsky
Sgr Mu	ApJ	237	19	80	Bruhweiler et al.
Sgr Mu	ApJ	246	788	81	Seab et al.
Sgr Nu 1	A&A	107	292	82	Reimers
Sgr OB1	ApJ	248	528	81	Cowie et al.
Sgr OB1	ApJ	250	L25	81	Cowie et al.
Sgr OB1	ApJ	250	660	81	Garmany et al.
Sgr OB4	ApJ	250	660	81	Garmany et al.
Sgr Pi	ApJ	236	560	80	Bohm-Vitense & Dettmann
Sgr Tau	ApJ	234	1023	79	Basri & Linsky
Sgr Upsilon	ApJ	237	19	80	Bruhweiler et al.
Sgr Upsilon	A&A	101	161	81	Hellings et al.
Sgr V1017	MN	195	61	81	Barlow et al.
Sgr V3885	ApJ	258	217	82	Guinan & Sion
Sirius B	ApJ	232	L189	79	Bohm-Vitense et al.
Sirius B	ApJ	259	232	82	Bruhweiler & Kondo
Sk 3-71	A&A	103	94	81	Wolf et al.
Sk 5	ApJ	256	L49	82	Bruhweiler et al.
Sk 5-67	ApJ	243	460	81	Savage & de Boer
Sk 7	ApJ	256	L49	82	Bruhweiler et al.
Sk 13	ApJ	255	70	82	Hutchings
Sk 13	A&A	90	L13	80	Prevot et al.
Sk 13	ApJ	256	L49	82	Bruhweiler et al.
Sk 13	A&A	99	L5	81	Rocca-Volmerange et al.
Sk 14-67	ApJ	247	860	81	Koornneef & Code
Sk 16	ApJ	256	L49	82	Bruhweiler et al.
Sk 18	ApJ	255	70	82	Hutchings
Sk 18	A&A	90	L13	80	Prevot et al.
Sk 18	A&A	99	L5	81	Rocca-Volmerange et al.

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
Sk 18-67	ApJ	238	86	80	De Boer & Savage
Sk 18-67	ApJ	243	460	81	Savage & de Boer
Sk 32	MN	201	1p	82	Nandy et al.
Sk 36	ApJ	256	L49	82	Bruhweiler et al.
Sk 45	ApJ	255	70	82	Hutchings
Sk 52-68	ApJ	247	860	81	Koornneef & Code
Sk 57	MN	201	1p	82	Nandy et al.
Sk 65	ApJ	255	70	82	Hutchings
Sk 65-11	Nat	283	725	80	Nandy et al.
Sk 65-22	MN	193	43p	80	Nandy et al.
Sk 65-9	Nat	283	725	80	Nandy et al.
Sk 67-108	MN	192	905	80	Nandy & Morgan
Sk 67-108	MN	193	43p	80	Nandy et al.
Sk 67-108	Nat	276	376	78	Hack & Selvelli
Sk 67-108	Nat	283	725	80	Nandy et al.
Sk 67-110	Nat	283	725	80	Nandy et al.
Sk 67-111	MN	192	905	80	Nandy & Morgan
Sk 67-111	MN	193	43p	80	Nandy et al.
Sk 67-111	Nat	283	725	80	Nandy et al.
Sk 67-114	MN	192	905	80	Nandy & Morgan
Sk 67-2	MN	196	955	81	Nandy et al.
Sk 67-57	MN	192	905	80	Nandy & Morgan
Sk 68-107	MN	196	955	81	Nandy et al.
Sk 68-107	Nat	283	725	80	Nandy et al.
Sk 68-135	MN	196	955	81	Nandy et al.
Sk 68-135	Nat	283	725	80	Nandy et al.
Sk 68-14	MN	196	955	81	Nandy et al.
Sk 68-140	MN	196	955	81	Nandy et al.
Sk 68-177	Nat	283	725	80	Nandy et al.
Sk 69-108	MN	192	905	80	Nandy & Morgan
Sk 69-108	Nat	276	376	78	Hack & Selvelli
Sk 69-108	Nat	283	725	80	Nandy et al.
Sk 69-213	MN	196	955	81	Nandy et al.
Sk 69-213	Nat	283	725	80	Nandy et al.
Sk 69-228	MN	196	955	81	Nandy et al.
Sk 69-246	MN	193	43p	80	Nandy et al.
Sk 69-247	MN	192	905	80	Nandy & Morgan
Sk 69-247	MN	196	955	81	Nandy et al.
Sk 69-247	Nat	283	725	80	Nandy et al.
Sk 69-249	Nat	283	725	80	Nandy et al.
Sk 69-253	MN	196	955	81	Nandy et al.
Sk 69-253	Nat	283	725	80	Nandy et al.
Sk 69-274	MN	196	955	81	Nandy et al.
Sk 69-274	Nat	283	725	80	Nandy et al.
Sk 69-279	MN	196	955	81	Nandy et al.
Sk 69-280	MN	196	955	81	Nandy et al.
Sk 69-68	MN	196	955	81	Nandy et al.
Sk 70-116	MN	196	955	81	Nandy et al.
Sk 70-116	Nat	283	725	80	Nandy et al.
Sk 70-32	Nat	283	725	80	Nandy et al.
Sk 71-17	Nat	283	725	80	Nandy et al.
Sk 71-45	MN	193	875	80	Gondhalekar et al.
Sk 71-45	MN	193	43p	80	Nandy et al.
Sk 76	ApJ	256	L49	82	Bruhweiler et al.

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
Sk 78	ApJ	243	460	81	Savage & de Boer
Sk 78	A&A	90	L13	80	Prevot et al.
Sk 80	ApJ	243	460	81	Savage & de Boer
Sk 80	ApJ	255	70	82	Hutchings
Sk 82	ApJ	255	70	82	Hutchings
Sk 82	A&A	90	L13	80	Prevot et al.
Sk 82	A&A	99	L5	81	Rocca-Volmerange et al.
Sk 85	A&A	113	L15	82	Lequeux et al.
Sk 85	ApJ	255	70	82	Hutchings
Sk 85	A&A	90	L13	80	Prevot et al.
Sk 85	A&A	99	L5	81	Rocca-Volmerange et al.
Sk 94	ApJ	255	70	82	Hutchings
Sk 101	ApJ	255	70	82	Hutchings
Sk 103	A&A	113	L15	82	Lequeux et al.
Sk 104-67	ApJ	243	460	81	Savage & de Boer
Sk 104-67	ApJ	245	49	81	Koornneef & Mathis
Sk 104-69	ApJ	243	460	81	Savage & de Boer
Sk 107	ApJ	256	L49	82	Bruhweiler et al.
Sk 107-68	ApJ	247	860	81	Koornneef & Code
Sk 108	ApJ	238	86	80	De Boer & Savage
Sk 108	ApJ	243	460	81	Savage & de Boer
Sk 108	ApJ	245	49	81	Koornneef & Mathis
Sk 108	ApJ	255	70	82	Hutchings
Sk 108	A&A	90	L13	80	Prevot et al.
Sk 111	ApJ	255	70	82	Hutchings
Sk 116-70	ApJ	247	860	81	Koornneef & Code
Sk 119	ApJ	256	L49	82	Bruhweiler et al.
Sk 120	ApJ	256	L49	82	Bruhweiler et al.
Sk 120-70	ApJ	247	860	81	Koornneef & Code
Sk 124	ApJ	255	70	82	Hutchings
Sk 124	A&A	90	L13	80	Prevot et al.
Sk 124	A&A	99	L5	81	Rocca-Volmerange et al.
Sk 138	ApJ	256	L49	82	Bruhweiler et al.
Sk 143	A&A	113	L15	82	Lequeux et al.
Sk 145	ApJ	256	L49	82	Bruhweiler et al.
Sk 152-69	ApJ	245	49	81	Koornneef & Mathis
Sk 152-69	ApJ	247	860	81	Koornneef & Code
Sk 157	ApJ	255	70	82	Hutchings
Sk 157	A&A	90	L13	80	Prevot et al.
Sk 157	A&A	99	L5	81	Rocca-Volmerange et al.
Sk 159	ApJ	255	70	82	Hutchings
Sk 159	A&A	90	L13	80	Prevot et al.
Sk 159	A&A	99	L5	81	Rocca-Volmerange et al.
Sk 160	ApJ	255	70	82	Hutchings
Sk 160	A&AS	43	353	81	Tarenghi et al.
Sk 164	ApJ	255	70	82	Hutchings
Sk 188	ApJ	255	70	82	Hutchings
Sk 213-69	ApJ	247	860	81	Koornneef & Code
Sk 216-69	ApJ	247	860	81	Koornneef & Code
Sk 228-67	ApJ	247	860	81	Koornneef & Code
Sk 243-69	ApJ	243	460	81	Savage & de Boer
Sk 246-69	ApJ	243	460	81	Savage & de Boer
Sk 256-69	ApJ	247	860	81	Koornneef & Code
Sk 280-69	ApJ	247	860	81	Koornneef & Code

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
Sombrero	MN	201	223	82	Ellis et al.
Stein 2051B	A&A	100	113	81	Vauclair et al.
Stepanian's	PASP	93	456	81	Szkody
Stock 14	ApJ	245	201	81	Parsons
Stock 14	A&A	93	L5	81	Eichendorf et al.
TDN 490	A&A	75	L17	79	Nussbaumer & Schild
Tau 17	A&AS	47	547	82	Golay & Mauron
Tau 18	A&AS	47	547	82	Golay & Mauron
Tau 19	A&AS	47	547	82	Golay & Mauron
Tau 20	ApJ	239	502	80	Black et al.
Tau 20	PASP	93	60	81	Sadakane & Jugaku
Tau 20	ApJ	250	687	81	Leckrone
Tau 20	A&AS	47	547	82	Golay & Mauron
Tau 23	ApJ	239	502	80	Black et al.
Tau 27	A&AS	47	547	82	Golay & Mauron
Tau 28	A&AS	47	547	82	Golay & Mauron
Tau 45	ApJ	258	628	82	Bohm-Vitense
Tau 48	ApJ	258	628	82	Bohm-Vitense
Tau 63	ApJ	244	938	81	Bohm-Vitense
Tau 63	A&A	92	219	80	Bohm-Vitense
Tau 64	A&A	107	75	82	Crivellari & Praderie
Tau 68	A&A	92	219	80	Bohm-Vitense
Tau 69	ApJ	236	560	80	Bohm-Vitense & Dettmann
Tau 70	ApJ	258	177	82	Zolcinski et al.
Tau 71	ApJ	258	177	82	Zolcinski et al.
Tau 76	ApJ	258	628	82	Bohm-Vitense
Tau 77	ApJ	252	214	82	Hartmann et al.
Tau 103	A&A	101	161	81	Hellings et al.
Tau 111	ApJ	248	L73	81	Hallam & Wolff
Tau 114	ApJS	48	415	82	Kaep
Tau Alpha	MN	191	37p	80	Brown & Jordan
Tau Alpha	ApJ	234	1023	79	Basri & Linsky
Tau Alpha	ApJ	235	519	80	Haisch et al.
Tau Alpha	ApJ	238	221	80	Stencel & Mullan
Tau Alpha	MN	197	791	81	Strickland & Sanner
Tau Alpha	A&A	115	280	82	Blanco et al.
Tau Alpha	ApJ	253	716	82	Mullan & Stencel
Tau Alpha	ApJ	257	225	82	Simon et al.
Tau BP	ApJ	251	113	81	Giampapa et al.
Tau DF	ApJ	251	113	81	Giampapa et al.
Tau DG	ApJ	251	113	81	Giampapa et al.
Tau DR	Nat	296	816	82	Canuto et al.
Tau DR	RGSP	20	280	82	Zahnle & Walker
Tau DR	ApJ	251	113	81	Giampapa et al.
Tau DR	A&A	90	184	80	Appenzeller et al.
Tau Delta	ApJ	252	214	82	Hartmann et al.
Tau Eta	A&AS	47	547	82	Golay & Mauron
Tau Kappa	A&A	92	219	80	Bohm-Vitense
Tau Kappa	ApJ	258	628	82	Bohm-Vitense
Tau T	Nat	296	816	82	Canuto et al.
Tau T	RGSP	20	280	82	Zahnle & Walker
Tau T	Nat	290	34	81	Brown et al.
Tau T	ApJ	251	113	81	Giampapa et al.
Tau V711	ApJ	254	168	82	Ayres & Linsky

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
Tau V711	ApJ	256	206	82	Plavec et al.
Taygeta	A&AS	47	547	82	Golay & Mauron
Tel RR	ApJ	245	630	81	Altamore et al.
Tel RR	A&A	75	L17	79	Nussbaumer & Schild
Titan	Nat	275	414	78	Lane et al.
Titan	Nat	290	226	81	Clarke et al.
Titan	AJ	86	298	81	Caldwell et al.
Tr 16	ApJ	250	660	81	Garmany et al.
TrA Alpha	ApJ	238	221	80	Stencel & Mullan
TrA Alpha	ApJ	246	193	81	Hartmann et al.
TrA Alpha	A&A	107	292	82	Reimers
TrA Alpha	ApJ	252	214	82	Hartmann et al.
TrA Alpha	ApJ	257	225	82	Simon et al.
TrA Beta	A&AS	47	295	82	Beckman et al.
TrA Delta	A&A	107	292	82	Reimers
Tra Alpha	ApJ	234	1023	79	Basri & Linsky
Trapezium	ApJ	249	99	81	Mathis et al.
Trapezium	ApJ	249	109	81	Bohlin & Savage
Tri Alpha	ApJ	258	628	82	Boha-Vitense
Tri Beta	ApJ	244	938	81	Boha-Vitense
Tri Delta	ApJ	258	628	82	Boha-Vitense
Tuc 47	ApJ	230	L89	79	Dupree et al.
Tuc Alpha	ApJ	234	1023	79	Basri & Linsky
Tuc Alpha	ApJ	238	221	80	Stencel & Mullan
Tuc Alpha	ApJS	44	383	80	Stencel et al.
Tuc Alpha	ApJ	244	504	81	Boha-Vitense
Tuc Alpha	ApJ	253	716	82	Mullan & Stencel
Tuc Alpha	ApJ	257	225	82	Simon et al.
Tuc Gamma	ApJ	234	1023	79	Basri & Linsky
Tuc Zeta	A&AS	47	295	82	Beckman et al.
UMa 10	ApJ	236	560	80	Boha-Vitense & Dettmann
UMa 10	ApJ	258	628	82	Boha-Vitense
UMa 24	ApJ	257	225	82	Simon et al.
UMa 78	ApJ	258	628	82	Boha-Vitense
UMa Alpha	ApJ	229	L27	79	Linsky & Haisch
UMa Alpha	ApJ	234	1023	79	Basri & Linsky
UMa Alpha	ApJ	234	1023	79	Basri & Linsky
UMa Alpha	ApJ	238	221	80	Stencel & Mullan
UMa Alpha	ApJS	44	383	80	Stencel et al.
UMa Alpha	ApJ	247	545	81	Ayres et al.
UMa Alpha	ApJ	252	214	82	Hartmann et al.
UMa Alpha	ApJ	257	225	82	Simon et al.
UMa BE	ApJ	251	205	81	Ferguson et al.
UMa Epsilon	PASP	93	60	81	Sadakane & Jugaku
UMa Epsilon	ApJ	250	687	81	Leckrone
UMa Eta	ApJ	237	82	80	Sitko & Savage
UMa Eta	Nat	275	377	78	Boggess et al.
UMa Eta	ApJ	238	909	80	Hutchings & von Rudloff
UMa Eta	Nat	275	389	78	Linsky et al.
UMa Eta	ApJ	244	199	81	Witt et al.
UMa Eta	ApJ	249	109	81	Bohlin & Savage
UMa Eta	A&A	85	1	80	Bohlin et al.
UMa Lambda	A&A	92	219	80	Boha-Vitense
UMa Mu	MN	197	791	81	Stickland & Sanner

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
UMa Psi	ApJ	238	221	80	Stencel & Mullan
UMa Psi	ApJS	44	383	80	Stencel et al.
UMa SU	ApJ	247	577	81	Szkody
UMa Tau	ApJ	236	560	80	Boha-Vitense & Dettmann
UMa Tau	A&A	92	219	80	Boha-Vitense
UMa UX	ApJ	252	L35	82	Holm et al.
UMi Alpha	ApJ	234	1023	79	Basri & Linsky
UMi Alpha	ApJS	44	383	80	Stencel et al.
UMi Alpha	ApJ	244	504	81	Boha-Vitense
UMi Alpha	ApJ	252	214	82	Hartmann et al.
UMi Beta	ApJ	238	221	80	Stencel & Mullan
UMi Beta	ApJS	44	383	80	Stencel et al.
UMi Beta	ApJ	244	504	81	Boha-Vitense
UMi Beta	ApJ	253	716	82	Mullan & Stencel
UMi Beta	ApJ	257	225	82	Simon et al.
Upgren 505	MN	197	791	81	Stickland & Sanner
Upgren 518	MN	197	791	81	Stickland & Sanner
Uranus	Nat	299	428	82	Durrance & Moos
Uranus	Nat	275	414	78	Lane et al.
Uranus	ApJ	263	L105	82	Clarke
Uranus	AJ	86	298	81	Caldwell et al.
VV11 124	ApJ	250	596	81	Aller et al.
Van Maanen 2	ApJ	238	941	80	Cottrell & Greenstein
Vega	Nat	279	305	79	Hack
Vega	ApJ	247	1024	81	Sitko
Vel Gamma	MN	196	101	81	Barlow et al.
Vel Gamma	ApJ	254	88	82	York & Jura
Vel Gamma 2	ApJ	229	L39	79	Bruhweiler et al.
Vel Gamma 2	ApJ	237	19	80	Bruhweiler et al.
Vel Gamma 2	ApJ	252	208	82	Kondo et al.
Vel Gamma 2	A&A	87	L7	80	Sahade
Vel Lambda	ApJ	234	1023	79	Basri & Linsky
Vel Lambda	ApJ	236	L143	80	Hartmann et al.
Vel Lambda	ApJ	238	221	80	Stencel & Mullan
Vel Lambda	ApJS	44	383	80	Stencel et al.
Vel Lambda	ApJ	252	214	82	Hartmann et al.
Vel Lambda	ApJ	257	225	82	Simon et al.
Vel Mu	ApJ	229	L27	79	Linsky & Haisch
Vel Mu	ApJ	234	1023	79	Basri & Linsky
Vel Mu	ApJ	247	545	81	Ayres et al.
Vel Mu	ApJ	257	225	82	Simon et al.
Vel Mu	ApJ	258	628	82	Boha-Vitense
Vel OB1	ApJ	248	528	81	Cowie et al.
Vel Phi	ApJ	256	568	82	Odegard & Cassinelli
Vela SNR	MN	192	83p	80	Danziger et al.
Vela SNR	ApJ	246	100	81	Raymond et al.
Vela SNR	ApJ	248	977	81	Jenkins et al.
Vela X-1	ApJ	238	969	80	Dupree et al.
Vela X-1	ApJ	240	161	80	Hutchings & Dupree
Venus	J6R	86	9115	82	Durrance
Venus	Nat	279	221	79	Feldman et al.
Venus	J6R	86	9115	82	Durrance
Vesta	Nat	285	308	80	Butterworth et al.
Vesta	Nat	287	701	80	Butterworth et al.

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
Vir 16	ApJ	238	221	80	Stencel & Mullan
Vir 16	ApJS	44	383	80	Stencel et al.
Vir Alpha	A&A	74	L15	79	Pottasch et al.
Vir Alpha	A&A	101	161	81	Hellings et al.
Vir Beta	ApJ	258	628	82	Boha-Vitense
Vir Beta 5	A&A	115	280	82	Blanco et al.
Vir EQ	ApJ	251	113	81	Giampapa et al.
Vir EQ	ApJ	258	740	82	Giampapa et al.
Vir EQ	ApJ	260	670	82	Linsky et al.
Vir Epsilon	ApJ	234	1023	79	Basri & Linsky
Vir Epsilon	ApJ	238	221	80	Stencel & Mullan
Vir Epsilon	ApJ	239	L79	80	Boha-Vitense
Vir Epsilon	ApJS	44	383	80	Stencel et al.
Vir Epsilon	ApJ	257	225	82	Simon et al.
Vir Epsilon	ApJ	258	628	82	Boha-Vitense
Vir Gamma	ApJ	236	560	80	Boha-Vitense & Dettmann
Vir Iota	A&A	113	94	82	De Castro et al.
Vir Iota	A&A	102	207	81	De Castro et al.
Vir Mu	ApJ	236	560	80	Boha-Vitense & Dettmann
Vir Mu	ApJ	258	628	82	Boha-Vitense
Vir SS	A&A	111	120	82	Querci et al.
Vir TW	ApJ	260	716	82	Cordova & Mason
VirA Gamma29	A&A	115	280	82	Blanco et al.
Virgo A	Nat	275	404	78	Boksenberg et al.
Virgo A	ApJ	240	447	80	Perola & Tarenghi
Vol Delta	ApJ	236	560	80	Boha-Vitense & Dettmann
Vul 15	ApJ	236	560	80	Boha-Vitense & Dettmann
Vul 15	ApJ	244	504	81	Boha-Vitense
Vul 15	ApJ	244	938	81	Boha-Vitense
Vul 15	A&A	107	75	82	Crivellari & Praderie
Vul 15	A&A	92	219	80	Boha-Vitense
Vul 21	A&A	115	280	82	Blanco et al.
Vul BW	A&A	107	320	82	Burger et al.
Vy 1-1	ApJ	250	590	81	Johnson
Vys 336	MN	197	791	81	Stickland & Sanner
Vys 824	MN	197	791	81	Stickland & Sanner
W 219	A&A	116	147	82	Koester et al.
W 1346	ApJ	259	232	82	Bruhweiler & Kondo
WD 0007-30	A&A	116	147	82	Koester et al.
WD 0038+09	A&A	116	147	82	Koester et al.
WD 0038+55	ApJ	248	L129	81	Wegner
WD 0042-33	A&A	116	147	82	Koester et al.
WD 0115+15	A&A	116	147	82	Koester et al.
WD 0205+25	ApJ	229	L141	79	Greenstein & Oke
WD 0232+03	ApJ	229	L141	79	Greenstein & Oke
WD 0341+18	A&A	116	147	82	Koester et al.
WD 0413-07	ApJ	241	L89	80	Greenstein
WD 0426+58	A&A	116	147	82	Koester et al.
WD 0431+12	ApJ	229	L141	79	Greenstein & Oke
WD 0435-08	A&A	116	147	82	Koester et al.
WD 0551+12	A&A	116	147	82	Koester et al.
WD 0644+37	ApJ	229	L141	79	Greenstein & Oke
WD 0644+37	ApJ	241	L89	80	Greenstein
WD 0706+37	A&A	116	147	82	Koester et al.

OBJECT	JOUR	VOL	PG	YR	AUTHOR(S)
WD 0738-17	A&A	113	L13	82	Koester et al.
WD 0806-66	A&A	116	147	82	Koester et al.
WD 0806-66	A&A	95	L9	81	Weidemann et al.
WD 0856+33	A&A	116	147	82	Koester et al.
WD 0856+33	A&A	83	L13	80	Weidemann et al.
WD 0912+53	A&A	116	147	82	Koester et al.
WD 0959+14	A&A	116	147	82	Koester et al.
WD 1042+592	A&A	83	L13	80	Weidemann et al.
WD 1115-02	A&A	116	147	82	Koester et al.
WD 1134+30	ApJ	229	L141	79	Greenstein & Oke
WD 1142-64	A&A	116	147	82	Koester et al.
WD 1142-64	A&A	100	113	81	Vauclair et al.
WD 1142-643	A&A	83	L13	80	Weidemann et al.
WD 1314+29	ApJ	229	L141	79	Greenstein & Oke
WD 1831+19	A&A	116	147	82	Koester et al.
WD 1917-07	ApJ	245	L27	81	Wegner
WD 1917-07	A&A	116	147	82	Koester et al.
WD 1943+16	ApJ	229	L141	79	Greenstein & Oke
WD 2010+311	PASP	93	105	81	Green & Liebert
WD 2032+24	ApJ	229	L141	79	Greenstein & Oke
WD 2032+24	ApJ	241	L89	80	Greenstein
WD 2059+31	A&A	116	147	82	Koester et al.
WD 2126+73	ApJ	229	L141	79	Greenstein & Oke
WD 2126+73	ApJ	241	L89	80	Greenstein
WD 2140+20	A&A	116	147	82	Koester et al.
WD 2140+20	A&A	100	113	81	Vauclair et al.
WD 2153-51	A&A	116	147	82	Koester et al.
WD 2317-17	A&A	113	L13	82	Koester et al.
Wolf 1346	ApJ	229	L141	79	Greenstein & Oke
Wolf 1346	ApJ	241	L89	80	Greenstein
X- 1653-40	ApJ	240	161	80	Hutchings & Dupree
Yale 4939	MN	197	791	81	Stickland & Sanner
Yale 5117	MN	197	791	81	Stickland & Sanner
ZwI 1	ApJ	242	14	80	Wu et al.
ZwI 1	A&A	102	321	81	Joly
ZwI 18	A&A	103	305	81	Lequeux et al.
ZwI 187	ApJ	253	19	82	Bregman et al.
ZwII 70	A&A	103	305	81	Lequeux et al.
ZwII 136	ApJ	242	14	80	Wu et al.
ZwII 136	A&A	102	321	81	Joly
ZwIII 2	ApJ	256	75	82	Lacy et al.

MERGED LOG OF IUE OBSERVATIONS

1 JANUARY 1984 - 31 MAY 1984

The merged log of Vilspa and Goddard images for the above dates is listed in order of right ascension.

The programme reference codes (column 1) identifying the ESA and NASA programmes for the sixth round can be found in ESA IUE Newsletter No.16 p45 and p55 for ESA and NASA respectively, and for the seventh round in ESA IUE Newsletter No.19 p17 and 23.

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

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

00	SUN	50	R, N OR S TYPES
01	EARTH	51	LONG PERIOD VARIABLE STARS
02	MOON	52	IRREGULAR VARIABLES
03	PLANET	53	REGULAR VARIABLES
04	PLANETARY SATELLITE	54	DWARF NOVAE
05	MINOR PLANET	55	CLASSICAL NOVAE
06	COMET	56	SUPERNOVAE
07	INTERPLANETARY MEDIUM	57	SYMBIOTIC STARS
08		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	
16	SD O	66	
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		88	EMISSION LINE GALAXY (NON-SEYFERT)
39	COMPOSITE	89	
40	F0-F2	90	INTERGALACTIC MEDIUM
41	F3-F9	91	
42	FP	92	
43	LATE TYPE DEGENERATE STARS	93	
44	G (TO 1FEB79); GIV-VI (FROM 1FEB79)	94	
45	G I-II (FROM 1FEB79)	95	
46	K (TO 1FEB79); K IV-VI (FROM 1FEB79)	96	
47	K I-III (FROM 1FEB79)	97	
48	M (TO 1FEB79); M DWARFS (FRM 1FEB79)	98	WAVELENGTH CALIBRATION (NASA LOG)
49	M I-III (FROM 1 FEB79)	99	NULLS AND FLAT FIELDS (NASA LOG)

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

EXPOSURE CLASSIFICATION CODES
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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) Prior to 1 Sept 1979, the BACKGROUND digit was not included and the ECC occupied the first two places in the comment line.

2) The Goddard images are described in the comments by the gross DN of the CONTINUUM (C), EMISSION LINES (E) and BACKGROUND (B).

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
PHCAL	NULL	99	9999	0000000	000000		2	17406		84050123	000000	000000	232254	000000	008	V BASELINE
PHCAL	60%CALUV	99	9999	0000000	000000	L	2	17407		84050123	000000	000000	235539	000153	009	V FINAL TUVF=39
GM040	NULL	99	9999	0000000	000000		1	03129		84040904	000000	000000	000000	000000		V READ G1 FOR LWP3130
PHCAL	20%CALUV	99	9999	0000000	000000	L	2	17408		84050200	000000	000000	002426	000038	004	V FINAL TUVF=37
PHCAL	120%CALUV	99	9999	0000000	000000	L	2	17409		84050200	000000	000000	005646	000346	009	V FINAL TUVF=41
PHCAL	60%CALUV	99	9999	0000000	000000	L	2	17410		84050201	000000	000000	012722	000153	009	V FINAL TUVF=39
PHCAL	100%TFLOOD	99	9999	0000000	000000	L	2	17411		84050201	000000	000000	015114	000022	000	V
PHCAL	NULL	99	9999	0000000	000000	L	1	02570		84010715	000000	000000	153000	000000		V CAMERA SWITCH
PHCAL	60 CALUV	99	9999	0000000	000000	L	3	22911		84050502	000000	000000	021854	000149		V 60 % CALUV UVTEMP=35
PHCAL	100 TFLOOD	99	9999	0000000	000000	L	3	22912		84050502	000000	000000	024342	000016		V 100 % TFLOOD
PHCAL	160%CALUV	99	9999	0000000	000000	L	2	17412		84050202	000000	000000	022603	000501	000	V FINAL TUVF=39
PHCAL	NULL	99	9999	0000000	000000	L	1	02751	L	84020814	000000	000000	142430	000000		V TELEFILE TEST
PHCAL	120 CALUV	99	9999	0000000	000000	L	3	22910		84050501	000000	000000	014827	000338		V 120%CALUV UVTEMP=39
PHCAL	NULL 2READ	99	9999	0000000	000000	L	2	17413		84050202	000000	000000	024552	000000	000	V FINAL TUVF=42
PHCAL	NULL	99	9999	0000000	000000	H	1	03430		84052523	000000	000000	234430	000000		V
PHCAL	NULL HI	99	9999	0000000	000000	L	2	17414		84050203	000000	000000	032642	000000	008	V BASELINE
PHCAL	60% CALUV	99	9999	0000000	000000	H	1	03431		84052600	000000	000000	003545	000204		V FINAL UVFT=31
PHCAL	00 XPREP	99	9999	0000000	-000000	L	2	17231	L	84012915	000000	000000	150400	000000		G B=22
PHCAL	NULL	99	9999	0000000	000000	L	2	17415		84050203	000000	000000	034705	000000	001	V BASELINE
PHCAL	NULL IMAGE	99	9999	0000000	000000	L	1	03253		84050204	000000	000000	041857	000000	000	V
PHCAL	NULL	99	9999	0000000	000000	L	3	22909		84050501	000000	000000	011814	000036		V 20% CALUV, UVTEMP=32
PHCAL	NULL	99	9999	0000000	000000	H	1	03438		84052604	000000	000000	043200	000000		V HI GAIN READ
PHCAL	60 CALUV	99	9999	0000000	000000	L	3	22908		84050500	000000	000000	004931	000149		V 60% CALUV,UVTEMP=34
PHCAL	NULL	99	9999	0000000	000000	H	1	03439		84052604	000000	000000	045500	000000		V LO GAIN READ
PHCAL	120% CALUV	99	9999	0000000	000000	H	1	03433		84052601	000000	000000	015541	000408		V UVF=41
PHCAL	20% CALUV	99	9999	0000000	000000	H	1	03432		84052601	000000	000000	011551	000041		V UVF=36
PHCAL	160 CALUV	99	9999	0000000	000000	L	3	22913		84050503	000000	000000	031620	000451		V 160% CALUV UVTEMP=44
PHCAL	60% CALUV	99	9999	0000000	000000	H	1	03434		84052602	000000	000000	023757	000204		V UVF=38
PHCAL	NULL READ2	99	9999	0000000	000000	L	3	22914		84050503	000000	000000	033400	000000		V SECOND READUVTEMP=44
SPFRN	00 IO	04	0550	0000000	000000	L	1	02983	SL	84031901	012000	001100	011900	001100		G C=200,B=55
PHCAL	NULLHIREAD	99	9999	0000000	000000	L	3	22915		84050503	000000	000000	035600	000000		V HI GAIN READ
PHCAL	100%TFLOOD	99	9999	0000000	000000	H	1	03435		84052603	000000	000000	030537	000140		V
PHCAL	HI READ	99	9999	0000000	000000	L	3	22907		84050500	000000	000000	001925	000000		V HIGH GAIN READ
PHCAL	NULL	99	9999	0000000	000000	H	1	03437		84052604	000000	000000	041500	000000		V SECOND READ
PHCAL	LOW READ	99	9999	0000000	000000	L	3	22916		84050504	000000	000000	041900	000000		V LO GAIN READ
PHCAL	160% CALUV	99	9999	0000000	000000	H	1	03436		84052603	000000	000000	035135	000531		V
QSFWS	00MARK 335	84	1370	0003452	+195529	L	2	17238	L	84020423	000000	000000	231000	005000		G E=121,C=93,B=30
QSFWS	00MARK 335	84	1370	0003452	+195529	L	3	22205	L	84020422	000000	000000	221300	005000		G E=246,C=70,B=30
HSFBM	000005+510	19	1330	0005409	+510610	L	1	02634	L	84011523	000000	000000	232800	001000		G C=195,B=39
HSFBM	000005+510	19	1330	0005409	+510610	L	3	22018	L	84011523	000000	000000	230700	001500		G C=2X,B=20
HZFRG	00S0014+81	85	1650	0014045	+811829	L	1	02827	L	84022117	000000	000000	175400	017000		G B=80
CSGCI	HD 1835	44	0640	0020189	-122913	L	1	03382	L	84051818	000000	000000	181200	001200		G C=10X,B=43
CSGCI	HD 1835	44	0640	0020189	-122913	L	3	23038	L	84051817	000000	000000	170600	006000		G E=75,C=86,B=40
IGGCB	HD 1909	22	0650	0020430	-311847	H	3	23106	L	84052516	000000	000000	161600	002500		G C=230,B=75
IGGCB	HD 1909	22	0650	0020430	-311847	H	1	03425	L	84052515	000000	000000	153500	003500		G C=2X,B=120

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
IGGCB	HD 1909	22	0650	0020430	-311847	H	1	03426	L	84052516	000000	000000	164900	002000		G C=1.5X,B=90
GHFLH	BD+30 0057	20	0960	0023209	+310112	H	1	02592	L	84011019	000000	000000	190300	007500		G C=230,B=52
GHFLH	BD+30 0057	20	0960	0023209	+310112	H	3	21983	L	84011016	000000	000000	163700	014000		G C=1.5X,B=57
IGGCB	HD 2262	30	0390	0023457	-435724	H	1	03422	L	84052420	000000	000000	200200	000800		G C=2X,B=145
IGGCB	HD 2262	30	0390	0023457	-435724	H	3	23100	L	84052420	000000	000000	201600	001000		G C=243,B=95
IGGCB	HD 3085	22	0750	0031225	-401159	H	3	23108	L	84052520	000000	000000	204500	004200		G C=165,B=75
IGGCB	HD 3085	22	0750	0031225	-401159	H	1	03429	L	84052521	000000	000000	213400	007300		G C=2X,B=56
PHCAL	HD 3360	20	0370	0034103	+533719	H	1	02766	L	84021200	000000	000000	000300	000021		G C=220,B=41
PHCAL	HD 3360	20	0370	0034103	+533719	H	3	22047	L	84011906	000000	000000	065100	000024		G C=195,B=33
PHCAL	HD 3360	20	0370	0034103	+533719	H	2	17201	L	84010104	000000	000000	042200	000021		G C=195,B=32
PHCAL	HD 3360	20	0370	0034103	+533719	H	3	22249	L	84021200	000000	000000	000700	000024		G C=181,B=32
PHCAL	HD 3360	21	0370	0034103	+533719	H	1	02551	L	84010504	000000	000000	040700	000021		G E=1X,C=240,B=45
PHCAL	HD 3360	20	0370	0034103	+533719	L	1	02931	L	84031200	000000	000000	005600	000001		G C=1.5X,B=32
IGGCB	HD 4065	30	0610	0040190	-384413	H	3	23099	L	84052418	000000	000000	180300	003000		G C=5X,B=1.5X
IGGCB	HD 4065	30	0610	0040190	-384413	H	1	03421	L	84052418	000000	000000	184000	001500		G C=2X,B=195
IGGCB	HD 4065	30	0610	0040190	-384413	H	1	03420	L	84052417	000000	000000	172100	003500		G C=3.5X,B=230
ZAFNO	HD 4174	57	0750	0041527	+402423	L	1	02795	SL	84021704	043600	000600	041600	001100		G E=2X,C=130,B=53
ZAFNO	HD 4174	57	0750	0041527	+402423	L	3	22285	SL	84021703	034600	000800	032400	001500		G E=3X,C=92,B=48
PHCAL	OO WAVCAL	98	0000	0043116	-164150	L	1	02604	S	84011200	004100	000001	000000	000000		G E=10X,B=100
PHCAL	OO TFLOOD	99	0000	0043116	-164150	H	1	02606	S	84011202	025100	000025	000000	000000		G B=102
PHCAL	OO WAVCAL	98	0000	0043116	-164150	H	3	21993	S	84011201	014700	000200	000000	000000		G E=50X,B=113
PHCAL	OO WAVCAL	98	0000	0043116	-164150	L	3	21992	S	84011201	012300	000002	000000	000000		G E=10X,B=100
PHCAL	OO WAVCAL	98	0000	0043116	-164150	H	1	02605	S	84011201	011000	000016	000000	000000		G E=50X,B=107
FM034	AZZ6	23	1330	0043278	-733149	L	1	02623	L	84011413	000000	000000	134001	002500	502	V
FM034	AZZ6	23	1330	0043278	-733149	L	3	22008	L	84011412	000000	000000	123010	006500	601	V
FM034	AZZ6	23	1330	0043278	-733149	L	1	02622	L	84011411	000000	000000	113350	005000	703	V
HCFHB	HD 4395	44	0770	0043429	-114329	L	3	21935	L	84010420	000000	000000	202100	021000		G C=85,B=45
HCFHB	HD 4395	44	0770	0043430	-114330	L	1	02547	L	84010420	000000	000000	201100	000330		G C=180,B=32
HSGCW	OOBPM16274	37	1420	0047478	-522433	L	1	03340	L	84051111	000000	000000	112200	007300		G C=210,B=45
HSGCW	OOBPM16274	37	1420	0047478	-522433	L	3	22989	L	84051112	000000	000000	124200	007000		G C=195,B=25
HSGCW	OOBPM16274	37	1420	0047478	-522433	L	3	22988	L	84051110	000000	000000	100700	007000		G C=180,B=25
HSGCW	OOBPM16274	37	1420	0047479	-522438	L	1	03313	L	84050910	000000	000000	101500	007300		G C=235,B=47
HSGCW	OOBPM16274	37	1420	0047479	-522438	L	3	22961	L	84050908	000000	000000	082100	011000		G C=1.5X,B=40
HSGCW	OOBPM16274	37	1420	0047479	-522438	L	1	03314	L	84050912	000000	000000	124900	007300		G C=237,B=52
HSGCW	OOBPM16274	37	1420	0047479	-522438	L	3	22962	L	84050911	000000	000000	113500	007000		G C=210,B=23
NPGSM	OO SMC N44	70	1760	0050066	-714100	L	3	22775	L	84041710	000000	000000	101000	004000		G E=157,C=33,B=21
GA197	HD5394	26	0224	0053403	602647	H	3	22760	L	84041601	000000	000000	014600	000008	500	V
NPGSM	OO SMC N54	70	1700	0054164	-703539	L	3	22776	L	84041711	000000	000000	113300	003500		G E=134,C=30,B=19
NPGSM	OO SMC N54	70	1700	0054164	-703539	L	3	22767	L	84041615	000000	000000	153700	007200		G E=255,C=45,B=35
FA035	AZZ208	13	1410	0056534	-725546	L	1	02632	L	84011512	000000	000000	123535	004000	403	V
FA035	AZZ208	13	1410	0056534	-725546	L	3	22015	L	84011511	000000	000000	111846	007000	401	V
FA035	MIS ID	65	1320	0056534	-725546	L	1	02631	L	84011510	000000	000000	103016	002400	002	V
NPGSM	OO SMC N67	70	1670	0056538	-715158	L	3	22765	L	84041609	000000	000000	095500	004500		G E=51,C=40,B=29
PHCAL	OONULL IMG	99	0000	0056538	-715158	L	3	22777	L	84041712	000000	000000	125000	000000		G B=23
PHCAL	OOSKY BKGD	07	9999	0056538	-715158	H	1	03164	L	84041610	000000	000000	103200	026800		G B=72

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
NPGSM	OO SMC N67	70	1670	0056538	-715158	L	3	22766	L	84041611	000000	000000	110200	024000		G E=191,C=85,B=61
PHCAL	OO NULL	99	0000	0056538	-715158	L	1	03163	L	84041610	000000	000000	100700	000000		G B=34
PHCAL	OOSKY BKGD	07	0000	0056538	-715158	L	3	22778	L	84041713	000000	000000	131100	018000		G B=50
NPGSM	OO SMC N67	70	1670	0056540	-715200	L	1	03168	L	84041712	000000	000000	122300	026600		G E=134,C=120,B=81
FM197	SK 73	23	1280	0056556	-723229	L	3	22365	L	84022805	000000	000000	055821	015000	701	V
FM197	SK 73	23	1282	0056556	-723229	L	2	17257	L	84022804	000000	000000	045619	005600	702	V
FM197	SK 73	23	1290	0056556	-723229	L	2	17258	L	84022808	000000	000000	083429	002800	502	V HISTORY TAPE PLAYBAC
LGFRH	HD 5820	49	0610	0057140	+061250	L	2	17210	L	84010204	000000	000000	043000	001800		G E=160,C=80,B=32
FM197	AV 214	23	1347	0057143	-722923	L	2	17263	L	84022904	000000	000000	045431	006000	503	V
FM197	AV 214	23	1351	0057143	-722923	L	3	22372	L	84022906	000000	000000	060112	015000	501	V
FM034	AZZ232	15	1254	0057522	-722653	L	1	02621	L	84011410	000000	000000	101234	001000	502	V
FM034	AZZ232	15	1237	0057522	-722653	L	3	22007	L	84011410	000000	000000	104356	001800	501	V
IGGCB	HD 6178	30	0550	0100037	-314913	H	1	03419	L	84052416	000000	000000	161100	002000		G C=1.5X,B=115
IGGCB	HD 6178	30	0550	0100037	-314913	H	1	03443	L	84052618	000000	000000	181000	002000		G C=1.5X,B=1.2X
IGGCB	HD 6178	30	0550	0100037	-314913	H	3	23098	L	84052415	000000	000000	153100	003000		G C=2X,B=155
IGGCB	HD 6178	30	0550	0100037	-314913	H	1	03418	L	84052414	000000	000000	145500	003000		G C=3X,B=205
FM197	SK 107	13	1304	0101136	-720427	L	2	17264	L	84022908	000000	000000	085651	002100	502	V
FM197	NULL	99	1300	0101136	-720427	L	1	02866	L	84022909	000000	000000	000000	000000	001	V
FM197	SK 107	13	1300	0101136	-720427	L	3	22373	L	84022909	000000	000000	092518	002900	601	V
WDFGW	OO G2-17	37	1400	0101139	+044817	L	3	22077	L	84012218	000000	000000	185900	029000		G C=135,B=83
WDFGW	OO G2-17	37	1400	0101149	+044826	L	1	02695	L	84012217	000000	000000	172300	009000		G C=150,B=47
FM034	AZZ343	25	1310	0102213	-725815	L	1	02614	L	84011315	000000	000000	150718	004300	501	V
FM034	AZZ343	25	1318	0102214	-725815	L	3	22006	L	84011409	000000	000000	090743	005000	301	V
FM197	SK 120	23	1363	0103530	-731949	L	2	17265	L	84022910	000000	000000	101729	004900	503	V
FM197	AV398	23	1410	0104344	-721201	L	3	22361	L	84022704	000000	000000	043725	040000	504	V
IGGCB	HD 6767	30	0520	0105313	-414513	H	1	03444	L	84052619	000000	000000	194000	001000		G C=2X,B=200
IGGCB	HD 6767	30	0520	0105313	-414513	H	1	03428	L	84052519	000000	000000	195900	001000		G C=1.5X,B=145
IGGCB	HD 6767	30	0520	0105313	-414513	H	3	23107	L	84052519	000000	000000	192000	002000		G C=4X,B=1.2X
CSFRW	HD 6860	49	0200	0106555	+352122	L	1	02803	L	84021900	000000	000000	004900	002000		G E=50X,C=2X,B=90
FA035	AZZ454	13	1370	0109168	-725908	L	3	22016	L	84011513	000000	000000	134436	004500	500	V
FM197	SK 145	23	1271	0109570	-724715	L	2	17259	L	84022810	000000	000000	104316	002500	602	V
FM034	AZZ464	13	1360	0110182	-732951	L	1	02624	L	84011415	000000	000000	152340	002300		V
FM034	AZZ464	13	1360	0110182	-732951	L	3	22009	L	84011414	000000	000000	141921	006000	501	V
IGGCB	HD 7312	33	0590	0110278	-380716	H	1	03442	L	84052615	000000	000000	155600	005000		G C=3X,B=185
IGGCB	HD 7312	33	0590	0110278	-380716	H	1	03427	L	84052518	000000	000000	182400	003000		G C=5X,B=1.5X
FA035	AZZ 469	20	1320	0111010	-724525	L	3	22014	L	84011509	000000	000000	092150	003000	500	V
FA035	AZZ469	20	1320	0111010	-724525	L	1	02630	L	84011508	000000	000000	085821	002000	503	V
RSFTS	HD 7672	45	0540	0114038	-024547	H	1	02747	L	84020721	000000	000000	213900	001500		G E=183,C=102,B=46
RSFTS	HD 7672	45	0540	0114038	-024547	L	3	21966	L	84010802	000000	000000	021900	004500		G E=178,C=160,B=105
RSFTS	HD 7672	45	0540	0114038	-024547	L	3	22220	L	84020721	000000	000000	215900	006000		G E=111,C=119,B=46
RSFTS	HD 7672	45	0540	0114038	-024547	H	1	02571	L	84010803	000000	000000	031100	001500		G E=234,C=140,B=85
IGGCB	HD 7795	22	0790	0114471	-424743	H	3	23112	L	84052617	000000	000000	170500	005000		G C=3X,B=225
IGGCB	HD 7795	13	0790	0114471	-424743	H	1	03423	L	84052421	000000	000000	211100	009500		G C=2X,B=88
IGGCB	HD 8130	30	0750	0117587	-363017	H	1	03445	L	84052621	000000	000000	214000	006800		G
IGGCB	HD 8130	30	0750	0117587	-363017	H	3	23113	L	84052620	000000	000000	205000	004000		G C=147,B=78

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
PHCAL	OO WAVCAL	98	0000	0120148	-592313	H	1	03242	S	84042821	214400	000016	000000	000000		G B=125
PHCAL	OO WAVCAL	98	0000	0120148	-592313	L	1	03241	S	84042821	211100	000001	000000	000000		G B=112
EHFDY	OO F9	84	1300	0121510	-590358	H	1	03250	L	84043019	000000	000000	191900	002000		G C=1.5X,B=208
EHFDY	OO F9	84	1300	0121510	-590358	L	3	22875	L	84042823	000000	000000	231400	003000		G E=132,C=65,B=40
SPGMA	OOGEO BKGD	07	9999	0129102	-491954	L	3	22833	SL	84042420	203300	002000	203300	002000		G B=28
FS246	CROMMELIN	06	1190	0129510	-014233	L	1	02845	LS	84022509	100112	002600	092841	002600	034	V 004$ NUCLEUS IN SWLA
FS246	CROMMELIN	06	1034	0129510	-014233	L	3	22354	LS	84022509	095956	003000	092641	003000	022	V 042$MOVETARG,224.5,-
NSFWB	OO M33-07	75	9999	0130420	+301812	D	9	01518	L	84020606	000000	000000	065700	002000		G NO COMMENTS
NSFWB	OO M33-07	75	9999	0130420	+301812	L	3	22219	L	84020705	000000	000000	054700	086500		G C=180,B=130
NSFWB	OO M33-8	75	9999	0130467	+302106	D	9	01517	L	84020605	000000	000000	053000	002000		G NO COMMENTS
PHCAL	OO NULL	99	0000	0130467	+302106	L	1	02744	L	84020606	000000	000000	062500	000000		G B=40
NSFWB	OOM 33 - 8	75	9999	0130467	+302106	L	3	22212	L	84020605	000000	000000	054100	084000		G E=166,C=152,B=133
PHCAL	OOSKY BKGD	07	0000	0130467	+302106	L	1	02745	L	84020606	000000	000000	065400	066500		G C=155,B=127
HCFHB	BD-18 0255	41	1020	0130507	-182748	L	1	02564	L	84010623	000000	000000	231100	001500		G C=220,B=65
HCFHB	BD-18 0255	41	1020	0130507	-182748	L	3	21949	L	84010621	000000	000000	212400	010000		G C=190,B=100
MLFPM	OO M33B368	13	1770	0131067	+301210	L	1	02752	L	84020916	000000	000000	165900	023300		G C=122,B=92
MLFPM	OO M33B368	13	1770	0131067	+301210	D	9	01519	L	84020908	000000	000000	081800	016000		G NO COMMENTS
MLFPM	OO M33B368	13	1770	0131067	+301210	L	3	22230	L	84020905	000000	000000	055000	066000		G C=168,B=110
NDFRD	NG 604	72	0000	0131429	+303142	L	3	22182	L	84020123	000000	000000	232400	006000		G C=115,B=100
NDFRD	NG 604	72	0000	0131429	+303142	L	1	02730	L	84020200	000000	000000	002700	004500		G C=165,B=120
NDFRD	NG 604	72	0000	0131429	+303142	H	3	22180	L	84020113	000000	000000	135200	038000		G E=206,C=145,B=99
NDFRD	NG 604	72	0000	0131429	+303142	L	3	22181	L	84020120	000000	000000	203500	009000		G C=225,B=115
NDFRD	NG 604	72	0000	0131429	+303142	L	1	02729	L	84020122	000000	000000	220900	006000		G C=2X,B=160
NDFRD	OOSKY BKGD	07	0000	0131429	+303142	H	1	02728	SL	84020113	135500	044000	135400	044000		G B=150
NDFRD	NG 604	72	0000	0131429	+303142	L	3	22183	L	84020201	000000	000000	011800	006000		G C=175,B=140
NDFRD	NG 604	72	0000	0131441	+303142	L	3	22184	L	84020202	000000	000000	024200	004000		G C=230,B=210
NDFRD	NG 604	72	0000	0131441	+303142	L	3	22185	L	84020203	000000	000000	034500	004000		G C=240,B=2X
ZAFNO	OO AX PER	57	1050	0133050	+540000	L	1	02793	L	84021701	000000	000000	014600	001000		G E=1.5X,C=110,B=62
ZAFNO	OO AX PER	57	1050	0133050	+540000	L	1	02794	L	84021702	000000	000000	024300	000500		G E=219,C=82,B=50
ZAFNO	OO AX PER	57	1050	0133050	+540000	L	3	22284	L	84021702	000000	000000	020900	001500		G E=1X,C=48,B=47
HCFHB	HD 11377	44	0850	0149038	-165909	L	3	21934	L	84010417	000000	000000	170200	015000		G C=115,B=36
HCFHB	HD 11377	44	0850	0149039	-165910	L	1	02546	L	84010416	000000	000000	164600	001000		G C=2X,B=35
GHFLH	BD+19 0302	20	0999	0151129	+202817	H	3	21984	L	84011020	000000	000000	204800	015000		G C=180,B=55
GHFLH	BD+19 0302	20	0999	0151129	+202817	H	1	02593	L	84011023	000000	000000	232400	010000		G C=185,B=60
LGFRH	HD 12479	49	0590	0159534	+131411	L	2	17209	L	84010203	000000	000000	034200	001200		G E=123,C=70,B=25
OD26K	OO MK 1018	84	1400	0203425	-003146	L	3	22141	L	84012919	000000	000000	195000	021500		G E=212,C=120,B=68
OD29K	HD 15089	36	0450	0224549	+671045	L	3	22237	SL	84021004	042900	000340	042400	000013		G C=170,B=20
OD29K	HD 15089	36	0450	0224549	+671045	L	1	02757	SL	84021004	041800	000025	041300	000005		G C=240,B=23
OD29K	HD 15089	36	0450	0224549	+671045	L	3	22369	SL	84022820	203400	000150	202800	000015		G C=180,B=25
OD29K	HD 15089	36	0450	0224549	+671045	L	3	22231	L	84020921	000000	000000	214100	000039		G C=170,B=18
OD29K	HD 15089	36	0450	0224549	+671045	H	3	22551	L	84032300	000000	000000	003900	002000		G C=1.5X,B=45
OD29K	HD 15089	36	0450	0224549	+671045	H	1	03014	L	84032301	000000	000000	011400	000530		G C=220,B=44
OD29K	HD 15089	36	0450	0224549	+671045	H	3	22552	L	84032301	000000	000000	014500	006000		G C=5X,B=83
OD29K	HD 15089	36	0450	0224549	+671045	L	1	03013	SL	84032223	000800	000025	235900	000019		G C=210,B=40
OD29K	HD 15089	36	0450	0224549	+671045	L	3	22550	SL	84032223	235200	000150	234300	000055		G C=217,B=35

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
OD29K	HD 15089	36	0450	0224549	+671045	L	1	02753	L	84020921	000000	000000	215100	000019	G	C=210,B=35
OBFGS	HD 15371	21	0440	0225091	-475539	H	1	02565	L	84010700	000000	000000	001800	000100	G	C=215,B=45
IGFJS	HD 15642	13	0850	0229237	+550628	H	1	02609	L	84011302	000000	000000	022100	004500	G	C=220,B=60
FA035	HD15642	23	0867	0229237	550628	H	3	21989	L	84011108	000000	000000	085825	024000 702	V	
FA035	HD15642	23	0867	0229237	550628	L	3	21990	L	84011113	000000	000000	132409	000700 700	V	
IGFJS	HD 15642	13	0850	0229237	+550628	H	3	21997	L	84011301	000000	000000	011000	006500	G	C=165,B=50
IGFJR	HD 16581	22	0820	0237000	+010914	H	3	22256	L	84021314	000000	000000	140600	022000	G	C=4X,B=80
IGFJR	HD 16581	22	0820	0237000	+010914	H	1	02773	L	84021317	000000	000000	175200	006200	G	C=200,B=52
IGFJR	HD 16970	30	0350	0240425	+030130	H	3	22257	L	84021319	000000	000000	190700	002700	G	C=6X,B=104
OD30K	HD 17034	66	1040	0242195	+475600	L	3	22274	L	84021522	000000	000000	225800	007500	G	E=255,C=95,B=50
OD30K	HD 17034	66	1040	0242195	+475600	L	1	02783	L	84021522	000000	000000	221800	002000	G	E=165,C=160,B=45
OD30K	HD 17034	66	1040	0242195	+475600	L	3	22273	L	84021521	000000	000000	213100	004000	G	E=180,C=80,B=35
OD30K	HD 17034	66	1040	0242195	+475600	L	1	02784	L	84021600	000000	000000	001700	002000	G	C=148,B=45
CCFTS	HD 17584	40	0420	0247250	+380650	L	3	22376	L	84022917	000000	000000	174800	004500	G	C=10X,B=25
FE272	MA600	88	1600	0248271	041452	L	3	22347	L	84022405	000000	000000	053604	043100 303	V	
HCFSP	HD 17878	39	0395	0250419	+523334	L	3	22474	SL	84031217	172000	000130	171400	000130	G	C=2X,B=22
HCFSP	HD 17878	39	0395	0250419	+523334	H	1	02941	L	84031216	000000	000000	164000	002200	G	E=122,C=1.5X,B=50
LGFRH	HD 18191	49	0560	0252596	+180749	L	2	17207	L	84010201	000000	000000	013300	000930	G	E=227,C=70,B=28
CSFRW	HD 19058	49	0320	0301578	+383853	L	1	02802	L	84021821	000000	000000	215800	012000	G	E=18X,C=3X,B=115
FM192	GD41	37	1500	0302012	024523	L	3	22289	L	84021712	000000	000000	121446	003300 500	V	
FM192	GD41	37	1500	0302012	024523	L	1	02797	L	84021711	000000	000000	110919	006000 503	V	
FI041	RX CAS	66	0932	0303150	672307	L	1	02887	L	84030407	000000	000000	072811	004900 591	V	
FI041	RX CAS	66	0927	0303150	672307	L	3	22404	L	84030404	000000	000000	042706	017000 381	V	
BLFDW	HD 19356	22	0220	0304543	+404551	H	1	02895	L	84030518	000000	000000	180200	000010	G	C=180,B=45
BLFDW	OOBETA PER	22	0220	0304543	+404551	H	3	22439	L	84030723	000000	000000	235900	000044	G	C=2X,B=45
BLFDW	HD 19356	22	0220	0304543	+404551	H	3	22417	L	84030517	000000	000000	175800	000050	G	C=2X,B=60
BLFDW	HD 19356	22	0220	0304543	+404551	H	3	22411	L	84030502	000000	000000	020000	000025	G	C=230,B=48
BLFDW	HD 19356	22	0220	0304543	+404551	H	3	22418	L	84030518	000000	000000	183400	000050	G	C=2X,B=60
FM133	PG0304+184	38	1318	0304576	182204	L	1	02576	L	84010813	000000	000000	134553	002000 301	V	
FM133	PG0304+184	38	1320	0304576	182204	L	3	21970	LS	84010812	130544	001100	124640	001400 300	V	200$
OD29K	HD 19832	36	0560	0309151	+270412	L	3	22234	SL	84021000	005600	000020	004800	000027	G	C=180,B=18
OD29K	HD 19832	36	0560	0309151	+270412	L	1	02755	SL	84021001	011300	000025	010300	000017	G	C=212,B=40
OD29K	HD 19832	36	0560	0309151	+270412	H	3	22331	L	84022221	000000	000000	215200	001200	G	C=1.5X,B=47
OD29K	HD 19832	36	0560	0309151	+270412	L	3	22235	SL	84021002	021600	000020	020800	000027	G	C=180,B=18
OD29K	HD 19832	36	0560	0309151	+270412	L	3	22236	SL	84021003	031300	000020	030500	000027	G	C=180,B=18
OD29K	HD 19832	36	0560	0309151	+270412	L	1	02833	L	84022300	000000	000000	003800	000005	G	C=250,B=34
OD29K	HD 19832	36	0560	0309151	+270412	L	1	02832	SL	84022222	224200	000027	223400	000017	G	C=212,B=40
OD29K	HD 19832	36	0560	0309151	+270412	L	1	02831	SL	84022220	205700	000025	204700	000017	G	C=215,B=40
OD29K	HD 19832	36	0560	0309151	+270412	L	3	22233	L	84021000	000000	000000	001400	000027	G	C=180,B=17
OD29K	HD 19832	36	0560	0309151	+270412	L	1	02754	L	84020923	000000	000000	231500	000017	G	C=207,B=35
OD29K	HD 19832	36	0560	0309151	+270412	L	3	22232	L	84020923	000000	000000	230600	000027	G	C=186,B=19
OD29K	HD 19832	36	0560	0309151	+270412	L	1	02756	SL	84021002	025700	000027	025000	000017	G	C=220,B=45
OD29K	HD 19832	36	0560	0309151	+270412	L	3	22330	SL	84022220	204000	000020	202900	000027	G	C=190,B=25
OD29K	HD 19832	36	0560	0309151	+270412	L	3	22334	L	84022300	000000	000000	003000	000027	G	C=195,B=23
OD29K	HD 19832	36	0560	0309151	+270412	L	1	02829	SL	84022200	003400	000025	002600	000017	G	C=210,B=39

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
OD29K	HD 19832	36	0560	0309151	+270412	H	3	22333	L	84022223	000000	000000	233200	001200	G	C=1.5X,B=47
OD29K	HD 19832	36	0560	0309151	+270412	L	3	22315	SL	84022200	001900	000020	001000	000027	G	C=185,B=23
OD29K	HD 19832	36	0560	0309151	+270412	L	3	22313	SL	84022122	225400	000020	224600	000027	G	C=180,B=20
OD29K	HD 19832	36	0560	0309151	+270412	L	1	02828	L	84022121	000000	000000	214100	000017	G	C=210,B=37
OD29K	HD 19832	36	0560	0309151	+270412	L	3	22312	L	84022121	000000	000000	213200	000027	G	C=180,B=20
OD29K	HD 19832	36	0560	0309151	+270412	H	3	22282	L	84021621	000000	000000	212000	001100	G	C=225,B=43
OD29K	HD 19832	36	0560	0309151	+270412	L	3	22332	SL	84022222	225700	000020	224800	000027	G	C=195,B=23
OD29K	HD 19832	36	0560	0309151	+270412	L	3	22283	L	84021622	000000	000000	220400	000027	G	C=182,B=26
OD29K	HD 19832	36	0560	0309151	+270412	H	3	22314	L	84022123	000000	000000	232600	001200	G	C=240,B=42
FM192	HD19994	41	0534	0310132	-012255	H	1	02808	L	84021912	000000	000000	122733	002000	302 V	
LDFJL	HD 20794	44	0430	0317559	-431536	H	1	03021	L	84032520	000000	000000	203100	002500	G	E=152,C=1.5X,B=58
LDFJL	HD 20794	44	0430	0317559	-431536	L	3	22583	L	84032520	000000	000000	200400	002000	G	E=63,C=72,B=32
LDFJL	HD 20794	44	0430	0317559	-431536	L	3	22617	L	84032919	000000	000000	194700	003500	G	E=122,C=120,B=65
LDFJL	HD 20794	44	0430	0317559	-431536	H	1	03054	L	84032920	000000	000000	202800	003000	G	E=211,C=2X,B=105
OD33K	HD 20902	41	0189	0320443	+494105	H	1	03009	S	84032220	200300	000430	000000	000000	G	C=1.5X,B=38
OD33K	OO TFLOOD	99	9999	0320443	+494105	H	1	03011	S	84032221	211900	000025	000000	000000	G	B=102
OD33K	OO TFLOOD	99	9999	0320443	+494105	H	1	02911	S	84030823	231900	000025	000000	000000	G	B=105
OD33K	OO WAVCAL	98	9999	0320443	+494105	H	1	02910	S	84030822	223600	000016	000000	000000	G	E=50X,B=108
OD33K	HD 20902	41	0289	0320443	+494105	H	1	02909	S	84030822	220000	000430	000000	000000	G	C=1.5X,B=41
OD33K	OO WAVCAL	98	9999	0320444	+494106	H	1	03010	S	84032220	203600	000016	000000	000000	G	E=50X,B=110
OD33K	HD 21071	22	0576	0322239	+485646	H	1	02912	S	84030900	000100	000840	000000	000000	G	C=200,B=83
OD26K	OO MRK 609	84	1470	0322578	-061857	L	3	22142	L	84013002	000000	000000	021000	013000	G	E=103,C=85,B=52
QSGRP	HD 21389	32	0458	0325541	+584225	H	1	03077	L	84040219	000000	000000	195600	001300	G	C=1.5X,B=65
FM192	HD21686	22	0528	0327403	110959	H	3	22279	L	84021610	000000	000000	101626	002200	701 V	
FM192	HD21686	22	0525	0327403	110959	H	1	02789	L	84021610	000000	000000	105021	001500	703 V	
FM192	HD21790	22	0491	0328080	-051443	H	3	22302	L	84021909	000000	000000	093621	000600	501 V	
FM192	HD21790	22	0488	0328080	-051443	H	1	02806	L	84021910	000000	000000	100817	000400	602 V	
HEFSS	HD 21699	21	0550	0328359	+475116	H	3	22197	L	84020402	000000	000000	022100	000700	G	C=250,B=40
CCFSW	SA 130564	46	0370	0330320	-093734	H	1	02626	L	84011501	000000	000000	013400	000530	G	E=217,C=120,B=32
CCFSW	SA 130564	46	0370	0330320	-093734	L	3	22011	L	84011501	000000	000000	014500	007000	G	E=238,C=108,B=38
CCFSW	SA 130564	46	0370	0330320	-093734	L	1	02627	L	84011502	000000	000000	024000	000006	G	E=89,C=110,B=32
CCFSW	SA 130564	46	0370	0330320	-093734	L	1	02635	L	84011601	000000	000000	014100	000009	G	E=131,C=155,B=30
CCFSW	SA 130564	46	0370	0330320	-093734	L	3	22019	L	84011601	000000	000000	014700	007000	G	E=235,C=115,B=40
CCFSW	SA 130564	46	0370	0330320	-093734	H	1	02636	L	84011602	000000	000000	022800	000530	G	E=220,C=130,B=40
CCFSW	SA 130564	46	0370	0330320	-093734	L	1	02639	L	84011700	000000	000000	002300	000015	G	C=220,B=35
CCFSW	SA 130564	46	0370	0330320	-093734	L	3	22024	L	84011700	000000	000000	002900	007000	G	E=238,C=100,B=35
CCFSW	SA 130564	46	0370	0330320	-093734	H	1	02640	L	84011701	000000	000000	013300	000530	G	E=190,C=120,B=35
CCFSW	SA 130564	46	0370	0330321	-093735	L	1	02666	L	84012002	000000	000000	020200	000530	G	E=220,C=110,B=27
CCFSW	SA 130564	46	0370	0330321	-093735	L	3	22049	L	84012000	000000	000000	003600	007000	G	E=238,C=105,B=35
CCFSW	SA 130564	46	0370	0330321	-093735	L	1	02665	L	84012001	000000	000000	012000	000020	G	E=173,C=235,B=35
CCFSW	SA 130564	46	0370	0330344	-093735	L	1	02647	L	84011800	000000	000000	002600	000030	G	E=235,C=1.5X,B=35
CCFSW	SA 130564	46	0370	0330344	-093735	L	3	22032	L	84011800	000000	000000	003300	007000	G	E=244,C=105,B=35
CCFSW	SA 130564	46	0370	0330344	-093735	L	1	02677	L	84012101	000000	000000	015700	000020	G	E=209,C=2X,B=35
CCFSW	SA 130564	46	0370	0330344	-093735	H	1	02648	L	84011801	000000	000000	011400	000530	G	E=221,C=115,B=25
CCFSW	SA 130564	46	0370	0330344	-093735	H	1	02655	L	84011821	000000	000000	214000	000530	G	E=227,C=140,B=38

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
CCFSW	SA 130564	46	0370	0330344	-093735	H	1	02616	L	84011401	000000	000000	014400	000700		G E=255,C=140,B=35
CCFSW	SA 130564	46	0370	0330344	-093735	L	3	22003	L	84011401	000000	000000	015700	007000		G E=255,C=95,B=35
CCFSW	SA 130564	46	0370	0330344	-093735	L	1	02617	L	84011402	000000	000000	023400	000057		G E=10X,C=5X,B=35
CCFSW	SA 130564	46	0370	0330344	-093735	H	1	02618	L	84011403	000000	000000	030800	000530		G E=218,C=120,B=38
CCFSW	SA 130564	46	0370	0330344	-093735	L	1	02654	L	84011820	000000	000000	205300	000025		G E=255,C=1.3X,B=37
CSFRW	HD 22049	46	0370	0330344	-093735	H	1	02809	L	84021921	000000	000000	212200	006000		G E=5X,C=2X,B=73
CSFRW	HD 22049	46	0370	0330344	-093735	L	1	02810	L	84021922	000000	000000	225500	000500		G C=3X,B=50
CCFSW	SA 130564	46	0370	0330344	-093735	H	1	02678	L	84012102	000000	000000	025600	000530		G E=222,C=115,B=30
CCFSW	SA 130564	46	0370	0330344	-093735	L	3	22060	L	84012102	000000	000000	021500	007000		G E=232,C=120,B=45
CCFSW	SA 130564	46	0370	0330344	-093735	L	3	22041	L	84011820	000000	000000	205900	007000		G
FE237	NG 1365	80	1120	0331418	-361827	L	3	22305	L	84021913	000000	000000	135200	042700		G C=145,B=105
CCFTS	HD 22211	45	0640	0332094	+061505	L	3	22377	L	84022919	000000	000000	190700	001500		G C=60,B=20
PHCAL	OO WAVCAL	98	0000	0332094	+061505	H	3	22379	S	84022920	201800	000200	000000	000000		G E=50X,B=125
PHCAL	OO TFLOOD	99	0000	0332094	+061505	H	3	22380	S	84022920	204900	000005	000000	000000		G B=105
PHCAL	OO WAVCAL	98	0000	0332094	+061505	L	3	22378	S	84022919	195100	000002	000000	000000		G E=20X,B=100
LBFAS	HD 22470	27	0523	0333599	-173749	H	3	21943	L	84010601	000000	000000	014400	002200		G C=5X,B=100
LBFAS	HD 22470	27	0523	0333599	-173749	H	1	02558	L	84010602	000000	000000	022900	001000		G C=6X,B=70
FM192	HD22484	41	0461	0334191	001440	H	1	02790	L	84021612	000000	000000	123620	001500	502	V EFFECTIVE EXP TIME 3
HCFSP	HD 23089	39	0480	0341387	+631122	H	1	02942	L	84031218	000000	000000	180300	001700		G C=230,B=58
FM192	HD23363	22	0534	0341579	-011910	H	3	22303	L	84021910	000000	000000	103030	000700	500	V
FM192	HD23363	22	0522	0341579	-011910	H	1	02807	L	84021911	000000	000000	110336	000500	501	V
GA055	HD23383	22	0624	0343362	554607	H	3	22664	L	84040402	000000	000000	024303	003000	500	V
IGFJS	HD 24760	23	0290	0354294	+395203	H	1	02610	L	84011303	000000	000000	034800	000008		G C=200,B=43
FI007	HD24912	14	0407	0355429	353859	H	3	22326	L	84022211	000000	000000	113225	000110	501	V
EI030	HD24912	14	0408	0355429	353859	H	3	22322	L	84022206	000000	000000	061118	000110	500	V
EI030	HD24912	14	0413	0355429	353859	H	3	22321	L	84022205	000000	000000	054530	000110	501	V
FI007	HD24912	14	0408	0355429	353859	H	3	22328	L	84022212	000000	000000	122645	000110	501	V
FI007	HD24912	14	0410	0355429	353859	H	3	22327	L	84022211	000000	000000	115800	000110	501	V
EI030	HD24912	14	0407	0355430	353900	H	3	22299	L	84021905	000000	000000	050305	000110	501	V
EI030	HD24912	14	0410	0355430	353900	H	3	22277	L	84021605	000000	000000	053222	000100	500	V
EI030	HD24912	14	0410	0355430	353900	H	3	22323	L	84022206	000000	000000	063644	000110	500	V
EI030	HD24912	14	0409	0355430	353900	H	3	22308	L	84022105	000000	000000	053110	000110	501	V
EI030	HD24912	14	0400	0355430	353900	H	3	22296	L	84021809	000000	000000	094149	000110	500	V
EI030	HD24912	14	0414	0355430	353900	H	3	22286	L	84021705	000000	000000	052336	000100	501	V
FS246	BCKG	07	1000	0400000	-132103	L	3	22545	L	84032206	000000	000000	064113	001000	010	V
WDFGW	OO G8-8	37	1380	0401328	+250046	L	3	22078	L	84012301	000000	000000	012900	015000		G C=205,B=75
WDFGW	OO G8-8	37	1380	0401328	+250046	L	1	02696	L	84012300	000000	000000	002500	006000		G C=178,B=50
QSFCW	PK0405-123	85	1480	0405275	-121932	L	3	22010	L	84011416	000000	000000	164100	035000		G E=4X,C=225,B=70
QSFCW	PK0405-123	85	1480	0405275	-121932	L	1	02625	L	84011422	000000	000000	223900	007500		G E=161,C=150,B=50
FM192	HD26171	22	0608	0406138	131603	H	1	02788	L	84021609	000000	000000	092504	003300	809	V
FS246	COMET CROM	06	1000	0408172	-131239	L	3	22544	L	84032205	000000	000000	051400	001000	030	V COORDINATES FOR 5:10
FS246	COMET CROM	06	1000	0408172	-131239	L	1	03004	L	84032205	000000	000000	052735	001000	010	V COORDINATES FOR 5:10
FI065	VW HYI	52	0974	0409322	-712528	L	1	02962	L	84031606	000000	000000	064423	000300	803	V
FI065	VW HYI	52	0977	0409322	-712528	L	3	22501	L	84031609	000000	000000	093916	000115	500	V
FI065	VW HYI	52	0974	0409322	-712528	L	3	22500	L	84031608	000000	000000	083247	000115	500	V

PRO.	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
FI065	VW HYI	52	0966	0409322	-712528	L	1	02961	L	84031603	000000	000000	035332	003500 993 V
FI065	VW HYI	52	0967	0409322	-712528	L	3	22497	L	84031604	000000	000000	043353	003000 990 V
FI065	VW HYI	52	0971	0409322	-712528	L	1	02963	L	84031607	000000	000000	075012	000120 603 V
FI065	VW HYI	52	0971	0409322	-712528	L	3	22498	L	84031605	000000	000000	055621	000300 800 V
FI065	VW HYI	52	0980	0409322	-712528	L	1	02965	L	84031610	000000	000000	101426	000100 503 V
FI065	VW HYI	52	0977	0409322	-712528	L	1	02964	L	84031609	000000	000000	090510	000105 503 V
FI065	VW HYI	52	0976	0409322	-712528	L	3	22499	L	84031607	000000	000000	075554	000120 500 V
HCFSP	HD 26630	39	0420	0411130	+481704	H	1	02940	L	84031214	000000	000000	145500	005500 G E=1.2X,C=1.5X,B=52
HCFSP	HD 26630	39	0420	0411130	+481704	L	3	22473	L	84031215	000000	000000	155800	000330 G C=200,B=20
HCFSP	HD 26673	39	0470	0411286	+402129	L	3	22475	L	84031218	000000	000000	185800	000150 G C=190,B=16
FM192	HD26793	22	0544	0411521	095311	H	3	22304	L	84021911	000000	000000	114217	000700 500 V
FM192	HD26912	21	0442	0412489	084607	H	3	22280	L	84021611	000000	000000	113119	000530 501 V EFFECTIVE EXP TIME 3
STFMA	HD 28099	44	0810	0423477	+163807	L	1	02601	L	84011120	000000	000000	202300	006600 G C=4X,B=50
STFMA	HD 28099	44	0810	0423477	+163807	L	1	02540	L	84010302	000000	000000	024700	001115 G C=200,B=39
STFMA	HD 28099	44	0810	0423477	+163807	L	2	17213	L	84010303	000000	000000	034400	001500 G C=190,B=32
CSGCI	HD 28099	44	0812	0423478	+163806	L	2	17266	L	84030418	000000	000000	184000	004000 G C=6X,B=75
IGGFB	HD 28446	23	0517	0428024	+534821	H	3	22429	L	84030621	000000	000000	212700	001200 G C=210,B=42
QSFJO	OO 3C 120	84	0000	0430315	+051459	L	1	03053	L	84032916	000000	000000	163400	013500 G C=2X,B=230
QSFJO	OO 3C 120	84	0000	0430315	+051459	L	3	22616	L	84032912	000000	000000	120000	027000 G E=167,C=113,B=76
FE176	3C120	84	1450	0430316	051500	L	3	21969	L	84010808	000000	000000	084424	018800 341 V
CGFRH	HD 29051	47	0710	0432095	+170556	L	2	17208	L	84010202	000000	000000	023000	003300 G E=88,C=70,B=28
HCFSP	HD 29094	39	0430	0433131	+410951	H	1	02939	L	84031213	000000	000000	132600	004200 G E=255,C=1.2X,B=50
HCFSP	HD 29094	39	0430	0433131	+410951	L	3	22472	L	84031214	000000	000000	141300	000110 G C=190,B=20
STFMA	HD 29461	44	0800	0436076	+140029	L	1	02600	L	84011118	000000	000000	183900	004800 G C=4X,B=45
STFMA	HD 29461	44	0800	0436076	+140029	L	1	02539	L	84010301	000000	000000	014100	000945 G C=190,B=39
STFMA	HD 29461	44	0800	0436076	+140029	L	2	17214	L	84010304	000000	000000	044900	001315 G C=185,B=40
CCGJL	HD 29712	49	0540	0436104	-621032	L	1	03275	L	84050407	000000	000000	074100	020000 G E=5X,C=1.5X,B=62
STFMA	HD 30246	44	1650	0443389	+152259	L	1	02538	L	84010300	000000	000000	004000	001330 G C=200,B=42
STFMA	HD 30246	44	0830	0443389	+152259	L	2	17215	L	84010305	000000	000000	054300	001830 G C=190,B=51
STFMA	HD 30246	44	0830	0443389	+152259	L	1	02599	L	84011116	000000	000000	164500	007500 G C=4X,B=50
CVFES	PK 0685-13	16	1260	0447199	+173659	L	3	22349	L	84022421	000000	000000	213900	000600 G C=65,B=25
CVFES	PK 0685-13	16	1260	0447199	+173659	H	3	22350	L	84022422	000000	000000	221400	018000 G C=170,B=100
IEFBS	OOSK005-67	23	1130	0450180	-674430	L	2	17298	L	84031811	000000	000000	115500	000700 G C=1X,B=26
IGFJS	HD 31237	23	0370	0451387	+022137	H	3	21998	L	84011304	000000	000000	044200	000038 G C=210,B=35
IGFJS	HD 31237	23	0370	0451387	+022137	H	1	02611	L	84011304	000000	000000	044600	000024 G C=220,B=45
LBFAS	HD 31295	36	0460	0452085	+100422	H	1	02557	L	84010600	000000	000000	005800	000500 G C=210,B=45
FA195	AB AUR	34	0727	0452342	302822	H	3	22048	L	84011913	000000	000000	130507	016200 501 V
FA195	AB AUR	34	0725	0452342	302822	H	1	02720	L	84013110	000000	000000	105210	019700 774 V
FA195	AB AUR	34	0727	0452343	302822	H	3	22030	L	84011714	000000	000000	140744	010000 401 V
FA195	AB AUR	34	0728	0452343	302822	H	1	02646	L	84011713	000000	000000	132524	003800 553 V
WDFGW	OO GD64	37	1380	0453500	+415130	L	1	02697	L	84012304	000000	000000	044300	006000 G C=200,B=85
WDFGW	OO GD64	37	1380	0453500	+415130	L	3	22079	L	84012305	000000	000000	054700	012000 G C=170,B=45
IEFBS	OO 027-66	23	1180	0456210	-663417	L	2	17292	L	84031523	000000	000000	234900	001800 G C=240,B=30
IEFBS	OO 027-66	23	1180	0456210	-663417	L	3	22496	L	84031600	000000	000000	003000	003000 G C=168,B=35
IEFBS	OOSK 35-66	23	1150	0457039	-663916	L	2	17293	L	84031601	000000	000000	012200	001100 G C=1.5X,B=25

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
IEFBS	OO 35-66	23	1160	0457040	-663920	L	2	17294	SL	84031719	194700	001500	192700	000800	G C=220,B=32
IEFBS	OO 35-66	23	1160	0457040	-663920	L	3	22507	SL	84031718	185400	002500	183400	001500	G C=200,B=35
FC029	HD31964	40	0396	0458220	434505	L	3	22055	L	84012011	000000	000000	115314	004000 731	V
FC029	HD 31964	40	0391	0458220	434505	L	3	22053	LS	84012009	092803	003300	090453	001600 730	V 330$
FC029	HD 31964	40	0395	0458220	434505	L	3	22054	LS	84012010	105006	000630	104121	000430 530	V 330$
FC029	HD 31964	40	0390	0458220	434505	H	1	02673	L	84012011	000000	000000	112519	001200 502	V
FC029	HD 31964	40	0389	0458220	434505	L	1	02671	LS	84012008	084131	000100	083539	000030 761	V 761$
FC029	HD 31964	40	0391	0458220	434505	L	1	02672	LS	84012010	101151	000040	100456	000020 651	V 651$
OD21K	OO EPS AUR	39	0400	0458224	+434504	H	3	22629	L	84033101	000000	000000	011900	008500	G C=170,B=45
OD21K	OO EPS AUR	39	0400	0458224	+434504	H	2	17333	L	84033100	000000	000000	004100	003000	G E=149,C=1.5X,B=65
OD21K	OO EPS AUR	39	0400	0458224	+434504	L	3	22625	L	84033018	000000	000000	182900	004500	G E=175,C=10X,B=100
OD21K	OO EPS AUR	39	0400	0458224	+434504	H	2	17330	L	84033020	000000	000000	203100	000015	G C=200,B=23
OD21K	OO EPS AUR	39	0400	0458224	+434504	L	3	22626	L	84033019	000000	000000	195500	000500	G C=1.5X,B=20
OD21K	OO EPS AUR	39	0400	0458224	+434504	H	2	17329	L	84033019	000000	000000	192300	001000	G C=205,B=35
VVFRC	HD 31964	39	0300	0458225	+434505	L	2	17217	SL	84010406	065600	000600	065000	000020	G C=155,B=28
VVFRC	HD 31964	39	0300	0458225	+434505	H	2	17252	L	84021723	000000	000000	233400	004800	G E=182,C=2.5X,B=45
VVFDL	BS 1605	33	0300	0458225	+434504	H	2	17218	L	84010517	000000	000000	175900	006000	G E=212,C=3X,B=42
VVFRC	HD 31964	39	0300	0458225	+434505	L	2	17251	L	84021721	000000	000000	215400	000020	G C=220,B=20
VVFRC	HD 31964	39	0300	0458225	+434505	H	3	22292	L	84021721	000000	000000	215800	009000	G C=185,B=88
VVFDL	BS 1605	33	0300	0458225	+434504	L	1	02556	L	84010523	000000	000000	233400	000300	G C=8X,B=40
VVFRC	HD 31964	39	0300	0458225	+434505	L	3	22293	L	84021800	000000	000000	002600	006000	G E=130,C=10X,B=35
VVFRC	HD 31964	39	0300	0458225	+434505	H	2	17253	L	84021801	000000	000000	013400	001500	G E=89,C=195,B=33
VVFTA	OO EPS AUR	40	0300	0458225	+434504	L	3	22368	L	84022815	000000	000000	151900	001000	G E=34,C=1.5X,B=21
VVFDL	BS 1605	33	0300	0458225	+434530	L	3	22548	L	84032214	000000	000000	140500	000500	G C=200,B=19
VVFDL	BS 1605	33	0300	0458225	+434530	H	2	17318	L	84032213	000000	000000	132900	005000	G E=162,C=3X,B=46
VVFTA	OO EPS AUR	40	0300	0458225	+434504	L	3	22367	L	84022814	000000	000000	144000	000530	G C=170,B=19
VVFTA	OO EPS AUR	40	0300	0458225	+434504	H	2	17262	L	84022814	000000	000000	140400	005500	G E=205,C=3.6X,B=42
VVFDL	BS 1605	33	0300	0458225	+434530	L	2	17317	SL	84032212	123900	000500	124800	000016	G C=6X,B=21
VVFDL	BS 1605	33	0300	0458225	+434530	H	3	21941	L	84010516	000000	000000	165300	006000	G C=100,B=32
VVFTA	OO EPS AUR	40	0300	0458225	+434504	H	2	17261	L	84022813	000000	000000	130800	001500	G E=94,C=200,B=32
VVGTA	OO EPS AUR	40	0370	0458225	+434504	L	3	22447	L	84030919	000000	000000	192100	006500	G E=190,C=10X,B=155
VVGTA	OO EPS AUR	40	0370	0458225	+434504	L	2	17281	SL	84030920	200400	000500	201400	000018	G C=6X,B=33
VVGTA	OO EPS AUR	40	0370	0458225	+434504	H	2	17282	L	84030920	000000	000000	205400	001500	G E=113,C=215,B=50
VVGTA	OO EPS AUR	40	0370	0458225	+434504	H	2	17283	L	84030921	000000	000000	213600	004000	G E=198,C=2.0X,B=90
VVFDL	BS 1605	33	0300	0458225	+434530	L	3	22547	L	84032211	000000	000000	115900	006500	G E=143,C=10X,B=28
VVFDL	BS 1605	33	0300	0458225	+434530	H	2	17316	L	84032211	000000	000000	113700	001200	G E=61,C=200,B=30
VVGTA	OO EPS AUR	40	0370	0458225	+434504	L	3	22448	L	84030922	000000	000000	220100	000600	G C=190,B=39
VVGTA	OO EPS AUR	40	0370	0458225	+434504	L	3	22449	L	84030922	000000	000000	224300	001500	G E=84,C=3X,B=60
VVFTA	OO EPS AUR	40	0300	0458225	+434504	L	3	22366	L	84022812	000000	000000	123300	006000	G E=162,C=10X,B=18
VVGRC	HD 31964	39	0350	0458225	+434505	H	3	22725	L	84041209	000000	000000	095300	036000	G C=3.5X,B=115
VVGRC	HD 31964	39	0300	0458225	+434505	L	2	17357	SL	84041216	162300	000300	161900	000012	G C=220,B=25
VVFTA	OO EPS AUR	40	0300	0458225	+434504	L	2	17260	SL	84022812	122100	000500	121600	000018	G C=200,B=30
VVFRC	HD 31964	39	0300	0458225	+434505	L	3	22294	L	84021802	000000	000000	020700	000500	G C=158,B=25
VVGRC	HD 31964	39	0300	0458225	+434505	H	3	22726	L	84041216	000000	000000	163000	007000	G C=245,B=112
VVFRC	HD 31964	39	0300	0458225	+434505	H	3	21929	L	84010405	000000	000000	050500	009000	G C=1.1X,B=105

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
VVFRC	HD 31964	39	0300	0458225	+434505	H	1	02544	L	84010404	000000	000000	040800	004500		G C=4X,B=75
VVFRC	HD 31964	39	0300	0458225	+434505	H	1	02543	L	84010403	000000	000000	030500	001200		G C=108,B=40
VVFDL	BS 1605	33	0300	0458225	+434504	H	3	21942	L	84010519	000000	000000	190700	022500		G C=6X,B=90
VVFDL	BS 1605	33	0300	0458225	+434504	L	1	02555	L	84010523	000000	000000	230200	000016		G C=1.2X,B=32
VVFRC	HD 31964	39	0300	0458225	+434505	L	3	21928	L	84010402	000000	000000	020400	006000		G E=119,C=10X,B=20
VVFRC	HD 31964	39	0300	0458225	+434505	L	1	02542	SL	84010401	011600	000500	013000	000500		G C=8X,B=35
VVFRC	HD 31964	39	0300	0458225	+434505	L	3	21927	L	84010400	000000	000000	005900	000500		G C=185,B=15
VVGTA	00 EPS AUR	40	0300	0458226	+434505	L	3	22855	L	84042620	000000	000000	200700	002500		G E=93,C=7X,B=40
VVFTA	00 EPS AUR	40	0300	0458226	+434505	L	2	17225	L	84011816	000000	000000	164900	000020		G C=220,B=23
VVGTA	00 EPS AUR	40	0300	0458226	+434505	H	2	17394	L	84042620	000000	000000	204700	001000		G E=99,C=255,B=40
VVGTA	00 EPS AUR	40	0300	0458226	+434505	L	2	17392	SL	84042617	174300	000115	173800	000011		G C=190,B=25
VVGTA	00 EPS AUR	40	0300	0458226	+434505	L	3	22854	L	84042619	000000	000000	190200	000230		G C=168,B=20
VVGTA	00 EPS AUR	40	0300	0458226	+434505	L	3	22728	L	84041219	000000	000000	190200	004500		G E=135,C=212,B=85
VVGTA	00 EPS AUR	40	0300	0458226	+434505	L	3	22727	L	84041218	000000	000000	181900	000300		G C=200,B=23
VVGTA	00 EPS AUR	40	0300	0458226	+434505	H	2	17358	L	84041217	000000	000000	174400	006000		G C=5X,B=90
VVFTA	00 EPS AUR	40	0300	0458226	+434505	L	3	22038	L	84011816	000000	000000	165300	006000		G E=133,C=10X,B=35
VVFTA	00 EPS AUR	40	0300	0458226	+434505	L	2	17232	SL	84012916	160300	000003	161000	000020		G C=4X,B=21
VVFTA	00 EPS AUR	40	0300	0458226	+434505	L	2	17226	L	84011817	000000	000000	172700	000300		G C=8X,B=23
VVFTA	00 EPS AUR	40	0300	0458226	+434505	H	2	17227	L	84011818	000000	000000	180800	006000		G E=205,C=4X,50
VVFTA	00 EPS AUR	40	0300	0458226	+434505	L	3	22039	L	84011818	000000	000000	184200	000500		G C=210,B=20
VVFTA	00 EPS AUR	40	0300	0458226	+434505	L	3	22040	L	84011819	000000	000000	192500	001500		G E=50,C=2.5X,B=22
VVFTA	00 EPS AUR	40	0300	0458226	+434505	L	3	22140	L	84012918	000000	000000	184900	001500		G E=50,C=3X,B=19
VVGTA	00 EPS AUR	40	0300	0458226	+434505	L	2	17359	L	84041219	000000	000000	194200	000036		G C=3X,B=20
VVGTA	00 EPS AUR	40	0300	0458226	+434505	H	2	17360	L	84041220	000000	000000	202300	001200		G C=270,B=38
VVFTA	00 EPS AUR	40	0300	0458226	+434505	H	2	17234	L	84012918	000000	000000	181400	006000		G E=217,C=4X,B=50
VVFTA	00 EPS AUR	40	0300	0458226	+434505	L	3	22139	L	84012918	000000	000000	180500	000500		G C=195,B=19
VVFTA	00 EPS AUR	40	0300	0458226	+434505	L	3	22138	L	84012916	000000	000000	161400	008000		G E=164,C=12X,B=22
VVFTA	00 EPS AUR	40	0300	0458226	+434505	L	2	17233	L	84012916	000000	000000	164800	000300		G C=8X,B=21
VVGTA	00 EPS AUR	40	0300	0458226	+434505	H	2	17393	L	84042619	000000	000000	191700	004500		G E=224,C=4X,B=98
FI101	EPS AUR	40	0371	0458227	434457	L	1	02974	SL	84031707	074154	000230	074845	000010	551	V 881$
FI101	EPS AUR	40	0373	0458227	434457	H	1	02972	L	84031704	000000	000000	040051	001000	552	V
FI101	EPS AUR	40	0372	0458227	434457	H	3	22504	L	84031708	000000	000000	082203	014800	503	V
FI101	EPS AUR	40	0372	0458227	434457	L	3	22503	L	84031706	000000	000000	065003	003000	831	V
FI101	EPS AUR	40	0370	0458227	434457	H	3	22502	L	84031704	000000	000000	041803	008000	332	V
FI101	EPS AUR	40	0374	0458227	434457	H	1	02973	L	84031705	000000	000000	054415	006000	802	V
VVFTA	00 EPS AUR	40	9999	0458229	+434504	H	3	22087	L	84012407	000000	000000	075200	041000		G C=5X,B=100
OD21K	OOZETA AUR	39	0375	0458586	+410017	L	3	22628	L	84033022	000000	000000	223200	000009		G C=160,B=15
OD21K	OOZETA AUR	39	0375	0458586	+410017	H	2	17331	L	84033021	000000	000000	215900	000500		G E=171,C=173,B=40
OD21K	OOZETA AUR	39	0375	0458586	+410017	H	3	22627	L	84033021	000000	000000	212200	001000		G C=200,B=58
OD21K	OOZETA AUR	39	0375	0458586	+410017	L	2	17332	L	84033023	000000	000000	230500	000005		G C=175,B=25
VVFRC	HD 32068	39	0380	0458587	+410018	H	2	17254	L	84021802	000000	000000	024800	000500		G E=186,C=165,B=30
OBFTS	HD 32249	20	0480	0459008	-071445	H	3	22117	L	84012704	000000	000000	040900	000201		G C=255,B=42
FS246	CROMMELIN	06	1404	0501000	-160300	L	1	03058	L	84033005	000000	000000	050522	010328	062	V
MLGFB	OOG191-B2B	37	1180	0501308	+524547	H	3	22428	L	84030619	000000	000000	193300	008000		G C=160,B=80
IBGGP	00 BF AUR.	66	0850	0501329	+411312	L	1	03135	L	84040923	000000	000000	231600	000130		G C=-1.5X,B=35

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
IEFBS	00 SK 26-6	23	1160	0501459	-681505	L	3	22529	L	84032017	000000	000000	174600	004500		G C=200,B=53
IEFBS	00 26-68	23	1170	0501460	-681506	L	3	22519	L	84031912	000000	000000	124000	007000		G C=1.5X,B=25
IEFBS	00 26-68	23	1170	0501460	-681506	L	2	17302	L	84031914	000000	000000	140100	003600		G C=210,B=30
FS246	CROMMELIN	06	1404	0502000	-160200	L	3	22621	L	84033005	000000	000000	050854	006000	051	V
IMFRP	00 UX ORI	30	0870	0502009	-035123	L	3	21976	L	84010901	000000	000000	014500	003800		G C=112,B=75
IMFRP	00 UX ORI	30	0870	0502009	-035123	L	1	02580	L	84010901	000000	000000	011100	002000		G C=175,B=87
IMFRP	00 UX ORI	30	0870	0502009	-035123	L	3	21975	L	84010900	000000	000000	003300	002000		G C=95,B=55
IMFRP	00 UX ORI	30	0870	0502009	-035123	L	1	02585	L	84010907	000000	000000	070000	004800		G C=230,B=90
PHCAL	HD 32630	21	0320	0503002	+411008	L	1	02930	L	84031200	000000	000000	000600	000001		G C=210,B=41
HCGTA	HD 32655	39	0620	0503150	+430630	L	2	17284	L	84030923	000000	000000	234000	000142		G C=215,B=25
HCGTA	HD 32655	39	0620	0503150	+430630	L	3	22450	L	84030923	000000	000000	234600	000430		G C=98,B=50
PMFCI	00 RW AUR	58	1080	0504376	+302013	L	1	02645	L	84011710	000000	000000	105600	000248		G E=187,C=60,B=35
PMFCI	00 RW AUR	58	1080	0504376	+302013	L	3	22029	L	84011710	000000	000000	101900	014000		G E=240,C=1--,B=45
CCFLH	HD 33262	41	0470	0504390	-573226	H	1	02591	L	84011007	000000	000000	073800	002000		G E=205,C=2X,B=50
IEFBS	00 043-67	23	1270	0504510	-675100	L	2	17290	L	84031520	000000	000000	200100	004000		G C=230,B=30
IEFBS	00 043-67	23	1270	0504510	-675100	L	3	22493	L	84031518	000000	000000	185700	006000		G C=183,B=38
IEFBS	00SK040-68	23	1170	0505240	-680612	L	3	22508	L	84031720	000000	000000	202400	002000		G C=145,B=22
IEFBS	00SK040-68	23	1170	0505240	-680612	L	2	17295	SL	84031720	212100	001700	205900	001200		G C=200,B=32
NSFRF	00SKY BKGD	07	9999	0505442	-675632	L	1	02830	L	84022213	000000	000000	134400	030000		G B=73
NSFRF	000505-679	75	0000	0505442	-675632	L	3	22329	L	84022213	000000	000000	133900	035000		G B=80
OBFTS	HD 33328	20	0430	0506451	-084900	H	3	22116	L	84012703	000000	000000	032900	000119		G C=2.5X,B=50
CCFTS	HD 33276	41	0480	0506501	+153206	L	3	22225	L	84020821	000000	000000	213000	006000		G E=157,C=8X,B=55
IBGGP	00 SX AUR.	66	0840	0508101	+420618	L	3	22702	L	84040922	000000	000000	221100	000045		G C=185,B=16
IBGGP	00 SX AUR.	66	0840	0508101	+420618	L	1	03134	L	84040922	000000	000000	220500	000030		G C=235,B=35
IGFJR	HD 33852	22	0840	0512071	+515406	H	3	22258	L	84021320	000000	000000	202000	015000		G C=3X,B=115
MLFCG	HD 34078	12	0580	0512598	+341524	H	3	22108	L	84012606	000000	000000	063300	000800		G C=130,B=27
FA195	HD34452	36	0544	0515424	334149	L	3	22167	L	84013110	000000	000000	102514	000016	700	V
GC084	HDE269262	44	1097	0516182	-681846	L	3	22917	L	84050505	000000	000000	050956	003000	100	V
GC084	HDE 269262	44	1098	0516182	-681846	L	1	03281	L	84050505	000000	000000	054439	004500	502	V
GC084	HDE 269262	44	1100	0516182	-681846	L	1	03272	L	84050404	000000	000000	040051	001500	302	V
GC084	HDE 269262	44	1093	0516182	-681846	L	3	22904	L	84050404	000000	000000	042300	001000	100	V
PHCAL	HD34816	20	0420	0517160	-131357	H	2	17219	L	84010709	000000	000000	091157	000026	402	V
PHCAL	HD34816	20	0420	0517160	-131357	H	1	02569	L	84010708	000000	000000	083503	000022	403	V
PHCAL	HD 34816	20	0430	0517162	-131337	H	1	02780	L	84021504	000000	000000	041200	000022		G C=215,B=43
PHCAL	HD 32630	20	0320	0517162	-131337	L	1	02929	L	84031123	000000	000000	231900	000001		G C=220,B=40
PHCAL	HD 34816	20	0430	0517162	-131337	L	1	02878	L	84030300	000000	000000	000000	000001		G C=225,B=35
PHCAL	HD 34816	20	0430	0517162	-131337	H	1	03156	L	84041519	000000	000000	190800	000022		G C=212,B=42
PHCAL	HD 34816	20	0430	0517162	-131337	H	3	22757	L	84041519	000000	000000	191200	000022		G C=200,B=32
PHCAL	HD 34816	20	0430	0517162	-131337	H	2	17363	L	84041222	000000	000000	223600	000026		G C=185,B=28
PHCAL	HD 34816	20	0430	0517162	-131337	H	2	17364	L	84041223	000000	000000	231200	000026		G C=200,B=30
PHCAL	HD 34816	20	0430	0517162	-131337	H	3	22270	L	84021504	000000	000000	041600	000022		G C=175,B=32
PHCAL	HD 34816	20	0430	0517162	-131337	L	3	22393	L	84030223	000000	000000	234900	000001		G C=205,B=15
PHCAL	HD 34816	20	0430	0517162	-131337	L	2	17308	L	84031923	000000	000000	233400	000001		G C=175,B=25
PHCAL	HD 34816	20	0430	0517162	-131337	H	2	17247	L	84021302	000000	000000	023200	000026		G C=210,B=30
PHCAL	HD 34816	20	0430	0517162	-131337	L	2	17279	L	84030800	000000	000000	004600	000001		G C=220,B=32

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
FA035	S24	64	1400	0517397	-664518	L	1	02633	L	84011515	000000	000000	151226	003500 303 V
FM034	S24	64	1410	0517397	-664518	L	3	22002	L	84011312	000000	000000	121800	009000 330 V
HCGTA	HD 34807	39	0732	0518272	+393129	L	3	22451	L	84031000	000000	000000	002300	001500 G C=4X,B=140
HCGTA	HD 34807	39	0732	0518272	+393129	L	2	17285	L	84031000	000000	000000	005000	000248 G C=212,B=32
HCGTA	HD 34807	39	0730	0518273	+393130	L	3	22639	L	84040118	000000	000000	181400	000400 G C=125,B=22
IBGTA	HD 35155	66	0680	0519545	-084246	L	2	17337	L	84040309	000000	000000	094600	003000 G E=3X,C=130,B=25
IBGTA	HD 35155	66	0680	0519545	-084246	L	3	22656	L	84040310	000000	000000	102000	006000 G E=149,C=95,B=25
IBGTA	HD 35155	66	0677	0519547	-084248	L	2	17305	L	84031919	000000	000000	192200	000800 G E=182,C=104,B=35
IBGTA	HD 35155	66	0680	0519547	-084248	L	3	22522	L	84031919	000000	000000	193600	006000 G E=232,C=210,B=106
IBGTA	HD 35155	66	0680	0519547	-084248	L	2	17306	L	84031920	000000	000000	204200	003000 G E=2.7X,C=213,B=52
IBGTA	HD 35155	66	0680	0519548	-084247	H	2	17334	L	84040116	000000	000000	162200	007500 G E=196,B=118
IBGTA	HD 35155	66	0680	0519548	-084247	H	3	22638	L	84040109	000000	000000	093600	040000 G E=191,C=150,B=100
IBGTA	HD 35155	66	0680	0519548	-084247	H	2	17338	L	84040311	000000	000000	112400	026000 G E=1.5X,C=135,B=73
IEFBS	00SK077-67	23	1230	0520130	-670227	L	2	17303	L	84031916	000000	000000	162000	001800 G C=110,B=35
IEFBS	00SK077-67	23	1230	0520130	-670227	L	3	22520	SL	84031915	152400	002000	155100	001200 G C=100,B=23
IEFBS	00SK078-67	24	1130	0520240	-672054	L	2	17296	L	84031722	000000	000000	224500	002000 G C=220,B=32
IEFBS	00SK078-67	24	1130	0520240	-672054	L	3	22509	L	84031722	000000	000000	220900	001700 G C=160,B=25
OD25K	HD 35411	53	0330	0521580	-022618	H	3	22155	S	84013101	014000	000025	000000	000000 G C=200,B=30
OD25K	HD 35411	53	0330	0521580	-022618	H	3	22154	S	84013101	011200	000025	000000	000000 G C=200,B=30
OD25K	HD 35411	53	0330	0521580	-022618	H	3	22153	S	84013100	004100	000025	000000	000000 G C=105,B=20
OD25K	00 ETA ORI	53	3300	0521580	-022600	H	3	22152	S	84013023	235000	000021	000000	000000 G C=190,B=29
OD25K	HD 35411	53	0330	0521580	-022618	H	3	22151	S	84013023	232300	000021	000000	000000 G C=190,B=31
OD25K	HD 35411	53	0330	0521580	-022618	H	3	22165	S	84013106	062500	000025	000000	000000 G C=200,B=30
OD25K	HD 35411	53	0330	0521580	-022618	H	3	22164	S	84013105	055600	000025	000000	000000 G C=200,B=31
OD25K	HD 35411	53	0330	0521580	-022618	H	3	22163	S	84013105	053000	000025	000000	000000 G C=200,B=32
OD25K	HD 35411	53	0330	0521580	-022618	H	3	22162	S	84013105	050400	000024	000000	000000 G C=195,B=31
OD25K	HD 35411	53	0330	0521580	-022618	H	3	22161	S	84013104	043500	000024	000000	000000 G C=200,B=31
OD25K	HD 35411	53	0330	0521580	-022618	H	3	22160	S	84013104	040300	000024	000000	000000 G C=200,B=32
OD25K	HD 35411	53	0330	0521580	-022618	H	3	22159	S	84013103	033500	000023	000000	000000 G C=200,B=31
OD25K	HD 35411	53	0330	0521580	-022618	H	3	22158	S	84013103	030900	000023	000000	000000 G C=205,B=32
OD25K	HD 35411	53	0330	0521580	-022618	H	3	22157	S	84013102	024000	000025	000000	000000 G C=220,B=32
OD25K	HD 35411	53	0330	0521580	-022618	H	3	22156	S	84013102	020800	000025	000000	000000 G C=210,B=32
GA055	HD35407	21	0643	0521597	021831	H	3	22663	L	84040401	000000	000000	014824	001000 500 V
OBFTS	HD 35439	26	0470	0522090	+014807	H	3	22115	L	84012702	000000	000000	025100	000057 G C=165,B=32
GC084	S162	48	1287	0524414	-711212	L	1	03280	L	84050500	000000	000000	001145	025000 363 V
FM034	S163	64	1424	0525020	-713424	L	3	22001	L	84011308	000000	000000	085034	009000 330 V
FM034	S163	64	1424	0525021	-713424	L	1	02613	L	84011310	000000	000000	103110	007000 402 V
FA035	S 163	64	1427	0525021	-713424	L	1	02598	L	84011115	000000	000000	152552	002700 303 V
FA035	S 163	64	1410	0525021	-713424	L	3	21991	L	84011114	000000	000000	142620	005000 301 V
IEFBS	00SK100-67	23	1190	0525420	-672124	L	3	22510	L	84031723	000000	000000	235100	002200 G C=180,B=32
IEFBS	00SK100-67	23	1190	0525420	-672124	L	2	17297	SL	84031800	005100	001800	002800	001200 G C=200,B=45
NSFJR	00 NS 132D	75	0000	0526018	-693810	L	3	22210	L	84020522	000000	000000	225900	020000 G C=100,B=90
HEFDB	HD 36313	27	0820	0528118	-002437	L	3	22200	L	84020404	000000	000000	044800	000220 G C=210,B=15
HEFDB	HD 36313	27	0820	0528118	-002437	L	3	22196	SL	84020401	013400	000220	012500	000110 G C=160,B=15
FA208	HK ORI	34	1196	0528399	120654	L	3	22143	L	84013008	000000	000000	083511	016500 561 V

PRD	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
FA20B	HK ORI	34	1194	0528399	120654	L	1	02718	L	84013007	000000	000000	074152	005000	773	V
PHCAL	00 NULL	99	0000	0528579	-691108	L	1	02978	L	84031818	000000	000000	181900	000000		G B=35
PHCAL	00 NULL	99	0000	0528579	-691108	L	2	17299	L	84031814	000000	000000	145300	000000		G B=20
PHCAL	OOSKY BKGD	07	0000	0528579	-691108	L	2	17300	L	84031815	000000	000000	152100	012000		G B=53
EHFBS	OOSK152-69	23	1180	0528579	-691108	H	3	22481	L	84031311	000000	000000	115400	036000		G C=183,B=80
EHFBS	OOSK152-69	23	1180	0528580	-691100	H	3	22517	L	84031812	000000	000000	123600	036500		G E=154,C=225,B=115
CSGAD	HD 36389	49	0470	0529167	+183331	H	1	02946	L	84031300	000000	000000	004700	006000		G E=158,C=115,B=93
CCGJL	HD 36389	49	0440	0529168	+183332	L	2	17344	L	84040417	000000	000000	175300	002400		G E=-10X,C=160,B=73
IMFRP	00 RY ORI	30	1080	0529390	-025116	L	3	21974	L	84010822	000000	000000	225400	003000		G B=58
IMFRP	00 RY ORI	30	1080	0529399	-025147	L	1	02579	L	84010823	000000	000000	233100	003000		G E=137,C=130,B=105
HEFDB	HD 36526	27	0830	0529410	-013808	L	3	22198	SL	84020403	031700	000400	032900	000200		G C=1.5X,B=18
IGFJS	HD 36619	30	0860	0530001	-232752	H	3	21995	L	84011218	000000	000000	182800	012000		G C=110,B=40
IGFJS	HD 36619	30	0860	0530001	-232752	H	1	02607	L	84011220	000000	000000	205000	004000		G C=120,B=40
IGFJS	HD 36841	12	0862	0532003	-002507	H	1	02608	L	84011223	000000	000000	231300	006000		G C=190,B=72
IGFJS	HD 36841	12	0862	0532004	-002508	H	3	21996	L	84011222	000000	000000	220900	006000		G C=122,B=45
FA181	BD+9880	34	1001	0532240	100028	L	3	22064	L	84012113	000000	000000	130920	015800	902	V
GC083	P1659	52	1300	0532285	-052510	L	1	02824	L	84022109	000000	000000	094040	004500	302	V
GC083	P1746	52	1200	0532382	-052715	L	3	22310	L	84022110	000000	000000	103119	003000	400	V
GC083	P1746	52	1200	0532382	-052715	L	1	02825	L	84022111	000000	000000	111051	004000	452	V
GC083	P1773	52	1400	0532416	-053154	L	3	22311	L	84022112	000000	000000	120955	003500	200	V
IMFRP	HD 294264	21	0950	0532420	-045400	L	1	02582	L	84010904	000000	000000	040500	000400		G C=1.5X,B=55
IMFRP	HD 294264	21	0950	0532420	-045400	L	3	21978	L	84010904	000000	000000	043500	000300		G C=178,B=25
IMFRP	HD 36982	20	0850	0532425	-052948	H	3	21973	L	84010820	000000	000000	203400	006000		G C=210,B=67
IMFRP	HD 36982	20	0850	0532425	-052948	H	1	02578	L	84010821	000000	000000	213800	006000		G C=2X,B=110
IMFRP	BD-05 1318	20	0970	0532533	-052337	H	3	21972	L	84010817	000000	000000	170700	012000		G C=130,B=45
IMFRP	BD-05 1318	20	0970	0532533	-052337	D	9	01511	L	84010816	000000	000000	164900	004000		G NO COMMENTS
IMFRP	HD 37062	24	0870	0533038	-052706	H	1	02584	L	84010905	000000	000000	055700	002000		G C=210,B=125
IMFRP	HD 37062	24	0870	0533038	-052706	L	1	02583	L	84010905	000000	000000	052000	000040		G C=205,B=37
IMFRP	00 B885	21	1130	0533226	-054217	L	1	02581	L	84010902	000000	000000	023700	002000		G C=190,B=90
IMFRP	00 B885	21	1130	0533227	-054218	L	1	02577	L	84010819	000000	000000	192200	006000		G C=2X,B=60
IMFRP	HD 37130	25	1000	0533300	-044700	L	3	21977	L	84010903	000000	000000	031700	001200		G C=170,B=40
IEGAW	HD 37140	22	0850	0533440	-002059	L	2	17356	L	84041116	000000	000000	164800	000200		G C=220,B=25
HEFDB	HD 37140	27	0860	0533440	-002059	L	3	22199	L	84020404	000000	000000	041500	000220		G C=160,B=15
FI217	BN ORI	34	0999	0533478	064812	L	1	02694	L	84012213	000000	000000	130908	001200	502	V
FA181	BN ORI	34	0996	0533478	064812	L	1	02693	L	84012209	000000	000000	092945	003000	711	V
FA181	BN ORI	34	0993	0533478	064812	L	3	22075	L	84012210	000000	000000	100408	018000	532	V
FA181	BN ORI	34	0988	0533478	064812	L	3	22074	L	84012208	000000	000000	085500	002000	311	V
OBFTS	HD 37356	20	0620	0535253	-045032	H	3	22114	L	84012702	000000	000000	020500	000735		G C=220,B=39
IEFBS	00 199-69	23	1290	0535279	-690054	L	3	22482	L	84031319	000000	000000	192100	008500		G E=109,C=128,B=35
IEFBS	00 199-69	23	1290	0535279	-690054	L	2	17286	L	84031318	000000	000000	183600	004000		G C=190,B=30
FC097	A0538-66	59	1500	0535427	-665340	L	1	02759	L	84021011	000000	000000	115848	005500	402	V
FI090	A0538-66	59	1400	0535427	-665339	L	3	22188	L	84020306	000000	000000	061927	009000	501	V
FC097	A0538-66	59	1500	0535427	-665340	L	3	22239	L	84021009	000000	000000	091441	016000	702	V
FI090	A0538-66	59	1400	0535428	-665340	L	1	02735	L	84020307	000000	000000	075546	006000	403	V
FI091	A0538-66	59	1400	0535428	-665340	L	3	22100	L	84012511	000000	000000	115744	011500	502	V

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
FI091	A0538-66	59	1400	0535428	-665340	L	1	02706	L	84012513	000000	000000	135913	004800	402	V
FI091	A0538-66	59	1400	0535428	-665340	L	3	22035	L	84011808	000000	000000	085931	009000	440	V
FI091	A0538-66	59	1400	0535428	-665340	L	1	02651	L	84011810	000000	000000	103559	005000	302	V
FI090	A0538-66	59	1332	0535428	-665340	L	3	22137	L	84012914	000000	000000	141733	003200	501	V
FI217	HDE 245770	59	0948	0535480	261718	L	1	02698	L	84012308	000000	000000	082555	000330	503	V
FI217	HDE 245770	59	0948	0535480	261718	L	3	22080	L	84012308	000000	000000	085030	001600	501	V
FI217	HDE245770	59	0947	0535480	261718	H	3	22081	L	84012309	000000	000000	093349	035400	443	V
IEFBS	00 209-69	23	1180	0536180	-693252	L	3	22495	SL	84031522	225500	002400	222800	001700		G C=175,B=35
IEFBS	00 209-69	23	1180	0536180	-693252	L	2	17291	SL	84031521	220500	001800	214600	001200		G C=223,B=30
FA181	RR TAU	34	1135	0536230	262332	L	3	22076	L	84012214	000000	000000	142030	008700	331	V
IEFBS	00 129-68	23	1280	0536400	-685950	L	3	22483	L	84031321	000000	000000	215500	005700		G C=153,B=35
IEFBS	00 129-68	23	1280	0536400	-685950	L	2	17287	L	84031321	000000	000000	210500	003700		G C=200,B=30
FA032	HD37974	23	1103	0536490	-692438	H	3	22022	L	84011610	000000	000000	104424	030200	302	V
IEFBS	00SK171-66	23	1220	0537000	-664050	L	2	17301	SL	84031911	120200	001800	114300	001000		G C=185,B=30
IEFBS	00SK171-66	23	1220	0537060	-664130	L	3	22511	L	84031801	000000	000000	012600	001000		G E=216,C=205,B=25
IEFBS	00 R136A	11	0942	0539039	-690735	L	3	22521	S	84031917	172500	001300	000000	000000		G C=195,B=26
NDFRD	00LMC N157	72	0010	0539066	-690640	L	1	02708	SL	84012616	160600	039000	160500	039000		G C=10X,B=87
NDFRD	00LMC N157	72	0010	0539066	-690640	D	9	01515	L	84012617	000000	000000	175600	002000		G NO COMMENTS
NDFRD	00LMC N157	72	0010	0539067	-690640	L	3	22110	S	84012616	160200	040800	000000	000000		G C=5X,B=77
IEFBS	00 265-69	24	1190	0541109	-691841	L	2	17304	L	84031918	000000	000000	181000	002500		G C=1.1X,B=46
IEFBS	00 111-70	23	1180	0542060	-700224	L	2	17289	SL	84031401	013700	000800	011800	001200		G C=215,B=28
IEFBS	00 111-70	23	1180	0542090	-700140	L	3	22494	L	84031521	000000	000000	210100	002000		G E=162,C=170,B=25
LDGDS	HD 38392	46	0610	0542214	-222613	H	1	03126	L	84040822	000000	000000	220100	004500		G E=2-3X,C=2.3X,B=1.5X
FC232	FU ORI	42	0948	0542380	090303	L	1	03060	L	84033103	000000	000000	034732	003200	351	V
HHGJS	00 HH-24A	64	1600	0543355	-001131	L	1	03140	L	84041018	000000	000000	180700	012000		G B=168
HHGJS	00 HH-24A	64	1600	0543355	-001131	L	3	22708	L	84041009	000000	000000	095700	048500		G C=140,B=122
IEFBS	00 52-71	23	1250	0543569	-711623	L	3	22484	L	84031400	000000	000000	000100	004500		G E=158,C=163,B=38
IEFBS	00 52-71	23	1250	0543569	-711623	L	2	17288	L	84031323	000000	000000	231200	003000		G C=220,B=30
HSGCW	HD 38666	12	0520	0544083	-321927	L	1	03296	L	84050718	000000	000000	183600	000004		G C=2X,B=40
HSGCW	HD 38666	12	0520	0544083	-321927	L	3	22934	L	84050717	000000	000000	172100	000002		G C=200,B=20
HSGCW	HD 38666	12	0520	0544083	-321927	L	3	22935	L	84050718	000000	000000	184600	000002		G C=255,B=18
HSGCW	HD 38666	12	0520	0544083	-321927	L	1	03295	L	84050717	000000	000000	170700	000002		G C=200,B=35
HSGCW	HD 38666	12	0520	0544083	-321927	L	1	03297	L	84050719	000000	000000	194800	000001		G C=2X,B=35
HSGCW	HD 38666	12	0520	0544083	-321927	L	3	22933	SL	84050715	160000	000001	155200	000002		G C=205,B=19
HSGCW	HD 38666	12	0520	0544083	-321927	L	1	03294	SL	84050715	154500	000002	153800	000001		G C=255,B=35
PHCAL	HD 38666	12	0520	0544084	-321927	H	3	22421	L	84030523	000000	000000	231200	000040		G C=180,B=40
PHCAL	HD 38666	12	0520	0544084	-321927	L	2	17309	L	84032000	000000	000000	001600	000001		G C=210,B=25
PHCAL	HD 38666	12	0520	0544084	-321927	L	1	02840	L	84022404	000000	000000	043600	000002		G C=195,B=37
PHCAL	HD 38666	12	0520	0544084	-321927	L	3	22768	L	84041617	000000	000000	172600	000002		G C=205,B=20
PHCAL	HD 38666	12	0520	0544084	-321927	H	1	02898	L	84030523	000000	000000	231800	000045		G C=225,B=55
PHCAL	HD 38666	12	0520	0544084	-321927	L	1	02928	L	84031122	000000	000000	223600	000002		G C=190,B=35
IEGAW	HD 38563A	21	1050	0544096	+000334	L	3	22716	L	84041110	000000	000000	103300	012800		G C=1.5X,B=33
IEGAW	HD 38563A	21	1050	0544096	+000334	L	2	17355	L	84041112	000000	000000	124700	018500		G C=4X,B=50
IEGAW	HD 38563A	21	1050	0544096	+000334	L	2	17354	L	84041109	000000	000000	095000	003700		G C=200,B=27
GA055	HD38831	22	0633	0547527	585708	H	3	22666	L	84040405	000000	000000	051652	003000	500	V

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
WDFFB	OO 0549+15	37	1310	0549342	+155242	L	3	22023	L	84011617	000000	000000	173400	037500		G C=180,B=90
FE174	MGC8-11-11	84	1450	0551097	462551	L	1	02707	L	84012607	000000	000000	072858	012000	344	V
FE174	MGC8-11-11	84	1450	0551097	462551	L	3	22109	L	84012609	000000	000000	093456	031200	334	V
FC232	VDB 62	46	1028	0551240	013900	L	1	03061	L	84033105	000000	000000	055218	005200	401	V
CSGCI	HD 39587	44	0441	0551247	+201604	L	3	22408	L	84030419	000000	000000	193800	001400		G E=143,C=185,B=85
CSGCI	HD 39587	44	0441	0551247	+201604	L	2	17267	L	84030420	000000	000000	201000	000200		G C=8X,B=30
PHCAL	OO WAVCAL	98	0370	0551250	+201607	H	3	22248	S	84021123	230400	000200	000000	000000		G E=50X,B=122
PHCAL	OO WAVCAL	98	0000	0551251	+201606	H	1	02765	S	84021121	215500	000016	000000	000000		G E=50X,B=105
PHCAL	OO WAVCAL	98	0000	0551251	+201606	L	1	02764	S	84021121	212600	000001	000000	000000		G E=10X,B=99
PHCAL	OO WAVCAL	98	0000	0551251	+201606	L	3	22247	S	84021122	223900	000002	000000	000000		G E=10X,B=98
STFTS	OO WAVCAL	98	9999	0551251	+201606	H	3	22224	S	84020820	204100	00001B	000000	000000		G E=8-10X,B=108EX SPEC
STFTS	HD 39587	44	0440	0551251	+201606	H	3	22223	L	84020805	000000	000000	052900	087000		G E=3X,C=4-5X,B=160
STFTS	HD 39587	44	0440	0551252	+201607	H	1	02750	L	84020803	000000	000000	031000	006000		G E=6X,C=6X,B=115
STFTS	HD 39587	44	0440	0551252	+201607	H	1	02749	L	84020802	000000	000000	020500	003000		G E=3X,C=3X,B=100
STFTS	HD 39587	44	0440	0551252	+201607	L	3	22222	L	84020800	000000	000000	003800	007500		G E=114,C=2X,B=66
STFTS	HD 39587	44	0440	0551252	+201607	H	1	02748	L	84020800	000000	000000	000900	001300		G E=218,C=1.5X,B=40
STFTS	HD 39587	44	0440	0551252	+201607	L	3	22246	L	84021120	000000	000000	202600	003000		G E=61,C=1.1X,B=36
STFTS	HD 39587	44	0440	0551252	+201607	H	1	02763	L	84021119	000000	000000	195200	001300		G E=209,C=1.3X,B=40
STFTS	OO WAVCAL	98	0440	0551252	+201607	H	3	22245	S	84021119	194600	00001B	000000	000000		G E=8X,B=107
STFTS	HD 39587	44	0440	0551252	+201607	D	9	01520	L	84021110	000000	000000	100000	016000		G NO COMMENTS
STFTS	HD 39587	44	0440	0551252	+201607	H	3	22244	L	84021105	000000	000000	050400	084000		G E=3X,C=3X,B=150
STFTS	HD 39587	44	0440	0551252	+201607	H	1	02762	L	84021103	000000	000000	035600	006000		G E=6X,C=6X,B=90
STFTS	HD 39587	44	0440	0551252	+201607	H	1	02761	L	84021102	000000	000000	025500	003000		G E=2X,C=3X,B=80
STFTS	HD 39587	44	0440	0551252	+201607	H	1	02760	L	84021101	000000	000000	015600	001200		G E=197,C=1.1X,B=40
STFTS	HD 39587	44	0440	0551252	+201607	L	3	22221	L	84020723	000000	000000	233500	002500		G C=210,B=33
CSGAD	HD 39801	49	0060	0552277	+072357	H	3	22478	L	84031223	000000	000000	230800	008000		G E=189,C=85,B=59
CSGJL	OO WAVCAL	98	9999	0552277	+072357	H	2	17343	S	84040417	170300	000016	000000	000000		G E=50X,B=135
CSGAD	HD 39801	49	0060	0552277	+072357	H	1	02943	L	84031219	000000	000000	195900	000200		G E=216,C=65,B=40
CSGAD	HD 39801	49	0060	0552277	+072357	L	3	22476	L	84031220	000000	000000	202500	001000		G E=187,C=80,B=34
CSGAD	HD 39801	49	0060	0552277	+072357	L	1	02944	SL	84031220	210600	000030	205900	000005		G E=225,C=140,B=32
CSGAD	HD 39801	49	0060	0552277	+072357	L	3	22477	L	84031221	000000	000000	213900	003500		G E=3X,C=200,B=68
CSGAD	HD 39801	49	0060	0552277	+072357	H	1	02945	L	84031222	000000	000000	222000	004000		G E=10X,C=235,B=355
CSGJL	HD 39801	49	0050	0552278	+072358	H	2	17353	L	84040516	000000	000000	161100	003000		G E=10X,C=1.5X,B=56
CSGJL	HD 39801	49	0050	0552278	+072358	H	2	17342	L	84040415	000000	000000	153300	006000		G E=-30X,C=230,B=100
PHCAL	OO WAVCAL	98	0000	0552279	+072357	L	1	02863	S	84022900	003000	000001	000000	000000		G E=10X,B=100
PHCAL	OO TFLOOD	99	0000	0552279	+072357	H	1	02865	L	84022902	000000	000000	020800	000025		G B=100
PHCAL	OO WAVCAL	98	0000	0552279	+072357	H	1	02864	S	84022900	010200	000016	000000	000000		G E=60X,B=105
OD23K	HD 39801	49	-0010	0552280	+072358	H	1	02575	L	84010807	000000	000000	071900	003000		G E=1.5X,C=240,B=78
OD23K	HD 39801	49	-0010	0552280	+072358	H	3	22084	L	84012403	000000	000000	030300	000800		G E=136,C=65,B=25
OD23K	HD 39801	49	-0010	0552280	+072358	H	1	02862	L	84022823	000000	000000	232300	003000		G E=15X,C=195
OD23K	HD 39801	49	-0010	0552280	+072358	H	1	02703	L	84012403	000000	000000	033700	000150		G E=174,C=80,B=34
OD23K	HD 39801	49	-0010	0552280	+072358	H	1	02704	L	84012404	000000	000000	040900	003000		G E=15X,C=225,B=58
OD23K	HD 39801	49	-0010	0552280	+072358	L	3	22371	L	84022822	000000	000000	224200	003500		G E=3X,C=145
OD23K	HD 39801	49	-0010	0552280	+072358	H	1	02861	L	84022822	000000	000000	220400	000200		G E=196,C=65,B=30
OD23K	HD 39801	49	-0010	0552280	+072358	L	3	22370	L	84022821	000000	000000	212300	001000		G E=176,C=78,B=20

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
OD23K	HD 39801	49	-0010	0552280	+072358	L	1	02860	SL	84022821	211700	000030	211200	000005		G E=224,C=140,B=35
CSGAD	HD 39801	49	0050	0552280	+072358	H	1	03093	L	84040322	000000	000000	220600	000200		G E=238,C=110,B=73
OD23K	HD 39801	49	-0010	0552280	+072358	L	1	02791	SL	84021622	225000	000030	224300	000005		G E=212,C=75,B=35
OD23K	HD 39801	49	-0010	0552280	+072358	H	1	02792	L	84021700	000000	000000	000500	000150		G E=173,C=65,B=30
CSGAD	HD 39801	49	0050	0552280	+072358	H	1	03095	L	84040400	000000	000000	003300	001700		G E=9X,C=1.5X,B=160
OD23K	HD 39801	49	-0010	0552280	+072358	L	3	21968	L	84010807	000000	000000	071000	000400		G E=86,C=50,B=30
OD23K	HD 39801	49	-0010	0552280	+072358	L	1	02702	SL	84012402	025600	000025	025100	000005		G E=217,C=80,B=35
OD23K	HD 39801	49	-0010	0552280	+072358	L	1	02574	L	84010805	000000	000000	055900	000009		G E=1.5X,C=95,B=35
OD23K	HD 39801	49	-0010	0552280	+072358	L	3	21967	L	84010805	000000	000000	052000	002000		G E=5X,C=165,B=100
OD23K	HD 39801	49	-0010	0552280	+072358	H	1	02573	L	84010805	000000	000000	051200	000150		G E=208,C=84,B=45
CSGAD	HD 39801	49	0050	0552280	+072358	H	1	03158	L	84041521	000000	000000	212700	004000		G C=1.5X,B=75
CSGAD	HD 39801	49	0050	0552280	+072358	L	3	22758	L	84041522	000000	000000	221300	001000		G C=80,B=30
CSGAD	HD 39801	49	0050	0552280	+072358	H	1	03159	L	84041523	000000	000000	232300	000200		G E=177,C=82,B=30
OD23K	HD 39801	49	-0010	0552280	+072358	L	1	02572	L	84010804	000000	000000	043200	000045		G E=2-3X,C=205,B=40
CSGAD	HD 39801	49	0050	0552280	+072358	L	3	22662	L	84040400	000000	000000	000900	000500		G E=208,C=150,B=118
CSGAD	HD 39801	49	0050	0552280	+072358	L	1	03094	SL	84040323	230900	000030	230500	000005		G E=254,C=105,B=60
CSGAD	HD 39801	49	0050	0552280	+072358	L	3	22759	L	84041523	000000	000000	233000	005000		G E=24X,C=190,B=40
CSGAD	HD 39801	49	0050	0552280	+072358	L	3	22661	L	84040321	000000	000000	212600	003500		G E=3X,C=3X,B=173
CSGAD	HD 39801	49	0050	0552280	+072358	L	1	03160	SL	84041600	003000	000030	002400	000005		G E=196,C=70,B=28
OD23K	HD 39801	49	-0010	0552280	+072358	H	3	22085	L	84012404	000000	000000	044400	007000		G E=160,C=63,B=53
FA195	HD 250550	34	0973	0559063	163058	H	1	02663	L	84011908	000000	000000	084233	023600	553	V
FA208	HD250550	34	0969	0559063	163058	L	3	22144	L	84013012	000000	000000	120545	001000	410	V
FA208	HD250550	34	0970	0559063	163058	L	1	02719	L	84013011	000000	000000	113944	000400	512	V
FA195	NULL	99	9999	0559063	163058	H	1	02662		84011900	000000	000000	000000	000000		V PRECAUTIONARY GI CUT
CCGDS	HD 41593	46	0680	0603486	+153259	H	1	03100	L	84040616	000000	000000	160500	008500		G E=3X,C=3X,B=3X
CCGDS	HD 41593	46	0680	0603486	+153259	L	3	22686	L	84040609	000000	000000	095800	036000		G E=212,C=185,B=130
GA107	HD42111	30	0860	0606211	023032	L	1	03073	LS	84040204	042610	000130	041458	000226	703	V 703$
GA107	HD42111	30	0590	0606212	023033	L	3	22648	LS	84040204	045701	000040	044921	000111	300	V 300$
MLFCG	HD 42088	12	0750	0606408	+202951	H	3	22107	L	84012605	000000	000000	052100	003000		G C=210,B=40
SPGMA	OOSKY BKGD	07	9999	0609313	-181023	L	3	22906	SL	84050422	222300	001500	222200	001500		G B=20
OBFTS	HD 44402	20	0310	0618234	-300223	H	3	22111	L	84012700	000000	000000	000600	000020		G C=230,B=39
STFMA	BS 2290	44	0660	0618471	-484250	L	1	02856	L	84022702	000000	000000	021300	001730		G C=4X,B=41
STFMA	BS 2290	44	0660	0618471	-484250	L	1	02855	L	84022701	000000	000000	013100	000330		G C=215,B=35
NPFHB	OO0623+711	63	1240	0623464	+710633	L	3	21948	L	84010620	000000	000000	200000	003500		G E=88,C=110,B=25
NPFHB	OO0623+711	63	1240	0623464	+710633	L	3	22458	L	84031020	000000	000000	205900	004000		G E=180,C=180,B=65
OBFTS	HD 45546	20	0500	0625294	-044347	H	3	22112	L	84012700	000000	000000	005100	000235		G C=1.2X,B=45
FA181	LKHAL 215	26	1083	0629560	101154	L	1	02682	L	84012112	000000	000000	120243	004000	503	V
FA181	LKHAL 215	26	1080	0629560	101154	L	3	22063	L	84012111	000000	000000	112745	001600	300	V
FA181	HD259431	26	0888	0630194	102136	H	1	02681	L	84012109	000000	000000	091017	012000	563	V
EITOO	1E0630+178	59	1500	0630592	174833	E	9	01516	2	84013109	000000	000000	093033	000000		V
GITOO	1E0630+178	59	1500	0630592	174833	L	3	22166	L	84013107	000000	000000	074922	012000	111	V SERENDIPITY
LDFBH	OO GL 239	48	0960	0634172	+173623	L	3	22582	L	84032514	000000	000000	141800	030000		G B=100
LDFBH	OO GL 239	48	0960	0634172	+173623	H	1	03037	L	84032713	000000	000000	130800	004500		G E=77,C=60,B=41
IGGJH	HD 48355	21	9999	0640025	-222337	H	3	22790	L	84041913	000000	000000	135600	004500		G C=230,B=42
CCFJL	OO WAVCAL	98	9999	0640512	+251056	H	3	22673	S	84040515	152600	000018	000000	000000		G E=8X

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
CCFJL	HD 48329	45	0300	0640513	+251056	L	2	17348	L	84040422	000000	000000	220800	000050		G E=255,C=130,B=22
CCFJL	HD 48329	45	0300	0640513	+251056	L	2	17347	L	84040421	000000	000000	210800	000015		G E=124,C=70,B=22
CCFJL	HD 48329	45	0300	0640513	+251056	H	2	17350	L	84040423	000000	000000	234000	001500		G E=237,C=135,B=73
CCFJL	HD 48329	45	0300	0640513	+251056	D	9	01524	L	84040400	000000	000000	005800	016000		G NO COMMENTS
CCFJL	HD 48329	45	0300	0640513	+251056	H	2	17345	L	84040419	000000	000000	190300	001500		G E=194,C=90,B=53
CCFJL	HD 48329	45	0300	0640513	+251056	L	3	22671	L	84040420	000000	000000	200200	006000		G E=238,C=50,B=25
CCFJL	HD 48329	45	0300	0640513	+251056	H	3	22672	L	84040500	000000	000000	005200	084000		G E=194,C=220,B=130
CCFJL	OD WAVCAL	98	9999	0640513	+251056	H	2	17346	S	84040419	195100	000016	000000	000000		G E=50X,B=137
CCFJL	HD 48329	45	0300	0640513	+251056	L	2	17349	L	84040422	000000	000000	224400	001000		G E=7X,C=6X,B=30
PHCAL	SKY BGD	07	9999	0640514	251056	H	2	17352	L	84040505	000000	000000	053906	015000	004	V FLARE TEST EXP
CSFRW	HD 48329	45	0110	0640514	+251057	L	1	02804	L	84021902	000000	000000	022800	001600		G E=2X,C=3X,B=125
PHCAL	SKY BGD	07	9999	0640514	251056	H	2	17351	L	84040501	000000	000000	011006	024000	006	V FLARE TEST EXP.
GM190	SIRIUS B	37	0850	0642556	-163923	H	1	03119	S	84040803	033235	001500	000000	000000	302	V
GM190	SIRIUS B	37	0850	0642556	-163923	H	1	03120	S	84040804	042402	002500	000000	000000	502	V
GM190	SIRIUS B	37	0850	0642557	-163923	H	3	22694	S	84040804	045400	002000	000000	000000	401	V
GM190	SIRIUS B	37	0850	0642557	-163923	H	3	22693	S	84040803	035219	002000	000000	000000	401	V
CVGJR	OD HL CMA	54	1050	0643032	-164823	L	1	03285	L	84050518	000000	000000	181300	001000		G C=180,B=40
CVGJR	OD HL CMA	54	1050	0643032	-164823	L	3	22921	L	84050517	000000	000000	174000	002000		G E=168,C=170,B=25
CVGJR	OD HL CMA	54	1050	0643032	-164823	L	3	22922	L	84050518	000000	000000	184400	002000		G E=145,C=165,B=25
CVGJR	OD HL CMA	54	1050	0643032	-164823	L	3	22923	L	84050519	000000	000000	193800	001500		G E=125,C=137,B=33
CVGJR	OD HL CMA	54	1050	0643033	-164823	L	3	22926	L	84050522	000000	000000	222300	002000		G E=173,C=165,B=25
CVGJR	OD HL CMA	54	1050	0643033	-164823	L	3	22924	L	84050520	000000	000000	203100	002000		G E=179,C=190,B=60
CVGJR	OD HL CMA	54	1050	0643033	-164823	L	3	22925	L	84050521	000000	000000	212100	002000		G E=173,C=180,B=43
CVGJR	OD HL CMA	54	1050	0643033	-164823	L	1	03286	L	84050522	000000	000000	220800	001000		G C=180,B=40
CVFJR	OD HL CMA	54	0970	0643034	-164824	L	3	22211	L	84020603	000000	000000	030700	004000		G E=92,C=108,B=60
CVFJR	OD HL CMA	54	0970	0643034	-164824	L	1	02774	L	84021403	000000	000000	034600	003000		G C=3X,B=60
CVFJR	OD HL CMA	59	0970	0643034	-164824	L	3	22213	L	84020621	000000	000000	210800	006000		G E=81,C=60,B=43
CVFJR	OD HL CMA	54	0970	0643034	-164824	L	3	22261	L	84021403	000000	000000	031900	002000		G E=152,C=160,B=25
CVFJR	OD HL CMA	54	0970	0643034	-164824	L	3	22262	L	84021404	000000	000000	042100	002500		G E=166,C=175,B=18
IGGJH	HD 49002	22	9999	0643123	-253513	H	2	17386	L	84041914	000000	000000	145800	003100		G C=180,B=35
OD30K	HD 48914	60	0750	0643133	+023309	H	3	22276	L	84021603	000000	000000	032800	004000		G C=255,B=73
OD30K	HD 48914	60	0750	0643133	+023309	H	1	02787	L	84021604	000000	000000	041700	002200		G C=250,B=57
HSGCW	HD 49798	16	0830	0646348	-441534	L	3	22936	L	84050719	000000	000000	195600	000001		G C=255,B=18
HSGCW	HD 49798	16	0830	0646348	-441534	L	1	03298	SL	84050720	210400	000016	205800	000008		G C=190,B=35
HSGCW	HD 49798	16	0830	0646348	-441534	L	3	22956	L	84050822	000000	000000	225300	000022		G C=193,B=19
HSGCW	HD 49798	16	0830	0646348	-441534	L	3	22937	SL	84050721	211400	000011	210900	000006		G C=180,B=18
HSGCW	HD 49798	16	0830	0646348	-441534	L	1	03299	L	84050722	000000	000000	221000	000024		G C=3X,B=35
HSGCW	HD 49798	16	0830	0646348	-441534	L	3	22938	L	84050722	000000	000000	222900	000011		G C=1.5X,B=18
HSGCW	HD 49798	16	0830	0646348	-441534	L	1	03311	L	84050821	000000	000000	210500	000024		G C=3X,B=34
HSGCW	HD 49798	16	0830	0646348	-441534	L	3	22955	L	84050821	000000	000000	211000	000011		G C=2X,B=19
HSGCW	HD 49798	16	0830	0646348	-441534	L	1	03312	L	84050822	000000	000000	220700	000030		G C=190,B=37
GM021	HD50154	21	0902	0648539	-242018	L	1	03213	LS	84042502	022513	000040	022152	000024	403	V 403$
GM021	HD50154	21	0901	0648539	-242018	L	3	22836	LS	84042501	015518	000115	015043	000050	500	V 500$
IGGJH	HD 50261	22	9999	0649235	-251831	H	3	22791	L	84041915	000000	000000	154500	006500		G C=185,B=45
IGGJH	HD 50261	22	9999	0649235	-251831	H	2	17391	L	84041923	000000	000000	235000	004000		G C=175,B=40

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  PRO    OBJECT   CL  MAG    R.A.    DEC    D C IMAGE A    DATE     EXP.SMALL     EXP.LARGE   ECC    COMMENT
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IGGJH HD   50562 21  9999 0650508 -214623 H 2 17385 L  84041912 000000 000000 125100 005200     G C=190,B=38
GM021 HD50646    23  0775 0651086 -240616 L 3 22837 LS 84042503 034502 000030 034234 000020 603 V 603$
GM021 HD50646    23  0775 0651086 -240616 L 1 03214 LS 84042503 031336 000009 030938 000006 403 V 303$
GM021 HD50680    24  0826 0651108 -240313 L 3 22838 LS 84042504 042937 000045 042509 000030 501 V 501$
IGGJH HD   50680 22  9999 0651108 -240313 H 3 22793 L  84041919 000000 000000 193300 004500     G C=1.1X,B=52

GM021 HD50680    24  0828 0651108 -240313 L 1 03215 LS 84042504 050003 000020 045528 000020 503 V 403$
IGGJH HD   50680 22  9999 0651108 -240313 H 2 17388 L  84041918 000000 000000 185600 003100     G C=240,B=40
GM021 HD50680    24  0834 0651108 -240313 H 1 03216 L  84042505 000000 000000 055050 003000 603 V
GM021 HD50680    24  0832 0651108 -240313 H 3 22839 L  84042505 000000 000000 050459 004000 501 V
CBGRP OO  AU MON 66  0830 0652220 -011841 L 3 22658 L  84040318 000000 000000 183800 000100     G C=160,B=18

CBGRP OO  AU MON 66  0830 0652220 -011841 H 3 22703 L  84040923 000000 000000 235300 005700     G C=160,B=42
CBGRP OO  AU MON 66  0830 0652220 -011841 H 3 22660 L  84040320 000000 000000 201900 003500     G C=2X,B=210
CBGRP OO  AU MON 66  0830 0652220 -011841 H 3 22659 L  84040319 000000 000000 191300 003500     G C=255,B=163
CBGRP OO  AU MON 66  0830 0652220 -011841 L 1 03092 L  84040318 000000 000000 184300 000035     G C=200,B=35
GM021 HD51013    21  0885 0652367 -241128 H 3 22860 L  84042704 000000 000000 045919 004000 401 V

GM021 HD51013    21  0885 0652367 -241128 L 1 03229 L  84042704 000000 000000 045322 000025 402 V
GM021 HD51013    21  0883 0652367 -241128 H 1 03230 L  84042705 000000 000000 054434 003000 403 V
GM021 HD51013    21  0878 0652367 -241128 L 3 22859 LS 84042704 042838 000040 042533 000040 501 V 301$
GM021 HD51036    21  0881 0652402 -241504 H 1 03228 L  84042702 000000 000000 023417 003000 404 V
GM021 HD51036    21  0878 0652402 -241504 H 3 22858 L  84042703 000000 000000 031005 004000 401 V

IGGJH HD   51036 21  9999 0652402 -241504 H 2 17387 L  84041917 000000 000000 170500 003600     G C=190,B=38
GM021 HD51036    21  0882 0652402 -241504 L 1 03227 LS 84042701 015542 000022 015255 000022 402 V 302$
IGGJH HD   51036 21  9999 0652402 -241504 H 3 22792 L  84041917 000000 000000 174600 004500     G C=175,B=40
GM021 HD51036    21  0881 0652402 -241504 L 3 22857 LS 84042702 022934 000040 022510 000040 401 V 301$
GM021 HD51285    20  0822 0653389 -243647 L 1 03224 LS 84042601 015523 000020 015235 000016 503 V 403$

GM021 HD51285    20  0811 0653389 -243647 L 3 22851 LS 84042601 014853 000035 014557 000035 602 V 402$
IGGJH HD   52463 20  9999 0658125 -274344 H 3 22794 L  84041921 000000 000000 214400 003600     G C=185,B=42
IGGJH SA  172779 21  9999 0659232 -222924 H 3 22789 L  84041911 000000 000000 113200 006300     G C=100,B=31
IGGJH SA  172779 21  9999 0659232 -222924 H 2 17389 L  84041920 000000 000000 203300 005500     G C=150,B=50
PHCAL OO  WAVCAL 98  0610 0659403 +164451 L 2 17235 S  84012923 235100 000001 000000 000000     G E=10X,B=80

PHCAL OO  TLFOOD 99  0000 0659403 +164451 H 2 17237 S  84013000 004500 000007 000000 000000     G B=126
PHCAL OO  WAVCAL 98  0610 0659403 +164451 H 2 17236 S  84013000 001700 000016 000000 000000     G E=50X,B=132
CSGJL HD   52877 49  0350 0659436 -275143 H 1 03264 L  84050309 000000 000000 091800 028000     G E=16X,C=1.8X,B=106
CSGJL OO  WAVCAL 98  9999 0659436 -275143 H 1 03265 S  84050314 144400 000016 000000 000000     G E=50X,B=110
OBFTS HD   52918 20  0490 0700257 -040955 H 3 22113 L  84012701 000000 000000 012800 000106     G C=170,B=33

GS264 COMET CROM 06  1568 0702530 -192050 L 1 03176 L  84041904 000000 000000 040257 005000 023 V MOVETARG 199,-7,75.8
GS264 COMET CROM 06  1568 0702530 -192051 L 3 22787 L  84041904 000000 000000 044400 002500 030 V SERENDIPITY, NUCLEUS
GS264 SA0152362  32  0971 0703259 -191953 L 1 03175 L  84041901 000000 000000 015541 000900 303 V 3X3 MIN. MULT. EXP.
GS264 SA0152362  32  0971 0703259 -191953 L 1 03177 L  84041905 000000 000000 054309 000600 303 V 2X3 MIN. (2,-212),(-
GS264 SKY BGD    07  9999 0703259 -181953 L 3 22786 L  84041902 000000 000000 022408 001500 030 V

IGGJH HD   54551 21  9999 0706087 -232105 H 2 17390 L  84041922 000000 000000 223700 003600     G C=200,B=39
GM248 HD54810    47  0519 0707446 -040927 H 1 03198 L  84042201 000000 000000 015824 012000 603 V
GM248 NULL       99  9999 0707446 -040927 H 1 03197    84042200 000000 000000 000000 000000     V READ G1 FOR LWP 3198
HCFHB HD   55496 44  0840 0710044 -225353 L 1 02922 L  84031100 000000 000000 004900 001000     G C=245,B=135
IEGBS HD   55857 20  0611 0711352 -271609 L 3 23117 SL 84052717 174000 000002 173400 000002     G C=200,B=20
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PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
IEGBS	HD 55857	20	0611	0711352	-271609	L	1	03449	SL	84052717	174900	000002	174500	000002	G	C=197,B=37
HSFBS	HD 55857	20	0611	0711354	-271611	H	3	22171	L	84013121	000000	000000	214700	000215	G	C=190,B=38
PHCAL	OO WAVCAL	98	0000	0714337	+405826	H	2	17362	S	84041221	214600	000016	000000	000000	G	E=50X
PHCAL	OO WAVCAL	98	0000	0714337	+405826	L	2	17361	S	84041221	212100	000001	000000	000000	G	E=50X,B=87
HCFHB	OO MWC 560	57	1140	0723279	-073735	L	1	02920	L	84031022	000000	000000	221400	002500	G	C=1.5X,B=80
HCFHB	OO MWC 560	57	1140	0723279	-073735	L	1	02921	L	84031023	000000	000000	233800	001230	G	C=1.5X,B=95
HCFHB	OO MWC 560	57	1140	0723279	-073735	L	3	22459	L	84031022	000000	000000	224400	005000	G	C=220,B=80
CVFPA	X 3A729+10	54	1450	0728443	+100245	L	3	22290	L	84021716	000000	000000	164700	013000	G	E=110,C=90,B=40
CVFPA	X 3A729+10	54	1450	0728443	+100245	L	1	02798	L	84021715	000000	000000	151700	008500	G	E=200,C=135,B=43
IGFBS	HD 60369	12	0810	0731012	-281301	H	3	22150	L	84013021	000000	000000	214200	004500	G	C=225,B=71
EHFDY	HD 60753	21	0670	0732080	-502828	H	3	22886	L	84043020	000000	000000	201900	000630	G	C=220,B=133
PHCAL	HD 60753	21	0669	0732080	-502828	L	1	02923	L	84031101	000000	000000	014000	000010	G	C=175,B=95
PHCAL	HD 60753	21	0670	0732081	-502829	L	2	17250	L	84021304	000000	000000	041900	000031	G	C=195,B=25
PHCAL	HD 60753	21	0670	0732081	-502829	L	1	02701	L	84012401	000000	000000	013400	000006	G	C=173,B=35
PHCAL	HD 60753	21	0670	0732081	-502829	H	3	22086	L	84012406	000000	000000	063800	001300	G	C=180,B=35
PHCAL	HD 60753	21	0670	0732081	-502829	L	1	02717	L	84013006	000000	000000	063700	000006	G	C=200,B=35
PHCAL	HD 60753	21	0670	0732081	-502829	H	1	02715	L	84013005	000000	000000	053100	000641	G	C=185,B=43
PHCAL	HD 60753	21	0670	0732081	-502829	H	1	02839	L	84022403	000000	000000	034100	000900	G	C=210,B=47
PHCAL	HD 60753	21	0670	0732081	-502829	L	3	22346	SL	84022403	030900	000030	030500	000010	G	C=180,B=17
PHCAL	HD 60753	21	0670	0732081	-502829	L	1	02714	L	84013004	000000	000000	045800	000006	G	C=190,B=34
PHCAL	HD 60753	21	0670	0732081	-502829	L	1	02838	SL	84022402	030000	000018	025600	000006	G	C=180,B=32
PHCAL	HD 60753	21	0670	0732081	-502829	L	1	02879	SL	84030301	011B00	000018	011200	000006	G	C=200,B=35
PHCAL	HD 60753	21	0670	0732081	-502829	L	1	02770	L	84021204	000000	000000	044800	000026	G	C=200,B=36
PHCAL	HD 60753	21	0670	0732081	-502829	L	1	02954	L	84031418	000000	000000	182700	000026	G	C=200,B=35
PHCAL	HD 60753	21	0670	0732081	-502829	L	1	02953	L	84031417	000000	000000	174700	000031	G	C=224,B=37
PHCAL	HD 60753	21	0670	0732081	-502829	L	3	21924	L	84010103	000000	000000	031900	000010	G	C=170,B=20
PHCAL	HD 60753	21	0670	0732081	-502829	L	1	02952	L	84031417	000000	000000	170200	000005	G	C=89,B=35
PHCAL	HD 60753	21	0670	0732081	-502829	L	1	02951	L	84031416	000000	000000	162200	000026	G	C=200,B=35
PHCAL	HD 60753	21	0670	0732081	-502829	L	3	22266	L	84021500	000000	000000	002000	000041	G	C=192,B=23
HSGCW	HD 60753	21	0670	0732081	-502829	L	1	03341	L	84051114	000000	000000	143200	000026	G	C=4X,B=34
PHCAL	HD 60753	21	0670	0732081	-502829	L	2	17280	L	84030801	000000	000000	013000	000013	G	C=175,B=65
PHCAL	HD 60753	21	0670	0732081	-502829	L	3	22394	SL	84030301	012700	000030	012200	000010	G	C=175,B=20
PHCAL	OO TFLOOD	99	9999	0732081	-502829	L	3	22267	L	84021500	000000	000000	004900	000005	G	C=185,B=105
PHCAL	HD 60753	21	0670	0732081	-502829	L	3	22268	L	84021501	000000	000000	012300	000016	G	C=140,B=60
PHCAL	HD 60753	21	0670	0732081	-502829	L	2	17200	L	84010103	000000	000000	031600	000007	G	C=160,B=20
PHCAL	HD 60753	21	0670	0732081	-502829	L	3	22269	L	84021502	000000	000000	020100	000041	G	C=200,B=25
PHCAL	HD 60753	21	0670	0732081	-502829	L	1	02778	L	84021502	000000	000000	022300	000026	G	C=200,B=40
HSGCW	HD 60753	21	0670	0732081	-502829	L	3	22990	SL	84051114	143600	000026	144100	000013	G	C=230,B=19
HSGCW	HD 60753	21	0670	0732081	-502829	L	1	03342	SL	84051115	154200	000012	153700	000026	G	C=4X,B=36
HSGCW	HD 60753	21	0670	0732081	-502829	L	3	22991	L	84051115	000000	000000	154600	000011	G	C=185,B=18
PHCAL	HD 60753	21	0670	0732081	-502829	L	1	02779	L	84021502	000000	000000	025800	000010	G	C=140,B=65
PHCAL	HD 60753	21	0670	0732081	-502829	L	1	02896	L	84030520	000000	000000	200300	000010	G	C=170,B=90,RAD BKG
PHCAL	HD 60753	21	0670	0732081	-502829	L	3	22419	L	84030520	000000	000000	202000	000016	G	C=138,B=60,RAD BKG
PHCAL	HD 60753	21	0670	0732081	-502829	L	3	22420	L	84030521	000000	000000	213100	000016	G	C=185,B=105
PHCAL	HD 60753	21	0670	0732081	-502829	L	3	22737	L	84041318	000000	000000	180400	000041	G	C=200,B=25

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
PHCAL	HD 60753	21	0670	0732081	-502829	L	1	02769	L	84021204	000000	000000	040500	000010	G	C=178,B=94+TF 21 SEC
PHCAL	HD 60753	21	0670	0732081	-502829	L	2	17310	L	84032001	000000	000000	011200	000007	G	C=185,B=26
PHCAL	HD 60753	21	0670	0732081	-502829	L	1	02897	L	84030521	000000	000000	215100	000010	G	C=210,B=145
PHCAL	HD 60753	21	0670	0732081	-502829	L	3	23092	L	84052318	000000	000000	182100	000010	G	C=170,B=15
PHCAL	HD 60753	21	0670	0732081	-502829	L	2	17370	L	84041317	000000	000000	175300	000031	G	C=200,B=25
PHCAL	HD 60753	21	0670	0732081	-502829	H	3	22524	L	84032001	000000	000000	013700	001300	G	C=200,B=51
PHCAL	HD 60753	21	0670	0732081	-502829	L	1	03415	L	84052318	000000	000000	182600	000006	G	C=192,B=35
PHCAL	HD 60753	21	0670	0732081	-502829	L	2	17249	L	84021303	000000	000000	034500	000013	G	C=197,B=110
PHCAL	HD 60753	21	0670	0732081	-502829	L	2	17248	L	84021303	000000	000000	031300	000007	G	C=165,B=22
PHCAL	HD 60753	21	0670	0732081	-502829	L	1	02927	L	84031121	000000	000000	215100	000026	G	C=195,B=34
PHCAL	HD 60753	21	0670	0732081	-502829	L	2	17324	L	84032418	000000	000000	183900	000008	G	C=100,B=29
FI158	HD60753	21	0674	0732081	-502829	L	3	21931	L	84010410	000000	000000	105622	000010	400	V
PHCAL	HD 60753	21	0670	0732081	-502829	L	3	22572	L	84032412	000000	000000	125300	000041	G	C=190,B=17
PHCAL	HD 60753	21	0670	0732081	-502829	L	3	22573	L	84032413	000000	000000	133100	000012	G	C=80,B=17
PHCAL	HD 60753	21	0670	0732081	-502829	L	3	22574	L	84032414	000000	000000	140600	000049	G	C=215,B=17
PHCAL	HD 60753	21	0670	0732081	-502829	L	3	22575	L	84032414	000000	000000	145600	000016	G	C=105,B=17
PHCAL	HD 60753	21	0670	0732081	-502829	L	3	22576	L	84032415	000000	000000	153100	000041	G	C=195,B=17
PHCAL	HD 60753	21	0670	0732081	-502829	L	2	17319	L	84032415	000000	000000	155600	000031	G	C=195,B=21
PHCAL	HD 60753	21	0670	0732081	-502829	L	2	17320	L	84032416	000000	000000	163000	000009	G	C=100,B=22
PHCAL	HD 60753	21	0670	0732081	-502829	L	2	17323	L	84032418	000000	000000	180600	000013	G	C=120,B=24
PHCAL	HD 60753	21	0670	0732081	-502829	L	2	17322	L	84032417	000000	000000	173300	000031	G	C=197,B=24
PHCAL	HD 60753	21	0670	0732081	-502829	L	2	17321	L	84032417	000000	000000	170000	000038	G	C=220,B=25
PHCAL	HD 60753	21	0670	0732081	-502829	L	1	02716	L	84013006	000000	000000	060700	000006	G	C=197,B=35
HSGAT	HD 60848	12	0680	0734134	+170102	L	3	22813	L	84042200	000000	000000	003200	000005	G	C=200,B=14
PHCAL	CD-31 4800	16	1050	0734344	-320546	L	3	22176	L	84020102	000000	000000	025400	000046	G	C=205,B=18
PHCAL	CD-31 4800	16	1050	0734344	-320546	L	3	22395	L	84030302	000000	000000	021200	000046	G	C=200,B=18
PHCAL	CD-31 4800	16	1050	0734344	-320546	L	1	02724	L	84020102	000000	000000	024900	000046	G	C=175,B=35
PHCAL	CD-31 4800	16	1050	0734344	-320546	L	3	22175	L	84020102	000000	000000	021900	000052	G	C=230,B=15
LDFJL	HD 61421	41	0040	0736411	+052116	H	1	03022	L	84032522	000000	000000	224000	000100	G	E=221,C=20,B=35
LDFJL	HD 61421	41	0040	0736411	+052116	L	3	22584	L	84032522	000000	000000	220900	000300	G	E=166,C=20,B=58
HCGTA	HD 61295	39	0617	0736423	+320733	L	3	22452	L	84031001	000000	000000	012900	001000	G	C=2X,B=80
PHCAL	OO WAVCAL	98	0000	0738514	-092559	L	2	17198	S	84010101	015700	000001	000000	000000	G	E=20X,B=83
PHCAL	OO WAVCAL	98	0000	0738514	-092559	H	2	17199	S	84010102	022800	000016	000000	000000	G	E=50X,B=141
QSGRP	HD 62623	84	0396	0741479	-285002	H	1	03080	L	84040223	000000	000000	232600	000700	G	C=2X,B=133
OD33K	HD 62509	47	0110	0742153	+280853	H	1	02913	S	84030900	005300	001500	000000	000000	G	C=3X,B=170
OD33K	HD 62509	47	0110	0742153	+280853	H	1	02914	S	84030901	014000	000600	000000	000000	G	C=1.2X,B=100
CSFRW	HD 62509	47	0110	0742155	+280855	L	1	02805	L	84021904	000000	000000	040600	000200	G	C=4-5X,B=50
GM248	HD63295	47	0432	0742269	-722911	H	1	03201	L	84042208	000000	000000	080537	004200	503	V
OBFGS	HD 63462	20	0460	0746004	-254843	H	3	21951	L	84010701	000000	000000	014300	000052	G	C=220,B=38
OBFGS	HD 64503	20	0450	0750524	-384357	H	3	21950	L	84010701	000000	000000	010700	000105	G	C=190,B=35
IEGBS	HD 64802	20	0549	0752195	-354442	L	3	23116	SL	84052716	161600	000002	160900	000001	G	C=125,B=18
IEGBS	HD 64802	20	0549	0752195	-354442	L	1	03448	SL	84052716	162500	000001	162100	000001	G	C=127,B=33
FE174	OI090.4	87	1450	0754225	100439	L	1	02771	L	84021205	000000	000000	055255	012000	312	V
FE174	OI090.4	87	1450	0754225	100439	L	3	22252	L	84021207	000000	000000	075839	028800	312	V
OBFGS	HD 65575	21	0360	0755304	-525051	H	3	21952	L	84010702	000000	000000	022400	000033	G	C=210,B=38

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
OD30K	HD 65607	66	0822	0756501	-072203	L	3	22275	L	84021602	000000	000000	021100	001200		G C=240,B=35
OD30K	HD 65607	66	0822	0756501	-072203	L	1	02785	L	84021602	000000	000000	020200	000330		G C=1.5X,B=40
OD30K	HD 65607	66	0822	0756501	-072203	L	1	02786	L	84021602	000000	000000	024700	000215		G C=205,B=40
PHCAL	OO TFLOOD	99	0000	0757374	-181538	H	3	22174	S	84020101	012000	000005	000000	000000		G B=105
PHCAL	OO WAVCAL	98	0000	0757374	-181538	H	3	22173	S	84020100	005100	000200	000800	000000		G E=50X,B=125
PHCAL	OO WAVCAL	98	0000	0757374	-181538	L	1	02721	S	84013122	223900	000001	000000	000000		G E=20X,B=100
PHCAL	OO WAVCAL	98	0000	0757374	-181538	H	1	02722	S	84013123	231100	000016	000000	000000		G E=50X,B=107
PHCAL	OO TFLOOD	99	0000	0757374	-181538	H	1	02723	S	84013123	235500	000025	000000	000000		G B=100
PHCAL	OO WAVCAL	98	0000	0757374	-181538	L	3	22172	S	84020100	002600	000002	000000	000000		G E=20X,B=100
GC103	HD65626	44	0678	0758320	572450	L	3	22960	L	84050906	000000	000000	060928	003800	320	V
QSFGF	OO 3C 192	86	1620	0802355	+241826	L	3	22441	L	84030811	000000	000000	115600	025600		G B=63
PHCAL	BD+75 325	16	0948	0804430	750648	L	3	21960	LS	84010714	144708	000042	144343	000014	501	V 601$
PHCAL	BD75/325	16	0957	0804430	750648	L	2	17315	L	84032110	000000	000000	103301	000024	501	V
PHCAL	BD+75 325	16	0948	0804430	750648	L	2	17223	LS	84010714	141932	000112	141538	000024	502	V 402$
PHCAL	BD+75 325	16	0948	0804430	750648	L	3	21961	L	84010715	000000	000000	151317	000043	401	V TRAIL 0.46 ARCSEC/SE
PHCAL	BD+75325	16	0962	0804430	750648	L	1	02933	L	84031204	000000	000000	043155	000020	504	V
PHCAL	BD+75 325	16	0948	0804430	750648	L	2	17224	L	84010715	000000	000000	152051	000114	402	V TRAIL 0.27 ARCSEC/SE
PHCAL	BD+75325	16	0964	0804430	750648	L	3	22465	L	84031204	000000	000000	042546	000014	501	V
PHCAL	BD+75325	16	0965	0804430	750648	L	1	02934	L	84031205	000000	000000	054431	000140	503	V TRAIL RATE=0.20,I=1
PHCAL	BD+75325	16	0951	0804430	750648	L	3	22466	L	84031205	000000	000000	053158	000043	400	V TRAIL RATE=0.461,I=1
PHCAL	BD75 325	16	0950	0804430	750648	L	2	17314	L	84032109	000000	000000	091302	000114	501	V TRAILED RATE=0.296,I
BLGAG	BD+75 0325	16	0960	0804431	+750647	L	1	03239	L	84042815	000000	000000	155800	000003		G C=78,B=32
BLGAG	BD+75 0325	16	0960	0804431	+750647	L	1	03240	L	84042816	000000	000000	164500	000002		G C=65,B=35
PHCAL	OO WAVCAL	98	0000	0804431	+750647	L	3	22893	S	84050221	212300	000002	000000	000000		G C=205,B=43
PHCAL	OO WAVCAL	98	0000	0804431	+750647	H	3	22894	S	84050221	215300	000200	000000	000000		G E=50X,B=147
BLGAG	BD+75 0325	16	0960	0804431	+750647	L	3	22872	L	84042815	000000	000000	155400	000002		G C=38,B=15
PHCAL	BD+75 0325	16	0950	0804432	+750648	L	1	03165	SL	84041618	183400	000100	182800	000020		G C=200,B=35
PHCAL	BD+75 0325	16	0950	0804432	+750648	L	2	17202	L	84010104	000000	000000	045600	000024		G C=160,B=23
PHCAL	BD+75 0325	16	0950	0804432	+750648	L	1	03262	L	84050220	000000	000000	201200	000020		G C=205,B=43
PHCAL	BD+75 0325	16	0950	0804432	+750648	L	3	22250	L	84021201	000000	000000	012100	000014		G C=160,B=16
PHCAL	BD+75 0325	16	0950	0804432	+750648	H	3	23024	L	84051518	000000	000000	183700	002000		G C=190,B=35
PHCAL	BD+75 0325	16	0950	0804432	+750648	L	2	17365	L	84041300	000000	000000	001400	000024		G C=163,B=25
PHCAL	BD+75 0325	16	0950	0804432	+750648	L	1	02932	L	84031201	000000	000000	014600	000140		G C=215,B=45
PHCAL	BD+75 0325	16	0950	0804432	+750648	L	3	22892	L	84050220	000000	000000	200900	000014		G C=190,B=18
PHCAL	BD+75 0325	16	0950	0804432	+750648	L	2	17400	L	84050118	000000	000000	185200	000024		G C=180,B=28
PHCAL	BD+75 0325	16	0950	0804432	+750648	L	3	22729	L	84041300	000000	000000	002000	000014		G C=180,B=20
PHCAL	BD+75 0325	16	0950	0804432	+750648	L	3	22046	L	84011906	000000	000000	060200	000014		G C=180,B=20
PHCAL	BD+75 0325	16	0950	0804432	+750648	L	3	22381	L	84022921	000000	000000	215800	000043		G C=150,B=18
PHCAL	BD+75 0325	16	0950	0804432	+750648	L	1	02867	L	84022921	000000	000000	214600	000140		G C=205,B=38
PHCAL	BD+75 0325	16	0950	0804432	+750648	L	3	22769	SL	84041618	184400	000042	183800	000014		G C=180,B=20
PHCAL	BD+75 0325	16	0950	0804432	+750648	L	1	02660	L	84011905	000000	000000	055500	000020		G C=185,B=35
PHCAL	BD+75 0325	16	0950	0804432	+750648	L	2	17245	L	84021300	000000	000000	003900	000024		G C=165,B=25
HSGCW	BD+75 0325	16	0950	0804432	+750648	L	3	22981	L	84051019	000000	000000	194300	000027		G C=2X,B=19
HSGCW	BD+75 0325	16	0950	0804432	+750648	L	1	03332	L	84051019	000000	000000	193800	000058		G C=3X,B=36
HSGCW	BD+75 0325	16	0950	0804432	+750648	L	1	03321	L	84050921	000000	000000	215700	000058		G C=3X,B=35

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
HSGCW	BD+75 0325	16	0950	0804432	+750648	L	3	22968	SL	84050921	215200	000032	214700	000014		G C=100,B=18
HSGCW	BD+75 0325	16	0950	0804432	+750648	L	1	03320	SL	84050921	211400	000040	211000	000020		G C=220,B=37
PHCAL	BD+75 0325	16	0950	0804432	+750648	L	2	17278	L	84030723	000000	000000	230400	000114		G C=155,B=25
HSGCW	BD+75 0325	16	0950	0804432	+750648	L	3	22969	L	84050922	000000	000000	223600	000027		G C=2X,B=18
HSGCW	BD+75 0325	16	0950	0804432	+750648	L	1	03331	L	84051018	000000	000000	181400	000120		G C=185,B=38
HSGCW	BD+75 0325	16	0950	0804432	+750648	L	3	22980	L	84051019	000000	000000	190200	000052		G C=172,B=19
PHCAL	BD+75 0325	16	0950	0804432	+750648	L	1	02767	L	84021201	000000	000000	011700	000020		G C=170,B=33
OBGGS	HD 68520	22	0435	0807465	-682813	H	3	23093	L	84052319	000000	000000	193300	000225		G C=2.5X,B=120
CVGJR	OO YZ CNC	54	1100	0807521	+281737	L	3	22898	L	84050317	000000	000000	174200	002000		G E=208,C=205,B=118
CVGJR	OO YZ CNC	54	1100	0807525	+281731	L	1	03267	L	84050318	000000	000000	182700	002000		G C=2X,B=205
CVGJR	OO YZ CNC	54	1100	0807525	+281731	L	1	03268	L	84050319	000000	000000	193600	001000		G C=255,B=185
CVGJR	OO YZ CNC	54	1100	0807525	+281731	L	3	22899	L	84050318	000000	000000	185900	003000		G E=2X,C=2X,B=240
HSGJD	OO LSS0982	16	1260	0808460	-402413	L	1	03387	L	84051915	000000	000000	155700	000900		G C=3X,B=40
HSGJD	OO LSS0982	16	1260	0808460	-402413	L	3	23046	L	84051915	000000	000000	154800	000300		G C=160,B=15
FE272	NGC 2537	88	1250	0809413	460845	L	3	22359	L	84022605	000000	000000	055205	032500	303	V
OBFTS	HD 68980	26	0480	0811362	-354451	H	3	22119	L	84012705	000000	000000	052700	000213		G C=2X,B=50
ZAFMK	OO RX PUP	57	1100	0812282	-413318	L	1	02924	L	84031113	000000	000000	130100	001500		G E=1.5X,C=100,B=37
ZAFMK	OO RX PUP	57	1100	0812282	-413318	H	3	22461	L	84031113	000000	000000	132200	028500		G C=175,B=95
ZAFMK	OO RX PUP	57	1100	0812282	-413318	L	3	22462	L	84031118	000000	000000	183400	001500		G E=255,C=53,B=45
CVFES	CP 48 1577	63	0980	0813496	-490402	L	1	02843	L	84022502	000000	000000	021600	000300		G C=3X,B=40
CVFES	CP 48 1577	63	0980	0813496	-490402	H	3	22353	L	84022503	000000	000000	035700	005000		G C=100,B=38
CVFES	CP 48 1577	63	0980	0813496	-490402	L	3	22351	SL	84022502	020800	000300	020100	000200		G C=210,B=20
CVFES	CP 48 1577	63	0980	0813496	-490402	L	3	22352	SL	84022502	025100	000300	024600	000200		G C=210,B=20
GC011	FG HYA	44	1028	0824267	034052	L	1	03350	L	84051203	000000	000000	034957	004500	701	V
CVGWB	OO SW UMA	54	1550	0832585	+533903	L	3	23029	L	84051610	000000	000000	100600	028500		G E=114,C=95,B=68
CSGCI	HD 72905	44	0564	0834465	+651147	L	3	22409	L	84030421	000000	000000	210500	001600		G E=115,C=150,B=105
CSGCI	HD 72905	44	0564	0834465	+651147	L	2	17268	L	84030421	000000	000000	212700	000430		G C=7X,B=35
CSGCI	HD 72905	44	0560	0834466	+651148	L	3	23039	L	84051819	000000	000000	191700	004000		G C=140,B=43
CSGCI	HD 72905	44	0560	0834466	+651148	L	1	03383	L	84051820	000000	000000	200400	000500		G C=10X,B=40
PHCAL	HD 74280	21	0430	0840367	+033446	H	1	02900	L	84030601	000000	000000	014500	000039		G C=220,B=55
PHCAL	HD 74280	21	0430	0840367	+033446	L	1	02899	L	84030600	000000	000000	004400	000002		G C=230,B=70
PHCAL	HD 74280	21	0430	0840367	+033446	L	3	22422	L	84030600	000000	000000	003100	000002		G C=190,B=38
PHCAL	HD 74280	21	0430	0840367	+033446	H	3	22423	L	84030601	000000	000000	014200	000043		G C=178,B=40
HCGBC	BD+25 1981	41	0930	0841278	+245859	L	1	03282	L	84050507	000000	000000	075500	000730		G C=2X,B=38
HCGBC	BD+25 1981	41	0930	0841278	+245859	L	3	22918	L	84050508	000000	000000	081300	013500		G C=4.5X,B=41
CVGWB	OO AC CNC	54	1440	0841436	+130317	L	1	03266	L	84050316	000000	000000	163400	003000		G B=160
CVGWB	OO AC CNC	54	1440	0841436	+130317	L	3	22897	L	84050315	000000	000000	155700	003000		G C=140,B=115
OD24K	OO 49 CNC	36	0570	0842019	+101549	L	3	22316	L	84022201	000000	000000	013600	000020		G C=125,B=20
OBFTS	HD 75311	26	0460	0845250	-563507	H	3	22098	L	84012507	000000	000000	072600	000153		G C=1.5X,B=47
OBFTS	HD 75311	26	0460	0845250	-563507	H	3	22118	L	84012704	000000	000000	045200	000153		G C=1.5X,B=47
OBFGS	HD 75311	21	0460	0845250	-563507	H	3	21953	L	84010703	000000	000000	030300	000112		G C=255,B=38
LGFRH	HD 75156	49	0650	0845547	+124358	L	2	17211	L	84010206	000000	000000	061300	002200		G E=168,C=90,B=41
BLGAG	OOSKY BKGD	07	9999	0851572	+201758	L	3	22870	L	84042810	000000	000000	100500	009000		G B=27
OD27K	OO OJ 287	88	1430	0851572	+201758	L	3	22348	L	84022418	000000	000000	180300	017000		G C=105,B=60
BLGAG	OOSKY BKGD	07	9999	0851573	+201759	L	1	03238	L	84042812	000000	000000	125500	008000		G B=95

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
BLGAG	Q 0851+202	87	1500	0851573	+201759	L	3	22871	L	84042812	000000	000000	122300	014000		G C=125,B=94
BLGAG	Q 0851+202	87	1500	0851573	+201759	L	1	03237	L	84042809	000000	000000	095900	014000		G C=120,B=58
WDGJL	PG0853+162	29	1590	0853312	+162237	L	1	03375	L	84051618	000000	000000	180100	006000		G C=134,B=72
WDFJL	PG0853+164	29	1590	0853312	+162237	L	3	22356	L	84022518	000000	000000	181000	012000		G B=43
WDGJL	PG0853+162	29	1590	0853312	+162237	L	3	23030	L	84051615	000000	000000	155700	012000		G C=110,B=45
EI030	HD77581	23	0713	0900132	-402125	H	3	22324	L	84022207	000000	000000	071748	015000	501	V
EI030	HD77581	59	0710	0900132	-402125	H	3	22278	L	84021606	000000	000000	061718	015000	551	V
FI007	HD24912	14	0411	0900132	-402125	H	3	22325	L	84022210	000000	000000	105809	000110		V
EI030	HD77581	23	0709	0900132	-402125	H	3	22309	L	84022106	000000	000000	060745	015000	501	V
FI158	NULL	99	9999	0900132	-402125	L	4	01177		84010408	000000	000000	084902	000000		V SAFETY READ,TFDC=19.
FI158	HD77581	59	0698	0900132	-402125	L	3	21930	L	84010409	000000	000000	093024	001147	551	V TRAIL 0.05654 ARCSEC
EI030	HD 77851	23	9999	0900132	-402125	L	3	22297	L	84021810	000000	000000	104219	012500		V
EI030	HD77581	23	0707	0900132	-402125	H	3	22301	L	84021906	000000	000000	062900	013800	401	V
EI030	HD77581	59	0699	0900132	-402125	H	3	22287	L	84021706	000000	000000	062419	015000	551	V
FE229	H0903+175	85	9999	0903499	173427	E	9	01510	2	84010309	000000	000000	092243	004000		V FES FOR LWP 1541
QSFDT	Q 0903+176	85	1650	0903499	+173428	L	1	02541	L	84010309	000000	000000	092200	086400		G B=145
CSGCI	HD 78366	44	0593	0905467	+340507	L	2	17269	L	84030422	000000	000000	224100	000700		G C=10X,B=45
CSGCI	HD 78366	44	0593	0905467	+340507	L	3	22410	L	84030422	000000	000000	225400	001600		G E=116,C=165,B=130
CSGCI	HD 78366	44	0590	0905468	+340508	L	3	23040	L	84051820	000000	000000	204200	004000		G C=100,B=32
CSGCI	HD 78366	44	0590	0905468	+340508	L	1	03384	L	84051821	000000	000000	212800	000750		G C=10X,B=40
IBGTA	HD 78712	50	0590	0907377	+311005	L	3	22523	L	84031922	000000	000000	221300	004000		G B=92
IBGTA	HD 78712	50	0590	0907377	+311005	L	2	17307	L	84031922	000000	000000	220300	000500		G E=88,B=25
EGGDE	NG 2782	88	1470	0910539	+401917	L	1	03409	L	84052213	000000	000000	131600	007000		G C=2X,B=218
EGGDE	NG 2782	88	1470	0910540	+401918	L	1	03416	L	84052321	000000	000000	210800	010000		G C=185,B=125
EGGDE	NG 2782	88	1470	0910540	+401918	L	3	23080	L	84052208	000000	000000	080100	031000		G C=180,B=100
BLFDW	Q 0912+297	87	1580	0912535	+294555	L	1	02894	L	84030512	000000	000000	124500	027000		G C=227,B=145
BLFDW	Q 0912+297	87	1580	0912535	+294555	L	3	22427	L	84030612	000000	000000	120200	040500		G C=140,B=80
PHCAL	00A+81 266	16	1210	0913428	+815611	L	1	03170	L	84041720	000000	000000	205100	000248		G C=192,B=37
PHCAL	00A+81 266	16	1210	0913428	+815611	L	1	03291	L	84050619	000000	000000	190400	000248		G C=185,B=40
PHCAL	00A+81 266	16	1210	0913428	+815611	L	3	22929	L	84050618	000000	000000	185600	000216		G C=200,B=18
PHCAL	00A+81 266	16	1210	0913428	+815611	L	3	22780	L	84041720	000000	000000	204400	000216		G C=210,B=16
HSGJD	00 LSS1274	16	1240	0917287	-565156	L	3	23049	L	84051920	000000	000000	202700	000400		G C=100,B=20
HSGJD	00 LSS1274	16	1240	0917287	-565156	L	3	23050	L	84051921	000000	000000	212800	000900		G C=187,B=20
HSGJD	00 LSS1274	16	1240	0917287	-565156	L	1	03389	SL	84051920	205800	000900	203700	000900		G C=210,B=65
PHCAL	BD+48 1777	16	1080	0927221	+482912	L	1	03171	L	84041722	000000	000000	220800	000058		G C=190,B=34
PHCAL	BD+48 1777	16	1080	0927221	+482912	L	3	22781	L	84041722	000000	000000	221300	000050		G C=205,B=17
PHCAL	BD+48 1777	16	1080	0927221	+482912	L	3	22771	L	84041620	000000	000000	204700	000056		G C=230,B=20
CCFDS	HD 82443	44	0700	0929499	+271250	H	1	02586	L	84010922	000000	000000	223800	004000		G E=152,C=135,B=80
FE229	Q0932+501	85	9999	0932319	500639	E	9	01507	2	84010108	000000	000000	085038	004000		V FOR SWP 21926
PHCAL	00NULL IMG	99	9999	0932319	+500639	H	1	02535	L	84010115	000000	000000	155900	000000		G B=40
PHCAL	00SKY BKGD	07	9999	0932320	+500640	H	1	02536	L	84010116	000000	000000	164900	036000		G B=95
QSFDT	Q 0932+501	85	1600	0932320	+500640	L	3	21926	L	84010108	000000	000000	085000	088400		G B=132
OD24K	HD 83368	36	0616	0934364	-483134	L	3	22318	L	84022203	000000	000000	032700	000400		G C=165,B=20
OD24K	HD 83368	36	0616	0934364	-483134	L	3	22317	L	84022202	000000	000000	025500	000300		G C=145,B=20
OD24K	HD 83368	36	0616	0934364	-483134	L	3	22319	L	84022203	000000	000000	035900	000400		G C=155,B=20

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
OD24K	HD 83368	36	0616	0934364	-483134	L	3	22320	L	84022204	000000	000000	043100	000400	G	C=165,B=20
GHFFB	OO GD 299	16	1220	0934500	+551918	H	3	22102	L	84012520	000000	000000	205200	012000	G	C=125,B=45
GHFFB	OO GD 299	16	1220	0934500	+551918	D	9	01514	L	84012520	000000	000000	203800	016000	G	NO COMMENTS
QSFGF	OO 3C223	86	1700	0936508	+360734	L	3	22438	L	84030712	000000	000000	121400	036500	G	B=95
PHCAL	OO WAVCAL	98	0000	0936508	+360734	L	2	17272	S	84030718	190100	000001	000000	000000	G	E=-10X,B=85
PHCAL	OO WAVCAL	98	0000	0936508	+360734	H	2	17276	S	84030720	204300	000016	000000	000000	G	E=50,B=145
PHCAL	OO WAVCAL	98	0000	0936508	+360734	L	2	17275	S	84030720	201300	000001	000000	000000	G	E=-10X,B=86
PHCAL	OO TFLOOD	99	0000	0936508	+360734	L	2	17274	S	84030719	194900	000007	000000	000000	G	B=145
PHCAL	OO WAVCAL	98	0000	0936508	+360734	H	2	17273	S	84030719	192600	000016	000000	000000	G	E=-50X,B=145
OBFTS	HD 83953	26	0470	0939000	-232148	H	3	22120	L	84012706	000000	000000	061000	000300	G	C=230,B=40
OBGGS	HD 83953	22	0480	0939000	-232148	H	1	03223	L	84042523	000000	000000	235500	000125	G	C=215,B=45
OBGGS	HD 83953	22	0480	0939000	-232148	H	3	22850	L	84042600	000000	000000	002600	000320	G	C=250,B=42
OBFTS	HD 83953	26	0470	0939000	-232148	H	3	22096	L	84012505	000000	000000	051800	000237	G	C=215,B=38
OBGGS	HD 83953	22	0480	0939000	-232148	H	3	22849	L	84042523	000000	000000	234600	000255	G	C=220,B=38
GC134	HD84810	53	0426	0943524	-621637	H	1	03209	L	84042307	000000	000000	074906	005800 502	V	
GC134	HD84810	53	0423	0943524	-621637	H	1	03208	L	84042303	000000	000000	033307	004500 502	V	
HSGJD	OO LSS1349	16	1380	0945074	-495843	L	3	23047	L	84051917	000000	000000	170800	001000	G	C=50,B=24
HSGJD	OO LSS1349	16	1380	0945074	-495843	L	3	23048	L	84051919	000000	000000	190700	003500	G	C=150,B=70
HSGJD	OO LSS1349	16	1380	0945074	-495843	L	1	03388	L	84051918	000000	000000	181500	004000	G	C=255,B=83
CCFLH	HD 84737	44	0510	0945224	+461518	H	1	02588	L	84011003	000000	000000	034700	004500	G	E=224,C=3X,B=145
GHFLH	HD 84971	21	0870	0946124	-022850	H	1	02595	L	84011104	000000	000000	045500	002800	G	C=200,B=60
GHFLH	HD 84971	21	0870	0946124	-022850	H	3	21986	L	84011104	000000	000000	040500	004400	G	C=180,B=45
PHCAL	OO WAVCAL	98	0000	0956433	-353903	H	3	22464	S	84031120	204300	000200	000000	000000	G	E=50X,B=130
PHCAL	OO WAVCAL	98	0000	0956433	-353903	L	3	22463	S	84031120	201900	000002	000000	000000	G	E=10X,B=101
PHCAL	OO WAVCAL	98	0000	0956433	-353903	H	1	02926	S	84031120	200400	000016	000000	000000	G	E=50X,B=110
PHCAL	OO WAVCAL	98	0000	0956433	-353903	L	1	02925	S	84031119	192300	000001	000000	000000	G	E=10X,B=102
FE059	NGC3081	84	1360	0957101	-223511	L	1	02710	L	84012807	000000	000000	074537	041000 315	V	
FE059	NULL	99	9999	0957101	-223511	L	1	02709		84012814	000000	000000	144102	000000	V	PRECAUTIONARY G1 CUT
FE059	NGC3081	54	1387	0957101	-223511	L	3	22121	L	84012707	000000	000000	073915	042800 344	V	
LGFRH	HD 86663	49	0460	0957343	+081706	L	2	17212	L	84010207	000000	000000	071300	000500	G	E=181,C=70,B=25
GHFLH	HD 87015	20	0570	1000018	+221128	H	1	02597	L	84011107	000000	000000	072400	000230	G	C=220,B=45
GHFLH	HD 87015	20	0570	1000018	+221128	H	3	21988	L	84011107	000000	000000	073000	000330	G	C=200,B=35
EGGDE	OO MRK25	88	1440	1000220	+594043	L	3	22785	L	84041817	000000	000000	170000	024000	G	C=115,B=75
EGGDE	OO MRK25	88	1440	1000220	+594043	L	1	03174	L	84041821	000000	000000	210800	022000	G	C=190,B=126
FC249	HD87737	32	0372	1004360	170024	L	3	22605	L	84032805	000000	000000	051047	000010 700	V	
FC254	HD87737	32	0370	1004360	170024	L	1	03025	L	84032604	000000	000000	044251	000010 802	V	
FM192	NGC3132	70	1020	1004551	-401129	L	3	22288	L	84021709	000000	000000	095358	002000 440	V	
FM192	NGC3132	70	1009	1004551	-401129	L	1	02796	L	84021709	000000	000000	092501	001300 551	V	
NPFHW	NG 3132	70	1200	1004551	-401129	H	3	22298	L	84021813	000000	000000	135800	041000	G	E=1X,C=180,B=108
NPFHW	NG 3132	70	1200	1004551	-401129	H	3	22059	L	84012018	000000	000000	184300	030500	G	E=226,C=175,B=100
LDFBH	OO GL 380	46	0660	1008143	+494213	L	3	22581	L	84032511	000000	000000	113100	012000	G	E=62,B=40
EI030	HD88661	26	0584	1010017	-574848	H	3	22300	L	84021905	000000	000000	054902	000430 501	V	
FI175	IE1013-477	59	1650	1013572	-474311	L	3	22553	L	84032304	000000	000000	043043	020000 331	V	
FI175	IE1013-477	59	1650	1013572	-474311	L	1	03016	L	84032307	000000	000000	075435	016600 332	V	
FI175	NULL	99	9999	1013572	-474311	L	1	03015	L	84032310	000000	000000	104000	000000	V	GI CUT-OFF READ

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
FSFBH	00 AD LEO	48	0940	1016527	+200715	L	3	22594	L	84032619	000000	000000	190600	006000		G B=60
FSFBH	00 AD LEO	48	0940	1016528	+200716	L	3	22585	L	84032523	000000	000000	232500	006000		G E=125,B=100
FSFBH	00 AD LEO	48	0940	1016528	+200716	L	1	03023	L	84032600	000000	000000	004900	003000		G E=2X,C=95,B=62
FSFBH	00 AD LEO	48	0940	1016528	+200716	L	3	22586	L	84032601	000000	000000	012600	006000		G E=49,B=37
FSFBH	00 AD LEO	48	0940	1016528	+200716	L	1	03024	L	84032602	000000	000000	023400	002500		G E=255,C=71,B=40
FSFBH	00 AD LEO	48	0940	1016528	+200716	L	1	03031	L	84032618	000000	000000	184800	001200		G E=114,B=50
FSFBH	00 AD LEO	48	0940	1016528	+200716	L	1	03043	L	84032800	000000	000000	005400	002000		G E=180,B=50
FSFBH	00 AD LEO	48	0940	1016528	+200716	L	3	22596	L	84032700	000000	000000	000600	006000		G B=82
FSFBH	00 AD LEO	48	0940	1016528	+200716	L	3	22604	L	84032801	000000	000000	014600	006000		G E=42,B=22
FSFBH	00 AD LEO	48	0940	1016528	+200716	L	1	03046	L	84032818	000000	000000	183700	002000		G E=162,C=62,B=40
FSFBH	00 AD LEO	48	0940	1016528	+200716	L	3	22610	L	84032819	000000	000000	191900	002000		G B=20
FSFBH	00 AD LEO	48	0940	1016528	+200716	L	1	03033	L	84032701	000000	000000	011100	002000		G E=175,C=70,B=47
FSFBH	00 AD LEO	48	0940	1016528	+200716	L	3	22597	L	84032701	000000	000000	015700	004000		G B=21
FSFBH	00 AD LEO	48	0940	1016528	+200716	L	3	22603	L	84032800	000000	000000	001600	002000		G B=55
GC091	AD LEO	48	0929	1016540	200718	L	3	22797	L	84042006	000000	000000	064929	010500	151	V 3X35MIN. MULT. EXP.
GC091	AD LEO	48	0929	1016540	200718	L	3	22796	L	84042004	000000	000000	040401	009000	141	V 3X30MIN. MULT. EXP.
GC091	AD LEO	48	0929	1016540	200718	L	3	22795	L	84042001	000000	000000	013906	007500	141	V 3X25MIN MULT. EXP.
GC091	AD LEO	48	0924	1016540	200718	L	3	22804	L	84042101	000000	000000	015449	006000	130	V 3X20MIN. MULT. EXP.
GC091	AD LEO	48	0927	1016540	200718	L	1	03181	L	84042005	000000	000000	054947	003000	152	V 3X30MIN. MULT. EXP.
FC254	AD LEO	48	0928	1016540	200718	L	3	22587	L	84032603	000000	000000	033440	004000	130	V 2x20M.EXP.(2,-212),(
FC249	AD LEO	48	0927	1016540	200718	L	1	03044	L	84032803	000000	000000	033637	005000	351	V 5 EXP IN LWLA 10 MIN
GC091	AD LEO	48	0923	1016540	200718	L	1	03188	L	84042105	000000	000000	054824	003000	252	V 3X10MIN. MULT. EXP.
GC091	AD LEO	48	0924	1016540	200718	L	3	22805	L	84042104	000000	000000	040638	009000	251	V 3X30MIN MULT. EXP.
GC091	AD LEO	48	0925	1016540	200718	L	3	22806	L	84042106	000000	000000	063811	012000	151	V 3X40MIN. MULT. EXP.
GC091	AD LEO	48	0922	1016540	200718	L	1	03187	L	84042103	000000	000000	030850	003000	353	V 3X10MIN. MULT. EXP.
GC091	AD LEO	48	0925	1016540	200718	L	1	03180	L	84042003	000000	000000	030909	003000	242	V 3X10MIN. MULT. EXP.
CCFDS	HD 89449	41	0480	1017010	+194331	L	3	21981	L	84010923	000000	000000	233700	012000		G E=179,C=5X,B=90
GI156	RW SEX	63	1105	1017270	-082705	L	1	03136	L	84041002	000000	000000	020928	001300	813	V
GI156	RW SEX	63	1111	1017270	-082705	L	3	22704	L	84041001	000000	000000	013606	002400	810	V
GI156	RW SEX	63	1107	1017270	-082705	L	3	22705	L	84041002	000000	000000	024401	000B00	510	V
GI156	RW SEX	63	1088	1017270	-082705	L	3	22730	L	84041301	000000	000000	015904	000632	500	V
GI156	RW SEX	63	1109	1017270	-082705	L	1	03137	L	84041003	000000	000000	033619	000500	513	V
GHFLH	00 23 SEX	20	0660	1018271	+023231	H	3	21987	L	84011105	000000	000000	054400	001200		G C=160,B=35
GHFLH	00 23 SEX	20	0660	1018271	+023231	H	1	02596	L	84011106	000000	000000	062000	000800		G C=220,B=45
AFGJL	HD 90089	41	0530	1025099	+824852	L	3	22816	L	84042218	000000	000000	184400	009000		G E=120,C=10X,B=112
FC232	HR 4110	40	0496	1025324	-572259	L	1	03063	L	84033108	082920	000045	081955	000500	700	V 600$
FC232	HR4110	40	0499	1025324	-572259	L	3	22630	L	84033107	000000	000000	074250	001200	700	V
FC232	HR 4110	40	0498	1025324	-572259	L	1	03062	L	84033107	000000	000000	073410	000200	701	V
LDFBH	00 GL 393	48	0960	1026216	+010559	L	1	03036	L	84032711	000000	000000	115600	003000		G E=71,C=53,B=36
EE124	YZ CAR	41	0882	1026272	-590536	L	1	03070	L	84040105	000000	000000	050304	004000	502	V
EE124	YZ CAR	41	0883	1026272	-590536	L	3	22637	L	84040105	000000	000000	054834	017900	201	V
WDFCB	001033+464	37	9999	1033262	+462406	L	3	22362	L	84022721	000000	000000	215400	002400		G C=200,B=20
AFGJL	HD 91752	41	0630	1033296	+363512	H	1	03204	L	84042217	000000	000000	175000	003000		G E=99,C=210,B=65
MLFCG	HD 93222	12	0810	1042404	-594941	H	3	22105	L	84012602	000000	000000	024600	004500		G C=220,B=50
MLFCG	HD 93250	12	0740	1042484	-591807	H	3	22106	L	84012604	000000	000000	040300	003000		G C=190,B=41

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
NDGRD	OO S COND.	72	9999	1043043	-592520	L	1	03112	L	84040710	000000	000000	103000	027000		G C=5X,B=87
NDGRD	OO S COND.	72	9999	1043050	-592520	H	1	03132	L	84040910	000000	000000	100300	039000		G C=180,B=116
NDGRD	OO S COND.	72	9999	1043050	-592520	H	1	03113	L	84040716	000000	000000	163000	008000		G C=255,B=188
NDGRD	OO S COND.	72	9999	1043050	-592520	H	3	22687	L	84040709	000000	000000	095700	037700		G C=180,B=127
NDGRD	OO S COND.	72	9999	1043050	-592520	H	3	22699	L	84040909	000000	000000	095900	041000		G E=241,C=170,B=93
NDGRD	OOHOMUNC+W	72	9999	1043054	-592510	H	1	03118	L	84040723	000000	000000	231900	002800		G E=1.3X,C=-2X,B=108
NDGRD	OOHOMUNC+W	72	9999	1043054	-592510	H	3	22692	L	84040723	000000	000000	234900	006100		G E=118,C=95,B=42
NDGRD	OOETA CAR.	61	0050	1043068	-592515	H	1	03115	S	84040720	200200	003000	000000	000000		G E=-1.5X,C=2-3X,B=120
NDGRD	OOETA CAR.	61	0630	1043068	-592515	H	3	22690	S	84040720	203900	001000	000000	000000		G E=153,C=100,B=42
NDGRD	OOETA CAR.	61	0050	1043068	-592515	H	3	22689	S	84040719	191600	004000	000000	000000		G E=-2X,C=250,B=115
NDGRD	OO HOMUN.	72	0050	1043068	-592515	H	1	03114	L	84040718	000000	000000	184000	003000		G E=-2X,C=3X,B=140
NDGRD	OO HOMUN.	72	0050	1043068	-592515	H	3	22688	L	84040718	000000	000000	180000	003000		G E=-1.5X,C=230,B=102
NDGRD	OO HOMUNC.	72	0630	1043068	-592515	H	1	03117	L	84040722	000000	000000	222800	001000		G E=198,C=-2X,B=103
NDGRD	OO HOMUNC.	72	0630	1043068	-592515	H	3	22691	L	84040721	000000	000000	215400	001500		G E=-1.2X,C=180,B=70
NDGRD	OOETA CAR.	61	0630	1043068	-592515	H	1	03116	S	84040721	212100	001000	000000	000000		G E=162,C=-1.3X,B=73
PHCAL	HD 93521	12	0700	1045336	+375004	L	3	22770	SL	84041619	194600	000009	193900	000003		G C=180,B=20
PHCAL	HD 93521	12	0700	1045336	+375004	L	3	22386	L	84030200	000000	000000	000300	000012		G C=175,B=15
PHCAL	HD 93521	12	0700	1045336	+375004	L	1	03288	SL	84050615	153000	000009	152900	000003		G C=180,B=35
PHCAL	HD 93521	12	0700	1045336	+375004	L	1	02871	L	84030123	000000	000000	234900	000011		G C=180,B=35
PHCAL	HD 93521	12	0700	1045336	+375004	L	1	02768	L	84021202	000000	000000	024700	000003		G C=180,B=32
PHCAL	HD 93521	12	0700	1045336	+375004	L	3	22251	L	84021202	000000	000000	025100	000003		G C=160,B=17
PHCAL	HD 93521	12	0700	1045336	+375004	L	1	02553	L	84010506	000000	000000	064800	000003		G C=190,B=30
GA191	HD93521	12	0708	1045336	375004	L	1	03304	L	84050806	000000	000000	063017	000003	502	V
PHCAL	HD 93521	12	0700	1045336	+375004	L	2	17401	SL	84050119	193600	000009	194000	000003		G C=205,B=25
PHCAL	HD 93521	12	0700	1045336	+375004	L	3	22927	SL	84050615	152500	000009	152000	000003		G C=160,B=17
PHCAL	HD 93521	12	0700	1045336	+375004	L	3	22045	L	84011904	000000	000000	042700	000012		G E=167,C=185,B=20
PHCAL	HD 93521	12	0700	1045336	+375004	L	1	03157	L	84041520	000000	000000	203600	000003		G C=200,B=33
PHCAL	HD 93521	12	0700	1045336	+375004	L	2	17205	SL	84010107	071800	000009	071400	000003		G C=140,B=25
PHCAL	HD 93521	12	0700	1045336	+375004	L	1	02554	L	84010507	000000	000000	073700	000011		G C=180,B=35
PHCAL	HD 93521	12	0700	1045336	+375004	L	2	17277	L	84030721	000000	000000	214700	000012		G C=165,B=25
PHCAL	HD 93521	12	0700	1045336	+375004	L	3	21939	L	84010506	000000	000000	064300	000003		G C=140,B=15
GA191	HD93521	12	0706	1045336	375004	L	3	22943	L	84050806	000000	000000	063336	000003	500	V
PHCAL	HD 93521	12	0700	1045336	+375004	L	2	17244	L	84021223	000000	000000	235500	000003		G C=155,B=21
PHCAL	HD93521	12	0709	1045340	375004	L	3	22468	L	84031208	000000	000000	080246	000012	500	V TRAIL RATE=1.667,I=1
PHCAL	HD 93521	12	0708	1045340	375004	L	1	02936	L	84031208	000000	000000	081441	000011	503	V TRAIL RATE=1.80,I=1
PHCAL	HD93521	12	0711	1045340	375004	L	3	22467	L	84031206	000000	000000	065937	000003	500	V
PHCAL	HD93521	12	0713	1045340	375004	L	1	02935	L	84031207	000000	000000	070522	000003	503	V
FE257	NGC3393	84	1392	1046000	-245348	L	1	02844	L	84022505	000000	000000	055136	011000	233	V
HSGJD	OO LSS2018	16	1230	1052287	-483101	L	3	23062	L	84052022	000000	000000	220600	000600		G C=220,B=18
HSGJD	OO LSS2018	16	1230	1052287	-483101	L	1	03394	L	84052019	000000	000000	191500	000600		G C=230,B=55
HSGJD	OO LSS2018	16	1230	1052287	-483101	L	1	03402	L	84052118	000000	000000	183700	000800		G C=232,B=50
HSGJD	OO LSS2018	16	1230	1052287	-483101	L	3	23060	L	84052020	000000	000000	200000	000500		G C=215,B=25
HSGJD	OO LSS2018	16	1230	1052287	-483101	L	1	03396	L	84052021	000000	000000	215200	000800		G C=220,B=35
HSGJD	OO LSS2018	16	1230	1052287	-483101	L	3	23059	L	84052018	000000	000000	184100	000400		G C=180,B=20
HSGJD	OO LSS2018	16	1230	1052287	-483101	L	1	03405	L	84052121	000000	000000	215200	000700		G C=230,B=35

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
HSGJD	00 LSS2018	16	1230	1052287	-483101	H	3	23069	L	84052114	000000	000000	144600	022000		G C=210,B=121
HSGJD	00 LSS2018	16	1230	1052287	-483101	L	1	03401	L	84052114	000000	000000	141200	000800		G C=245,B=40
HSGJD	00 LSS2018	16	1230	1052287	-483101	L	1	03391	L	84052015	000000	000000	151500	000800		G C=205,B=45
HSGJD	00 LSS2018	16	1230	1052287	-483101	H	3	23068	L	84052110	000000	000000	105600	019000		G C=145,B=65
HSGJD	00 LSS2018	16	1230	1052287	-483101	L	1	03400	L	84052110	000000	000000	102000	000800		G C=220,B=32
HSGJD	00 LSS2018	16	1230	1052287	-483101	L	3	23073	L	84052122	000000	000000	222500	000600		G C=230,B=18
HSGJD	00 LSS2018	16	1230	1052287	-483101	H	3	23067	L	84052108	000000	000000	080400	013000		G C=100,B=42
HSGJD	00 LSS2018	16	1230	1052287	-483101	L	3	23061	L	84052021	000000	000000	211600	000600		G C=230,B=15
HSGJD	00 LSS2018	16	1230	1052287	-483101	L	3	23056	L	84052014	000000	000000	143300	000600		G C=205,B=20
HSGJD	00 LSS2018	16	1230	1052287	-483101	L	1	03395	L	84052020	000000	000000	203600	000700		G C=240,B=51
HSGJD	00 LSS2018	16	1230	1052287	-483101	L	3	23057	L	84052016	000000	000000	160200	000700		G C=230,B=20
HSGJD	00 LSS2018	16	1230	1052287	-483101	L	1	03392	L	84052016	000000	000000	163900	000800		G C=220,B=40
HSGJD	00 LSS2018	16	1230	1052287	-483101	L	3	23058	L	84052017	000000	000000	172400	000500		G C=200,B=18
HSGJD	00 LSS2018	16	1230	1052287	-483101	L	1	03403	L	84052119	000000	000000	194100	000700		G C=235,B=62
HSGJD	00 LSS2018	16	1230	1052287	-483101	L	1	03393	L	84052017	000000	000000	175900	000800		G C=250,B=42
HSGJD	00 LSS2018	16	1230	1052287	-483101	L	1	03390	L	84052013	000000	000000	133300	000430		G C=140,B=37
HSGJD	00 LSS2018	16	1230	1052287	-483101	L	3	23071	L	84052120	000000	000000	201000	000600		G C=238,B=27
HSGJD	00 LSS2018	16	1230	1052287	-483101	L	3	23055	L	84052013	000000	000000	132500	000330		G C=115,B=15
HSGJD	00 LSS2018	16	1230	1052287	-483101	L	3	23072	L	84052121	000000	000000	211500	000600		G C=230,B=18
HSGJD	00 LSS2018	16	1230	1052287	-483101	L	1	03404	L	84052120	000000	000000	204400	000630		G C=235,B=45
HSGJD	00 LSS2018	16	1230	1052287	-483101	L	3	23070	L	84052119	000000	000000	190800	000600		G C=235,B=21
GA144	HD94910	23	0763	1054110	-601111	L	3	23110	LS	84052606	061324	001200	060428	000400	501	V 501$
GA144	AG CAR	23	0746	1054110	-601111	H	1	03236	L	84042808	000000	000000	081839	002900	361	V
GA144	HD94910	23	0760	1054110	-601111	L	1	03440	LS	84052605	055448	000500	055054	000050	501	V 601$
PHCAL	HD94910	23	0759	1054110	-601111	H	3	23109	L	84052523	000000	000000	233941	020000	561	V
CCGDS	HD 94686	41	0730	1055058	+795637	H	1	03123	L	84040814	000000	000000	143900	014000		G E=199,C=-2X,B=146
QSGAG	Q 1100+772	85	1570	1100274	+771508	L	3	23127	L	84052914	000000	000000	141100	003500		G C=105,B=80
BLFYK	00 MK 421	87	1350	1101405	+382845	L	1	02699	L	84012316	000000	000000	164800	007500		G C=165,B=45
BLFYK	00 MK 421	87	1350	1101405	+382845	L	3	22082	L	84012318	000000	000000	181000	021000		G C=172,B=52
BLFYK	00 MRK 421	87	1350	1101405	+382845	L	1	02732	L	84020221	000000	000000	213100	009000		G C=220,B=95
BLFYK	00 MK 421	87	1350	1101405	+382845	L	3	22128	L	84012817	000000	000000	175200	021000		G C=175,B=38
BLFYK	00 MRK 421	87	1350	1101405	+382845	L	1	02881	L	84030311	000000	000000	114500	008000		G C=160,B=45
BLFYK	00 MRK 421	87	1350	1101405	+382845	L	3	22398	L	84030313	000000	000000	130800	024000		G C=165,B=58
BLFYK	00 MRK 421	87	1350	1101405	+382843	L	1	02882	L	84030317	000000	000000	171300	006000		G C=180,B=90
BLFYK	00 MK 421	87	1350	1101405	+382845	L	1	02712	L	84012822	000000	000000	221600	003300		G C=105,B=41
BLFYK	00 MK 421	87	1350	1101405	+382845	L	1	02711	L	84012816	000000	000000	161400	008000		G C=180,B=42
BLFYK	00 MRK 421	87	1350	1101405	+382845	L	1	02915	L	84030911	000000	000000	114300	009500		G C=190,B=47
BLFYK	00 MRK 421	87	1350	1101405	+382845	L	3	22445	L	84030913	000000	000000	132400	026000		G C=180,B=57
BLFYK	00 MK 421	87	1350	1101405	+382845	L	1	02700	L	84012321	000000	000000	215100	010000		G C=195,B=62
IGFJS	HD 96715	12	0830	1105258	-594134	H	1	02612	L	84011306	000000	000000	063900	003500		G C=220,B=60
IGFJS	HD 96715	12	0830	1105258	-594134	H	3	22000	L	84011307	000000	000000	071800	003000		G C=120,B=32
IGFJS	HD 96715	12	0830	1105258	-594134	H	3	21999	L	84011305	000000	000000	054300	005000		G C=190,B=52
CCFDS	HD 97334	44	0640	1109493	+360517	L	3	21980	L	84010916	000000	000000	164000	033000		G E=153,C=2X,B=105
OBFBS	HD 97950	11	0900	1112574	-605913	L	3	22527	S	84032011	113400	012000	000000	000000		G E=104,C=103,B=40
OBFBS	HD 97950	11	0900	1112574	-605913	L	2	17311	L	84032013	000000	000000	134400	006000		G C=3X,B=32

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
OBFBS	HD 97950	11	0900	1112574	-605913	L	3	22528	L	84032014	000000	000000	145300	012000	G	C=225,B=40
WDGJL	PG1115+158	29	1620	1115457	+154959	L	3	23033	L	84051715	000000	000000	155800	012000	G	C=80,B=47
WDGJL	PG1115+158	29	1620	1115458	+154959	L	1	03376	L	84051718	000000	000000	180300	006000	G	C=105,B=62
OBFGS	HD 98718	21	0430	1118432	-541301	H	1	02567	L	84010706	000000	000000	062600	000031	G	C=210,B=45
FI158	A1118-616	59	1227	1118452	-613831	L	1	02545	L	84010412	000000	000000	125021	006000	303	V
FI158	A1118-616	59	1227	1118452	-613831	L	3	21933	L	84010413	000000	000000	135344	011300	301	V
IGFBS	HD 99857	23	0740	1126150	-661249	H	3	22170	L	84013120	000000	000000	200000	007000	G	C=2X,B=83
IGFBS	HD 99890	23	0830	1126462	-562207	H	3	22149	L	84013020	000000	000000	200000	006000	G	C=240,B=60
GC122	HD99946	40	0707	1127255	301435	L	1	03088	L	84040306	000000	000000	063341	000055	503	V
GC122	HD99946	40	0732	1127255	301436	L	1	03084	L	84040303	000000	000000	032509	000115	503	V
GC122	HD99946	40	0730	1127255	301436	L	3	22654	L	84040302	000000	000000	025408	008000	731	V
GC122	HD99946	40	0728	1127255	301436	L	1	03083	L	84040302	000000	000000	025006	000115	503	V
GC122	HD99946	40	0704	1127255	301436	L	1	03087	L	84040305	000000	000000	054230	000055	503	V
GC122	HD99946	40	0712	1127255	301435	L	3	22655	L	84040305	000000	000000	051032	008500	731	V
GC122	HD99946	40	0712	1127255	301435	L	1	03089	L	84040307	000000	000000	070929	000055	503	V
GC122	HD99946	40	0727	1127255	301436	L	1	03085	L	84040304	000000	000000	040223	000115	503	V
GC122	HD99946	40	0720	1127255	301436	L	1	03082	L	84040302	000000	000000	021339	000130	603	V
GC122	HD99946	40	0721	1127255	301435	L	1	03090	L	84040307	000000	000000	074119	000105	503	V
GC122	HD99946	40	0717	1127255	301436	L	1	03086	L	84040304	000000	000000	044105	000105	503	V
GC122	HD99946	40	0728	1127255	301435	L	1	03091	L	84040308	000000	000000	081451	000105	503	V
FC198	HD99967	47	0657	1127419	465558	L	3	22479	L	84031304	000000	000000	040930	027000	332	V
IGFBS	HD 100276	23	0720	1129295	-601949	H	3	22147	L	84013017	000000	000000	170300	004200	G	C=1.5X,B=50
OD32K	OO SY MUS	57	1060	1129550	-650836	L	1	03355	L	84051318	000000	000000	183800	001500	G	E=150,C=70,B=39
OD32K	OO SY MUS	57	1060	1129550	-650836	L	3	23011	L	84051315	000000	000000	152200	009000	G	E=2-3X,C=63,B=37
OD32K	OO SY MUS	57	1060	1129550	-650836	L	1	03354	L	84051316	000000	000000	165700	006000	G	E=2X,C=140,B=52
OD32K	OO SY MUS	57	1060	1129550	-650836	L	3	23012	L	84051318	000000	000000	180500	002000	G	E=157,C=42,B=24
MLFCG	HD 101190	12	0730	1135495	-625512	H	3	22097	L	84012506	000000	000000	060000	002000	G	C=200,B=39
MLFCG	HD 101205	12	0650	1135598	-630545	H	3	22104	L	84012601	000000	000000	015900	001000	G	C=195,B=38
MLFCG	HD 101413	12	0840	1137245	-631201	H	3	22103	L	84012600	000000	000000	002800	006000	G	C=190,B=41
CCFSW	HD 101501	44	0530	1138252	+342849	L	3	22005	L	84011406	000000	000000	065000	006000	G	E=69,C=80,B=31
GC134	HD101947	53	0532	1141073	-621242	H	3	22818	L	84042302	000000	000000	021347	005500	501	V
CSFRW	HD 102212	49	0400	1143173	+064835	L	1	02812	L	84022001	000000	000000	013000	006000	G	E=6X,C=2.5X,B=118
FI158	HD102567	59	0925	1145336	-615544	L	3	21932	L	84010411	000000	000000	114440	000605	501	V TRAIL RATE 0.05479 A
CCFTS	HD 102574	45	0620	1145508	-100201	L	3	22243	L	84021022	000000	000000	224100	012000	G	E=108,C=180,B=46
OBFTS	HD 102776	26	0450	1147143	-633047	H	3	22095	L	84012504	000000	000000	044000	000128	G	C=220,B=40
CVFES	PG1149-133	29	1600	1149174	-132029	L	1	02848	L	84022601	000000	000000	011900	007000	G	C=165,B=105
CVFES	PG 1149-13	29	1600	1149174	-132029	L	3	22359	L	84022523	000000	000000	231500	012000	G	C=113,B=73
GI156	NOVA MUSC	55	1182	1149350	-665543	H	3	22732	L	84041305	000000	000000	053445	019200	141	V
GI156	NOVA MUSC	55	1182	1149350	-665543	L	3	22731	SL	84041303	032712	000400	033437	001500	260	V 120$
GI156	NOVA MUSC	55	1186	1149350	-665543	L	1	03151	L	84041303	000000	000000	030214	001000	241	V
GI156	NOVA MUSC	55	1181	1149350	-665543	L	1	03152	LS	84041304	050330	002500	040700	005000	372	V 122$
LDGDS	HD 103432	44	0820	1151592	+194123	L	1	03107	L	84040700	000000	000000	003000	000900	G	C=190,B=70
LDGDS	HD 103431	44	0840	1152022	+194222	L	1	03105	L	84040622	000000	000000	225800	000800	G	C=2X,B=215
LDGDS	HD 103431	44	0840	1152022	+194222	L	1	03106	L	84040623	000000	000000	234400	000300	G	C=150,B=80
IGFBS	HD 103779	23	0720	1154264	-625815	H	3	22146	L	84013015	000000	000000	155200	003500	G	C=2X,B=50

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
OD18K	00 BE UMA	19	1500	1155097	+491302	L	1	02886	L	84030401	000000	000000	012900	002000	G B=2X
OD18K	00 BE UMA	19	1500	1155097	+491302	L	3	22403	L	84030401	000000	000000	015900	002000	G C=240,B=200
OD18K	00 BE UMA	19	1500	1155097	+491302	L	3	22399	L	84030318	000000	000000	185200	006000	G C=220,B=180
OD18K	00 BE UMA	19	1500	1155097	+491302	L	1	02885	L	84030400	000000	000000	002000	003000	G B=2X
OD18K	00 BE UMA	19	1500	1155097	+491302	L	3	22402	L	84030400	000000	000000	005500	003000	G C=2X,B=2X
OD18K	00 BE UMA	19	1500	1155097	+491302	L	3	22401	L	84030323	000000	000000	231100	006500	G C=2X,B=2X
OD18K	00 BE UMA	19	1500	1155097	+491302	L	1	02884	L	84030321	000000	000000	215600	006000	G B=1.5X
OD18K	00 BE UMA	19	1500	1155097	+491302	L	3	22400	L	84030321	000000	000000	210200	005000	G C=235,B=195
OD18K	00 BE UMA	19	1500	1155097	+491302	L	1	02883	L	84030319	000000	000000	195700	006000	G C=2X,B=1.5X
OD18K	00 BE UMA	19	1500	1155097	+491302	L	3	22385	L	84030120	000000	000000	204900	014000	G C=110,B=30
OD18K	00 BE UMA	64	1500	1155098	+491301	L	1	02868	L	84030100	000000	000000	005600	005000	G C=150,B=82
OD18K	00 BE UMA	19	1500	1155098	+491301	L	3	22392	L	84030221	000000	000000	215100	006000	G C=160,B=75
OD18K	00 BE UMA	19	1500	1155098	+491301	L	1	02877	L	84030220	000000	000000	204600	006000	G C=200,B=125
OD18K	00 BE UMA	19	1500	1155098	+491301	L	3	22383	L	84030101	000000	000000	014800	004200	G C=80,B=38
OD18K	00 BE UMA	19	1500	1155098	+491301	L	3	22391	L	84030219	000000	000000	194100	006000	G C=160,B=90
OD18K	00 BE UMA	64	1500	1155098	+491301	L	3	22382	L	84030100	000000	000000	000400	005000	G C=130,B=35
BLGAG	Q 1156+295	85	1600	1156581	+293124	L	3	23134	L	84053007	000000	000000	074800	012000	G C=65,B=34
HEGJL	PG1159-035	17	1470	1159123	-032857	H	3	23032	L	84051710	000000	000000	100700	099999	G C=1.5X,B=162,T=1020M
GA096	PG1159-035	17	1431	1159123	-032857	E	9	01538	2	84051623	000000	000000	230000	016000	V FOR SWP23032 HIGH
HEGJL	PG1159-035	17	1470	1159123	-032857	D	9	01537	L	84051622	000000	000000	223700	016000	G NO COMMENTS
HEGJL	PG1159-035	17	1470	1159123	-032857	L	3	23031	L	84051620	000000	000000	203500	001500	G C=180,B=20
IGFBS	HD 104683	23	0790	1200388	-640423	H	3	22169	L	84013117	000000	000000	175600	008400	G C=2X,B=66
IGFBS	HD 104705	23	0780	1200491	-622503	H	3	22148	L	84013018	000000	000000	182200	006000	G C=3X,B=60
STFMA	HD 105590	44	0660	1206532	-113436	L	1	02854	L	84022623	000000	000000	230500	001615	G C=4X,B=40
STFMA	HD 105590	44	0660	1206532	-113436	L	1	02853	L	84022622	000000	000000	221500	000315	G C=190,B=33
STFMA	HD 105590	44	0660	1206532	-113436	L	2	17216	L	84010307	000000	000000	071600	000345	G C=145,B=22
STFMA	HD 105590	44	0660	1206532	-113436	L	2	17256	L	84022700	000000	000000	000200	000430	G C=175,B=24
EE270	NGC 4151	84	1252	1208000	394100	L	3	22454	L	84031007	000000	000000	075038	004000	350 V
EE270	NGC4151	84	1258	1208000	394102	L	3	22622	L	84033008	000000	000000	082117	004000	251 V
EE270	NGC 4151	84	1249	1208000	394100	L	1	02918	L	84031008	000000	000000	083700	003000	352 V
EE270	NGC4151	84	1255	1208000	394102	L	3	22580	L	84032509	000000	000000	091109	005500	350 V
EE270	NGC4151	84	1254	1208000	394102	L	1	03020	L	84032510	000000	000000	101730	003000	341 V
FSTOO	NULL	99	9999	1208000	394102	L	1	03019		84032507	000000	000000	073400	000000	V NULL READ AFTER TURN
EE270	NGC4151	84	1260	1208000	394102	L	3	22623	L	84033009	000000	000000	094545	006200	262 V
EE270	NGC 4151	84	1251	1208000	394100	L	3	22455	L	84031009	000000	000000	091421	009300	361 V
EE270	NGC4151	84	1264	1208000	394102	L	1	03059	L	84033009	000000	000000	091112	003000	352 V
QSGRP	NG 4151	84	1120	1208000	+394054	L	3	23016	L	84051408	000000	000000	082700	013500	G E=205,C=70,B=30
EE270	NGC4151	84	1259	1208000	394102	L	3	22546	L	84032209	000000	000000	092513	005500	340 V OBJ. OUT OF AP. ~20M
EE270	NGC4151	84	1261	1208000	394102	L	1	03005	L	84032210	000000	000000	102415	002315	341 V
EE270	NGC 4151	84	1250	1208000	394100	L	3	22425	L	84030608	000000	000000	081640	006000	350 V
EE270	NGC 4151	84	1254	1208000	394100	L	1	02902	L	84030609	000000	000000	092401	003000	351 V
EE270	NGC 4151	84	1250	1208000	394100	L	3	22426	L	84030610	000000	000000	100045	004500	250 V
QSGRP	NG 4151	84	1120	1208000	+394054	L	3	22651	L	84040211	000000	000000	113300	013500	G E=232,C=80,B=40
QSGRP	NG 4151	84	1120	1208000	+394054	L	1	03075	L	84040209	000000	000000	091400	013500	G E=255,C=130,B=50
QSGRP	NG 4151	84	1120	1208000	+394054	L	1	03363	L	84051410	000000	000000	105600	010500	G E=209,C=100,B=45

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
EE270	NGC4151	84	1259	1208002	394102	L	3	22650	L	84040207	000000	000000	071155	009500 361 V
EE270	NGC4151	84	1261	1208002	394102	L	1	03074	L	84040206	000000	000000	063759	003000 353 V
EE270	NGC4151	84	1256	1208002	394102	L	3	22649	L	84040205	000000	000000	055141	004000 351 V
EE270	NGC4151	84	1257	1208003	394101	L	1	02948	L	84031409	000000	000000	090329	003000 353 V
EE270	NGC4151	84	1257	1208003	394101	L	3	22488	L	84031409	000000	000000	093817	007200 351 V
EE270	NGC 4151	84	1259	1208003	394101	L	1	02977	L	84031808	000000	000000	083523	003500 351 V
EE270	NGC4151	84	1259	1208003	394101	L	3	22487	L	84031408	000000	000000	081638	004000 351 V
EE270	NGC 4151	84	1254	1208003	394101	L	3	22516	L	84031809	000000	000000	091813	008500 362 V
EE270	NGC 4151	84	1261	1208003	394101	L	3	22515	L	84031807	000000	000000	074307	004500 352 V
EE270	NGC4151	84	1256	1208004	394102	L	1	03145	L	84041106	000000	000000	063705	003000 352 V
EE270	NGC4151	84	1259	1208004	394102	L	1	03146	L	84041108	000000	000000	081709	003000 352 V
EE270	NGC 4151	84	1269	1208004	394102	L	3	22714	L	84041105	000000	000000	053126	006000 351 V
EE270	NGC4151	84	1261	1208004	394102	L	3	22715	L	84041107	000000	000000	071213	006000 351 V
EE270	NGC4151	84	1261	1208004	394102	L	3	22696	L	84040807	000000	000000	075018	006000 351 V
EE270	NGC4151	84	1261	1208004	394102	L	3	22695	L	84040806	000000	000000	060302	006000 351 V
EE270	NGC4151	84	1258	1208004	394102	L	1	03121	L	84040807	000000	000000	070911	003500 353 V
FI041	W CRU	66	0859	1209200	-583018	L	3	22435	L	84030706	000000	000000	065022	002200 330 V
FI041	W CRU	66	0861	1209200	-583018	L	1	02906	L	84030710	000000	000000	103829	001000 461 V
FI041	W CRU	66	0860	1209200	-583018	L	3	22437	L	84030709	000000	000000	093525	006000 451 V
FI041	W CRU	66	0856	1209200	-583018	L	1	02904	L	84030707	000000	000000	073458	000506 351 V
FI041	W CRU	66	0857	1209200	-583018	L	3	22436	L	84030707	000000	000000	075605	006906 450 V
FI041	W CRU	66	0859	1209200	-583018	L	1	02905	L	84030709	000000	000000	090927	001008 461 V
GI156	W CRU	45	0862	1209200	-583018	L	1	03235	L	84042807	000000	000000	071216	002000 502 V
GC011	NULL IMAGE	99	9999	1209338	224839	L	1	03348	L	84051100	000000	000000	000000	000000 V READG1 CUT OFF
GC011	CC COM	46	1165	1209338	224839	L	1	03349	L	84051123	000000	000000	233453	018000 352 V
FM233	NULL IMAGE	99	9999	1210042	-695226	H	1	03034	L	84032700	000000	000000	000000	000000 V GI CUT-OFF FOR 1.303
FM233	HD106111	41	0622	1210042	-695226	H	1	03035	L	84032703	000000	000000	035814	039900 705 V
GC134	HD106111	53	0646	1210042	-695226	H	3	22819	L	84042304	000000	000000	044217	016000 401 V
FA050	HD106223	30	0760	1210454	303338	L	3	22388	LS	84030204	045429	001000	043720	001300 701 V 401$
FA050	HD106223	30	0762	1210454	303338	L	1	02873	LS	84030204	043235	000200	042642	000300 703 V 303$
GA191	HZ 21	17	1420	1211250	331310	L	1	03143	L	84041102	000000	000000	025512	005000 502 V
GA191	HZ 21	17	1420	1211250	331310	L	3	22712	L	84041102	000000	000000	021141	003500 500 V
GA191	HZ21	17	1420	1211251	331311	L	1	03303	L	84050804	000000	000000	043812	004000 502 V
GA191	HZ 21	17	1420	1211251	331311	L	1	03144	L	84041104	000000	000000	043048	003500 502 V
HSGCW	00 HZ 21	17	1470	1211251	+331308	L	3	22987	L	84051108	000000	000000	080300	002100 G C=170,B=20
HSGCW	00 HZ 21	17	1470	1211251	+331308	L	1	03325	L	84051007	000000	000000	075500	009900 G C=2.2X,B=50
GA191	HZ21	17	1420	1211251	331311	L	1	03302	L	84050802	000000	000000	025503	005000 502 V
HSGCW	00 HZ 21	17	1470	1211251	+331308	L	3	22975	L	84051011	000000	000000	111000	004800 G C=2X,B=29
GA191	HZ21	17	1420	1211251	331311	L	3	22942	L	84050805	000000	000000	052257	002800 500 V
GA191	HZ 21	17	1420	1211251	331311	L	3	22713	L	84041103	000000	000000	035108	003500 500 V
HSGCW	00 HZ 21	17	1470	1211251	+331308	L	1	03339	L	84051108	000000	000000	083100	003200 G C=165,B=40
GA191	HZ21	17	1420	1211251	331311	L	3	22941	L	84050803	000000	000000	034938	003500 500 V
GA191	HZ21	17	1420	1211251	331311	L	3	22940	L	84050802	000000	000000	021209	003500 500 V
HSGCW	00 HZ 21	17	1470	1211251	+331308	L	1	03326	L	84051010	000000	000000	102900	003200 G C=180,B=40
HSGCW	00 HZ 21	17	1470	1211251	+331308	L	3	22974	L	84051009	000000	000000	093800	004800 G C=2X,B=28

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAG	A	DATE	EXP.MAI	EXP.LARGE	ECC	COMMENT
EGGDE	NG 4194	88	1330	1211399	+544819	L	1	0341	L	84052308	000000	000000	081900	027000		G C=230,B=112
EGGDE	NG 4194	88	1330	1211400	+544820	L	3	22781	L	84041809	000000	000000	095800	028500		G C=123,B=45
GC011	HD106400	46	0997	1211479	120555	L	1	0335	L	84051205	000000	000000	052702	002500	542	V
GC011	HD106400	46	0990	1211479	120555	L	3	22996	L	84051205	000000	000000	055552	005200	200	V
OBFGS	HD 106490	20	0310	1212286	-582815	H	3	21954	L	84010703	000000	000000	034700	000008		G C=210,B=35
OBFGS	HD 106911	21	0440	1215223	-790205	H	1	02568	L	84010707	000000	000000	070600	000053		G C=215,B=45
OBFGS	HD 106911	21	0440	1215223	-790205	H	3	21957	L	84010707	000000	000000	071300	000150		G C=230,B=42
OD20K	OO1218+304	87	1600	1218517	302714	L	1	02733	L	84020300	000000	000000	000400	021000		G
OD20K	OO1218+304	87	1600	1218517	+302713	L	3	22187	L	84020214	000000	000000	142900	039500		G C=140,B=90
BLFDW	Q 1219+285	87	1600	1219011	+283036	L	1	02876	L	84030212	000000	000000	120300	040000		G C=200,B=110
BLFDW	Q 1219+285	87	1600	1219011	+283036	L	3	22407	L	84030412	000000	000000	120500	035000		G C=125,B=90
GC103	HD107760	44	0833	1220067	733221	L	3	22959	L	84050904	000000	000000	040046	009000	220	V
FE073	NGC4350	80	1261	1221264	165820	L	3	22306	L	84022006	000000	000000	064626	032000	102	V SERENDIPITY DURING L
FE073	NGC4350	80	1261	1221264	165820	L	1	02816	L	84022006	000000	000000	064501	035200	304	V USED REF.PT. AT -26,
FE073	NULL	99	9999	1221264	165820	L	1	02815		84022000	000000	000000	000000	000000		V NULL READ FOR LWP281
FE073	NGC4350	80	1240	1221265	165824	L	3	22271	L	84021507	000000	000000	071738	029200	102	V SERENDIPITY DURING L
FE073	NGC4350	80	1240	1221266	165824	L	1	02782	L	84021507	000000	000000	071437	030600	334	V NON OPT ROLL
FE073	NULL	99	1240	1221266	165824	L	1	02781	L	84021512	000000	000000	124520	000000		V NULL READ FOR LWP 27
RGGGF	NG 4388	84	1100	1223147	+125615	L	3	23104	L	84052508	000000	000000	080100	028000		G E=91,C=110,B=60
RGGGF	NG 4388	84	1400	1223147	+125615	L	1	03441	L	84052607	000000	000000	073200	030000		G C=165,B=115
GQ256	3C 273	84	1320	1226332	021943	L	3	23063	L	84052023	000000	000000	234418	002500	341	V
GQ256	3C 273	84	1323	1226332	021943	L	1	03397	L	84052100	000000	000000	001651	003000	403	V
GQ256	3C 273	84	1316	1226332	021943	L	3	23064	L	84052100	000000	000000	005222	005000	351	V
GQ256	3C 273	84	1316	1226333	021944	L	1	03398	L	84052101	000000	000000	014606	006000	503	V
CSFRW	HD 108903	49	0160	1228227	-565000	L	1	02821	L	84022102	000000	000000	020500	000500		G E=5X,C=165,B=40
CSGJL	HD 108903	49	0160	1228227	-565000	L	2	17339	L	84040409	000000	000000	095200	000040		G E=255,C=85,B=20
CSGJL	HD 108903	49	0160	1228227	-565000	H	2	17340	L	84040411	000000	000000	114400	013500		G E=30X
CSFRW	HD 108903	49	0160	1228227	-565000	L	1	02814	L	84022004	000000	000000	041500	003000		G E=5X,C=3X,B=50
CSFRW	HD 108903	49	0160	1228227	-565000	L	1	02811	L	84022000	000000	000000	000400	001200		G E=2X,C=2X,B=55
CSGJL	OO WAVCAL	98	0160	1228227	-565000	H	2	17341	S	84040414	142900	000016	000000	000000		G E=50X,C=200,B=35
CSGJL	HD 108903	49	0160	1228227	-565000	L	3	22670	L	84040409	000000	000000	095900	006000		G E=2X,C=68,B=32
FE243	NGC4552	81	1220	1233083	124953	L	3	22255	L	84021305	000000	000000	055531	041100	313	V
CCGDS	HD 109647	46	0810	1233296	+512948	H	1	03122	L	84040809	000000	000000	093400	026000		G E=204,C=130,B=72
FE063	NGC 4593	84	1339	1234047	-050416	L	1	02741	L	84020510	000000	000000	105528	011200	351	V
EGFJM	NG 4579	80	1240	1235120	+120536	L	3	22281	L	84021614	000000	000000	141100	033000		G C=120,B=90
FE063	NGC4593	84	1344	1237047	-050416	L	1	02731	L	84020207	000000	000000	075118	012000	354	V
FE063	NGC 4593	84	1338	1237047	-050416	L	3	22207	L	84020507	000000	000000	071905	021000	332	V
FE063	NGC4593	84	1353	1237047	-050416	L	3	22186	L	84020210	000000	000000	100035	016700	331	V
GC262	UW CEN	52	0937	1240263	-541516	L	1	03110	LS	84040706	065215	002000	060802	004000	601	V 301$
HZFRG	PG1241+176	85	1560	1241410	+173729	L	3	22338	L	84022310	000000	000000	104900	049000		G C=110,B=85
HZFRG	PG1241+176	85	1560	1241410	+173729	L	1	02836	L	84022305	000000	000000	054200	030000		G E=24B,C=153,B=80
GA079	BD-7D3477	28	1063	1241480	-082400	H	3	22972	L	84051003	000000	000000	032409	007000	401	V
GA079	BD-7D3477	28	1059	1241480	-082400	H	3	22971	L	84051001	000000	000000	010811	008000	401	V
GA079	NULL IMAGE	99	9999	1241480	-082359	H	1	03335	L	84051100	000000	000000	000000	000000		V READ G1 FOR LWP 3336
GA079	BD-7D3477	28	1071	1241480	-082400	H	3	22973	L	84051005	000000	000000	052518	008000	402	V

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
GA079	BD-7D 3477	28	1061	1241480	-082359	L	3	22986	L	84051104	000000	000000	043123	000200	500	V 2EXP LAP 1M EACH/(2,
GA079	BD -7D3477	28	1070	1241480	-082400	L	3	22970	L	84051000	000000	000000	000514	000200	500	V 2EXP IN LAP
GA079	BD-7D3477	28	1072	1241480	-082359	L	3	22985	L	84051103	000000	000000	035509	000200	500	V 2EXP IN LAP 1M EACH
GA079	BD-7D 3477	28	1074	1241480	-082359	H	1	03336	L	84051101	000000	000000	010508	009200	503	V
GA079	BD-7D3477	28	1056	1241480	-082400	L	1	03322	L	84051000	000000	000000	001826	000500	701	V 2EXP IN LAP
GA079	BD-7D3477	28	1062	1241480	-082400	L	1	03323	L	84051002	000000	000000	023601	000400	501	V 2EXP LAP 2MIN EACH
GA079	BD-7D3477	28	1099	1241480	-082400	L	1	03324	L	84051004	000000	000000	044214	000400	502	V 2EXP LAP 2MIN EACH
GA079	BD-7D 3477	28	1135	1241480	-082359	L	3	22984	L	84051103	000000	000000	030724	000200	400	V 2EXP IN LAP 1M EACH
GA079	NULL IMAGE	99	9999	1241480	-082359	H	1	03337	L	84051100	000000	000000	000000	000000		V READG1 FOR LWP3338
GA079	BD-7D3477	28	1059	1241480	-082359	H	1	03338	L	84051105	000000	000000	050856	009500	503	V
WDFCB	PG1247+553	37	1230	1247568	+552221	L	3	22208	L	84020514	000000	000000	142800	000600		G C=180,B=23
WDFCB	PG1247+553	37	1230	1247568	+552221	L	1	02742	L	84020514	000000	000000	144000	001500		G C=1.5X,B=38
WDFCB	PG1247+553	37	1230	1247568	+552222	H	3	22209	L	84020515	000000	000000	151100	032000		G C=175,B=90
WDFCB	PG1247+553	37	1230	1247568	+552222	L	1	02743	L	84020520	000000	000000	203700	000800		G C=190,B=35
LBFAS	HD 111786	36	0610	1249172	-262802	H	1	02561	L	84010607	000000	000000	073000	001800		G C=178,B=50
LBFAS	HD 111786	36	0610	1249172	-262802	H	3	21945	L	84010606	000000	000000	065500	003000		G C=125,B=55
FI247	EX HYA	54	1350	1249426	-285840	L	3	22203	L	84020412	000000	000000	121052	003000	330	V RP(2,-212)AND (-34,-
FI247	EX HYA	54	1344	1249426	-285840	L	1	02738	L	84020407	000000	000000	075052	001700	341	V REF. POINT(-2,-212)
FI247	EX HYA	54	1355	1249426	-285840	L	3	22202	L	84020410	000000	000000	104727	001107	220	V
FI247	EX HYA	54	1347	1249426	-285840	L	1	02739	L	84020408	000000	000000	085753	001700	341	V
FI247	EX HYA	54	1350	1249426	-285840	L	1	02740	L	84020411	000000	000000	113203	002700	342	V RP(2,-212)AND (-34,-
FI247	EX HYA	54	1344	1249426	-285840	L	3	22201	L	84020408	000000	000000	081235	002700	230	V RP(2,-212)AND (-34,-
OBFGS	HD 112092	20	0430	1251384	-565424	H	3	21955	L	84010704	000000	000000	042100	000038		G C=205,B=38
OBFGS	HD 112078	21	0480	1251401	-585232	H	3	21965	L	84010801	000000	000000	013100	000150		G C=210,B=42
WDFCB	PG1254+223	37	1320	1254350	+221808	H	3	22192	L	84020315	000000	000000	152400	034000		G C=160,B=90
CCFDS	BD+362322A	48	1060	1255190	+352948	L	1	02587	L	84011002	000000	000000	020900	002000		G E=119,C=50,B=40
AFGJL	HD 113022	41	0620	1258110	+183829	L	3	22820	L	84042309	000000	000000	095500	018000		G E=104,C=10X,B=35
AFGJL	HD 113022	41	0620	1258116	+183828	H	1	03206	L	84042222	000000	000000	222200	003000		G E=120,C=230,B=87
IGFBS	HD 113012	23	0810	1258379	-594827	H	3	22168	L	84013115	000000	000000	152300	012000		G C=3X,B=66
FM192	HD113797	22	0536	1303243	360357	H	3	22295	L	84021807	000000	000000	073619	001000	500	V
QSGDT	Q 1303+308	85	1700	1303319	+304856	L	1	03287	L	84050607	000000	000000	073600	085500		G C=173,B=140
GQ229	Q1303	85	1700	1303319	304856	E	9	01533	2	84050600	000000	000000	001900	004000		V FES FOR LWP3287,LWLA
FM192	HD113865	30	0672	1303471	291747	H	1	02800	L	84021806	000000	000000	063128	004800	702	V
GE228	POX120	88	1600	1304046	-114820	L	3	23042	L	84051823	000000	000000	235701	041000	233	V
XQFRG	PG1307+085	85	1530	1307162	+083547	L	1	02826	L	84022114	000000	000000	140100	018000		G C=155,B=60
OD27K	Q 1308+326	85	1600	1308076	+323641	L	1	02859	L	84022816	000000	000000	165100	015000		G C=95,B=65
RSFJL	HD 114519	46	0790	1308179	+361201	L	1	03042	L	84032723	000000	000000	231200	000100		G E=89,C=90,B=40
RSFJL	HD 114519	46	0790	1308179	+361201	L	3	22611	L	84032821	000000	000000	215700	015000		G E=99,B=50
RSFJL	HD 114519	46	0790	1308179	+361201	L	3	22612	L	84032901	000000	000000	014000	006000		G E=63,C=56,B=20
RSFJL	HD 114519	46	0790	1308179	+361201	H	1	03032	L	84032622	000000	000000	222000	005000		G C=205,B=140
RSFJL	HD 114519	46	0790	1308179	+361201	L	3	22595	L	84032621	000000	000000	210400	007000		G E=85,C=205,B=67
RSFJL	HD 114519	46	0790	1308179	+361201	H	1	03047	L	84032820	000000	000000	205000	006000		G E=81,C=70,B=40
RSFJL	HD 114519	46	0790	1308179	+361201	L	3	22602	L	84032722	000000	000000	221600	004500		G E=197,C=220,B=133
FC254	RS CVN	46	0878	1308179	361201	H	1	03049	L	84032903	000000	000000	033029	004500	301	V
RSFJL	HD 114519	46	0790	1308179	+361201	L	3	22593	L	84032617	000000	000000	172600	002500		G E=180,C=88,B=35

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
RSFJL	HD 114519	46	0790	1308179	+361201	L	1	03030	L	84032616	000000	000000	164700	001200		G C=230,B=39
RSFJL	HD 114519	46	0790	1308179	+361201	L	3	22592	L	84032615	000000	000000	152000	008000		G E=203,C=200,B=40
RSFJL	HD 114519	46	0790	1308179	+361201	L	1	03029	L	84032614	000000	000000	142700	001800		G E=1.1X,C=1.5X,B=35
RSFJL	HD 114519	46	0790	1308179	+361201	L	3	22591	L	84032613	000000	000000	135200	002500		G E=64,C=80,B=21
RSFJL	HD 114519	46	0790	1308179	+361201	H	1	03028	L	84032613	000000	000000	131600	003000		G E=70,C=80,B=34
RSFJL	HD 114519	46	0790	1308179	+361201	H	1	03048	L	84032900	000000	000000	003300	006000		G E=87,C=75,B=45
RSFJL	HD 114519	46	0790	1308179	+361201	L	3	22609	L	84032815	000000	000000	153400	014000		G E=102,C=1.2X,B=70
EGFJM	NG 5005	80	1240	1308372	+371924	L	3	22272	L	84021513	000000	000000	135100	040500		G C=90,B=85
FE229	Q1309-056	85	9999	1309006	-053642	E	9	01508	2	84010208	000000	000000	084417	004000		V FES FOR LWP 2537
QSFDT	Q 1309-056	85	1690	1309006	-053642	L	1	02537	L	84010208	000000	000000	084400	087400		G C=210,B=164
QSFDT	Q 1309-056	85	1650	1309007	-053643	D	9	01509	L	84010218	000000	000000	183200	016000		G NO COMMENTS
FM192	HD114710	44	0457	1309324	280752	H	1	02799	L	84021805	000000	000000	053021	002000	702	V
CCGDS	HD 115043	44	0680	1311344	+565822	H	1	03125	L	84040820	000000	000000	200700	006000		G E=176,C=210,B=82
CCGDS	HD 115043	44	0680	1311344	+565822	H	1	03101	L	84040618	000000	000000	181900	003000		G E=234,C=240,B=170
FM192	HD115810	33	0624	1316464	352324	H	1	02801	L	84021808	000000	000000	081829	004130	602	V
GC262	DY CEN	52	1292	1322253	-535911	L	1	03109	L	84040704	000000	000000	040315	007000	601	V
DCFSP	HD 116802	53	1010	1323269	-030709	L	1	02842	L	84022415	000000	000000	154500	006000		G E=104,C=152,B=40
GQ260	NULL	99	1040	1327245	-204048	H	1	03378		84051800	000000	000000	000000	000000		V G-1 CUTOFF
GQ260	PKS1327206	85	1700	1327245	-204048	L	1	03379	L	84051723	000000	000000	235241	040400	305	V
CCFEG	00 FK COM	45	0820	1328246	+242924	L	3	22489	SL	84031412	132400	001500	122000	009300		G E=111,C=58,B=43
CCFEG	00 FK COM	45	0820	1328246	+242924	L	3	22491	SL	84031512	130600	004000	120800	010500		G E=116,C=62,B=43
CCFEG	00 FK COM	45	0820	1328246	+242924	L	1	02950	L	84031414	000000	000000	143400	000320		G E=212,C=112,B=33
CCFEG	00 FK COM	45	0820	1328246	+242924	L	1	02960	SL	84031511	114200	001500	113300	000320		G E=224,C=107,B=36
CCFEG	00 FK COM	45	0820	1328247	+242925	L	1	02949	SL	84031411	120300	001000	115400	000300		G E=216,C=103,B=33
GQ068	MKN 789	34	1450	1329549	112147	L	3	22896	L	84050223	000000	000000	233745	041822	302	V
GQ068	NULL	99	9999	1329549	112147	L	1	03263		84050303	000000	000000	035000	000000		V
GQ068	SERENDIPIT	99	9999	1329549	112147	L	2	17416		84050300	000000	000000	001840	036000		V UVC1(2)=106
HSGCW	00+70 5824	37	1290	1337356	+703218	L	3	22976	L	84051013	000000	000000	132900	002248		G C=1.5X,B=25
HSGCW	00+70 5824	37	1290	1337356	+703218	L	1	03327	L	84051012	000000	000000	123900	004124		G C=2.5X,B=40
HSGCW	00+70 5824	37	1290	1337356	+703218	L	1	03328	L	84051014	000000	000000	140300	004124		G C=2.5X,B=50
HSGCW	00+70 5824	37	1290	1337356	+703218	L	3	22977	L	84051014	000000	000000	145100	002248		G C=1.4X,B=21
HSGCW	00+70 5824	37	1290	1337356	+703218	L	1	03329	L	84051015	000000	000000	152400	001630		G C=220,B=41
HSGCW	00+70 5824	37	1290	1337356	+703218	L	3	22978	L	84051015	000000	000000	155300	001500		G C=210,B=21
HSGCW	00+70 5824	37	1290	1337356	+703218	L	1	03330	L	84051016	000000	000000	162700	001630		G C=235,B=42
HSGCW	00+70 5824	37	1290	1337356	+703219	L	3	22979	L	84051016	000000	000000	165700	001500		G C=220,B=21
RGGGF	OOMARK 270	84	1400	1339413	+675526	L	3	23114	L	84052708	000000	000000	080200	027500		G E=104,C=120,B=83
RGGGF	OOMARK 270	84	1400	1339413	+675526	L	1	03452	L	84052808	000000	000000	080000	031000		G C=180,B=140
GC011	HD119931	44	0740	1343361	052156	L	3	23019	L	84051423	000000	000000	233147	006000	300	V
GC011	HD119931	44	0733	1343361	052156	L	1	03366	LS	84051500	005647	000200	003741	001000	701	V 401$
GA055	HD119921	30	0535	1344009	-360009	H	3	22668	L	84040407	000000	000000	074025	001500	500	V
PHCAL	ETA UMA	21	0192	1345340	493347	H	2	17313	L	84032108	000000	000000	083054	000006	402	V
PHCAL	00 ETA UMA	12	0700	1345340	+493344	H	1	02659	L	84011905	000000	000000	051500	000005		G C=220,B=40
PHCAL	ETA UMA	21	0192	1345340	493344	H	3	22469	L	84031209	000000	000000	092351	000006	501	V
PHCAL	ETA UMA	21	0193	1345340	493344	H	1	02937	L	84031209	000000	000000	092907	000005	502	V
PHCAL	HD 120315	21	0180	1345343	+493344	H	1	03290	L	84050618	000000	000000	180300	000005		G C=220,B=45

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
PHCAL	HD 120315	21	0180	1345343	+493344	H	2	17402	L	84050120	000000	000000	201800	000006		G C=215,B=35
PHCAL	HD 120315	21	0180	1345343	+493344	H	3	21925	L	84010105	000000	000000	053800	000006		G C=175,B=35
PHCAL	HD 120315	21	0180	1345343	+493344	H	2	17203	L	84010105	000000	000000	053100	000006		G C=200,B=32
PHCAL	HD 120315	21	0180	1345343	+493344	H	3	22895	L	84050222	000000	000000	224100	000006		G C=175,B=53
HSGCW	HD 120315	21	0180	1345343	+493344	L	1	03344	L	84051118	000000	000000	185900	000001		G C=2X,B=39
HSGCW	HD 120315	21	0180	1345343	+493344	L	3	22994	L	84051120	000000	000000	205000	000001		G C=220,B=17
HSGCW	HD 120315	13	0180	1345343	+493344	L	1	03334	L	84051022	000000	000000	222900	000001		G C=2X,B=39
HSGCW	HD 120315	21	0180	1345343	+493344	L	1	03347	L	84051122	000000	000000	221900	000000		G C=65,B=32
HSGCW	HD 120315	13	0180	1345343	+493344	L	1	03333	L	84051021	000000	000000	210800	000001		G C=80,B=33
PHCAL	HD 120315	21	0180	1345343	+493344	L	1	02872	L	84030201	000000	000000	012700	000001		G C=152,B=35
HSGCW	HD 120315	21	0180	1345343	+493344	L	3	22992	L	84051117	000000	000000	174800	000001		G C=33,B=17
HSGCW	HD 120315	21	0180	1345343	+493344	L	1	03343	L	84051117	000000	000000	173600	000001		G C=70,B=32
HSGCW	HD 120315	21	0180	1345343	+493344	L	3	22995	L	84051122	000000	000000	220700	000001		G C=1.1X,B=17
PHCAL	HD 120315	21	0180	1345343	+493344	H	3	22717	L	84041118	000000	000000	182900	000006		G C=173,B=35
HSGCW	HD 120315	21	0180	1345343	+493344	L	1	03345	L	84051120	000000	000000	201200	000001		G C=240,B=34
HSGCW	HD 120315	21	0180	1345343	+493344	L	3	22993	L	84051119	000000	000000	191100	000001		G C=335,B=18
PHCAL	HD 120315	21	0180	1345343	+493344	L	3	22387	L	84030202	000000	000000	020800	000001		G C=185,B=15
HSGCW	HD 120315	21	0180	1345343	+493344	L	1	03346	L	84051121	000000	000000	212700	000001		G C=240,B=37
HSGCW	HD 120315	13	0180	1345343	+493344	L	3	22982	L	84051020	000000	000000	205500	000001		G C=103,B=19
HSGCW	HD 120315	13	0180	1345343	+493344	L	3	22983	L	84051022	000000	000000	221700	000001		G C=150,B=18
WDGJL	PG1346+082	29	1500	1346258	+081228	L	3	23034	L	84051719	000000	000000	194100	006000		G C=75,B=34
WDGJL	PG1346+082	29	1500	1346258	+081228	L	3	23035	L	84051721	000000	000000	214700	006000		G C=50,B=20
WDGJL	PG1346+082	29	1500	1346258	+081228	L	1	03377	L	84051720	000000	000000	204500	006000		G C=8,B=50
CSFRW	HD 120323	49	0440	1346324	-341207	L	1	02820	L	84022101	000000	000000	011600	000800		G E=2X,C=180,B=35
CSFRW	HD 120323	49	0440	1346324	-341207	L	1	02819	L	84022023	000000	000000	235600	005000		G E=11X,C=4X,B=50
CSFRW	HD 120323	49	0440	1346324	-341207	L	1	02818	L	84022022	000000	000000	225400	002000		G E=4.5X,C=1.5X,B=35
QSGMM	OOMARK 279	84	1440	1351535	+693313	L	3	22863	L	84042715	000000	000000	150300	006000		G C=160,B=104
QSGMM	OOMARK 279	84	1440	1351535	+693313	L	1	03232	L	84042716	000000	000000	160700	006000		G C=2X,B=180
QSGMM	OOMARK 279	84	1440	1351536	+693313	L	3	22864	L	84042717	000000	000000	171100	006000		G E=183,C=160,B=95
GM081	HD121800	20	0917	1353345	662139	L	3	23094	LS	84052323	234208	000440	232856	000320	801	V 701$
FE164	MKN463	84	1452	1353396	183657	L	3	22774	L	84041701	000000	000000	014120	042500	343	V
GQ068	NULL	99	9999	1353397	183658	L	1	03173		84041800	000000	000000	000000	000000		V
GQ068	MKN463	84	1490	1353397	183658	L	2	17383	L	84041801	000000	000000	015420	040600	336	V
GHGLH	HD 121800	20	0911	1353544	+662138	H	3	22711	L	84041100	000000	000000	000100	004500		G C=150,B=58
GHGLH	HD 121800	20	0911	1353544	+662138	H	3	22709	L	84041021	000000	000000	212400	003000		G C=180,B=100
GHGLH	HD 121800	20	0911	1353544	+662138	H	1	03142	L	84041023	000000	000000	232600	003000		G C=200,B=85
GHGLH	HD 121800	20	0911	1353544	+662138	H	3	22710	L	84041022	000000	000000	224000	004000		G C=200,B=105
GHGLH	HD 121800	20	0911	1353544	+662138	H	1	03141	L	84041022	000000	000000	220000	003500		G C=253,B=130
OBFGS	HD 121743	20	0400	1355133	-415127	H	3	21956	L	84010705	000000	000000	054200	000025		G C=210,B=38
HCFHB	HD 122202	41	0940	1357482	+050553	L	1	02563	L	84010616	000000	000000	164200	001000		G C=230,B=35
HCFHB	HD 122202	41	0940	1357482	+050553	L	3	21947	L	84010616	000000	000000	165600	012000		G C=180,B=38
GE228	NULL IMAGE	99	9999	1400050	-295946		3	23052		84051923	000000	000000	230000	000000		V NULL READ TO SEE REM
GE228	TOL 41	88	1800	1400050	-295946	L	3	23053	L	84052000	000000	000000	000950	039700	234	V
WDFCB	001403-077	37	9999	1403262	-074412	L	3	22363	L	84022723	000000	000000	233400	004500		G C=135,B=30
FE212	PKS 1404-2	81	1400	1404378	-264651	L	3	22460	L	84031104	000000	000000	042643	038000	113	V

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
CVFJN	SA 224714	63	9999	1405068	-450631	D	9	01513	L	84012116	000000	000000	164700	016000		G NO COMMENTS
CVFJN	X 1405-451	63	0000	1405577	-450304	L	1	02683	L	84012117	000000	000000	172300	002500		G B=38
CVFJN	X 1405-451	63	0000	1405577	-450304	L	3	22065	L	84012117	000000	000000	175100	010130		G B=30
CVFJN	X 1405-451	63	0000	1405577	-450304	L	1	02684	L	84012119	000000	000000	195700	002500		G E=77,C=65,B=40
CVFJN	X 1405-451	63	0000	1405577	-450307	L	1	02692	L	84012207	000000	000000	073600	001400		G E=60,C=66,B=40
CVFJN	X 1405-451	63	0000	1405577	-450307	L	3	22073	L	84012207	000000	000000	070600	002600		G E=57,C=37,B=27
CVFJN	X 1405-451	63	0000	1405577	-450307	L	1	02691	L	84012206	000000	000000	063900	002300		G E=66,C=67,B=40
CVFJN	X 1405-451	63	0000	1405577	-450307	L	3	22072	L	84012206	000000	000000	060700	002600		G E=65,C=44,B=30
CVFJN	X 1405-451	63	0000	1405577	-450307	L	1	02690	L	84012205	000000	000000	052200	004000		G E=122,C=88,B=57
CVFJN	X 1405-451	63	0000	1405577	-450307	L	3	22071	L	84012204	000000	000000	045200	002600		G E=66,C=45,B=30
CVFJN	X 1405-451	63	0000	1405577	-450307	L	1	02689	L	84012204	000000	000000	042400	002300		G E=93,C=86,B=53
CVFJN	X 1405-451	63	0000	1405577	-450307	L	3	22070	L	84012203	000000	000000	035000	002600		G E=69,C=45,B=30
CVFJN	X 1405-451	63	0000	1405577	-450307	L	1	02688	L	84012203	000000	000000	032200	002300		G E=83,C=82,B=47
CVFJN	X 1405-451	63	0000	1405577	-450304	L	3	22069	L	84012202	000000	000000	025000	002600		G E=79,C=45,B=30
CVFJN	X 1405-451	63	0000	1405577	-450307	L	1	02687	L	84012202	000000	000000	022200	002300		G E=85,C=70,B=42
CVFJN	X 1405-451	63	0000	1405577	-450307	L	3	22068	L	84012201	000000	000000	013700	004000		G E=98,C=42,B=25
CVFJN	X 1405-451	63	0000	1405577	-450307	L	1	02686	L	84012201	000000	000000	010900	002300		G E=73,C=70,B=39
CVFJN	X 1405-451	63	0000	1405577	-450307	L	3	22067	L	84012200	000000	000000	003200	002600		G E=70,C=33,B=25
CVFJN	X 1405-451	63	0000	1405577	-450307	L	1	02685	L	84012200	000000	000000	000400	002300		G E=83,C=65,B=39
CVFJN	X 1405-451	63	0000	1405577	-450304	L	3	22066	L	84012120	000000	000000	203100	020300		G C=1.5X,C=125,B=65
FI175	IE1405-451	59	1550	1405582	-450305	L	3	22570	L	84032403	000000	000000	033255	010100	351	V
FI175	IE1405-451	59	1550	1405582	-450305	L	3	22571	L	84032407	000000	000000	070337	010100	351	V
FI175	IE1405-451	59	1550	1405582	-450305	L	1	03018	L	84032408	000000	000000	084948	010100	342	V
FI175	IE1405-451	59	1550	1405582	-450305	L	1	03017	L	84032405	000000	000000	051839	010100	342	V
DCFSP	HD 123984	53	0950	1408268	-130433	L	1	02841	L	84022413	000000	000000	135700	007000		G C=1.5X,B=40
CCFTS	HD 124850	41	0410	1413233	-054546	L	3	22228	L	84020903	000000	000000	030100	006000		G E=171,C=5X,B=110
CCFTS	HD 124850	41	0410	1413233	-054546	L	3	22241	L	84021018	000000	000000	185000	006000		G E=123,C=8X,B=39
FE162	MKN.673	84	1449	1415060	270516	L	3	22490	L	84031504	000000	000000	040240	039300	302	V
FE162	MKN.673	84	1449	1415060	270516	D	9	01522	2	84031505	000000	000000	055219	004000		V FES FOR SWP 22490
FE257	NGC 5548	84	1369	1415432	252200	L	3	22178	L	84020108	000000	000000	080254	009000	351	V
FE257	NGC5548	84	1369	1415432	252200	L	1	02726	L	84020106	000000	000000	065725	006000	351	V
QSGRP	NG 5548	84	1290	1415432	+252200	L	1	03365	L	84051421	000000	000000	211000	010000		G E=229,C=170,B=43
FE257	NGC5548	84	1360	1415432	252200	L	1	02727	L	84020109	000000	000000	093718	009000	461	V
FE257	NGC 5548	84	1362	1415432	252200	L	3	22179	L	84020111	000000	000000	111126	009600	351	V
QSGRP	NG 5548	84	1290	1415432	+252200	L	3	22652	L	84040214	000000	000000	144100	013000		G E=252,C=118,B=65
GQ256	NGC 5548	84	1348	1415432	252200	L	3	23065	L	84052103	000000	000000	033539	008000	351	V
GQ256	NGC5548	84	1345	1415432	252200	L	3	23066	L	84052106	000000	000000	061824	002900	230	V
GQ256	NGC 5548	84	1351	1415432	252200	L	1	03399	L	84052105	000000	000000	050212	007000	553	V
QSGRP	NG 5548	84	1290	1415432	+252200	L	3	23018	L	84051418	000000	000000	183400	015000		G E=234,C=120,B=58
NPFHW	OO IC4406	70	1100	1419155	-435527	L	1	02676	L	84012017	000000	000000	172600	000500		G B=35
NPFHW	OO IC4406	70	1100	1419155	-435527	L	3	22058	L	84012017	000000	000000	171000	000500		G B=15
FSFBH	OOPROX CEN	48	1100	1426008	-622740	L	3	22608	L	84032811	000000	000000	113200	018000		G E=64,B=52
FC046	L19-2	37	1355	1426125	-810646	L	1	02562	L	84010613	000000	000000	131924	014700	704	V
FC046	L19-2	37	1355	1426125	-810646	L	3	21946	L	84010609	000000	000000	090734	024000	703	V
FC254	PROX CEN	48	1047	1426180	-622806	L	1	03051	L	84032907	000000	000000	071828	003000	031	V 2 EXP IN LWLA 15 MIN

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
FC249	PROX CEN	48	1047	1426180	-622806	L	3	22607	L	84032809	000000	000000	092014	005000 100 V 5 EXP IN SWLA 10 MIN
FC254	BD-6214263	48	1052	1426180	-622806	L	1	03027	L	84032608	000000	000000	085721	003000 131 V 2x15M.EXP.(2,-212),(
FC254	BD-6214263	48	1053	1426180	-622806	L	1	03026	L	84032607	000000	000000	071224	003000 132 V 2x15M.EXP.(2,-212),(
FC254	BD-6214263	48	1054	1426180	-622806	L	3	22590	L	84032609	000000	000000	095029	004000 130 V 2x20M.EXP.(2,-212),(
FC254	BD-6214263	48	1050	1426180	-622806	L	3	22589	L	84032608	000000	000000	080207	004000 131 V 2x20M.EXP.(2,-212),(
FC254	BD-6214263	48	1050	1426180	-622806	L	3	22588	L	84032606	000000	000000	061658	004000 130 V 2x20M.EXP.(2,-212),(
FC254	PROX CEN	48	1047	1426180	-622806	L	3	22615	L	84032909	000000	000000	094529	004000 000 V 2 EXP IN SWLA 20MIN
FC254	PROX CEN	48	1047	1426180	-622806	L	3	22614	L	84032907	000000	000000	075949	004000 000 V 2 EXP IN SWLA 20MIN
FC254	PROX CEN	48	1047	1426180	-622806	L	3	22613	L	84032906	000000	000000	062257	004000 000 V 2 EXP IN SWLA 20MIN
FC254	PROX CEN	48	1055	1426180	-622806	L	1	03050	L	84032905	000000	000000	055400	001106 021 V TRAIL RATE=0.03
FC249	PROX CEN	48	1047	1426180	-622806	L	1	03045	L	84032807	000000	000000	074646	005000 131 V 5 EXP INLWLA 10 MIN
FC254	PROX CEN	48	1047	1426180	-622806	L	1	03052	L	84032908	000000	000000	085057	003000 031 V 2 EXP IN LWLA 15 MIN
FC249	PROX CEN	48	1047	1426180	-622806	L	3	22606	L	84032806	000000	000000	061850	005000 100 V 5 EXP IN SWLA 10 MIN
OBFTS	HD 127381	20	0460	1429140	-501412	H	3	22094	L	84012503	000000	000000	034600	000140 G C=3X,B=54
AFGJL	HD 127821	41	0610	1429345	+632422	H	1	03205	L	84042220	000000	000000	205800	003000 G E=135,C=227,B=100
AFGJL	HD 128093	40	0630	1432040	+324509	L	3	22814	L	84042210	000000	000000	102900	018000 G E=68,C=10X,B=35
AFGJL	HD 128093	40	0630	1432041	+324510	H	1	03202	L	84042209	000000	000000	095300	003000 G E=88,C=190,B=45
PHCAL	00 WAVCAL	98	0000	1432559	+192518	H	1	03149	S	84041123	234500	000016	000000	000000 G E=50X,B=108
MLGFB	HD 128220B	16	0850	1432559	+192518	H	3	22803	L	84042100	000000	000000	001700	003000 G C=160,B=35
MLGFB	HD128220 B	16	0850	1432559	+192518	H	3	23084	L	84052221	000000	000000	211200	003800 G C=195,B=45
MLGFB	HD128220 B	16	0850	1432559	+192518	H	3	23085	L	84052222	000000	000000	221700	003100 G C=170,B=38
MLGFB	HD128220 B	16	0850	1432559	+192518	H	3	23083	L	84052217	000000	000000	174600	001500 G C=200,B=115
PHCAL	00 WAVCAL	98	0000	1432559	+192518	L	3	22720	S	84041122	223400	000002	000000	000000 G E=20X,B=100
MLGFB	HD 128220B	16	0850	1432559	+192518	H	3	22432	L	84030700	000000	000000	004800	001800 G C=180,B=70
MLGFB	HD 128220B	16	0850	1432559	+192518	H	3	22431	L	84030623	000000	000000	234000	003800 G C=200,B=52
MLGFB	HD 128220B	16	0850	1432559	+192518	H	3	22430	L	84030622	000000	000000	222800	003800 G C=200,B=50
PHCAL	00 WAVCAL	98	0000	1432559	+192518	H	3	22721	S	84041122	230100	000200	000000	000000 G E=50X,B=133
PHCAL	00 WAVCAL	98	0000	1432559	+192518	L	1	03148	S	84041123	231700	000001	000000	000000 G E=20X,B=103
MLGFB	HD 128220B	16	0850	1432559	+192518	H	3	22433	L	84030701	000000	000000	014200	002500 G C=230,B=125
MLGFB	00 128220B	16	0850	1432560	+192519	H	3	22719	L	84041120	000000	000000	204600	003400 G C=223,B=95
MLGFB	00 128220B	16	0850	1432560	+192519	H	3	23013	L	84051320	000000	000000	200400	003800 G C=C=190,B=52
MLGFB	HD 128220B	16	0850	1432560	+192519	H	3	22802	L	84042022	000000	000000	224700	003800 G C=210,B=50
MLGFB	00 128220B	16	0850	1432560	+192519	H	3	23014	L	84051322	000000	000000	222600	002300 G C=125,B=32
MLGFB	HD 128220B	16	0850	1432560	+192519	H	3	22801	L	84042021	000000	000000	213400	003800 G C=220,B=65
MLGFB	00 128220B	16	0850	1432560	+192519	H	3	22718	L	84041119	000000	000000	193600	003800 G C=220,B=70
MLGFB	00 128220B	16	0850	1432560	+192519	H	1	03147	L	84041121	000000	000000	212600	002800 G C=1.5X,B=135
OD28K	HD128220 B	16	0870	1432565	+192557	H	1	02835	L	84022304	000000	000000	042100	002800 G C=190,B=45
OD28K	HD128220 B	16	0870	1432565	+192557	H	3	22337	L	84022303	000000	000000	033900	003800 G C=200,B=47
FI090	HD128220	16	0862	1432566	192558	H	3	22136	L	84012912	000000	000000	122327	004000 502 V
FI090	HD128220	16	0861	1432566	192558	H	3	22134	L	84012910	000000	000000	100506	004000 502 V
GA067	HD128220B	16	0870	1432566	192558	H	3	22748	L	84041502	000000	000000	024029	004000 501 V
GA067	HD128220B	16	0866	1432566	192558	H	3	22763	L	84041604	000000	000000	042306	004000 501 V
FI091	HD128220	59	0866	1432566	192558	H	1	02653	L	84011815	000000	000000	152205	002500 502 V
FI091	HD128220	59	0865	1432566	192558	H	3	22037	L	84011814	000000	000000	143602	004000 501 V
GA067	HD128220B	16	0870	1432566	192558	H	3	22749	L	84041503	000000	000000	034609	004000 501 V

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
FI090	HD128220	16	0865	1432566	192558	H	3	22190	L	84020310	000000	000000	104714	003500	501	V
GA067	HD128220B	16	0866	1432566	192558	H	3	22751	L	84041505	000000	000000	055332	004000	501	V
FI090	HD128220	16	0856	1432566	192558	H	3	22135	L	84012911	000000	000000	111428	004000	502	V
FI090	HD128220	16	0863	1432566	192558	H	3	22189	L	84020309	000000	000000	094126	003500	500	V
GA067	HD128220B	16	0866	1432566	192558	H	3	22753	L	84041507	000000	000000	075711	004000	501	V
GA067	HD128220B	16	0866	1432566	192558	H	3	22752	L	84041506	000000	000000	065540	004000	501	V
GA067	HD128220B	16	0866	1432566	192558	H	3	22750	L	84041504	000000	000000	045152	004000	501	V
GA067	HD128220B	16	0870	1432566	192558	H	3	22747	L	84041501	000000	000000	013928	004000	501	V
GI042	HD128220B	16	0869	1432570	192558	H	3	23075	L	84052201	000000	000000	011359	004000	501	V
GI042	HD128220B	16	0871	1432570	192558	H	3	23074	L	84052200	000000	000000	000711	004000	501	V
GI042	HD128220B	16	0869	1432570	192558	H	3	23076	L	84052202	000000	000000	021539	004000	501	V
OBFGS	HD 128345	21	0410	1434306	-491233	H	1	02566	L	84010705	000000	000000	050300	000037		G C=205,B=45
RGGGF	OOMARK 686	84	1400	1435196	+364701	L	3	23115	L	84052713	000000	000000	131900	007500		G B=115
RGGGF	OOMARK 686	84	1400	1435196	+364701	L	3	23111	L	84052613	000000	000000	133600	006000		G B=120
RGGGF	OOMARK 686	84	1400	1435196	+364701	L	3	23121	L	84052813	000000	000000	135400	004000		G B=93
LDFJL	HD 128620	44	0000	1435549	-603718	H	1	03039	L	84032717	000000	000000	172800	000200		G E=2X,C=3X,B=105
LDFJL	HD 128620	44	0000	1435549	-603718	L	3	22599	L	84032717	000000	000000	172409	000200		G E=120,C=2X,B=20
QSGMM	OOMARK 478	84	1490	1440045	+353907	L	2	17396	L	84042722	000000	000000	222100	009000		G E=184,C=190,B=115
QSGMM	OOMARK 478	84	1490	1440045	+353907	L	3	22865	L	84042719	000000	000000	190900	005000		G E=202,C=165,B=128
QSGMM	OOMARK 478	84	1490	1440045	+353907	L	3	22866	L	84042723	000000	000000	235600	004500		G E=124,C=45,B=20
QSGMM	OOMARK 478	84	1490	1440046	+353907	L	2	17395	L	84042720	000000	000000	200800	006000		G C=1.2X,B=60
GM081	BD-42 6798	23	1040	1443512	-424110	H	3	23087	L	84052301	000000	000000	010319	034500	404	V
AFGJL	HD 130817	41	0620	1447081	+380102	L	3	22815	L	84042214	000000	000000	144900	014000		G C=8X,B=105
AFGJL	HD 130817	41	0620	1447081	+380102	H	1	03203	L	84042214	000000	000000	141200	003000		G E=96,C=210,B=50
CSGCI	HD 130948	44	0585	1448018	+240702	L	2	17271	L	84030500	000000	000000	005400	000020		G C=100,B=25
CSGCI	HD 130948	44	0585	1448018	+240702	L	2	17270	L	84030500	000000	000000	001300	000250		G C=8X,B=40
CSGCI	HD 130948	44	0580	1448019	+240703	L	3	23041	L	84051822	000000	000000	221600	003000		G C=105,B=27
CCFSW	HD 131156	44	0470	1449048	+191827	L	3	22044	L	84011901	000000	000000	015800	009000		G E=196,C=185,B=40
CCFSW	HD 131156	44	0470	1449048	+191827	H	1	02658	L	84011902	000000	000000	024200	001200		G E=221,C=165,B=30
CCFSW	HD 131156	44	0470	1449048	+191823	L	3	22050	L	84012003	000000	000000	030800	009000		G E=200,C=190,B=50
CCFSW	HD 131156	44	0470	1449048	+191823	L	1	02649	L	84011802	000000	000000	024800	000030		G C=1.5X,B=35
CCFSW	HD 131156	44	0470	1449048	+191823	L	1	02667	L	84012003	000000	000000	034300	000030		G C=2X,B=35
CCFSW	HD 131156	44	0470	1449048	+191823	L	3	22033	L	84011802	000000	000000	025400	009000		G E=202,C=185,B=53
CCFSW	HD 131156	44	0470	1449048	+191823	L	3	22062	L	84012106	000000	000000	064900	006000		G E=95,C=85,B=32
CCFSW	HD 131156	44	0470	1449048	+191827	H	1	02650	L	84011803	000000	000000	033900	001200		G E=242,C=170,B=30
CCFSW	HD 131156	44	0470	1449048	+191823	L	3	22004	L	84011404	000000	000000	040900	009000		G E=211,C=195,B=55
CCFSW	HD 131156	44	0470	1449048	+191823	L	3	22061	L	84012104	000000	000000	043700	009000		G E=205,C=190,B=60
CCFSW	HD 131156	44	0470	1449048	+191823	L	1	02679	L	84012105	000000	000000	050200	000040		G C=2X,B=35
CCFSW	HD 131156	44	0470	1449048	+191823	H	1	02619	L	84011405	000000	000000	050600	001200		G E=229,C=180,B=40
CCFSW	HD 131156	44	0470	1449048	+191823	H	1	02668	L	84012004	000000	000000	045500	001200		G E=229,C=125,B=32
CCFSW	HD 131156	44	0470	1449048	+191823	H	1	02680	L	84012106	000000	000000	062200	001200		G E=212,C=170,B=35
CCFSW	HD 131156	44	0470	1449048	+191823	L	1	02620	L	84011406	000000	000000	060800	000016		G C=180,B=32
CCFSW	HD 131156	44	0470	1449051	+191823	L	1	02642	L	84011704	000000	000000	040500	000030		G C=255,B=35
CCFSW	HD 131156	44	0470	1449051	+191823	L	1	02629	L	84011505	000000	000000	050600	000016		G C=200,B=32
CCFSW	HD 131156	44	9999	1449051	+191823	H	1	02641	L	84011702	000000	000000	025800	001200		G E=223,C=160,B=38

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
CCFSW	HD 131156	44	0470	1449051	+191823	H	1	02637	L	84011604	000000	000000	041000	001200		G E=241,C=180,C=42
CCFSW	HD 131156	44	0470	1449051	+191823	L	3	22020	L	84011604	000000	000000	042900	009000		G E=202,C=180,B=60
CCFSW	HD 131156	44	0470	1449051	+191823	L	3	22012	L	84011504	000000	000000	042300	009000		G E=210,C=200,B=60
CCFSW	HD 131156	44	0470	1449051	+191823	L	3	22025	L	84011703	000000	000000	031600	009000		G E=199,C=165,B=48
CCFSW	HD 131156	44	0470	1449051	+191823	L	1	02638	L	84011605	000000	000000	051400	000020		G C=230,B=35
CCFSW	HD 131156	44	0470	1449051	+191823	H	1	02628	L	84011504	000000	000000	040400	001200		G E=235,C=180,B=45
HEFDB	HD 131120	27	0510	1449421	-373554	L	3	22194	L	84020322	000000	000000	220400	000002		G C=195,B=15
HEFDB	HD 131120	27	0510	1449421	-373554	H	3	22193	L	84020321	000000	000000	212000	000400		G C=3X,B=53
HEFDB	HD 131120	27	0510	1449421	-373554	L	1	02737	L	84020321	000000	000000	213000	000002		G C=1.5X,B=35
HSGDB	HD 131120	27	0510	1449422	-373555	H	3	22677	L	84040520	000000	000000	200000	000300		G C=1.5X,B=41
OD22K	SA 158910	31	0830	1453527	-135410	D	9	01523	L	84032502	000000	000000	023500	016000		G NO COMMENTS
SPFHM	OO SATURN	03	0060	1453549	-140859	L	3	22124	L	84012722	000000	000000	225000	012000		G E=2X,C=5-10X,B=60
SPFHM	OO SATURN	03	0060	1453549	-140859	L	3	22127	L	84012804	000000	000000	042400	012000		G E=218,C=5-10X,B=61
SPFHM	OO SATURN	03	0060	1453549	-140859	L	3	22125	L	84012801	000000	000000	014200	004500		G E=158,C=3X,B=39
SPFHM	OO SATURN	03	0060	1453549	-140859	L	3	22126	L	84012803	000000	000000	030100	004500		G E=136,C=3X,B=40
SPFHM	OO SATURN	03	0100	1453549	-140859	L	3	22123	L	84012719	000000	000000	195700	012000		G E=2X,C=5-10X,B=42
SPFHM	OO SATURN	03	0100	1453549	-140859	L	3	22122	L	84012715	000000	000000	155500	018000		G E=2.5X,C=5-10X,B=42
OD22K	SA 158913	31	0880	1453552	-135611	L	3	22579	L	84032501	000000	000000	012500	003000		G C=150,B=25
OD22K	SA 158913	31	0880	1453552	-135611	L	2	17326	L	84032500	000000	000000	004800	003000		G C=5X,B=34
OD22K	SA 158913	31	0880	1453552	-135611	L	2	17325	L	84032423	000000	000000	233200	001500		G C=2.5X,B=30
OD22K	SA 158913	31	0880	1453552	-135611	L	3	22578	L	84032500	000000	000000	001100	001500		G C=97,B=30
FSTOO	SA0158913	31	0840	1453553	-135612	L	2	17328	L	84032506	000000	000000	063857	003000	903	V MOVETARG,9,-40
FSTOO	SA0 158913	31	0840	1453553	-135612	L	2	17327	L	84032504	000000	000000	042037	002700	702	V MOVETARG,0,-40
OD22K	OOSAT RING	03	0000	1453599	-135559	L	3	22577	L	84032421	000000	000000	212900	009000		G
SPFHM	OO SATURN	03	0100	1454114	-140942	L	3	22129	L	84012823	000000	000000	235100	004500		G E=220,C=3X,B=38
SPFHM	OO SATURN	03	0100	1454114	-140953	L	3	22132	L	84012904	000000	000000	043600	012500		G E=237,C=10X,B=61
SPFHM	OO SATURN	03	0100	1454114	-140953	L	3	22131	L	84012902	000000	000000	023200	009000		G E=215,C=6X,B=57
SPFHM	OO SATURN	03	0100	1454114	-140953	L	3	22130	L	84012901	000000	000000	011200	004500		G E=196,C=3X,B=38
LDGDS	HD 131976	48	0790	1454310	-211118	L	1	03127	L	84040823	000000	000000	235200	000210		G E=55,C=46,B=33
LDGDS	HD 131977	46	0580	1454324	-211128	L	1	03128	L	84040900	000000	000000	003400	000300		G E=120,C=103,B=35
LDFJL	HD 131977	46	0580	1454324	-211129	L	3	22598	L	84032714	000000	000000	144500	004000		G E=132,B=29
LDFJL	HD 131977	46	0580	1454324	-211129	H	1	03038	L	84032715	000000	000000	153200	005500		G E=213,C=100,B=50
SPFRN	ODENCELADO	04	1040	1454570	-140201	L	1	02982	SL	84031900	000300	003500	000200	003500		G C=165,B=103
SPFRN	OO DIONE	04	1060	1455038	-140202	L	1	02981	SL	84031822	223400	004000	223300	004000		G C=205,B=80
SPFRN	OO DIONE	04	1060	1455042	-140202	L	1	02980	SL	84031820	205700	006000	205600	006000		G C=210,B=70
SSFJC	OO SATRING	04	0300	1455132	-141521	L	2	17230	L	84012419	000000	000000	195000	017500		G C=60X
SSFJC	OO SATRING	04	0300	1455132	-141521	L	3	22088	L	84012418	000000	000000	182300	007500		G C=178,B=27
SSFJC	OO SATRING	04	0300	1455132	-141521	L	2	17229	L	84012417	000000	000000	172300	005000		G C=20X,B=35
SSFJC	OO SATRING	04	0300	1455132	-141521	L	2	17228	L	84012416	000000	000000	162200	002000		G C=10X,B=30
SPFRN	OO IAPETUS	04	1210	1455199	-140406	L	1	02966	SL	84031614	145900	040000	140900	040000		G C=1.5X,B=112
HCFHB	OO-11 3853	44	1020	1457419	-121500	L	1	02919	L	84031017	000000	000000	172600	002000		G C=220,B=44
HCFHB	OO-11 3853	44	1020	1457419	-121500	L	3	22457	L	84031017	000000	000000	175700	012000		G C=200,B=160
GC011	TZ 800	44	1081	1506174	400930	L	1	03361	L	84051403	000000	000000	035400	008000	611	V
QSFAG	Q 1510-089	85	1650	1510089	-085448	L	3	22101	L	84012515	000000	000000	154600	020000		G E=70,C=70,B=40
GA055	HD135734	22	0382	1515026	-474133	H	3	22669	L	84040408	000000	000000	084608	000200	400	V

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
CCFLH	HD 136202	41	0510	1516454	+015712	H	1	02589	L	84011005	000000	000000	051400	004000		G C=3X,B=160
CCFLH	HD 136352	41	0500	1518252	-480805	H	1	02590	L	84011006	000000	000000	063400	002500		G C=190,B=58
CCFFF	HD 136905	47	0730	1520462	-062553	L	3	21964	L	84010800	000000	000000	002000	003000		G B=80
CCFFF	HD 136905	47	0730	1520463	-062554	L	3	22253	L	84021214	000000	000000	140000	015000		G E=63,C=55,B=45
CSFRW	HD 137613	50	0750	1524500	-245947	L	1	02813	L	84022003	000000	000000	031400	001500		G C=220,B=50
QSFRM	OOLB 9743	85	1550	1525457	+224325	L	3	22204	L	84020415	000000	000000	150300	036000		G E=108,C=105,B=85
OD24K	HD 137949	36	0670	1526447	-171611	L	3	22344	L	84022400	000000	000000	003200	000600		G C=150,B=20
OD24K	HD 137949	36	0670	1526447	-171611	L	3	22343	L	84022323	000000	000000	234700	000600		G
OD24K	HD 137949	36	0670	1526447	-171611	L	3	22340	L	84022321	000000	000000	214300	000600		G C=190,B=20
OD24K	HD 137949	36	0670	1526447	-171611	L	3	22341	L	84022322	000000	000000	221900	000600		G C=150,B=20
OD24K	HD 137949	36	0670	1526447	-171611	L	3	22342	L	84022323	000000	000000	230300	000600		G C=150,B=20
GC084	SA0121038	40	0681	1528296	084456	L	1	03270	LS	84050400	000519	000100	000048	000100	701	V 501$
GC084	SAO 121038	40	0681	1528296	084456	L	3	22902	LS	84050400	003224	000300	002538	000300	300	V 300$
GA197	HD138749	26	0433	1530547	313136	H	3	23077	L	84052203	000000	000000	034741	000145	501	V
GA197	HD138749	26	0431	1530547	313136	H	1	03406	L	84052203	000000	000000	035519	000115	503	V
GA197	HD138749	22	0423	1530547	313136	H	3	22762	L	84041603	000000	000000	033441	000145	500	V
MLGFB	HD 139006	30	0230	1532339	+265259	H	1	03411	L	84052220	000000	000000	204900	000120		G C=2X,B=60
MLGFB	HD 139006	30	0230	1532340	+265300	H	1	03357	L	84051322	000000	000000	220400	000120		G C=2X,B=58
MLGFB	HD 139006	30	0230	1532340	+265300	H	1	03186	L	84042023	000000	000000	235500	000040		G C=1.2X,B=46
MLGFB	HD 139006	30	0230	1532340	+265300	H	1	03356	L	84051321	000000	000000	213100	000050		G C=1.5X,B=52
GC084	SAO 121078	44	0841	1532559	091802	L	1	03271	LS	84050401	014620	000400	011846	000600	302	V 202$
GC084	SAO 121078	44	0841	1532559	091802	L	3	22903	L	84050401	000000	000000	015656	001000	100	V
QSGMM	OOMARK 290	84	1480	1534448	+580400	L	3	22862	L	84042709	000000	000000	093800	015000		G E=226,C=108,B=55
QSFWS	OOMARK 290	84	1490	1534448	+580401	L	2	17239	L	84020501	000000	000000	013100	011000		G E=141,C=110,B=50
QSFWS	OOMARK 290	84	1490	1534448	+580401	L	3	22206	L	84020500	000000	000000	005600	010500		G E=182,C=95,B=52
QSGMM	OOMARK 290	84	1480	1534448	+580400	L	1	03231	L	84042712	000000	000000	121200	015000		G E=1.1X,C=218,B=102
QSGDT	OO MKN 486	84	1480	1535214	+544303	L	3	22932	L	84050700	000000	000000	002200	006000		G E=226,C=255,B=130
GC229	MKN486	85	9999	1535215	544323	E	9	01534	2	84050600	000000	000000	001500	004000		V FIELD FOR SWP22932
OBFTS	HD 140008	22	0480	1539294	-343305	H	3	22093	L	84012502	000000	000000	025400	000345		G C=2.5X,B=50
EE124	BS 148	44	1086	1542013	-340808	L	1	03069	L	84040101	000000	000000	015938	012000	363	V
WDFCB	PG1543+454	37	1620	1543182	+452428	L	3	22360	L	84022617	000000	000000	175300	008300		G B=22
CCGDS	HD 141003B	46	0990	1543527	+153437	L	1	03103	L	84040621	000000	000000	210700	000800		G B=90
CCGDS	HD 141003B	46	0990	1543527	+153437	L	1	03104	L	84040621	000000	000000	215200	001300		G B=205
WDFCB	OO 1544+09	37	9999	1544098	+005443	L	3	22364	L	84022801	000000	000000	012200	004500		G C=145,B=55
RCFAH	OO R CR B	52	0998	1546306	+281831	L	1	03068	L	84040100	000000	000000	002200	002700		G E=199,C=185,B=143
RCFAH	OO R CR B	52	0998	1546306	+281831	L	3	22636	L	84033122	000000	000000	223700	002000		G B=135
RCFAH	OO R CR B	52	0998	1546306	+281831	L	1	03067	L	84033122	000000	000000	220500	002500		G E=1.3X,B=193
RCFAH	OO R CRB	52	0778	1546306	+281831	L	2	17405	L	84050122	000000	000000	223000	002000		G C=145,B=30
RCFAH	OO R CRB	52	1080	1546306	+281831	L	2	17404	L	84050121	000000	000000	214800	001000		G C=125,B=55
RCFAH	OO R CRB	52	0750	1546307	+281832	L	1	03372	L	84051521	000000	000000	213000	007500		G C=7.5X,B=57
RCFAH	OO R CRB	52	0750	1546307	+281832	L	3	23025	L	84051520	000000	000000	204000	004500		G C=60,B=42
RCFAH	OO R CRB	52	0750	1546307	+281832	L	1	03371	L	84051520	000000	000000	201700	000700		G C=175,B=39
RCFAH	OO R CRB	52	0750	1546307	+281832	L	1	03370	L	84051519	000000	000000	192900	001500		G C=1.5X,B=45
RCFAH	OO R CRB	52	0785	1546307	+281832	D	9	01532	L	84050116	000000	000000	163800	016000		G NO COMMENTS
RCFAH	OO R CRB	52	0785	1546307	+281832	L	2	17398	L	84050115	000000	000000	154700	006000		G C=3.5X,B=64

PRD	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
OBFTS	HD 141637	20	0480	1547580	-253603	H	3	22092	L	84012502	000000	000000	020700	000226		G C=245,B=42
LBFAS	HD 141851	36	0511	1548390	-025625	H	1	02560	L	84010606	000000	000000	062000	000800		G C=200,B=65
IBGTA	HD 142143	50	0700	1549167	+483759	L	3	22834	L	84042422	000000	000000	222700	003000		G B=25
IBGTA	HD 142143	50	0700	1549167	+483759	L	1	03212	L	84042422	000000	000000	221300	001000		G E=66,B=45
PHCAL	BD+332642	20	1095	1550010	330528	L	3	22470	L	84031210	000000	000000	104112	000400	501	V
PHCAL	BD+33 2642	20	1080	1550019	+330528	L	3	22738	L	84041400	000000	000000	000300	000400		G C=160,B=25
PHCAL	BD+33 2642	20	1080	1550019	+330528	L	2	17246	L	84021301	000000	000000	013000	000310		G C=160,B=25
PHCAL	BD+33 2642	20	1080	1550019	+330528	L	2	17372	L	84041323	000000	000000	235200	000310		G C=160,B=25
PHCAL	BD+33 2642	20	1080	1550019	+330528	L	2	17403	L	84050121	000000	000000	210400	000310		G C=180,B=40
PHCAL	BD+33 2642	20	1080	1550019	+330528	L	1	03167	L	84041700	000000	000000	004300	000310		G C=207,B=35
PHCAL	BD+33 2642	20	1080	1550019	+330528	L	1	03292	L	84050620	000000	000000	203700	000310		G C=215,B=45
PHCAL	BD+33 2642	20	1080	1550019	+330528	L	3	21938	L	84010505	000000	000000	053700	000400		G C=165,B=18
PHCAL	BD+33 2642	20	1080	1550019	+330528	L	3	22930	L	84050620	000000	000000	202700	000400		G C=160,B=20
PHCAL	BD+33 2642	20	1080	1550019	+330528	L	1	02552	L	84010505	000000	000000	052000	000310		G C=210,B=38
PHCAL	BD+33 2642	20	1080	1550019	+330528	L	3	22722	L	84041200	000000	000000	003900	000400		G C=145,B=15
PHCAL	BD+33 2642	20	1080	1550019	+330528	L	3	22345	L	84022401	000000	000000	013400	000400		G C=160,B=18
PHCAL	BD+33 2642	20	1080	1550019	+330528	L	1	02837	L	84022401	000000	000000	012500	000310		G C=210,B=38
PHCAL	BD+33 2642	20	1080	1550019	+330528	L	2	17204	L	84010106	000000	000000	063000	000310		G C=160,B=25
PHCAL	BD+33/2462	21	1195	1550020	330528	L	2	17312	L	84032107	000000	000000	072315	000310		V
HSGDB	HD 142301	27	0590	1551391	-250549	H	3	22676	L	84040519	000000	000000	191000	000900		G C=205,B=40
HSGDB	HD 142301	27	0590	1551391	-250549	H	3	22681	L	84040523	000000	000000	232500	000900		G C=3X,B=200
FC215	HD142560	58	1108	1553240	-374058	L	1	03162	L	84041606	000000	000000	062038	001500	681	V
FA215	HD142560	58	1103	1553240	-374058	L	3	22764	L	84041606	000000	000000	064028	013000	351	V
FC215	HD142560	58	1146	1553240	-374058	L	3	22683	L	84040602	000000	000000	024804	013200	341	V
FC215	HD 142560	58	1139	1553240	-374058	L	1	03098	LS	84040602	023701	000400	020747	001500	582	V 232$SWAP TIME APPROX
OBFTS	HD 142669	20	0400	1553475	-290410	H	3	22091	L	84012501	000000	000000	013400	000055		G C=2.5X,B=47
AFGJL	HD 142860	41	0390	1554085	+154925	H	1	03207	L	84042300	000000	000000	003300	000600		G E=79,C=1.2X,B=40
AFGJL	HD 142860	41	0390	1554085	+154925	L	3	22817	L	84042223	000000	000000	234700	004200		G E=42,C=10X,B=43
IGFGB	SA 121277	30	9999	1554447	+033255	H	1	02857	L	84022712	000000	000000	124400	021000		G C=3X,B=72
HEFDB	HD 142990	27	0540	1555345	-244119	H	3	22195	L	84020322	000000	000000	225500	000900		G C=3X,B=55
HSGDB	HD 142990	27	0540	1555346	-244120	H	3	22682	L	84040600	000000	000000	000300	000900		G C=3-4X,B=120
HSGDB	HD 142990	27	0540	1555346	-244120	H	3	22674	L	84040517	000000	000000	174300	000900		G C=3-4X,B=90
HSGDB	HD 142990	27	0540	1555346	-244120	H	1	03097	L	84040600	000000	000000	003100	000500		G C=3X,B=50
HSGDB	HD 142990	27	0540	1555346	-244120	H	3	22678	L	84040520	000000	000000	204900	000900		G C=3-4X,B=54
IGFGB	SA 121294	31	0745	1556326	+004413	H	1	02850	L	84022613	000000	000000	133000	023000		G C=3X,B=80
OBFTS	HD 143118	20	0360	1556480	-381520	H	3	22089	L	84012423	000000	000000	235200	000036		G C=3X,B=52
GI147	T CRB	63	1016	1557245	260339	L	1	03233	L	84042801	000000	000000	012755	002500	572	V
GI147	T CRB	63	1016	1557245	260339	L	3	22867	L	84042803	000000	000000	031805	004000	462	V
CCGJL	HD 144205	49	0570	1601088	+472236	L	1	03276	L	84050411	000000	000000	115600	015500		G E=255,C=140,B=93
HSGDB	HD 144334	27	0590	1603071	-232818	H	3	22675	L	84040518	000000	000000	182600	001000		G C=-1.5X,B=91
HSGDB	HD 144334	27	0590	1603071	-232818	H	3	22680	L	84040522	000000	000000	222700	001000		G C=3X,B=222
OBFTS	HD 144294	20	0430	1603181	-364005	H	3	22090	L	84012500	000000	000000	003500	000122		G C=1.5X,B=43
EGGWR	OOUGC10202	80	0000	1604099	+195433	L	1	03226	L	84042614	000000	000000	144200	009000		G B=195
EGGWR	OOUGC10202	80	1500	1604099	+195433	L	3	22799	L	84042013	000000	000000	133200	020000		G B=64
EGGWR	OOUGC10202	80	0000	1604099	+195433	L	3	22853	L	84042609	000000	000000	093800	030000		G C=210,B=165

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
EGGWR	OOUGC10202	80	1500	1604102	+195442	L	3	22798	L	84042009	000000	000000	095600	018000		G B=35
QSFAB	OOMRK 876	84	1550	1613362	+655037	L	1	02615	L	84011318	000000	000000	185800	029000		G C=220,B=82
QSFAB	OOMRK 876	84	1550	1613362	+655037	L	3	21963	L	84010721	000000	000000	211800	011500		G E=189,C=165,B=132
QSFAB	OOMRK 876	84	1550	1613362	+655037	L	3	21962	L	84010716	000000	000000	165300	024000		G E=204,C=120,B=70
EI029	SCO X-1	59	1245	1617039	-153114	L	1	02976	L	84031805	000000	000000	054742	002000	501	V
EI029	SCO X-1	59	1246	1617039	-153114	L	3	22512	L	84031803	000000	000000	034448	004000	551	V
EI029	SCO X-1	59	1243	1617039	-153114	L	1	02975	L	84031804	000000	000000	043214	003000	771	V
EI029	SCO X-1	59	1248	1617039	-153114	L	3	22514	L	84031806	000000	000000	061847	003200	452	V
EI029	SCO X-1	59	1234	1617039	-153114	L	3	22513	L	84031805	000000	000000	050952	003000	452	V
EI029	SCOX1	59	1300	1617042	-153114	L	1	02947	L	84031405	000000	000000	051238	005000	704	V
EI029	SCOX1	59	1325	1617042	-153114	L	3	22485	L	84031404	000000	000000	040546	006000	451	V
EI029	SCOX1	59	1288	1617042	-153114	L	3	22486	L	84031406	000000	000000	060735	005500	451	V
EI029	SCO X-1	59	1318	1617042	-153113	L	3	22453	L	84031004	000000	000000	045910	006000	451	V
EI029	SCO X-1	59	1288	1617043	-153114	L	1	02917	L	84031006	000000	000000	060348	006000	713	V
EI029	SCO X-1	59	1323	1617043	-153114	L	3	22424	L	84030605	000000	000000	050917	007000	450	V
EI029	SCO X-1	59	1305	1617043	-153114	L	1	02901	L	84030606	000000	000000	062522	005500	552	V
IEGAW	HD 147009	22	0810	1617083	-195531	L	3	22734	L	84041312	000000	000000	124900	000950		G C=200,B=18
IEGAW	HD 147009	22	0810	1617083	-195531	L	2	17367	SL	84041311	113100	001820	120900	001334		G C=2X,B=33
IEGAW	HD 147009	22	0810	1617083	-195531	L	3	22733	SL	84041310	103200	002136	111100	000712		G C=210,B=22
IEGAW	HD 147009	22	0810	1617083	-195531	L	2	17366	SL	84041309	100700	001345	095700	000245		G C=165,B=25
IEGAW	HD 147010	22	0740	1617098	-195613	L	3	22735	SL	84041314	141700	000636	141000	000212		G C=160
IEGAW	HD 147010	22	0740	1617098	-195613	L	2	17368	SL	84041313	133800	000400	132700	000100		G C=175,B=25
IEGAW	HD 147010	22	0740	1617098	-195613	L	2	17369	SL	84041314	151400	000400	145500	000430		G C=225,B=30
IEGAW	HD 147010	22	0740	1617098	-195613	L	3	22736	SL	84041315	155000	000905	161700	001111		G C=246,B=32
IEGAW	HD 147394	21	0389	1618140	+462552	L	2	17381	L	84041422	000000	000000	225900	000003		G C=220,B=25
IEGAW	HD 147394	21	0389	1618140	+462552	L	3	22746	L	84041423	000000	000000	230800	000003		G C=195,B=25
QSFGF	OOIII ZW77	86	1520	1622053	+411148	L	3	22442	L	84030817	000000	000000	175900	005000		G E=100,C=117,B=98
CSFRW	HD 148783	49	0500	1626598	+415927	L	1	02817	L	84022021	000000	000000	211400	004400		G E=2X,C=80,B=50
FE135	Q 1630+377	85	1600	1630148	374409	L	3	22444	L	84030904	000000	000000	045301	035400	302	V
FE135	Q1630+377	85	1600	1630149	374410	L	3	22440	L	84030804	000000	000000	045711	035000	232	V
IGFJR	HD 149100	21	0720	1631219	-533241	H	3	22260	L	84021401	000000	000000	013200	002800		G C=2X,B=50
IGFJR	HD 149100	21	0720	1631219	-533241	H	3	22217	L	84020703	000000	000000	032900	002900		G C=2X,B=70
PHCAL	HD 149438	20	0280	1632459	-280651	H	3	22177	S	84020104	041000	000011	000000	000000		G C=180,B=35
PHCAL	HD 149438	20	0280	1632459	-280651	H	2	17243	S	84021222	225400	000011	000000	000000		G C=165,B=30
PHCAL	HD 149438	20	0280	1632459	-280651	H	1	03155	L	84041517	000000	000000	174900	000006		G C=220,B=45
PHCAL	HD 149438	20	0280	1632459	-280651	H	3	22931	L	84050621	000000	000000	215900	000006		G C=210,B=35
PHCAL	HD 149438	20	0280	1632459	-280651	H	3	22756	L	84041517	000000	000000	174100	000006		G C=215,B=32
PHCAL	HD 149438	20	0280	1632459	-280651	H	1	02725	S	84020104	041400	000011	000000	000000		G C=200,B=42
PHCAL	HD 149438	20	0280	1632459	-280651	H	2	17371	L	84041323	000000	000000	230000	000006		G C=186,B=43
PHCAL	HD 149438	20	0280	1632459	-280651	H	1	03293	L	84050622	000000	000000	220400	000006		G C=220,B=45
IGFJR	HD 149418	22	0750	1633431	-583150	H	3	22214	L	84020623	000000	000000	230000	006600		G C=2X,B=70
IGFJR	HD 149418	22	0750	1633431	-583150	H	3	22259	L	84021323	000000	000000	235200	006600		G C=2X,B=55
IGFJR	HD 149418	22	0750	1633431	-583150	H	1	02746	L	84020700	000000	000000	001200	002000		G C=225,B=48
GM040	BD+5 3235	23	0921	1634173	052322	H	3	22698	L	84040905	000000	000000	052521	013500	601	V
GM040	BD+5 3235	23	0916	1634173	052322	H	3	22697	L	84040902	000000	000000	022105	011000	401	V

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
GM040	BD+5 3235	23	0925	1634173	052322	H	1	03131	L	84040907	000000	000000	075620	005000	502	V
GM040	BD+5 3235	23	0922	1634173	052322	H	1	03130	L	84040904	000000	000000	041601	006500	502	V
IGFJR	HD 149485	22	0620	1634265	-605327	H	3	22216	L	84020702	000000	000000	023100	002500		G C=2X,B=70
CCGDS	HD 150706	44	0710	1634281	+795340	H	1	03124	L	84040817	000000	000000	173900	010800		G E=2-3X,C=2-3X,B=199
IGFJR	HD 149922	24	0810	1636359	-540224	H	3	22215	L	84020700	000000	000000	005900	006000		G C=2X,B=55
CCFTS	HD 150557	40	0580	1639103	+011629	L	3	22375	L	84022915	000000	000000	150500	012000		G E=134,C=10X,B=35
QSFMS	Q 1641+399	85	0000	1641176	+395411	L	3	22307	L	84022014	000000	000000	145900	035000		G E=154,C=110,B=75
IGFJR	HD 150745	21	0590	1642045	-582447	H	3	22218	L	84020704	000000	000000	043300	000830		G C=255,B=45
CVGJR	OO AH HER	54	1150	1642060	+252030	L	3	22900	L	84050321	000000	000000	211900	001000		G C=150,B=105
FA011	NGC6210	70	0979	1642233	235329	H	3	22397	L	84030308	000000	000000	084415	012300	351	V
FA011	NGC6210	70	0977	1642237	235329	H	3	22384	L	84030104	000000	000000	043901	020000	732	V
FA011	NGC6210	70	0981	1642237	235329	H	1	02869	L	84030108	000000	000000	080521	018200	434	V
GM097	NGC6210	70	0978	1642237	235329	H	3	23133	L	84052923	000000	000000	233910	043000	483	V
IMGRF	SA 227189	13	0730	1642569	-470001	H	1	03000	L	84032101	000000	000000	015400	005300		G C=2.5X,B=80
SUGSD	OO URANUS	03	0580	1643499	-221439	L	3	22856	L	84042622	000000	000000	224000	009500		G E=174,C=160,B=60
SUGSD	OO URANUS	03	0580	1644089	-221526	L	3	22843	L	84042514	000000	000000	142000	010000		G C=140,B=30
SUGSD	OO URANUS	03	0580	1644089	-221526	L	3	22822	L	84042317	000000	000000	173600	003000		G E=116,C=80,B=41
SUGSD	OO URANUS	03	0580	1644090	-221527	L	3	22830	L	84042411	000000	000000	111700	012000		G E=175,C=160,B=32
SUGSD	OO URANUS	03	0580	1644090	-221544	L	3	22831	L	84042414	000000	000000	140400	010000		G E=181,C=140,B=40
GS258	URANUS	03	0578	1644165	-221535	L	3	22828	L	84042404	000000	000000	045040	012000	442	V
GS258	URANUS	03	0587	1644165	-221535	L	3	22827	L	84042402	000000	000000	020444	012000	451	V
SUGSD	OO URANUS	03	0580	1644179	-221544	L	3	22829	L	84042409	000000	000000	091300	012000		G E=154,C=160,B=40
SUGSD	OO URANUS	03	0580	1644180	-221545	L	3	22825	L	84042321	000000	000000	211300	006000		G E=197,C=145,B=80
SUGSD	OO URANUS	03	0580	1644180	-221545	L	3	22824	L	84042319	000000	000000	193700	006000		G E=207,C=140,B=78
SUGSD	OO URANUS	03	0580	1644180	-221545	L	3	22826	L	84042322	000000	000000	225100	010500		G E=171,C=155,B=41
SUGSD	OOSKY BKGD	07	9999	1644180	-221545	L	3	22823	L	84042318	000000	000000	183600	003000		G E=125,B=35
CCFTS	HD 151769	41	0460	1647039	-104147	L	3	22227	L	84020901	000000	000000	012400	006000		G C=5X,B=66
CCFTS	HD 151769	41	0460	1647039	-104147	L	3	22242	L	84021020	000000	000000	202600	009000		G E=148,C=12X,B=38
IGFGB	SA 121895	31	0547	1647535	+071956	H	1	02849	L	84022612	000000	000000	120900	004000		G C=2.5X,B=60
IGFGB	SA 121902	30	9999	1648314	+053423	H	1	02858	L	84022716	000000	000000	165400	023000		G C=3X,B=95
HSGJD	OO LSE0259	16	1240	1649481	-555712	L	3	23051	L	84051922	000000	000000	223000	001000		G C=180,B=16
WDFJL	PG1654+160	29	1600	1654422	+160101	L	3	22339	L	84022319	000000	000000	194400	006600		G C=60,B=38
WDFJL	PG1654+160	29	1600	1654422	+160101	L	3	22355	L	84022513	000000	000000	132400	015000		G C=80,B=32
WDFJL	PG1654+160	29	1600	1654422	+160101	L	1	02846	L	84022515	000000	000000	155800	006000		G C=80,B=40
FI091	HZ HER	59	1348	1656016	352505	L	1	02652	L	84011813	000000	000000	133807	002500	301	V
FI091	HZ HER	59	1371	1656016	352505	L	1	02705	L	84012510	000000	000000	101509	003000	442	V
FC097	HZ HER	59	1410	1656016	352505	L	1	02758	L	84021006	000000	000000	064253	003000	602	V
FC097	HZ HER	59	1410	1656016	352505	L	3	22238	L	84021005	000000	000000	053440	006000	562	V
FI091	HZ HER	59	1369	1656016	352505	L	3	22099	L	84012509	000000	000000	090853	006000	342	V
FI090	HZ HER	59	1333	1656016	352505	L	1	02713	L	84012907	000000	000000	074821	003000	402	V
FI091	HZ HER	59	1348	1656016	352505	L	3	22036	L	84011812	000000	000000	123240	006000	330	V
FI090	HZ HER	59	1350	1656016	352505	L	3	22133	L	84012908	000000	000000	082922	004000	442	V
FI090	HZ HER	59	1333	1656016	352505	L	3	22191	L	84020312	000000	000000	120840	004000	340	V
PHCAL	HD155763	25	0333	1708381	654634	L	1	03254	L	84050205	000000	000000	051353	000001	500	V TRAIL ;R=13.89,I=1
PHCAL	HD155763	25	0351	1708381	654634	L	1	03255	L	84050205	000000	000000	054604	000005	800	V TRAIL:R=3.47,I=1

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
PHCAL	HD155763	25	0330	1708381	654634	L	1	03274	L	84050406	000000	000000	061501	000002 702 V TRAIL RATE=7.0 I=1
PHCAL	HD155763	25	0325	1708381	654634	L	1	03273	L	84050405	000000	000000	053727	000001 502 V TRAIL;R=13.89,I=1.43
PHCAL	HD155763	25	0343	1708381	654634	L	1	03256	L	84050206	000000	000000	062522	000001 800 V TRAIL;R=1.74 IT=1
CVGJR	OO 1711+33	54	1280	1711056	+333445	L	1	03269	L	84050322	000000	000000	223000	001500 G C=145,B=45
CVGJR	OO 1711+33	54	1280	1711056	+333445	L	3	22901	L	84050322	000000	000000	221100	001000 G C=115,B=50
CVFPA	PG1711+336	54	1340	1711056	+333445	L	3	22291	L	84021720	000000	000000	201300	004000 G C=190,B=40
CSFRW	HD 156074	50	0760	1711566	+420950	L	1	02823	L	84022104	000000	000000	040200	004500 G C=2X,B=45
CSFRW	HD 156074	50	0760	1711566	+420950	L	1	02822	L	84022103	000000	000000	031100	002000 G C=240,B=40
GC103	HD155555	44	0697	1712180	-665340	L	3	22957	L	84050823	000000	000000	232112	006000 330 V
GM081	HD156838	20	0586	1719187	-624903	H	1	03424	L	84052423	000000	000000	234600	000300 601 V
GM081	HD156838	20	0587	1719187	-624903	H	3	23101	L	84052423	000000	000000	233718	000430 501 V
NPFHB	OOABELL 41	70	1570	1726103	-151045	L	3	22456	L	84031012	000000	000000	120500	030000 G C=115,B=71
OBGGS	HD 158094	22	0360	1726347	-603841	H	3	22846	L	84042519	000000	000000	195400	000125 G C=200,B=35
OBGGS	HD 158094	22	0360	1726347	-603841	H	1	03220	L	84042519	000000	000000	194800	000045 G C=205,B=43
PHCAL	OO WAVCAL	98	0000	1727154	-333658	H	2	17242	S	84021222	221300	000016	000000	000000 G E=50X,B=135
PHCAL	OO WAVCAL	98	0000	1727154	-333658	L	2	17241	S	84021221	214600	000001	000000	000000 G E=20X,B=90
CCFFF	HD 158393	47	0850	1727155	-333659	L	1	02772	L	84021220	000000	000000	203500	000400 G C=80,B=35
PHCAL	OO NULL	99	0850	1727155	-333659	L	2	17240	L	84021221	000000	000000	211800	000000 G B=15
CCFFF	HD 158393	47	0850	1727155	-333659	L	3	22254	L	84021217	000000	000000	170700	020100 G C=135,B=73
CSGHJ	BD+02 3336	50	0930	1728517	+020043	L	3	23141	L	84053120	000000	000000	203400	013500 G B=30
CSGHJ	BD+02 3336	50	0930	1728517	+020043	L	1	03472	L	84053118	000000	000000	185200	003000 G B=140
CSGHJ	BD+02 3336	50	0930	1728517	+020043	L	3	23140	L	84053118	000000	000000	181500	003000 G B=120
CCFTS	HD 161239	45	0570	1741183	+242053	L	3	22240	L	84021014	000000	000000	140600	024000 G C=245,B=55
CCFTS	HD 161239	45	0570	1741183	+242053	L	3	22229	L	84020904	000000	000000	043500	001500 G C=50,B=32
FM133	PG1743+477	38	1310	1743062	474257	L	3	21971	L	84010815	000000	000000	153417	001400 406 V
MLGFB	HD 161868	30	0380	1745234	+024359	H	1	03410	L	84052219	000000	000000	192900	000200 G C=255,B=75
GA197	HD162732	26	0683	1748447	482425	H	3	23079	L	84052206	000000	000000	060434	002200 501 V
GA197	HD162732	26	0684	1748447	482425	H	1	03408	L	84052206	000000	000000	063928	001200 503 V
AFGJL	HD 162917	41	0580	1750476	+060638	L	3	22821	L	84042314	000000	000000	142200	015000 G E=151,C=5-10X,B=80
AFGJL	HD 162917	41	0580	1750476	+060638	H	1	03210	L	84042313	000000	000000	134800	003000 G E=93,C=220,B=50
HCGBC	OO G154-34	41	1130	1753049	-162347	L	1	03283	L	84050514	000000	000000	143600	001500 G C=105,B=45
HCGBC	OO G154-34	41	1130	1753049	-162347	L	3	22919	L	84050512	000000	000000	124400	010500 G B=42
IGFBS	HD 163522	23	0840	1755002	-422858	H	3	22492	L	84031515	000000	000000	155300	012000 G C=1.2X,B=55
IBGTA	HD 163990	50	0600	1755223	+452122	L	3	22657	L	84040316	000000	000000	162700	002800 G B=105
FA050	UV 1758+36	20	1136	1758180	362900	L	1	02874	LS	84030205	060928	000500	055955	000500 703 V 503$
FA050	UV1758+36	20	1146	1758180	362900	L	3	22389	LS	84030206	064704	000500	063125	000500 701 V 601$
FA050	UV 1758+36	20	1149	1758180	362900	H	3	22390	L	84030209	000000	000000	091813	009000 301 V
FA050	UV 1758+36	20	1148	1758180	362900	H	1	02875	L	84030207	000000	000000	071349	012000 403 V
IGFBS	HD 164340	23	0930	1759029	-400519	H	3	22505	L	84031711	000000	000000	115600	009000 G C=218,B=50
GC011	NULL IMAGE	99	9999	1759126	111707	H	1	03359		84051400	000000	000000	000000	000000 V
GC011	HD164615	40	0722	1759126	111707	H	1	03360	L	84051401	000000	000000	014632	006000 411 V
GC011	HD164615	40	0723	1759126	111707	L	3	23015	LS	84051400	012807	001200	002206	006000 710 V 310$
GC011	HD164615	40	0721	1759126	111707	L	1	03358	LS	84051323	001418	000200	235720	001000 711 V 411$
CCFAD	HD 165195	47	0770	1802109	+034633	H	1	02870	L	84030111	000000	000000	115300	043700 G E=125,C=132,B=87
LDFJL	HD 165341	46	0420	1802556	+023034	H	1	03041	L	84032721	000000	000000	210700	001000 G E=1.5X,C=150,B=42

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
LDFJL	HD 165341	46	0420	1802556	+023034	L	3	22601	L	84032720	000000	000000	202100	002000		G E=76,B=40
LDFJL	HD 165341	46	0420	1802556	+023034	H	1	03056	L	84032923	000000	000000	234900	000400		G E=186,C=140,B=76
FI041	W SER	66	0940	1806580	-153337	L	3	22416	L	84030510	000000	000000	102055	002700	340	V
FI041	W SER	66	0936	1806580	-153337	L	1	02893	L	84030509	000000	000000	095020	002500	791	V
FI041	W SER	66	0937	1806580	-153337	L	3	22415	L	84030508	000000	000000	082426	008000	582	V
FI041	W SER	66	0938	1806580	-153337	L	1	02892	L	84030507	000000	000000	075756	001200	561	V
FI041	W SER	66	0937	1806580	-153337	L	3	22414	L	84030507	000000	000000	071218	004100	350	V
FI041	W SER	66	0940	1806580	-153337	L	1	02890	L	84030505	000000	000000	053302	001200	561	V
FI041	W SER	66	0942	1806580	-153337	L	3	22413	L	84030505	000000	000000	055942	004100	350	V
FI041	W SER	66	0940	1806580	-153337	L	1	02891	L	84030506	000000	000000	064539	001200	561	V
FI041	WSER	66	0934	1806580	-153337	L	3	22412	L	84030504	000000	000000	044718	004100	350	V
CCFTS	HD 166233	41	0560	1807046	+035900	L	3	22374	L	84022912	000000	000000	122200	012000		G E=122,C=7X,B=30
HSGJD	OO LSE0234	16	1250	1808213	-645552	H	3	23054	L	84052007	000000	000000	074900	026000		G C=165,B=50
FC232	AP SGR	41	0763	1810062	-230752	L	3	22631	L	84033109	000000	000000	094042	002600	000	V
FI041	HD 166937	66	0394	1810460	-210425	H	1	02889	L	84030410	000000	000000	100840	000250	601	V
OD28K	HD 166937	25	0370	1810460	-210425	H	3	22335	L	84022302	000000	000000	020300	000600		G E=156,C=200,B=39
OD28K	HD 166937	25	0370	1810460	-210425	H	3	22643	L	84040122	000000	000000	223600	000430		G E=160,C=220,B=80
OD28K	HD 166937	25	0370	1810460	-210425	H	3	23081	L	84052215	000000	000000	153900	000600		G E=179,C=210,B=50
FI041	HD166937	66	0402	1810460	-210425	L	3	22405	L	84030409	000000	000000	091500	000093	301	V
FI041	HD 166937	66	0398	1810460	-210425	L	1	02888	L	84030409	000000	000000	091117	000000	300	V MU SGR
OD28K	HD 166937	25	0370	1810460	-210425	H	3	22642	L	84040121	000000	000000	215000	000600		G E=178,C=240,B=70
OD28K	HD 166937	25	0370	1810460	-210425	H	3	23082	L	84052216	000000	000000	162100	000600		G E=186,B=53
OD28K	HD 166937	25	0370	1810460	-210425	H	3	22645	L	84040123	000000	000000	235100	000415		G E=144,C=210,B=80
OD28K	HD 166937	25	0370	1810460	-210425	H	1	03071	L	84040122	000000	000000	220300	000200		G C=1.5X,B=80
OD28K	HD 166937	25	0370	1810460	-210425	H	3	22644	L	84040123	000000	000000	231100	000400		G E=156,C=215,B=90
OD28K	HD 166937	25	0370	1810460	-210425	H	1	02834	L	84022302	000000	000000	021300	000200		G C=250,B=44
OD28K	HD 166937	25	0370	1810460	-210425	H	3	22336	L	84022302	000000	000000	025300	000600		G E=131,C=180,B=35
FI041	HD166937	66	0398	1810460	-210425	H	3	22406	L	84030410	000000	000000	101509	001115	601	V
HSGAT	HD 167971	13	0750	1815176	-121545	L	3	22811	L	84042122	000000	000000	221000	001300		G C=1.5X,B=27
HSGAT	HD 167971	13	0750	1815176	-121545	L	1	03195	L	84042121	000000	000000	213500	000300		G C=2.0X,B=40
FI041	AR PAV	66	1087	1815238	-660600	L	1	02903	L	84030705	000000	000000	054005	004000	672	V
FI041	AR PAV	66	1085	1815238	-660600	L	3	22434	L	84030704	000000	000000	044053	005500	360	V
GI156	AR PAV	57	1079	1815240	-660615	L	3	22707	L	84041006	000000	000000	061038	005500	471	V
GI156	AR PAV	57	1075	1815240	-660615	L	1	03139	L	84041007	000000	000000	070713	010000	873	V
GM081	HD238846	20	0977	1817245	552530	L	3	23095	L	84052400	000000	000000	004024	000516	801	V
LGGEB	HD 168454	47	0270	1817476	-295105	L	3	22633	L	84033115	000000	000000	151000	010000		G E=171,C=145,B=87
FC198	HD168454	47	0299	1817479	-295104	L	3	22480	L	84031309	000000	000000	092940	008000	331	V
HSGAT	BD-16 4826	12	0990	1818093	-160226	L	3	22809	L	84042118	000000	000000	182500	005000		G C=3X,B=55
HSGAT	BD-16 4826	12	0990	1818093	-160226	L	1	03193	L	84042119	000000	000000	192800	000500		G C=160,B=40
NPGHB	OO K 1-16	70	1510	1821369	+642018	L	1	03305	L	84050811	000000	000000	113200	005000		G C=218,B=43
NPGHB	OO K 1-16	70	1510	1821369	+642018	L	3	22949	L	84050811	000000	000000	110600	000900		G C=95,B=19
NPGHB	OO K 1-16	70	1510	1821369	+642018	L	3	22948	L	84050810	000000	000000	102700	000900		G C=103,B=19
NPGHB	OO K 1-16	70	1510	1821369	+642018	L	3	22944	L	84050808	000000	000000	080200	000900		G C=100,B=18
NPGHB	OO K 1-16	70	1510	1821369	+642018	L	3	22945	L	84050808	000000	000000	083900	000900		G C=94,B=19
NPGHB	OO K 1-16	70	1510	1821369	+642018	L	3	22946	L	84050809	000000	000000	091500	000900		G C=95,B=19

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
NPGHB	OO K 1-16	70	1510	1821369	+642018	L	3	22947	L	84050809	000000	000000	095100	000900		G C=90,B=19
HSGAT	HD 169582	13	0870	1822579	-094658	L	1	03196	L	84042123	000000	000000	233200	000130		G C=160,B=33
HSGAT	HD 169582	13	0870	1822579	-094658	L	3	22812	L	84042123	000000	000000	230100	001100		G C=185,B=25
NPGWF	OOM3 27	70	1370	1825315	+142708	H	1	03259	L	84050215	000000	000000	155500	004500		G C=204,B=165
NPGWF	OO M3-27	70	1170	1825316	+142709	L	3	22700	L	84040917	000000	000000	175400	012000		G E=-1.5X,C=117,B=80
IMGRF	HD 171589	12	0830	1833222	-140927	H	1	02999	L	84032100	000000	000000	000900	002300		G C=210,B=120
IMGRF	HD 171589	12	0830	1833222	-140927	H	3	22530	L	84032100	000000	000000	003900	004000		G C=170,B=112
FA050	HD171858	22	0987	1834546	-231412	H	3	22396	L	84030304	000000	000000	045713	009000	501	V
FA050	HD171858	22	0996	1834546	-231412	H	1	02880	L	84030306	000000	000000	063225	009000	503	V
OD33K	HD 172167	30	0004	1835143	+384448	H	1	03008	S	84032219	190300	000006	000000	000000		G C=220,B=40
HSGAT	HD 172175	15	0940	1836208	-075419	L	3	22810	L	84042120	000000	000000	201400	002500		G C=165,B=41
HSGAT	HD 172175	15	0940	1836208	-075419	L	1	03194	L	84042120	000000	000000	204900	000410		G C=185,B=40
IGFBS	HD 172140	23	1000	1836374	-292308	H	3	22506	L	84031714	000000	000000	140900	021000		G C=1X,B=75
IMGRF	HD 172275	12	0940	1836573	-072402	H	1	02995	L	84032019	000000	000000	192500	002300		G C=110,B=61
FA180	NULL IMAGE	99	9999	1837182	-225719	L	1	03153	L	84041401	000000	000000	000000	000000		V READG1 FOR LWP3154
FA180	V348 SGR	52	1397	1837182	-225719	L	3	22739	L	84041403	000000	000000	035812	028800	331	V
FA180	V348 SGR	52	1394	1837182	-225719	L	1	03154	L	84041401	000000	000000	013307	014000	332	V
IMGRF	HD 172694	20	9999	1839240	-155400	H	3	22788	L	84041909	000000	000000	091400	005500		G C=125,B=35
IMGRF	HD 172694	20	9999	1839240	-155400	H	2	17384	L	84041910	000000	000000	101700	003200		G C=140,B=37
IMGRF	HD 172694	20	0810	1839240	-155400	H	1	02998	L	84032022	000000	000000	225900	002900		G C=250,B=128
SPFRN	OO EUROPA	04	0580	1840383	-225211	L	1	02955	L	84031419	000000	000000	192200	000355		G C=255,B=33
SPFRN	OO EUROPA	04	0580	1840383	-225211	H	1	02956	L	84031420	000000	000000	200100	015500		G C=215,B=90
SPFRN	OOGANYMEDE	04	0510	1840383	-225211	L	1	02958	L	84031500	000000	000000	003400	000105		G C=218,B=33
SPFRN	OO EUROPA	04	0580	1840383	-225211	L	1	02957	L	84031423	000000	000000	235800	000315		G C=215,B=38
SPFRN	OOGANYMEDE	04	0510	1840480	-225204	L	1	02959	L	84031501	000000	000000	011400	000200		G C=235,B=35
GC262	MV SGR	52	1310	1841329	-210024	L	1	03111	L	84040708	000000	000000	080220	004500	401	V
GS264	MVSGR	52	1327	1841329	-210024	L	1	03179	L	84041908	000000	000000	082015	002700	303	V
SPFRN	OOCALLISTO	04	0630	1841459	-225111	L	1	02970	L	84031700	000000	000000	002100	000420		G C=190,B=38
SPFRN	OO EUROPA	04	0580	1841459	-225111	L	1	02969	L	84031623	000000	000000	232600	000250		G C=210,B=35
SPFRN	OO EUROPA	04	0550	1841459	-225111	L	1	02967	L	84031621	000000	000000	212100	000220		G C=188,B=36
SPFRN	OOCALLISTO	04	0630	1841459	-225111	L	1	02971	L	84031701	000000	000000	010400	000440		G C=200,B=40
SPFRN	OO IO	04	0550	1841459	-225111	L	1	02968	L	84031622	000000	000000	221100	002400		G C=203,B=40
IMGRF	HD 173219	20	0800	1841514	-070946	H	1	02997	L	84032021	000000	000000	214100	002300		G C=220,B=81
OD34K	HD 173297	53	0800	1842189	-204200	L	3	22443	L	84030819	000000	000000	194500	004000		G C=140,B=90
OD34K	HD 173297	53	0800	1842189	-204200	L	1	02987	L	84030819	000000	000000	192900	001800		G C=170,B=54
OD34K	HD 173297	53	0800	1842189	-204200	L	1	02908	L	84030820	000000	000000	203400	002000		G C=1.3X,B=80
SPFRN	OOGANYMEDE	04	0510	1842481	-225017	L	1	02979	L	84031819	000000	000000	193700	000212		G C=180,B=33
SJFHM	OO JUPITER	03	-0210	1844079	-224911	L	3	22548	L	84032123	000000	000000	235100	001500		G E=73,C=3X,B=40
SJFHM	OO JUPITER	03	-0210	1844079	-224911	L	3	22539	L	84032123	000000	000000	230600	001500		G E=82,C=3X,B=43
SIFHM	OOIO TORUS	04	-0210	1844079	-224911	L	3	22533	L	84032111	000000	000000	115600	037500		G E=132,B=80
SJFHM	OO JUPITER	03	-0210	1844079	-224911	L	3	22538	L	84032122	000000	000000	221500	001500		G E=88,C=3X,B=40
SJFHM	OO JUPITER	03	-0210	1844079	-224911	L	3	22537	L	84032121	000000	000000	212400	001500		G E=124,C=3X,B=38
SJFHM	OO JUPITER	03	-0210	1844079	-224911	L	3	22541	L	84032200	000000	000000	003900	001500		G C=3X,B=38
SJFHM	OO JUPITER	03	-0200	1844079	-224911	L	3	22542	L	84032201	000000	000000	012400	001500		G C=3X,B=32
SJFHM	OO JUPITER	03	-0200	1844079	-224911	L	3	22543	L	84032202	000000	000000	020900	001500		G C=3X,B=31

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
SJFHM	OO JUPITER	03	-0210	1844079	-224911	L	3	22536	L	84032120	000000	000000	203800	001500	G	E=129,C=3X,B=38
SJFHM	OO JUPITER	03	-0210	1844079	-224911	L	3	22535	L	84032119	000000	000000	194600	001500	G	E=130,C=3X,B=40
SIFHM	OO JUPITER	04	-0210	1844079	-224911	L	3	22534	L	84032118	000000	000000	185600	001500	G	E=143,C=3X,B=39
HCFSP	HD 173764	39	0420	1844312	-044811	L	3	22471	L	84031212	000000	000000	123100	000200	G	C=150,B=20
HCFSP	HD 173764	39	0420	1844312	-044811	H	1	02938	L	84031211	000000	000000	112500	006000	G	E=248,C=1.5X,B=52
SJGHM	OO JUPITER	03	-0210	1845035	-224846	L	3	22566	L	84032323	000000	000000	231600	001500	G	C=3X,B=42
SJGHM	OOSKY BACK	07	-0210	1845035	-224846	L	3	22567	L	84032400	000000	000000	001000	001500	G	B=25
SJGHM	OO JUPITER	03	-0210	1845035	-224846	L	3	22568	L	84032401	000000	000000	010400	001500	G	C=3X,B=41
SJGHM	OOSKY BACK	07	-0210	1845035	-224846	L	3	22569	L	84032401	000000	000000	015600	001500	G	B=20
SJFHM	OOJUPTR/SP	03	-0200	1845035	-224846	L	3	22558	L	84032316	000000	000000	160700	001500	G	E=128,C=3X,B=23
SJGHM	OOSKY BACK	07	-0210	1845035	-224846	L	3	22565	L	84032322	000000	000000	222200	001500	G	B=22
SJGHM	OO JUPITER	03	-0210	1845035	-224846	L	3	22564	L	84032321	000000	000000	212500	001500	G	E=100,C=3X,B=33
SJGHM	OO JUPITER	03	-0210	1845035	-224846	L	3	22563	L	84032320	000000	000000	203600	001500	G	E=87,C=3X,B=31
SJGHM	OOSKY BACK	07	-0210	1845035	-224846	L	3	22562	L	84032319	000000	000000	194100	001500	G	B=21
SJFHM	OO JUPITER	03	-0200	1845035	-224846	L	3	22561	L	84032318	000000	000000	184700	001500	G	C=3X,B=41
SJFHM	OOJUP S.P.	03	-0200	1845035	-224846	L	3	22556	L	84032314	000000	000000	142800	001500	G	E=136,C=3X,B=21
SJFHM	OO JUPITER	03	-0200	1845035	-224846	L	3	22554	L	84032312	000000	000000	121500	001500	G	E=184,C=3X,B=21
SJFHM	OOSKY BKGD	07	-0200	1845035	-224846	L	3	22560	L	84032317	000000	000000	175700	001500	G	E=45,B=20
SJFHM	OO JUPITER	03	-0200	1845035	-224846	L	3	22555	L	84032313	000000	000000	130300	001500	G	E=153,C=3X,B=21
SJFHM	OOJUPTR/NP	03	-0200	1845035	-224846	L	3	22559	L	84032316	000000	000000	165800	001500	G	E=180,C=2X,B=28
SJFHM	OOJUP S.P.	03	-0200	1845035	-224846	L	3	22557	L	84032315	000000	000000	151800	001500	G	E=149,C=3X,B=22
QSFJO	003C 390.3	84	0000	1845385	+794302	L	3	22624	L	84033011	000000	000000	115100	035000	G	E=211,C=155,B=125
IMGRF	HD 174069	20	0760	1846155	-083058	H	1	02996	L	84032020	000000	000000	202400	002800	G	C=220,B=77
CCGMG	HD 175938	31	0630	1849114	+795305	H	1	03386	L	84051913	000000	000000	130700	006000	G	C=250,B=65
CCGMG	HD 175938	31	0630	1849114	+795305	H	3	23036	L	84051807	000000	000000	074600	042000	G	C=10X,B=110
CCGMG	HD 175938	31	0630	1849114	+795305	L	3	23045	L	84051914	000000	000000	141200	001000	G	C=10-15X,B=18
GM081	BD+28 2781	21	0997	1851081	482029	H	3	23103	L	84052501	000000	000000	013150	031500	802	V
GM081	BD+48 2781	21	0993	1851081	482029	L	3	23086	LS	84052223	234923	000546	234043	000520	701	V 500$
OD35K	HD 175227	21	0830	1851218	+241254	L	1	03169	SL	84041719	192400	000150	191900	000045	G	C=219,B=34
OD35K	HD 175227	21	0830	1851218	+241254	H	3	22783	L	84041800	000000	000000	001800	003000	G	C=90,B=27
OD35K	HD 175227	21	0830	1851218	+241254	L	3	22773	SL	84041623	233000	000420	232000	000420	G	C=190,B=25
OD35K	HD 175227	21	0830	1851218	+241254	L	1	03166	SL	84041622	222100	000200	221100	000100	G	C=187,B=35
OD35K	HD 175227	21	0830	1851218	+241254	L	3	22772	SL	84041621	215900	000500	214800	000230	G	C=180,B=25
OD35K	HD 175227	21	0830	1851218	+241254	L	3	22782	SL	84041723	233600	000320	233100	000140	G	C=190,B=16
OD35K	HD 175227	21	0830	1851218	+241254	H	3	22779	L	84041717	000000	000000	174300	009000	G	C=200,B=62
OD35K	HD 175227	21	0830	1851218	+241254	H	1	03172	L	84041723	000000	000000	234400	003000	G	C=150,B=45
CVFES	OO DI HER	66	0830	1851219	+241251	L	1	02847	L	84022521	000000	000000	215200	000040	G	C=210,B=37
CVFES	OO DI HER	66	0830	1851219	+241251	L	3	22357	SL	84022521	214700	000200	214300	000055	G	C=125,B=17
DCGEB	BS 7107	53	0430	1851483	-671757	H	1	03064	L	84033117	000000	000000	172200	002000	G	C=220,B=75
SJGHM	OO JUPITER	03	-0130	1852541	-224328	L	3	23010	L	84051313	000000	000000	135500	001500	G	E=165,C=5X,B=20
SIGHM	OOIO TORUS	04	0500	1852541	-224328	L	3	23009	L	84051309	000000	000000	092300	024000	G	E=228,B=45
SJGHM	OO JUPITER	03	-0130	1852579	-224325	L	3	23008	L	84051308	000000	000000	083200	001500	G	E=159,C=5X,B=20
SIGHM	OOIO TORUS	04	0500	1852579	-224325	L	3	23007	L	84051303	000000	000000	035300	024000	G	E=235,B=43
SJGHM	OO JUPITER	03	-0130	1853009	-224314	D	9	01535	L	84051223	000000	000000	230200	016000	G	NO COMMENTS
GS048	IO TORUS	03	9999	1853011	-224309	L	3	23006	L	84051223	000000	000000	230154	024000	232	V IO TORUS IN SWLA

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
GS048	JUPITER	03	9999	1853011	-224309	E	9	01536	2	84051300	000000	000000	002000	016000		V FOR SWP 23007
SJGHM	OO JUPITER	03	-0130	1853047	-224308	L	3	23000	L	84051218	000000	000000	181400	001500		G E=108,C=2X,B=20
SJGHM	OO JUPITER	03	-0130	1853047	-224308	L	3	22999	L	84051217	000000	000000	172600	001500		G E=117,C=2X,B=22
SJGHM	OO JUPITER	03	-0130	1853047	-224308	L	3	23004	L	84051221	000000	000000	212500	001500		G E=86,C=5X,B=22
SJGHM	OO JUPITER	03	-0130	1853047	-224308	L	3	23005	L	84051222	000000	000000	221200	001500		G E=86,C=5X,B=21
SJGHM	OO JUPITER	03	-0130	1853047	-224308	L	3	23001	L	84051219	000000	000000	190300	001500		G E=76,C=5X,B=25
SJGHM	OO JUPITER	03	-0130	1853047	-224308	L	3	23003	L	84051220	000000	000000	203600	001500		G E=81,C=5X,B=25
SJGHM	OO JUPITER	03	-0130	1853047	-224308	L	3	22998	L	84051216	000000	000000	163100	001500		G E=135,C=2X,B=20
SJGHM	OO JUPITER	03	-0130	1853047	-224308	L	3	22997	L	84051215	000000	000000	154400	001500		G E=81,B=20
SJGHM	OO JUPITER	03	-0130	1853047	-224308	L	3	23002	L	84051219	000000	000000	195000	001500		G E=66,C=5X,B=20
HSGDB	HD 175362	27	0540	1853170	-372431	L	3	22679	L	84040521	000000	000000	214800	000003		G C=-1.2X,B=31
HSGDB	HD 175362	27	0540	1853170	-372431	L	1	03096	L	84040521	000000	000000	214300	000002		G C=150,B=16
LGGEB	HD 176411	47	0400	1857211	+145956	L	3	22632	L	84033111	000000	000000	111100	020000		G E=151,C=140,B=59
OD34K	HD 178287	53	0880	1905389	-073059	L	1	03012	L	84032222	000000	000000	221900	003000		G C=203,B=52
GA087	3507/N6752	83	1750	1905590	-595724	E	9	01539	2	84052800	000000	000000	000300	004000		V FOR SWP23120
GA087	3507/N6752	83	1750	1905590	-595724	L	3	23120	L	84052723	000000	000000	235632	041100	303	V
GA086	NULL	99	9999	1906127	-601347	L	1	03446		84052700	000000	000000	000000	000000		V READ G1
GA086	3118-N6752	83	1770	1906127	-601347	L	1	03447	L	84052623	000000	000000	235101	038200	306	V
GA087	3675/N6752	83	1700	1907175	-600136	L	3	23126	L	84052823	000000	000000	235417	041300	303	V
GM248	HD180711	45	0341	1912328	673425	H	1	03199	L	84042205	000000	000000	050721	002100	602	V
GC262	HD180093	52	0744	1913170	-333640	L	1	03108	LS	84040702	024842	002400	020823	003600	701	V 501$
GS264	HD180093	52	0671	1913170	-333640	L	1	03178	SL	84041906	064657	001000	070551	001500	703	V 703$
OBGGS	HD 181454	22	0400	1919028	-443318	H	1	03219	L	84042518	000000	000000	183000	000105		G C=210,B=43
OBGGS	HD 181454	22	0400	1919028	-443318	H	3	22845	L	84042518	000000	000000	182300	000155		G C=190,B=35
FC030	HD182917	57	0568	1923142	500831	L	1	02674	LS	84012013	132850	000010	132457	000020	701	V 401$
FC030	HD181917	57	0550	1923142	500831	L	1	02675	L	84012014	000000	000000	143746	000007	501	V
FC030	HD 182917	57	0560	1923142	500831	H	3	22057	L	84012014	000000	000000	144131	006000	571	V
FC030	HD182917	57	0563	1923142	500831	L	3	22056	LS	84012013	133712	000020	133237	000030	430	V 320$
IEGAW	HD 182918	22	0860	1924036	+223923	L	3	22743	SL	84041417	172000	000330	171000	001030		G C=205,B=27
IEGAW	HD 182918	22	0860	1924036	+223923	L	3	22742	SL	84041415	154000	001030	153100	000330		G C=190,B=18
IEGAW	HD 182918	22	0860	1924036	+223923	L	2	17377	SL	84041415	155600	000930	161100	000154		G C=1.5X,B=30
IEGAW	HD 182918	22	0860	1924036	+223923	L	2	17378	SL	84041417	175800	000930	175200	000542		G C=225,B=27
GM081	HD183761	12	0900	1928486	-172014	L	3	23102	LS	84052500	004103	000436	003330	000327	801	V 601$
CCGDS	HD 184960	41	0570	1933020	+510743	H	1	03102	L	84040619	000000	000000	195200	003000		G C=2X,B=150
GA055	HD185037	22	0613	1934004	364957	H	3	22667	L	84040406	000000	000000	062640	001000	400	V
GA055	HD185037	22	0609	1934004	364957	H	3	22665	L	84040403	000000	000000	035554	004000	701	V
GA107	HD186205	21	0874	1940137	090629	L	3	22647	LS	84040202	030151	000300	024525	000557	501	V 501$
GA107	HD186205	21	0874	1940137	090629	L	1	03072	LS	84040201	020105	000500	014304	000541	604	V 504$
STFMA	HD 186427	44	0620	1940320	+502403	L	1	02851	L	84022620	000000	000000	200000	000230		G C=210,B=35
STFMA	HD 186427	44	0620	1940320	+502403	L	1	02852	L	84022620	000000	000000	204500	001230		G C=4X,B=40
GI156	V 3885 SGR	63	1054	1944120	-420730	L	1	03138	L	84041005	000000	000000	051045	000330	613	V
GI156	CD-4214462	63	1048	1944120	-420730	L	3	22723	L	84041202	000000	000000	022547	000436	500	V
GI156	CD-4214462	63	1050	1944120	-420730	H	3	22724	L	84041203	000000	000000	031429	033300	503	V
GI156	CD-4214462	63	1048	1944120	-420730	L	1	03150	L	84041202	000000	000000	023307	000252	501	V
GI156	V3885SGR	63	1046	1944120	-420730	L	3	22706	L	84041004	000000	000000	045921	000500	610	V

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
GC011	HD187183	44	0980	1945483	091102	L	1	03362	L	84051405	000000	000000	055955	004500 611 V
CCGMG	HD 187642	31	0080	1948218	+084419	H	1	03385	L	84051908	000000	000000	080300	000100 G C=2-3X,B=60
CCGMG	HD 187642	31	0080	1948218	+084418	H	3	23043	L	84051908	000000	000000	081300	025000 G C=500X,B=255
PHCAL	00 NULL	31	0080	1948218	+084418	L	3	23044	L	84051913	000000	000000	131100	000000 G B=18
CBGNE	HD 188727	53	0562	1953454	+163000	L	1	03007	SL	84032217	173300	000200	170400	002500 G C=16X,B=42
CBGNE	HD 188727	53	0562	1953454	+163000	L	3	22549	L	84032215	000000	000000	155800	011000 G C=215,B=35
CBGNE	HD 188727	53	0562	1953454	+163000	L	1	03006	L	84032215	000000	000000	154900	000320 G C=2-3X,B=34
NPGWF	00V1016CYG	70	1050	1955200	+394124	H	3	22890	L	84050217	000000	000000	171000	002000 G E=219,B=67
NPGWF	00V1016CYG	70	1050	1955200	+394124	L	3	22701	L	84040920	000000	000000	203200	000300 G E=-1.1X,C=28,B=17
NPGWF	00V1016CYG	70	1050	1955200	+394124	L	1	03133	L	84040920	000000	000000	204000	000300 G E=-1.5X,C=100,B=34
NPGWF	00V1016CYG	70	1050	1955200	+394124	H	1	03260	L	84050217	000000	000000	174400	002000 G E=234,B=92
NPGWF	00V1016CYG	70	1050	1955200	+394124	L	3	22891	L	84050218	000000	000000	181200	000200 G E=190,B=25
NPGWF	00V1016CYG	70	1050	1955200	+394124	L	1	03261	L	84050218	000000	000000	184300	000200 G E=239,C=80,B=41
PHCAL	RRTEL	63	1065	2000200	-555204	H	3	22531	L	84032103	000000	000000	033147	004000 070 V
PHCAL	RRTEL	63	1062	2000200	-555204	H	1	03001	L	84032104	000000	000000	041602	004000 272 V
PHCAL	RRTEL	63	1069	2000201	-555204	L	1	03002	LS	84032105	055345	001200	054637	000300 361 V 361$
PHCAL	RRTEL	63	1058	2000201	-555204	L	3	22532	LS	84032105	051100	001200	050156	000300 260 V 260$TRAILED RATE=0.2
PHCAL	NULL IMAGE	99	9999	2000201	-555204	L	1	03003		84032100	000000	000000	000000	000000 001 V
LDFJL	HD 190248	44	0360	2003504	-661844	H	1	03040	L	84032719	000000	000000	191700	001000 G C=1.5X,B=50
LDFJL	HD 190248	44	0360	2003504	-661844	L	3	22600	L	84032718	000000	000000	182700	002000 G C=88,B=30
GQ256	2005-489	84	1365	2005465	-485842	L	1	02993	L	84032003	000000	000000	034922	018000 703 V
GQ256	2005-489	84	1365	2005465	-485842	L	1	02994	L	84032008	000000	000000	084316	007000 502 V
GQ256	2005-489	84	1360	2005465	-485842	L	3	22526	L	84032010	000000	000000	100006	005000 302 V
GQ256	2005-489	84	1365	2005465	-485842	L	3	22525	L	84032006	000000	000000	065621	010000 302 V
LDFJL	HD 191408	46	0530	2007550	-361343	L	3	22620	L	84033002	000000	000000	021300	003300 G E=115,B=20
LDFJL	HD 191408	46	0530	2007550	-361343	H	1	03057	L	84033001	000000	000000	013200	003500 G E=140,C=145,B=40
LDFJL	HD 191408	46	0530	2007550	-361343	L	3	22619	L	84033000	000000	000000	005600	003000 G E=109,B=22
STFMA	HD 191854	44	0742	2008336	+434742	L	1	02603	L	84011123	000000	000000	231600	003300 G C=3.3X,B=50
STFMA	HD 191854	44	0742	2008336	+434742	L	1	02602	L	84011122	000000	000000	223000	000600 G C=170,B=45
GM021	HD192103	10	0811	2010008	360249	H	3	22861	L	84042707	000000	000000	070501	010200 473 V
FM133	HD192303	23	0904	2010580	380434	H	3	21982	L	84011009	000000	000000	093056	037600 503 V
HSGAT	HD 192639	13	0710	2012391	+371203	L	1	03191	L	84042116	000000	000000	164800	000100 G C=3X,B=35
HSGAT	HD 192639	13	0710	2012391	+371203	L	3	22808	L	84042116	000000	000000	165300	000110 G C=185,B=17
HSGAT	HD 192639	13	0710	2012391	+371203	L	1	03192	SL	84042117	174400	000600	173900	000030 G C=1.5X,B=45
GATOO	WR137	10	0806	2012394	363028	L	3	22939	LS	84050800	001731	000630	000929	000206 550 V 560$
GATOO	WR137	10	0801	2012394	363028	L	1	03300	LS	84050723	234712	000500	233954	000140 771 V 771$
GATOO	WR137	10	0807	2012394	363028	L	1	03301	LS	84050801	012638	000130	011740	000239 771 V 551$
FM133	HD228519	20	0957	2012489	384617	H	3	21979	L	84010908	000000	000000	085843	040800 404 V
VVFRC	HD 192909	39	0420	2013555	+473336	H	2	17255	L	84021804	000000	000000	040000	002000 G E=2.5X,C=173,B=35
GA146	HD193237	23	0498	2015565	375236	H	3	22868	L	84042805	000000	000000	051456	002500 502 V
GA146	HD193237	23	0494	2015565	375236	L	3	22869	L	84042806	000000	000000	061553	000018 501 V
GA146	HD193237	23	0498	2015565	375236	H	1	03234	L	84042804	000000	000000	045318	000500 552 V
IEGAW	BD+41 3737	21	0930	2023021	+421317	L	2	17382	SL	84041500	002000	001145	001100	000221 G C=200,B=28
HSFBM	002023+523	19	1550	2023519	+523938	L	3	22017	L	84011517	000000	000000	170800	030000 G C=210,B=62
HCGBC	HD 195636	45	0950	2030065	-093202	L	3	22950	L	84050813	000000	000000	130000	009500 G C=86,B=52

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
HCGBC	HD 195636	45	0950	2030065	-093202	L	1	03306	L	84050814	000000	000000	144100	001000		G C=168,B=40
HSGAT	OOCYG02/8C	12	1010	2031302	+410812	L	1	03190	L	84042111	000000	000000	114500	021000		G C=3X,B=78
HSGAT	OOCYG02/8C	12	1010	2031302	+410812	L	3	22807	L	84042110	000000	000000	102800	012500		G C=70,B=40
HSGAT	OOCYG02/8C	12	1010	2031302	+410812	L	1	03189	L	84042109	000000	000000	094100	004300		G C=140,B=40
OBGGS	HD 196867	22	0380	2037189	+154404	H	1	03218	L	84042517	000000	000000	170700	000111		G C=200,B=42
OBGGS	HD 196867	22	0380	2037189	+154404	H	3	22844	L	84042517	000000	000000	171300	000202		G C=185,B=35
PHCAL	OO WAVCAL	98	0000	2037233	-665621	L	3	22634	S	84033120	202900	000002	000000	000000		G E=20X,B=100
PHCAL	OO WAVCAL	98	0000	2037233	-665621	H	1	03066	S	84033119	193900	000016	000000	000000		G E=50X,B=105
PHCAL	OO WAVCAL	98	0000	2037233	-665621	H	3	22635	S	84033120	205400	000200	000000	000000		G E=50X,B=127
PHCAL	OO WAVCAL	98	0000	2037233	-665621	L	1	03065	S	84033119	190300	000001	000000	000000		G E=20X,B=100
FC187	VW CEP	54	0763	2038029	752457	L	1	02984	L	84031903	000000	000000	034317	000500	551	V
FC187	VW CEP	54	0769	2038029	752457	L	1	02985	L	84031904	000000	000000	043854	000500	551	V
FC187	VW CEP	54	0768	2038029	752457	L	1	02991	L	84031909	000000	000000	093207	000500	551	V
FC187	VW CEP	54	0790	2038029	752457	L	1	02986	L	84031905	000000	000000	052534	000500	551	V
FC187	VW CEP	54	0759	2038029	752457	L	1	02992	L	84031910	000000	000000	102459	000500	551	V
FC187	VW CEP	54	0789	2038029	752457	L	3	22518	L	84031908	000000	000000	083247	000700	021	V
FC187	VW CEP	54	0769	2038029	752457	L	1	02987	L	84031906	000000	000000	061338	000500	551	V
FC187	VW CEP	54	0792	2038029	752457	L	1	02990	L	84031908	000000	000000	084518	000500	551	V
FC187	VW CEP	54	0758	2038029	752457	L	1	02988	L	84031907	000000	000000	070513	000500	551	V
FC187	VW CEP	54	0763	2038029	752457	L	1	02989	L	84031907	000000	000000	074433	000500	551	V
QSGRP	OOALPH CYG	32	0126	2039434	+450602	H	1	03079	L	84040221	000000	000000	215400	000014		G C=210,B=40
IBGTA	OO ER DEL	50	1000	2040201	+083029	L	3	22835	L	84042423	000000	000000	233500	007200		G E=50,C=42,B=25
IBGTA	OO ER DEL	50	1000	2040202	+083008	L	3	22641	L	84040120	000000	000000	202500	004100		G C=150,B=115
IBGTA	OO ER DEL	50	1000	2040202	+083008	L	3	23105	L	84052513	000000	000000	135200	006500		G E=136,C=125,B=95
IBGTA	OO ER DEL	50	1000	2040202	+083008	L	2	17336	L	84040119	000000	000000	194900	003000		G E=101,C=110,B=50
QSGRP	OO MKN509	84	1310	2041260	-105417	L	3	22653	L	84040217	000000	000000	175200	003500		G E=204,C=148,B=92
QSGRP	OO MKN509	84	1310	2041260	-105417	L	1	03076	L	84040218	000000	000000	183300	002700		G E=1.5X,C=200,B=100
QSGRP	OO MKN509	84	1310	2041263	-105417	L	1	03364	L	84051415	000000	000000	154700	010500		G E=1.3X,C=195,B=50
QSGRP	OO MKN509	84	1310	2041263	-105417	L	3	23017	L	84051413	000000	000000	135100	010500		G E=239,C=100,B=35
QSGRP	OO MKN509	84	1310	2041263	-105417	L	1	03081	L	84040300	000000	000000	003800	001200		G E=129,C=105,B=47
PHCAL	OO WAVCAL	98	0000	2046168	+341621	H	3	23091	S	84052317	171700	000200	000000	000000		G E=60X,B=140
EGGDE	OOLSII3426	23	1100	2046168	+341621	L	1	03414	L	84052315	000000	000000	153400	001000		G C=245,B=83
PHCAL	OO WAVCAL	98	0000	2046168	+341622	L	3	23090	S	84052316	163700	000002	000000	000000		G E=10X,B=105
EGGDE	OOLSII3426	23	1100	2046168	+341621	L	3	23088	L	84052313	000000	000000	133300	003000		G C=240,B=121
EGGDE	OOLSII3426	23	1100	2046168	+341621	L	1	03413	L	84052314	000000	000000	141100	003000		G C=2.5X,B=205
EGGDE	OOLSII3426	23	1100	2046168	+341621	L	3	23089	L	84052314	000000	000000	145600	003000		G C=1.5X,B=150
GM021	HBV 475	57	1330	2049026	352337	H	3	22852	L	84042603	000000	000000	032155	026800	034	V
GM021	HBV 475	57	1335	2049026	352337	L	3	22840	L	84042507	000000	000000	072158	008500	351	V
GM021	HBV 475	57	1336	2049026	352337	L	1	03225	L	84042607	000000	000000	075517	005200	044	V
GA197	HD200120	26	0493	2050074	471930	H	1	03161	L	84041602	000000	000000	022023	000130	701	V
GA197	HD200120	26	0493	2050074	471930	H	3	22761	L	84041602	000000	000000	024024	000130	500	V
GA197	HD200120	26	0489	2050074	471930	H	1	03407	L	84052205	000000	000000	051302	000130	503	V
GA197	HD200120	26	0491	2050074	471930	H	3	23078	L	84052204	000000	000000	043746	000130	501	V
GM248	HD199951	45	0495	2050137	-322716	H	1	03200	L	84042206	000000	000000	062053	005400	602	V
CSGHJ	HD 201626	50	0820	2107483	+262438	L	1	03471	L	84053117	000000	000000	171500	003000		G C=3X,B=100

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
MLGFB	OO 2111+49	37	1310	2111029	+495341	H	3	22754	L	84041509	000000	000000	093900	039000		G C=195,B=100
IGGFB	HD 202654	21	0646	2113519	+474552	H	3	22646	L	84040200	000000	000000	004600	000500		G C=130,B=35
IGGFB	HD 203245	21	0560	2117452	+491753	H	3	22755	L	84041516	000000	000000	164200	000800		G C=240,B=40
PHCAL	OO WAVCAL	98	0000	2122206	+255729	H	1	03184	L	84042019	000000	000000	192700	000016		G E=50X,B=110
PHCAL	OO WAVCAL	98	0000	2122206	+255729	L	1	03183	L	84042018	000000	000000	185800	000001		G E=10X,B=100
IEGBS	BD+58 2292	20	0990	2127506	+582529	L	3	23139	L	84053022	000000	000000	221000	002700		G C=175,B=20
IEGBS	BD+58 2292	20	0990	2127506	+582529	L	1	03467	SL	84053021	214000	001200	212300	000930		G C=2X,B=35
IEGBS	BD+57 2334	21	0930	2128244	+573544	L	3	23130	L	84052919	000000	000000	192800	000800		G C=200,B=92
IEGBS	BD+57 2334	21	0930	2128244	+573544	L	1	03460	SL	84052919	191700	000500	190600	000400		G C=3.5X,B=145
IEGBS	BD+56 2584	20	0880	2129150	+565845	L	1	03466	SL	84053019	195200	000200	194500	000130		G C=255,B=42
IEGBS	BD+56 2584	20	0880	2129150	+565845	L	3	23138	SL	84053019	200600	000400	195800	000300		G C=175,B=17
GC011	BD-0 4234A	46	1007	2129366	-000000	L	3	23020	L	84051502	000000	000000	025142	018000	111	V
GC011	BD-0 4234A	46	1006	2129366	-000000	L	1	03367	L	84051505	000000	000000	055721	005000	450	V
IEGBS	BD+57 2343	21	0950	2129565	+574040	L	1	03463	SL	84053015	154500	000500	152900	000400		G C=230,B=40
IEGBS	BD+57 2343	21	0950	2129565	+574040	L	3	23131	L	84052920	000000	000000	203400	000800		G C=165,B=32
IEGBS	HD 205794	20	0840	2134117	+571435	L	1	03451	SL	84052722	221800	000200	220700	000130		G C=247,B=33
IEGBS	HD 205794	20	0840	2134117	+571435	L	3	23119	L	84052722	000000	000000	222900	000405		G C=198,B=15
IEGBS	HD 205948	20	0860	2135156	+572131	L	3	23122	SL	84052815	160400	000535	155400	000425		G C=1.2X,B=35
IEGBS	HD 205948	20	0860	2135156	+572131	L	1	03453	SL	84052816	162900	000230	162000	000200		G C=1.5X,B=50
IEGBS	BD+58 2302	20	0950	2136452	+585629	L	1	03456	L	84052822	000000	000000	221800	001700		G C=120,B=22
IEGBS	BD+58 2302	20	0950	2136452	+585629	L	3	23125	L	84052821	000000	000000	211500	005800		G C=120,B=22
IEGBS	HD 239724	20	0910	2137061	+570826	L	1	03450	SL	84052720	202700	000615	200700	000410		G C=2X,B=105
IEGBS	HD 239724	20	0910	2137061	+570826	L	3	23118	SL	84052720	205900	001430	204000	000943		G C=190,B=47
IEGBS	HD 239725	20	0910	2137302	+564323	L	1	03464	SL	84053016	163800	000350	162800	000250		G C=255,B=45
IEGBS	HD 239725	20	0910	2137302	+564323	L	3	23136	SL	84053016	170600	000800	164800	000630		G C=190,B=33
IEGBS	BD+57 2372	20	0860	2140265	+581616	L	1	03454	SL	84052818	183000	000215	182200	000130		G C=1.2X,B=72
IEGBS	BD+57 2372	20	0860	2140265	+581616	L	3	23123	SL	84052818	181100	000500	180000	000345		G C=198,B=75
CBFAH	OO SS CYG	54	1200	2140440	+432118	H	3	22263	L	84021413	000000	000000	133600	064000		G E=175,C=200,B=124
FI075	SS CYG	54	9999	2140440	432118	E	9	01521	2	84021400	000000	000000	000000	004000		V FES FOR SWP 22263
IEGBS	BD+56 2631	20	0940	2141164	+564715	L	1	03459	SL	84052917	174300	000345	173400	000300		G C=2.5X,B=72
IEGBS	BD+56 2631	20	0940	2141164	+564715	L	3	23129	L	84052917	000000	000000	175300	000615		G C=190,B=40
IEGAW	BD+65 1637	20	1010	2141421	+655251	L	2	17374	L	84041410	000000	000000	104300	004800		G C=3X,B=32
IEGAW	BD+65 1637	20	1010	2141421	+655251	L	3	22740	L	84041410	000000	000000	100200	002700		G C=135,B=20
IEGAW	BD+65 1637	20	1010	2141421	+655251	L	2	17373	L	84041409	000000	000000	094000	001200		G C=178,B=25
CSGJL	HD 206778	47	0240	2141438	+093842	H	1	03257	L	84050208	000000	000000	080900	035000		G E=40X,C=5-10X,B=130
CSGJL	OO WAVCAL	98	9999	2141438	+093842	H	1	03258	S	84050214	144800	000016	000000	000000		G E=50X,B=107
IEGBS	BD+56 2632	20	0890	2141485	+564736	L	3	2312B	SL	84052916	162000	000500	160300	000400		G C=180,B=25
IEGBS	BD+56 2632	20	0890	2141485	+564736	L	1	03458	SL	84052915	155500	000230	154500	000150		G C=240,B=46
IEGAW	BD+65 1638	21	1020	2141503	+655222	L	2	17376	L	84041413	000000	000000	132500	006000		G C=3X,B=35
IEGAW	BD+65 1638	21	1020	2141503	+655222	L	2	17375	L	84041412	000000	000000	122200	001400		G C=160,B=25
IEGAW	BD+65 1638	21	1020	2141503	+655222	L	3	22741	L	84041412	000000	000000	124100	003800		G C=180,B=20
CSGCI	HD 206860	44	0590	2142073	+143234	L	1	03381	L	84051816	000000	000000	161900	000636		G C=10X,B=40
CSGCI	HD 206860	44	0590	2142073	+143234	L	1	03380	L	84051815	000000	000000	152600	000028		G C=190,B=32
CSGCI	HD 206860	44	0590	2142073	+143234	L	3	23037	L	84051815	000000	000000	153200	004000		G E=82,C=130,B=31
IEGBS	BD+57 2380	20	0880	2142080	+580035	L	1	03465	SL	84053017	180700	000200	175900	000115		G C=255,B=45

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
IEGBS	BD+57 2380	20	0880	2142080	+580035	L	3	23137	SL	84053018	182200	000320	181300	000240		G C=195,B=30
QSGRP	HD 207260	32	0429	2144002	+605322	H	1	03078	L	84040220	000000	000000	205000	001700		G C=1.5X,B=82
IEGBS	BD+57 2395	21	1010	2144364	+573359	L	1	03461	SL	84052921	213600	001500	211100	001730		G C=240,B=40
IEGBS	BD+57 2395	21	1010	2144364	+573359	L	3	23132	L	84052921	000000	000000	215700	004815		G C=115,B=20
PHCAL	BD+28 4211	16	1055	2148560	283734	L	2	17221	L	84010711	000000	000000	112150	000330	402	V TRAIL 0.095 ARCSEC/S
PHCAL	BD+28 4211	16	1055	2148560	283734	L	3	21959	L	84010711	000000	000000	111227	000118	501	V TRAIL 0.256 ARCSEC/S
PHCAL	BD+28 4211	16	1055	2148560	283734	L	2	17220	LS	84010710	104432	000300	104019	000100	402	V 402$
PHCAL	BD+28 4211	16	1055	2148560	283734	H	2	17222	L	84010712	000000	000000	120816	009000	504	V
PHCAL	BD+28 4211	16	1055	2148560	283734	L	3	21958	LS	84010710	101512	000118	101238	000026	501	V 601$
PHCAL	BD+28 4211	16	1050	2148574	+283734	L	3	22083	L	84012400	000000	000000	002300	000026		G C=180,B=20
HSGCW	BD+28 4211	16	1050	2148574	+283734	L	1	03307	SL	84050815	155400	000140	155000	000050		G C=220,B=36
PHCAL	BD+28 4211	16	1050	2148574	+283734	L	3	22800	L	84042017	000000	000000	175200	000026		G C=190,B=15
PHCAL	BD+28 4211	16	1050	2148574	+283734	L	2	17399	L	84050118	000000	000000	180100	000100		G C=175,B=25
HSGCW	BD+28 4211	16	1050	2148574	+283734	L	3	22951	SL	84050816	160600	000052	160000	000026		G C=210,B=18
PHCAL	BD+28 4211	16	1050	2148574	+283734	L	3	22928	L	84050616	000000	000000	165600	000026		G C=180,B=18
PHCAL	BD+28 4211	16	1050	2148574	+283734	L	1	03289	L	84050617	000000	000000	170100	000050		G C=185,B=35
HSGCW	BD+28 4211	16	1050	2148574	+283734	L	1	03308	L	84050817	000000	000000	170200	000213		G C=3X,B=35
PHCAL	BD+28 4211	16	1050	2148574	+283734	L	1	02661	L	84011907	000000	000000	073400	000050		G C=190,B=35
HSGCW	BD+28 4211	16	1050	2148574	+283734	L	3	22952	L	84050817	000000	000000	170900	000059		G C=2X,B=21
HSGCW	BD+28 4211	16	1050	2148574	+283734	L	1	03309	L	84050818	000000	000000	180600	000213		G C=3X,B=38
HSGCW	BD+28 4211	16	1050	2148574	+283734	L	3	22953	L	84050818	000000	000000	181200	000059		G C=2X,B=19
HSGCW	BD+28 4211	16	1050	2148574	+283734	L	1	03310	L	84050819	000000	000000	190800	000305		G C=200,B=46
HSGCW	BD+28 4211	16	1050	2148574	+283734	L	3	22954	L	84050819	000000	000000	192200	000136		G C=200,B=20
PHCAL	BD+28 4211	16	1050	2148574	+283734	L	1	03182	L	84042017	000000	000000	174700	000050		G C=200,B=33
PHCAL	BD+28 4211	16	1050	2148574	+283734	L	1	03185	L	84042020	000000	000000	203100	000320		G C=195,B=41
FA208	BD+46 3471	34	1026	2150396	465920	L	3	22145	L	84013013	000000	000000	130737	010000	411	V
IEGBS	BD+58 2360	20	0900	2155454	+592046	L	3	23124	SL	84052819	194100	000800	192600	000630		G C=170,B=143
IEGBS	BD+58 2360	20	0900	2155454	+592046	L	1	03455	SL	84052820	201600	000330	200800	000215		G C=105,B=70
FE184	Q 2155-304	85	1338	2155582	-302753	E	9	01528	2	84042905	000000	000000	054200	004000		V FES FOR SWP 22876
EHFDY	Q 2155-304	87	1300	2155583	-302754	L	1	03252	L	84050113	000000	000000	132400	003000		G C=150,B=52
EHFDY	Q 2155-304	87	1300	2155583	-302754	L	3	22889	L	84050114	000000	000000	140100	004800		G C=130,B=72
EHFDY	Q 2155-304	87	1300	2155583	-302754	H	3	22881	L	84042923	000000	000000	233500	084500		G C=-1.1X,B=146
EHFDY	Q 2155-304	87	1300	2155583	-302754	L	3	22873	L	84042818	000000	000000	181400	003000		G C=168,B=123
EHFDY	Q 2155-304	87	1300	2155583	-302754	H	3	22888	L	84050100	000000	000000	000600	078500		G C=225,B=140
EHFDY	Q 2155-304	87	1300	2155583	-302754	L	3	22882	L	84043014	000000	000000	141500	003000		G C=101,B=62
EHFDY	Q 2155-304	87	1300	2155583	-302754	L	3	22887	L	84043022	000000	000000	221400	003000		G C=210,B=160
EHFDY	Q 2155-304	87	1300	2155583	-302754	L	3	22885	L	84043018	000000	000000	180300	003000		G C=180,B=130
EHFDY	Q 2155-304	87	1300	2155583	-302754	L	1	03249	L	84043017	000000	000000	172600	003000		G C=245,B=160
FE184	Q2155-304	85	1191	2155583	-302754	E	9	01531	2	84050106	000000	000000	061529	004000		V FES FOR SWP22888
PHCAL	SERENDIPIT	99	9999	2155583	-302754	H	2	17397	L	84050100	000000	000000	000919	035000		V UVC 4.5 KV.LONG EXPO
FE184	Q 2155-304	85	1338	2155583	-302754	E	9	01530	2	84043006	000000	000000	060500	004000		V FES FOR SWP 22881
PHCAL	NULL	99	9999	2155583	-302754	H	1	03251	L	84050106	000000	000000	062244	000000		V
EHFDY	Q 2155-304	87	1300	2155583	-302754	L	3	22884	L	84043016	000000	000000	164000	003000		G C=165,B=113
EHFDY	Q 2155-304	87	1300	2155583	-302754	L	1	03248	L	84043016	000000	000000	160000	003000		G C=225,B=170
EHFDY	Q 2155-304	87	1300	2155583	-302754	L	3	22883	L	84043015	000000	000000	152500	003000		G C=140,B=100

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
EHFDY	Q 2155-304	87	1300	2155583	-302754	L	1	03247	L	84043014	000000	000000	145100	002500		G C=182,B=100
EHFDY	Q 2155-304	87	1300	2155583	-302754	H	3	22876	L	84042901	000000	000000	010600	072000		G C=230,B=134
EHFDY	Q 2155-304	87	1300	2155583	-302754	L	1	03246	L	84042922	000000	000000	225100	003000		G C=180,B=95
EHFDY	Q 2155-304	87	1300	2155583	-302754	D	9	01529	L	84042923	000000	000000	232500	016000		G NO COMMENTS
PHCAL	00 NULL	99	0000	2156503	-301318	H	1	03245	L	84042921	000000	000000	212700	000000		G B=35
PHCAL	00 NULL	99	0000	2156503	-301318	H	1	03243	L	84042919	000000	000000	194800	000000		G B=33
PHCAL	00SKY BKGD	07	0000	2156503	-301318	H	1	03244	L	84042920	000000	000000	201600	001000		G B=195
LDFJL	HD 209100	46	0470	2159310	-565934	H	1	03055	L	84032922	000000	000000	220800	002000		G E=2X,C=170,B=120
LDFJL	HD 209100	46	0470	2159310	-565934	L	3	22618	L	84032921	000000	000000	214100	002000		G E=180,B=70
BLGAG	Q 2200+420	88	1600	2200394	+420209	L	1	03462	L	84053010	000000	000000	105600	023400		G C=150,B=115
BLGAG	00SKY BKGD	07	1600	2200394	+420209	L	3	23135	L	84053011	000000	000000	112200	006000		G B=27
GM081	HD209684	21	0989	2202492	-140050	H	3	23096	L	84052401	000000	000000	013313	030000	803	V
CVGJR	00 RV PEG	54	1100	2211354	+122715	L	3	22920	L	84050514	000000	000000	145600	001000		G E=252,C=255,B=20
CVGJR	00 RV PEG	54	1100	2211354	+122715	L	1	03284	L	84050515	000000	000000	153800	001000		G C=2X,B=52
IEGAW	BD+69 1232	22	0820	2212239	+695333	L	2	17379	SL	84041419	191400	000700	190500	000145		G C=255,B=27
IEGAW	BD+69 1232	22	0820	2212239	+695333	L	3	22744	SL	84041419	194300	001000	193500	000318		G C=230,B=27
IEGAW	BD+69 1232	22	0820	2212239	+695333	L	3	22745	SL	84041421	212700	000600	211600	000821		G C=215,B=30
IEGAW	BD+69 1232	22	0820	2212239	+695333	L	2	17380	SL	84041420	204300	000300	202900	000436		G C=255,B=25
BLGAG	Q 2223-056	85	1650	2223110	-051217	L	1	03457	L	84052907	000000	000000	074200	033000		G E=184,B=130
OBGGS	HD 212581	22	0450	2223480	-651318	H	3	22847	L	84042521	000000	000000	210400	000548		G C=205,B=35
OBGGS	HD 212581	22	0450	2223480	-651318	H	1	03221	L	84042521	000000	000000	211600	000300		G C=219,B=43
FC017	HD212697	44	0591	2223515	-165948	L	3	23026	L	84051600	000000	000000	001429	010000	540	V
FC017	HD212697	44	0589	2223515	-165948	L	3	23027	L	84051602	000000	000000	022926	020500	751	V
FC017	HD212697	44	0591	2223515	-165948	H	1	03373	L	84051601	000000	000000	015938	002000	431	V
FC017	HD212697	44	0589	2223515	-165948	H	1	03374	L	84051605	000000	000000	055912	004000	550	V
HSGCW	NG 7293	70	1400	2226551	-210533	L	1	03316	L	84050916	000000	000000	162500	001500		G C=240,B=39
HSGCW	NG 7293	70	1400	2226551	-210533	L	1	03318	L	84050918	000000	000000	183500	002800		G C=2-3X,B=50
HSGCW	NG 7293	70	1400	2226551	-210533	L	3	22965	L	84050916	000000	000000	165400	001230		G C=2.5X,B=20
HSGCW	NG 7293	70	1400	2226551	-210533	L	3	22967	L	84050919	000000	000000	191000	000500		G C=210,B=18
HSGCW	NG 7293	70	1400	2226551	-210533	L	3	22966	L	84050918	000000	000000	180100	001230		G C=2-3X,B=18
HSGCW	NG 7293	70	1400	2226551	-210533	L	3	22964	L	84050915	000000	000000	153700	000536		G C=210,B=18
HSGCW	NG 7293	70	1400	2226551	-210533	L	1	03315	L	84050915	000000	000000	150600	001800		G C=1.5X,B=41
HSGCW	NG 7293	70	1400	2226551	-210533	L	1	03319	L	84050919	000000	000000	195200	001400		G C=1.3X,B=50
HSGCW	NG 7293	70	1400	2226551	-210533	L	3	22963	L	84050914	000000	000000	145000	000600		G C=220,B=20
HSGCW	NG 7293	70	1400	2226551	-210533	L	1	03317	L	84050917	000000	000000	172700	002800		G C=2X,B=43
PHCAL	HD 214680	12	0490	2237008	+384722	L	1	02776	L	84021418	000000	000000	183900	000004		G C=2X,B=39
PHCAL	HD 214680	12	0490	2237008	+384722	H	1	02775	L	84021417	000000	000000	173800	003600		G C=210,B=42
PHCAL	HD 214680	12	0490	2237008	+384722	H	3	22265	L	84021423	000000	000000	230400	000050		G C=202,B=35
PHCAL	HD 214680	12	0490	2237008	+384722	L	1	02777	L	84021422	000000	000000	221100	000002		G C=190,B=38
PHCAL	HD 214680	12	0490	2237008	+384722	L	3	22264	L	84021422	000000	000000	220300	000002		G C=210,B=25
SPGMA	00SKY BKGD	07	9999	2237535	-271817	L	3	22842	L	84042513	000000	000000	130000	002000		G B=18
RGGGF	00 MRK 917	84	0000	2238480	+315429	L	1	03417	L	84052412	000000	000000	123900	006000		G B=165
RGGGF	00 MRK 917	84	0000	2238480	+315429	L	3	23097	L	84052407	000000	000000	073300	030000		G C=115,B=78
GHFLH	HD 214930	20	0740	2239019	+233459	H	1	02594	L	84011102	000000	000000	023300	002500		G C=3X,B=55
GHFLH	HD 214930	20	0740	2239019	+233459	H	3	21985	L	84011101	000000	000000	015600	003100		G C=245,B=45

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
IGFJS	HD 214930	20	0740	2239019	+233506	H	3	21994	L	84011217	000000	000000	170500	002500		G C=195,B=39
HCGTA	HD 215318	39	0690	2239202	+810750	L	2	17335	L	84040119	000000	000000	190500	000350		G C=220,B=28
HCGTA	HD 215318	39	0690	2239202	+810750	L	3	22640	L	84040118	000000	000000	185700	000250		G C=86,B=30
PHCAL	OO AB AUR	84	0720	2240136	+292723	D	9	01512	L	84011716	000000	000000	160300	016000		G NO COMMENTS
QSFAB	OOAKN 564	84	1500	2240183	+292747	L	3	22031	L	84011717	000000	000000	170300	040500		G E=173,C=140,B=80
QSFAB	OOAKN 564	84	1500	2240183	+292747	L	1	02664	L	84011916	000000	000000	164700	042000		G E=1X,C=205,B=93
EHFDY	Q 2251-178	85	1300	2251259	-175054	L	3	22877	L	84042913	000000	000000	135200	004500		G E=224,C=95,B=68
EHFDY	Q 2251-178	85	1300	2251259	-175054	L	3	22878	L	84042915	000000	000000	150700	003000		G E=187,C=120,B=95
EHFDY	Q 2251-178	85	1300	2251259	-175054	L	3	22874	L	84042819	000000	000000	193900	002400		G E=227,C=225,B=188
EHFDY	Q 2251-178	85	1300	2251259	-175054	L	3	22879	L	84042916	000000	000000	160700	003000		G E=198,C=130,B=105
EHFDY	Q 2251-178	85	1300	2251259	-175054	L	3	22880	L	84042917	000000	000000	171000	003000		G E=202,C=135,B=100
CVGJR	PG2300+166	54	1310	2300518	+163329	L	3	23028	L	84051607	000000	000000	074500	005500		G C=120,B=20
GE030	MCG25822	84	1390	2302072	-085719	L	3	23142	L	84053123	000000	000000	235810	006000	330	V 64 CNTS AT R.P.
PHCAL	OO WAVECAL	98	9999	2304400	+251159	L	1	02549	S	84010502	022600	000001	000000	000000		G E=10X,B=100
PHCAL	OO WAVECAL	98	9999	2304400	+251159	H	3	21937	S	84010502	021100	000200	000000	000000		G E=50X,B=125
PHCAL	OO WAVECAL	98	9999	2304400	+251159	L	3	21936	S	84010501	013900	000002	000000	000000		G E=50X,B=125
OD11K	HD 218356	47	0480	2304400	+251159	H	1	02548	L	84010500	000000	000000	003000	003500		G E=3X,C=100,B=45
PHCAL	OO WAVECAL	98	9999	2304400	+251159	H	1	02550	S	84010502	025900	000016	000000	000000		G E=50X,B=108
CCFTS	HD 218658	45	0450	2306180	+750701	L	3	22226	L	84020823	000000	000000	231500	006000		G C=10X,B=60
GC103	HD219113	41	0764	2310506	022410	L	3	22958	L	84050901	000000	000000	011253	012000	431	V
SPGMA	OO ENCKE	06	0000	2317413	-174402	L	1	03353	L	84051210	000000	000000	103400	020000		G E=3-4X,C=80,B=58
SPGMA	OO ENCKE	06	0000	2318471	-174421	L	1	03352	L	84051208	000000	000000	082300	002500		G E=84,B=35
SPGMA	OO ENCKE	06	0000	2323018	-165511	L	1	03279	SL	84050420	200100	001500	200000	001500		G E=200,B=160
SPGMA	OO ENCKE	06	0000	2323018	-165511	L	1	03278	SL	84050418	185400	001500	185300	001500		G E=163,B=105
SPGMA	OO ENCKE	06	0000	2323018	-165511	L	1	03277	SL	84050416	162400	001500	162300	001500		G E=153,C=100,B=72
SPGMA	OO ENCKE	06	0000	2323018	-165511	L	3	22905	SL	84050417	173300	001500	173200	001500		G E=144,B=32
SPGMA	OO ENCKE	06	0000	2330411	-153425	D	9	01526	L	84042510	000000	000000	100100	002000		G NO COMMENTS
SPGMA	OO ENCKE	06	0000	2330445	-153358	L	1	03217	SL	84042510	102800	009000	102800	009000		G B=45
SPGMA	OO ENCKE	06	0000	2330445	-153358	L	3	22841	SL	84042510	101000	001000	101000	001000		G B=15
GITOO	Z AND	57	0966	2331150	483231	H	3	22685	L	84040607	000000	000000	075756	005000	072	V
GITOO	Z AND	57	0962	2331150	483231	L	1	03099	LS	84040607	073039	001000	070829	001000	772	V 452$
GITOO	Z AND	57	0957	2331150	483231	L	3	22684	LS	84040606	065232	001000	062722	002000	372	V 252$
SPGMA	OO ENCKE	06	0000	2331230	-152453	D	9	01525	L	84042417	000000	000000	175600	002000		G NO COMMENTS
SPGMA	OO ENCKE	06	0000	2331230	-152453	L	1	03211	SL	84042418	181500	002000	181500	002000		G E=1.3X,B=43
SPGMA	OO ENCKE	06	0000	2331230	-152453	L	3	22832	SL	84042418	181700	001000	181700	001000		G E=96,B=20
LBFAS	HD 221756	36	0559	2332103	+395737	H	3	21944	L	84010603	000000	000000	034700	002800		G C=210,B=90
LBFAS	HD 221756	36	0559	2332103	+395737	H	1	02559	L	84010604	000000	000000	044500	001200		G C=225,B=90
CCFSW	SA 53204	44	0380	2335064	+461113	L	3	22013	L	84011506	000000	000000	063900	007000		G E=2X,C=110,B=35
CCFSW	SA 53204	44	0380	2335065	+461159	H	1	02670	L	84012007	000000	000000	070700	000330		G E=202,C=77,B=27
CCFSW	SA 53204	44	0380	2335065	+461159	L	3	22051	L	84012006	000000	000000	062100	004000		G E=158,C=62,B=32
CCFSW	SA 53204	44	0380	2335065	+461159	L	3	22052	L	84012007	000000	000000	073800	001200		G E=94,C=45,B=23
CCFSW	SA 53204	44	0380	2335065	+461159	L	1	02669	L	84012006	000000	000000	061600	000010		G E=197,C=105,B=33
CCFSW	SA 53204	44	0380	2335065	+461159	H	1	02657	L	84011900	000000	000000	000800	000330		G E=195,C=75,B=25
CCFSW	SA 53204	44	0380	2335065	+461159	L	3	22042	L	84011823	000000	000000	231700	004000		G E=167,C=105,B=35
CCFSW	SA 53204	44	0380	2335065	+461159	L	3	22043	L	84011900	000000	000000	004500	002000		G E=149,C=65,B=25

PRO	OBJECT	CL	MAG	R.A.	DEC	D	C	IMAGE	A	DATE	EXP.SMALL	EXP.LARGE	ECC	COMMENT
CCFSW	SA 53204	44	0380	2335065	+461159	L	3	22034	L	84011807	000000	000000	073300	001500		G E=137,C=60,B=25
CCFSW	SA 53204	44	0380	2335065	+461159	L	1	02656	L	84011823	000000	000000	230900	000006		G E=129,C=85,B=32
CCFSW	SA 53204	44	9999	2335070	+461059	L	1	02644	L	84011706	000000	000000	064100	000006		G E=165,C=85,B=35
CCFSW	SA 53204	44	0380	2335070	+461059	L	3	22028	L	84011708	000000	000000	083500	004000		G E=212,C=60,B=25
CCFSW	SA 53204	44	0380	2335070	+461059	L	3	22026	L	84011705	000000	000000	055500	004000		G E=184,C=80,B=32
CCFSW	SA 53204	44	0380	2335070	+461059	H	1	02643	L	84011705	000000	000000	054100	000400		G E=255,C=80,B=32
CCFSW	SA 53204	44	0380	2335070	+461059	L	3	22021	L	84011606	000000	000000	064600	006000		G E=2X,C=105,B=32
CCFSW	OO ARD	44	0380	2335070	+461059	L	3	22027	L	84011707	000000	000000	071100	003600		G
GC150	TX PSC	50	0512	2343500	031236	E	9	01540	2	84053023	000000	000000	233500	016000		V FOR LWP3469,LWLA
GC150	TX PSC	50	0515	2343500	031236	L	1	03468	L	84053023	000000	000000	235415	006000	351	V
CSGHJ	HD 223075	50	0500	2343501	+031234	H	1	03469	L	84053101	000000	000000	012700	081000		G B=168
CSGHJ	HD 223075	50	0500	2343501	+031234	L	1	03470	L	84053115	000000	000000	153300	006000		G E=255,C=110,B=80
PHCAL	OO WAVCAL	98	0000	2346326	-262217	L	3	23022	S	84051515	152300	000002	000000	000000		G E=20X,B=102
PHCAL	OO WAVCAL	98	0000	2346326	-262217	H	1	03369	S	84051516	164900	000016	000000	000000		G E=50X,B=107
PHCAL	OO WAVCAL	98	0000	2346326	-262217	L	1	03368	S	84051516	162000	000001	000000	000000		G E=20X,B=100
PHCAL	OO WAVCAL	98	0000	2346326	-262217	H	3	23023	S	84051515	154900	000200	000000	000000		G E=50X,B=127
CVGWB	OO VZ SCL	59	1520	2347337	-263932	L	3	23021	L	84051507	000000	000000	074300	042500		G E=207,C=128,B=85
LGFRH	HD 224062	49	0560	2352130	-001007	L	2	17206	L	84010200	000000	000000	004200	000930		G E=181,C=65,B=25
IBFGM	HD 224151	66	0600	2353025	+570801	H	1	02916	L	84030918	000000	000000	183800	000300		G C=135,B=40
IBFGM	HD 224151	66	0600	2353025	+570801	H	3	22446	L	84030918	000000	000000	182400	000500		G C=78,B=25
OBGGS	HD 224686	22	0450	2357199	-655119	H	3	22848	L	84042522	000000	000000	222300	000600		G C=1.1X,B=40
OBGGS	HD 224686	22	0450	2357199	-655119	H	1	03222	L	84042522	000000	000000	223500	000225		G C=220,B=45
FC046	L362-81	37	1304	2359353	-432608	L	3	21940	L	84010510	000000	000000	101022	033600	403	V

Errors in Foregoing VILSPA Log

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

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

Dr. A.W. Harris
UK Resident Astronomer
Villafranca Satellite Tracking Station
Apartado 54065
Madrid, Spain

TAPE ARCHIVE RETRIEVAL

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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