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**IUE ESA NEWSLETTER**

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## OBSERVATORY CONTROLLER'S MESSAGE

At VILSPA, a major change has occurred when Valeriano Claros took up duty as Station Director. In the name of the whole European IUE users community, I welcome him in his new post and wish him a very successful tenure. At the same time some changes in the managerial structure of the IUE project have occurred to bring it more in line with the general ESA structure. Mr. Claros has also taken on the task of IUE Mission Operations Manager, while Mr. de Pablo has changed his position from Head IGCS into VILSPA Computer Manager and the undersigned has become Observatory Manager (I will however continue to write Controller's Messages for the ESA IUE Newsletter). These changes have created some more transparency in the overall structure of the VILSPA station and the IUE project, which will hopefully streamline the functioning of the ESA IUE Observatory still more.

An important decision was taken by the Scientific Policy Council (SPC) to approve the 13th year of IUE observing, for which the call for proposals is included in this newsletter. On the other hand, it is important to note that the SPC took over the recommendation from the SSAC (Space Sciences Advisory Committee) to study further extensions of the IUE project in terms of an optional program. This matter is presently under analysis and you will be kept informed of further developments.

Another important aspect of the 13th round of IUE observing is the agreed collaboration between the IUE project and the ROSAT project to define a special observing program (RIASS) to optimize the scientific return spacecrafts during the ROSAT all sky survey through a special coordination of UV, XUV and X-ray observations.

The preparations for the definition of the final archive processing are progressing well. Towards the end of this year, the current IUE Image Processing Software (IUESIPS) will be frozen to allow the time needed for the construction of the new enhanced IUESIPS which is being designed specially with the final archive in mind. To prepare for the VILSPA participation in this activity a major off-line hardware upgrade has been performed with the creation of the IUE Science and Archive Support facility (ISAS).

The distribution and installation of version 2.0 of the IUE ULDA (Uniform Low Dispersion Archive) has been successfully accomplished and we are very glad that, through the installation in NASA's NSSDC (Space Science Data Center) this successful, rapid access version, of the IUE low dispersion archive is now also available to our American colleagues. To facilitate the access to IUE data, the production of a series of guides has been started. The first issue, the 'ULDA/USSP access guide, volume I: dwarf novae and novae-like stars' has been completed by Constanze la Dous and will appear shortly as ESA SP-1114.

Finally, I would like to draw your attention to the next ESA/NASA/SERC conference "*Evolution in Astrophysics: IUE research in the era of new space missions*", which will be held in Toulouse, France, from May 29 to June 1, 1990. The French CNES will host the conference, which I hope many of you will attend to present new and exciting results obtained with your favorite UV satellite.

W.Wamsteker

August 1989

## PERSONNEL CHANGES

The 1st of May, **Francisco Alcaraz Marcos**, took-up duty as our new Maintenance and Operation Manager. Francisco, 50, worked for many years as Operation Supervisor at the Robledo de Chavela deep space NASA tracking station, near Madrid. He enjoys playing golf.

In June, **Diego Romero**, 29, joined VILSPA as one of the IUE Spacecraft Controllers. After having received a degree in computer sciences at the Universidad Pontificia de Salamanca, he worked for C.W. Communications where he specialized in micro and minicomputers. He is a radio ham operator with call signal EA-4-ALI. He designed his first transmitter at the age of 13 but had to wait 18 to get a license. Diego is married. He likes swimming, skiing, tennis and riding powerful motorbikes

Another new member of the Spacecraft controller team is **Manuel Sanchez da Costa**, 32. The father of a 3 years old child, Manuel graduated as an aeronautical technical engineer at the Universidad Politecnica de Madrid and worked for 3 years at the NASA tracking station in Robledo Madrid before joining VILSPA in June 1988.

**Tim Naylor**, research fellow at VILSPA for two years, left us in April to join the group of A. Fabian at the IoA in Cambridge. In June, **Dave Pike**, our SERC representative returned to the Rutherford and Appleton Laboratory. We wish Tim and Dave well in their new positions.

August 15, 1989

**PROPOSALS FOR OBSERVATIONS WITH IUE IN 1990**

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 A 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 U.S. selection committees.

The present observing programmes extend to June 1990. Thereafter an additional year of observations may be initiated. In preparation for this, the European Allocation Committee (IUEAC), a single committee which has replaced the separate ESA and SERC selection committees, will meet early next year to review those observing proposals which have been received by 15 December 1989. The recommendations of this committee will form the basis for the European observing programme starting June 1990.

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

Yours sincerely,

Dr.R.M. Bonnet
Director of the
Scientific Programme
European Space Agency

Prof. V.E.M. Bowell
Space Science Programme
Board
British National Space
Centre

Att. (1)

esa

serc

Reply to Attn of

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 8 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 15 December 1989 will be reviewed in order to establish the year's observing program starting the following June. While proposals of a genuine emergency nature may be dealt with more promptly, other proposals received too late will not be considered. 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:

IUE Operations Scientist
Code 684
Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

IUE Observatory Controller
ESA Villafranca Satellite
Tracking Station
Apartado 54065
28080 Madrid
Spain

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

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

Sincerely,

| | | |
|---|---|---|
| Yoji Kondo<br>NASA/ IUE Project<br>Scientist | Willem Wamsteker<br>ESA/IUE Observatory<br>Controller | Robert Wilson<br>SERC/IUE Project<br>Director |

esa

european space agency
agence spatiale européenne

August 14, 1989

Dear Colleague,

In the accompanying letter we announce the opportunity for the 13th year of IUE guest observer program. In 1990, the launch of the ROSAT satellite and subsequent All Sky Survey in the range 1-300 A is foreseen.

The opportunity to have a preprogrammed X-ray mission and a programmable UV mission presents a rather unique opportunity for coordinated observations. Therefore the IUE Project and the ROSAT XRT and WFC Project Scientists have agreed to prepare a coordinated observing program for IUE during the ROSAT All Sky Survey phase.

The basic issues on which agreement has been reached are indicated on the attached copy. For practical purposes the overall program, which is presently planned on the basis of at least 20 NASA shifts and about 40 ESA shifts, is going to be prepared and presented to the IUE review committees by the four Project Scientists involved (ESA-IUE, NASA-IUE, ROSAT-XRT and ROSAT-WFC).

To ensure the largest possible participation from the IUE user community in the program, we invite inputs from interested scientists for the definition of the observing program.

The procedure foreseen is as follows:

1. Proposals for observation of one or more specific targets should be confined to KNOWN X-ray sources.

2. Targets and their coordinates, together with a short observing requirement (i.e. IUE time needed), and a very short justification of the proposed observation (all together not more than 1 page A4) should be in the possession of the ESA or NASA IUE Project Scientist (For NASA: Y. Kondo, IUE Observatory, Code 684, NASA GSFC, Greenbelt, Maryland 20771, USA; For ESA: W. Wamsteker, ESA Satellite Tracking Station, P.O. Box 54065, 28080 Madrid, SPAIN) before November 1, 1989.

3. The final selection of the overall program will be made by merging the proposals from the IUE Community and the ROSAT Project Science teams. The final program

will be submitted as a "large" or "heroic" proposal to the IUE review committees.

4. One proposer for each suggested observation included in the final proposal, will, on recommendation by the review committees, act as Co-Principal Investigators together with the prime responsible from the Project Staff.

Following the above procedures, the two IUE Observatories will start the preparations necessary for the execution of this program, without affecting the normal IUE Science Program too severely.

It is hoped that the procedures outlined above will retain the public nature (based on peer-review) of the IUE, while making this important cooperation between a P.I. Project (ROSAT) and a general user facility (IUE) feasible and successful.

We look forward to receiving your proposal before November 1st.

Kindest regards,

W. Wamsteker

# IUE SPACECRAFT STATUS

APRIL 1989

D. Hermoso, VILSPA

## 1. GENERAL

The Spacecraft continued to support science operations normally and effectively in its twelfth year of high successful in-orbit operations. At the end of April 1989, a total of 18823 images had been collected from 8222 celestial objects (VILSPA only).

## 2. BATTERIES

Continue to perform well. IUE's 23rd Eclipse Season ran from February 2 through February 28. The maximum depth of discharge were 49.0% and 49.6% for batteries 1 and 2 respectively.

## 3. SOLAR ARRAY

The solar arrays continue to perform well; their output decreased by only about 2% over the last year (February 1988 to February 1989). The average power positive range for the next year should be about ßeta 30 to ßeta 110.

## 4. ATTITUDE CONTROL SYSTEM

The gyroscopes are performing nominally; gyro 4's drift rate is holding steady while the magnitude of gyro 5's is slowly increasing.

March's Delta V (orbit adjustment) burn was successful.

## 5. THERMAL

A 'Halt' instruction was inserted into the Wait-Loop of the On-Board Computer Executive code in April to reduce long term OBC heating.

OBC temperature operating limits were relaxed in April by eliminating the 55.8°C constraint zone; cooling of the OBC needs to take place only when its temperature begins glitching to 57.0°C.

The HOT OBC BETA region has changed as follows:

| MONTH | LOWER LIMIT | UPPER LIMIT |
|---|---|---|
| JANUARY | 53.0° | 97.0° |
| FEBRUARY | 54.0° | 94.0° |
| MARCH | 58.0° | 90.0° |
| APRIL | 64.0° | 82.0° |
| MAY | 68.0° | 75.0° |
| JUNE | 68.0° | 75.0° |
| JULY | 68.0° | 75.0° |
| AUGUST | 68.0° | 75.0° |
| SEPTEMBER | 67.0° | 79.0° |
| OCTOBER | 59.0° | 88.0° |
| NOVEMBER | 55.0° | 93.0° |
| DECEMBER | 53.0° | 96.0° |

## 6. ANOMALIES

The IUE spacecraft has been performing quite well; only a few anomalies were encountered over the last six months:

- Two cases where a worker (programme) was turned on but not scheduled to run.

- Three instances of bad Fine Sun Sensor data.

## DETAILED SPACECRAFT STATUS REPORT

(superseding ESA IUE Newsletter No. 28, p.7)

## I. SCIENTIFIC INSTRUMENT HARDWARE STATUS

### A. CAMERAS (4)

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

Last BAD SCAN detected: 2 February 1985 16:56 UT.

ii) *Short Wavelength Prime (SWP)*: Standard camera. No operational problem.

iii) *Long Wavelength Redundant (LWR)*: Backup camera. Available at 4.5 kV since 1 November 1985. Since April 1983, this camera has suffered from discharge in the UVC, producing a bright patch (flare) on the image (Lloyd, 1987a). However the flare can be avoided by reducing the UVC voltage to 4.5 kV. This results in a sensitivity reduction of 27%. Other camera characteristics remain practically unchanged (Harris 1985; Imhoff 1986).

Guest observers with sufficient scientific justification can use LWR at 4.5 kV.Added overheads of camera switch ~45 mins.

iv) *Short wavelength Redundant (SWR)*: not available, declared inoperative (Lloyd 1987b). Read section grid voltages usually fail.

### B. SPECTROGRAPHS (2)

i) *Short Wavelength*

Entrance Apertures:
Large Aperture (SWLA): oval shape. Length for trailed spectra: 21.4 ± 0.4 arcsec.
Area for extended sources: 200 ± 5 sq. arcsec (Panek 1982a).

Small Aperture (SWSA)
Probably non-circular shape with effective area ~ 6.8 sq.arcsec (Panek 1982a). Point source throughput 0.66 at centre, > 50% at r < 1 arcsec (Talavera 1987).

Position angle is dependent on roll angle i.e. the relative positions of sun and target (Munoz 1985; Schiffer 1980a; Patriarchi 1981).
Non-optimum roll impossible with 2-Gyro FSS system.

Echelle Mode - functional

Low Dispersion Mode - functional

Closing of large aperture subject to project approval.

ii) *Long Wavelength*

Entrance Apertures:
Large Aperture (LWLA) - oval shape. Length for trailed spectra: 20.5 ± 1.0 arcsec. Area for extended sources: 203 ± 6 sq.arcsec (Panek 1982a).

Small aperture (LWSA)
Probably non-circular shape with effective area ~ 6.9 sq.arcsec (Panek 1982a). Point source throughput: 0.49 ± 0.15.

Orientation as for SW spectrograph (Munoz 1985).

Echelle Mode - functional

Low dispersion mode - functional

Closing of large aperture subject to project approval.

iii) *Trailed images*:
The S/N ratio of low resolution spectra can be increased by up to a factor of 2 by trailing the star along the spectrograph slit. Slowest and fastest possible rates are 0.03 and 120 arcsec/s respectively. Exposure times: Texp(Trail) = 3.7 Texp(Point). Trailing at high resolution along the slit is not recommended as the orders will severely overlap. Trailing along the dispersion direction is possible but at the expense of a degraded spectral resolution.

It is also possible to obtain multiple (up to three) spectra in a single low resolution exposure ("pseudo-trailing").

C. FINE ERROR SENSORS (2)

i) *FES 1* - back-up system. Two magnitudes less sensitive than FES 2. Successfully tested July 1987 for 1-gyro system.

ii) *FES 2* - standard. Resolution 0.2680 and 0.2617 arcsec/pixel in X and Y respectively. Relative positional accuracy ~3 arcsec near centre, larger near edge. Full distortion map produced by Pitts (1989).

Field size: 8 arcmin radius
Effective wavelength ~ 5200 A
Visual calibration: Holm and Rice 1981; Stickland 1980
Sensitivity variation: Barylak et al. 1984, 1985; Fireman and Imhoff 1989, Barylak 1989.
Experiences electronic confusion from aperture closure mechanism and the Sun shutter mechanism.

D. TELESCOPE SUN-SHUTTER

Closed spontaneously twice in 1984 and once in 1985, correction performed by ground command.

## II. SPACECRAFT HARDWARE STATUS

### A. GYROS (6)

Number required for three-axis stabilized attitude control - 2 + Fine Sun Sensor (FSS).
Operational gyros - 2
Failed gyros - 4
Gyro 1 failed on 1981 March 2, 19:50 GMT
Gyro 2 failed on 1982 July 27, 07:00 GMT
Gyro-3 failed on 1985 August 17, 05:00 GMT
Gyro-6 stuck since turned off for 1979 shadow season

S/C drift rates - 2 to 20 arcsec/hour (in pitch & yaw) usually largest shortly after slewing, especially if change in beta angle was important.

Maneuver accuracy
In 1981 November 21 error/length = $4 \times 10^{-4}$ (Panek & Baroffio 1982) with the 3-Gyro system. Accuracy has improved with the 2-Gyro FSS system. In July 1989 error/length = $1 \times 10^{-4}$.

### B. REACTION WHEELS (4)

Required for slewing - 3 wheels
Operations - 3 wheels (pitch, yaw, and roll)
Backup (skewed) wheel never used in orbit.

### C. HYDRAZINE SYSTEM

Required for reaction wheel momentum unloading, orbit adjustment (Delta-V) maneuvers, and emergency sun acquisitions. Around 17.62 kg available. Usage rate ~ 0.6 kg/year.

D. SOLAR ARRAYS

Continue to perform well. Average degradation was 2.0% over 1988. Power budget has been recalculated to 160 watts with 1 camera ON, 1 camera STBY, HAPS-2 ON and PM1 ON.

Power positive zone through the year:
July 1989: BETA 34° to 108°
January 1990: BETA 30° to 110°

E. BATTERIES

The overall performance of the batteries during shadow season #23 was quite good despite their questionable health. The maximum depth of discharges were 49.02% for battery #1 and 49.63% for battery #2. Both batteries experienced reconditioning which increased their capacity. The predicted maximum depth of discharges for Shadow Season #24 (August 1989) are 62.24% for battery #1 and 65.75% for battery #2. Due to the failure of the 3rd electrode, the recharge procedure is now manually regulated.

F. ON-BOARD COMPUTER: 2 PROCESSORS + 3 MEMORY BANKS (4K EACH)

i) PR1: Standard Temperature limit 57.0° Last crash 28/03/1988

ii) PR2: Backup

iii) Memory banks 0 & 2: 8K memory routinely used for operations Hold the 2-Gyro FSS control law plus the OBC workers.

iv) Memory bank 1: 4K memory routinely used as parameter storage area for diagnostic purposes.

## III. IMAGE PROCESSING SYSTEM STATUS

(Alderman, Turnrose, and Northover 1981)
The current system has evolved through a series of modifications. See ESA IUE Newsletter No. 21 (NASA IUE Newsletter No. 25) and IUE Image Processing Information Manual Version 2.0 and references therein for a full description. The following list indicates the most significant modifications and their implementation dates.

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

## IV. INSTRUMENTAL PERFORMANCE

### A. NOISE

i) Readout noise ~10 DN/pixel

ii) Periodic noise (microphonics)

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

*LWR*: affects a few lines in about 85% of images; amplitude up to 110 DN (Panek 1981). Frequency of occurrence reduced from about 85% to 15% by extending by 4 min the warm-up of the cathode heater prior to the read (Holm and Panek 1982).

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

iii) Bright spots

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

Permanent blemishes: most pronounced pseudo-emission feature at ~2190 A low dispersion, large aperture LWR only.

Others (Ponz 1980).

iv) Typical signal/noise for well exposed point source spectra:

*SWP*: 24-30 low dispersion new software (Cassatella et al. 1984).

*LWR*: ~ 14 at 2810-2910 A low dispersion new software (Cassatella et al. 1984); 6-8 high dispersion (Barylak 1982). 12-21 low dispersion old software (Seattle et al. 1981)

*LWP*: 5 to 22 low dispersion new S/W (Cassatella & Lloyd 1987); 4-13 high dispersion (Barylak 1982). 9-25 low dispersion old software (Seattle et al. 1981);

v) S/N properties of averaged spectra: Clarke (1981a), West and Shuttleworth (1981); S/N of trailed and multiple spectra: Cassatella et al. (1984).

B. BACKGROUND

i) Phosphorescence fogging

During low-radiation shifts
LWR & SWP >6-10 DN/hour/pixel
LWP >4-7 DN/hour/pixel (Ake 1982).
Fogging rate depends on no. and type of PREPS before exposure.

Overexposures cause "ghost" spectrum fogging (Snijders 1983). Phosporescence decay rate $\sim t^{-0.8}$ up to several hours (Coleman 1978); unknown after long time intervals.

ii) Radiation fogging: caused by Cerenkov radiation from electrons in the van Allen belts (Coleman et al. 1977). Fogging rate = Cte x $10^{FPM}$ Dn/hour, where FPM measures the flux particle monitor (Volts) and Cte = 1.00, 1.35 and 0.73 for SWP, LWP & LWR respectively. May be severe near perigee, more than 50% of the US2 shifts being affected by FPM > 2 (Taylor and Imhoff 1986).

C. PHOTOMETRIC PROPERTIES

i) New ITFs have been obtained for the three operational cameras: SWP (ITF3), LWP (ITF2) and LWR (ITF2). Only the LWP ITF2 have been implemented in production so far. Upper limits to the (older) ITFs: Turnrose (1980).

ii) SWP -10 to -20 % for net DN < 20.
+10 to +15 % for DN > 220 at 1300 A (Holm 1981)

LWP up to about -3% for underexposed spectra; up to about +2% for spectra close to saturation (Cassatella and Lloyd 1987; Harris 1983a; Seattle et al. 1981).

D. ABSOLUTE CALIBRATION

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

ii) High dispersion SWP & LWR (Cassatella et al 1981 1988, 1989)

iii) Low dispersion LWP - ITF1 (Cassatella & Harris 1983), LWP - ITF2 (Cassatella et al. 1988)

iv) High dispersion LWP as for LWR (Cassatella et al 1988, 1989)

v) Accuracy of standards ±10% 1300 - 3400 A (Bohlin et al 1980)

vi) Echelle ripple correction (Ake 1981)

E. SENSITIVITY VARIATION

i) Temperature dependence (Imhoff 1986, Sonneborn and Garhart 1986):
SWP ~ -0.48%/deg of head amplifier temperature (THDA)
LWR ~ -0.70%/deg of THDA
LWP ~ -0.25%/deg of THDA

ii) Repeatability

SWP: 1.5% in 25 A bins (Bohlin et al. 1980);
LWR: 2% in 25 A bins (Bohlin et al 1980);
LWP: 2.5% in 200 A bins (Harris & Cassatella, 1983)

iii) Temporal dependence (Schiffer 1982a) (Sonneborn 1987)

SWP: Complex temporal and wavelength dependence (Gilmozzi et al. 1986; Bohlin and Grillmair 1988a)

LWR: Wavelength dependent between -3.5% and -0.8% per year. (Clavel et al. 1988; Bohlin and Grillmair 1988b).

LWP: Wavelength dependent -1.3% per year at A 2850 after 1984.5 (Garhart 1989)

F. RESOLUTION

i) *Short wavelength echelle mode*

Small aperture: FWHM 0.085 A @ 1150 A (Boggess et al. 1978; Imhoff 1983) 0.19 A @ 2100 A (Boggess et al. 1978)
Ratio Large/Small aperture: 1.01 (Penston 1979)

ii) *Short wavelength low dispersion mode*

a) Spectral resolution (Cassatella **et al**. 1985)

Large aperture FWHM <5A over 1400-1600 A range
FWHM ~7.5A near 1900 A
Gain in resolution using SAP: about 8% (mean over lambda)

b) Spatial resolution in LAP from cross-profiles:
FWHM 4.6 to 5.9 arcsec at optimum focus
(Cassatella **et al**. 1985)

iii) *Long wavelength echelle mode*

Small aperture: FWHM=0.20 A (Boggess **et al** 1978 Imhoff 1983)

Large/Small 1.09 (Penston 1979)

iv) *Long wavelength low dispersion mode*

a) spectral resolution (Cassatella **et al**. 1985):

LWR large aperture: FWHM ~ 5.8A (2400-2900 A);
FWHM ~ 7.7A at 1900 A
Gain in resolution using SAP: <3%
LWP large aperture: ~ 10% better than LWR

b) Spatial resolution in LAP from cross-profiles:

LWR 4 to 5.6 arcsec at optimum focus
LWP 3.7 to 4.9 arcsec at optimum focus
(Cassatella et al. 1985)

G. WAVELENGTH ACCURACY AT HIGH DISPERSION

i) Internal consistency of wavelength calibration

SWP: 2.0 km/s; LWR: 2.7 km/s. (Thompson et al. 1982).
Errors of up to 6 km/s on individual lines.

ii) Internal consistency in well exposed spectra:

Typically 2-3 km/s for SWP and 3-4 km/s for LWR for stars with no problem of acquisition (Barylak and Cassatella 1987)

H. MISCELLANEOUS

i) Grating scattered light: (Clarke 1981b; Stickland 1980; Basri et al. 1985; Crivellari et al. 1982)

ii) Halation: Backscattering of electrons from the phosphor decay; length ~ 32 ± 3 pixels (Coleman 1978)

iii) Scattered Light in the Telescope:

Fscat/F ~ $d^{-2.5}$ where d is in arcsec (5"<d<40") (Schiffer 1982b)

Wavelength and distance dependence: de Boer and Cassatella 1986; Cassatella 1986.

iv) Plate scale: 1.525 ± 0.010 pixel/arcsec (Panek 1982a; Bohlin et al. 1980).

v) Residual geometric errors in geometrically corrected image: ± 0.4 arcsec = ± 0.2 pixels (Panek et al. 1982a)

vi) Exposure timing: (Schiffer 1980b, Heck 1981):

Command units: 0.4096 seconds
Effective response delay 0.12 seconds (Imhoff, 1983).

vii) Longest uninterrupted exposure to date: SWP 15293, 1273 min

**REFERENCES**


Ake, T.B. 1981, NASA IUE Newsletter, No. 15, p 60
Ake, T.B. 1982, IUE Internal memo
Alderman, D.F., Turnrose, B.E., and Northover, K.J.E. 1981, NASA IUE Newsletter, No. 15, p77; ESA IUE Newsletter, No. 11, p75
Barylak, M., 1982, ESA IUE Newsletter, No. 15, p31
Barylak, M., ESA IUE Newsletter, No. 33, p20
Barylak, M., Wasatonic, R., Imhoff, C., NASA IUE Newsletter No. 26 p101, 1985, ESA IUE Newsletter No. 20, p55, 1984
Basri, G.,Clarke, J.T.,Haisch, B.M.,1985 Astron.Astrophys. 144 161
Blades, J.C. & Cassatella, A. 1982, ESA IUE Newsletter No. 15, p38
Boggess, A. et al. 1978, Nature, 275, 377
Bohlin, R.C., Holm, A.V., Savage, B.D., Snijders, M.A.J., Spaarks, W.M., 1980, Astron. Astrophys, 85, 1.
Bohlin, R.C., Grillmair, C.J., 1988a, ApJ, Suppl. Ser. 66, 209
Bohlin, R.C., Grillmair, C.J.,1 988b, STScI Preprint, No. 273
Cassatella, A. & Harris, A. W. ESA IUE Newsletter, No. 17, p12
Cassatella, A., Barbero, J., Benvenuti, P.,1985, Astron.Astrophys. 144, 335
Cassatella, A., Holm, A., Ponz, D., Schiffer, F.H. 1980, NASA IUE Newsletter, No. 8, p1
Cassatella, A., Ponz, D., and Selvelli, P.L. 1981, NASA IUE Newsletter, No. 14, p170; ESA IUE Newsletter No. 10, p31
Cassatella, A., Ponz, D., Selvelli, P.L., 1983. Report to the 3 Agencies, London.
Cassatella, A., 1986, Report to 3 Agency Meeting, ESTEC, pII 3-1
Cassatella, A., Ponz, D., Selvelli, P.L., Vogel, M., 1988, ESA IUE Newsletter No. 31, p1
Cassatella, A., Ponz, D., Selvelli, P.L., Vogel, M., 1989,ESA IUE Newsletter No. 33, p44

Cassatella, A., Lloyd, C., Gonzalez Riestra, R., 1988, ESA IUE Newsletter No. 31, p13
Clarke, J.T. 1981a, NASA IUE Newsletter, No. 14, p149
Clarke, J.T. 1981b, NASA IUE Newsletter, No. 14, p143
Clavel,J., Gilmozzi,R., Prieto,A.,1988,Astron. Astrophys,191, 392
Coleman, C.I. 1978, paper presented at the Seventh Symposium on Photoelectric Image Devices at Imperial College, Sept.1978
Coleman, C.I., Golton, E., Gondhalekar, P., Hall, J., Oliver, M., Sandford,M., Snijders,T. and Stewart,B., 1977, IUE Technical Note No. 31
Crivellari, L., Praderie, F., 1982, Astron. Astrophys. 107, 75
de Boer, K., Cassatella, A., 1986, ESA SP-263, p665
Faelker, J. 1982, Memorandum "Periodic Noise (Microphonics) on the LWP Camera"
Fireman,G.F.,and Imhoff,C.L.,1989, Report to 3-Agency,London,pII-1
Garhart, M.P., 1989 Report to 3-Agency Meeting, London, p.II.4
Gilmozzi, R. et al., 1986, Report to 3 Agency Meeting, ESTEC
Harris, A.W., 1983a ESA IUE Newsletter, No. 18, p25
Harris, A.W., 1983b Report to 3-Agency Meeting, GSFC
Harris, A.W., 1985 ESA IUE Newsletter, No. 24, p17
Harris, A.W.& Cassatella, A., 1983, Report to 3-Agencies, London
Heck, A. 1981, ESA IUE Newsletter, No. 13, p40
Holm, A.V., 1981, NASA IUE Newsletter, No. 15, p70
Holm, A.V., and Rice, G. 1981, NASA IUE Newsletter, No. 15, p74
ESA IUE Newsletter, No. 11, p15
Holm, A.V., & Panek, R.J. 1982, NASA IUE Newsletter, No. 18, p56
Holm, A.V., Bohlin, R.C., Cassatella, A., Ponz, D., & Schiffer III F.H., 1982, Astron. Astrophys. 112, 341.
Imhoff, C., 1983 Report to 3-Agency Meeting, GSFC
Imhoff,C.,1986a ESA IUE Newsletter No.25, p45, NASA IUE Newsletter No. 28, p10
Imhoff, C., 1986b NASA IUE Newsletter No. 31, p11
Leckrone, D.S., 1980, NASA IUE Newsletter No. 10, p25
Lloyd, C., 1987a, ESA IUE Newsletter, No. 27, p31
Lloyd, C., 1987b, Report to 3-Agency Meeting, VILSPA
Munoz, J.R., 1985, ESA IUE Newsletter, No. 23, p58
Myslinski, M., 1985, Report to 3-Agency Meeting, VILSPA
Northover, K.J.E., 1979, ESA IUE Newsletter, No. 11, p27
Panek, R.J., 1981, Report to the Three Agencies.
Panek, R.J., 1982a, NASA IUE Newsletter No. 18, p68
Panek, R.J., 1982b, Report to the 3- Agency Meeting, VILSPA
Panek, R.J., and Baroffio, B., 1982, IUE Internal memo
Panek, R.J., Holm, A.V. & Schiffer, F.H., III 1982, in "Instrumentation in Astronomy IV. SPIE Proceedings Vol. 331
Patriarchi, P., 1981, ESA IUE Newsletter, No. 10, p7
Penston, M., 1979, Report to the Three Agencies
Pitts, R., 1989, Report to 3-Agency Meeting, London,p.II-26
Ponz, D., 1980, ESA IUE Newsletter, No. 8, p12
Schiffer, F.H., 1980a, NASA IUE Newsletter No. 9, p32
Schiffer, F.H., 1980b, NASA IUE Newsletter No. 11, p33
Schiffer, F.H., 1982a, NASA IUE Newsletter No. 18, p64
Schiffer, F.H., 1982b, IUE Internal memo

Settle, J., Shuttleworth, T. & Sandford, M.C.W., 1981, NASA IUE Newsletter, No. 15, p97
Snijders, T., 1983, ESA IUE Newsletter, No. 16, p10
Sonneborn, G., 1987, ESA IUE Newsletter, No. 28,p55
Sonneborn, G., Garhart, M.P., 1986,NASA IUE Newsletter, No.31, p29
Stickland, D.J., 1980, ESA IUE Newsletter, No. 5, p30
Talavera, A., 1987, ESA IUE Newwsletter, No. 28, p53
Taylor,M., and Imhoff,C.L.,1986,NASA IUE Newsletter, No. 29,p31
Thompson,R.W., Turnrose,B.E., Bohlin, R.C.,1982,Astron. Astrophys, 107, 11
Turnrose, B.E., 1980, NASA IUE Newsletter No. 9, p13
West,K. and Shuttleworth, T., 981, ESA IUE Newsletter, No. 12, p27

# Progress Report on the Time Correction for the Final FES Calibration

Michael BARYLAK

## ABSTRACT

A report on the final FES calibration was forseen for this issue of the IUE Newsletter but recent (Mar. 89) FES data seem to indicate that the sensitivity decrease is 'flattening out'. Hence no final calibration for the FES photometer can be presented unless a new reference point is implemented.

The 'split date' i.e. the date where the FES sensitivity starts decreasing was determine using several methods. As with the different time-dependence for Fast Overlap (FO) and Fast Underlap (FU) data, also the split date seems to be different for these two modes.

Due to the flattening out of the sensitivity decrease the adopted two linear fits might need to be abandoned. Either a third linear fit is added or a polynomial/exponential fit is tried out as already done once by Imhoff et al. (1988).

## I. INTRODUCTION

In 1983 it was first realized that the sensitivity of the FES photometer is decreasing (Barylak, 1983; Barylak et al., 1985). Since then the behaviour of the FES photometer is monitored by the IUE project in order to provide a "final and common FES photometric calibration".

The following table lists the calibration stars used in this study (see also Figs. 1a,b).

| star | Nr. of measurements | md | Mean FES cts. (till end '79) used for normalization |
|---|---|---|---|
| BD +28 4211 | 715 | FO | 273.0 +/- 17 |
| BD +33 2642 | 310 | FO | 189.2 +/- 5 |
| BD +75 325 | 768 | FO | 666.4 +/- 17 |
| HD 60753 | 1168 | FO | 7636.7 +/- 214 |
| HD 93521 | 558 | FO | 6099.3 +/- 195 |
| HD 120315 | 469 | FU | 5077.4 +/- 146 |
| HD 3360 | 351 | FU | 1032.5 +/- 30 |
| HD 34816 | 193 | FU | 627.7 +/- 8 |

These data include measurements till the end of Mar. 1989. The normalized FES counts are displayed in Fig. 1a for the Fast Overlap (a total of 3519 measurements) and in Fig. 1b for the Fast Underlap stars (1013 measurements).

## II. SPLIT DATE

Several methods were used in order to determine the starting date of the sensitivity decrease. One is a visual determination helped by heavily smoothing the FES data.

The other methods analyse the behavior of the rms errors of linear fits together with their slopes. These linear fits are calculated for the FES counts less than and greater than an assumed split date. The best fit is represented by a minimum in the rms errors. On the other hand the slope of the linear fit where the FES data stay constant should ideally be zero.

## III. SUMMARY

For the Fast Overlap stars the preliminary parameters for the time correction of the FES sensitivity changes read:

split date: counts constant till Apr. 15, 1981 (1981.2); parameters of the second linear fit (to be revised when new reference point is implemented) read:

| FO stars | this report | last report (Sep.88) | GSFC '89 |
|---|---|---|---|
| $a_0$ | 1.122 | 1.155 | 1.1503 |
| $a_1$ (slope) | -1.043e-4 | -1.131e-4 | -1.1317e-4 |

For the Fast Underlap stars the preliminary parameters for the time correction of the FES sensitivity changes read:

split date: counts constant till Nov. 01, 1981 (1981.8); parameters of the second linear fit (to be revised when new reference point is implemented) read:

| FU stars | this report | last report (Sep.88) | GSFC '89 |
|---|---|---|---|
| $a_0$ | 1.074 | 1.071 | 1.0795 |
| $a_1$ (slope) | -7.724e-4 | -7.758e-5 | -7.9604e-5 |

These fits are not satisfactory as newer data indicate a flattening out of the sensitivity decrease. Adding a third linear fit or applying polynomial or exponential functions might be necessary to describe the time dependence of the sensitivity changes in the final calibration of the FES photometer. Hence for the time being the following 3rd degree polynomial fit is proposed:

| | | | | |
|---|---|---|---|---|
| FO stars: | $a_0$: | 9.8708e-01 | $a_2$: | -6.6210e-08 |
| | $a_1$: | 6.3736e-05 | $a_3$: | 8.2588e-12 |
| FU stars: | $a_0$: | 9.8154e-01 | $a_2$: | -8.4285e-08 |
| | $a_1$: | 9.2416e-05 | $a_3$: | 1.2273e-11 |

Putting all calibrations together i.e. Imhoff and Wasatonic (1986), Barylak and Gry (1986) and this study one gets:

Time correction (this study):

$$CC = FEScts / (a_0 + a_1*T + a_2*T^2 + a_3*T^3)$$

Color correction (Imhoff & Wasatonic):

$$COLOR = -0.271087*(B-V) - 0.06388*(B-V)^2 + 0.137764*(B-V)^3$$

Finally the $m_V$ (FES magnitude) (Imhoff & Wasatonic, Barylak & Gry, 1986):

$$m_V = -2.5 \log CC - 1.665e-05*CC + COLOR + K + 0.016$$

where FEScts = FES counts read out
T = Days since 1978.0
K = 11.16 for underlap mode
K = 16.52 for overlap mode
CC = CC/4 for slow track

The following FORTRAN code provides a mean to calculate the FES magnitude (not $m_V$ ie. no color terms are taken into account) !

REFERENCES

Barylak M., 1983: Sensitivity drop of FES camera, ESA memorandum MB/fp/1518, Dec. 19, 1983.

Barylak M., Wasatonic R., Imhoff C., 1985: FES sensitivity changes, NASA IUE Newsletter No. 26, pg. 101.

Imhoff C.L., Wasatonic R., 1986: A New FES calibration, NASA IUE Newsletter No. 29, pg. 45.

Barylak M., Gry C., 1986: Evaluation of the new FES calibration, IUE 3-Agency Meeting, ESTEC, Jun. 25-27, 1986.

Barylak M., 1988: Discussion on Common FES calibration, IUE 3-Agency Meeting, ESA HQ Paris, Sep. 21-23, 1988.

Imhoff C.L., Fireman G.F.: 1989, An improved time correction for the FES calibration, IUE 3-Agency Meeting, London, May 2-4, 1989.

FIGURE CAPTIONS

Fig. 1a: Normalized FES counts of the 5 standard stars (Fast Overlap mode) versus days since 1978.0 - a total of 3519 measurements. These data were taken from the VILSPA databank and manually edited to eliminate errors, misidentifications, dubious cases, etc.

Fig. 1b: Normalized FES counts in Fast Underlap mode of 3 stars versus days since 1978.0 - a total of 1013 measurements. As with FO, the data were manually inspected before the analysis.

Fig. 2a: Comparison between the proposed 3rd degree polynom and the linear fit for the Fast Overlap stars. The split date of 1200 (Apr. 15, 1981) is marked.

Fig. 2b: Comparison between the proposed 3rd degree polynom and the linear fit for the Fast Underlap stars. The split date of 1400 (Nov. 1, 1981) is marked.

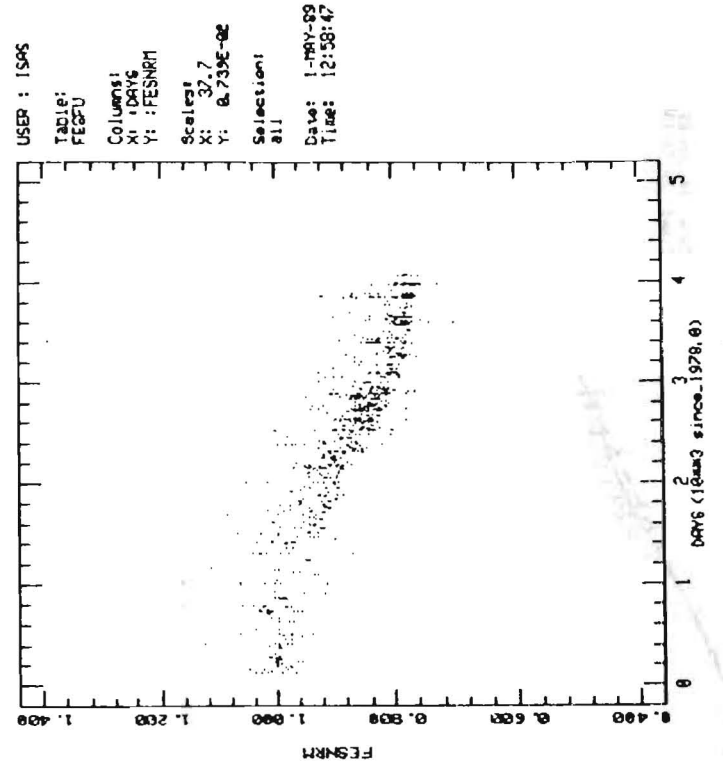

USER : ISAS
Table:
FEGFU
Columns:
X: :DAYS
Y: :FESNRM
Scales:
X: 32.7
Y: 0.735E-02
Selection:
all
Date: 1-MAY-89
Time: 12:58:47
FESNRM
DAYS (10**3 since 1978.0)

Fig. 1b

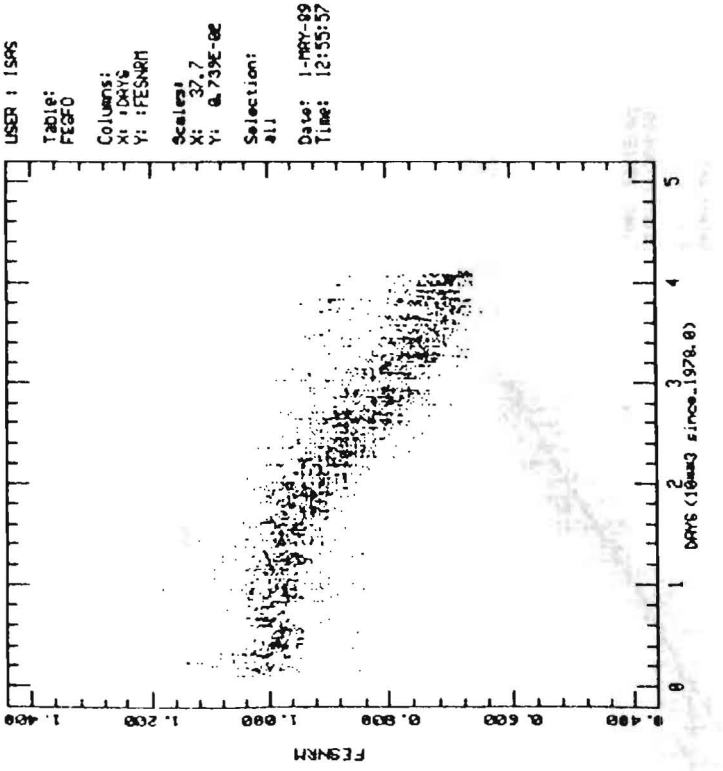

USER : ISAS
Table:
FEGFO
Columns:
X: :DAYS
Y: :FESNRM
Scales:
X: 32.7
Y: 0.735E-02
Selection:
all
Date: 1-MAY-89
Time: 12:55:57
FESNRM
DAYS (10**3 since 1978.0)

Fig. 1a

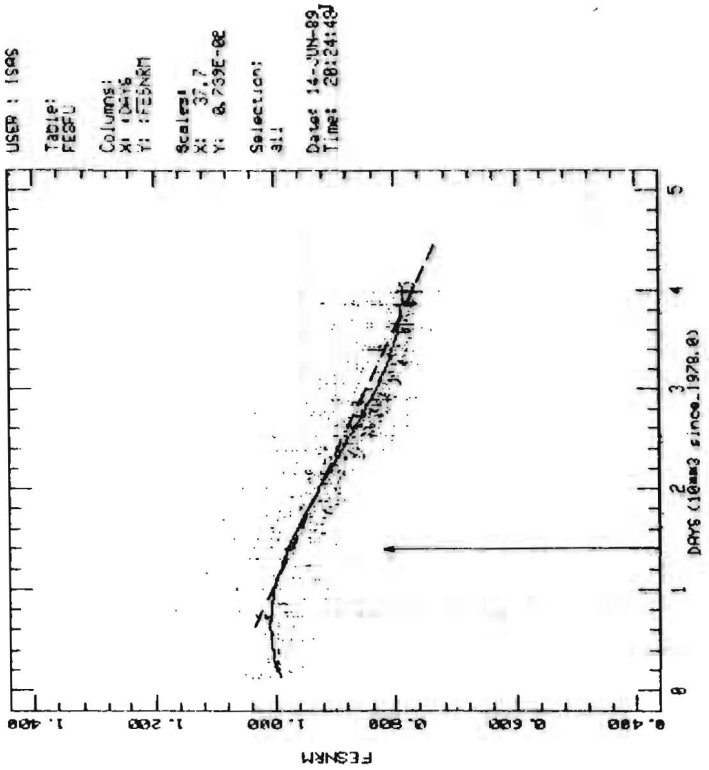

USER : ISAS
Table:
FESFO
Columns:
X: !DAYS
Y: !FESNRM
Scales:
X: 37.7
Y: 0.739E-02
Selection:
all
Date: 14-JUN-89
Time: 28:18:49
FESNRM
DAYS (19xx) since 1978.0)

Fig. 2a


USER : ISAS
Table:
FESFO
Columns:
X: !DAYS
Y: !FESNRM
Scales:
X: 37.7
Y: 0.739E-02
Selection:
all
Date: 14-JUN-89
Time: 28:24:49
FESNRM
DAYS (19xx) since 1978.0)

Fig. 2b

```
C
C  Program FESMAG
C
C  Purpose
C       Corrects for the time dependence of the sensitivity
C       decrease of FES photometer and calculates the FES magnitude
C       as given by Barylak M., C. Gry, IUE 3-Agency Meeting,
C       ESTEC, Jun. 25-27, 1986.
C       The original formula was derived by C.L. Imhoff and R.P. Wasatonic
C       see e.g. NASA IUE Newsletter No. 29, pg. 45, Mar. 1986.
C
C  Remark
C       After an idea of R. Gilmozzi (former ESA IUE RA, now STScI)
C       It should be easy to implement also the color correction term.
C
C  Author
C       Michael Barylak
C       ESA IUE Observatory
C
        REAL*4 JDAY, FESCO, FES, AMODE(2), FOA(4), FUA(4)
        REAL*4 SPLIT(2), DIV
        REAL*8 JD
        INTEGER*2 IY, IM, ID, FMODE
        DATA AMODE /16.52, 11.16/
C
C 3rd degree polynomial
        DATA FOA / 9.8708E-01, 6.3736E-05, -6.6210E-08, 8.2588E-12/
        DATA FUA / 9.8154E-01, 9.2416E-05, -8.4285E-08, 1.2273E-11/
C
C linear fit since split date
CCCC    DATA FOA / 1.122, -1.043E-04, 0., 0./
CCCC    DATA FUA / 1.074, -7.724E-05, 0., 0./
C
C Split date ........ FO     FU
        DATA SPLIT / 1200., 1400./
C
        WRITE(5,5000)
5000    FORMAT (1X,'Program FESMAG (status: Aug. 89 (3rd deg.)):',//,
     >          1X,'   WARNING:   works only for FES data taken in', /,
     >          1X,'                Fast Over or Fast Underlap mode',/)
C
5       WRITE(*,5010)
5010       FORMAT ('$  Enter date (YYMMDD) [<0 to end; <CR> same date]: ')
           READ(*,5015,END=99,ERR=5)IY,IM,ID
5015       FORMAT(3I2)
C
           IF(IY.LT.0) GOTO 99
           IF(IY.EQ.0) GOTO 6
C
           IY= IY+1900
           CALL CJD(ID,IM,IY,JD)
           JDAY= JD - 2443509.5       !<<<<< 1 jan 1978 0h
6          WRITE(*,5020)
5020       FORMAT('$  Enter FES counts and mode (FO=0/FU=1): ')
           READ(*,*,END=99,ERR=99) FESCO, FMODE
C...FES saturates at 28673 !!!
           IF(FESCO.LE.0. .OR. FESCO.GT.28673.) THEN
                WRITE(*,5025)
5025            FORMAT(1X,'*** Illegal FES counts  !?!')
                GOTO 6
           ENDIF
           IF(FMODE.NE.0 .AND. FMODE.NE.1) THEN
                WRITE(*,5030)
5030            FORMAT(1X,'*** Illegal FES mode - should be 0 or 1 !!!')
```

```
                GOTO 6
             ENDIF
             JDAY2 = JDAY*JDAY
C
C...FAST OVERLAP MODE
             IF(FMODE.EQ.0) THEN
                IF(JDAY .GE. SPLIT(FMODE+1)) THEN
                   DIV = FOA(1) + FOA(2)*JDAY + FOA(3)*JDAY2
                   DIV = DIV + FOA(4)*JDAY2*JDAY
                ELSE
                   DIV = 1.
                ENDIF
C
C...FAST UNDERLAP MODE
             ELSE
                IF(JDAY .GE. SPLIT(FMODE+1)) THEN
                   DIV = FUA(1) + FUA(2)*JDAY + FUA(3)*JDAY2
                   DIV = DIV + FUA(4)*JDAY2*JDAY
                ELSE
                   DIV = 1.
                ENDIF
             ENDIF
             FES = FESCO/DIV
C
C NOW CALCULATE MAGNITUDE
C
             VMAG = -2.5*ALOG10(FES) - 1.665E-5*FES + AMODE(FMODE+1) - 0.016
             WRITE(*,5050) JD, VMAG, FES
5050         FORMAT(1X,'JD: ',F10.1,1X,F7.2,' (corr. counts: ',F7.0,')')
          GOTO 5
C
99        STOP 'Program FESCAL exited !'
          END
C
          SUBROUTINE CJD(ID,IM,IY,JD)
C
C  CALCULATES JULIAN DATE
C    ID,IM,IY ... DAY,MONTH,YEAR (EG. 12,10,1983)
C    JD       ... JULIAN DATE
C
          INTEGER*2 ID,IM,IY
          REAL*4 A, B, C, D
          REAL*8 JD
C
          IF(IM.EQ.1 .OR. IM.EQ.2) THEN
            IY= IY-1
            IM= IM+12
          ENDIF
C
          IF(IY.LT.1583) GOTO 99
C
          A= AINT(FLOAT(IY)/100.)
          B= 2.- A+ AINT(A/4.)
          C= AINT(365.25* FLOAT( IY))
          D= AINT(30.6001* FLOAT(IM+1))
          JD = DBLE(B+ C+ D+ FLOAT(ID)+ 1720994.5)
          RETURN
 99       JD=0.D0
          RETURN
          END
```

## USSP/ULDA

Version 1.0 of the system called the USSP, which effectively puts users in a number of countries on-line to the IUE Uniform Low Dispersion Archive (ULDA), has reached its first birthday and coincidentally version 2.0 is in the process of being distributed. Hence now is an apt moment to review the system's performance and the differences between the new and old systems.

## Differences between 1.0 & 2.0

Availability: 2.0 will be directly available to more countries than 1.0 - see Geographical Distribution below. Most notably the USA has joined the club.

Data: a) Amount of data. The new version makes about 37,000 spectra available, i.e. up to the start of 1987. The previous release comprised 25,000 spectra up to the start of 1984.

b) Corrections to 1.0's data. A correction has been made to the absolute calibration of very short exposures and the erroneous photometric calibration for some early LWP spectra has been rectified.

Software: a) So called 'usage data' is now available just prior to exitting from QUEST for the spectra you have selected. This tells you **who** has already selected the same spectra as you, **where** to get hold of him, **when** and **why** he grabbed them.

b) QUEST automatically appends the descriptors for spectra you have selected to your id.DES workfile (id = your QUEST id).

c) The labeling of spectra's axes output in MIDAS format by the unscrambler (UNSPL) has been corrected.

## *Geographical distribution*

Version 1.0 ran at nine national hosts which directly served the user communities in ten countries by means of inter-computer links. Since many of these made the USSP available to visitors from other countries, scientists from 16 countries have used the system so far. Version 2.0 will be installed at 12 national hosts in the first instance and in all probability at an additional 3 before the end of the year.

Version 1.0

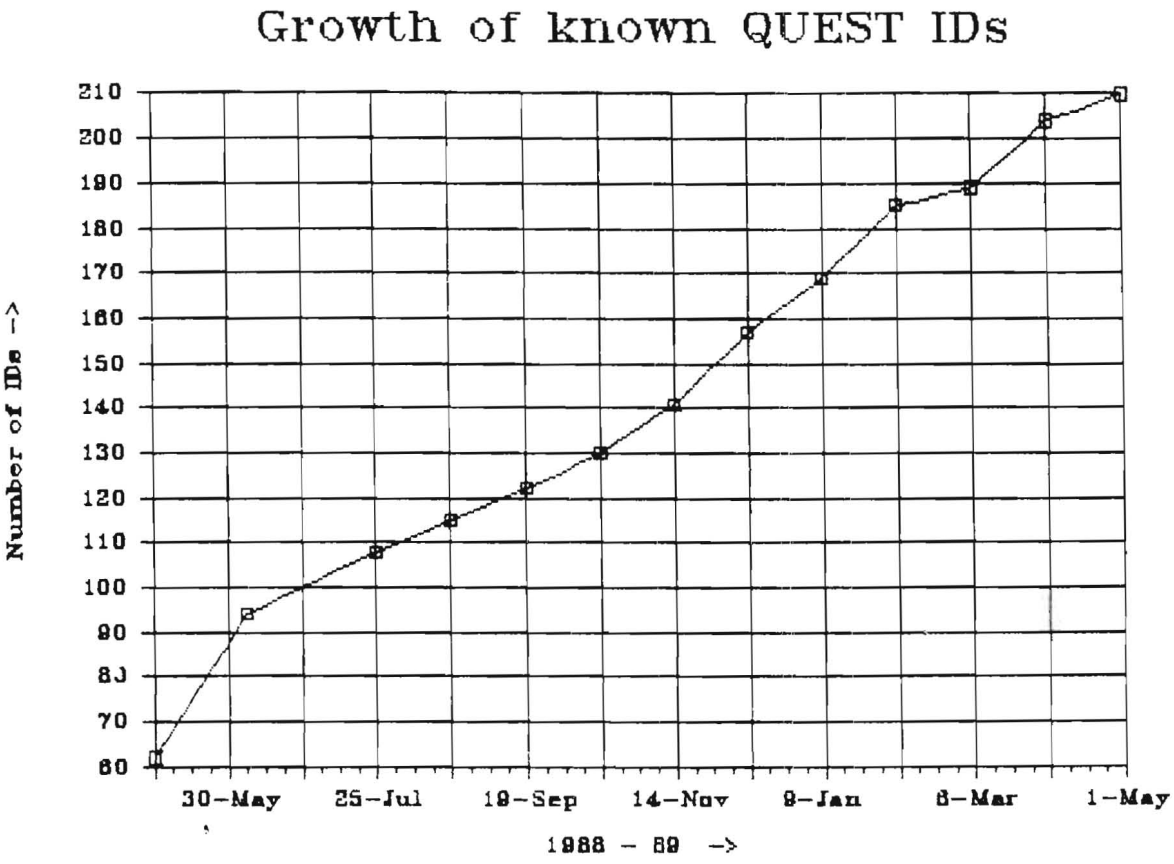
| National Host | Serving | National Host | Serving |
|---|---|---|---|
| VILSPA | Spain | RAL | UK |
| ST-ECF | Itself + ESO | OAT | Italy |
| AIT | West Germany | RBO | Belgium |
| Lausanne | Switzerland | CADC/DAO | Canada |
| Uppsala | Sweden, Norway & Finland | | |

2.0 - as above plus:-

| National Host | Serving |
|---|---|
| GSFC | USA |
| CDS | France |
| Leiden | Holland |

## *Usage*

After a year the number of users is in excess of 200 (see fig. 1), while the number of spectra selected is around 13,000 (see fig. 2).


Growth of known QUEST IDs
Number of IDs ->
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
30-May
25-Jul
19-Sep
14-Nov
9-Jan
6-Mar
1-May
1988 - 89 ->
Spectra dearchived (cummulative)
(1000's of spectra)
Number of spectra selected ->
(Thousands)
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
1988 ->
Spectra dearchived (cummulative)

# REPORT OF THE JANUARY 26-27, 1989 MEETING OF THE IUE FINAL ARCHIVES DEFINITION COMMITTEE

April 2, 1989

## 1 Introduction

This Report contains the recommendations of the IUE Final Archives Definition Committee (formerly called the IUE Signal-to-Noise Enhancement Committee), which were developed at its third meeting held in Greenbelt, Maryland on January 26–27, 1989. These recommendations for the near-term study on how to create the final archives are meant to modify and supplement those presented in the reports of the earlier meetings on May 17–18, 1988 and September 8–9, 1988, and should be read in that context. This report, like the

others, addresses three main issues. The first part will examine what requirements should govern the creation of the

final archive, the second will enumerate the specific near-term tasks that must be undertaken in order to learn how to reprocess the data properly and efficiently, and the third will attempt to define a sensible implementation plan, in terms of the required number of people, computer resources, etc., in order to accomplish these tasks in a timely fashion.

## 2 PART I: REQUIREMENTS FOR THE FINAL ARCHIVES

Detailed guidelines for establishing the final IUE archives were presented in the report of the May 17–18, 1988 meeting and modified in the report of the September 8–9, 1988 meeting. What follows are additions and modifications to these requirements.

### 2.1 TIMELINESS: (This is a newly defined requirement)

1. Various concerns, both scientific and political, dictate that the final IUE archives be produced over a period of less than three years (30 months was our most favored interval), beginning no later than January 1991. The timely and accurate production of the final archives will require significantly more computer power than available to the project at present. (See recommendation in Part III).

2. Reprocessing of IUE data for the final archives should largely be done on images in inverse sequential order, since more recent observations generally have the most accurate headers and records. Problem images should

be flagged and set aside for special attention and corrections without interrupting the reprocessing flow. In this manner the largest number of archived images will be processed in the shortest time frame possible.

## 2.2 SIGNAL-TO-NOISE IMPROVEMENT

1. Periodic noise, present in the raw data at 0.5–1.0 percent of the signal level, should be filtered from the ITF images and possibly from the raw science data as well.

2. Continuing study of the noise characteristics in the IUE cameras support the previous recommendation that the final IUE archives should be processed with an explicit geometric correction, although final judgement will be delayed until all tests, including tests of alternative schemes (see Part II, section 4.1) are completed.

3. There are indications that additional noise may arise due to the inadequacy of the bilinear interpolation used in the geometric correction of the UV-Flood exposures used to generate the ITFs. The use of more complicated mathematical functions, such as cubic splines, may reduce the noise in IUE spectra.

4. Mis-registration of the ITF grid with the science data image by more than 0.2 pixel results in a reduction in the signal-to-noise ratio (S/N) by u p to a factor of 2 in the two-dimensional image. Therefore, accurate registrat ion of the science data with the ITF should be done as accurately as possible using as many fiducials as are available, including fixed pattern, reseau marks, the fiber optic bundle grid, and camera artifacts.

5. We now expect a significant improvement in S/N in the majority of the final IUE archive images as a result of more sophisticated mathematical techniques developed for the geometrical correction and ITF generation stages of data processing. Consensus guiding principles are that (1) we should minimize the resampling of the data in the images, (2) we should obtain the best feasible registration between the raw images and the ITF, and (3) we should employ consistent treatment for the raw science data and the ITF data.

6. Tests comparing the optimal (OPT) and Gaussian (GEX) extraction methods with the current IUESIPS extraction have been performed on a small set of low-dispersion images, with the following general results:

   - For well-exposed images, OPT and GEX offer little, if any, improvement over IUESIPS.
   - For less-well-exposed images, however, both OPT and GEX can give reductions in point-to-point fluctuations in the resulting spectra of up to approximately 35 percent.
   - OPT employs a more general profile perpendicular to the dispersion, has been more successful in incorporating a realistic noise model, and seems to be faster than GEX in its current implementation.

- GEX, which assumes a Gaussian profile, is likely to be more successful for some weaker images where it is difficult to fit the profile empirically.
- For some very under-exposed spectra, or emission-line spectra with weak continua, both OPT and GEX are likely to fail.
- When making comparisons, it is necessary to treat the background in a consistent manner.

Because the improvement in S/N of the GEX and OPT extraction techniques over the simple IUESIPS technique is poorly known, we cannot yet recommend the use of one special extraction technique over the other for the production of low dispersion extracted spectra for the final IUE archives. However, we support the inclusion of either a GEX or optimal extraction (both if processing time is not a problem) in addition to the current rectangular extraction for low dispersion point source images. Such special extractions cannot be included in the final archive products for extended sources, and may not be possible for high dispersion spectra due to problems of overlapping orders.

7. For high dispersion spectra there is no scheme developed or on the horizon for extracting spectra using either a GEX or an optimal-like scheme.

   In lieu of this, rotated, geometrically and photometrically corrected line-by-line images of the high dispersion spectra should be included as part of the final archive data products to permit users to perform their own special extractions and analysis. In addition, we encourage the IUE Project to develop an improved high-dispersion wavelength calibration for the final archives based on the more extensive and more accurate National Institute of Standards

   and Technology (NIST, formerly The National Bureau of Standards) line list for the Pt-Ne arc lamp used on IUE.

## 2.3 COMPLETENESS

In addition to all NASA and ESA/SERC images, the final IUE archives should include: (1) all available commissioning images, (2) FES images, (3) observer scripts (both on optical disk and on microfiche), (4) spacecraft commands and status information recorded on the history tapes (possibly in a readable form, such as ASCII records which could be accessed by remote users), (5) intensity transfer functions (ITFs) for all epochs, and (6) a depository for written material related to the history and development of the IUE project.

## 2.4 ACCURACY

Proper and convenient usage of data in the final IUE archives requires easy access to original and corrected information concerning each exposure. Some inaccuracies and erroneous information exist in the science headers of IUE exposures, particularly for exposures of semi-stellar and extended targets set up by blind-offset maneuvers. In addition, several useful

items of information, such as position angle of the long axis of the large aperture, are not currently given in the headers.

With respect to the science headers in the final archives, the committee recommends the following guidelines:

1. The original science header should be kept intact as originally written.

2. Corrections and supplemental information regarding the exposure should be added as an appendage to the header, not as a replacement. This approach has already been implemented by IUESIPS.

3. A convenient and comprehensive format for the final archive database should be used in the search and request facility of the final archive. The proposed format presented by the IUE Project should be adopted, with small amendments that may result from suggestions from the IUE user community.

4. During the production of the final archives, images in the "old" archives at NSSDC should be flagged to indicate that "final archive" versions of the images are available.

5. Work to identify the extent of the header errors should begin immediately. This problem increases with time due to the less complete record keeping at VILSPA and the aging of the IUE observers. In particular, records and scripts were not preserved as completely near the beginning of the IUE mission as today.

# 3 FITS FORMAT FOR EXPORTING DATA FROM THE ARCHIVE TO USERS

[Note - This proposed new requirement was added by the FADC Chairman after the January meeting. It will be discussed at the April 1989 meeting.]

The IAU General Assembly in Baltimore adopted two resolutions (see Appendix A) recommending that the Flexible Image Transport System (FITS) become the standard for data exchange among astronomical institutes. The IAU has established a FITS Working Group to maintain and extend the FITS standards. The NASA Science Operations Branch Management Operations Working Group (MOWG) is advising all NASA flight projects to adopt this standard, and NASA has set up a FITS Support Office with the functions as also described in Appendix B.

The FITS format is becoming the standard for data transmission in astrophysics and should become the standard by which data are exported from the IUE final archives to users. The NASA IUE Project should prepare plans for presentation at the FADC meeting for the development of software to write magnetic tapes using the internationally accepted FITS format. Critical issues are:

1. Define appropriate key words for the header file.

2. Devise a format for the extracted spectral data that maintains the original wavelength sampling in order to not arbitrarily smooth the data (as would occur for a uniform wavelength sampling). The final FITS format must conform with the IAU-approved version of FITS.

3. The option to acquire data from the archives in the existing VICAR format should be available.

Note that the IUEFITS format, currently implemented at VILSPA and soon to be implemented at GSFC, is documented in ESA Newsletter No. 32 published in January 1989.

# 4 PART II: HOW TO REPROCESS IUE DATA FOR THE ARCHIVES: RECOMMENDATIONS FOR THE NEAR-TERM STUDY

During the January 1989 meeting it was clear that the IUE project had made considerable progress in addressing a number of questions and outstanding problems raised in previous meetings. Based on reports presented at the meeting, we have revised the recommendations made following last October's meeting. The following revised recommendations are given roughly in order of their priority.

**I.** Remake the ITFs.

- **A.** Construct an ITF in its raw geometric space (i.e. with minimal resampling).
- **B.** Calculate noise characteristics.
- **C.** Exclude cosmic ray hits and other artifacts.
- **D.** Retain higher precision.
- **E.** Fourier-filter the 2-, 4-, and 8-point signal and remove the periodic noise.

**II.** Improve the geometric correction algorithms.

- **A.** Refine the cross-correlation algorithm to determine shifts to subpixel accuracy.
  1. Identify all varieties of viable fiducials, including reseaux, camera artifacts, and fixed-pattern (FP).
  2. Find a means to determine subpixel shifts.
  3. Define a means of rejecting bogus pattern matches.
  4. Define how to implement the calculated shifts in a geometric correction routine.
  5. Determine the minimum background DN level where these techniques fail, and what default approach to take in that event (such as using predicted reseau positions).

**III.** Experiment with applying new ITFs.

- **A.** Use found fiducials whenever possible.
- **B.** Re-examine both explicit and implicit geometric adjustment.
- **C.** Examine improved geometric correction algorithms, including ones that would permit a simultaneous rotation with minimal resampling.
- **D.** Try to apply a photometric correction by interpolating both between ITF levels and spatially (to account for mean DN-level shifts) with a more complicated function than linear, such as splines.
- **E.** Determine whether the ITFs from one epoch can be applied to images from other epochs.

**IV.** Continue fixed pattern studies.

- **A.** Determine if the FP persists through all intensity levels.

**B.** Determine how the FP changes with time (functional form).

**C.** Determine how the FP found in the raw images relates to the fixed pattern noise found in extracted spectra. This analysis is of crucial importance and may be related to the physical origin of the FP.

**V.** Archive the annotation and label modifications.

**A.** Solicit from GOs their records of blind offsets maneuvers and other useful information for the final archive.

**C.** Define required data items.

**D.** Develop and test the procedures and algorithms.

**E.** Determine required manpower, hardware and software resources.

**F.** Generate documentation.

**VI.** Improve the wavelength calibration.

**A.** Investigate applying the echelle grating equation for an improved solution.

**B.** Include the larger NIST list of more accurate wavelengths for lines in high-dispersion WAVECAL images.

**C.** Improve and/or extend the current fit-parameters.

**VII.** Improve the spectral extraction algorithm.

**A.** Develop and test a combined GEX and OPT spectral extraction algorithm for low-dispersion data. Determine precisely when this new algorithm will and will not yield improved results.

**B.** Characterize scattered light from the inter-order background from high-dispersion spectra.

**C.** Improve the background removal for high-dispersion spectra.

**VIII.** Physics of the spectrometer optics, cameras and detectors.

**A.** Investigate beam-pulling effects.

1. Obtain partially-read, T-Flood test images with spectral data super-imposed, as well as WAVECAL images with a variety of exposure times.
2. Measure the positional deviation of the spectral features from that expected from ordinary images to relate the magnitude of the beam displacement to the gradient in the DN level.
3. Parameterize the effect and determine whether the ITF can still be applied to pixels with DN levels that deviate greatly from those in the immediate vicinity.

**B.** Investigate the image background.

1. Determine whether the photometric correction to images with high radiation background is accurate.
2. Determine why artifacts in sky-background images are not removed in the photometric correction, and what should be done to remove these artifacts.

**C.** Analyze discontinuities in the raw images along the edges of the fiber-optic bundles.

## 4.1 DETAILED EXPLANATIONS OF THE NEAR-TERM OBJECTIVES

**I.** Remaking and Testing the Improved ITFs.

Based on the information now available, it is clear that a new means of creating the ITFs must be tested. Because of the limited time available, only one ITF for one camera should be reconstructed, and the best candidate is the SWP both because of its importance and because the challenge of applying the fixed pattern as a fiducial for geometric registration is greatest for this camera. This experimental ITF should then be used in tests of further refinements to the proposed processing (items II and beyond) to determine if the new ITF characteristics still lend themselves to such methods.

Procedure for creation and application of an experimental ITF.

**1.** Construct a new ITF in mean raw coordinates:

- The UV-Flood images that constitute the modern ITFs were obtained at nearly constant temperature, and therefore will align to < 0.1 pixel, even for the SWP camera.
- Exclude cosmic ray hits and other artifacts from each ITF level as the constituent images are summed. Simultaneously construct a noise model for each ITF level.
- Fourier-filter the periodic noise from each raw image.
- Use D. Shaw's idea for minimal resampling to account for residual tiny shifts at each level. Use bi-cubic interpolation to create a mean image for each of the 12 ITF levels. NOTE: this resampling is less severe than the full GEOM that is now done and would amount to nearly zero resampling for a camera like LWR, where the reseaux are known to move by less than 0.2-0.3 pixel.

**2a.** Correct each level of the ITF to the mean reseau positions of one of the levels, using bi-cubic spline.

OR

**2b.** Provide a file of found reseau positions, including rms X and Y scatter, for each of the 12 ITF levels to permit implicit mapping to the science images. Use a more complicated scheme than bi-linear to interpolate between adjacent pixels in each ITF level. (D. Giaretta will pursue this concept)

**II.** Improve the geometric correction algorithms.

Work should continue on studies of how best to do the geometric correction, although good progress has been made. Some questions include:

1. The improvement in S/N gained by doing an explicit geometric correction versus an implicit geometric correction. How does this change as a function of variables other than time (e.g., THDA)?
2. The relative S/N improvement when using found reseaux instead of predicted reseaux with the explicit geometric correction technique.

3. Can the fixed pattern (with current ITF and with suggested "new" ITF) be used for registration? Would improved pattern recognition techniques help? Would this supplement or replace registration with reseaux?
4. Quantify the improvement in S/N from using splines or some other higher-order interpolation scheme for geometric correction.
5. Can geometric correction and rotation be done in a single step and does this reduce the smoothing of the data?
6. Should the ITF be rotated before application to images?
7. In all cases, the amount of smoothing could be estimated by introducing an artificial delta function (i.e. one bright pixel) in the image prior to processing, and comparing with the processed image.

III. Experiment with applying the new ITFs.

A. Re-examine both explicit and implicit geometric correction with the new ITFs.

B. Experiment with a fitting function for interpolating between ITF levels, rather than the linear interpolation now used.

C. Determine whether the ITFs from one epoch can be applied to images from other epochs.

D. Test Procedures

1. Choose images with reseau marks at the nominal mean positions of the ITF marks for initial testing.
2. Spectral Data
   a) Emission line object - AR LAC sum of 12 images
   b) Sharp emission line object - NGC 2346
   c) Continuum in the standard star BD+28 4211 - sum of 16 spectra
   d) Pt-Ne WAVECAL spectra

Compare these spectra with current IUESIPS reduction in terms of S/N and spectral resolution.

E. Concluding thoughts:

The difference between the new techniques and the present system is mainly a more proper construction and use of the ITF. The exact registration of the data image with the ITF may be crucial to get better spectra by this more proper application of the ITF.

The use of reseaux displacements to interpolate shifts at positions between the reseaux is not straightforward in the raw (ungeom-ed) space, and will require some further careful thought.

IV. Fixed Pattern studies.

We should determine if the fixed pattern is time and/or intensity dependent. A key question is how the fixed pattern in the two-dimensional image is related to the fixed pattern noise

detected in the one-dimensional spectra. This analysis is of crucial importance and may be related to the physical origin of the fixed pattern.

EVALUATION OF WORK OUTLINED IN PART II, SECTIONS I, II, and III: [The following statement was also emphasized in the previous committee report.]

When the tests described above are completed, it should be possible to define the optimal scheme for geometrically and photometrically corrected images. At this point a number of science images should be processed using a scheme that parallels the current production processing as closely as possible in order to quantify the S/N improvement. The proposed scheme should show S/N closer to the photon statistics limit when multiple spectra (e.g., of calibration stars) are co-added.

**V.** Annotation of the final archive (format, headers, etc.)

We feel that work on identifying the extent and frequency of header errors and an estimate of the required manpower to correct them should begin immediately. This problem increases daily due both to the aging of IUE observers, and to the relatively less complete record-keeping at VILSPA compared to GSFC, particularly during the early years (1979–1981) of the project. The project should contact all GOs requesting pertinent information on each of their observations which may only be available in their personal notes.

**VI.** Improve the wavelength calibration.

Wavelength calibration of high-dispersion spectra, one that combines a physical approach (considering the origin of distortions that contribute to wavelength inaccuracies) and a first-principles approach (going back to the grating equation) may provide substantially improved results.

- We should consider replacing the old, empirical polynomial representation for the dispersion relation with the real grating equation,
  i.e. parameterize the sinc function instead. There are several advantages
  to this approach. A sinc function more closely approximates the real optical arrangement of the spectral orders, so that it is likely that the residuals between the predicted and actual wavelength positions will be much smaller than with a polynomial representation, even one of high order. Second, the fits could be improved by appling some prior knowledge
  of the spectrograph design, or some good prelaunch measurements, in order
  to restrict the range of (some of) the fitted parameters. Any remaining trends in the residuals, caused, for example by coma or astigmatism in the image field, might be eliminated with small correction terms to the fundamental formula.
- We should attempt to obtain more exposures of the platinum lamp calibration over a greater range of exposure times. Very long exposures will permit many of the weaker lines to be included in the calibration, whereas shorter exposure times will diminish the effects of beam pulling,
  and therefore yield more reliable positions for the brightest lines.

**VII.** Improve the spectral extraction.

It was suggested for the first time that, rather than contrasting the competing methods of GEX and Optimal Extraction for improving S/N, the best features of each can be combined into a single, hybrid extraction program.

Although implemented differently, OPT and GEX are quite similar in philosophy, and it seems quite possible to create a hybrid program which would incorporate

the strengths of both. We recommend that such a hybrid program be developed. The program could be largely based on OPT, with the addition of a default profile for cases where the profile cannot be accurately determined empirically. The program should include cosmic ray and bad pixel rejection and a realistic noise model. Experiments should be undertaken to determine the best choice of the default profile (e.g. Gaussian) and the effect of errors in the assumed default profile upon the accuracy of the extracted spectrum. Some experimentation will also be necessary to determine how to make sure that the (program-determined) transitions between the use of empirically-determined and default profiles will be both smooth and uniformly flux-conservative. The May 1988 near-term study recommendations list a variety

of types of spectra which should be used for testing.

In view of the need to coordinate the extraction program with the rest of the reprocessing software (construction of new, properly registered ITFs may have a significant effect on the details of the noise model used in the extraction, and the absolute flux calibration will need to be re-derived for spectra processed with this new extraction program), it seems appropriate that the hybrid program be developed within the IUE project.

Very little has been reported concerning extensions of such techniques to high-resolution IUE spectra. In view of the complexity of such a task, and the

necessity to decide by September 1989 which software to use for the final archive, it is unrealistic to expect that a high-dispersion analog to the OPT/GEX hybrid can be developed. However, the issues raised in the May 1988 recommendations regarding the characteristics of the background in high-dispersion spectra should be pursued, since an inadequate understanding of the background may lead to significant errors in the final processed spectra.

Evaluation of high dispersion spectra obtained for revision of the ripple correction has revealed that systematic mis-registration of the spectral orders can result in 10-20 percent loss of light from the gross spectrum (LWP), and in contamination of the off-order background by spectral light. The source of the mis-registration must be identified and corrected if the high dispersion data are to be suitable for even relative spectrophotometry. Correction of the error is needed before the ripple correction and high dispersion absolute calibration can be derived.

Near-term work should concentrate on identifying the source(s) of the mis-registration, and in determining the extent to which these sources can be by-passed.

- Evaluate the extent to which augmentation of the long wavelength spectrograph line library improves the spectral registration. This effort will be in parallel with the evaluation of the improvement made in the wavelength scale.
- Evaluate alternate spectrum location algorithms which may be used to extract reliable gross and off-order backgrounds suitable for use in the ripple and absolute calibration analysis.

Longer-term work:

- Evaluate the extent to which the choice of geometric correction algorithm affects the spectral registration. This analysis will not begin
  until the geometric correction evaluation effort is complete.
- Evaluate the suitability of the current IUESIPS spectral registration algorithm for the LWP and other cameras.

**VIII.** Physics of the spectrometer optics, cameras and detectors.

Understanding certain physical characteristics of the spectrometers may help us in properly calibrating the IUE images. In particular, a few tests that will aid in understanding the nature of beam-pulling were discussed at the meeting. The first would involve a systematic study of the change in the positions of emission lines in high-dispersion spectra as the exposure time is varied over a large range. The second would involve obtaining composite, high-dispersion images of bright standard stars superimposed upon T-floods that had been partially read. In both cases it is important to determine the magnitude of the change in the positions of the spectral features, particularly

near sharp gradients in the charge distribution on the images.

The question of whether the various proposed algorithms will also improve the S/N in images that were exposed during high radiation background has not been adequately addressed. While the background is often the dominate source of noise in IUE images, the application of the proposed registration algorithms for geometric correction might result in a poorer signal-to-noise ratio for these images compared to what already exists in the archive. At the heart of the matter is whether the pixel-to-pixel variation of the background caused by charged particles is similar to that from photons. If they are similar, the proposed algorithms will probably be universally beneficial, but if not, the techniques that measure the background pixel-by-pixel may be necessary to obtain the best S/N ratio for these images. This problem is sufficiently urgent that suitable images with large backgrounds should be identified and examined in the near future. If the proposed techniques are detrimental to the S/N in these images, alternatives should be explored so that the committee can consider other options. The proposed work can probably most easily be performed by scientists not associated with the IUE project. Small amounts of money should be made available to them to defray their costs.

We recognize that geometrical distortions in the camera image are not necessarily smooth, but may contain abrupt discontinuities. Investigations described at this meeting and elsewhere raised the possibility that dislocations at the boundaries of fiber optic bundles may be present at certain locations in the image, and these anomalies may manifest themselves as discontinuities in the image in a manner analogous to the dislocations along an earthquake fault line. This effect is most evident in strongly exposed continua in the LWR camera at the longest wavelengths in low resolution mode. Time and resources permitting, we should experiment with a new geometrical correction scheme which treats each of the square fiber optic bundles as a separate domain with its own coordinate system and distortion characteristics.

# 5 PART III: PROPOSED IMPLEMENTATION PLAN FOR THE IMPROVEMENT OF THE S/N IN THE IUE DATA

A summary of the September 1988 recommendations of the Signal-to-Noise Enhancement Committee:

The main elements needed to implement the proposed signal-to-noise enhancements are: (1) people - to develop the algorithms and write the software; and (2) computer hardware - used as a tool by these people. The IUE Project is to be commended for making the necessary arrangements to acquire excellent personnel for the development effort. The computer requirements have not yet been addressed, however. There is a clear need for an additional CPU for the S/N development work and future reprocessing for the following reasons:

- It will improve the efficiency of the S/N algorithm development and subsequent software development, thus reducing the time required to learn how to implement the final archives.
- Provide a second CPU (after all the S/N work, including software development, has been done) for the final archive reprocessing.
- Reduce the oversubscription of IUE computational resources, and thus reduce the impact on current IUESIPS processing and science analysis of IUE data at the RDAF.

## 5.1 RECOMMENDATION FROM THE JANUARY 1989 MEETING

The following equipment is needed as soon as possible: VAX 3600 computer system; 500 Mbytes of disk space (minimum); and an image display device. The timeliness requirement suggests that a rental arrangement must be attempted since the procurement process is too long.

For a long range computing solution the VAXstation 3100 might be considered. These machines are relatively cheap, are faster than the existing IUE machine (a VAX 8350), and are capable of running VMS MIDAS/IUESIPS (though the image interface needs to be modified) and IDL.

# 6 Appendix A: Resolutions Adopted by the XXth IAU General Assembly (August 1988)

Resolution B1: Extensions to FITS

... considering the present situation of the transfer of catalog and table data

in digital form among astronomical institutes; and noting that significant improvements in portability can be made; recommends that all astronomical computer facilities recognize and support the rules for general extensions to the Flexible Image Transport System (FITS) including the extensions for the exchange of catalog and table data as described in Astronomy and Astrophysics Supplement Series 73, pp 359–364 and pp 365–372 (1988).

Resolution B2: Working Group on FITS

... considering the high importance of the Flexible Image Transport System (FITS) for the exchange of digital data between astronomical institutes and astronomical archives; decides to form a Working Group on FITS to maintain the existing FITS Standards and to review, approve

and maintain future extensions to FITS, recommended practices for FITS implementations, and the thesauris of approved FITS keywords.

# 7 Appendix B: Summary of Proposed Functions for the FITS Support Office

The objective of the FITS Support Office is to provide support in the use of the FITS format for data interchange among users and projects. This includes a service organization that will assist users in using FITS and that can validate FITS products to improve the degree of interoperability among systems exchanging FITS formatted data. It also includes using the experience of the services organization as input to the evolution of the FITS standard, and coordinating with the Consultative Committee for Space Data Systems (CCSDS) Standard Formatted Data Unit effort to register FITS with a control authority.

More specifically, the FITS Support Office will:

- Support an external FITS expert in the establishment of a document defining the current FITS Standard. Currently the FITS Standard is spread across many different publications and is difficult for implementers to understand. The external FITS expert is expected to be Don Wells.
- Provide support to users in the application of FITS. This will involve answering user questions on the use of FITS and the availability of software. Experience will be recorded for subsequent analysis.
- Participate in the FITS Task Force to evolve the FITS Standard based on user experience.
- Work with an external FITS expert in the design and implementation of software to validate the conformance of a data product to the FITS standard.

# 8 Appendix C

Comments on Data Processing Computing Hardware for Flight Missions (based upon a statement by Don Wells at the February 23–24 Science Operations Branch MOWG meeting).

Several VAX/VMS-based NASA astrophysics projects (e.g. IUE, COBE) appear to have very limited computer resources. The NASA Astrophysics Division management, as well as project management, should be aware that DEC's VMS hardware currently suffers a significant price-to-performance disadvantage relative to UNIX-based hardware, especially the RISC (Reduced Instruction Set Computer) portion of the Unix market. We believe that NASA projects should avoid buying computers with proprietary operating systems (like VMS), and depend instead upon the more competitive UNIX-based computer market. It is unclear how the various projects that are VMS-dependent can make a graceful transition to UNIX, but their management and technical personnel must consider this question carefully, rather than just simply buying more VAXes to meet their data processing requirements.

# Erratum

Absolute Calibration at high resolution

Cassatella,A.,Ponz,D.,Selvelli,P.L.,Vogel,M.

ESA IUE Newsletter No 31, page 7

A typing error unfortunately crept into equation (2) on page 8 of the article by Cassatella **et al** on the absolute calibration of the high resolution IUE spectra. The $(\lambda - a_2)$ term should be raised to the third power. The corrected equation should therefore read:

$$c(\lambda) = 10^{a_1}/(\lambda - a_2)^3 - a_3\lambda + a_4$$

A.Cassatella - August 1989

EUROPEAN IUE ALLOCATION 12TH YEAR 1989-1990

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|---|---|---|---|
| Effective temperatures and gravities for white dwarfs detected at soft X-ray wavelengths | Barstow | Leicester | LA 001 LA 001 LA 001 |
| | Holberg | Arizona | LA 001 |
| An IUE determination of inter-stellar hydrogen columns to PG1159 objects | Barstow | Leicester | LA 002 LA 002 LA 002 |
| | Holberg | Arizona | LA 002 |
| Comparison of early rise stages of normal and superoutbursts of the dwarf nova Z Cha | Hassall | Cambridge | LI 004 |
| | Naylor | VILSPA | LI 004 |
| | Harlaftis | Oxford | LI 004 |
| | Charles | La Palma | LI 004 |
| Extending the baseline for monitoring of WZ SGE | Hassall | Cambridge | LI 005 |
| | Pringle | Cambridge | LI 005 |
| | La Dous | Cambridge | LI 005 |
| CEN A: unmasking the hidden ionizing continuum | Ward | Cambridge | LQ 006 |
| | Fabian | Cambridge | LQ 006 |
| | Robinson | Cambridge | LQ 006 |
| Interacting binary white dwarf objects | Solheim | Tromso | LI 007 |
| | Ulla | Tromso | LI 007 |
| | Moe | Oslo | LI 007 |
| Distance to HVC complex C using newly calibrated stars | de Boer | Bonn | LM 009 |
| | Mohler | Bonn | LM 009 |
| | Schwarz | Groningen | LM 009 |
| | Wakker | Groningen | LM 009 |
| | van Woerden | Groningen | LM 009 |
| | Bregman | Charlottesv | LM 009 |
| | Houck | Charlottesv | LM 009 |
| UV/Optical observations of ISM in the field of SN 1987A | Molaro | Trieste | LM 011 |
| | Vladilo | Trieste | LM 011 |
| | Centurion | Trieste | LM 011 |
| | Monai | Trieste | LM 011 |
| A search for mass transfer binaries among the bright Be stars | Henrichs | Amsterdam | LI 012 |
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| | Grady | GSFC, USA | LI 012 |
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| | Peters | California | LI 012 |
| Multiwavelength observations of Equator-on "Rapid Variable" Be stars | Henrichs | Amsterdam | LA 013 |
| | Kaper | Amsterdam | LA 013 |
| | Peters | California | LA 013 |
| | Percy | Toronto | LA 013 |
| | Gies | Georgia | LA 013 |
| | McDavid | Texas | LA 013 |

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| Variability of the wind from the massive close binary LY Aur | Henrichs | Amsterdam | LI 014 |
| | Kaper | Amsterdam | LI 014 |
| | Corcoran | Potomac | LI 014 |
| | Heap | GSFC, USA | LI 014 |
| UV and optical covariability of O star winds | Henrichs | Amsterdam | LA 015 |
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| | Zwarthoed | Amsterdam | LA 015 |
| | Baade | Garching | LA 015 |
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| | Butler | Armagh | LC 017 |
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| The symbiotic star HM Sge | Vogel | Zurich | LI 019 |
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| Atmospheres of the hot components in symbiotic systems | Vogel | Zurich | LA 020 |
| | Nussbaumer | Zurich | LA 020 |
| Origin of the UV variability of HD 192163 WN6 (+c?) | Willis | London | LA 021 |
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| The new Be phase of Pleione | Doazan | Paris | LA 023 |
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| Neptune during the Voyager encounter | Fricke | Bonn | LS 027 |
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| The long term variability of X-ray bright BL Lacertae objects | George | Cambridge | LQ 029 |
| | Warwick | Leicester | LQ 029 |
| | Bromage | R.A.L. | LQ 029 |
| Metals in the helium atmosphere white dwarf LDS678B: test of the diffusion/accretion theory | Vauclair | Toulouse | LA 030 LA 030 |
| | Sion | USA | LA 030 |

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| Line variations due to superficial concentration of elements in magnetic stars | Artru<br>Megessier | Meudon<br>Meudon | LA 031<br>LA 031<br>LA 031 |
| Search for time-variable wind ionisation in binary planetary nuclei | Grewing<br>Bianchi | Tubingen<br>Torino | LA 032<br>LA 032<br>LA 032 |
| Search for hot companions in spectroscopic binaries with peculiar mass functions | Grewing<br>Neri | Tubingen<br>Tubingen | LA 033<br>LA 033<br>LA 033 |
| Fourth epoch doppler-imaging observations of AR Lacertae | Rodono<br>Neff<br>Linsky<br>Walter | Catania<br>GSFC, USA<br>Colorado<br>Colorado | LC 035<br>LC 035<br>LC 035<br>LC 035 |
| Phase resolved spectroscopy of the peculiar cataclysmic variable HX Peg | Wood<br>la Dous<br>Pringle | Cambridge<br>Cambridge<br>Cambridge | LI 036<br>LI 036<br>LI 036 |
| Simultaneous X-ray/Ultraviolet observations of MKN841 | Ward<br>Done<br>George | Cambridge<br>Cambridge<br>Cambridge | LQ 037<br>LQ 037<br>LQ 037 |
| Observations of Triton and Neptune at the time of the voyager encounter | Brosch<br>Santvoort<br>Stern | Tel Aviv<br>VILSPA<br>USA | LS 038<br>LS 038<br>LS 038 |
| Observations of Pluto's surface and extended atmospheres | Brosch<br>Santvoort<br>Stern | Tel Aviv<br>VILSPA<br>USA | LS 039<br>LS 039<br>LS 039 |
| Cool star flux spectra for population studies in galaxies | Malagnini<br>Morossi<br>Buser<br>Cacciari | Trieste<br>Trieste<br>Basel<br>Bologna | LC 040<br>LC 040<br>LC 040<br>LC 040 |
| Observations of SN 1987A | Panagia | Baltimore | LE 041 |
| The P Cygni star AG Car: its rapid evolution towards O stars | Barylak<br>Cassatella<br>Viotti | VILSPA<br>VILSPA<br>Frascati | LA 042<br>LA 042<br>LA 042 |
| Post asymptotic giant branch stars in NGN 6528 | Brocato<br>Cassatella | Garching<br>VISLPA | LA 043<br>LA 043 |
| Probing the wind of P Cyg by studying its variable shells | Lamers<br>Cassatella | Utrecht<br>VILSPA | LA 044<br>LA 044 |
| Rayleigh scattering in symbiotic stars | Gonzalez<br>Cassatella<br>Fdz Castro | VILSPA<br>VILSPA<br>Madrid | LI 045<br>LI 045<br>LI 045 |

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| UV monitoring of the symbiotic star Z Andromedae | Cassatella | VILSPA | LI 046 |
| | Fdz Castro | Madrid | LI 046 |
| | Viotti | Frascati | LI 046 |
| | Taylor | Toronto | LI 046 |
| The UV decline of Novae toward quiescence | Selvelli | Trieste | LI 047 |
| | Bianchini | Roma | LI 047 |
| | Friedjung | Paris | LI 047 |
| | Cassatella | VILSPA | LI 047 |
| The imminent outburst of the recurrent nova T Pyx | Selvelli | Trieste | LI 048 |
| | Cassatella | VILSPA | LI 048 |
| | Gilmozzi | Baltimore | LI 048 |
| Observations of faint classical Novae | Cassatella | VILSPA | LI 049 |
| | Gonzalez | VILSPA | LI 049 |
| Post outburst evolution of the symbiotic star AS 296 | Gonzalez | VILSPA | LI 052 |
| | Munari | Asiago | LI 052 |
| Massive stars in the young SMC cluster NGC 330 | Caloi | Frascati | LA 053 |
| | Brocato | Garching | LA 053 |
| | Castellani | Pisa | LA 053 |
| | Cassatella | VILSPA | LA 053 |
| The stellar content of the populous clusters of the Magellanic Clouds | Cassatella | VILSPA | LE 054 |
| | Geyer | Bonn | LE 054 |
| | Barbero | Madrid | LE 054 |
| | Brocato | Garching | LE 054 |
| Mass loss determination in the M giant companion of BF Cyg | Cassatella | VILSPA | LC 055 |
| | Schroeder | Hamburg | LC 055 |
| | Baade | Hamburg | LC 055 |
| UV observations of supernovae | Panagia | Baltimore | LE 059 |
| | Macchetto | Baltimore | LE 059 |
| UV diagnostics of optical jet-like emission in active galaxies | Colina | Madrid | LQ 060 |
| | Diaz | Madrid | LQ 060 |
| | Danks | Maryland | LQ 060 |
| | Prieto | Madrid | LQ 060 |
| | Wamsteker | VILSPA | LQ 060 |
| | Rodriguez | Canarias | LQ 060 |
| The lambda Boo stars | Faraggiana | Trieste | LA 061 |
| | Gerbaldi | Paris | LA 061 |
| | Castelli | Trieste | LA 061 |
| | Bohm | Trieste | LA 061 |
| UV spectroscopy of classical novae in late nebular stage | Andreae | Bamberg | LI 062 |
| | Drechsel | Bamberg | LI 062 |
| Simultaneous IUE/HST-GHRS observations of AU Mic | Byrne | Armagh | LC 063 |
| | | | LC 063 |
| | Carpenter | GSFC, USA | LC 063 |
| | Maran | GSFC, USA | LC 063 |
| | Linsky | Colorado | LC 063 |

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| Dynamics and evolution processes in algol binaries | Gimenez | Granada | LI 064 |
| | Greve | Brussels | LI 064 |
| | Guinan | USA | LI 064 |
| | Kondo | GSFC, USA | LI 064 |
| First UV spectra of uranian satellites | Festou | Besancon | LS 065 |
| | Santvoort | VILSPA | LS 065 |
| | Stern | USA | LS 065 |
| A comparison of the sources of UV flux in active, star-forming and | Bertola | Padova | LE 066 |
| | Buson | Padova | LE 066 |
| | Burstein | Arizona | LE 066 |
| UV to IR monitoring of blazars | Maraschi | Milano | LQ 067 |
| | Bersanelli | Milano | LQ 067 |
| | Bouchet | La Silla | LQ 067 |
| | Falomo | Padova | LQ 067 |
| | Treves | Milano | LQ 067 |
| The UV spectrum of the ultra-soft X-ray QSO E0132-41 | Mason | Surrey | LQ 068 |
| | Mittaz | Surrey | LQ 068 |
| | Branduardi | Surrey | LQ 068 |
| | Cordova | USA | LQ 068 |
| | Mushotzky | GSFC, USA | LQ 068 |
| New UV and optical observations of liners: spatially resolved spectroscopy of the nuclear and extended galactic emission | Branduardi | Surrey | LQ 069 |
| | Mason | Surrey | LQ 069 |
| | | | LQ 069 |
| | Reichert | GSFC | LQ 069 |
| UV continuum and Lyman Alpha emission from Hydra A | Hansen | Copenhagen | LQ 070 |
| | Jorgensen | Copenhagen | LQ 070 |
| | Norgaard | Copenhagen | LQ 070 |
| UV-bright stars in M3 | Cacciari | Bologna | LA 071 |
| | Buonanno | Munich | LA 071 |
| | Buzzoni | Merate | LA 071 |
| | Fusi Pecci | Bologna | LA 071 |
| UV observations of possible "Beta Pictoris" stars | Lagrange | Paris | LM 072 |
| | Vidal-Madjar | Paris | LM 072 |
| | Ferlet | Paris | LM 072 |
| The carbon abundance in the super metal poor galaxy GC 8 | Castaneda | Canarias | LE 073 |
| | Vilchez | Canarias | LE 073 |
| | Dufour | USA | LE 073 |
| | Skillman | Texas | LE 073 |
| Abundance anomaly in accreting magnetic white dwarfs? | Bonnet-B. | Saclay | LI 074 |
| | Mouchet | Meudon | LI 074 |
| IUE observations of comets P/ Brorsen-Metcalf and Pons-Winnecke | Festou | Besancon | LS 076 |
| | Arpigny | Liege | LS 076 |
| | A'Hearn | Maryland | LS 076 |
| | Feldman | Baltimore | LS 076 |

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| IO atmosphere and Torus | Festou | Besancon | LS 077 |
| | Bertaux | Verrieres | LS 077 |
| | Moos | Baltimore | LS 077 |
| | Feldman | Baltimore | LS 077 |
| UV observations of WC 11 stars with nebulae CPD-56 8032, M4-18 and He 2-113 | Rao | Bangalore | LM 078 |
| | Giridhar | Bangalore | LM 078 |
| | Nandy | Edinburgh | LM 078 |
| First IUE observations of the chromospheric eclipse of * * Sge | Thiering | Hamburg | LC 079 |
| | Schroder | Hamburg | LC 079 |
| Cyclic activity in pre-main sequence Herbig Ae stars | Catala | Meudon | LA 080 |
| | Praderie | Meudon | LA 080 |
| | Tjin | Amsterdam | LA 080 |
| | The | Amsterdam | LA 080 |
| | Talavera | VILSPA | LA 080 |
| Moon scattered solar spectrum for planetary studies | Bertaux | Verrieres | LS 082 |
| | Windemann | Verrieres | LS 082 |
| Late stages in the outburst of classical novae | Krautter | Heidelberg | LI 083 |
| | Ogelman | Garching | LI 083 |
| | Wehrse | Heidelberg | LI 083 |
| | Shaviv | Israel | LI 083 |
| | Starrfield | Phoenix | LI 083 |
| | Ferland | Ohio | LI 083 |
| | Gehrz | Minnesota | LI 083 |
| | Kenyon | Harvard | LI 083 |
| | Shore | New Mexico | LA 083 |
| | Sion | USA | LA 083 |
| | Sonneborn | GSFC | LA 083 |
| | Truran | Illinois | LA 083 |
| | Williams | Chile CTIO | LA 083 |
| | Wu | STSI, USA | LA 083 |
| A complete phase coverage of 78 Vir in the ultraviolet | Monier | VILSPA | LA 084 |
| | | | LA 084 |
| Time-resolved UV observations of the enigmatic cataclysmic variable PG1711+336 | Prinja | London | LI 085 |
| | Rosen | Mullard | LI 085 |
| | Mason | Mullard | LI 085 |
| Co-ordinated UV and H alpha observations of wind variability | Prinja | London | LA 086 |
| | | | LA 086 |
| | Howarth | Colorado | LA 086 |
| | Fullerton | Toronto | LA 086 |
| The far UV continuum of quasars | O'Brien | London | LQ 087 |
| | Wilson | London | LQ 087 |
| | Gondhalekar | RAL | LQ 087 |
| The shell extension of supergiants deduced from the 2200 A feature | Querci, F. | Toulouse | LC 090 |
| | Querci, M. | Toulouse | LC 090 |
| | | | LC 090 |
| | Johnson | Bloomington | LC 090 |
| | Eaton | Bloomington | LC 090 |
| | Baumert | Baltimore | LC 090 |

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| Post-star-burst shell galaxies | Prieur | Garching | LE 091 |
| | Carter | La Palma | LE 091 |
| | Sparks | Baltimore | LE 091 |
| | Wilkinson | Manchester | LE 091 |
| Observations of the Seyfert 1 nucleus of NGC 4151 | Ulrich | Garching | LQ 094 |
| | Altamore | Rome | LQ 094 |
| | Perola | Rome | LQ 094 |
| | Bromage | RAL | LQ 094 |
| | Clavel | VILSPA | LQ 094 |
| | Boksenberg | RGO | LQ 094 |
| | Penston | RGO | LQ 094 |
| High velocity MgII wings in II Peg | Doyle | Armagh | LC 095 |
| | Neff | GSFC | LC 095 |
| The long term variability of the Lyman alpha emission from Jupiter, Saturn, and Uranus | Fricke | Bonn | LS 096 |
| | Zahn | Bonn | LS 096 |
| | | | LS 096 |
| The evolution of low-mass post-AGB star candidates | Trams | Utrecht | LA 097 |
| | Waters | Amsterdam | LA 097 |
| | Lamers | Utrecht | LA 097 |
| | Engelsman | Leiden | LA 097 |
| Mass loss from late-B supergiants | Bates | Belfast | LA 099 |
| | Gilheany | Belfast | LA 099 |
| | Catney | Belfast | LA 099 |
| Minkowski's ojbect: a starburst triggered by a radio Jet | Miley | Leiden | LQ 100 |
| | Chambers | Baltimore | LQ 100 |
| | Kinney | Baltimore | LQ 100 |
| Periodic comet Brorsen-Metcalf | Wallis | Cardiff | LS 101 |
| | Wickramasinghe | Cardiff | LS 101 |
| | Hughes | Sheffield | LS 101 |
| | Zarnecki | Kent | LS 101 |
| | Williams | London | LS 101 |
| | Krishna | Bombay | LS 101 |
| Do counter-examples to the mass transfer scenario for Barium stars exist ? | Boffin | Bruxelles | LC 103 |
| | Jorissen | Bruxelles | LC 103 |
| | | | LC 103 |
| Chromospheres of naked carbon stars | Eriksson | Uppsala | LC 104 |
| | Gustafsson | Uppsala | LC 104 |
| | Olofsson | Onsala | LC 104 |
| Flare-like activity in Lambda Eri | Stalio | Trieste | LA 107 |
| | Porri | Trieste | LA 107 |
| UV spectra of the shell star HD 183656 | Koubsky | Ondrejov | LA 108 |
| | Horn | Ondrejov | LA 108 |
| | Polidan | Tucson | LA 108 |
| Chromospheres/transition regions of dM(e) stars | Byrne | Armagh | LC 109 |
| | Doyle | Armagh | LC 109 |

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| A coordinated study of flares and active regions on CC Eri | Byrne | Armagh | LC 110 |
| | Rodono | Catania | LC 110 |
| | Linsky | Colorado | LC 110 |
| The highly structured shell of Nova RR Pic (1925) in the UV | Duerbeck | Munster | LM 111 |
| | Bode | Lancashire | LM 111 |
| | Evans | Keele | LM 111 |
| | Seitter | Munster | LM 111 |
| Ultraviolet observations of the T Tauri star LK H alpha 264 | Lago | Porto | LC 112 |
| | Castro | Porto | LC 112 |
| | Penston | RGO | LC 112 |
| | Cameron | Sussex | LC 112 |
| Transition zone dynamics in yellow giants and supergiants | Engvold | Oslo | LC 114 |
| | Elgaroy | Oslo | LC 114 |
| | Jensen | Oslo | LC 114 |
| | Jordan | Oxford | LC 114 |
| | Ayres | GSFC | LC 114 |
| Multi-wavelength study of Seyfert I galaxies | Wamsteker | VILSPA | LQ 115 |
| | Rodriguez | Madrid | LQ 115 |
| Flux-flux and flux-rotation relations in late-type stars | Montesinos | Oxford | LC 117 |
| | Jordan | Oxford | LC 117 |
| | Harper | Oxford | LC 117 |
| Far-UV low resolution spectroscopy of high luminosity K and M stars | Jordan | Oxford | LC 118 |
| | Harper | Oxford | LC 118 |
| | Carpenter | GSFC | LC 118 |
| Chromospheric structure of the 'hybrid' bright giants | Harper | Oxford | LC 119 |
| | Jordan | Oxford | LC 119 |
| Red giants in Globular Clusters | Jordan | Oxford | LC 120 |
| | Harper | Oxford | LC 120 |
| | ?? | ?? | LC 120 |
| A high dispersion study of chromospheric lines in 56 Peg | Munday | Oxford | LC 123 |
| | Jordan | Oxford | LC 123 |
| Simultaneous UV-optical observations of isolated T Tauri stars | de la Reza | Rio Janeiro | LC 124 |
| | Torres | Rio Janeiro | LC 124 |
| | Quast | Rio Janeiro | LC 124 |
| UV observations of X-ray binary counterparts | Bianchi | Torino | LI 126 |
| | Pakull | Besancon | LI 126 |
| | Orio | Torino | LI 126 |
| The disk and wind structure of U Gem in outburst | Naylor | VILSPA | LI 130 |
| | | | LI 130 |
| Observations of new FK comae and RS CVn stars | Bianchi | Torino | LC 131 |
| | Grewing | Tubingen | LC 131 |
| | Garrido | Granada | LC 131 |
| | Scaltriti | Torino | LC 131 |

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| Rotational modulation and surface imaging study of HD 32918 - An FK Comae type star | Vilhu | Helsinki | LC 132 |
| | Huovelin | Helsinki | LC 132 |
| | Tuominen | Helsinki | LC 132 |
| | Gustafsson | Uppsala | LC 132 |
| | Foing | Verrieres | LC 132 |
| | Hannikainen | Helsinki | LC 132 |
| Ultraviolet observations of RCB stars | Evans | Keele | LC 133 |
| | Maddison | Keele | LC 133 |
| | Albinson | Keele | LC 133 |
| | Shenton | Keele | LC 133 |
| High resolution ultraviolet spectroscopy of symbiotic stars | Evans | Keele | LI 135 |
| | Bode | Lancashire | LI 135 |
| | Jenkins | Keele | LI 135 |
| | Albinson | Keele | LI 135 |
| Ionization near beta Pictoris | Vidal-Madjar | Paris | LM 136 |
| | Beust | Paris | LM 136 |
| | Ferlet | Paris | LM 136 |
| | Langrange | Paris | LM 136 |
| | Moos | Baltimore | LM 136 |
| | Feldman | Baltimore | LM 136 |
| | Livengood | Baltimore | LM 136 |
| White dwarf companions of two early M giants | Reimers | Hamburg | LC 137 |
| | | | LC 137 |
| The structure of cataclysmic variable winds | Drew | Oxford | LI 138 |
| | Woods | Oxford | LI 138 |
| | Verbunt | Munich | LI 138 |
| High spectral resolution studies of the winds in SS Cygni and CPD -48 1577 | Drew | Oxford | LI 139 |
| | Woods | Oxford | LI 139 |
| | Verbunt | Munich | LI 139 |
| The extranuclear source in PKS 2152-69 | Fosbury | Garching | LQ 140 |
| | di Serego | Garching | LQ 140 |
| | Snijders | Tubingen | LQ 140 |
| | Tadhunter | Garching | LQ 140 |
| UV variability of the quasar 3C 273 | Ulrich | Garching | LQ 141 |
| | Courvoisier | Geneve | LQ 141 |
| | Wamsteker | VILSPA | LQ 141 |
| Simultaneous X-ray and ultraviolet observations of Sco X-1 | Penninx | Amsterdam | LI 143 |
| | van Paradijs | Amsterdam | LI 143 |
| | Hammerschlag | Amsterdam | LI 143 |
| The mass of the sdB star in HD 185510 | Jeffery | St Andrews | LI 144 |
| | Simon | Hawaii | LI 144 |
| First spectroscopic observations of a cool giant corona with height resolution | Reimers | Hamburg | LC 145 |
| | Baade | Hamburg | LC 145 |
| | Schroder | Hamburg | LC 145 |
| Search for blue companion among Cepheids and other yellow supergiants | Szabados | Budapest | LC 147 |
| | | | LC 147 |

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| A search for beta Cephei | Keenan | Belfast | LA 148 |
| | Holmgren | Belfast | LA 148 |
| | Warren | Belfast | LA 148 |
| | Dufton | Belfast | LA 148 |
| Energy distribution of "blue" Seyfert 2 galaxies energy distribution of "true" Seyfert 2 galaxies | Durret | Paris | LQ 149 |
| | Boisson | Meudon | LQ 149 |
| | | | LQ 149 |
| Investigation of a local sample of central stars of planetary nebulae | Schonberner | Kiel | LA 150 |
| | Weidemann | Kiel | LA 150 |
| Multifrequency observations of the outburst phase of the LMC-LBV R 127 | Stahl | Heidelberg | LA 152 |
| | Wolf | Heidelberg | LA 152 |
| | Cassatella | VILSPA | LA 152 |
| | Wamsteker | VILSPA | LA 152 |
| | Viotti | Frascati | LA 152 |
| Low resolution observations of faint early-type halo stars | Keenan | Belfast | LA 153 |
| | Holmgren | Belfast | LA 153 |
| | Dufton | Belfast | LA 153 |
| | Fowles | Belfast | LA 153 |
| UV spectroscopy of selected white dwarfs | Weidemann | Kiel | LA 154 |
| | Jordan | Kiel | LA 154 |
| Massive binaries | Stickland | RAL | LI 155 |
| | Lloyd | RAL | LI 155 |
| | Pike | VILSPA | LI 155 |
| | Koch | USA | LI 155 |
| Low excitation Herbig-Haro objects spatially resolved spectra | Solf | Heidelberg | LM 156 |
| | Bohm | Waschingt. | LM 156 |
| | Bohm | Washington | LM 156 |
| | Raga | Washington | LM 156 |
| Accretion behaviour of SS Cygni | Giovannelli | Frascati | LI 158 |
| | Polcaro | Frascati | LI 158 |
| | Gaudenzi | Roma | LI 158 |
| | Lombardi | Roma | LI 158 |
| | Rossiro | Roma | LI 158 |
| | Gonzalez | La Laguna | LI 158 |
| | Bartolini | Bologna | LI 158 |
| | Guarnieri | Bologna | LI 158 |
| | Piccioni | Bologna | LI 158 |
| The brightest stars of the MCs | Wolf | Heidelberg | LA 160 |
| | Appenzeller | Heidelberg | LA 160 |
| | Stahl | Heidelberg | LA 160 |
| | Zickgraf | Heidelberg | LA 160 |
| Mutual absorptions in double nucleus active galaxies | Meurs | Garching | LE 163 |
| | | | LE 163 |
| The symbiotic star V1016 Cyg | Nussbaumer | Zurich | LI 164 |
| | Schmid | Zurich | LI 164 |

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| Colliding winds and dust formation of the variable WC stars HD 192641 and HD 173793 | v d Hucht | Utrecht | LA 165 |
| | Williams | Edinburgh | LA 165 |
| | Wamsteker | VISLPA | LA 165 |
| | Pollock | ESTEC | LA 165 |
| Ultraviolet continuum emission in the peculiar Herbig-Haro ojbect HH 24 | Solf | Heidelberg | LM 166 |
| | | | LM 166 |
| | Bohm | Washingt. | LM 166 |
| | Raga | Washington | LM 166 |
| High resolution observations of solar analog candidates | Rossi, C. | Roma | LC 167 |
| | Rossi, L. | Roma | LC 167 |
| | Altamore | Roma | LC 167 |
| Observations of the variable blue compact galaxy Tololo 1924-416 | Gondhalekar | RAL | LE 168 |
| | | | LE 168 |
| Simultaneous ultraviolet and optical monitoring 3C446 | Gondhalekar | RAL | LQ 170 |
| | O'Brien | UCL | LQ 170 |
| | Penston | RGO | LQ 170 |
| | Miller | Lick Obs. | LQ 170 |
| A fresh look at winds in Zeta Aur binaries | Reimers | Hamburg | LC 171 |
| | Baade | Hamburg | LC 171 |
| | Schroder | Hamburg | LC 171 |
| Old Nova V603 Aql: X-ray and optical intermediate polar with precessing disk | Czerny | Warsaw | LI 172 |
| | Jones | La Palma | LI 172 |
| | Ohillon | Sussex | LI 172 |
| | Udalski | USA | LI 172 |
| UV observations of two bright moderate redshift broad absorption line QSOs | McMahon | Cambridge | LQ 173 |
| | Hazard | Cambridge | LQ 173 |
| | Turnshek | Pittsburgh | LQ 173 |
| | Demers | Montreal | LQ 173 |
| Flux variability of the Beta Cephei star Nu Eri at maximum phases | Stalio | Trieste | LA 174 |
| | Morossi | Trieste | LA 174 |
| | Porri | Trieste | LA 174 |
| | Polidan | Arizona | LA 174 |
| Accretion driven outflows in the interacting binary V356 SGR | Stalio | Trieste | LA 175 |
| | Franchini | Trieste | LA 175 |
| | Polidan | Arizona | LA 175 |
| Search for hot component companions to late type supergiants | Cassatella | VILSPA | LC 176 |
| | Smolinski | Torun | LC 176 |

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MERGED LOG OF IUE OBSERVATIONS

1 November 1988 - 30 April 1989

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The merged log of Vilspa and Goddard images for the above dates is listed in order of right ascension. (For non-standard images the information given can be incomplete.)

The programme reference codes (column 1) identifying the ESA programmes for the eleventh round can be found in ESA IUE Newsletter No.31, page 53.

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

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

| | | | |
|---|---|---|---|
| 00 | SUN | 50 | R, N OR S TYPES |
| 01 | EARTH | 51 | LONG PERIOD VARIABLE STARS |
| 02 | MOON | 52 | IRREGULAR VARIABLES |
| 03 | PLANET | 53 | REGULAR VARIABLES |
| 04 | PLANETARY SATELLITE | 54 | DWARF NOVAE |
| 05 | MINOR PLANET | 55 | CLASSICAL NOVAE |
| 06 | COMET | 56 | SUPERNOVAE |
| 07 | INTERPLANETARY MEDIUM | 57 | SYMBIOTIC STARS |
| 08 | GIANT RED SPOT | 58 | T TAURI |
| 09 | | 59 | X-RAY |
| 10 | W C | 60 | SHELL STAR |
| 11 | W N | 61 | ETA CARINAE |
| 12 | MAIN SEQUENCE O | 62 | PULSAR |
| 13 | SUPERGIANT O | 63 | NOVA-LIKE |
| 14 | OE | 64 | STELLAR OBJECT NOT INCLUDED ABOVE |
| 15 | OF | 65 | MISIDENTIFIED TARGETS |
| 16 | SD O | 66 | INTERACTING BINARIES |
| 17 | WD O | 67 | |
| 18 | | 68 | |
| 19 | UV-STRONG | 69 | |
| 20 | B0-B2 V-IV | 70 | PLANETARY NEBULAR+CENTRAL STAR |
| 21 | B3-B5 V-IV | 71 | PLANETARY NEBULAR-CENTRAL STAR |
| 22 | B6-B9,5 V-IV | 72 | H II REGION |
| 23 | B0-B2 III-I | 73 | REFLECTION NEBULA |
| 24 | B3-B5 III-I | 74 | DARK CLOUD (ABSORPTION SPECTRUM) |
| 25 | B6-B9,5 III-I | 75 | SUPERNOVA REMNANT |
| 26 | BE | 76 | RING NEBULA (SHOCK-IONISED) |
| 27 | BP | 77 | |
| 28 | SDB | 78 | |
| 29 | WDB | 79 | |
| 30 | A0-A3 V-IV | 80 | SPIRAL GALAXY |
| 31 | A4-A9 V-IV | 81 | ELLIPTICAL GALAXY |
| 32 | A0-A3 III-I | 82 | IRREGULAR GALAXY |
| 33 | A4-A9 III-I | 83 | GLOBULAR CLUSTER |
| 34 | AE | 84 | SEYFERT GALAXY |
| 35 | AM | 85 | QUASAR |
| 36 | AP | 86 | RADIO GALAXY |
| 37 | WDA | 87 | BL LACERTAE OBJECT |
| 38 | HORIZONTAL BRANCH | 88 | EMISSION LINE GALAXY (NON-SEYFERT) |
| 39 | COMPOSITE | 89 | |
| 40 | F0-F2 | 90 | INTERGALACTIC MEDIUM |
| 41 | F3-F9 | 91 | |
| 42 | FP | 92 | |
| 43 | LATE TYPE DEGENERATE STARS | 93 | |
| 44 | G (TO 1FEB79); GIV-VI (FROM 1FEB79) | 94 | |
| 45 | G I-II (FROM 1FEB79) | 95 | |
| 46 | K (TO 1FEB79); K IV-VI (FROM 1FEB79) | 96 | |
| 47 | K I-III (FROM 1FEB79) | 97 | |
| 48 | M (TO 1FEB79); M DWARFS (FRM 1FEB79) | 98 | WAVELENGTH CALIBRATION (NASA LOG) |
| 49 | M I-III (FROM 1 FEB79) | 99 | NULLS AND FLAT FIELDS (NASA LOG) |

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

## EXPOSURE CLASSIFICATION CODES

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

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

The CONTINUUM and EMISSION are both classified as follows:-

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

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

The BACKGROUND classification codes are:- (limits inclusive)

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

NOTES

1) No exposure classification code was assigned to VILSPA images before 1 August 1978.

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

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

Vilspa Data Base

| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MP | Obs.date | Exptim | mmmsstt | FCC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHCAL | NULL | 99 | 99.99 | 0000000 | +000000 | L | 1 | 14396 | L | 00000 | | 88110711 | 113700 | 000000 | 003 | V |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 3 | 34678 | | | | 88110503 | 031500 | 000005 | 09 | G B=104 |
| PHCAL | CALUV 60% | 99 | 99.99 | 0000000 | +000000 | L | 1 | 14397 | L | 00000 | | 88110712 | 121149 | 000204 | 005 | V FINAL UVF TEMP= 39 |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 3 | 34679 | | | | 88110503 | 034500 | 000005 | 09 | G B=104 |
| PHCAL | CALUV 20% | 99 | 99.99 | 0000000 | +000000 | L | 1 | 14398 | L | 00000 | | 88110712 | 124850 | 000041 | 002 | V FINAL UVF TEMP=37 |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 3 | 34680 | | | | 88110504 | 041100 | 000005 | 09 | G B=112 |
| PHCAL | CALUV 120% | 99 | 99.99 | 0000000 | +000000 | L | 1 | 14399 | L | 00000 | | 88110713 | 132353 | 000408 | 009 | V UVF TEMP=42 |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 3 | 34681 | | | | 88110504 | 043900 | 000005 | 09 | G B=114 |
| PHCAL | CALUV 60% | 99 | 99.99 | 0000000 | +000000 | L | 1 | 14400 | L | 00000 | | 88110714 | 140103 | 000204 | 005 | V UVF TEMP=39 |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 3 | 34682 | | | | 88110505 | 050400 | 000005 | 09 | G B=114 |
| PHCAL | TFLOOD 100 | 99 | 99.99 | 0000000 | +000000 | L | 1 | 14401 | L | 00000 | | 88110714 | 143439 | 000140 | 009 | V |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 3 | 34683 | | | | 88110505 | 052800 | 000005 | 09 | G B=113 |
| PHCAL | CALUV 160% | 99 | 99.99 | 0000000 | +000000 | L | 1 | 14402 | L | 00000 | | 88110715 | 151017 | 000531 | 009 | V |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 3 | 34684 | | | | 88110505 | 055700 | 000005 | 09 | G B=110 |
| PHCAL | 2ND READ | 99 | 99.99 | 0000000 | +000000 | L | 1 | 14403 | L | 00000 | | 88110715 | 153250 | 000000 | 002 | V |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 3 | 34685 | | | | 88110506 | 062600 | 000005 | 09 | G B=112 |
| PHCAL | NULL | 99 | 99.99 | 0000000 | +000000 | L | 1 | 14404 | L | 00000 | | 88110715 | 155800 | 000000 | 004 | V |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 3 | 34686 | | | | 88110506 | 065600 | 000005 | 09 | G B=110 |
| PHCAL | NULL | 99 | 99.99 | 0000000 | +000000 | L | 1 | 14405 | L | 00000 | | 88110716 | 162100 | 000000 | 000 | V |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 3 | 34687 | | | | 88110507 | 072000 | 000005 | 09 | G B=116 |
| PHCAL | NULL | 99 | 99.99 | 0000000 | +000000 | L | 2 | 18241 | L | 00000 | | 88111813 | 133500 | 000000 | 008 | V LWR:4.5 KV |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 3 | 34688 | | | | 88110507 | 074500 | 000005 | 09 | G B=117 |
| PHCAL | 60%TFLOOD | 99 | 99.99 | 0000000 | +000000 | L | 2 | 18242 | | 00000 | | 88111814 | 140243 | 000018 | 008 | V LWR:4.5KV |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 3 | 34689 | | | | 88110508 | 081301 | 000005 | 09 | G B=117 |
| PHCAL | 20%TFLOOD | 99 | 99.99 | 0000000 | +000000 | L | 2 | 18243 | | 00000 | | 88111814 | 142900 | 000006 | 004 | V LWR:4.5KV |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 3 | 34690 | | | | 88110508 | 083900 | 000005 | 09 | G B=119 |
| PHCAL | 40%TFLOOD | 99 | 99.99 | 0000000 | +000000 | L | 2 | 18244 | | 00000 | | 88111815 | 150009 | 000012 | 007 | V LWR:4.5 KV |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 3 | 34691 | | | | 88110509 | 090200 | 000005 | 09 | G B=119 |
| PHCAL | 60%TFLOOD | 99 | 99.99 | 0000000 | +000000 | L | 2 | 18245 | | 00000 | | 88111815 | 152355 | 000018 | 009 | V LWR: 4.5 KV |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 3 | 34692 | | | | 88110509 | 092400 | 000005 | 09 | G B=115 |
| PHCAL | 100%TFLOOD | 99 | 99.99 | 0000000 | +000000 | L | 2 | 18246 | | 00000 | | 88111815 | 154717 | 000030 | 009 | V LWR : 4.5 KV |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 3 | 34693 | | | | 88110509 | 095700 | 000005 | 09 | G B=118 |
| PHCAL | SECOND REA | 99 | 99.99 | 0000000 | +000000 | L | 2 | 18247 | | 00000 | | 88111816 | 160000 | 000000 | 001 | V LWR: 4.5 KVV |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 3 | 34694 | | | | 88110510 | 102000 | 000005 | 09 | G B=117 |
| PHCAL | NULL | 99 | 99.99 | 0000000 | +000000 | L | 2 | 18248 | | 00000 | | 88111816 | 162100 | 000000 | 007 | V LWR: 4.5 KV |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 3 | 34695 | | | | 88110510 | 104500 | 000005 | 09 | G B=119 |
| PHCAL | NULL | 99 | 99.99 | 0000000 | +000000 | L | 2 | 18249 | | 00000 | | 88111816 | 164400 | 000000 | 001 | V LWR: 4.5 KV |
| PHCAL | NULL | 99 | 0.0 | 0000000 | 000000 | | 2 | 18231 | | | | 88111319 | 191800 | 000000 | 01 | G B=27 |
| PHCAL | NULL | 99 | 99.99 | 0000000 | +000000 | L | 1 | 14482 | | 00000 | | 88111817 | 171500 | 000000 | 001 | V |
| PHCAL | NULL | 99 | 0.0 | 0000000 | 000000 | L | 2 | 18237 | | | | 88111400 | 002300 | 000000 | 01 | G B=22 |
| PHCAL | NULL | 99 | 99.99 | 0000000 | +000000 | L | 1 | 15179 | | 00000 | | 89031304 | 041400 | 000000 | | V HIGH GAIN READ |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 1 | 14501 | | | | 88112302 | 024900 | 000025 | 09 | G B=105 |
| PHCAL | 60% CALUV | 99 | 99.99 | 0000000 | +000000 | L | 1 | 15180 | | 00000 | | 89031305 | 050115 | 000204 | | V FINAL UVF=39 |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 1 | 14502 | | | | 88112303 | 032100 | 000025 | 09 | G B=106 |
| PHCAL | 20% CALUV | 99 | 99.99 | 0000000 | +000000 | L | 1 | 15181 | | 00000 | | 89031305 | 053558 | 000041 | | V FINAL UVF=37 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 1 | 14503 | | | | 88112303 | 035400 | 000025 | 09 | G B=104 |
| PHCAL | 120% CALUV | 99 | 99.99 | 0000000 | +000000 | L | 1 | 15182 | | 00000 | | 89031306 | 060935 | 000408 | | V FINAL UVF=42 |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 1 | 14504 | | | | 88112304 | 042500 | 000025 | 09 | G B=106 |
| PHCAL | 60% CALUV | 99 | 99.99 | 0000000 | +000000 | L | 1 | 15183 | | 00000 | | 89031306 | 065424 | 000204 | | V FINAL UVF=38 |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 1 | 14505 | | | | 88112305 | 050100 | 000025 | 09 | G B=105 |
| PHCAL | 100% TFLOO | 99 | 99.99 | 0000000 | +000000 | L | 1 | 15184 | | 00000 | | 89031307 | 072500 | 000140 | | V |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 1 | 14506 | | | | 88112305 | 053100 | 000025 | 09 | G B=105 |
| PHCAL | 160% CALUV | 99 | 99.99 | 0000000 | +000000 | L | 1 | 15185 | | 00000 | | 89031308 | 080416 | 000531 | | V |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 1 | 14507 | | | | 88112306 | 060100 | 000025 | 09 | G B=106 |
| PHCAL | NULL | 99 | 99.99 | 0000000 | +000000 | L | 1 | 15186 | | 00000 | | 89031308 | 082200 | 000000 | | V SECOND READ |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 1 | 14508 | | | | 88112306 | 063100 | 000025 | 09 | G B=108 |
| PHCAL | NULL | 99 | 99.99 | 0000000 | +000000 | L | 1 | 15187 | | 00000 | | 89031308 | 084700 | 000000 | | V HIGH GAIN READ |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 1 | 14509 | | | | 88112307 | 070100 | 000025 | 09 | G B=105 |
| PHCAL | NULL | 99 | 99.99 | 0000000 | +000000 | L | 1 | 15188 | | 00000 | | 89031309 | 092100 | 000000 | | V |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 1 | 14510 | | | | 88112307 | 073200 | 000025 | 09 | G B=108 |
| KE106 | NULL | 99 | 99.99 | 0000000 | +000000 | | 3 | 35808 | | 00000 | | 89031803 | 033200 | 000000 | 000 | V |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 1 | 14511 | | | | 88112308 | 080400 | 000025 | 09 | G B=107 |
| PHCAL | NULL | 99 | 99.99 | 0000000 | +000000 | | 2 | 18288 | | 00000 | | 89032304 | 041800 | 000000 | | V BASELINE |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 1 | 14512 | | | | 88112308 | 083200 | 000025 | 09 | G B=107 |
| PHCAL | NULL | 99 | 99.99 | 0000000 | +000000 | L | 2 | 18289 | | 00000 | | 89032305 | 052700 | 000000 | | V |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 1 | 14513 | | | | 88112309 | 090200 | 000025 | 09 | G B=105 |
| PHCAL | CALUV60 | 99 | 99.99 | 0000000 | +000000 | L | 2 | 18290 | | 00000 | | 89032305 | 055946 | 000234 | 008 | V |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 1 | 14514 | | | | 88112309 | 093100 | 000025 | 09 | G B=106 |
| PHCAL | CALUV20 | 99 | 99.99 | 0000000 | +000000 | L | 2 | 18291 | | 00000 | | 89032306 | 062942 | 005100 | 003 | V |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 1 | 14515 | | | | 88112310 | 100100 | 000025 | 09 | G B=105 |
| PHCAL | CALUV120 | 99 | 99.99 | 0000000 | +000000 | L | 2 | 18292 | | 00000 | | 89032307 | 072248 | 000509 | 009 | V |
| PHCAL | TFLOOD | 99 | 0.0 | 0000000 | 000000 | L | 1 | 14516 | | | | 88112310 | 103100 | 000025 | 09 | G B=105 |
| PHCAL | CALUV60 | 99 | 99.99 | 0000000 | +000000 | L | 2 | 18293 | | 00000 | | 89032308 | 080415 | 000234 | 009 | V |
| PHCAL | T-FLOOD | 98 | 0.0 | 0000000 | 000000 | L | 1 | 14576 | S | | | 88120103 | 030700 | 000025 | 09 | G E=10X,B=105 |
| PHCAL | CALUV160 | 99 | 99.99 | 0000000 | +000000 | L | 2 | 18294 | | 00000 | | 89032308 | 083426 | 000652 | 009 | V |
| PHCAL | WAVCAL | 98 | 0.0 | 0000000 | 000000 | L | 1 | 14576 | S | | | 88120103 | 030900 | 000001 | 09 | G E=10X,B=105 |
| PHCAL | NULL | 99 | 99.99 | 0000000 | +000000 | L | 2 | 18295 | | 00000 | | 89032308 | 085600 | 000000 | | V |
| PHCAL | T-FLOOD | 98 | 0.0 | 0000000 | 000000 | H | 1 | 14577 | S | | | 88120103 | 034300 | 000025 | 09 | G E=60X,B=122 |
| PHCAL | NULL | 99 | 99.99 | 0000000 | +000000 | L | 2 | 18296 | | 00000 | | 89032309 | 091700 | 000000 | | V |
| PHCAL | WAVCAL | 98 | 0.0 | 0000000 | 000000 | H | 1 | 14577 | S | | | 88120103 | 034500 | 000016 | 09 | G E=60,B=122 |
| PHCAL | NULL | 99 | 99.99 | 0000000 | +000000 | L | 2 | 18297 | | 00000 | | 89032310 | 101800 | 000000 | | V |
| PHCAL | NULL | 98 | 0.0 | 0000000 | 000000 | H | 2 | 18250 | | | | 88120104 | 040600 | 000000 | 02 | G B=39 |
| PHCAL | NULL | 99 | 99.99 | 0000000 | +000000 | L | 3 | 35866 | | 00000 | | 89032704 | 043800 | 000000 | | V HIGH GAIN READ |
| PHCAL | T-FLOOD | 98 | 0.0 | 0000000 | 000000 | L | 3 | 34857 | S | | | 88120104 | 043400 | 000005 | 09 | G E=10X,B=105 |
| PHCAL | 60% UV | 99 | 99.99 | 0000000 | +000000 | L | 3 | 35867 | | 00000 | | 89032705 | 052038 | 000149 | 004 | V 60% CALUV |
| PHCAL | WAVCAL | 98 | 0.0 | 0000000 | 000000 | L | 3 | 34857 | S | | | 88120104 | 043600 | 000002 | 09 | G E=10X,B=105 |
| PHCAL | 20% | 99 | 99.99 | 0000000 | +000000 | L | 3 | 35868 | | 00000 | | 89032705 | 054826 | 000036 | 001 | V 20% CALUV.FINAL UVF= |
| PHCAL | T-FLOOD | 98 | 0.0 | 0000000 | 000000 | H | 3 | 34858 | S | | | 88120105 | 050200 | 000005 | 09 | G E=60X,B=143 |
| PHCAL | 120%UV | 99 | 99.99 | 0000000 | +000000 | L | 3 | 35869 | | 00000 | | 89032706 | 061528 | 000338 | 007 | V 120% CALUV.FINAL UVF |
| PHCAL | WAVCAL | 98 | 0.0 | 0000000 | 000000 | H | 3 | 34858 | S | | | 88120105 | 050400 | 000200 | 09 | G E=60X,B=143 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHCAL | 60%UV | | 99 | 99.99 | 0000000 | +000000 | L | 3 | 35870 | | 00000 | | 89032706 | 064352 | 000149 | 004 V 60% CALUV.FINAL UVF= |
| PHCAL | T-FLOOD | | 98 | 0.0 | 0000000 | 000000 | L | 2 | 18251 | S | | | 88120105 | 052500 | 000010 | ?? G E=10X,B=87 |
| PHCAL | 100%TFLOOD | | 99 | 99.99 | 0000000 | +000000 | L | 3 | 35871 | | 00000 | | 89032707 | 070941 | 000016 | 009 V 100%TFLOOD |
| PHCAL | WAVCAL | | 98 | 0.0 | 0000000 | 000000 | L | 2 | 18251 | S | | | 88120105 | 052700 | 000010 | ?? G E=10X,B=87 |
| PHCAL | 160%UV | | 99 | 99.99 | 0000000 | +000000 | L | 3 | 35872 | | 00000 | | 89032707 | 073701 | 000451 | 009 V 160% CALUV |
| PHCAL | WAVCAL | | 98 | 0.0 | 0000000 | 000000 | H | 2 | 18252 | S | | | 88120105 | 055100 | 000010 | ?? G E=10X,B=87 |
| PHCAL | NULL | | 99 | 99.99 | 0000000 | +000000 | L | 3 | 35873 | | 00000 | | 89032707 | 075439 | 000000 | V 160% CALUV |
| PHCAL | WAVCAL | | 98 | 0.0 | 0000000 | 000000 | H | 2 | 18252 | S | | | 88120105 | 055300 | 000022 | ?? G E=60X,B=147 |
| PHCAL | NULL | | 99 | 99.99 | 0000000 | +000000 | L | 3 | 35874 | | 00000 | | 89032708 | 082842 | 000000 | V |
| PHCAL | TFLOOD | | 99 | 0.0 | 0000000 | 000000 | H | 1 | 14578 | | | | 88120106 | 065900 | 000025 | 09 G B=105 |
| PHCAL | NULL | | 99 | 99.99 | 0000000 | +000000 | L | 3 | 35875 | | 00000 | | 89032708 | 085027 | 000000 | V |
| PHCAL | TFLOOD | | 99 | 0.0 | 0000000 | 000000 | H | 3 | 34859 | | | | 88120107 | 075300 | 000005 | 09 G B=116 |
| JA066 | NULL | | 99 | 99.99 | 0000000 | +000000 | | 1 | 15382 | | 00000 | | 89042001 | 012000 | 000000 | V |
| PHCAL | WAVCAL | | 98 | 0.0 | 0000000 | 000000 | L | 3 | 36172 | S | | | 89043016 | 163900 | 000005 | ?? G E=10X,B=108 |
| KE160 | NULL | | 99 | 99.99 | 0000000 | -000000 | L | 2 | 18303 | L | 00000 | | 89042203 | 035340 | 002000 | 111 V LWR:5.0KV |
| PHCAL | WAVCAL | | 98 | 0.0 | 0000000 | 000000 | H | 3 | 36173 | | | | 89043017 | 171000 | 000005 | G |
| KE160 | NULL | | 99 | 99.99 | 0000000 | -000000 | L | 2 | 18302 | | 00000 | | 89042203 | 033130 | 000000 | 112 V |
| PHCAL | WAVCAL | | 98 | 0.0 | 0000000 | 000000 | H | 3 | 36173 | | | | 89043017 | 171000 | 000200 | ?? G E=60X,B=130 |
| KE160 | NULL | | 99 | 99.99 | 0000000 | -000000 | L | 2 | 18304 | L | 00000 | | 89042204 | 044749 | 018000 | 112 V LWR:4.5KV |
| PHCAL | WAVCAL | | 98 | 0.0 | 0000000 | 000000 | L | 1 | 15416 | | | | 89043017 | 175900 | 000025 | ?? G E=10X,B=101 |
| KE160 | NULL | | 99 | 99.99 | 0000000 | -000000 | L | 1 | 15388 | L | 00000 | | 89042208 | 081215 | 000000 | 110 V LWR:4.5KV |
| JC054 | VESTA | | 05 | 07.02 | 0000000 | +000000 | H | 1 | 15413 | L | 05617 | FO | 89043006 | 061119 | 009000 | 442 V |
| CEKTS | SAO | 11007 | 39 | 8.3 | 0006477 | +634031 | L | 3 | 35527 | L | 1916 | FO | 89021016 | 160300 | 017700 | 447 G E=229,C=189,B=85 |
| LDKSB | HD | 1835 | 44 | 6.4 | 0020180 | -122912 | H | 1 | 14463 | L | 6170 | FO | 88111405 | 054300 | 006000 | 435 G E=150,C=192,B=62 |
| PHCAL | HD3360 | | 20 | 03.86 | 0034099 | +533718 | L | 1 | 14419 | L | 00819 | FU | 88110915 | 154841 | 000001 | 801 V |
| PHCAL | HD3360 | | 20 | 03.85 | 0034099 | +533718 | L | 1 | 14420 | L | 00824 | FU | 88110916 | 161911 | 000001 | 801 V |
| PHCAL | HD 3360 | | 20 | 03.80 | 0034099 | +533718 | L | 1 | 14421 | L | 00862 | FU | 88110916 | 164856 | 000001 | 801 V |
| PHCAL | HD3360 | | 20 | 03.84 | 0034099 | +533718 | L | 1 | 14422 | L | 00831 | FU | 88110917 | 172213 | 000001 | 801 V |
| PHCAL | HD 3360 | | 20 | 03.86 | 0034099 | +533718 | L | 1 | 14423 | L | 00821 | FU | 88110917 | 175307 | 000001 | 801 V |
| PHCAL | HD3360 | | 20 | 03.86 | 0034099 | +533718 | L | 1 | 14424 | L | 00820 | FU | 88110918 | 182338 | 000000 | 601 V |
| PHCAL | HD3360 | | 20 | 03.89 | 0034103 | +533720 | L | 1 | 14411 | L | 00799 | FU | 88110816 | 160642 | 000000 | 601 V |
| PHCAL | HD | 3360 | 20 | 3.7 | 0034103 | +533719 | H | 1 | 14474 | L | 790 | FU | 88111610 | 100800 | 000021 | 503 G C=215,B=42 |
| PHCAL | HD3360 | | 20 | 03.88 | 0034103 | +533720 | L | 1 | 14412 | L | 00805 | FU | 88110816 | 163831 | 000000 | 601 V |
| PHCAL | HD | 3360 | 20 | 3.7 | 0034103 | +533719 | H | 3 | 34749 | | 794 | FU | 88111610 | 101200 | 000024 | 502 G C=190,B=35 |
| PHCAL | HD3360 | | 20 | 03.87 | 0034103 | +533720 | L | 1 | 14413 | L | 00809 | FU | 88110817 | 172310 | 000000 | 601 V |
| PHCAL | HD | 3360 | 20 | 3.7 | 0034103 | +533719 | H | 2 | 18261 | L | 805 | FU | 88121308 | 082900 | 000029 | 502 G C=192,B=31 |
| PHCAL | HD3360 | | 20 | 03.87 | 0034103 | +533720 | L | 1 | 14414 | L | 00814 | FU | 88110817 | 175636 | 000000 | 601 V |
| PHCAL | HD3360 | | 20 | 03.87 | 0034103 | +533720 | L | 1 | 14415 | L | 00814 | FU | 88110818 | 182857 | 000000 | 601 V |
| EGKDB | NGC | 185 | 81 | 9.3 | 0036113 | +480343 | L | 1 | 14594 | | 30 | SO | 88120217 | 173600 | 087400 | 309 G C=215,B=161 |
| KE020 | NGC185 | | 81 | 14.00 | 0036114 | +480344 | E | 9 | 02141 | 2 | 00000 | BO | 88120209 | 094500 | 004000 | V FES FOR LWP 14594 |
| NEKPH | P 283 | | 72 | 16.0 | 0038182 | +404626 | L | 1 | 14384 | L | | BO | 88110520 | 203500 | 037600 | 308 G C=133,B=99 |
| NEKPH | P 283 | | 72 | 16.0 | 0038182 | +404626 | L | 3 | 34699 | L | | BO | 88110620 | 200700 | 040300 | 306 G C=97,B=73 |
| QSKCG | MKN 957 | | 85 | 15.3 | 0039097 | +400451 | L | 3 | 34727 | L | | BO | 88111120 | 200000 | 041000 | 306 G C=112,B=78 |
| CCKTA | HD | 4128 | 47 | 2.0 | 0041048 | -181539 | L | 1 | 14756 | L | 2609 | FU | 89010300 | 000200 | 000100 | X02 G C=3X,B=35 |
| CCKTA | HD | 4128 | 47 | 2.0 | 0041048 | -181539 | L | 1 | 14757 | L | 2952 | FU | 89010300 | 005300 | 000015 | 402 G C=181,B=33 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CCKTA | HD 4128 | 47 | 2.0 | 0041048 | -181539 | L | 1 | 14758 | L | 2977 | FU | 89010301 | 014300 | 000300 | ?02 | G C=10X,B=40 |
| CCKTA | HD 4128 | 47 | 2.0 | 0041048 | -181539 | L | 1 | 14759 | L | 2966 | FU | 89010302 | 025000 | 000900 | ?08 | G C=29,B=91 |
| MLKPM | OB42-B | 13 | 17.8 | 0042102 | +411508 | H | 9 | 02146 | 2 | | | 88120508 | 085300 | 000020 | | G |
| MLKPM | OB42-B | 12 | 17.8 | 0042102 | +411508 | L | 3 | 34877 | L | | BO | 88120618 | 180000 | 075100 | 309 | G C=169,B=118 |
| MLKPM | SEREND | 07 | | 0042102 | +411508 | L | 1 | 14621 | L | | BO | 88120618 | 180200 | 075100 | 09 | G B=170 |
| MLKPM | OB48-527 | 11 | 18.3 | 0042325 | +412257 | L | 3 | 34874 | L | | BO | 88120508 | 083500 | 073500 | 339 | G E=166,C=169,B=113 |
| MLKPM | SKY | 07 | | 0042325 | +412257 | L | 1 | 14610 | | | BO | 88120508 | 083800 | 073500 | 09 | G B=180 |
| KA059 | OB48-527 | 12 | 99.90 | 0042326 | +412257 | F | 9 | 02145 | 2 | 00000 | BO | 88120509 | 095000 | 004000 | | V FOR SWP34874 |
| LDKSB | HD 4628 | 46 | 5.8 | 0045450 | +050124 | H | 1 | 14462 | L | | | 88111403 | 035600 | 006000 | 433 | G E=120,C=160,B=44 |
| LDKDB | HD 4614 | 44 | 3.4 | 0046036 | +573303 | L | 1 | 15018 | L | 1353 | FU | 89021200 | 000900 | 000016 | 502 | G C=220,B=34 |
| EGKTT | HARO 15 | 88 | 13.4 | 0046040 | -125925 | L | 1 | 14499 | L | 14 | SO | 88112119 | 195900 | 041000 | 309 | G C=145,B=106 |
| KC211 | HD4817 | 47 | 06.35 | 0048158 | +613201 | L | 3 | 34738 | L | 09962 | FO | 88111312 | 120242 | 006000 | 501 | V PREAD |
| KC211 | HD4817 | 47 | 06.23 | 0048159 | +613202 | L | 1 | 14459 | L | 10935 | FO | 88111313 | 131207 | 000700 | 401 | V |
| KC211 | HD4817 | 47 | 06.36 | 0048159 | +613202 | L | 1 | 14461 | L | 09866 | FO | 88111318 | 181754 | 002200 | 701 | V |
| KC211 | HD4817 | 47 | 06.41 | 0048159 | +613202 | H | 1 | 14466 | L | 09467 | FO | 88111412 | 122729 | 038000 | 353 | V |
| QSKRE | QSO 0048+290 | 84 | 14.1 | 0048531 | +290748 | L | 3 | 34723 | L | | BO | 88111020 | 201100 | 001500 | 02 | G B=38 |
| QSKRE | QSO 0048+290 | 84 | 14.1 | 0048531 | +290748 | L | 1 | 14437 | L | | BO | 88111020 | 204000 | 016500 | 335 | G E=98,C=95,B=70 |
| QSKRE | QSO 0048+290 | 84 | 14.1 | 0048531 | +290748 | L | 3 | 34724 | L | | BO | 88111023 | 233500 | 019500 | 303 | G C=78,B=44 |
| DCKNE | BM CAS | 66 | 8.8 | 0051410 | +634848 | L | 1 | 14393 | L | 455 | FO | 88110703 | 033800 | 010000 | 403 | G C=173,B=48 |
| DCKNE | BM CAS | 66 | 8.8 | 0051410 | +634848 | L | 1 | 14526 | L | 679 | FO | 88112508 | 082300 | 006000 | 443 | G E=151,C=187,B=45 |
| PRKCG | HD 5394 | 26 | 2.1 | 0053402 | +602646 | H | 3 | 35079 | L | 3042 | FU | 88122001 | 014000 | 000008 | 502 | G C=202,B=38 |
| OD51Y | HD 5394 | 26 | 2.2 | 0053406 | +602646 | H | 3 | 35582 | L | 3054 | FU | 89021919 | 194800 | 000008 | 502 | G C=225,B=37 |
| OD51Y | HD 5394 | 26 | 2.2 | 0053406 | +602646 | H | 1 | 15063 | S | 3058 | FU | 89021919 | 195300 | 000005 | 403 | G C=160,B=41 |
| OD51Y | HD 5394 | 26 | 2.2 | 0053406 | +602646 | H | 3 | 35583 | L | 3048 | FU | 89021920 | 204800 | 000008 | 502 | G C=234,B=38 |
| OD51Y | HD 5394 | 26 | 2.2 | 0053406 | +602646 | H | 3 | 35584 | L | 3120 | FU | 89021921 | 211900 | 000008 | 502 | G C=230,B=36 |
| OD51Y | HD 5394 | 26 | 2.2 | 0053406 | +602646 | H | 3 | 35585 | L | 3170 | FU | 89021921 | 214700 | 000008 | 502 | G C=230,B=36 |
| OD51Y | HD 5394 | 26 | 2.2 | 0053406 | +602646 | H | 3 | 35586 | L | 3075 | FU | 89021922 | 222400 | 000008 | 502 | G C=231,B=35 |
| OD51Y | HD 5394 | 26 | 2.2 | 0053406 | +602646 | H | 3 | 35587 | L | 3094 | FU | 89021922 | 225300 | 000008 | 502 | G C=237,B=35 |
| OD51Y | HD 5394 | 26 | 2.2 | 0053406 | +602646 | H | 3 | 35588 | L | 3092 | FU | 89021923 | 232200 | 000008 | 502 | G C=230,B=37 |
| OD51Y | HD 5394 | 26 | 2.2 | 0053406 | +602646 | H | 3 | 35589 | L | 3170 | FU | 89021923 | 235300 | 000008 | 502 | G C=233,B=37 |
| OD51Y | HD 5394 | 26 | 2.2 | 0053406 | +602646 | H | 3 | 35590 | L | 3182 | FU | 89022000 | 002100 | 000008 | 502 | G C=225,B=36 |
| OD51Y | HD 5394 | 26 | 2.2 | 0053406 | +602646 | H | 1 | 15064 | S | 3137 | FU | 89022000 | 005800 | 000005 | 403 | G C=168,B=41 |
| OD51Y | HD 5394 | 26 | 2.2 | 0053406 | +602646 | H | 3 | 35591 | L | 3093 | FU | 89022001 | 011900 | 000008 | 502 | G C=224,B=36 |
| NPKSM | SMC 21 | 70 | 17.0 | 0054500 | -724316 | L | 3 | 35878 | L | | BO | 89032718 | 182200 | 024000 | 303 | G C=94,B=44 |
| KI130 | RX AND | 55 | 12.11 | 0101459 | +410154 | L | 3 | 34808 | L | 00241 | SO | 88112412 | 123100 | 002400 | 450 | V OFFSET REF POINTS=2, |
| KI130 | RX AND | 55 | 09.53 | 0101459 | +410154 | L | 1 | 14522 | L | 00224 | SO | 88112413 | 131559 | 001200 | 702 | V |
| KI130 | RXAND | 55 | 12.11 | 0101459 | +410154 | L | 3 | 34809 | L | 00230 | SO | 88112414 | 140311 | 004000 | 561 | V 20M0S, 20M0S |
| KI130 | RXAND | 55 | 12.11 | 0101459 | +410154 | L | 3 | 34810 | L | 00282 | SO | 88112415 | 152310 | 003000 | 550 | V SHIFTED REF POINT=2, |
| KI130 | RXAND | 55 | 12.11 | 0101459 | +410154 | L | 3 | 34811 | L | 00210 | SO | 88112416 | 164739 | 003000 | 450 | V SHIFTED REF POINT=2, |
| KI130 | RXAND | 55 | 12.11 | 0101459 | +410154 | L | 3 | 34812 | L | 00222 | SO | 88112418 | 180115 | 003000 | 450 | V SHIFTED REF POINT=2, |
| KQ073 | NGC404 | 88 | 12.57 | 0106392 | +352709 | E | 9 | 02157 | 2 | 00160 | SO | 89020106 | 061700 | 016000 | | V FES FOR SWP35467 |
| EGKGR | NGC 404 | 88 | 11.1 | 0106393 | +352710 | L | 3 | 35467 | L | 160 | SO | 89020106 | 064700 | 082500 | 309 | G C=166,B=118 |
| SAKCW | HD 6860 | 49 | 2.03 | 0106554 | +352120 | L | 1 | 14600 | L | 2977 | FU | 88120308 | 080800 | 000600 | 5X2 | G E=2X,C=190,B=36 |
| SAKCW | HD 6860 | 49 | 2.03 | 0106554 | +352120 | L | 1 | 14600 | S | 3011 | FU | 88120308 | 081500 | 000070 | 342 | G E=175,C=66,B=35 |
| EGKAD | E296-G11 | 88 | 17.0 | 0117422 | -412949 | L | 1 | 14382 | L | | BO | 88110417 | 170700 | 041200 | 309 | G C=159,B=117 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KE142 | ESO 296-IG | 88 | 99.99 | 0117423 | -412950 | D | 9 | 02134 | L | 00000 | BO | 88110400 | 000000 | 016000 | | V |
| KQ085 | F-9 | 84 | 14.07 | 0121512 | -590359 | L | 3 | 35220 | L | 00042 | SO | 89010113 | 130708 | 005000 | 350 | V |
| KQ085 | F-9 | 84 | 00.00 | 0121512 | -590359 | L | 1 | 14753 | L | 00000 | BO | 89010114 | 140245 | 005000 | 451 | V PREAD |
| NPKSM | SMC 28 | 70 | 17.0 | 0123009 | -741801 | L | 3 | 35879 | L | | BO | 89032800 | 000700 | 016300 | 31 | G E=77,B=28 |
| KM189 | SMC L536 | 70 | 15.00 | 0123021 | -741809 | L | 3 | 35696 | L | 00000 | BO | 89030708 | 083846 | 013300 | 030 | V |
| SAKCW | HD 8799 | 41 | 4.83 | 0124391 | +450856 | L | 1 | 14596 | L | 21366 | FO | 88120303 | 032000 | 000036 | X02 | G C=2.0X,B=35 |
| SAKCW | HD 8799 | 41 | 4.83 | 0124392 | +450856 | L | 1 | 14598 | L | 21683 | FO | 88120305 | 053000 | 000021 | 502 | G C=200,B=38 |
| SAKCW | HD 8799 | 41 | 4.83 | 0124392 | +450856 | L | 1 | 14598 | S | 21979 | FO | 88120305 | 053600 | 000120 | X02 | G C=5.0X,B=38 |
| USSBS | HD 9270 | 45 | 3.72 | 0128481 | +150518 | H | 1 | 14622 | L | 645 | FU | 88120622 | 223900 | 002000 | 503 | G C=210,B=42 |
| ISKJS | BD +32 270 | 20 | 10.3 | 0132000 | +324032 | L | 1 | 15026 | L | 215 | FO | 89021220 | 201900 | 000242 | X02 | G C=1.5X,B=35 |
| ISKJS | BD +32 270 | 20 | 10.3 | 0132000 | +324032 | L | 3 | 35540 | L | 215 | FO | 89021220 | 202600 | 000236 | 500 | G C=198,B=10 |
| ISKJS | BD +32 270 | 20 | 10.3 | 0132000 | +324032 | L | 3 | 35541 | L | 254 | FO | 89021221 | 212200 | 000420 | X00 | G C=3X,B=17 |
| ISKJS | BD +32 270 | 20 | 10.3 | 0132000 | +324032 | L | 1 | 15027 | L | 216 | FO | 89021221 | 213100 | 000423 | X00 | G C=3.0X,B=19 |
| KQ003 | 3C48 | 85 | 16.00 | 0134497 | +325419 | E | 9 | 02140 | 2 | 00000 | BO | 88112311 | 112000 | 004000 | | V FES FOV FOR SWP34804 |
| KQ003 | 3C48 | 85 | 16.00 | 0134497 | +325419 | L | 3 | 34804 | L | 00000 | BO | 88112311 | 115057 | 041600 | 332 | V FES FOV FOR SWP34804 |
| KQ003 | 3C48 | 85 | 00.00 | 0134497 | +325419 | L | 1 | 14528 | L | 00000 | BO | 88112512 | 120316 | 040400 | 303 | V |
| KA044 | HD9996 | 36 | 06.69 | 0135304 | +450846 | H | 3 | 34852 | L | 07486 | FO | 88113012 | 120903 | 004000 | 500 | V REF PNT=(2,-212 |
| KA044 | HD9996 | 36 | 06.56 | 0135304 | +450846 | H | 1 | 14571 | L | 08353 | FO | 88113012 | 125757 | 002000 | 504 | V RP PNT=(2,-212 |
| KA044 | HD9996 | 36 | 06.58 | 0135304 | +450846 | H | 3 | 34853 | L | 08161 | FO | 88113013 | 133040 | 005000 | 501 | V RP=(-34,-204) |
| KA044 | HD9996 | 36 | 06.54 | 0135304 | +450846 | H | 1 | 14572 | L | 08482 | FO | 88113014 | 142826 | 002500 | 504 | V R.P.=(-34,-204 |
| SAKCW | HD 10486 | 46 | 6.3 | 0140132 | +450415 | L | 1 | 14599 | L | 6728 | FO | 88120306 | 064100 | 003000 | X03 | G C=2.0X,B=47 |
| CCJEB | HD 11443 | 41 | 3.4 | 0150133 | +292009 | H | 3 | 35000 | L | 824 | FU | 88121018 | 180600 | 040500 | X39 | G E=175,C=3X,B=140 |
| PHCAL | HD 11636 | 31 | 2.64 | 0151522 | +203351 | H | 1 | 14613 | L | 1688 | FU | 88120600 | 002000 | 000110 | 503 | G C=210,B=41 |
| PHCAL | HD 11636 | 31 | 2.64 | 0151522 | +203351 | H | 3 | 34875 | L | 1686 | FU | 88120600 | 002600 | 000330 | 502 | G C=210,B=35 |
| PHCAL | HD 11636 | 31 | 2.64 | 0151522 | +203351 | L | 1 | 14614 | L | 1680 | FU | 88120601 | 013100 | 000001 | 502 | G C=188,B=36 |
| PHCAL | HD 11636 | 31 | 2.64 | 0151522 | +203351 | L | 3 | 34876 | L | 1682 | FU | 88120601 | 013600 | 000004 | 501 | G C=200,B=22 |
| PHCAL | HD 11636 | 31 | 2.6 | 0151523 | +203352 | L | 1 | 14606 | L | 1665 | FU | 88120501 | 015100 | 000001 | 502 | G C=202,B=35 |
| PHCAL | HD 11636 | 31 | 2.6 | 0151523 | +203352 | L | 3 | 34872 | L | 1665 | FU | 88120501 | 015600 | 000002 | 401 | G C=131,B=25 |
| PHCAL | HD 11636 | 31 | 2.6 | 0151523 | +203352 | H | 3 | 34873 | L | 1649 | FU | 88120502 | 025600 | 000340 | X02 | G C=1.5X,B=40 |
| PHCAL | HD 11636 | 31 | 2.6 | 0151523 | +203352 | H | 1 | 14607 | L | 1659 | FU | 88120503 | 030400 | 000110 | 503 | G C=220,B=41 |
| KM205 | PK 130+1.1 | 71 | 13.14 | 0153577 | +630442 | L | 3 | 35633 | L | 00096 | SO | 89022804 | 044834 | 006000 | 230 | V |
| KM205 | PK 130+1.1 | 71 | 13.19 | 0153577 | +630442 | L | 1 | 15112 | L | 00092 | SO | 89022805 | 055730 | 006000 | 331 | V |
| KM205 | PK 130+1.1 | 71 | 13.19 | 0153577 | +630442 | L | 3 | 35634 | L | 00092 | SO | 89022807 | 070337 | 017000 | 331 | V |
| CAKTT | HD 12293 | 53 | 9.6 | 0157526 | -163515 | L | 1 | 14529 | L | 481 | FO | 88112604 | 040500 | 001200 | 502 | G C=237,B=37 |
| CAKTT | HD 12293 | 53 | 9.6 | 0157526 | -163515 | L | 3 | 34817 | L | 499 | FO | 88112604 | 042400 | 012000 | 502 | G C=229,B=39 |
| CAKTT | HD 12293 | 53 | 9.6 | 0157526 | -163515 | L | 1 | 14530 | L | 446 | FO | 88112606 | 063300 | 001100 | 502 | G C=218,B=35 |
| LDKDB | HD 13783 | 44 | 8.3 | 0212590 | +644332 | L | 1 | 14538 | L | 1131 | FO | 88112707 | 074200 | 001230 | 502 | G C=196,B=40 |
| LDKDB | HD 13783 | 44 | 8.3 | 0212590 | +644332 | L | 1 | 15017 | L | 1122 | FO | 89021123 | 230800 | 001000 | 402 | G C=154,B=35 |
| LDKDB | HD 13783 | 44 | 8.3 | 0212590 | +644332 | L | 1 | 15019 | L | 1084 | FO | 89021201 | 011000 | 002400 | X04 | G C=2X,B=51 |
| SAKCW | HD 13854 | 23 | 6.49 | 0213208 | +564925 | L | 3 | 34867 | L | 6192 | FO | 88120301 | 014600 | 000154 | 500 | G C=219,B=20 |
| SAKCW | HD 13854 | 23 | 6.49 | 0213208 | +564925 | L | 1 | 14595 | L | 6370 | FO | 88120302 | 022800 | 000039 | X02 | G C=1.5X,B=35 |
| SAKCW | HD 13854 | 23 | 6.49 | 0213208 | +564925 | L | 1 | 14597 | L | 6187 | FO | 88120304 | 041900 | 000027 | 502 | G C=213,B=37 |
| SAKCW | HD 13854 | 23 | 6.49 | 0213208 | +564925 | L | 1 | 14597 | S | 5987 | FO | 88120304 | 042400 | 000140 | X02 | G C=5X,B=35 |
| PHCAL | T-FLOOD | 98 | 0.0 | 0220511 | -685312 | L | 1 | 15279 | L | | FU | 89033119 | 191000 | 000025 | 29 | G E=10,B=105 |
| PHCAL | WAVCAL | 98 | 0.0 | 0220511 | -685312 | L | 1 | 15279 | L | | FU | 89033119 | 191100 | 000001 | 29 | G E=10,B=105 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHCAL | T-FLOOD | 98 | 0.0 | 0220511 | -685312 | H | 1 | 15280 | L | | FU | 89033119 | 194000 | 000025 | ?9 | G E=60X,B=105 |
| PHCAL | T-FLOOD | 98 | 0.0 | 0220511 | -685312 | L | 3 | 35900 | S | | | 89033119 | 195400 | 000005 | | G |
| PHCAL | WAVCAL | 98 | 0.0 | 0220511 | -685312 | L | 3 | 35900 | S | | FU | 89033119 | 195500 | 000002 | ?9 | G E=10X,B=105 |
| PHCAL | WAVCAL | 98 | 0.0 | 0220511 | -685312 | H | 1 | 15280 | L | | FU | 89033119 | 196500 | 000016 | ?9 | G E=60X,B=105 |
| PHCAL | T-FLOOD | 98 | 0.0 | 0220511 | -685312 | H | 3 | 35901 | S | | FU | 89033120 | 201900 | 000005 | ?9 | G E=60X,B=120 |
| PHCAL | WAVCAL | 98 | 0.0 | 0220511 | -685312 | H | 3 | 35901 | S | | FU | 89033120 | 202000 | 000005 | ?9 | G E=60X,B=120 |
| PHCAL | NULL | 99 | 0.0 | 0220511 | -685312 | H | 3 | 35902 | | | | 89033120 | 204800 | 000000 | | G |
| PHCAL | T-FLOOD | 98 | 0.0 | 0220511 | -685312 | H | 3 | 35903 | S | | FU | 89033121 | 211700 | 000002 | ?4 | G E=15X,B=51 |
| PHCAL | WAVCAL | 98 | 0.0 | 0220511 | -685312 | H | 3 | 35903 | S | | FU | 89033121 | 211800 | 000002 | ?4 | G E=15X,B=51 |
| PHCAL | WAVCAL | 98 | 0.0 | 0220511 | -685312 | H | 3 | 35904 | S | | FU | 89033121 | 214100 | 000100 | ?4 | G E=30X,B=58 |
| PHCAL | T-FLOOD | 98 | 0.0 | 0220511 | -685312 | H | 3 | 35904 | S | | FU | 89033121 | 214100 | 000002 | ?4 | G E=30X,B=58 |
| PHCAL | T-FLOOD | 98 | 0.0 | 0220511 | -685312 | H | 3 | 35905 | S | | FU | 89033122 | 220700 | 000002 | 24 | G E=60XB=59 |
| PHCAL | WAVCAL | 98 | 0.0 | 0220511 | -685312 | H | 3 | 35905 | S | | FU | 89033122 | 220800 | 000200 | 24 | G E=60XB=59 |
| PHCAL | T-FLOOD | 98 | 0.0 | 0220511 | -685312 | H | 3 | 35906 | S | | | 89033122 | 223300 | 000002 | | G |
| PHCAL | WAVCAL | 98 | 0.0 | 0220511 | -685312 | H | 3 | 35906 | S | | | 89033122 | 223400 | 000400 | | G |
| KA165 | HD14947 | 13 | 08.26 | 0223080 | +583905 | L | 3 | 34855 | L | 01871 | FO | 88113017 | 174624 | 000640 | 400 | V PREAD,RP=(2,-212)&(- |
| KA165 | HD14947 | 13 | 07.98 | 0223080 | +583905 | L | 1 | 14574 | L | 00000 | BO | 88113018 | 180341 | 000320 | 503 | V PREAD,RP=(2,-212)&(- |
| LDKSB | HD 16160 | 46 | 5.8 | 0233200 | +063900 | H | 1 | 14647 | L | 9409 | FO | 88121503 | 031900 | 004500 | 333 | G E=126,C=113,B=50 |
| LDKSB | HD 16160 | 46 | 5.8 | 0233200 | +063900 | H | 1 | 15054 | L | 10008 | FO | 89021719 | 195200 | 006000 | 332 | G E=113,C=121,B=40 |
| KB020 | NGC1052 | 81 | 12.74 | 0238370 | -082806 | E | 9 | 02142 | 2 | 00138 | SO | 88120315 | 155000 | 004000 | | V FES FOR LWP14602 |
| EGEDB | NGC 1052 | 81 | 12.4 | 0238370 | -082806 | L | 1 | 14602 | L | 138 | SO | 88120323 | 232900 | 052000 | 339 | G E=207,C=195,B=153 |
| ICKDY | HD 16811 | 30 | 5.7 | 0239325 | +194759 | H | 1 | 15080 | L | | | 89022319 | 195000 | 000500 | | G |
| EJKFB | NGC 1068 | 84 | 12.5 | 0240058 | -001329 | L | 3 | 35517 | L | 121 | FO | 89020913 | 134100 | 031500 | XX9 | G E=5X,C=5X,B=109 |
| EJKFB | NGC 1068 | 84 | | 0240059 | -001357 | L | 3 | 35512 | L | | BO | 89020813 | 131600 | 034500 | 309 | G C=175,B=108 |
| EJKFB | NGC 1068 | 99 | | 0240059 | -001357 | L | 1 | 14990 | S | | BO | 89020813 | 132200 | 030000 | 09 | G B=137 |
| EJKFB | NGC 1068 | 84 | 12.5 | 0240066 | -001352 | L | 3 | 35100 | L | | BO | 88122218 | 183500 | 037500 | 306 | G C=131,C=138,B=78 |
| ICKDY | HD 16908 | 21 | 4.7 | 0240307 | +272944 | H | 1 | 15081 | L | 26442 | FO | 89022320 | 205700 | 000120 | X04 | G C=3X,B=58 |
| ICKDY | HD 17093 | 31 | 5.2 | 0242138 | +121411 | H | 1 | 15082 | L | | | 89022322 | 220900 | 000350 | | G |
| ICKDY | HD 17543 | 22 | 5.2 | 0246298 | +171527 | H | 1 | 15084 | L | 17361 | FO | 89022400 | 001100 | 000000 | 403 | G C=175,B=45 |
| ICKDY | HD 17573 | 22 | 3.6 | 0247020 | +270321 | H | 1 | 15083 | L | 775 | FU | 89022323 | 231500 | 000016 | 402 | G C=164,B=40 |
| LDKSB | HD 17925 | 46 | 6.1 | 0250090 | -125816 | H | 1 | 14453 | L | 8606 | FO | 88111209 | 090700 | 006000 | 352 | G E=213,C=135,B=40 |
| LDKSB | HD 17925 | 46 | 6.1 | 0250090 | -125816 | L | 1 | 14454 | L | 8804 | FO | 88111210 | 104400 | 000100 | 432 | G E=86,C=135,B=32 |
| LDKSB | HD 17925 | 46 | 6.1 | 0250090 | -125816 | H | 1 | 14648 | L | 7715 | FO | 88121505 | 050400 | 007000 | 3X7 | G E=1.5X,C=187,B=89 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | L | 3 | 35332 | L | 490 | FU | 89011319 | 193200 | 000100 | 501 | G C=193,B=26 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | H | 1 | 14819 | L | 508 | FU | 89011319 | 194500 | 002200 | X33 | G E=125,C=1.5X,B=45 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | H | 3 | 35333 | L | 508 | FU | 89011320 | 201800 | 010000 | X04 | G C=2X,B=60 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | L | 1 | 14820 | L | 502 | FU | 89011322 | 220300 | 000016 | X02 | G C=1.5X,B=32 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | L | 3 | 35334 | L | 502 | FU | 89011403 | 032000 | 000100 | 501 | G C=197,B=25 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | H | 1 | 14824 | L | 513 | FU | 89011403 | 033700 | 002200 | X33 | G E=136,C=1.5X,B=48 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | H | 3 | 35335 | L | 514 | FU | 89011404 | 040900 | 009000 | X04 | G C=2X,B=59 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | L | 1 | 14825 | L | 505 | FU | 89011405 | 054400 | 000015 | X02 | G C=1.5X,B=33 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | L | 3 | 35340 | L | 504 | FU | 89011415 | 154100 | 000100 | 501 | G C=196,B=28 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | H | 1 | 14827 | L | 507 | FU | 89011415 | 154800 | 002200 | X03 | G C=1.5X,B=48 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | H | 3 | 35341 | L | 507 | FU | 89011416 | 163000 | 009000 | X04 | G C=2X,B=58 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | L | 1 | 14828 | L | 506 | FU | 89011418 | 180500 | 000015 | X02 | G C=1.5X,B=31 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | L | 3 | 35343 | L | 486 | FU | 89011422 | 222400 | 000100 | 501 | G C=181,B=25 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | H | 1 | 14829 | L | 485 | FU | 89011422 | 223300 | 002200 | X03 | G C=1.5X,B=49 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | H | 3 | 35344 | L | 486 | FU | 89011423 | 230600 | 009000 | X04 | G C=1.5X,B=54 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | L | 1 | 14830 | L | 481 | FU | 89011500 | 004100 | 000015 | 502 | G C=230,B=32 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | L | 3 | 35345 | L | 476 | FU | 89011502 | 021100 | 000120 | 501 | G C=189,B=25 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | H | 1 | 14831 | L | 479 | FU | 89011502 | 021900 | 002600 | X03 | G C=1.5X,B=47 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | H | 3 | 35346 | L | 486 | FU | 89011502 | 025500 | 011000 | X05 | G C=1.5X,B=64 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | L | 1 | 14832 | L | 471 | FU | 89011504 | 045100 | 000017 | 502 | G C=237,B=33 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | H | 1 | 14833 | L | 460 | FU | 89011505 | 052700 | 004000 | X03 | G C=2X,B=49 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | L | 3 | 35347 | L | 462 | FU | 89011506 | 061200 | 000140 | 401 | G C=165,B=25 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | L | 3 | 35353 | L | 431 | FU | 89011515 | 153900 | 000500 | 400 | G C=160,B=18 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | H | 1 | 14840 | L | 441 | FU | 89011515 | 155100 | 004500 | X43 | G E=150,C=2X,B=44 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | L | 3 | 35354 | L | 430 | FU | 89011519 | 193300 | 000800 | 500 | G C=185,B=17 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | H | 1 | 14841 | L | 439 | FU | 89011519 | 195000 | 006000 | X43 | G E=181,C=2.5X,B=46 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | L | 1 | 14842 | L | 437 | FU | 89011521 | 214900 | 000025 | 502 | G C=214,B=32 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | H | 3 | 35355 | L | 432 | FU | 89011521 | 215700 | 021000 | 404 | G C=169,B=59 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | L | 1 | 14843 | L | 426 | FU | 89011600 | 000400 | 000025 | 502 | G C=253,B=32 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | L | 3 | 35356 | L | 440 | FU | 89011603 | 031400 | 000800 | X01 | G C=2X,B=27 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | H | 1 | 14844 | L | 443 | FU | 89011603 | 033200 | 005000 | | G E=149,B=2X,B=51 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | L | 3 | 35357 | L | 435 | FU | 89011604 | 040500 | 000300 | 401 | G C=155,B=25 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | H | 3 | 35358 | L | 447 | FU | 89011604 | 044700 | 011200 | 403 | G C=175,B=56 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | L | 1 | 14845 | L | 449 | FU | 89011606 | 061800 | 000017 | 502 | G C=215,B=32 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | L | 3 | 35362 | L | 472 | FU | 89011615 | 153800 | 000120 | 500 | G C=204,B=18 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | H | 1 | 14847 | L | 483 | FU | 89011615 | 154600 | 002500 | X33 | G E=115,C=1.5X,B=46 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | L | 3 | 35365 | L | 486 | FU | 89011620 | 205900 | 000100 | 500 | G C=190,B=17 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | H | 1 | 14849 | L | 491 | FU | 89011621 | 210800 | 002200 | X33 | G E=126,C=1.5X,B=42 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | H | 3 | 35366 | L | 494 | FU | 89011621 | 213700 | 007000 | 504 | G C=244,B=52 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | L | 3 | 35367 | L | 498 | FU | 89011701 | 010200 | 000100 | 501 | G C=192,B=25 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | H | 1 | 14850 | L | 498 | FU | 89011701 | 011300 | 002200 | X03 | G C=1.5X,B=43 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | H | 3 | 35368 | L | 494 | FU | 89011701 | 014200 | 009000 | X06 | G C=3X,B=75 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | L | 1 | 14851 | L | 501 | FU | 89011703 | 031800 | 000015 | X02 | G C=1.5X,B=32 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | H | 1 | 14852 | L | 500 | FU | 89011704 | 043200 | 002200 | X03 | G C=1.5X,B=45 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | L | 3 | 35369 | L | 498 | FU | 89011705 | 050200 | 000100 | 301 | G C=93,B=26 |
| EBKTA | HD 17878 | 39 | 3.9 | 0250418 | +523333 | H | 3 | 35370 | L | 502 | FU | 89011705 | 053300 | 007000 | 504 | G C=245,B=51 |
| LDKSB | HD 18256 | 41 | 5.6 | 0253360 | +174900 | H | 1 | 14649 | L | 12208 | FO | 88121507 | 070300 | 002000 | 533 | G E=85,C=201,B=43 |
| LDKSB | HD 18256 | 41 | 5.6 | 0253360 | +174900 | H | 1 | 15055 | L | 11727 | FO | 89021721 | 214100 | 002000 | 5X2 | G E=1.5X,C=207,B=37 |
| GHKLD | F 29 | 21 | 10.3 | 0255089 | -021159 | H | 3 | 35078 | L | 205 | FO | 88121917 | 175500 | 041500 | X09 | G C=1.5X,B=104 |
| ICKDY | HD 18604 | 25 | 4.7 | 0257019 | +084234 | H | 1 | 15085 | L | 25164 | FO | 89022401 | 011200 | 000040 | 403 | G C=165,B=42 |
| ISKJS | HD 19374 | 20 | 6.1 | 0304365 | +174118 | L | 3 | 35542 | L | 8647 | FO | 89021222 | 224400 | 000003 | 500 | G C=182,B=11 |
| ISKJS | HD 19374 | 20 | 6.1 | 0304365 | +174118 | L | 1 | 15028 | L | 8684 | FO | 89021222 | 224800 | 000002 | 402 | G C=152,B=34 |
| ISKJS | HD 19374 | 20 | 6.1 | 0304365 | +174118 | L | 3 | 35543 | L | 8723 | FO | 89021223 | 234500 | 000005 | X00 | G C=2X,B=18 |
| ISKJS | HD 19374 | 20 | 6.1 | 0304365 | +174118 | L | 1 | 15029 | L | 8747 | FO | 89021223 | 235000 | 000004 | X02 | G C=2X,B=32 |
| ICKDY | HD 19698 | 22 | 6.0 | 0307547 | +114103 | H | 1 | 14732 | L | 9968 | FO | 88122900 | 003100 | 001200 | 503 | G C=242,B=47 |
| KDKTS | AP 15 | 46 | 14.1 | 0320525 | +483747 | L | 1 | 14774 | L | 30 | SO | 89010516 | 161100 | 040000 | 337 | G E=113,C=110,B=87 |
| ICKDY | HD 21379 | 30 | 6.3 | 0324332 | +123343 | H | 3 | 35043 | L | 7252 | FO | 88121601 | 014800 | 012000 | 207 | G C=10X,B=83 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ICKDY | HD 21379 | 30 | 6.3 | 0324332 | +123343 | H | 3 | 35044 | L | 7807 | FO | 88121604 | 044300 | 006000 | X08 | G C=5X,B=92 |
| ICKDY | HD 21379 | 30 | 6.3 | 0324332 | +123343 | H | 3 | 35049 | L | 7214 | FO | 88121618 | 181800 | 012000 | ?08 | G C=10X,B=100 |
| ICKDY | HD 21379 | 30 | 6.3 | 0324332 | +123343 | H | 3 | 35050 | L | 7260 | FO | 88121621 | 210600 | 012000 | ?09 | G C=10X,B=110 |
| ICKDY | HD 21379 | 30 | 6.3 | 0324332 | +123343 | H | 3 | 35051 | L | 7410 | FO | 88121623 | 235400 | 012000 | | G C=10X,=B82 |
| ICKDY | HD 21379 | 30 | 6.3 | 0324332 | +123343 | H | 3 | 35173 | L | 8096 | FO | 88122818 | 180400 | 012000 | | G C=2X |
| KDKTS | AP 70 | 46 | 12.8 | 0524456 | +482927 | L | 1 | 14785 | L | 84 | SO | 89010716 | 161800 | 018000 | 335 | G E=86,C=93,B=61 |
| KDKTS | AP 86 | 46 | 14.3 | 0326495 | +481427 | L | 1 | 14755 | L | 28 | SO | 89010216 | 161100 | 040000 | 09 | G B=136 |
| KM017 | GK PER NEB | 76 | 16.00 | 0327453 | +434346 | L | 1 | 14630 | L | 00000 | BO | 88121110 | 102327 | 038300 | 009 | U CENTRAL STAR AT X=-1 |
| KM017 | GK PER NEB | 76 | 16.00 | 0327453 | +434346 | L | 1 | 14637 | L | 00000 | BO | 88121209 | 095706 | 041000 | 024 | U CENTRAL STAR AT X=-1 |
| KM017 | GK PER NEB | 76 | 16.00 | 0327453 | +434346 | L | 3 | 35105 | L | 00000 | BO | 88122310 | 101045 | 039700 | 003 | U CENTRAL STAR AT X=43 |
| ICKDY | HD 21933 | 22 | 5.8 | 0329534 | +091221 | H | 3 | 35045 | L | 12050 | FO | 88121606 | 064500 | 004800 | X06 | G C=5X,B=73 |
| ICKDY | HD 21933 | 22 | 5.8 | 0329534 | +091221 | H | 3 | 35052 | L | 11950 | FO | 88121702 | 025700 | 004800 | ?07 | G C=10X,B=84 |
| ICKDY | HD 21933 | 22 | 5.8 | 0329534 | +091221 | H | 3 | 35053 | L | 12457 | FO | 88121704 | 042600 | 004800 | ?07 | G C=10X,B=87 |
| ICKDY | HD 21933 | 22 | 5.8 | 0329534 | +091221 | H | 3 | 35054 | L | 12515 | FO | 88121705 | 055700 | 004800 | ?06 | G C=10X,B=72 |
| ICKDY | HD 21933 | 22 | 5.8 | 0329534 | +091221 | H | 3 | 35055 | L | 12511 | FO | 88121707 | 073000 | 004800 | ?06 | G C=10X,B=72 |
| ICKDY | HD 21933 | 22 | 5.8 | 0329534 | +091221 | H | 3 | 35062 | L | 11216 | FO | 88121801 | 014500 | 004800 | ?05 | G C=10X,B=70 |
| ICKDY | HD 21933 | 22 | 5.8 | 0329534 | +091221 | H | 3 | 35063 | L | 11943 | FO | 88121803 | 032000 | 004800 | ?06 | G C=10X,B=73 |
| ICKDY | HD 21933 | 22 | 5.8 | 0329534 | +091221 | H | 3 | 35064 | L | 12283 | FO | 88121804 | 044900 | 004800 | ?06 | G C=10X,B=78 |
| ICKDY | HD 21933 | 22 | 5.8 | 0329534 | +091221 | H | 3 | 35065 | L | 11836 | FO | 88121806 | 062000 | 004800 | ?06 | G C=10X,B=73 |
| ICKDY | HD 21933 | 22 | 5.8 | 0329534 | +091221 | H | 3 | 35066 | L | 11762 | FO | 88121807 | 075100 | 003000 | X04 | G C=5X,B=59 |
| ICKDY | HD 21933 | 22 | 5.8 | 0329534 | +091221 | H | 3 | 35174 | L | 12354 | FO | 88122821 | 210900 | 004800 | X07 | G C=5X,B=88 |
| ICKDY | HD 21933 | 22 | 5.8 | 0329534 | +091221 | H | 3 | 35175 | L | 12198 | FO | 88122822 | 224800 | 004800 | X07 | G C=5X,B=84 |
| PHCAL | T-FLOOD | 98 | | 0330203 | -663931 | L | 1 | 14983 | S | | | 89020720 | 202300 | 000025 | ?9 | G E=10X,B=103 |
| PHCAL | WAVCAL | 98 | | 0330203 | -663931 | L | 1 | 14983 | S | | | 89020720 | 202500 | 000001 | ?9 | G E=10X,B=103 |
| PHCAL | T-FLOOD | 98 | | 0330203 | -663931 | H | 1 | 14984 | S | | | 89020720 | 205400 | 000025 | ?9 | G E=50X,B=112 |
| PHCAL | WAVCAL | 98 | | 0330203 | -663931 | H | 1 | 14984 | S | | | 89020720 | 205500 | 000016 | ?9 | G E=50X,B=112 |
| PHCAL | NULL | 99 | | 0330203 | -663931 | H | 2 | 18266 | | | | 89020721 | 212500 | 000000 | 00 | G B=20 |
| PHCAL | T-FLOOD | 98 | | 0330203 | -663931 | L | 3 | 35506 | S | | | 89020721 | 214400 | 000005 | ?9 | G E=20X,B=104 |
| PHCAL | WAVCAL | 98 | | 0330203 | -663931 | L | 3 | 35506 | S | | | 89020721 | 214600 | 000002 | ?9 | G E=20X,B=104 |
| PHCAL | T-FLOOD | 98 | | 0330203 | -663931 | H | 3 | 35507 | S | | | 89020722 | 221200 | 000005 | ?9 | G E=60X,B=125 |
| PHCAL | WAVCAL | 98 | | 0330203 | -663931 | H | 3 | 35507 | S | | | 89020722 | 221400 | 000200 | ?9 | G E=60X,B=125 |
| PHCAL | TFLOOD | 99 | | 0330203 | -663931 | L | 3 | 35508 | S | | | 89020722 | 224600 | 000005 | 09 | G B=112 |
| PHCAL | T-FLOOD | 98 | | 0330203 | -663931 | L | 2 | 18267 | S | | | 89020723 | 231600 | 000010 | ?7 | G E=10X,B=90 |
| PHCAL | WAVCAL | 98 | | 0330203 | -663931 | L | 2 | 18267 | S | | | 89020723 | 231800 | 000001 | ?7 | G E=10X,B=90 |
| PHCAL | T-FLOOD | 98 | | 0330203 | -663931 | H | 2 | 18268 | S | | | 89020723 | 234200 | 000010 | ?9 | G E=50X,B=141 |
| PHCAL | WAVCAL | 98 | | 0330203 | -663931 | H | 2 | 18268 | S | | | 89020723 | 234400 | 000022 | ?9 | G E=50X,B=141 |
| PHCAL | TFLOOD | 99 | | 0330203 | -663931 | L | 2 | 18269 | S | | | 89020800 | 001500 | 000010 | 09 | G B=136 |
| PHCAL | TFLOOD | 99 | | 0330203 | -663931 | L | 1 | 14985 | S | | | 89020801 | 013000 | 000025 | 09 | G B=105 |
| CSKTA | HD 22049 | 46 | 3.8 | 0330340 | -093735 | L | 3 | 35610 | L | 612 | FU | 89022300 | 002600 | 008000 | 3X4 | G E=1.5X,C=139,B=52 |
| CMKRS | HD 22049 | 46 | 3.7 | 0330344 | -093735 | L | 1 | 15000 | L | 595 | FU | 89020922 | 225600 | 000010 | 502 | G C=192,B=32 |
| PRKCG | HD 22192 | 26 | 4.2 | 0332555 | +480141 | H | 3 | 35080 | L | 377 | FO | 88122002 | 022700 | 000210 | 402 | G C=172,B=36 |
| SJKRW | JUP.NP | 03 | -2.6 | 0334190 | +182102 | L | 3 | 35309 | L | | | 89011023 | 233600 | 000400 | 401 | G C=131,B=25 |
| SJKRW | JUP.NP | 03 | -2.6 | 0334190 | +182102 | L | 3 | 35310 | L | | | 89011100 | 000700 | 001200 | X31 | G E=58,C=3X,B=29 |
| SJKRW | JUP.NP | 03 | -2.6 | 0334190 | +182102 | L | 3 | 35311 | L | | | 89011100 | 004800 | 003600 | X42 | G E=155,C=9X,B=31 |
| SJKRW | JUP.NP | 03 | -2.6 | 0334190 | +182102 | L | 3 | 35312 | L | | | 89011101 | 015100 | 002400 | X32 | G E=109,C=6X,B=34 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SJKRW | JUP.NP | 03 | -2.6 | 0334190 | +182102 | L | 3 | 35313 | L | | | 89011102 | 024200 | 002400 | X33 | G E=95,C=6X,B=42 |
| SJKRW | JUP.NP | 03 | -2.6 | 0334190 | +182102 | L | 3 | 35314 | L | | | 89011103 | 033400 | 002400 | X33 | G E=103,C=6X,B=42 |
| SJKRW | JUP.NP | 03 | -2.6 | 0334190 | +182102 | L | 3 | 35315 | L | | | 89011104 | 042800 | 002400 | X32 | G E=86,C=6X,B=36 |
| SJKRW | JUP. SP | 03 | -2.6 | 0334190 | +182102 | L | 3 | 35316 | L | | | 89011105 | 052000 | 002000 | X31 | G E=80,C=5X,B=25 |
| SJKRW | JUP. SP | 03 | -2.6 | 0334190 | +182102 | L | 3 | 35317 | L | | | 89011106 | 060900 | 002000 | X31 | G E=82,C=5X,B=24 |
| SJKRW | JUP. SP | 03 | -2.6 | 0334190 | +182102 | L | 3 | 35318 | L | | | 89011107 | 070200 | 002000 | X31 | G E=68,C=5X,B=25 |
| SJKRW | JUP.SP | 03 | -2.6 | 0334275 | +182114 | L | 3 | 35299 | | | | 89010923 | 233500 | 000400 | 530 | G E=68,C=212,B=20 |
| SJKRW | JUP.SP | 03 | -2.6 | 0334275 | +182114 | L | 3 | 35300 | | | | 89011000 | 001200 | 001200 | X41 | G E=125,C=3X,B=22 |
| SJKRW | JUP.SP | 03 | -2.6 | 0334275 | +182114 | L | 3 | 35301 | | | | 89011000 | 005600 | 003600 | X52 | G E=245,C=9X,B=36 |
| SJKRW | JUP.SP | 03 | -2.6 | 0334275 | +182114 | L | 3 | 35302 | | | | 89011002 | 020400 | 002400 | X52 | G E=209,C=6X,B=35 |
| SJKRW | JUP.SP | 03 | -2.6 | 0334275 | +182114 | L | 3 | 35303 | | | | 89011003 | 031100 | 002400 | X43 | G E=200,C=6X,B=50 |
| SJKRW | JUP.NP | 03 | -2.6 | 0334275 | +182114 | L | 3 | 35304 | L | | | 89011004 | 040700 | 002400 | X44 | G E=200,C=6X,B=55 |
| SJKRW | JUP.NP | 03 | -2.6 | 0334275 | +182114 | L | 3 | 35305 | | | | 89011005 | 051000 | 002400 | X52 | G E=235,C=6X,B=35 |
| SJKRW | JUP.NP | 03 | -2.6 | 0334275 | +182114 | L | 3 | 35306 | | | | 89011006 | 060500 | 002400 | X51 | G E=230,C=6X,B=24 |
| SJKRW | JUP.SP | 03 | -2.6 | 0334349 | +182137 | L | 3 | 35292 | | | | 89010903 | 033800 | 002500 | X50 | G E=244,C=5X,B=18 |
| SJKRW | JUP.SP | 03 | -2.6 | 0334349 | +182137 | L | 3 | 35293 | L | | | 89010904 | 043600 | 002500 | X50 | G E=226,C=5X,B=18 |
| SJKRW | JUP.SP | 03 | -2.6 | 0334349 | +182137 | L | 3 | 35294 | L | | | 89010905 | 052900 | 001200 | X40 | G E=165,C=3X,B=17 |
| SJKRW | JUP.SP | 03 | -2.6 | 0334349 | +182137 | L | 3 | 35295 | L | | | 89010906 | 061100 | 000600 | ?30 | G E=90,C=1.5S,B=17 |
| SJKJC | JUPITER | 03 | -2.0 | 0334471 | +182146 | L | 3 | 35285 | | | | 89010800 | 000000 | 003000 | 320 | G E=30,C=82,B=18 |
| SJKJC | JUPITER | 03 | -2.0 | 0334471 | +182146 | H | 3 | 35286 | S | | | 89010801 | 010200 | 003000 | 221 | G E=27,C=46,B=27 |
| SJKJC | JUPITER | 03 | -2.0 | 0334471 | +182146 | L | 3 | 35287 | S | | | 89010802 | 020200 | 002000 | 430 | G E=95,C=151,B=18 |
| SJKJC | JUPITER | 03 | -2.0 | 0334471 | +182146 | L | 3 | 35288 | S | | | 89010802 | 025000 | 003000 | 501 | G E=128,C=231,B=21 |
| SJKJC | JUPITER | 03 | -2.0 | 0334471 | +182146 | L | 3 | 35289 | S | | | 89010803 | 034800 | 003000 | 330 | G E=98,C=114,B=20 |
| SJKJC | JUPITER | 03 | -2.0 | 0334471 | +182146 | L | 3 | 35290 | S | | | 89010804 | 045800 | 003000 | 330 | G E=66,C=117,B=20 |
| SJKJC | JUPITER | 03 | -2.0 | 0334471 | +182146 | L | 3 | 35291 | S | | | 89010805 | 055700 | 003000 | 530 | G E=94,C=206,B=20 |
| SJKHM | JUPITER | 03 | -2.5 | 0335222 | +182306 | L | 3 | 35252 | L | | | 89010423 | 234000 | 001500 | X50 | G E=179,C=3X,B=17 |
| SJKHM | JUPITER | 03 | -2.5 | 0335222 | +182306 | L | 3 | 35253 | L | | | 89010500 | 003000 | 001500 | X50 | G E=176,C=3X,B=17 |
| SJKHM | SKY BKGD | 07 | | 0335222 | +182306 | L | 3 | 35254 | L | | | 89010501 | 011900 | 003000 | 30 | G E=51,B=20 |
| SJKHM | JUPITER | 03 | -2.5 | 0335222 | +182306 | L | 3 | 35255 | L | | | 89010502 | 022500 | 001500 | X50 | G E=198,C=3X,B=17 |
| SJKHM | JUPITER | 03 | -2.5 | 0335222 | +182306 | L | 3 | 35256 | L | | | 89010503 | 031300 | 001500 | X50 | G E=204,C=3X,B=18 |
| SJKHM | JUPITER | 03 | -2.5 | 0335222 | +182306 | L | 3 | 35257 | L | | | 89010504 | 040800 | 001500 | X51 | G E=224,C=3X,B=21 |
| SJKHM | JUPITER | 03 | -2.5 | 0335222 | +182306 | L | 3 | 35258 | L | | | 89010505 | 050000 | 001500 | X50 | G E=237,C=3X,B=18 |
| SJKHM | JUPITER | 03 | -2.5 | 0335222 | +182306 | L | 3 | 35259 | L | | | 89010505 | 055000 | 001500 | X50 | G E=209,C=3X,B=18 |
| SPKJC | JUPITER | 03 | -2.0 | 0335257 | +182307 | L | 3 | 35246 | S | | | 89010416 | 161500 | 004500 | 403 | G C=161,B=41 |
| SPKJC | JUPITER | 03 | -2.0 | 0335257 | +182307 | L | 3 | 35247 | S | | | 89010417 | 173000 | 004500 | 402 | G C=172,B=36 |
| SPKJC | JUPITER | 03 | -2.0 | 0335257 | +182307 | L | 3 | 35248 | S | | | 89010418 | 185200 | 004000 | 202 | G C=43,B=32 |
| SPKJC | JUPITER | 03 | -2.0 | 0335257 | +182307 | L | 3 | 35249 | S | | | 89010420 | 200000 | 004000 | 222 | G E=49,C=50,B=33 |
| SPKJC | JUPITER | 03 | -2.0 | 0335257 | +182307 | L | 3 | 35250 | S | | | 89010421 | 210900 | 001500 | X41 | G E=153,C=2X,B=30 |
| SPKJC | JUPITER | 03 | -2.0 | 0335257 | +182307 | L | 3 | 35251 | L | | | 89010421 | 215400 | 005600 | 331 | G E=54,C=50,B=23 |
| SJKHM | JUPITER | 03 | -2.7 | 0336104 | +182458 | L | 3 | 35221 | L | | | 89010117 | 171200 | 001500 | X31 | G E=53,C=2X,B=22 |
| SJKHM | JUPITER | 03 | -2.7 | 0336104 | +182458 | L | 3 | 35222 | L | | | 89010117 | 175700 | 001500 | X01 | G C=2X,B=22 |
| SJKHM | JUPITER | 03 | -2.7 | 0336104 | +182458 | L | 3 | 35223 | L | | | 89010118 | 184400 | 001500 | X31 | G E=50,C=2X,B=23 |
| SJKHM | JUPITER | 03 | -2.7 | 0336104 | +182458 | L | 3 | 35224 | L | | | 89010119 | 192700 | 001500 | X31 | G E=48,C=2X,B=25 |
| SJKHM | JUPITER | 03 | -2.7 | 0336104 | +182458 | L | 3 | 35225 | L | | | 89010120 | 203000 | 001500 | X31 | G E=53,C=2X,B=24 |
| SJKHM | JUPITER | 03 | -2.7 | 0336104 | +182458 | L | 3 | 35226 | L | | | 89010121 | 211400 | 001500 | X31 | G E=64,C=2X,B=25 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptm | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SJKHM | JUPITER | 03 | -2.7 | 0336104 | +182458 | L | 3 | 35227 | L | | | 89010121 | 215700 | 001500 | X31 | G E=79,C=2X,B=27 |
| SJKHM | JUPITER | 03 | -2.7 | 0336104 | +182458 | L | 3 | 35228 | L | | | 89010122 | 224000 | 001500 | X52 | G E=214,C=2X,B=33 |
| SJKHM | JUPITER | 03 | -2.7 | 0336104 | +182458 | L | 3 | 35229 | L | | | 89010123 | 233000 | 001500 | X42 | G E=184,C=2X,B=35 |
| SJKHM | JUPITER | 03 | -2.7 | 0336104 | +182458 | L | 3 | 35230 | L | | | 89010200 | 001300 | 001500 | X42 | G E=159,C=2X,B=36 |
| SJKHM | JUPITER | 03 | -2.7 | 0336104 | +182458 | L | 3 | 35231 | L | | | 89010200 | 005500 | 001500 | X42 | G E=157,C=2X,B=36 |
| SJKHM | JUPITER | 03 | -2.7 | 0336104 | +182458 | L | 3 | 35232 | L | | | 89010201 | 013800 | 001500 | X42 | G E=139,C=2X,B=36 |
| SJKHM | JUPITER | 03 | -2.7 | 0336104 | +182458 | L | 3 | 35233 | | | | 89010202 | 022200 | 001500 | X43 | G E=143,C=2X,B=43 |
| SJKHM | JUPITER | 03 | -2.7 | 0336104 | +182458 | L | 3 | 35234 | | | | 89010203 | 030500 | 001500 | X36 | G E=165,C=2X,B=73 |
| SJKHM | JUPITER | 03 | -2.7 | 0336104 | +182458 | L | 3 | 35235 | | | | 89010203 | 035200 | 001500 | X38 | G E=173,C=2X,B=97 |
| SJKHM | JUPITER | 03 | -2.7 | 0336104 | +182458 | L | 3 | 35236 | | | | 89010204 | 043400 | 001500 | X36 | G E=151,C=2X,B=72 |
| SJKHM | JUPITER | 03 | -2.7 | 0336104 | +182458 | L | 3 | 35237 | | | | 89010205 | 051700 | 001500 | X42 | G E=157,C=2X,B=40 |
| SJKHM | JUPITER | 03 | -2.7 | 0336104 | +182458 | L | 3 | 35238 | | | | 89010206 | 060000 | 001500 | X41 | G E=151,C=2X,B=29 |
| SIKHM | SKY | 07 | | 0336257 | +182536 | L | 3 | 35212 | | | | 88123117 | 172100 | 003000 | 31 | G E=81,B=28 |
| SIKHM | IO | 04 | 5.0 | 0336257 | +182536 | L | 3 | 35213 | | | | 88123118 | 182500 | 011100 | 44 | G E=160,B=57 |
| SJKHM | JUPITER | 03 | -2.5 | 0336422 | +182616 | L | 3 | 35191 | | | | 88123018 | 184100 | 012000 | ?04 | G C=20X,B=60 |
| SJKHM | JUPITER | 03 | -2.5 | 0336422 | +182616 | L | 3 | 35192 | | | | 88123021 | 211400 | 001500 | X01 | G C=2X,B=24 |
| SJKHM | JUPITER | 03 | -2.5 | 0336422 | +182616 | L | 3 | 35193 | | | | 88123021 | 215700 | 001500 | X01 | G C=2X,B=26 |
| SJKHM | JUPITER | 03 | -2.5 | 0336422 | +182616 | L | 3 | 35194 | | | | 88123022 | 224000 | 001500 | X01 | G C=2X,B=28 |
| SJKHM | JUPITER | 03 | -2.5 | 0336422 | +182616 | L | 3 | 35195 | | | | 88123023 | 232200 | 001500 | X01 | G C=2X,B=28 |
| SJKHM | JUPITER | 03 | -2.5 | 0336422 | +182616 | L | 3 | 35196 | L | | | 88123100 | 000600 | 001500 | X01 | G C=2X,B=27 |
| SJKHM | JUPITER | 03 | -2.5 | 0336422 | +182616 | L | 3 | 35197 | L | | | 88123100 | 004900 | 001500 | X42 | G E=161,C=2X,B=38 |
| SJKHM | JUPITER | 03 | -2.5 | 0336422 | +182616 | L | 3 | 35198 | L | | | 88123101 | 013600 | 001500 | X42 | G E=150,C=2X,B=38 |
| SJKHM | JUPITER | 03 | -2.5 | 0336422 | +182616 | L | 3 | 35199 | L | | | 88123102 | 022600 | 001500 | X43 | G E=161,C=2X,B=45 |
| SJKHM | JUPITER | 03 | -2.5 | 0336422 | +182616 | L | 3 | 35200 | L | | | 88123103 | 031400 | 001500 | X35 | G E=162,C=2X,B=67 |
| SJKHM | JUPITER | 03 | -2.5 | 0336422 | +182616 | L | 3 | 35201 | L | | | 88123104 | 040100 | 001500 | X37 | G E=176,C=2X,B=82 |
| SJKHM | JUPITER | 03 | -2.5 | 0336422 | +182616 | L | 3 | 35202 | L | | | 88123104 | 044700 | 001500 | X45 | G E=168,C=2X,B=65 |
| SJKHM | JUPITER | 03 | -2.5 | 0336422 | +182616 | L | 3 | 35203 | | | | 88123105 | 053300 | 001500 | X42 | G E=158,C=2X,B=40 |
| SJKHM | JUPITER | 03 | -2.5 | 0336422 | +182616 | L | 3 | 35204 | | | | 88123106 | 062400 | 001500 | X42 | G E=151,C=2X,B=32 |
| SJKHM | JUPITER | 03 | -2.5 | 0336422 | +182616 | L | 3 | 35205 | | | | 88123107 | 070700 | 008500 | ?X7 | G E=5X,C=15X,B=82 |
| SJKJC | JUPITER | 03 | -2.0 | 0337128 | +182730 | L | 3 | 35176 | L | | | 88122902 | 020100 | 004000 | | G E=112,C=222 |
| SJKJC | JUPITER | 03 | -2.0 | 0337128 | +182730 | L | 3 | 35177 | S | | | 88122903 | 031200 | 004000 | X35 | G E=138,C=2X,B=70 |
| SJKJC | JUPITER | 03 | -2.0 | 0337128 | +182730 | L | 3 | 35178 | S | | | 88122904 | 042300 | 003000 | X36 | G E=125,C=1.5X,B=73 |
| SJKJC | JUPITER | 03 | -2.0 | 0337128 | +182730 | L | 3 | 35179 | S | | | 88122905 | 052300 | 003000 | 332 | G E=86,C=133,B=40 |
| SJKJC | JUPITER | 03 | -2.0 | 0337128 | +182730 | L | 3 | 35180 | S | | | 88122907 | 070000 | 004000 | 532 | G E=102,C=225,B=34 |
| SJKJC | JUPITER | 03 | -2.0 | 0337128 | +182730 | L | 3 | 35181 | S | | | 88122908 | 081000 | 002500 | 432 | G E=65,C=180,B=31 |
| SIKHM | JUPITE | 03 | -2.7 | 0337257 | +182536 | L | 3 | 35214 | | | | 88123121 | 211600 | 005000 | X03 | G C=8X,B=42 |
| SIKHM | JUPITE | 03 | -2.7 | 0337257 | +182536 | L | 3 | 35215 | L | | | 88123122 | 223600 | 006500 | ?08 | G C=11X,B=97 |
| HCKTA | HD 22649 | 66 | | 0337476 | +630324 | L | 1 | 14467 | L | 21096 | FO | 88111502 | 020000 | 000500 | 342 | G E=145,C=59,B=32 |
| HCKTA | HD 22649 | 66 | 5.14 | 0337476 | +630324 | L | 3 | 34740 | L | 21710 | FO | 88111502 | 021300 | 003600 | 31 | G E=48,B=21 |
| SJKHM | JUPITER | 03 | -2.5 | 0337506 | +182912 | L | 3 | 35146 | L | | | 88122701 | 015400 | 003000 | X31 | G E=96,C=4X,B=30 |
| SJKHM | JUPITER | 03 | -2.5 | 0337506 | +182912 | L | 3 | 35147 | L | | | 88122703 | 031300 | 003000 | X42 | G E=141,C=4X,B=38 |
| SJKHM | JUPITER | 03 | -2.5 | 0337506 | +182912 | L | 3 | 35148 | L | | | 88122704 | 043100 | 003000 | X43 | G E=159,C=4X,B=41 |
| SJKHM | JUPITER | 03 | -2.5 | 0337506 | +182912 | L | 3 | 35149 | L | | | 88122705 | 055000 | 003000 | X42 | G E=139,C=4X,B=36 |
| SJKHM | JUPITER | 03 | -2.5 | 0337506 | +182912 | L | 3 | 35150 | L | | | 88122707 | 071100 | 003000 | X32 | G E=113,C=4X,B=36 |
| SPKJC | JUPITER | 03 | -2.0 | 0337569 | +182919 | L | 3 | 35139 | | | | 88122618 | 181700 | 004000 | 330 | G E=82,C=64,B=17 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPKJC | JUPITER | 03 | -2.0 | 0337569 | +182919 | L | 3 | 35140 | | | | 88122619 | 193300 | 003000 | XX1 | G E=1.5X,C=3X,B=25 |
| SPKJC | JUPITER | 03 | -2.0 | 0337569 | +182919 | L | 3 | 35141 | L | | | 88122620 | 203700 | 002000 | X51 | G E=189,C=2X,B=24 |
| SPKJC | JUPITER | 03 | -2.0 | 0337569 | +182919 | L | 3 | 35142 | L | | | 88122621 | 212900 | 002000 | X40 | G E=163,C=2X,B=17 |
| SPKJC | JUPITER | 03 | -2.0 | 0337569 | +182919 | L | 3 | 35143 | L | | | 88122622 | 222800 | 002000 | X50 | G E=179,C=2X,B=18 |
| SPKJC | JUPITER | 03 | -2.0 | 0337569 | +182919 | L | 3 | 35144 | L | | | 88122623 | 233400 | 003000 | X51 | G E=236,C=3X,B=24 |
| SPKJC | JUPITER | 03 | -2.0 | 0337569 | +182919 | L | 3 | 35145 | L | | | 88122700 | 003700 | 003000 | X50 | G E=244,C=3X,B=15 |
| PHCAL | T-FLOOD | 98 | 0.0 | 0339255 | +193229 | L | 1 | 14749 | S | | | 89010100 | 004000 | 000025 | ?9 | G E=10X,B=105 |
| PHCAL | WAVCAL | 98 | 0.0 | 0339255 | +193229 | L | 1 | 14749 | S | | | 89010100 | 004200 | 000001 | ?9 | G E=10X,B=105 |
| PHCAL | WAVCAL | 98 | 0.0 | 0339255 | +193229 | H | 1 | 14750 | S | | | 89010101 | 011300 | 000025 | ?9 | G E=50X,B=120 |
| PHCAL | WAVCAL | 98 | 0.0 | 0339255 | +193229 | H | 1 | 14750 | S | | | 89010101 | 011400 | 000016 | ?9 | G E=50X,B=120 |
| PHCAL | NULL | 99 | 0.0 | 0339255 | +193229 | H | 2 | 18262 | | | | 89010101 | 014900 | 000000 | 200 | G C=33,B=15 |
| PHCAL | T-FLOOD | 98 | 0.0 | 0339255 | +193229 | L | 3 | 35216 | S | | | 89010102 | 020700 | 000005 | ?9 | G E=20X,B=105 |
| PHCAL | T-FLOOD | 98 | 0.0 | 0339255 | +193229 | L | 3 | 35216 | S | | | 89010102 | 020900 | 000002 | ?9 | G E=20X,B=105 |
| PHCAL | T-FLOOD | 98 | 0.0 | 0339255 | +193229 | H | 3 | 35217 | S | | | 89010102 | 023700 | 000005 | ?9 | G E=60X,B=145 |
| PHCAL | WAVCAL | 98 | 0.0 | 0339255 | +193229 | H | 3 | 35217 | S | | | 89010102 | 023900 | 000200 | ?9 | G E=60X,B=145 |
| PHCAL | T-FLOOD | 99 | 0.0 | 0339255 | +193229 | L | 3 | 35218 | S | | | 89010103 | 031200 | 000005 | 09 | G B=115 |
| PHCAL | T-FLOOD | 98 | 0.0 | 0339255 | +193229 | L | 2 | 18263 | S | | | 89010103 | 034200 | 000010 | ?6 | G E=10X,B=80 |
| PHCAL | WAVCAL | 98 | 0.0 | 0339255 | +193229 | L | 2 | 18263 | S | | | 89010103 | 034400 | 000001 | ?6 | G E=10X,B=80 |
| PHCAL | T-FLOOD | 98 | 0.0 | 0339255 | +193229 | H | 2 | 18264 | S | | | 89010104 | 041400 | 000010 | ?9 | G E=50X,B=122 |
| PHCAL | WAVCAL | 98 | 0.0 | 0339255 | +193229 | H | 2 | 18264 | S | | | 89010104 | 041600 | 000022 | ?9 | G E=50X,B=122 |
| PHCAL | T-FLOOD | 99 | 0.0 | 0339255 | +193229 | L | 2 | 18265 | S | | | 89010104 | 044700 | 000010 | 09 | G B=140 |
| PHCAL | T-FLOOD | 99 | 0.0 | 0339255 | +193229 | L | 1 | 14751 | S | | | 89010105 | 054900 | 000025 | 09 | G B=107 |
| PAKLW | HD 23157 | 31 | 7.9 | 0340437 | +232933 | H | 1 | 14728 | L | 1578 | FO | 88122721 | 212300 | 020000 | X08 | G C=1.5X,B=99 |
| PAKLW | HD 23157 | 31 | 7.9 | 0340437 | +232933 | H | 1 | 15121 | L | 1561 | FO | 89030119 | 195200 | 018000 | 406 | G C=225,B=80 |
| PAKLW | HD 23194 | 31 | 8.1 | 0341013 | +242402 | H | 1 | 14727 | L | 1501 | FO | 88122718 | 180700 | 015000 | 408 | G C=235,B=100 |
| PAKLW | HD 23607 | 31 | 8.2 | 0344207 | +235909 | H | 1 | 15122 | L | 1233 | FO | 89030200 | 000200 | 016500 | 406 | G C=230,B=80 |
| PAKLW | HD 23632 | 30 | 7.0 | 0344227 | +233901 | H | 1 | 14736 | L | 4011 | FO | 88122921 | 215200 | 003000 | 403 | G C=180,B=44 |
| KA041 | HD23630 | 27 | 03.15 | 0344304 | +235708 | L | 3 | 35594 | L | 01535 | FU | 89022007 | 072344 | 000050 | 995 | V |
| SJKHM | JUPITER | 03 | -2.5 | 0344523 | +190922 | L | 3 | 35651 | L | | | 89030219 | 195600 | 001500 | X42 | G E=182,C=5X,B=32 |
| SJKHM | JUPITER | 03 | -2.5 | 0344523 | +190922 | L | 3 | 35652 | L | | | 89030220 | 204000 | 001500 | X52 | G E=186,C=5X,B=31 |
| SJKHM | JUPITER | 03 | -2.5 | 0344523 | +190922 | L | 3 | 35653 | L | | | 89030221 | 212200 | 001500 | X42 | G E=173,C=5X,B=34 |
| SJKHM | JUPITER | 03 | -2.5 | 0344523 | +190922 | L | 3 | 35654 | L | | | 89030222 | 220200 | 001500 | X42 | G E=158,C=5X,B=34 |
| SJKHM | JUPITER | 03 | -2.5 | 0344523 | +190922 | L | 3 | 35655 | L | | | 89030222 | 224200 | 001500 | X42 | G E=158,C=5X,B=37 |
| SJKHM | JUPITER | 03 | -2.5 | 0344523 | +190922 | L | 3 | 35656 | L | | | 89030223 | 232300 | 001500 | X42 | G E=164,C=5X,B=40 |
| SJKHM | JUPITER | 03 | -2.5 | 0344523 | +190922 | L | 3 | 35657 | L | | | 89030300 | 000300 | 001500 | X42 | G E=157,C=5X,B=34 |
| SJKHM | JUPITER | 03 | -2.5 | 0344523 | +190922 | L | 3 | 35658 | L | | | 89030300 | 004300 | 001500 | X42 | G E=153,C=5X,B=35 |
| SJKHM | IO TORUS | 07 | | 0345027 | +191000 | L | 9 | 02165 | 2 | | | 89030301 | 014500 | 000240 | | G |
| SIKHM | IO | 04 | 5.0 | 0345027 | +191000 | L | 3 | 35661 | L | | | 89030310 | 102100 | 006000 | ?X2 | G E=3X,C=10X,B=35 |
| SIKHM | JUPITER | 04 | | 0345027 | +191000 | L | 3 | 35662 | L | | | 89030312 | 121000 | 001500 | X51 | G E=210,C=3X,B=23 |
| SJKHM | JUPITER | 03 | -2.5 | 0345027 | +191000 | L | 3 | 35663 | L | | | 89030319 | 193000 | 008500 | ?X9 | G E=3X,C=20X,B=112 |
| SJKHM | JUPITER | 03 | -2.5 | 0345027 | +191000 | L | 3 | 35664 | L | | | 89030321 | 212400 | 001500 | X52 | G E=187,C=5X,B=33 |
| SJKHM | JUPITER | 03 | -2.5 | 0345027 | +191000 | L | 3 | 35665 | L | | | 89030322 | 220600 | 001500 | X52 | G E=185,C=5X,B=31 |
| SJKHM | JUPITER | 03 | -2.5 | 0345027 | +191000 | L | 3 | 35666 | L | | | 89030323 | 230000 | 001500 | X42 | G E=179,C=5X,B=40 |
| SJKHM | JUPITER | 03 | -2.5 | 0345027 | +191000 | L | 3 | 35667 | L | | | 89030323 | 234300 | 001500 | X43 | G E=177,C=5X,B=43 |
| SJKHM | JUPITER | 03 | -2.5 | 0345027 | +191000 | L | 3 | 35668 | L | | | 89030400 | 002600 | 001500 | X43 | G E=176,C=5X,B=43 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SJKHM | JUPITER | 03 | -2.5 | 0345027 | +191000 | L | 3 | 35669 | L | | | 89030401 | 011100 | 001500 | X42 | G E=177,C=5X,B=31 |
| SJKHM | JUPITER | 03 | -2.5 | 0345027 | +191000 | L | 3 | 35670 | L | | | 89030401 | 015300 | 001500 | X42 | G E=171,C=5X,B=32 |
| KS126 | IO TORUS | 04 | 00.00 | 0345028 | +191000 | L | 3 | 35659 | L | 00000 | BO | 89030301 | 013339 | 038000 | 333 | V GUIDING ON GANYMEDE |
| KS126 | JUPITER | 03 | 99.99 | 0345028 | +191000 | E | 9 | 02166 | 2 | 00000 | | 89030308 | 084700 | 016000 | | V FES FOR SWP35661 |
| KS126 | JUPITER | 03 | 00.20 | 0345028 | +191000 | L | 3 | 35660 | L | 00000 | BO | 89030308 | 083454 | 007500 | 701 | V GUIDING ON IO |
| PAKLW | HD 23733 | 31 | 8.2 | 0345146 | +240958 | H | 1 | 14735 | L | 1148 | FO | 88122918 | 180600 | 018000 | 407 | G C=200,B=82 |
| PAKLW | HD 23791 | 31 | 8.4 | 0345462 | +230629 | H | 1 | 14737 | L | 1083 | FO | 88122923 | 230500 | 010500 | 304 | G C=144,B=58 |
| SJKHM | JUPITER | 03 | -2.5 | 0345557 | +191311 | L | 3 | 35679 | L | | | 89030420 | 200700 | 001500 | X53 | G E=208,C=5X,B=42 |
| SJKHM | JUPITER | 03 | -2.5 | 0345557 | +191311 | L | 3 | 35680 | L | | | 89030420 | 205800 | 001500 | X53 | G E=208,C=5X,B=42 |
| SJKHM | JUPITER | 03 | -2.5 | 0345557 | +191311 | L | 3 | 35681 | L | | | 89030421 | 213800 | 001500 | X53 | G E=224,C=5X,B=42 |
| SJKHM | JUPITER | 03 | -2.5 | 0345557 | +191311 | L | 3 | 35682 | | | | 89030422 | 221900 | 001500 | X53 | G E=229,C=5X,B=50 |
| SJKHM | SKYBKGND | 07 | | 0345557 | +191311 | L | 3 | 35683 | | | | 89030423 | 230000 | 003000 | 36 | G E=102,B=80 |
| SJKHM | IO | 04 | 5.02 | 0345557 | +191311 | L | 3 | 35684 | L | 15489 | FO | 89030500 | 003000 | 012000 | 236 | G E=166,C=97,B=80 |
| SJKHM | IO | 04 | 5.02 | 0345557 | +191311 | L | 3 | 35684 | L | 15489 | FO | 89030500 | 003100 | 012000 | 236 | G E=166,C=97,B=80 |
| KA041 | HD23862 | 26 | 05.49 | 0346123 | +235906 | H | 3 | 35592 | L | 18984 | FO | 89022005 | 050137 | 001000 | 502 | V |
| KA041 | HD23862 | 26 | 05.47 | 0346123 | +235906 | H | 1 | 15065 | L | 19141 | FO | 89022005 | 053432 | 000500 | 502 | V |
| KA041 | HD23862 | 26 | 05.48 | 0346123 | +235906 | L | 3 | 35593 | L | 19136 | FO | 89022006 | 060343 | 000005 | 401 | V |
| KA041 | HD23862 | 26 | 05.47 | 0346124 | +235907 | L | 1 | 15066 | S | 19234 | FO | 89022006 | 064413 | 000012 | 502 | V |
| KA041 | HD23862 | 26 | 05.47 | 0346124 | +235907 | L | 1 | 15066 | L | 19234 | FO | 89022006 | 063937 | 000003 | 501 | V |
| SJKDS | JUPITER | 03 | -2.5 | 0347266 | +191827 | L | 3 | 35697 | L | | | 89030712 | 121600 | 001500 | X50 | G E=205,C=4X,B=15 |
| SJKDS | JUPITER | 03 | -2.5 | 0347266 | +191827 | L | 3 | 35697 | L | | | 89030712 | 121700 | 001500 | X50 | G E=205,C=4X,B=15 |
| SJKDS | JUPITER | 03 | -2.5 | 0347266 | +191827 | L | 3 | 35698 | L | | | 89030713 | 131800 | 003000 | 31 | G E=74,B=21 |
| SJKDS | JUPITER | 03 | -2.5 | 0347266 | +191827 | L | 3 | 35698 | L | | | 89030713 | 131900 | 003000 | 31 | G E=74,B=21 |
| SJKDS | JUPITER | 03 | -2.5 | 0347266 | +191827 | L | 3 | 35699 | L | | | 89030714 | 144200 | 002500 | ?X5 | G E=5XC=25X,B=70 |
| SJKDS | JUPITER | 03 | -2.5 | 0347266 | +191827 | L | 3 | 35699 | L | | | 89030714 | 144300 | 002500 | ?X5 | G E=5XC=25X,B=70 |
| SJKDS | JUPITER | 03 | -2.5 | 0347266 | +191827 | L | 3 | 35700 | L | | | 89030717 | 174500 | 001000 | | G |
| SJKDS | JUPITER | 03 | -2.5 | 0347266 | +191827 | L | 3 | 35700 | L | | | 89030717 | 174600 | 001000 | | G |
| SJKDS | JUPITER | 03 | -2.5 | 0347266 | +191827 | L | 3 | 35701 | L | | | 89030718 | 183700 | 001000 | X50 | G E=172,C=4X,B=20 |
| SJKDS | JUPITER | 03 | -2.5 | 0347266 | +191827 | L | 3 | 35701 | L | | | 89030718 | 183800 | 001000 | X50 | G E=172,C=4X,B=20 |
| SJKDS | SKY | 07 | | 0347266 | +191827 | L | 3 | 35702 | L | | | 89030719 | 193300 | 003000 | 31 | G E=57,B=27 |
| SJKDS | SKY | 07 | | 0347266 | +191827 | L | 3 | 35702 | L | | | 89030719 | 193400 | 003000 | 31 | G E=57,B=27 |
| SJKDS | JUPITER | 03 | -2.3 | 0347266 | +191827 | L | 3 | 35703 | L | | | 89030720 | 205600 | 001000 | | G |
| SJKDS | JUPITER | 03 | -2.3 | 0347266 | +191827 | L | 3 | 35703 | L | | | 89030720 | 205700 | 001000 | | G |
| SJKDS | JUPITER | 03 | -2.5 | 0348044 | +192040 | L | 3 | 35717 | L | | | 89030820 | 201000 | 001000 | X41 | G E=160,C=3X,B=21 |
| SJKDS | JUPITER | 03 | -2.5 | 0348044 | +192040 | L | 3 | 35717 | L | | | 89030820 | 201100 | 001000 | X41 | G E=160,C=3X,B=21 |
| SJKDS | SKY | 07 | | 0348044 | +192040 | L | 3 | 35718 | L | | | 89030821 | 210300 | 004000 | 31 | G E=60,B=22 |
| SJKDS | SKY | 07 | | 0348044 | +192040 | L | 3 | 35718 | L | | | 89030821 | 210400 | 004000 | 31 | G E=60,B=22 |
| SJKDS | JUPITER | 03 | -2.3 | 0348044 | +192040 | L | 3 | 35719 | L | | | 89030822 | 221400 | 005000 | ?X2 | G E=3X,C=25X,B=33 |
| SJKDS | JUPITER | 03 | -2.3 | 0348044 | +192040 | L | 3 | 35719 | L | | | 89030822 | 221500 | 005000 | ?X2 | G E=3X,C=25X,B=33 |
| KM082 | HD24863 | 31 | 06.96 | 0353152 | -525010 | H | 1 | 14497 | L | 05925 | FO | 88112112 | 123943 | 005600 | 503 | V NO GUIDE STAR (15M+) |
| KA204 | PK 165-15. | 71 | 10.03 | 0406083 | +303843 | L | 3 | 35671 | L | 00388 | FO | 89030403 | 031414 | 002000 | 400 | V |
| KA204 | PK 165-15. | 71 | 10.03 | 0406083 | +303843 | L | 1 | 15127 | L | 00386 | FO | 89030403 | 034441 | 002000 | 701 | V |
| KA204 | NGC1514 | 70 | 09.89 | 0406083 | +303843 | L | 3 | 35752 | L | 00438 | FO | 89031207 | 074858 | 002000 | | V |
| RSKFW | HD 26337 | 44 | 6.95 | 0407151 | -080126 | H | 1 | 14685 | L | 3594 | FO | 88122103 | 034700 | 006000 | 349 | G E=210,C=194,B=108 |
| CCKTT | HD 26574 | 53 | 4.0 | 0409253 | -065803 | H | 1 | 14608 | L | 458 | FU | 88120504 | 041400 | 000600 | 503 | G C=210,B=50 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CCKTT | HD 26574 | 53 | 4.0 | 0409253 | -065803 | H | 1 | 14609 | L | 473 | FU | 88120505 | 050000 | 000600 | 505 | G C=218,B=62 |
| CCKTT | HD 26574 | 53 | 4.0 | 0409253 | -065803 | H | 1 | 14615 | L | 473 | FU | 88120602 | 025500 | 000600 | 503 | G C=200,B=42 |
| CCKTT | HD 26574 | 53 | 4.0 | 0409253 | -065803 | H | 1 | 14616 | L | 456 | FU | 88120603 | 034200 | 000600 | 503 | G C=200,B=46 |
| CCKTT | HD 26574 | 53 | 4.0 | 0409253 | -065803 | H | 1 | 14617 | L | 475 | FU | 88120604 | 042600 | 000600 | 503 | G C=215,B=50 |
| CCKTT | HD 26574 | 53 | 4.0 | 0409253 | -065803 | H | 1 | 14618 | L | 466 | FU | 88120605 | 050900 | 000600 | 504 | G C=210,B=59 |
| CCKTT | HD 26574 | 53 | 4.0 | 0409253 | -065803 | H | 1 | 14619 | L | 474 | FU | 88120605 | 055100 | 000600 | 504 | G C=212,B=59 |
| CCKTT | HD 26574 | 53 | 4.0 | 0409253 | -065803 | H | 1 | 14620 | L | 512 | FU | 88120606 | 063500 | 000600 | 504 | G C=206,B=54 |
| GDKTS | VA 45 | 48 | 14.0 | 0409300 | +160727 | L | 1 | 14786 | L | 43 | SO | 89010720 | 202900 | 014000 | 33 | G E=85,B=48 |
| LDKSB | HD 26965 | 46 | 4.4 | 0412580 | -074348 | H | 1 | 14452 | L | 328 | FU | 88111207 | 074100 | 003000 | XX6 | G E=1.5X,C=1.5X,B=72 |
| LDKSB | HD 26965 | 46 | 4.4 | 0412580 | -074348 | H | 1 | 15056 | L | 27067 | FO | 89021722 | 225700 | 003000 | XX2 | G E=1.5X,C=1.5X,B=40 |
| KI181 | H 0414+009 | 87 | 99.00 | 0414176 | +005802 | L | 3 | 35561 | L | 00000 | BO | 89021506 | 060242 | 029800 | 201 | U |
| KI181 | H 0414+001 | 87 | 16.00 | 0414176 | +005802 | L | 1 | 15046 | L | 00000 | BO | 89021609 | 090324 | 011500 | 201 | U |
| SIKHM | IO | 04 | 5.0 | 0415244 | +201329 | H | 1 | 15126 | L | | | 89030313 | 131300 | 034500 | 308 | G C=182,B=98 |
| TTKAB | V410 TAU | 58 | 10.9 | 0415248 | +282002 | L | 1 | 14860 | L | 161 | FO | 89011802 | 023100 | 003000 | 336 | G E=129,C=102,B=78 |
| TTKAB | V410 TAU | 58 | 10.9 | 0415248 | +282002 | L | 1 | 14875 | L | 371 | SO | 89012002 | 023400 | 004500 | 339 | G E=179,C=139,B=109 |
| TTKAB | V410 TAU | 58 | 10.9 | 0415248 | +282002 | L | 1 | 14882 | L | 129 | FO | 89012100 | 005400 | 004500 | 332 | G E=130,C=68,B=38 |
| TTKAB | V410 TAU | 58 | 10.9 | 0415248 | +282002 | L | 1 | 14891 | L | 375 | SO | 89012123 | 235700 | 004500 | 233 | G E=115,C=60,B=41 |
| TTKAB | V410 TAU | 58 | 10.9 | 0415248 | +282002 | L | 1 | 14915 | L | 115 | FO | 89012504 | 044200 | 004500 | 332 | G E=137,C=70,B=40 |
| TTKGB | BP TAU | 58 | 12.6 | 0416086 | +285916 | L | 1 | 14791 | L | 179 | SO | 89010900 | 001800 | 009000 | 4X3 | G E=2X,C=146,B=45 |
| GDKTS | L 44 | 48 | 14.0 | 0416320 | +213806 | L | 1 | 14765 | L | 59 | SO | 89010320 | 201600 | 015500 | 39 | G E=165,B=104 |
| TTKAB | HD 283571 | 58 | 9.8 | 0418508 | +281934 | L | 1 | 14809 | L | 349 | FO | 89011300 | 001300 | 001000 | 342 | G E=151,C=62,B=34 |
| TTKAB | HD 283571 | 58 | 9.8 | 0418508 | +281934 | L | 1 | 14816 | L | 341 | FO | 89011316 | 160200 | 001200 | 342 | G E=178,C=68,B=35 |
| TTKAB | HD 283571 | 58 | 9.8 | 0418508 | +281934 | L | 1 | 14821 | L | 328 | FO | 89011323 | 232100 | 001200 | 352 | G E=225,C=74,B=33 |
| TTKAB | HD 283571 | 58 | 9.8 | 0418508 | +281934 | L | 1 | 14856 | L | 383 | FO | 89011715 | 155000 | 001000 | 352 | G E=200,C=80,B=38 |
| TTKAB | HD 283571 | 58 | 10.1 | 0418508 | +281934 | L | 3 | 35376 | L | 377 | FO | 89011716 | 160900 | 042000 | 338 | G E=130,C=130,B=92 |
| TTKAB | HD 283571 | 58 | 9.8 | 0418508 | +281934 | L | 1 | 14857 | L | 376 | FO | 89011719 | 194800 | 001000 | 352 | G E=217,C=90,B=37 |
| TTKAB | HD 283571 | 58 | 10.1 | 0418508 | +281934 | L | 1 | 14858 | L | 400 | FO | 89011723 | 234700 | 000900 | 302 | G 3=195,C=79,B=36 |
| TTKAB | HD 283571 | 58 | 10.1 | 0418508 | +281934 | L | 1 | 14866 | L | 396 | FO | 89011903 | 035400 | 000900 | 342 | G E=174,C=80,B=38 |
| TTKAB | HD 283571 | 58 | 10.1 | 0418508 | +281934 | L | 1 | 14871 | L | 375 | FO | 89011915 | 155900 | 001000 | 352 | G E=208,C=81,B=37 |
| TTKAB | HD 283571 | 58 | 10.1 | 0418508 | +281934 | L | 3 | 35384 | L | 350 | FO | 89011916 | 161900 | 042000 | 347 | G E=228,C=118,B=84 |
| TTKAB | HD 283571 | 58 | 10.1 | 0418508 | +281934 | L | 1 | 14872 | L | 354 | FO | 89011919 | 195700 | 001000 | 352 | G E=210,C=79,B=38 |
| TTKAB | HD 283571 | 58 | 10.1 | 0418508 | +281934 | L | 1 | 14873 | L | 375 | FO | 89011923 | 235800 | 001000 | 352 | G E=210,C=78,B=34 |
| TTKAB | HD 283571 | 58 | 9.8 | 0418508 | +281934 | L | 1 | 14883 | L | 395 | FO | 89012102 | 024000 | 001000 | 352 | G E=195,C=80,B=36 |
| TTKAB | HD 283571 | 58 | 9.8 | 0418508 | +281934 | L | 1 | 14886 | L | 416 | FO | 89012106 | 063200 | 001000 | 352 | G E=193,C=80,B=37 |
| TTKAB | HD 283571 | 58 | 10.1 | 0418508 | +281934 | L | 1 | 14889 | L | 395 | FO | 89012115 | 155700 | 001000 | 352 | G E=188,C=82,B=35 |
| TTKAB | HD 283571 | 58 | 10.1 | 0418508 | +281934 | L | 3 | 35390 | L | 397 | FO | 89012116 | 161300 | 042000 | 335 | G E=112,C=111,B=67 |
| TTKAB | HD 283571 | 58 | 10.1 | 0418508 | +281934 | L | 1 | 14890 | L | 406 | FO | 89012121 | 211900 | 001000 | 342 | G E=175,C=77,B=34 |
| TTKAB | HD 283571 | 58 | 10.1 | 0418508 | +281934 | L | 1 | 14899 | L | 371 | FO | 89012304 | 044100 | 001000 | 342 | G E=166,C=73,B=36 |
| TTKAB | HD 283571 | 58 | 10.1 | 0418508 | +281934 | L | 3 | 35397 | L | 318 | FO | 89012316 | 160700 | 026500 | 336 | G E=148,C=112,B=77 |
| TTKAB | HD 283571 | 58 | 10.1 | 0418508 | +281934 | L | 1 | 14906 | L | 218 | FO | 89012403 | 032300 | 001000 | 344 | G E=186,C=85,B=58 |
| TTKAB | HD 283571 | 58 | 10.2 | 0418508 | +281934 | L | 1 | 14908 | L | 196 | FO | 89012406 | 060000 | 002200 | 352 | G E=198,C=68,B=36 |
| TTKAB | HD 283571 | 58 | 10.1 | 0418508 | +281934 | L | 1 | 14912 | L | 193 | FO | 89012500 | 000300 | 001000 | 342 | G E=168,C=65,B=40 |
| TTKAB | HD 283571 | 58 | 9.8 | 0418508 | +281934 | L | 1 | 14928 | L | 210 | FO | 89012621 | 211400 | 001000 | 242 | G E=182,C=57,B=37 |
| TTKGB | RY TAU | 58 | 10.8 | 0418509 | +281935 | L | 1 | 14805 | L | 321 | FO | 89011202 | 023300 | 001900 | 352 | G E=225,C=92,B=37 |
| TTKAB | HD 283572 | 58 | 9.1 | 0418525 | +281107 | L | 1 | 14876 | L | 129 | FO | 89012004 | 041300 | 002000 | 303 | G C=102,B=41 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OD48Y | SAO 131144 | 66 | 9.8 | 0419129 | -060810 | L | 1 | 14623 | L | 372 | FO | 88120700 | 000000 | 002100 | X02 | G C=1.5X,B=40 |
| AMKEB | HD 27749 | 35 | 5.6 | 0420327 | +163944 | L | 3 | 35826 | L | 11709 | FO | 89032020 | 200900 | 000300 | 500 | G C=199,B=18 |
| AMKEB | HD 27749 | 35 | 5.6 | 0420327 | +163944 | L | 3 | 35826 | L | 11709 | FO | 89032020 | 201000 | 000300 | 500 | G C=199,B=18 |
| AMKEB | HD 27749 | 35 | 5.6 | 0420327 | +163944 | H | 1 | 15228 | L | 11601 | FO | 89032020 | 202900 | 002000 | 502 | G C=210,B=40 |
| AMKEB | HD 27749 | 35 | 5.6 | 0420327 | +163944 | L | 1 | 15229 | L | 11847 | FO | 89032022 | 220900 | 000000 | 401 | G C=150,B=25 |
| AMKEB | HD 27749 | 35 | 5.6 | 0420327 | +163944 | L | 1 | 15229 | L | 11847 | FO | 89032022 | 221000 | 000000 | 401 | G C=150,B=25 |
| AMKEB | HD 27749 | 35 | 5.6 | 0420327 | +163944 | L | 3 | 35827 | L | 11762 | FO | 89032022 | 222400 | 000600 | X01 | G C=2X,B=22 |
| GDKTS | VA 288 | 48 | 13.3 | 0420599 | +144825 | L | 1 | 14764 | L | 80 | SO | 89010316 | 164100 | 012500 | 35 | G E=146,B=69 |
| KI181 | PKS0422+00 | 87 | 16.00 | 0422125 | +002917 | L | 3 | 35546 | L | 00000 | BO | 89021306 | 061049 | 029000 | 202 | V |
| KI181 | PKS0422+00 | 87 | 16.00 | 0422125 | +002916 | L | 1 | 15037 | L | 00000 | BO | 89021409 | 093434 | 008900 | 302 | V |
| TTKAB | DF TAU | 58 | 12.3 | 0423596 | +253543 | L | 1 | 14810 | L | 147 | SO | 89011301 | 013800 | 003000 | 332 | G E=138,C=61,B=40 |
| TTKAB | DF TAU | 58 | 11.7 | 0423596 | +253543 | L | 1 | 14817 | L | 146 | SO | 89011317 | 171200 | 004000 | 342 | G E=163,C=71,B=40 |
| TTKAB | DF TAU | 58 | 11.7 | 0423596 | +253543 | L | 1 | 14823 | L | 162 | SO | 89011401 | 015200 | 004000 | 343 | G E=149,C=71,B=46 |
| TTKAB | DF TAU | 58 | 12.3 | 0423596 | +253543 | L | 3 | 35378 | L | 139 | SO | 89011816 | 160800 | 039000 | 336 | G E=155,C=106,B=76 |
| TTKAB | DF TAU | 58 | 11.7 | 0423596 | +253543 | L | 1 | 14867 | L | 131 | SO | 89011905 | 050900 | 003500 | 332 | G E=125,C=60,B=39 |
| TTKAB | DF TAU | 58 | 11.7 | 0423596 | +253543 | L | 1 | 14874 | L | 139 | SO | 89012001 | 011100 | 004000 | 345 | G E=182,C=93,B=63 |
| TTKAB | DF TAU | 58 | 11.7 | 0423596 | +253543 | L | 1 | 14880 | L | 157 | SO | 89012015 | 154000 | 004000 | 342 | G E=181,C=67,B=38 |
| TTKAB | DF TAU | 58 | 11.7 | 0423596 | +253543 | L | 3 | 35386 | L | 152 | SO | 89012016 | 162900 | 042000 | 345 | G E=178,C=92,B=66 |
| TTKAB | DF TAU | 58 | 11.7 | 0423596 | +253543 | L | 1 | 14881 | L | 154 | SO | 89012020 | 203800 | 004000 | 342 | G E=183,C=67,B=38 |
| TTKAB | DF TAU | 58 | 11.7 | 0423596 | +253543 | L | 1 | 14892 | L | 142 | SO | 89012201 | 013700 | 004000 | 344 | G E=174,C=81,B=53 |
| TTKAB | DF TAU | 58 | 11.7 | 0423596 | +253543 | L | 3 | 35392 | L | 136 | SO | 89012215 | 154300 | 042000 | 335 | G E=164,C=111,B=79 |
| TTKAB | DF TAU | 58 | 11.7 | 0423596 | +253543 | L | 1 | 14896 | L | 133 | SO | 89012219 | 195200 | 004000 | 343 | G E=183,C=69,B=42 |
| TTKAB | DF TAU | 58 | 11.7 | 0423596 | +253543 | L | 1 | 14897 | L | 133 | SO | 89012223 | 234900 | 004000 | 343 | G E=183,C=70,B=41 |
| TTKAB | DF TAU | 58 | 11.7 | 0423596 | +253543 | L | 1 | 14913 | L | 149 | SO | 89012501 | 010900 | 003000 | 339 | G E=192,C=153,B=116 |
| TTKAB | DF TAU | 58 | 11.7 | 0423596 | +253543 | L | 1 | 14929 | L | 148 | SO | 89012622 | 223500 | 002000 | 332 | G E=118,C=60,B=39 |
| IE103 | NGC 1569 | 82 | 13.25 | 0426034 | +644426 | L | 1 | 15276 | L | 00087 | SO | 89033104 | 041949 | 035100 | 504 | V |
| TTKGB | DK TAU | 58 | 12.2 | 0427403 | +255459 | L | 1 | 14790 | L | 49 | SO | 89010822 | 220200 | 007500 | 243 | G E=181,C=62,B=43 |
| KE106 | HH29 | 69 | 15.00 | 0428332 | +175956 | L | 3 | 35809 | L | 00000 | BO | 89031804 | 042932 | 037800 | 202 | V |
| TTKGB | GG TAU | 58 | 12.3 | 0429371 | +172522 | L | 1 | 14797 | L | 164 | SO | 89010919 | 192300 | 007500 | 3X3 | G E=2.5X,C=142,B=44 |
| TTKGB | DL TAU | 58 | 13.1 | 0430359 | +251424 | L | 1 | 14789 | L | 45 | SO | 89010819 | 192700 | 009000 | 343 | G E=152,C=83,B=44 |
| PHCAL | WAVCAL | 98 | 0.0 | 0430361 | -595220 | H | 1 | 15417 | | | | 89043018 | 183200 | 000016 | ?9 | G E=60X,B=108 |
| PHCAL | WAVCAL | 98 | 0.0 | 0430361 | -595220 | H | 1 | 15417 | | | | 89043018 | 183200 | 000025 | | G |
| PHCAL | NULL | 99 | 0.0 | 0430361 | -595220 | H | 1 | 15418 | | | | 89043019 | 191900 | 000000 | 02 | G B=35 |
| PHCAL | WAVCAL | 98 | 0.0 | 0430361 | -595220 | H | 1 | 15419 | | | | 89043019 | 194600 | 000010 | 04 | G B=60 |
| PHCAL | WAVCAL | 98 | 0.0 | 0430361 | -595220 | H | 1 | 15420 | | | | 89043020 | 201600 | 000008 | ?5 | G E=30X,B=65 |
| PHCAL | WAVCAL | 98 | 0.0 | 0430361 | -595220 | H | 1 | 15420 | | | | 89043020 | 201600 | 000010 | | G |
| PHCAL | WAVCAL | 98 | 0.0 | 0430361 | -595220 | H | 1 | 15421 | | | | 89043020 | 204500 | 000010 | ?5 | G E=60X,B=65 |
| PHCAL | WAVCAL | 98 | 0.0 | 0430361 | -595220 | H | 1 | 15422 | | | | 89043021 | 211400 | 000032 | 35 | G E=120X,B=70 |
| PHCAL | WAVCAL | 98 | 0.0 | 0430361 | -595220 | H | 1 | 15422 | | | | 89043021 | 211400 | 000010 | | G |
| TTKGB | AA TAU | 58 | 12.6 | 0431530 | +242249 | L | 1 | 14788 | L | 91 | SO | 89010816 | 161300 | 015000 | 344 | G E=172,C=85,B=52 |
| TTKAB | AA TAU | 58 | 12.5 | 0431541 | +242244 | L | 1 | 14811 | L | 64 | SO | 89011303 | 030600 | 004000 | 233 | G E=87,C=63,B=46 |
| TTKAB | DN TAU | 58 | 12.4 | 0432255 | +240852 | L | 1 | 14812 | L | 144 | SO | 89011304 | 044800 | 004000 | 332 | G E=123,C=61,B=40 |
| TTKAB | DN TAU | 58 | 12.4 | 0432255 | +240852 | L | 1 | 14877 | L | 146 | SO | 89012005 | 052400 | 005000 | 343 | G E=181,C=66,B=41 |
| TTKAB | DN TAU | 58 | 12.4 | 0432255 | +240852 | L | 1 | 14885 | L | 143 | SO | 89012104 | 045600 | 005000 | 243 | G E=154,C=56,B=41 |
| TTKAB | DN TAU | 58 | 12.4 | 0432255 | +240852 | L | 1 | 14893 | L | 135 | SO | 89012203 | 030800 | 005000 | 234 | G E=151,C=76,B=56 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TTKAB | DN TAU | 58 | 12.4 | 0432255 | +240852 | L | 1 | 14898 | L | 130 | SO | 89012301 | 012500 005000 | 338 | G E=183,C=118,B=96 |
| TTKAB | DN TAU | 58 | 12.4 | 0432255 | +240852 | L | 1 | 14904 | L | 134 | SO | 89012322 | 221900 003000 | 233 | G E=102,C=55,B=41 |
| TTKAB | DN TAU | 58 | 12.4 | 0432255 | +240852 | L | 1 | 14916 | L | 138 | SO | 89012506 | 062100 003000 | 232 | G E=107,C=55,B=39 |
| TTKGB | DN TAU | 58 | 12.4 | 0432257 | +240852 | L | 1 | 14796 | L | 148 | SO | 89010916 | 161300 013500 | 3X4 | G E=1.5X,C=91,B=54 |
| FSKSS | BD +26 730 | 46 | 8.4 | 0433420 | +270200 | L | 1 | 14370 | L | 1194 | FO | 88110219 | 195700 000500 | 342 | G E=152,C=66,B=31 |
| FSKSS | BD +26 730 | 46 | 8.4 | 0433420 | +270200 | L | 3 | 34666 | L | 1198 | FO | 88110220 | 201300 015800 | 233 | G E=125,C=61,B=47 |
| KC090 | DR TAU | 58 | 12.54 | 0444139 | +165259 | L | 3 | 35385 | L | 00165 | SO | 89012006 | 064133 041500 | 332 | V |
| TTKAB | DR TAU | 58 | 11.5 | 0444139 | +165323 | L | 1 | 14822 | L | 293 | SO | 89011400 | 004400 001500 | 342 | G E=145,C=90,B=34 |
| KC090 | DR TAU | 58 | 12.46 | 0444139 | +165259 | L | 1 | 14878 | L | 00177 | SO | 89012008 | 035237 002000 | 342 | V |
| KC090 | DR TAU | 58 | 11.50 | 0444139 | +165259 | L | 1 | 14879 | L | 00196 | SO | 89012013 | 134220 002000 | 341 | V |
| KM197 | DR TAU | 58 | 12.14 | 0444140 | +165300 | E | 9 | 02150 | 2 | 00236 | SO | 89011208 | 082500 004000 | | V FOR SWP35327 |
| TTKKB | DR TAU | 58 | 11.5 | 0444140 | +165300 | H | 3 | 35327 | L | 236 | SO | 89011216 | 161600 083500 | 39 | G E=165,B=143 |
| KC090 | DR TAU | 58 | 11.91 | 0444140 | +165300 | L | 3 | 35377 | L | 00288 | SO | 89011806 | 064954 043500 | 332 | V 240+195 MIN. SND PA |
| TTKAB | DR TAU | 58 | 11.5 | 0444140 | +165300 | L | 1 | 14808 | L | 281 | SO | 89011222 | 225900 001000 | 332 | G E=108,C=77,B=32 |
| KC090 | DR TAU | 58 | 12.05 | 0444140 | +165300 | L | 1 | 14864 | L | 00255 | SO | 89011811 | 110755 001500 | 330 | V |
| TTKAB | DR TAU | 58 | 11.5 | 0444140 | +165300 | L | 1 | 14818 | L | 296 | SO | 89011318 | 183800 001500 | 332 | G E=132,C=101,B=34 |
| KC090 | DR TAU | 58 | 05.80 | 0444140 | +165300 | L | 3 | 35391 | L | 00226 | SO | 89012206 | 064200 041000 | 444 | V STARTED AT GSFC |
| TTKAB | DR TAU | 58 | 11.5 | 0444140 | +165300 | L | 1 | 14859 | L | 281 | SO | 89011800 | 005400 001500 | 342 | G E=141,C=96,B=40 |
| KC090 | DR TAU | 58 | 05.80 | 0444140 | +165300 | L | 1 | 14894 | L | 00224 | SO | 89012208 | 082008 002000 | 343 | V |
| TTKAB | DR TAU | 58 | 11.5 | 0444140 | +165300 | D | 9 | 02151 | 2 | | | 89011806 | 061700 000240 | | G |
| KC090 | DR TAU | 58 | 05.80 | 0444140 | +165300 | L | 1 | 14895 | L | 319 | SO | 89012213 | 135834 002000 | 353 | V |
| TTKAB | DR TAU | 58 | 11.5 | 0444140 | +165300 | L | 1 | 14863 | L | 257 | SO | 89011806 | 062700 001500 | 332 | G E=131,C=84,B=37 |
| TTKAB | DR TAU | 58 | 11.5 | 0444140 | +165300 | L | 1 | 14868 | L | 198 | SO | 89011906 | 063000 002000 | 342 | G E=162,C=96,B=36 |
| TTKAB | DR TAU | 58 | 11.5 | 0444140 | +165300 | D | 9 | 02152 | 2 | | | 89011906 | 064500 000240 | | G |
| TTKAB | DR TAU | 58 | 11.5 | 0444140 | +165300 | L | 1 | 14884 | L | 148 | SO | 89012103 | 034400 002000 | 342 | G E=181,C=105,B=38 |
| TTKAB | DR TAU | 58 | 11.5 | 0444140 | +165300 | D | 9 | 02153 | 2 | | | 89012206 | 063100 000240 | | G |
| TTKAB | DR TAU | 58 | 11.5 | 0444140 | +165300 | L | 1 | 14900 | L | 264 | SO | 89012305 | 054000 002500 | 352 | G E=190,C=122,B=38 |
| TTKAB | DR TAU | 58 | 11.5 | 0444140 | +165300 | L | 1 | 14903 | L | 223 | SO | 89012321 | 210200 002500 | 343 | G E=181,C=117,B=41 |
| TTKAB | DR TAU | 58 | 11.5 | 0444140 | +165300 | L | 1 | 14907 | L | 241 | SO | 89012404 | 045200 002000 | 342 | G E=146,C=104,B=39 |
| TTKAB | DR TAU | 58 | 11.5 | 0444140 | +165300 | L | 3 | 35402 | L | 305 | SO | 89012415 | 154300 042000 | 339 | G E=211,C=192,B=117 |
| TTKAB | DR TAU | 58 | 11.5 | 0444140 | +165300 | L | 1 | 14911 | L | 294 | SO | 89012418 | 185300 002000 | 442 | G E=164,C=134,B=34 |
| TTKAB | DR TAU | 58 | 11.5 | 0444140 | +165300 | L | 1 | 14914 | L | 209 | SO | 89012502 | 022200 001500 | 338 | G E=172,C=152,B=99 |
| TTKAB | DR TAU | 58 | 11.5 | 0444140 | +165300 | L | 3 | 35407 | L | 241 | SO | 89012515 | 154700 038000 | 339 | G E=172,C=168,B=104 |
| TTKAB | DR TAU | 58 | 11.5 | 0444140 | +165300 | L | 1 | 14922 | L | 193 | SO | 89012518 | 185700 002000 | 343 | G E=144,C=99,B=42 |
| TTKGB | DS TAU | 58 | 12.5 | 0444391 | +291956 | L | 1 | 14798 | L | 249 | SO | 89010921 | 213900 007000 | 3X3 | G E=1.5X,C=110,B=43 |
| USSBS | HD 30652 | 41 | 3.19 | 0447073 | +065231 | H | 1 | 15035 | L | 1022 | FU | 89021401 | 014900 000400 | X02 | G C=1.5X,B=40 |
| ISKJS | HD 30677 | 20 | 6.9 | 0447205 | +081922 | L | 1 | 15030 | L | 4546 | FO | 89021300 | 005400 000024 | X00 | G C=4X,B=17 |
| ISKJS | HD 30677 | 20 | 6.9 | 0447205 | +081922 | L | 3 | 35544 | L | 4567 | FO | 89021300 | 005900 000018 | X00 | G C=1.5X,B=17 |
| ISKJS | HD 30677 | 20 | 6.9 | 0447205 | +081922 | L | 3 | 35545 | L | 4845 | FO | 89021301 | 014000 000010 | 500 | G C=170,B=12 |
| TTKGB | UY AUR | 58 | 12.6 | 0448355 | +304214 | L | 1 | 14804 | L | 110 | SO | 89011200 | 002900 008000 | 353 | G E=221,C=74,B=42 |
| TTKGB | SU AUR | 58 | 9.2 | 0452481 | +302920 | L | 1 | 14792 | L | 579 | FO | 89010902 | 023700 001500 | 342 | G E=145,C=133,B=35 |
| TTKAB | HD 31398 | 47 | 2.69 | 0453439 | +330519 | H | 1 | 14861 | L | 1628 | FU | 89011804 | 040900 003500 | 3X2 | G E=3X,C=100,B=37 |
| TTKAB | HD 31398 | 47 | 2.69 | 0453439 | +330519 | H | 1 | 14862 | L | 1643 | FU | 89011805 | 052300 001000 | 342 | G E=146,C=75,B=35 |
| IEKEB | LS V4724 | 20 | 11.3 | 0455001 | +475521 | L | 1 | 14971 | L | 275 | SO | 89020520 | 200500 001400 | 402 | G C=177,B=37 |
| IEKEB | LS V4724 | 20 | 11.3 | 0455001 | +475521 | L | 3 | 35499 | L | 299 | SO | 89020520 | 202700 004800 | 400 | G C=157,B=20 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IEKEB | LS V4724 | 20 | 11.3 | 0455001 | +475521 | L | 1 | 14972 | L | 287 | SO | 89020521 | 212800 | 007500 | X03 | G C=4X,B=43 |
| WDKFW | 0455-282 | 37 | 13.4 | 0455140 | -281229 | L | 3 | 34704 | L | 43 | SO | 88110807 | 072800 | 001200 | 501 | G C=205,B=23 |
| WDKFW | 0455-282 | 37 | 13.4 | 0455140 | -281229 | L | 1 | 14406 | L | 49 | SO | 88110807 | 074900 | 002000 | 408 | G C=212,B=98 |
| PHCAL | SAO 39944 | 64 | 8.8 | 0457407 | +411119 | L | 9 | 02175 | | | | 89032315 | 155800 | 000000 | | G |
| NPKST | PN242-37 | 70 | 15.6 | 0501218 | -394944 | L | 3 | 34779 | L | | BO | 88111923 | 230700 | 018000 | 234 | G E=91,C=78,B=60 |
| NPKST | PN242-37 | 70 | 15.6 | 0501218 | -394944 | L | 3 | 34790 | L | | BO | 88112100 | 005400 | 018000 | 334 | G E=117,C=90,B=53 |
| NPKST | PN242-37 | 70 | 15.6 | 0501218 | -394949 | L | 3 | 34797 | L | | BO | 88112209 | 091800 | 009200 | 332 | G E=99,C=121,B=39 |
| WDKFW | 0501-289 | 17 | 13.6 | 0501567 | -285837 | L | 3 | 34705 | L | 40 | SO | 88110808 | 084800 | 001200 | 500 | G C=220,B=16 |
| EBKTA | HD 32835 | 39 | 7.65 | 0503583 | +265549 | L | 3 | 35336 | L | 2109 | FO | 89011406 | 062600 | 001500 | 401 | G C=122,B=22 |
| TTKGB | RW AUR | 58 | 10.2 | 050437 | +302014 | L | 3 | 35502 | L | 359 | FO | 89020605 | 050900 | 030000 | XX5 | G E=3X,C=3X,B=65 |
| TTKGB | RW AUR | 58 | 10.2 | 050437 | +302014 | L | 1 | 14975 | L | 339 | FO | 89020610 | 104500 | 000248 | 352 | G E=246,C=84,B=34 |
| TTKGB | RW AUR | 58 | 10.2 | 0504376 | +302013 | L | 1 | 14803 | L | 151 | FO | 89011123 | 231900 | 001400 | 4?2 | G E=3.5,C=140,B=33 |
| TTKGB | RW AUR | 58 | 10.2 | 0504377 | +302014 | L | 1 | 14973 | L | 362 | FO | 89020604 | 045900 | 000248 | 352 | G E=230,C=90,B=33 |
| TTKGB | RW AUR | 58 | 10.2 | 0504377 | +302014 | D | 9 | 02161 | 2 | | | 89020605 | 051800 | 002000 | | G |
| TTKGB | RW AUR | 58 | 10.2 | 0504377 | +302014 | L | 1 | 14974 | L | 355 | FO | 89020606 | 064400 | 000900 | 5X2 | G E=3.0X,C=190,B=35 |
| BEKGP | HD 33328 | 26 | 4.2 | 0506449 | -084859 | H | 3 | 34771 | L | 467 | FU | 88111909 | 091900 | 000048 | 502 | G C=193,B=38 |
| BEKGP | HD 33328 | 26 | 4.2 | 0506449 | -084859 | L | 3 | 34772 | L | 470 | FU | 88111909 | 094700 | 000000 | 400 | G C=161,B=13 |
| BEKGP | HD 33328 | 26 | 4.2 | 0506449 | -084859 | L | 1 | 14484 | L | 468 | FU | 88111909 | 095300 | 000000 | 500 | G C=198,B=18 |
| PRKCG | HD 33328 | 26 | 4.3 | 0506449 | -084859 | L | 3 | 35095 | L | 522 | FU | 88122204 | 045400 | 000055 | 502 | G C=185,B=34 |
| BEKGP | HD 33328 | 26 | 4.2 | 0506449 | -084859 | H | 3 | 35280 | L | 516 | FU | 89010703 | 034000 | 000050 | 502 | G C=204,B=38 |
| BEKGP | HD 33328 | 26 | 4.2 | 0506449 | -084859 | L | 3 | 35281 | L | 512 | FU | 89010704 | 041200 | 000000 | 400 | G C=131,B=16 |
| BEKGP | HD 33328 | 26 | 4.2 | 0506449 | -084859 | L | 1 | 14781 | L | 510 | FU | 89010704 | 041900 | 000000 | 402 | G C=170,B=34 |
| BEKGP | HD 33328 | 26 | 4.2 | 0506449 | -084859 | H | 3 | 35835 | L | 465 | FU | 89032121 | 210900 | 000050 | 502 | G C=199,B=36 |
| KA186 | HD 33328 | 26 | 04.39 | 0506450 | -084900 | H | 3 | 35319 | L | 00511 | FU | 89011108 | 084641 | 000048 | 500 | V |
| PRKCG | HD 33328 | 26 | 4.3 | 0506450 | -084900 | L | 3 | 34733 | L | 481 | FU | 88111305 | 050600 | 000048 | 502 | G C=190,B=35 |
| KA186 | HD 33328 | 20 | 04.39 | 0506450 | -084900 | H | 3 | 35613 | L | 00510 | FU | 89022404 | 042851 | 000048 | 500 | V |
| PRKCG | HD 33328 | 26 | 4.3 | 0506450 | -084900 | H | 3 | 35076 | L | 480 | FU | 88121904 | 045300 | 000048 | 502 | G C=202,B=38 |
| PRKCG | HD 33328 | 26 | 4.3 | 0506450 | -084900 | H | 3 | 35103 | L | 501 | FU | 88122303 | 034200 | 000055 | 503 | G C=220,B=42 |
| GCKAC | NGC 1846 | 83 | 11.3 | 0507359 | -673208 | L | 3 | 35612 | L | 51 | SO | 89022312 | 123400 | 013300 | 303 | G C=85,B=50 |
| CVKSS | NOVALMC2 | 55 | 13.0 | 0508139 | -684122 | L | 1 | 14359 | L | 52 | SO | 88110104 | 045000 | 003000 | 3X2 | G E=4X,C=127,B=34 |
| PHCAL | NOVA LMC 8 | 55 | 14.10 | 0508140 | -684122 | H | 3 | 34765 | L | 00041 | SO | 88111813 | 130152 | 031700 | 131 | V |
| KITOO | NOVA LMC88 | 55 | 14.96 | 0508140 | -684122 | L | 1 | 14733 | L | 00019 | SO | 88122911 | 114556 | 004500 | 351 | V |
| KITOO | NOVA LMC88 | 55 | 14.96 | 0508140 | -684122 | L | 3 | 35182 | L | 00019 | SO | 88122912 | 123642 | 004500 | 230 | V |
| KITOO | NOVA LMC88 | 55 | 14.96 | 0508140 | -684122 | L | 1 | 14734 | L | 00019 | SO | 88122913 | 132729 | 006000 | 361 | V |
| KITOO | NOVA LMC88 | 55 | 14.96 | 0508140 | -684122 | L | 3 | 35183 | L | 00019 | SO | 88122914 | 143317 | 013500 | 350 | V |
| LGKTA | HD 34029 | 45 | 0.2 | 0512597 | +455641 | H | 1 | 14425 | L | 14116 | FU | 88110919 | 193000 | 000200 | XX4 | G E=4X,C=6X,B=51 |
| LGKTA | HD 34029 | 45 | 0.2 | 0512597 | +455641 | H | 3 | 34713 | L | 14116 | FU | 88110919 | 195000 | 020000 | X49 | G E=239,C=6X,B=105 |
| LGKTA | HD 34029 | 45 | 0.2 | 0512597 | +455641 | H | 1 | 14426 | L | 15245 | FU | 88110923 | 234900 | 000140 | X53 | G E=238,C=5X,B=45 |
| LGKTA | HD 34029 | 45 | 0.2 | 0512597 | +455641 | H | 3 | 34714 | L | 15139 | FU | 88111000 | 000600 | 020000 | X39 | G E=245,C=6X,B=160 |
| LGKTA | HD 34029 | 45 | 0.2 | 0512597 | +455641 | H | 1 | 14427 | L | 14393 | FU | 88111003 | 034500 | 000600 | ?X7 | G E=2X,C=18X,B=85 |
| LGKTA | HD 34029 | 45 | 0.2 | 0512597 | +455641 | H | 3 | 34715 | L | 15801 | FU | 88111004 | 043000 | 003000 | 553 | G E=225,C=200,B=43 |
| LGKTA | HD 34029 | 45 | 0.2 | 0512597 | +455641 | H | 3 | 34716 | L | 15217 | FU | 88111005 | 055000 | 003000 | 533 | G E=91,C=210,B=48 |
| LGKTA | HD 34029 | 45 | 0.2 | 0512597 | +455641 | H | 3 | 34717 | L | 15703 | FU | 88111007 | 071200 | 003000 | X57 | G E=237,C=1.5X,B=84 |
| LGKTA | HD 34029 | 45 | 0.2 | 0512597 | +455641 | H | 3 | 34718 | L | 15171 | FU | 88111008 | 082100 | 003000 | X54 | G E=223,C=1.5X,B=55 |
| LGKTA | HD 34029 | 45 | 0.2 | 0512597 | +455641 | H | 3 | 34719 | L | 14270 | FU | 88111009 | 093000 | 006000 | XX5 | G E=2X,C=3X,B=68 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LGKTA | HD | 34029 | 45 | 0.2 | 0512597 | +455641 | H | 3 | 35265 | L | 16282 | FU | 89010523 | 233500 | 003000 | 4X3 G E=1.5X,C=148,B=41 |
| LGKTA | HD | 34029 | 45 | 0.2 | 0512597 | +455641 | H | 3 | 35266 | L | 15466 | FU | 89010600 | 004900 | 003000 | 452 G E=197,C=153,B=40 |
| LGKTA | HD | 34029 | 45 | 0.2 | 0512597 | +455641 | L | 3 | 35267 | L | 15310 | FU | 89010602 | 020300 | 000315 | X50 G E=240,C=2X,B=17 |
| LGKTA | HD | 34029 | 45 | 0.2 | 0512597 | +455641 | L | 3 | 35268 | L | 15242 | FU | 89010602 | 024800 | 000315 | X50 G E=248,C=2X,B=16 |
| LGKTA | HD | 34029 | 45 | 0.2 | 0512597 | +455641 | H | 3 | 35269 | L | 14610 | FU | 89010603 | 033900 | 006000 | XX5 G E=2X,C=2X,B=67 |
| LGKTA | HD | 34029 | 45 | 0.2 | 0512597 | +455641 | L | 3 | 35270 | L | 14992 | FU | 89010605 | 052100 | 000315 | X50 G E=248,C=2X,B=16 |
| LGKTA | HD | 34029 | 45 | 0.2 | 0512597 | +455641 | H | 3 | 35271 | L | 15059 | FU | 89010606 | 061700 | 002800 | 453 G E=210,C=178,B=42 |
| LGKTA | HD | 34029 | 45 | 0.2 | 0512597 | +455641 | H | 1 | 14778 | L | 16521 | FU | 89010615 | 155600 | 000140 | X53 G E=242,C=2X,B=42 |
| LGKTA | HD | 34029 | 45 | 0.2 | 0512597 | +455641 | H | 3 | 35276 | L | 16513 | FU | 89010618 | 182300 | 020000 | XX9 G E=1.5X,C=8X,B=135 |
| LGKTA | HD | 34029 | 45 | 0.2 | 0512597 | +455641 | H | 1 | 14779 | L | 15299 | FU | 89010620 | 203800 | 000140 | X53 G E=230,C=2X,B=45 |
| LGKTA | HD | 34029 | 45 | 0.2 | 0512597 | +455641 | H | 3 | 35277 | L | 15344 | FU | 89010620 | 205300 | 020000 | ??9 G E=10X,C=10X,B=110 |
| LGKTA | HD | 34029 | 45 | 0.2 | 0512597 | +455641 | H | 1 | 14780 | L | 14328 | FU | 89010622 | 224800 | 000600 | XX6 G E=7X,C=7X,B=80 |
| LGKTA | HD | 34029 | 45 | 0.2 | 0512597 | +455641 | L | 3 | 35278 | L | 15002 | FU | 89010701 | 011100 | 001000 | XX0 G E=3X,C=3X,B=18 |
| LGKTA | HD | 34029 | 45 | 0.2 | 0512597 | +455641 | L | 3 | 35279 | L | 15128 | FU | 89010702 | 020600 | 001000 | XX0 G E=3X,C=3X,B=18 |
| LGKTA | HD | 34029 | 45 | 0.2 | 0512597 | +455641 | H | 3 | 35605 | L | | | 89022122 | 222800 | 003000 | G |
| LGKTA | HD | 34029 | 45 | 0.2 | 0512597 | +455641 | H | 3 | 35609 | L | | | 89022222 | 223100 | 006000 | XX6 G E=3X,C=3X,B=72 |
| KA204 | PK | 169-0.1 | 71 | 15.10 | 0514460 | +373016 | L | 3 | 35673 | L | 00000 | | 89030406 | 064151 | 002500 | 110 V |
| OBKDB | HD | 34511 | 21 | 7.4 | 0515273 | -000523 | L | 1 | 14924 | L | 3000 | FO | 89012600 | 005600 | 000015 | 502 G C=245,B=31 |
| OBKDB | HD | 34511 | 21 | 7.4 | 0515273 | -000523 | L | 3 | 35409 | L | 3038 | FO | 89012601 | 010100 | 000025 | 500 G C=220,B=16 |
| OBKDB | HD | 34511 | 21 | 7.4 | 0515273 | -000523 | H | 3 | 35452 | L | 3155 | FO | 89012906 | 061000 | 003300 | 503 G C=250,B=46 |
| OBKDB | HD | 34510 | 22 | 8.1 | 0515348 | +051559 | L | 1 | 14923 | L | 861 | FO | 89012523 | 233400 | 000120 | 502 G C=226,B=37 |
| OBKDB | HD | 34510 | 22 | 8.1 | 0515348 | +051559 | L | 3 | 35408 | L | 865 | FO | 89012523 | 233900 | 000355 | 500 G C=240,B=16 |
| PHCAL | HD | 34816 | 20 | 4.3 | 0517162 | -131337 | H | 1 | 14472 | L | 475 | FU | 88111607 | 072900 | 000022 | 503 G C=225,B=44 |
| PHCAL | HD | 34816 | 20 | 4.3 | 0517162 | -131337 | H | 3 | 34748 | L | 471 | FU | 88111607 | 073400 | 000022 | 402 G C=180,B=32 |
| PHCAL | HD | 34816 | 20 | 4.3 | 0517162 | -131337 | H | 2 | 18259 | L | 497 | FU | 88121306 | 061500 | 000035 | 502 G C=200,B=31 |
| PHCAL | HD | 34816 | 20 | 4.3 | 0517162 | -131337 | H | 1 | 15001 | L | 481 | FU | 89020923 | 235900 | 000022 | 503 G C=202,B=43 |
| PHCAL | HD | 34816 | 20 | 4.3 | 0517162 | -131337 | H | 3 | 35520 | L | 473 | FU | 89021000 | 000600 | 000022 | 502 G E =154,C=203,B=32 |
| PHCAL | HD | 34816 | 20 | 4.3 | 0517162 | -131337 | H | 1 | 15108 | L | 487 | FU | 89022720 | 205100 | 000022 | 503 G C=215,B=41 |
| PHCAL | HD | 34816 | 20 | 4.3 | 0517162 | -131337 | H | 3 | 35629 | L | 484 | FU | 89022720 | 205600 | 000022 | 402 G C=175,B=31 |
| ZZKGF | GD | 66 | 37 | 15.6 | 0517250 | +304530 | L | 3 | 34703 | L | | BO | 88110720 | 205100 | 056000 | 309 G C=146,B=108 |
| OBKDB | HD | 34929 | 22 | 8.4 | 0518243 | +042546 | L | 1 | 14925 | L | 1185 | FO | 89012602 | 020900 | 000120 | 502 G C=236,B=36 |
| OBKDB | HD | 34929 | 22 | 8.4 | 0518243 | +042546 | L | 3 | 35410 | L | 1211 | FO | 89012602 | 021400 | 000320 | 500 G C=240,B=16 |
| OBKDB | HD34959 | | 22 | 06.84 | 0518410 | +035750 | H | 1 | 15294 | L | 06537 | FO | 89040302 | 022632 | 000930 | 501 V |
| OBKDB | HD | 34959 | 22 | 6.6 | 0518410 | +035750 | H | 3 | 35431 | L | 6043 | FO | 89012723 | 232900 | 000015 | 00 G B=20 |
| OBKDB | HD34959 | | 22 | 06.90 | 0518410 | +035750 | H | 3 | 35918 | L | 06237 | FO | 89040302 | 024210 | 002000 | 500 V |
| OBKDB | HD | 34959 | 22 | 6.6 | 0518410 | +035750 | L | 3 | 35433 | L | 6252 | FO | 89012801 | 011000 | 000015 | 500 G C=194,B=16 |
| OBKDB | HD | 35008 | 22 | 7.1 | 0518565 | -013539 | L | 3 | 35432 | L | 3684 | FO | 89012800 | 001300 | 000040 | 500 G C=214,B=16 |
| KA165 | HD | 242908 | 12 | 9.0 | 0519120 | +332800 | L | 1 | 15289 | L | | | 89040218 | 180900 | 000200 | G |
| KA165 | HD | 242908 | 12 | 9.0 | 0519120 | +332800 | L | 1 | 15289 | L | | | 89040218 | 180900 | 000600 | G |
| KA165 | HD | 242908 | 12 | 9.0 | 0519120 | +332800 | L | 1 | 15289 | L | 733 | FO | 89040218 | 181000 | 000600 | X03 G C=1.5X,B=48 |
| KA165 | HD | 242908 | 12 | 9.0 | 0519120 | +332800 | L | 1 | 15289 | L | | | 89040218 | 181800 | 000600 | G |
| KA165 | HD | 242908 | 12 | 9.0 | 0519120 | +332800 | L | 3 | 35914 | L | | | 89040218 | 183100 | 000900 | G |
| KA165 | HD | 242908 | 12 | 9.0 | 0519120 | +332800 | L | 3 | 35914 | L | 723 | FO | 89040218 | 183200 | 000900 | X01 G C=1.5X,B=27 |
| GCKAC | NGC | 1917 | 83 | 10.2 | 0519180 | -690300 | L | 3 | 35604 | L | 49 | SO | 89022113 | 135400 | 030500 | 08 G B=92 |
| GCKAC | NGC | 1917 | 83 | 10.2 | 0519180 | -690300 | L | 1 | 15075 | L | 50 | SO | 89022212 | 124700 | 017500 | 306 G C=120,B=72 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OBKDB | HD 35079 | 21 | 7.1 | 0519280 | -030041 | L | 3 | 35422 | L | 3846 | FO | 89012702 | 020900 | 000022 | 500 | G C=222,B=16 |
| KA165 | HD 242935 | 12 | 9.4 | 0519294 | +332221 | L | 1 | 15290 | L | 521 | FO | 89040219 | 193300 | 000300 | X05 | G C=6X,B=62 |
| KA165 | HD 242935 | 12 | 9.4 | 0519294 | +332221 | L | 1 | 15230 | L | | | 89040219 | 193300 | 000900 | | G |
| KA165 | HD 242935 | 12 | 9.4 | 0519294 | +332221 | L | 1 | 15290 | L | | | 89040220 | 200300 | 000300 | | G |
| KA165 | HD 242935 | 12 | 9.4 | 0519294 | +332221 | L | 3 | 35915 | L | 519 | FO | 89040220 | 201200 | 002000 | X07 | G C=5X,B=85 |
| KM189 | LMC N122 | 70 | 14.00 | 0520175 | -693400 | L | 3 | 35695 | L | 00000 | BO | 89030704 | 042835 | 015000 | 060 | U |
| NPKSM | LMC 47 | 70 | 17.0 | 0520180 | -693400 | L | 3 | 35876 | L | | BO | 89032712 | 124900 | 005500 | 31 | G E=114,B=24 |
| NPKSM | LMC 47 | 70 | 17.0 | 0520180 | -693400 | L | 3 | 35877 | L | | BO | 89032714 | 142200 | 018000 | 2X3 | G E=2X,C=55,B=45 |
| OBKDB | HD 35177 | 22 | 8.2 | 0520263 | +013903 | L | 3 | 35420 | L | 1420 | FO | 89012700 | 004600 | 000125 | 500 | G C=208,B=16 |
| OBKDB | HD 35194 | 22 | 8.4 | 0520278 | +002334 | L | 3 | 35419 | L | 1178 | FO | 89012700 | 000300 | 000220 | 500 | G C=235,B=16 |
| KI181 | PKS0521-36 | 87 | 15.00 | 0521128 | -363018 | L | 1 | 15036 | L | 00000 | BO | 89021405 | 051155 | 017200 | 303 | U |
| OBKDB | HD 35298 | 21 | 7.9 | 0521142 | +020213 | L | 3 | 35421 | L | 1919 | FO | 89012701 | 012800 | 000050 | 500 | G C=203,B=16 |
| OBKDB | HD 35305 | 22 | 8.4 | 0521166 | +004903 | L | 3 | 35418 | L | 1072 | FO | 89012623 | 232500 | 000200 | 500 | G C=205,B=16 |
| OBKDB | HD 35407 | 21 | 6.3 | 0522000 | +021831 | L | 3 | 35424 | L | 7901 | FO | 89012704 | 040100 | 000005 | 500 | G C=170,B=16 |
| OBKDB | HD 35407 | 21 | 6.3 | 0522000 | +021831 | H | 1 | 14930 | L | 7854 | FO | 89012704 | 040600 | 000320 | 403 | G C=160,B=41 |
| KA186 | HD 35439 | 20 | 05.16 | 0522089 | +014806 | H | 3 | 35616 | L | 23286 | FO | 89022407 | 070104 | 000130 | 500 | U |
| ISKSS | HD 35532 | 21 | 6.2 | 0523122 | +163927 | H | 3 | 35853 | L | 8220 | FO | 89032500 | 002100 | 000830 | 402 | G C=180,B=36 |
| ISKSS | HD 35532 | 21 | 6.2 | 0523122 | +163927 | H | 1 | 15244 | L | 8574 | FO | 89032501 | 010000 | 000810 | X03 | G C=1.5X,B=47 |
| ISKSS | HD 35588 | 21 | 6.0 | 0523126 | +002839 | H | 1 | 15268 | L | 9221 | FO | 89032920 | 205800 | 000320 | 503 | G C=197,B=42 |
| ISKSS | HD 35588 | 21 | 6.0 | 0523126 | +002839 | H | 3 | 35893 | L | 9292 | FO | 89032921 | 210600 | 000420 | 402 | G C=180,B=35 |
| OBKDB | HD 35612 | 22 | 8.3 | 0523314 | +004729 | L | 3 | 35415 | L | 1301 | FO | 89012606 | 062600 | 000230 | 500 | G C=244,B=16 |
| ISKSS | HD 35715 | 20 | 4.7 | 0524129 | +030314 | H | 1 | 15267 | L | 367 | FU | 89032919 | 194800 | 000035 | 503 | G C=202,B=42 |
| ISKSS | HD 35715 | 20 | 4.7 | 0524129 | +030314 | H | 3 | 35892 | L | 367 | FU | 89032919 | 195200 | 000045 | 502 | G C=190,B=36 |
| OBKDB | HD 35730 | 21 | 7.2 | 0524164 | +033423 | L | 3 | 35434 | L | 3668 | FO | 89012801 | 014900 | 000014 | 500 | G C=218,B=16 |
| OBKDB | HD 35730 | 21 | 7.2 | 0524164 | +033423 | H | 1 | 14934 | L | 3574 | FO | 89012903 | 030500 | 000800 | 403 | G C=180,B=46 |
| OBKDB | HD 35730 | 21 | 7.2 | 0524164 | +033423 | H | 3 | 35450 | L | 3650 | FO | 89012903 | 033900 | 002300 | 503 | G C=245,B=48 |
| OBKDB | HD 35730 | 21 | 7.2 | 0524164 | +033423 | H | 1 | 14935 | L | 3666 | FO | 89012904 | 041400 | 001000 | 403 | G C=183,B=41 |
| OBKDB | HD 35792 | 21 | 7.2 | 0524372 | -012431 | L | 3 | 35435 | L | 3693 | FO | 89012802 | 023200 | 000015 | 500 | G C=215,B=16 |
| OBKDB | HD 35792 | 21 | 7.2 | 0524372 | -012431 | H | 3 | 35451 | L | 3737 | FO | 89012904 | 045800 | 002500 | 503 | G C=250,B=46 |
| OBKDB | HD 35792 | 21 | 7.2 | 0524372 | -012431 | H | 1 | 14936 | L | 3651 | FO | 89012905 | 053300 | 001100 | 403 | G C=190,B=43 |
| OBKDB | HD 35882 | 22 | 7.8 | 0525131 | -015113 | L | 3 | 35437 | L | 2092 | FO | 89012804 | 040700 | 000050 | 500 | G C=230,B=16 |
| OBKDB | HD 35899 | 21 | 7.5 | 0525140 | -021120 | L | 3 | 35438 | L | 2963 | FO | 89012804 | 044400 | 000022 | 500 | G C=210,B=16 |
| OBKDB | HD 35881 | 22 | 7.8 | 0525192 | +010352 | L | 3 | 35436 | L | 2108 | FO | 89012803 | 032000 | 000055 | 500 | G C=202,B=16 |
| KA165 | BD +34 1059 | 20 | 9.2 | 0525225 | +345825 | L | 1 | 15291 | L | 621 | FO | 89040221 | 213600 | 000730 | X09 | G C=3X,B=110 |
| KA165 | BD +34 1059 | 20 | 9.2 | 0525225 | +345825 | L | 3 | 35916 | L | 619 | FO | 89040221 | 215200 | 001230 | X09 | G C=5.5X,B=105 |
| KA165 | BD +34 1059 | 20 | 9.2 | 0525225 | +345825 | L | 3 | 35916 | L | | | 89040221 | 215200 | 000730 | | G |
| OBKDB | HD 35910 | 21 | 7.6 | 0525291 | +032944 | L | 3 | 35439 | L | 2697 | FO | 89012805 | 052700 | 000035 | 500 | G C=202,B=16 |
| OBKDB | HD 36012 | 21 | 7.3 | 0526122 | +020731 | H | 3 | 35425 | L | 3260 | FO | 89012704 | 045800 | 003000 | 502 | G C=202,B=40 |
| OBKDB | HD 36012 | 21 | 7.3 | 0526122 | +020731 | H | 1 | 14931 | L | 3166 | FO | 89012705 | 053600 | 000900 | 402 | G C=145,B=40 |
| OBKDB | HD 36012 | 21 | 7.3 | 0526122 | +020731 | L | 3 | 35426 | L | 3087 | FO | 89012706 | 060500 | 000026 | 500 | G C=220,B=16 |
| OBKDB | HD 36115 | 22 | 7.2 | 0526565 | +051119 | L | 3 | 35414 | L | 1420 | FO | 89012605 | 054300 | 000220 | 500 | G C=232,B=16 |
| OBKDB | HD 36165 | 22 | 8.1 | 0527180 | +020540 | L | 3 | 35440 | L | 1612 | SU | 89012806 | 060500 | 000110 | 500 | G C=190,B=16 |
| ISKSS | HD 36267 | 21 | 4.3 | 0528064 | +055442 | H | 1 | 15310 | L | 473 | FU | 89040520 | 205800 | 000050 | 503 | G C=228,B=46 |
| ISKSS | HD 36267 | 21 | 4.3 | 0528064 | +055442 | H | 3 | 35943 | L | 467 | FU | 89040521 | 210400 | 000125 | 503 | G C=220,B=42 |
| ISKSS | HD 36262 | 21 | 7.4 | 0528136 | +120336 | H | 1 | 15242 | L | 2554 | FO | 89032422 | 221900 | 000810 | 403 | G C=147,B=46 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ISKSS | HD 36262 | 21 | 7.4 | 0528136 | +120336 | H | 3 | 35852 | L | 2630 | FO | 89032422 | 224900 | 002100 | 403 | G C=174,B=42 |
| ISKSS | HD 36262 | 21 | 7.4 | 0528136 | +120336 | H | 1 | 15243 | L | 2675 | FO | 89032423 | 232800 | 001200 | 403 | G C=177,B=46 |
| KC037 | HD36705 | 44 | 07.44 | 0528358 | -652919 | H | 1 | 14655 | L | 03877 | FO | 88121709 | 095129 | 003500 | 332 | U |
| KC037 | HD36705 | 44 | 07.44 | 0528358 | -652919 | L | 3 | 35056 | L | 03879 | FO | 88121710 | 103346 | 006000 | 230 | U |
| KC037 | HD36705 | 44 | 07.44 | 0528358 | -652919 | H | 1 | 14656 | L | 03879 | FO | 88121711 | 113945 | 004000 | 332 | U |
| KC037 | HD36705 | 44 | 07.35 | 0528358 | -652919 | H | 1 | 14657 | L | 04208 | FO | 88121712 | 125009 | 004000 | 331 | U |
| KC037 | HD36705 | 44 | 07.27 | 0528358 | -652919 | H | 1 | 14658 | L | 04493 | FO | 88121714 | 140336 | 004000 | 331 | U |
| KC037 | HD36705 | 44 | 07.27 | 0528358 | -652919 | L | 3 | 35057 | L | 04493 | FO | 88121714 | 145124 | 006000 | 330 | U |
| KC037 | HD36705 | 44 | 07.27 | 0528358 | -652919 | H | 1 | 14659 | L | 04493 | FO | 88121716 | 160000 | 004000 | 232 | U |
| KC037 | HD36705 | 46 | 07.46 | 0528358 | -652919 | H | 1 | 14672 | L | 03811 | FO | 88121913 | 131939 | 003500 | 332 | U |
| KC037 | HD36705 | 46 | 07.20 | 0528358 | -652919 | H | 1 | 14673 | L | 03949 | FO | 88121914 | 142924 | 003500 | 332 | U |
| KC037 | HD36705 | 46 | 07.38 | 0528358 | -652919 | H | 1 | 14674 | L | 04075 | FO | 88121915 | 153722 | 004000 | 332 | U |
| KC037 | HD36705 | 46 | 07.37 | 0528358 | -652919 | L | 3 | 35077 | L | 04131 | FO | 88121916 | 162522 | 002200 | 231 | U |
| CCKDS | HD 36705 | 46 | 6.9 | 0528390 | -652918 | H | 1 | 14708 | L | 3641 | FO | 88122501 | 011600 | 003000 | 333 | G E=111,C=84,B=41 |
| CCKDS | HD 36705 | 46 | 6.9 | 0528390 | -652918 | L | 3 | 35127 | L | 4080 | FO | 88122501 | 015400 | 006000 | 332 | G E=120,C=61,B=36 |
| CCKDS | HD 36705 | 46 | 6.9 | 0528390 | -652918 | H | 1 | 14709 | L | 3664 | FO | 88122503 | 030200 | 004000 | 334 | G E=127,C=110,B=51 |
| CCKDS | HD 36705 | 46 | 6.9 | 0528390 | -652918 | H | 1 | 14710 | L | 3905 | FO | 88122507 | 070300 | 004000 | 332 | G E=99,C=83,B=39 |
| CCKDS | HD 36705 | 46 | 6.9 | 0528390 | -652918 | L | 3 | 35129 | L | 3914 | FO | 88122508 | 080100 | 005000 | 300 | G C=55,B=15 |
| CCKDS | HD 36705 | 46 | 6.9 | 0528390 | -652918 | H | 1 | 14713 | L | 4148 | FO | 88122517 | 171700 | 004000 | 333 | G E=100,C=85,B=42 |
| CCKDS | HD 36705 | 46 | 6.9 | 0528390 | -652918 | L | 3 | 35132 | L | 3780 | FO | 88122521 | 212200 | 006000 | 231 | G E=124,C=50,B=30 |
| CCKDS | HD 36705 | 46 | 6.9 | 0528390 | -652918 | H | 1 | 14715 | L | 3661 | FO | 88122522 | 223000 | 004000 | 332 | G E=111,C=88,B=32 |
| CCKDS | HD 36705 | 46 | 6.9 | 0528390 | -652918 | L | 3 | 35133 | L | 3816 | FO | 88122523 | 231700 | 006000 | 332 | G E=127,C=57,B=32 |
| CCKDS | HD 36705 | 46 | 6.9 | 0528390 | -652918 | H | 1 | 14716 | L | 4034 | FO | 88122600 | 002900 | 006000 | 333 | G E=138,C=103,B=41 |
| CCKDS | HD 36705 | 46 | 6.9 | 0528390 | -652918 | L | 3 | 35134 | L | 3889 | FO | 88122601 | 013600 | 009000 | 342 | G E=150,C=68,B=37 |
| CCKDS | HD 36705 | 46 | 6.9 | 0528390 | -652918 | H | 1 | 14717 | L | 3685 | FO | 88122603 | 032300 | 004000 | 332 | G E=127,C=85,B=39 |
| CCKDS | HD 36705 | 46 | 6.9 | 0528390 | -652918 | L | 3 | 35135 | L | 4182 | FO | 88122604 | 041100 | 006000 | 332 | G E=114,C=61,B=36 |
| CCKDS | HD 36705 | 46 | 6.9 | 0528390 | -652918 | H | 1 | 14718 | L | 3822 | FO | 88122605 | 051800 | 004000 | 333 | G E=96,C=101,B=41 |
| CCKDS | HD 36705 | 46 | 6.9 | 0528390 | -652918 | L | 3 | 35136 | L | 3872 | FO | 88122606 | 060600 | 005000 | 332 | G E=119,C=57,B=32 |
| ISKSS | HD 36337 | 21 | 6.6 | 0528444 | +145334 | H | 1 | 15263 | L | 5554 | FO | 89032913 | 130500 | 000830 | 403 | G C=165,B=41 |
| ISKSS | HD 36337 | 21 | 6.6 | 0528444 | +145334 | H | 3 | 35888 | L | 5586 | FO | 89032913 | 132100 | 002040 | 402 | G C=190,B=40 |
| OBKDB | HD 36392 | 21 | 8.1 | 0528542 | +013914 | L | 3 | 35441 | L | 2875 | FO | 89012806 | 064400 | 000022 | 500 | G C=220,B=16 |
| USSBS | HD 36673 | 40 | 2.59 | 0530313 | -175123 | H | 3 | 35550 | L | 1718 | FU | 89021400 | 005400 | 001700 | X03 | G C=1.5X,B=43 |
| OBKDB | HD 36627 | 21 | 7.5 | 0530315 | +030549 | L | 3 | 35445 | L | 2450 | FO | 89012823 | 234900 | 000035 | 500 | G C=215,B=16 |
| ISKSS | HD 36576 | 21 | 5.5 | 0530357 | +183023 | H | 1 | 15269 | L | 12764 | FO | 89032922 | 221200 | 000230 | 403 | G C=172,B=42 |
| ISKSS | HD 36576 | 21 | 5.5 | 0530357 | +183023 | H | 3 | 35896 | L | 12101 | FO | 89033020 | 200600 | 000530 | 402 | G C=180,B=36 |
| ISKSS | HD 36576 | 21 | 5.5 | 0530357 | +183023 | H | 3 | 35941 | L | 12282 | SO | 89040517 | 173800 | 000600 | 402 | G C=183,B=35 |
| KA066 | NGC2004/B3 | 20 | 13.80 | 0530524 | -671929 | L | 1 | 15403 | L | 00000 | BO | 89042502 | 022645 | 006000 | 551 | U |
| KA066 | NGC2004/B3 | 20 | 13.80 | 0530524 | -671929 | L | 3 | 36087 | L | 00000 | BO | 89042503 | 033656 | 012000 | 601 | U |
| ISKSS | HD 36653 | 21 | 5.6 | 0531036 | +141620 | H | 1 | 15273 | L | 13396 | FO | 89033021 | 211800 | 000220 | 504 | G C=208,B=51 |
| ISKSS | HD 36653 | 21 | 5.6 | 0531036 | +141620 | H | 3 | 35897 | L | 13434 | FO | 89033021 | 212500 | 000330 | 403 | G C=180,B=41 |
| JA066 | R110 | 25 | 10.42 | 0531124 | -690459 | H | 1 | 15383 | L | 00272 | FO | 89042002 | 024550 | 035000 | 304 | U |
| KA066 | R110(LMC) | 40 | 10.49 | 0531124 | -690459 | L | 1 | 15404 | L | 00256 | FO | 89042506 | 060228 | 003000 | 501 | U |
| KA066 | R110(LMC) | 40 | 10.48 | 0531124 | -690459 | L | 3 | 36088 | L | 00258 | FO | 89042506 | 064115 | 007500 | 500 | U PREAD |
| NRKWB | M 1 | 75 | | 0531317 | +220022 | L | 3 | 35503 | L | | BO | 89020612 | 121000 | 041000 | 08 | G B=98 |
| ISKSS | HD 36824 | 21 | 6.7 | 0532030 | +053742 | H | 1 | 15266 | L | 5430 | FO | 89032918 | 180100 | 000700 | 503 | G C=220,B=42 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptm | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ISKSS | HD 36824 | 21 | 6.7 | 0532030 | +053742 | H | 3 | 35891 | L | 5499 | FO | 89032918 | 184000 | 000830 | 402 | G C=182,B=35 |
| ISKSS | HD 36822 | 20 | 4.5 | 0532044 | +092726 | H | 1 | 15274 | L | 412 | FU | 89033022 | 222700 | 000030 | 503 | G C=215,B=43 |
| ISKSS | HD 36822 | 20 | 4.5 | 0532044 | +092726 | H | 3 | 35898 | L | 413 | FU | 89033022 | 223200 | 000030 | 402 | G C=158,B=31 |
| ISKSS | HD 36861 | 14 | 3.7 | 0532229 | +095408 | H | 3 | 35944 | L | 1107 | FU | 89040522 | 224300 | 000020 | 543 | G E=147,C=230,B=42 |
| ISKSS | HD 36861 | 14 | 3.7 | 0532229 | +095408 | H | 1 | 15311 | L | 1111 | FU | 89040522 | 224700 | 000012 | 503 | G C=210,B=45 |
| OBKDB | HD 36897 | 22 | 7.6 | 0532295 | +052550 | L | 3 | 35411 | L | 1220 | FO | 89012603 | 033000 | 000740 | X00 | G C=1.5X,B=16 |
| OBKDB | HD 36897 | 22 | 7.6 | 0532295 | +052550 | L | 3 | 35911 | L | 1320 | FO | 89040121 | 210400 | 000120 | 300 | G C=77,B=18 |
| AEKCI | V380 ORI | 34 | 10.3 | 0534000 | -064426 | H | 1 | 14555 | L | 153 | FO | 88112819 | 194700 | 042000 | 339 | G E=211,C=190,B=115 |
| ISKSS | HD 37232 | 21 | 6.1 | 0534351 | +085521 | H | 3 | 35945 | L | 9048 | FO | 89040600 | 001500 | 000410 | 502 | G C=220,B=37 |
| ISKSS | HD 37232 | 21 | 6.1 | 0534351 | +085521 | H | 1 | 15312 | L | 9194 | FO | 89040600 | 002400 | 000240 | 503 | G C=206,B=43 |
| KE179 | SN 1987A | 56 | 11.55 | 0535000 | -691758 | L | 1 | 14711 | L | 00399 | SO | 88122509 | 095823 | 001200 | 530 | U |
| KE179 | SN1987A | 56 | 11.61 | 0535000 | -691758 | L | 3 | 35130 | L | 00094 | FO | 88122510 | 102423 | 020000 | 501 | U |
| KE179 | SN1987A | 56 | 11.60 | 0535000 | -691758 | L | 1 | 14712 | L | 00095 | FO | 88122513 | 135015 | 004000 | 760 | U |
| KE179 | SN1987A | 56 | 11.56 | 0535000 | -691758 | L | 3 | 35131 | L | 00396 | SO | 88122514 | 143551 | 012000 | 400 | U |
| KE179 | SN1987A | 56 | 15.00 | 0535467 | -691758 | L | 3 | 35603 | L | 00000 | BO | 89022105 | 050354 | 035400 | 443 | U |
| KI203 | HD 245770 | 26 | 8.8 | 0535469 | +261716 | H | 3 | 35723 | L | 665 | FO | 89030904 | 041000 | 024000 | X09 | G C=1.5X,B=136 |
| XBLCS | HD 245770 | 59 | 8.9 | 0535478 | +261717 | L | 1 | 15300 | L | 609 | FO | 89040318 | 185400 | 000400 | X02 | G C=1.5X,B=39 |
| XBLCS | HD 245770 | 59 | 8.9 | 0535478 | +261717 | L | 3 | 35926 | L | 622 | FO | 89040319 | 190500 | 001500 | 500 | G C=208,B=20 |
| XBLCS | HD 245770 | 59 | 8.90 | 0535478 | +261717 | L | 1 | 15304 | L | | | 89040414 | 140400 | 000300 | | G |
| XBLCS | HD 245770 | 59 | 8.90 | 0535478 | +261717 | L | 3 | 35930 | L | 660 | FO | 89040414 | 141500 | 001500 | 500 | G C=185,B=15 |
| XBLCS | HD 245770 | 59 | 8.90 | 0535478 | +261717 | L | 3 | 35931 | L | | | 89040415 | 153100 | 001500 | | G |
| XBLCS | HD 245770 | 59 | 8.9 | 0535478 | +261717 | L | 3 | 35942 | L | 752 | FO | 89040518 | 185900 | 001500 | 501 | G C=194,B=26 |
| XBLCS | HD 245770 | 59 | 8.9 | 0535478 | +261717 | L | 1 | 15309 | L | 713 | FO | 89040519 | 192100 | 000300 | 502 | G C=213,B=36 |
| KI203 | HD E245770 | 59 | 9.0 | 0535479 | +261717 | H | 3 | 35832 | L | 653 | FO | 89032104 | 042900 | 066600 | 409 | G C=228,B=110 |
| KI203 | HD E245770 | 59 | 9.0 | 0535479 | +261717 | H | 3 | 35855 | L | 648 | FO | 89032504 | 040600 | 086400 | X09 | G C=1.5X,B=143 |
| KI203 | HDE 245770 | 59 | 09.42 | 0535480 | +261718 | L | 1 | 15157 | L | 00665 | FO | 89030904 | 044750 | 000320 | 500 | U |
| KI203 | HD 245770 | 26 | 9.0 | 0535480 | +261718 | H | 3 | 35895 | | 682 | FO | 89033011 | 113800 | 087000 | X09 | G C=1.5X,B=162 |
| KI203 | HDE 245770 | 59 | 09.42 | 0535480 | +261718 | D | 9 | 02167 | 2 | 00665 | FO | 89030904 | 040000 | 002000 | | U FES FOR SWP35723, L |
| KI203 | HD 245770 | 26 | 9.0 | 0535480 | +261718 | H | 3 | 35913 | L | 723 | FO | 89040202 | 021500 | 062000 | 309 | G C=226,B=133 |
| KI203 | HDE 245770 | 59 | 09.43 | 0535480 | +261718 | E | 9 | 02173 | 2 | 00663 | FO | 89032103 | 034000 | 004000 | | U |
| KI203 | HDE 245770 | 59 | 09.43 | 0535480 | +261718 | L | 1 | 15232 | L | 00660 | FO | 89032103 | 035731 | 000320 | 502 | U |
| KI203 | HDE 245770 | 59 | 09.44 | 0535480 | +261717 | L | 1 | 15246 | L | 00652 | FO | 89032505 | 054402 | 000320 | 602 | U |
| KI203 | HDE 245770 | 59 | 09.44 | 0535480 | +261717 | E | 9 | 02176 | 2 | 00652 | FO | 89032506 | 062000 | 004000 | | U FOR SWP35855,SWLA,H |
| KI203 | HDE 245770 | 59 | 09.38 | 0535480 | +261718 | L | 1 | 15271 | L | 00731 | FO | 89033003 | 035712 | 000310 | 500 | U |
| KI203 | HDE 245770 | 59 | 09.39 | 0535480 | +261718 | F | 9 | 02177 | 2 | 00683 | FO | 89033003 | 035900 | 002000 | | U FOR SWP 35895 |
| KI203 | HDE 245770 | 26 | 09.33 | 0535480 | +261718 | D | 9 | 02180 | 2 | 00723 | FO | 89040202 | 020200 | 016000 | | U FES FOR SWP 35913 |
| KI203 | HDE 245770 | 26 | 09.39 | 0535480 | +261718 | L | 1 | 15288 | L | 00685 | FO | 89040203 | 030100 | 000310 | 502 | U |
| SNKRK | SN 1987A | 56 | 11.5 | 0535499 | -691757 | L | 1 | 15059 | L | 205 | SO | 89021823 | 232800 | 002100 | 502 | G C=200,B=38 |
| SNKRK | SN 1987A | 56 | 11.5 | 0535499 | -691757 | L | 1 | 15060 | L | 206 | SO | 89021900 | 002600 | 005300 | X03 | G C=2.5X,B=50 |
| SNKRK | SN 1987A | 56 | 11.8 | 0535499 | -691757 | L | 1 | 15132 | L | | | 89030512 | 120000 | 002300 | X53 | G E=208,C=5X,B=42 |
| SNKRK | SN 1987A | 56 | 11.8 | 0535499 | -691757 | L | 3 | 35686 | L | 188 | SO | 89030512 | 123100 | 024000 | 4X7 | G E=1.5X,C=209,B=86 |
| SNKRK | SN 1987A | 56 | 11.8 | 0535499 | -691757 | L | 1 | 15133 | L | 191 | SO | 89030516 | 164000 | 002700 | 503 | G C=199,B=45 |
| SNKRK | SN 1987A | 56 | 11.8 | 0535499 | -691757 | L | 1 | 15134 | L | 195 | SO | 89030517 | 174400 | 006500 | X04 | G C=2X,B=58 |
| SNKRK | SN 1987A | 56 | 11.6 | 053550 | -691758 | L | 1 | 14982 | L | 236 | SO | 89020717 | 170700 | 008000 | X06 | G C=4X,B=78 |
| KE179 | SN1987A-EC | 56 | 10.74 | 0535501 | -691758 | L | 1 | 14392 | L | 00205 | FO | 88110612 | 121432 | 036000 | 303 | U NOVA AT X=-54 Y=-67 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FFS | MD | Obs date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SNKRK | SN 1987A | 56 | 10.7 | 0535501 | -691758 | L | 1 | 14395 | L | 210 | FO | 88110708 | 080800 | 001100 | 505 | G C=233,B=66 |
| KE179 | SN1987A | 56 | 12.62 | 0535501 | -691758 | L | 1 | 15226 | L | 00153 | SO | 89032007 | 071344 | 001500 | 402 | U |
| SNKRK | SN 1987A | 56 | 10.7 | 0535501 | -691758 | L | 3 | 34701 | L | 217 | FO | 88110708 | 083900 | 012000 | 434 | G E=146,C=190,B=57 |
| KE179 | SN1987A | 56 | 12.64 | 0535501 | -691758 | L | 3 | 35822 | L | 00151 | SO | 89032007 | 074329 | 018300 | 401 | U |
| SNKRK | SN 1987A | 56 | 11.0 | 0535501 | -691758 | L | 1 | 14475 | L | 667 | SO | 88111620 | 203900 | 001200 | X02 | G C=1.5X,B=36 |
| SNKRK | SN 1987A | 56 | 11.0 | 0535501 | -691758 | L | 3 | 34751 | L | 164 | FO | 88111621 | 210700 | 024000 | XX2 | G E=1.5X,C=1.5X,B=37 |
| SNKRK | SN 1987A | 56 | 11.0 | 0535501 | -691758 | L | 1 | 14476 | L | 179 | FO | 88111623 | 235600 | 000900 | 502 | G C=204,B=36 |
| SNKRK | SN 1987A | 56 | 11.0 | 0535501 | -691758 | L | 1 | 14477 | L | 173 | FO | 88111701 | 013800 | 002500 | X02 | G C=3X,B=39 |
| SNKRK | SN 1987A | 56 | 11.0 | 0535501 | -691758 | L | 3 | 34752 | L | 186 | FO | 88111702 | 020800 | 004200 | 330 | G E=71,C=80,B=17 |
| SNKRK | SN 1987A | 56 | 11 | 0535501 | -691758 | L | 1 | 14521 | L | 158 | FO | 88112408 | 080800 | 001000 | | G |
| SNKRK | SN 1987A | 56 | 11 | 0535501 | -691758 | L | 3 | 34807 | L | 165 | FO | 88112408 | 083300 | 013500 | 441 | G E=151,C=127,B=27 |
| SNKRK | SN 1987A | 56 | 11.2 | 0535501 | -691758 | H | 3 | 34870 | L | 133 | FO | 88120417 | 175800 | 061200 | 339 | G E=158,C=165,B=115 |
| SNKRK | SN 1987A | 56 | 11.2 | 0535501 | -691758 | L | 1 | 14605 | L | 127 | FO | 88120421 | 213500 | 001130 | 503 | G C=224,B=42 |
| SNKRK | SN 1987A | 56 | 11.2 | 0535501 | -691758 | L | 3 | 34871 | L | 138 | FO | 88120422 | 220700 | 016300 | 545 | G E=187,C=221,B=64 |
| SNKRK | SN 1987A | 56 | 11.0 | 0535501 | -691758 | L | 1 | 14645 | L | 454 | SO | 88121422 | 223100 | 001200 | 502 | G C=220,B=37 |
| SNKRK | SN 1987A | 56 | 11.0 | 0535501 | -691758 | L | 3 | 35030 | L | 123 | FO | 88121422 | 225800 | 011000 | 433 | G E=133,C=150,B=41 |
| SNKRK | SN 1987A | 56 | 11.0 | 0535501 | -691758 | L | 1 | 14692 | L | 445 | SO | 88122206 | 060500 | 001200 | 402 | G C=172,B=39 |
| SNKRK | SN 1987A | 56 | 11.0 | 0535501 | -691758 | L | 3 | 35096 | L | 504 | SO | 88122206 | 063800 | 013000 | 433 | G E=131,C=155,B=43 |
| SNKRK | SN 1987A | 56 | 11.0 | 0535501 | -691758 | L | 3 | 35126 | L | 96 | FO | 88122421 | 215000 | 018000 | 403 | G C=190,B=50 |
| SNKRK | SN 1987A | 56 | 11 | 0535501 | -691758 | L | 3 | 35243 | L | 341 | SO | 89010400 | 000600 | 009000 | 334 | G E=121,C=132,B=51 |
| SNKRK | SN 1987A | 56 | 11 | 0535501 | -691758 | L | 1 | 14766 | L | 384 | SO | 89010401 | 011600 | 001400 | 403 | G C=179,B=41 |
| SNKRK | SN 1987A | 56 | 11 | 0535501 | -691758 | L | 1 | 14767 | L | 388 | SO | 89010402 | 021200 | 003500 | X09 | G C=2X,B=127 |
| SNKRK | SN 1987A | 56 | 11.5 | 0535501 | -691758 | L | 1 | 14799 | L | 77 | FO | 89011016 | 162100 | 001530 | 532 | G E=126,C=205,B=37 |
| SNKRK | SN 1987A | 56 | 11.5 | 0535501 | -691758 | L | 3 | 35308 | L | 327 | SO | 89011018 | 185500 | 022000 | 546 | G E=194,C=231,B=72 |
| SNKRK | SN 1987A | 56 | 11.3 | 0535501 | -691758 | L | 1 | 14865 | L | 72 | FO | 89011823 | 235500 | 001600 | 502 | G C=195,B=38 |
| SNKRK | SN 1987A | 56 | 11.3 | 0535501 | -691758 | L | 3 | 35379 | L | 272 | SO | 89011900 | 002100 | 014000 | 336 | G E=160,C=179,B=80 |
| SNKRK | SN 1987A | 56 | 11.6 | 0535501 | -691758 | L | 3 | 35505 | L | 244 | SO | 89020712 | 122100 | 022000 | 444 | G E=195,C=199,B=58 |
| SNKRK | SN 1987A | 56 | 11.6 | 0535501 | -691758 | L | 1 | 14981 | L | 231 | SO | 89020716 | 161200 | 001900 | 503 | G C=208,B=41 |
| SNKRK | SN 1987A | 56 | 11.5 | 0535501 | -691758 | H | 3 | 35577 | L | 209 | SO | 89021805 | 050700 | 038500 | 339 | G E=161,C=187,B=140 |
| SNKRK | SN 1987A | 07 | 11.5 | 0535501 | -691758 | L | 1 | 15058 | | | | 89021805 | 050800 | 044000 | 309 | G C=198,B=143 |
| SNKRK | SN 1987A | 56 | 12.0 | 0535501 | -691758 | L | 1 | 15191 | L | 41 | FO | 89031320 | 200100 | 003100 | 502 | G C=214,B=38 |
| SNKRK | SN 1987A | 56 | 0.0 | 0535501 | -691758 | L | 1 | 15192 | L | 174 | SO | 89031321 | 210800 | 009000 | X03 | G C=3X,B=44 |
| SNKRK | SN 1987A | 56 | 12.0 | 0535501 | -691758 | L | 1 | 15216 | L | 39 | FO | 89031820 | 202100 | 003200 | 502 | G C=219,B=37 |
| SNKRK | SN 1987A | 56 | 12.0 | 0535501 | -691758 | L | 1 | 15217 | L | 161 | SO | 89031821 | 213100 | 008000 | X06 | G C=3X,B=76 |
| SNKRK | SN 1987A | 56 | 12.1 | 0535501 | -691758 | L | 3 | 35940 | L | 139 | SO | 89040509 | 094900 | 026000 | 445 | G E=203,C=213,B=69 |
| SNKRK | SN 1987A | 56 | 12.1 | 0535501 | -691758 | L | 1 | 15307 | L | 141 | SO | 89040514 | 141600 | 003500 | | G |
| SNKRK | SN 1987A | 56 | 12.6 | 0535501 | -691758 | L | 1 | 15391 | L | 119 | SO | 89042217 | 174200 | 004200 | 503 | G C=212,B=41 |
| SNKRK | SN 1987A | 56 | 12.6 | 0535501 | -691758 | L | 1 | 15392 | L | 118 | SO | 89042218 | 185700 | 011500 | X07 | G C=3X,B=90 |
| SNKRK | SN 1987A | 56 | 12.7 | 0535501 | -691758 | L | 3 | 36171 | L | 114 | SO | 89043009 | 093400 | 021000 | 447 | G E=193,C=200,B=83 |
| SNKRK | SN 1987A | 56 | 12.7 | 0535501 | -691758 | L | 1 | 15414 | L | 110 | SO | 89043013 | 131200 | 004000 | 405 | G C=210,B=63 |
| SNKRK | SN 1987A | 56 | 12.7 | 0535501 | -691758 | L | 1 | 15415 | L | 105 | SO | 89043014 | 142800 | 009000 | X07 | G C=2X,B=81 |
| KE179 | SN1987A | 56 | 10.67 | 0535502 | -691759 | L | 3 | 34670 | L | 00218 | FO | 88110312 | 122239 | 013300 | 541 | U EXPOSURE 60 +73 MI |
| KE179 | SN 1987A | 56 | 11.3 | 0535502 | -691759 | | 3 | 35929 | L | 139 | SO | 89040401 | 012800 | 063000 | 328 | G E=118,C=170,B=100 |
| KE179 | SN 1987A | 56 | 10.70 | 0535502 | -691759 | L | 1 | 14376 | L | 00213 | FO | 88110313 | 132927 | 001000 | 500 | U |
| KE179 | SN1987A-EC | 56 | 10.74 | 0535502 | -691759 | L | 3 | 34698 | L | 00205 | FO | 88110612 | 121056 | 039600 | 302 | U NOVA AT X=-54 Y=-6 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
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| KE179 | SN 1987A | 56 | 11.23 | 0535502 | -691759 | F | 9 | 02143 | 2 | 00133 | FO | 88120410 | 100100 | 004000 | | V FOR SWP 34870 |
| KE179 | SN1987A | 56 | 11.89 | 0535502 | -691759 | L | 1 | 14909 | L | 00295 | SO | 89012410 | 105809 | 001300 | 351 | V |
| KE179 | SN1987A | 56 | 11.94 | 0535502 | -691759 | L | 3 | 35401 | L | 00280 | SO | 89012411 | 111751 | 016000 | 401 | V |
| KE179 | SN1987A | 56 | 11.89 | 0535502 | -691759 | L | 1 | 14910 | L | 00293 | SO | 89012414 | 140300 | 004500 | 771 | V |
| KE179 | SN 1987A | 56 | 12.27 | 0535502 | -691759 | E | 9 | 02163 | 2 | 00209 | SO | 89021804 | 044400 | 004000 | | V FES FOR SWP 35577 |
| KE179 | SN1987A | 56 | 12.61 | 0535502 | -691759 | L | 1 | 15225 | L | 00155 | SO | 89032003 | 035918 | 006000 | 703 | V |
| KE179 | SN1987A | 56 | 12.73 | 0535502 | -691759 | E | 9 | 02183 | 2 | 00139 | SO | 89040401 | 010000 | 016000 | | V FES FOR SWP35929 |
| KE179 | SN1987A | 56 | 12.91 | 0535502 | -691759 | L | 1 | 15375 | L | 00118 | SO | 89041905 | 051457 | 004000 | 441 | V |
| KE179 | SN1987A | 56 | 12.92 | 0535502 | -691759 | L | 3 | 36035 | L | 00117 | SO | 89041906 | 060157 | 016600 | 400 | V |
| CVKSS | NOVALMC1 | 55 | 15 | 0536019 | -702315 | L | 3 | 34653 | L | | BO | 88110101 | 012000 | 003000 | 20 | G E=34,B=18 |
| CVKSS | NOVALMC1 | 55 | 15 | 0536019 | -702315 | L | 1 | 14358 | L | | BO | 88110101 | 015800 | 002600 | 02 | G B=40 |
| CVKSS | NOVALMC1 | 55 | 15.0 | 0536019 | -702315 | L | 3 | 34654 | L | | BO | 88110102 | 022600 | 010500 | 32 | G E=89,B=39 |
| OD52Y | LMC 88-1 | 55 | | 0536019 | -702315 | L | 3 | 35678 | L | | BO | 89030416 | 160400 | 007500 | 03 | G B=45 |
| OBKDB | HD 37467 | 22 | 8.3 | 0536156 | +025004 | L | 3 | 35423 | L | 1904 | FO | 89012703 | 031300 | 000140 | 500 | G C=220,B=16 |
| OBKDB | HD 37467 | 22 | 8.3 | 0536156 | +025004 | H | 3 | 35956 | L | 1809 | FU | 89040718 | 181400 | 013000 | X09 | G C=2X,B=103 |
| KA066 | R127 | 20 | 09.27 | 0537060 | -693150 | L | 1 | 15405 | L | 00759 | FO | 89042508 | 083331 | 000300 | 440 | V PREAD |
| OBKDB | HD 37591 | 22 | 8.0 | 0537063 | +042430 | L | 3 | 35413 | L | 1654 | FO | 89012605 | 050100 | 000300 | X00 | G C=1.5X,B=16 |
| OBKDB | HD 37591 | 22 | 8.0 | 0537063 | +042430 | L | 3 | 35912 | L | 1845 | FO | 89040121 | 214600 | 000140 | 500 | G C=184,B=17 |
| OBKDB | HD 37592 | 22 | 8.4 | 0537085 | +005253 | L | 3 | 35412 | L | 1224 | FO | 89012604 | 041800 | 000410 | X00 | G C=1.5X,B=16 |
| KC068 | R127 | 23 | 09.36 | 0537096 | -693126 | L | 1 | 15013 | L | 00700 | FO | 89021104 | 045142 | 000300 | 401 | V |
| KC068 | R127 | 23 | 09.39 | 0537096 | -693126 | H | 1 | 15014 | L | 00685 | FO | 89021105 | 054039 | 031500 | 604 | V |
| KC068 | R127 | 23 | 09.37 | 0537096 | -693126 | L | 3 | 35533 | L | 00699 | FO | 89021105 | 050134 | 001500 | 500 | V |
| OBKDB | HD 37606 | 22 | 6.9 | 0537136 | +012757 | L | 3 | 35446 | L | 4435 | FO | 89012900 | 002900 | 000040 | 500 | G C=230,B=16 |
| HCKTA | HD 37536 | 50 | 6.1 | 0537269 | +315343 | L | 3 | 35342 | L | 8861 | FO | 89011419 | 191300 | 015000 | 02 | G B=40 |
| CSKBB | GL 212 | 48 | 9.7 | 0537271 | +532820 | L | 1 | 14566 | L | 378 | FO | 88113003 | 033500 | 004000 | 233 | G E=136,C=57,B=41 |
| NPKHB | H3- 75 | 70 | 14.0 | 0537567 | +121951 | L | 3 | 34711 | L | | | 88110909 | 093800 | 007000 | 00 | G B=18,MOD BO |
| KI115 | H 0538+608 | 59 | 15.00 | 0538159 | +605003 | L | 1 | 14365 | L | 00000 | BO | 88110116 | 160505 | 006000 | 300 | V |
| NLKPS | 0538+608 | 63 | 17.0 | 0538159 | +605003 | L | 3 | 35576 | L | | BO | 89021712 | 121900 | 024000 | | G C=88,B-52 |
| KI115 | H 0538+608 | 59 | 15.00 | 0538159 | +605003 | L | 3 | 34659 | L | 00000 | BO | 88110117 | 175851 | 005100 | 230 | V PREAD |
| NLKPS | 0538+608 | 63 | 17.0 | 0538159 | +605003 | H | 1 | 15088 | L | | BO | 89022412 | 121400 | 021000 | 446 | G E=222,C=186,B=72 |
| OBKDB | HD 38098 | 22 | 6.8 | 0540439 | +052013 | L | 3 | 35447 | L | 5056 | FO | 89012901 | 011100 | 000108 | X00 | G C=1.5X,B=16 |
| OBKDB | HD 38098 | 22 | 6.8 | 0540439 | +052013 | L | 3 | 35449 | L | 5239 | FO | 89012902 | 023600 | 000050 | 500 | G C=220,B=16 |
| CMKRS | HD 38666 | 12 | 5.17 | 0544082 | -321927 | L | 3 | 35518 | L | | | 89020919 | 194000 | 000500 | 500 | G C=222,B=16 |
| CMKRS | HD 38666 | 12 | 5.17 | 0544082 | -321927 | L | 1 | 14998 | L | | | 89020919 | 195400 | 000500 | 502 | G C=190,B=36 |
| ISKSS | HD 38672 | 21 | 6.6 | 0545137 | +122408 | H | 3 | 35854 | L | | | 89032501 | 015200 | 002500 | | G |
| ISKSS | HD 38672 | 21 | 6.6 | 0545137 | +122408 | H | 1 | 15272 | L | 5337 | FO | 89033019 | 192300 | 000920 | 403 | G C=192,B=44 |
| KM081 | HD39060 | 31 | 04.29 | 0546058 | -510501 | H | 3 | 34840 | L | 00555 | FU | 88112811 | 115906 | 001000 | 500 | V |
| KM081 | HD 39060 | 31 | 04.30 | 0546058 | -510501 | H | 1 | 14554 | L | 00552 | FU | 88112812 | 122153 | 001400 | 703 | V |
| KM081 | HD39060 | 31 | 04.30 | 0546058 | -510501 | H | 3 | 34841 | L | 00552 | FU | 88112812 | 125423 | 001000 | 500 | V |
| KM081 | HD39060 | 31 | 04.20 | 0546058 | -510501 | H | 3 | 34860 | L | 00605 | FU | 88120109 | 094632 | 001000 | 500 | V |
| KM081 | HD39060 | 31 | 04.23 | 0546058 | -510501 | H | 1 | 14579 | L | 00586 | FU | 88120110 | 102035 | 001400 | 702 | V |
| KM081 | HD39060 | 31 | 04.23 | 0546058 | -510501 | H | 3 | 34861 | L | 00590 | FU | 88120110 | 104112 | 001000 | 500 | V |
| KM081 | HD39060 | 31 | 04.24 | 0546058 | -510501 | H | 1 | 14580 | L | 00582 | FU | 88120111 | 111348 | 000400 | 503 | V |
| KM081 | HD39060 | 31 | 04.25 | 0546058 | -510501 | H | 3 | 34862 | L | 00577 | FU | 88120111 | 114450 | 001000 | 500 | V |
| KM081 | HD39060 | 31 | 04.25 | 0546058 | -510501 | H | 1 | 14581 | L | 00576 | FU | 88120112 | 121742 | 001400 | 702 | V |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
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| KM081 | HD39060 | | 31 | 03.85 | 0546058 | -510501 | H | 3 | 34863 | L | 00576 | FU | 88120112 | 124533 | 001000 | 500 U |
| KM081 | HD39060 | | 31 | 04.25 | 0546059 | -510502 | H | 3 | 34846 | L | 00575 | FU | 88112913 | 131656 | 001000 | 500 U |
| KM081 | HD39060 | | 31 | 04.24 | 0546059 | -510502 | H | 1 | 14560 | L | 00585 | FU | 88112913 | 134046 | 001400 | 703 U |
| KM081 | HD39060 | | 31 | 04.25 | 0546059 | -510502 | H | 3 | 34847 | L | 00577 | FU | 88112914 | 141358 | 001000 | 500 U |
| KM081 | HD39060 | | 31 | 04.26 | 0546059 | -510502 | H | 1 | 14561 | L | 00574 | FU | 88112915 | 152803 | 000400 | 503 U |
| KM081 | HD39060 | | 31 | 04.27 | 0546059 | -510502 | H | 3 | 34848 | L | 00567 | FU | 88112915 | 153821 | 001000 | 500 U |
| KM081 | HD39060 | | 31 | 04.26 | 0546059 | -510502 | H | 1 | 14562 | L | 00574 | FU | 88112916 | 161128 | 001400 | 702 U |
| KM081 | HD39060 | | 31 | 04.26 | 0546059 | -510502 | H | 3 | 34849 | L | 00571 | FU | 88112916 | 165043 | 001000 | 500 U |
| KM081 | HD39060 | | 31 | 04.28 | 0546059 | -510502 | H | 1 | 14563 | L | 00564 | FU | 88112917 | 172417 | 000400 | 503 U |
| KM081 | HD39060 | | 31 | 04.20 | 0546059 | -510502 | H | 3 | 34850 | L | 00605 | FU | 88112917 | 175803 | 001000 | 500 U |
| KM081 | HD39060 | | 31 | 04.28 | 0546059 | -510502 | H | 1 | 14564 | L | 00562 | FU | 88112918 | 183232 | 001400 | 703 U |
| KM081 | HD39060 | | 31 | 04.25 | 0546059 | -510502 | H | 3 | 35572 | L | 00578 | FU | 89021705 | 051356 | 001000 | 600 U |
| KM081 | HD39060 | | 31 | 04.22 | 0546059 | -510502 | H | 1 | 15050 | L | 00592 | FU | 89021705 | 053005 | 000400 | 602 U |
| KM081 | HD39060 | | 31 | 04.23 | 0546059 | -510502 | H | 3 | 35573 | L | 00588 | FU | 89021706 | 060245 | 001000 | 600 U |
| KM081 | HD39060 | | 31 | 04.25 | 0546059 | -510502 | H | 1 | 15051 | L | 00578 | FU | 89021706 | 063656 | 001400 | 802 U |
| KM081 | HD3960 | | 31 | 03.95 | 0546059 | -510502 | H | 3 | 35574 | L | 00757 | FU | 89021707 | 070929 | 001000 | 500 U |
| KM081 | HD39060 | | 31 | 04.26 | 0546059 | -510502 | H | 1 | 15052 | L | 00571 | FU | 89021707 | 074138 | 000400 | 502 U |
| OBKDB | HD | 38856 | 21 | 7.2 | 0546114 | +004237 | L | 3 | 35448 | L | 3400 | FO | 89012901 | 015300 | 000020 | 500 G C=214,B=16 |
| OBKDB | HD | 38856 | 21 | 7.2 | 0546114 | +004237 | H | 1 | 15285 | L | | | 89040119 | 193500 | 001200 | G |
| OBKDB | HD | 38856 | 21 | 7.2 | 0546114 | +004237 | H | 3 | 35910 | L | 3657 | FO | 89040119 | 195400 | 002800 | 506 G C=244,B=72 |
| LGKJB | HD | 39364 | 45 | 3.8 | 0549100 | -205230 | H | 9 | 02149 | 2 | | | 88122008 | 081400 | 000240 | G |
| LGKJB | HD | 39364 | 45 | 3.8 | 0549100 | -205230 | H | 1 | 14682 | L | 571 | FU | 88122017 | 175900 | 003000 | 543 G E=160,C=253,B=43 |
| LGKJB | HD | 39364 | 45 | 3.8 | 0549100 | -205230 | H | 1 | 14683 | L | 668 | FU | 88122020 | 201800 | 003000 | X43 G E=165,C=1.5X,B=48 |
| LGKJB | HD | 39364 | 45 | 3.8 | 0549100 | -205230 | H | 1 | 14684 | L | 618 | FU | 88122102 | 021900 | 003000 | 542 G E=157,C=220,B=39 |
| LGKJB | HD | 39364 | 45 | 3.8 | 0549100 | -205230 | H | 3 | 35091 | L | 595 | FU | 88122117 | 173800 | 038500 | 39 G E=194,B=139 |
| LGKJB | HD | 39364 | 45 | 3.8 | 0549100 | -205230 | H | 1 | 14690 | L | 580 | FU | 88122121 | 214900 | 003000 | 533 G E=138,C=250,B=43 |
| CSKTA | HD | 39587 | 44 | 4.6 | 0551252 | +201607 | L | 3 | 35606 | L | 334 | FU | 89022200 | 002000 | 009000 | X35 G E=146X,C=6X,B=64 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552279 | +072357 | L | 1 | 14373 | L | 10985 | FU | 88110307 | 073100 | 000006 | 302 G E-172,C=69,B=34 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552279 | +072357 | L | 3 | 34668 | L | 10317 | FU | 88110307 | 074300 | 006000 | 5X5 G E=4X,C=215,B=63 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552279 | +072357 | H | 1 | 14374 | L | 28673 | FO | 88110308 | 084700 | 000245 | 342 G E=186,C=83,B=36 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552279 | +072357 | H | 1 | 14375 | L | 11096 | | 88110309 | 092500 | 006000 | X?4 G E=18X,C=1.5X,B=59 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552279 | +072357 | L | 3 | 34669 | L | 10432 | FU | 88110310 | 103300 | 001230 | 351 G E=179,C=51,B=25 |
| LSKAD | HD39801 | | 49 | 06.35 | 0552280 | +072358 | H | 1 | 15293 | L | 09914 | FO | 89040300 | 002346 | 007500 | 671 U |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | H | 1 | 14367 | L | 10783 | FU | 88110207 | 073900 | 006000 | X?5 G E=18,C=2X,B=67 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | L | 3 | 34662 | L | 10295 | FU | 88110208 | 085200 | 006000 | 5X2 G E=4X,C=208,B=40 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | H | 1 | 14368 | L | 10364 | FU | 88110209 | 095700 | 000245 | 352 G E=192,C=63,B=34 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | L | 3 | 34663 | L | 10414 | FU | 88110210 | 103400 | 001230 | 350 G E=177,C=51,B=17 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | H | 1 | 14456 | L | 10439 | FU | 88111305 | 053300 | 007500 | ??6 G E=24X,C=18X,B=72 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | L | 3 | 34734 | L | 10436 | FU | 88111306 | 065500 | 005000 | 5X3 G E=4X,C=233,B=45 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | H | 1 | 14457 | L | 10693 | FU | 88111308 | 081400 | 000245 | 352 G E=198,C=82,B=34 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | L | 3 | 34735 | L | 10438 | FU | 88111308 | 082400 | 001230 | 341 G E=176,C=86,B=26 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | L | 1 | 14458 | L | 10817 | FU | 88111308 | 085900 | 000006 | 342 G E=182,C=70,B=32 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | H | 1 | 14519 | L | 9953 | FO | 88112403 | 035500 | 007500 | 5?5 G E=18X,C=221,B=68 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | L | 3 | 34806 | L | 9974 | FU | 88112405 | 052300 | 001230 | 351 G E=184,C=54,B=24 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | H | 1 | 14520 | L | 10314 | FU | 88112406 | 063200 | 000245 | 342 G E=175,C=64,B=38 |

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| PRO | Object | CL | MAG | R.A. | DEC | D C | Image | A | FES | MD | Obs.date | Exptm | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | H 3 | 35430 | L | 9488 | FU | 89012719 | 194800 | 018200 | 3X4 G E=1.5X,C=105,B=52 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | H 1 | 14947 | L | 9748 | FU | 89013023 | 232100 | 007500 | 5?5 G E=18X,C=235,B=66 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | L 3 | 35464 | L | 9571 | FU | 89013100 | 004400 | 005000 | 4X2 G E=4X,C=158,B=40 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | L 1 | 14948 | L | 9591 | FU | 89013101 | 012000 | 000005 | 351 G E=188,C=65,B=30 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | H 1 | 14949 | L | 9381 | FU | 89013102 | 022400 | 000245 | 352 G E=201,C=80,B=35 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | L 3 | 35465 | L | 9860 | FU | 89013102 | 023700 | 001230 | 351 G E=180,C=70,B=24 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | H 1 | 14991 | L | 9522 | FU | 89020820 | 200300 | 000245 | 352 G E=218,C=119,B=32 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | L 3 | 35513 | L | 10178 | FU | 89020820 | 201400 | 005000 | 4X2 G E=4X,C=140,B=35 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | L 1 | 14992 | L | 9490 | FU | 89020820 | 204900 | 000006 | 352 G E=240,C=69,B=32 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | H 1 | 14993 | L | 9469 | FU | 89020821 | 213200 | 007500 | X?5 G E=20X,C=1.5X,B=61 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | L 3 | 35514 | L | 9432 | FU | 89020822 | 225400 | 001230 | 341 G E=176,C=52,B=28 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | L 3 | 35618 | L | | | 89022419 | 195400 | 005000 | G |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | H 1 | 15089 | L | 9338 | FU | 89022420 | 205100 | 007500 | 5?4 G E=18X,C=220,B=58 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | L 3 | 35619 | L | 9720 | | 89022422 | 221200 | 001200 | 341 G E=166,C=63,B=27 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | H 1 | 15090 | L | 9147 | FU | 89022500 | 002500 | 000245 | 352 G E=187,C=66,B=32 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | L 1 | 15091 | L | 9375 | FU | 89022501 | 010300 | 000005 | 302 G C=64,B=32 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | H 1 | 15092 | L | 9325 | FU | 89022501 | 013800 | 000315 | 351 G E=228,C=65,B=26 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | H 1 | 15175 | L | 9210 | FU | 89031220 | 201900 | 007500 | X?4 G E=18X,C=2X,B=58 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | L 3 | 35756 | L | 9584 | FU | 89031221 | 214300 | 005000 | 3X1 G E=3X,C=119,B=28 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | H 1 | 15176 | L | 9202 | FU | 89031222 | 223900 | 000300 | 352 G E=194,C=64,B=38 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | L 3 | 35850 | L | 9126 | FU | 89032419 | 193900 | 002500 | 4X0 G E=3X,C=126,B=20 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | L 1 | 15240 | L | 9121 | FU | 89032420 | 201000 | 000005 | 352 G E=189,C=63,B=34 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | H 1 | 15241 | L | 9662 | FU | 89032420 | 205000 | 000230 | 342 G E=170,C=67,B=35 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | H 3 | 35851 | L | 9263 | FU | 89032421 | 212500 | 001230 | 341 G E=158,C=52,B=21 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | H 1 | 15245 | L | 9281 | FU | 89032502 | 023700 | 001300 | 3X2 G E=4X,C=72,B=37X |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | L 9 | 02181 | | | | 89040223 | 230700 | 000000 | G |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | H 1 | 15292 | L | 9262 | FU | 89040223 | 231600 | 000245 | 352 G E=208,C=83,B=32 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | L 3 | 35917 | L | 9152 | FU | 89040223 | 232600 | 005000 | 4X1 G E=4X,C=130,B=24 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | L 3 | 35927 | L | 9308 | FU | 89040320 | 200500 | 001230 | 351 G E=183,C=72,B=29 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | L 1 | 15303 | L | 9306 | FO | 89040413 | 130600 | 000005 | 342 G E=166,C=62,B=33 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | L 1 | 15303 | S | | | 89040413 | 131100 | 000035 | G |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | L 1 | 15341 | L | | FU | 89041117 | 173000 | 000000 | ?X9 G E=278,C=114,B=115 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | L 3 | 35983 | L | 10194 | FU | 89041118 | 181400 | 005000 | 4X3 G E=4X,C=150,B=50 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | H 1 | 15342 | L | 9091 | FU | 89041119 | 191000 | 000300 | 352 G E=231,C=90,B=32 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | L 1 | 15343 | L | 9394 | FU | 89041120 | 203300 | 000005 | 342 G E=181,C=68,B=32 |
| LSKAD | HD | 39801 | 49 | 0.5 | 0552280 | +072358 | L 3 | 35984 | L | 9689 | FU | 89041120 | 204000 | 001230 | 352 G E=191,C=75,B=39 |
| KE138 | NGC 2134 | | 83 | 12.69 | 0552379 | -710623 | L 3 | 34728 | L | 00144 | SO | 88111211 | 115405 | 041300 | 402 V |
| KE138 | NGC2134 | | 83 | 12.67 | 0552380 | -710624 | L 1 | 14460 | L | 00146 | SO | 88111314 | 143942 | 015300 | 401 V |
| NPKST | IC 2149 | | 70 | 11.0 | 0552410 | +460553 | L 3 | 34781 | L | 185 | FO | 88112005 | 055700 | 000500 | 331 G E=123,C=128,B=30 |
| NPKST | IC 2149 | | 70 | 11.0 | 0552410 | +460553 | L 1 | 14488 | L | 179 | FO | 88112006 | 060900 | 000500 | 503 G C=221,B=49 |
| NPKHB | LO TR 1 | | 70 | 12.8 | 0553010 | -225428 | L 3 | 34709 | L | 64 | SO | 88110905 | 051700 | 009000 | 303 G C=100,B=50 |
| NPKHB | LO TR 1 | | 70 | 12.8 | 0553016 | -225428 | L 1 | 15313 | L | 62 | SO | 89040610 | 103300 | 012000 | 344 G E=202,C=120,B=59 |
| NPKHB | LO TR 1 | | 70 | 12.8 | 0553016 | -225428 | L 3 | 35948 | L | 71 | SO | 89040612 | 124200 | 025000 | 408 G C=203,B=92 |
| ISKSS | HD | 39882 | 21 | 8.4 | 0553114 | +125722 | H 1 | 15264 | L | 1463 | FO | 89032914 | 141600 | 004000 | 503 G C=205,B=49 |
| ISKSS | HD | 39882 | 21 | 8.4 | 0553114 | +125722 | H 3 | 35889 | L | 1463 | FO | 89032915 | 150500 | 005800 | 403 G C=180,B=41 |

Wilspa Data Base

| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ISKSS | HD 40005 | 21 | 6.9 | 0553573 | +162058 | H | 1 | 15265 | L | 3484 | FO | 89032916 | 163000 | 001000 | 503 | G C=210,B=42 |
| ISKSS | HD 40005 | 21 | 6.9 | 0553573 | +162058 | H | 3 | 35890 | L | 3487 | FO | 89032917 | 170300 | 002400 | X03 | G C=1.5X,B=45 |
| BEKGP | HD 41335 | 26 | 5.2 | 060147 | -064219 | H | 3 | 35282 | L | 19363 | FO | 89010705 | 055200 | 000330 | | G |
| BEKGP | HD 41335 | 26 | 5.2 | 060147 | -064219 | H | 3 | 35400 | L | 17095 | FO | 89012402 | 021300 | 000330 | 503 | G C=222,B=45 |
| BEKGP | HD 41335 | 26 | 5.2* | 060147 | -064219 | H | 3 | 35456 | L | 18509 | FO | 89013002 | 023800 | 000330 | 503 | G C=210,B=41 |
| BEKGP | HD 41335 | 26 | 5.2 | 0601475 | -064218 | H | 3 | 35083 | L | 18860 | FO | 88122005 | 054900 | 000330 | 03 | G C=21?,B=42 |
| BEKGP | HD 41335 | 26 | 5.2 | 0601475 | -064218 | H | 1 | 14676 | L | 18600 | FO | 88122005 | 055700 | 000130 | 403 | G C=171,B=45 |
| BEKGP | HD 41335 | 26 | 5.2 | 0601476 | -064219 | H | 1 | 14483 | L | 16785 | FO | 88111907 | 074500 | 000130 | 543 | G E=147,C=211,B=47 |
| BEKGP | HD 41335 | 26 | 5.2 | 0601476 | -064219 | H | 3 | 34770 | L | 17086 | FO | 88111908 | 082200 | 000330 | 502 | G C=204,B=39 |
| BEKGP | HD 41335 | 26 | 5.2 | 0601476 | -064219 | L | 3 | 34773 | L | 17547 | FO | 88111910 | 105100 | 000002 | 500 | G C=198,B=18 |
| BEKGP | HD 41335 | 26 | 5.2 | 0601476 | -064219 | H | 1 | 14782 | L | 19250 | FO | 89010705 | 053400 | 000130 | 403 | G C=165,B=42 |
| BEKGP | HD 41335 | 26 | 5.2 | 0601476 | -064219 | H | 3 | 35551 | L | 16806 | FO | 89021419 | 192100 | 000330 | | G |
| BEKGP | HD 41335 | 26 | 5.2 | 0601476 | -064219 | H | 1 | 15042 | L | 16944 | FO | 89021419 | 192800 | 000130 | 503 | G C=200,B=41 |
| BEKGP | HD 41335 | 26 | 5.2 | 0601476 | -064219 | L | 3 | 35552 | L | 17835 | FO | 89021419 | 195900 | 000002 | 500 | G C=210,B=15 |
| BEKGP | HD 41335 | 26 | 5.2 | 0601476 | -064219 | H | 3 | 35833 | L | 16775 | FO | 89032119 | 192900 | 000330 | 502 | G C=216,B=37 |
| BEKGP | HD 41335 | 26 | 5.2 | 0601476 | -064219 | H | 1 | 15233 | L | 16672 | FO | 89032119 | 193700 | 000130 | 503 | G C=200,B=43 |
| BEKGP | HD 41335 | 26 | 5.2 | 0601476 | -064219 | L | 3 | 35834 | L | 17160 | FO | 89032120 | 201100 | 000002 | 500 | G C=195,B=14 |
| OX60K | SAO 132854 | 46 | 9.0 | 0604555 | -043306 | L | 3 | 35128 | L | 694 | FO | 88122504 | 042000 | 012000 | 306 | G C=101,B=77 |
| CCKDS | SAO 132854 | 46 | 9.0 | 0604555 | -043308 | L | 1 | 14714 | L | 658 | FO | 88122518 | 184900 | 011500 | 304 | G C=146,B=51 |
| OX60K | SAO 132854 | 46 | 9.0 | 0604555 | -043306 | L | 1 | 14719 | L | 650 | FO | 88122607 | 074900 | 006000 | 303 | G C=90,B=41 |
| KM082 | HD 42111 | 31 | 06.12 | 0606214 | +023031 | H | 3 | 34793 | L | 11961 | FO | 88112115 | 152526 | 003200 | 400 | U |
| KM082 | HD 42111 | 31 | 06.18 | 0606214 | +023032 | H | 1 | 14498 | L | 11418 | FO | 88112116 | 162233 | 001500 | 402 | U |
| KA204 | PK 197-3.1 | 71 | 14.50 | 0608206 | +114722 | L | 3 | 35672 | L | 00000 | BO | 89030404 | 045500 | 003000 | 110 | U PREAD |
| KA204 | PK 197-3.1 | 71 | 14.50 | 0608206 | +114722 | L | 1 | 15128 | L | 00000 | BO | 89030405 | 053255 | 003000 | 201 | U PREAD |
| CEKTS | HD 42475 | 39 | 6.6 | 0608509 | +215252 | L | 1 | 15006 | L | 9211 | FO | 89021012 | 120700 | 001730 | 502 | G C=220,B=36 |
| CEKTS | HD 42475 | 39 | 6.6 | 0608509 | +215252 | L | 3 | 35526 | L | 9223 | FO | 89021012 | 123600 | 007700 | 502 | G C=208,B=33 |
| CEKTS | HD 42475 | 39 | 6.6 | 0608509 | +215252 | L | 1 | 15007 | L | 7919 | FO | 89021014 | 140000 | 008000 | X04 | G C=4X,B=58 |
| WDKJH | EG 46 | 37 | 13.4 | 0612239 | +174447 | L | 3 | 36004 | S | | | 89041417 | 175100 | 001130 | | G |
| WDKJH | EG 46 | 37 | 13.4 | 0612239 | +174447 | L | 3 | 36004 | S | | | 89041418 | 181200 | 002500 | 300 | G C=105,B=18 |
| NPKST | IC 2165 | 70 | 12.0 | 0619240 | -125740 | L | 1 | 14489 | L | 369 | SO | 88112007 | 071700 | 001500 | 305 | G C=115,B=69 |
| NPKST | IC 2165 | 70 | 12.0 | 0619240 | -125740 | L | 3 | 34782 | L | 379 | SO | 88112007 | 075000 | 000500 | 41 | G E=135,B=24 |
| NPKST | IC 2165 | 70 | 12.0 | 0619240 | -125740 | L | 3 | 34796 | L | 360 | SO | 88112207 | 074400 | 001000 | 51 | G E=212,B=24 |
| NPKST | IC 2165 | 70 | 12.0 | 0619240 | -125740 | L | 1 | 14500 | L | 366 | SO | 88112208 | 080200 | 003000 | 354 | G E=208,C=110,B=53 |
| IDKWL | HD 44743 | 23 | 2.0 | 0620298 | -175547 | H | 3 | 35156 | L | 4263 | FU | 88122801 | 012300 | 000018 | X09 | G C=6X,B=114 |
| IDKWL | HD 44743 | 23 | 2.0 | 0620298 | -175547 | H | 3 | 35157 | L | 3976 | FU | 88122801 | 015500 | 000018 | X09 | G C=6X,B=125 |
| IDKWL | HD 44743 | 23 | 2.0 | 0620298 | -175547 | H | 3 | 35158 | L | 4325 | FU | 88122802 | 022800 | 000015 | X09 | G C=6X,B=110 |
| IDKWL | HD 44743 | 23 | 2.0 | 0620298 | -175547 | H | 3 | 35159 | S | 3963 | FU | 88122802 | 025800 | 000036 | X08 | G C=6X,B=98 |
| IDKWL | HD 44743 | 23 | 2.0 | 0620298 | -175547 | H | 3 | 36041 | L | 3873 | FU | 89042017 | 174300 | 000012 | X05 | G C=5.0X,B=62 |
| IDKWL | HD 44743 | 23 | 2.0 | 0620298 | -175547 | H | 3 | 36042 | L | 3909 | FU | 89042018 | 181500 | 000012 | X05 | G C=5.0X,B=64 |
| IDKWL | HD 44743 | 23 | 2.0 | 0620298 | -175547 | H | 3 | 36043 | L | 4303 | FU | 89042018 | 184500 | 000012 | X05 | G C=5.0X,B=64 |
| IDKWL | HD 44743 | 23 | 2.0 | 0620298 | -175547 | H | 3 | 36044 | S | 3937 | FU | 89042019 | 191600 | 000036 | X08 | G C=6.0X,B=95 |
| IDKWL | HD 44743 | 23 | 2.0 | 0620298 | -175547 | H | 3 | 36045 | L | 3948 | FU | 89042019 | 194800 | 000015 | X06 | G C=6.0X,B=78 |
| IDKWL | HD 44743 | 23 | 2.0 | 0620298 | -175547 | H | 3 | 36046 | L | 3953 | FU | 89042020 | 201800 | 000015 | X06 | G C=6.0XB=75 |
| IDKWL | HD 44743 | 23 | 2.0 | 0620298 | -175547 | H | 1 | 15384 | S | 4437 | FU | 89042020 | 202300 | 000008 | 503 | G C=230,B=42 |
| IDKWL | HD 44743 | 23 | 2.0 | 0620298 | -175547 | H | 3 | 36058 | L | 3867 | FU | 89042117 | 173000 | 000012 | X05 | G C=5X,B=63 |

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| PRO | Object | PL | MAG | R.A. | DEC | D C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IDKWL | HD 44743 | 23 | 2.0 | 0620298 | -175547 | H 3 | 36059 | L | 3859 | FU | 89042118 | 180200 | 000012 | X05 | G C=5X,B=63 |
| IDKWL | HD 44743 | 23 | 2.0 | 0620298 | -175547 | H 3 | 36060 | L | 4399 | FU | 89042118 | 183600 | 000012 | X05 | G C=5X,B=65 |
| IDKWL | HD 44743 | 23 | 2.0 | 0620298 | -175547 | H 3 | 36061 | S | 3913 | FU | 89042119 | 190700 | 000032 | X06 | G C=6X,B=77 |
| IDKWL | HD 44743 | 23 | 2.0 | 0620298 | -175547 | H 3 | 36062 | L | 4332 | FU | 89042119 | 195400 | 000015 | X06 | G C=6X,B=76 |
| IDKWL | HD 44743 | 23 | 2.0 | 0620298 | -175547 | H 3 | 36063 | L | 4526 | FU | 89042120 | 202500 | 000015 | X06 | G C=6X,B=75 |
| NLKJR | 0623+71 | 63 | | 0623465 | +710631 | L 1 | 15335 | L | 91 | SO | 89041020 | 201700 | 003000 | X09 | G C=1.5X,B=158 |
| NLKJR | 0623+71 | 63 | | 0623465 | +710631 | L 3 | 35976 | L | 95 | | 89041020 | 205500 | 003000 | 339 | G E=176,C=183,B=115 |
| NLKJR | 0623+71 | 63 | | 0623465 | +710631 | L 1 | 15336 | L | 97 | SO | 89041021 | 213600 | 002000 | 309 | G C=215,B=128 |
| NLKJR | 0623+71 | 63 | | 0623465 | +710631 | L 3 | 35977 | S | 94 | SO | 89041022 | 221300 | 006000 | 336 | G E=146,C=150,B=78 |
| KI130 | 0623+71 | 63 | 13.22 | 0623470 | +710634 | L 3 | 34774 | L | 00090 | SO | 88111913 | 130718 | 006000 | 330 | V DOUBLE EXPOSURE |
| NLKJR | SEREND | 07 | | 0623470 | +710725 | L 1 | 15334 | L | | | 89041010 | 102000 | 051500 | 09 | G B=156 |
| KI130 | 0623+71 | 63 | 13.24 | 0623470 | +710634 | L 1 | 14485 | L | 00088 | SO | 88111914 | 142508 | 002500 | 501 | V |
| KI130 | 0623+71 | 63 | 13.24 | 0623470 | +710634 | L 3 | 34775 | L | 00088 | SO | 88111915 | 150430 | 003000 | 330 | V |
| KI130 | 0623+71 | 63 | 13.27 | 0623470 | +710634 | L 1 | 14486 | L | 00086 | SO | 88111915 | 154536 | 002500 | 502 | V |
| KI130 | 0623+71 | 63 | 13.28 | 0623470 | +710634 | L 3 | 34776 | L | 00085 | SO | 88111916 | 162332 | 006000 | 550 | V DOUBLE EXPOSURE |
| KI130 | 0623+71 | 63 | 13.23 | 0623470 | +710634 | L 1 | 14487 | L | 00089 | SO | 88111917 | 175115 | 002500 | 502 | V |
| KI130 | 0623+71 | 63 | 13.32 | 0623470 | +710634 | L 3 | 34777 | L | 00082 | SO | 88111918 | 182506 | 002400 | 330 | V PREAD |
| KI130 | 0623+71 | 63 | 13.32 | 0623470 | +710634 | L 3 | 34784 | L | 00082 | SO | 88112012 | 121620 | 006000 | 350 | V DOUBLE EXPOSURE |
| KI130 | 0623+71 | 63 | 13.27 | 0623470 | +710634 | L 1 | 14491 | L | 00086 | SO | 88112013 | 134417 | 002500 | 501 | V |
| KI130 | 0623+71 | 63 | 13.25 | 0623470 | +710634 | L 3 | 34785 | L | 00087 | SO | 88112014 | 142157 | 006000 | 350 | V DOUBLE EXPOSURE |
| KI130 | 0623+71 | 63 | 13.32 | 0623470 | +710634 | L 1 | 14492 | L | 00082 | SO | 88112015 | 153836 | 002300 | 502 | V |
| KI130 | 0623+71 | 63 | 13.31 | 0623470 | +710634 | L 3 | 34786 | L | 00083 | SO | 88112016 | 161659 | 006000 | 342 | V DOUBLE EXPOSURE |
| KI130 | 0623+71 | 63 | 13.31 | 0623470 | +710634 | L 1 | 14493 | L | 00083 | SO | 88112017 | 173146 | 002300 | 502 | V |
| KI130 | 0623+71 | 63 | 13.28 | 0623470 | +710634 | L 3 | 34787 | L | 00085 | SO | 88112017 | 170503 | 004200 | 330 | V PREAD |
| KQ085 | HS0624+690 | 85 | 14.96 | 0624352 | +690704 | L 1 | 15079 | L | 00019 | SO | 89022307 | 071020 | 004000 | 301 | V |
| KQ085 | HS0624+690 | 85 | 14.96 | 0624352 | +690704 | L 3 | 35611 | L | 00019 | SO | 89022308 | 081310 | 017000 | 351 | V |
| GCKAC | NGC 2257 | 83 | 11.0 | 0629564 | -641729 | L 1 | 15096 | L | 2 | SO | 89022512 | 123300 | 015000 | 204 | G C=70,B=55 |
| NPKST | NGC 2242 | 70 | 15.0 | 0630278 | +444858 | L 3 | 34778 | L | 15 | SO | 88111920 | 200300 | 012000 | 343 | G E=155,C=86,B=44 |
| NPKST | NGC 2242 | 70 | 15.0 | 0630278 | +444858 | L 3 | 34780 | L | | BO | 88112003 | 033300 | 009000 | 333 | G E=129,C=87,B=49 |
| NPKST | NGC 2242 | 70 | 14.6 | 0630278 | +444857 | L 3 | 34792 | L | | | 88112106 | 064700 | 004000 | 335 | G E=96,C=89,B=64 |
| NPKST | NGC 2242 | 70 | 14.6 | 0630278 | +444857 | L 1 | 14496 | L | | BO | 88112107 | 073600 | 019200 | 339 | G E=174,C=193,B=118 |
| WDKJH | 0631+107 | 37 | 13.8 | 0631049 | +104353 | L 3 | 36005 | S | | | 89041419 | 194200 | 001800 | | G |
| WDKJH | 0631+107 | 37 | 13.8 | 0631049 | +104353 | L 3 | 36005 | S | 38 | SO | 89041420 | 203100 | 004000 | 501 | G C=202,B=24 |
| HCKTA | HD 46687 | 50 | 5.3 | 0633066 | +382916 | L 3 | 34739 | L | 19829 | FO | 88111419 | 193800 | 035000 | 04 | G B=52 |
| LSKHB | HD 46703 | 41 | 8.9 | 0633494 | +533338 | H 1 | 14416 | L | 601 | FO | 88110819 | 193100 | 051000 | 309 | G C=225,B=135 |
| KI078 | RR PIC | 55 | 12.77 | 0635098 | -623549 | E 9 | 02162 | 2 | 00134 | SO | 89021005 | 050000 | 004000 | | V |
| KI078 | RR PIC | 55 | 12.77 | 0635098 | -623549 | L 3 | 35522 | L | 00134 | SO | 89021005 | 052848 | 004000 | 550 | V DOUBLE EXPOSURE |
| KI078 | RR PIC | 55 | 12.76 | 0635098 | -623549 | L 1 | 15003 | L | 00135 | SO | 89021006 | 061958 | 001400 | 501 | V |
| KI078 | RR PIC | 55 | 12.88 | 0635098 | -623549 | L 3 | 35523 | L | 00122 | SO | 89021006 | 065351 | 004000 | 550 | V DOUBLE EXPOSURE |
| KI078 | RR PIC | 55 | 12.79 | 0635098 | -623549 | L 1 | 15004 | L | 00132 | SO | 89021007 | 074859 | 001400 | 601 | V |
| KI078 | RR PIC | 55 | 12.86 | 0635098 | -623549 | L 3 | 35524 | L | 00124 | SO | 89021008 | 082256 | 004000 | 550 | V DOUBLE EXPOSURE |
| KI078 | RR PIC | 55 | 12.85 | 0635098 | -623549 | L 1 | 15005 | L | 00125 | SO | 89021009 | 093139 | 001400 | 501 | V |
| KI078 | RR PIC | 55 | 12.87 | 0635098 | -623549 | L 3 | 35525 | L | 00123 | SO | 89021010 | 101241 | 004000 | 550 | V DOUBLE EXPOSURE |
| IEKGC | WALKER67 | 20 | 10.9 | 0637521 | +095021 | L 3 | 34761 | L | | | 88111806 | 061400 | 003600 | 403 | G C=182,B=50 |
| IEKGC | WALKER67 | 20 | 10.9 | 0637521 | +095021 | L 1 | 14531 | L | | BO | 88112607 | 075100 | 009000 | X04 | G C=3X,B=55 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IEKGC | WALKER67 | 20 | 10.9 | 0637521 | +095021 | L | 1 | 14531 | S | | BO | 88112609 | 092900 | 003000 | 304 | G C=125X,B=51X |
| IEKGC | WALKER67 | 20 | 10.9 | 0637521 | +095021 | L | 3 | 34818 | L | | BO | 88112610 | 101200 | 003800 | 400 | G C=167,B=19 |
| IEKEB | HD 292167 | 12 | 9.2 | 0642192 | +004021 | L | 1 | 14978 | L | 581 | FO | 89020701 | 011600 | 000315 | 503 | G C=242,B=48 |
| IEKEB | HD 292167 | 12 | 9.2 | 0642192 | +004021 | L | 1 | 14979 | L | 496 | FO | 89020701 | 015900 | 001200 | X06 | G C=4X,B=79 |
| CBKMP | HD 48914 | 60 | 7.2 | 0643190 | +023357 | L | 3 | 35949 | L | 3079 | FO | 89040617 | 174400 | 000040 | 400 | G C=164,B=18 |
| CBKMP | HD 48914 | 60 | 7.2 | 0643190 | +023357 | L | 1 | 15314 | L | 3087 | FO | 89040617 | 174900 | 000020 | 502 | G C=203,B=35 |
| CBKMP | HD 48914 | 60 | 7.2 | 0643190 | +023357 | H | 3 | 35950 | L | 3047 | | 89040618 | 183200 | 006000 | X06 | G C=1.5X,B=77 |
| CBKMP | HD 48914 | 60 | 7.2 | 0643190 | +023357 | H | 1 | 15315 | L | 3043 | FO | 89040619 | 194200 | 002200 | 406 | G C=215,B=74 |
| CBKMP | HD 48914 | 60 | 7.2 | 0643190 | +023357 | H | 3 | 35969 | L | 3250 | FO | 89040918 | 180300 | 006000 | X04 | G C=1.5X,B=57 |
| CBKMP | HD 48914 | 60 | 7.2 | 0643190 | +023357 | H | 1 | 15330 | L | 3261 | FO | 89040919 | 191100 | 002200 | 504 | G C=235,B=60 |
| CBKMP | HD 48914 | 60 | 7.2 | 0643190 | +023357 | L | 3 | 35970 | L | 3252 | FO | 89040920 | 200800 | 000050 | 501 | G C=225,B=21 |
| CBKMP | HD 48914 | 60 | 7.2 | 0643190 | +023357 | L | 1 | 15331 | L | 3275 | FO | 89040920 | 201300 | 000030 | X02 | G C=1.5X,B=32 |
| WDKJH | EG 50 | 37 | 12.0 | 0644149 | +373453 | L | 3 | 36003 | L | 182 | SO | 89041416 | 160100 | 001300 | 01 | G 1.5X,B=30 |
| WDKJH | EG 50 | 37 | 12.0 | 0644149 | +373453 | L | 3 | 36003 | S | 182 | SO | 89041416 | 160200 | 001300 | X02 | G C=1.5XB=33 |
| HCKTA | HD 49368 | 50 | 7.6 | 0645421 | +053553 | L | 3 | 35570 | L | 2492 | FO | 89021611 | 114000 | 001600 | 06 | G B=72 |
| CSKBB | PZ MON | 46 | 9.0 | 0645459 | +011633 | L | 1 | 14570 | L | 580 | FO | 88113010 | 100600 | 004000 | 3X2 | G E=1.5X,C=136,B=40 |
| CSKBB | PZ MON | 46 | 9.0 | 0645459 | +011633 | L | 3 | 34864 | L | 571 | FO | 88120119 | 193200 | 018000 | 03 | G B=45 |
| IEKEB | LS+024 | 12 | 11.3 | 0646151 | +002619 | L | 3 | 35504 | L | 286 | SO | 89020620 | 204300 | 013000 | 502 | G C=219,B=35 |
| IEKEB | LS+026 | 12 | 11.2 | 0646170 | +002551 | L | 3 | 35500 | L | 325 | SO | 89020523 | 234300 | 008000 | 407 | G C=223,B=83 |
| IEKEB | LS+026 | 12 | 11.2 | 0646170 | +002551 | L | 1 | 14976 | L | 319 | SO | 89020619 | 195700 | 002300 | 503 | G C=242,B=41 |
| IEKEB | LS+026 | 12 | 11.2 | 0646170 | +002551 | L | 1 | 14977 | L | 327 | SO | 89020623 | 230400 | 008700 | X09 | G C=5X,B=106 |
| CMKRS | HD 50877 | 47 | 3.87 | 0652033 | -240712 | H | 1 | 14686 | L | 545 | FU | 88122106 | 061000 | 003000 | 333 | G E=110,C=90,B=42 |
| KA007 | HD50896 | 11 | 07.01 | 0652080 | -235151 | H | 3 | 34968 | L | 05640 | FO | 88120909 | 093313 | 000400 | 570 | U |
| KA007 | HD50896 | 11 | 07.00 | 0652080 | -235151 | H | 3 | 34969 | L | 05729 | FO | 88120910 | 100627 | 000400 | 570 | U |
| KA007 | HD50896 | 11 | 07.01 | 0652080 | -235151 | H | 3 | 34970 | L | 05666 | FO | 88120910 | 104747 | 000400 | 570 | U |
| KA007 | HD50896 | 11 | 07.14 | 0652081 | -235152 | H | 3 | 34892 | L | 05791 | FO | 88120708 | 085227 | 000600 | 570 | U |
| WRKPC | HD 50896 | 11 | 6.9 | 0652081 | -235152 | H | 3 | 34878 | L | 5556 | FO | 88120701 | 011400 | 000400 | 5X1 | G E=4X,C=195,B=30 |
| KA007 | HD50896 | 11 | 06.97 | 0652081 | -235152 | H | 3 | 34893 | L | 05837 | FO | 88120709 | 092747 | 000400 | 570 | U |
| WRKPC | HD 50896 | 11 | 6.9 | 0652081 | -235152 | H | 3 | 34879 | L | 5972 | FO | 88120701 | 014900 | 000400 | 5X1 | G E=4X,C=190,B=30 |
| KA007 | HD50896 | 11 | 06.97 | 0652081 | -235152 | H | 3 | 34894 | L | 05840 | FO | 88120709 | 095922 | 000400 | 570 | U |
| WRKPC | HD 50896 | 11 | 6.9 | 0652081 | -235152 | H | 3 | 34880 | L | 5672 | FO | 88120702 | 022200 | 000400 | 5X2 | G E=4X,C=192,B=32 |
| KA007 | HD 50896 | 11 | 07.01 | 0652081 | -235152 | H | 3 | 34895 | L | 05675 | FO | 88120710 | 103208 | 000400 | 570 | U |
| WRKPC | HD 50896 | 11 | 6.9 | 0652081 | -235152 | H | 3 | 34881 | L | 5689 | FO | 88120702 | 025300 | 000400 | 5X1 | G E=4X,C=190,B=30 |
| KA007 | HD50896 | 11 | 07.00 | 0652081 | -235152 | H | 3 | 34896 | L | 05730 | FO | 88120711 | 110812 | 000400 | 570 | U |
| WRKPC | HD 50896 | 11 | 6.9 | 0652081 | -235152 | H | 3 | 34882 | L | 5698 | FO | 88120703 | 032400 | 000400 | 5X2 | G E=4X,C=190,B=32 |
| KA007 | HD50896 | 11 | 07.01 | 0652081 | -235152 | H | 3 | 34897 | L | 05678 | FO | 88120711 | 114450 | 000400 | 570 | U |
| WRKPC | HD 50896 | 11 | 6.9 | 0652081 | -235152 | H | 3 | 34883 | L | 5736 | FO | 88120703 | 035600 | 000400 | 5X2 | G E=4X,C=194,B=32 |
| KA007 | HD 50896 | 11 | 07.01 | 0652081 | -235152 | H | 3 | 34898 | L | 05649 | FO | 88120712 | 122229 | 000400 | 570 | U |
| WRKPC | HD 50896 | 11 | 6.9 | 0652081 | -235152 | H | 3 | 34884 | L | 5728 | FO | 88120704 | 042800 | 000400 | 5X2 | G E=4X,C=190,B=32 |
| KA007 | HD 50896 | 11 | 07.02 | 0652081 | -235152 | H | 3 | 34899 | L | 05590 | FO | 88120712 | 125600 | 000400 | 570 | U |
| WRKPC | HD 50896 | 11 | 6.9 | 0652081 | -235152 | H | 3 | 34885 | L | 5817 | FO | 88120704 | 045900 | 000400 | 5X2 | G E=4X,C=195,B=32 |
| KA007 | HD 50896 | 11 | 07.03 | 0652081 | -235152 | H | 3 | 34900 | L | 05565 | FO | 88120713 | 132818 | 000400 | 570 | U |
| WRKPC | HD 50896 | 11 | 6.9 | 0652081 | -235152 | H | 3 | 34886 | L | 5823 | FO | 88120705 | 052900 | 000400 | 5X2 | G E=4X,C=195,B=35 |
| KA007 | HD 50896 | 11 | 07.03 | 0652081 | -235152 | H | 3 | 34901 | L | 05544 | FO | 88120714 | 140329 | 000400 | 570 | U |
| WRKPC | HD 50896 | 11 | 6.9 | 0652081 | -235152 | H | 3 | 34887 | L | 5802 | FO | 88120706 | 060500 | 000400 | 502 | G C=195,B=34 |

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| PRO | Object | CL | MAG | R A. | DEC | D C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KA007 | HD 50896 | 11 | 07.03 | 0652081 | -235152 | H | 3 | 34902 | L | 05556 | FO | 88120714 | 143432 | 000400 | 570 | U | |
| WRKPC | HD 50896 | 11 | 6.9 | 0652081 | -235152 | H | 3 | 34888 | L | 5875 | FO | 88120706 | 063600 | 000400 | 5X2 | G | E=4X,C=200,B=32 |
| KA007 | HD 50896 | 11 | 07.00 | 0652081 | -235153 | H | 3 | 34929 | L | 05730 | FO | 88120808 | 084555 | 000400 | 570 | U | |
| WRKPC | HD 50896 | 11 | 6.9 | 0652081 | -235152 | H | 3 | 34889 | L | 5864 | FO | 88120707 | 070700 | 000400 | 5X2 | G | E=4X,C=200,B=32 |
| KA007 | HD 50896 | 11 | 07.02 | 0652081 | -235153 | H | 3 | 34930 | L | 05621 | FO | 88120809 | 092211 | 000400 | 570 | U | |
| WRKPC | HD 50896 | 11 | 6.9 | 0652081 | -235152 | H | 3 | 34890 | L | 5912 | FO | 88120707 | 073800 | 000400 | X02 | G | C=4X,C=200,B=32 |
| KA007 | HD 50896 | 11 | 07.01 | 0652081 | -235153 | H | 3 | 34931 | L | 05658 | FO | 88120809 | 095228 | 000400 | 570 | U | |
| WRKPC | HD 50896 | 11 | 6.9 | 0652081 | -235152 | H | 3 | 34891 | L | 5946 | FO | 88120708 | 080900 | 000400 | 5X2 | G | E=4X,C=192,B=32 |
| KA007 | HD 50896 | 11 | 07.01 | 0652081 | -235153 | H | 3 | 34932 | L | 05636 | FO | 88120810 | 102319 | 000400 | 570 | U | |
| WRKPC | HD 50896 | 11 | 6.90 | 0652081 | -235152 | H | 3 | 34905 | L | 5350 | FO | 88120719 | 194200 | 000400 | 5X1 | G | E=4X,C=194,B=30 |
| KA007 | HD 50896 | 11 | 07.01 | 0652081 | -235153 | H | 3 | 34933 | L | 05646 | FO | 88120810 | 105456 | 000400 | 570 | U | |
| WRKPC | HD 50896 | 11 | 6.90 | 0652081 | -235152 | H | 3 | 34906 | L | 5351 | FO | 88120720 | 201800 | 000400 | 5X2 | G | E=4X,C=210,B=32 |
| KA007 | HD 50896 | 11 | 07.02 | 0652081 | -235153 | H | 3 | 34934 | L | 05616 | FO | 88120811 | 113137 | 000400 | 570 | U | |
| WRKPC | HD 50896 | 11 | 6.90 | 0652081 | -235152 | H | 3 | 34907 | L | 5449 | FO | 88120720 | 205000 | 000400 | 5X2 | G | E=4X,C=212,B=34 |
| KA007 | HD50896 | 11 | 07.02 | 0652081 | -235153 | H | 3 | 34935 | L | 05594 | FO | 88120812 | 120221 | 000400 | 570 | U | |
| WRKPC | HD 50896 | 11 | 6.90 | 0652081 | -235152 | H | 3 | 34908 | L | 5665 | FO | 88120721 | 212200 | 000400 | 502 | G | 4X,C=211,B=33 |
| KA007 | HD 50896 | 11 | 07.03 | 0652081 | -235153 | H | 3 | 34936 | L | 05579 | FO | 88120812 | 123552 | 000400 | 570 | U | |
| WRKPC | HD 50896 | 11 | 6.90 | 0652081 | -235152 | H | 3 | 34909 | L | 5501 | FO | 88120721 | 215500 | 000400 | 5X2 | G | E=4X,C=196,B=32 |
| KA007 | HD 50896 | 11 | 07.03 | 0652081 | -235153 | H | 3 | 34937 | L | 05540 | FO | 88120813 | 130750 | 000400 | 570 | U | |
| WRKPC | HD 50896 | 11 | 6.90 | 0652081 | -235152 | H | 3 | 34910 | L | 5873 | FO | 88120722 | 222800 | 000400 | 5X2 | G | E=4X,C=206,B=34 |
| KA007 | HD 50896 | 11 | 07.05 | 0652081 | -235153 | H | 3 | 34938 | L | 05489 | FO | 88120813 | 134532 | 000400 | 570 | U | |
| WRKPC | HD 50896 | 11 | 6.90 | 0652081 | -235152 | H | 3 | 34911 | L | 5492 | FO | 88120723 | 230100 | 000400 | 5X2 | G | E=4X,C=190,B=35 |
| KA007 | HD 50896 | 11 | 07.05 | 0652081 | -235153 | H | 3 | 34939 | L | 05478 | FO | 88120814 | 141518 | 000400 | 570 | U | |
| WRKPC | HD 50896 | 11 | 6.90 | 0652081 | -235152 | H | 3 | 34912 | L | 5657 | FO | 88120723 | 233200 | 000400 | 5X2 | G | E=4X,C=204,B=33 |
| KA007 | HD50896 | 11 | 07.03 | 0652081 | -235152 | H | 3 | 34967 | L | 05573 | FO | 88120909 | 090103 | 000400 | 570 | U | |
| WRKPC | HD 50896 | 11 | 6.90 | 0652081 | -235152 | H | 3 | 34913 | L | 5786 | FO | 88120800 | 000500 | 000400 | 5X2 | G | E=4X,C=211,B=33 |
| KA007 | HD50896 | 11 | 07.01 | 0652081 | -235152 | H | 3 | 34971 | L | 05682 | FO | 88120911 | 111956 | 000400 | 570 | U | |
| WRKPC | HD 50896 | 11 | 6.90 | 0652081 | -235152 | H | 3 | 34914 | L | 5430 | FO | 88120800 | 003900 | 000400 | 5X2 | G | E=4X,C=200,B=32 |
| KA007 | HD50896 | 11 | 07.01 | 0652081 | -235152 | H | 3 | 34972 | L | 05679 | FO | 88120911 | 115401 | 000400 | 570 | U | |
| WRKPC | HD 50896 | 11 | 6.90 | 0652081 | -235152 | H | 3 | 34915 | L | 5415 | FO | 88120801 | 010900 | 000400 | 5X2 | G | E=4X,C=197,B=32 |
| KA007 | HD50896 | 11 | 07.03 | 0652081 | -235152 | H | 3 | 34973 | L | 05575 | FO | 88120912 | 122626 | 000400 | 570 | U | |
| WRKPC | HD 50896 | 11 | 6.90 | 0652081 | -235152 | H | 3 | 34916 | L | 5356 | FO | 88120801 | 014700 | 000400 | 5X2 | G | E=4X,C=195,B=31 |
| KA007 | HD50896 | 11 | 07.03 | 0652081 | -235152 | H | 3 | 34974 | L | 05582 | FO | 88120913 | 130316 | 000400 | 570 | U | |
| WRKPC | HD 50896 | 11 | 6.90 | 0652081 | -235152 | H | 3 | 34917 | L | 5451 | FO | 88120802 | 021800 | 000400 | 5X1 | G | E=4X,C=208,B=30 |
| KA007 | HD50896 | 11 | 07.03 | 0652081 | -235152 | H | 3 | 34975 | L | 05562 | FO | 88120913 | 133754 | 000400 | 570 | U | |
| WRKPC | HD 50896 | 11 | 6.90 | 0652081 | -235152 | H | 3 | 34918 | L | 5608 | FO | 88120802 | 024900 | 000400 | 5X2 | G | E=4X,C=195,B=32 |
| KA007 | HD50896 | 11 | 07.03 | 0652081 | -235152 | H | 3 | 34976 | L | 05554 | FO | 88120914 | 142121 | 000400 | 570 | U | |
| WRKPC | HD 50896 | 11 | 6.90 | 0652081 | -235152 | H | 3 | 34919 | L | 5971 | FO | 88120803 | 032000 | 000400 | 5X2 | G | E=4X,C=205,B=32 |
| WRKPC | HD 50896 | 11 | 6.90 | 0652081 | -235152 | H | 3 | 34920 | L | 5982 | FO | 88120803 | 035400 | 000400 | 4X2 | G | E=4X,C=180,B=32 |
| WRKPC | HD 50896 | 11 | 6.90 | 0652081 | -235152 | H | 3 | 34921 | L | 5731 | FO | 88120804 | 042700 | 000400 | 5X2 | G | E=4X,C=200,B=32 |
| WRKPC | HD 50896 | 11 | 6.90 | 0652081 | -235152 | H | 3 | 34922 | L | 5698 | FO | 88120804 | 045800 | 000400 | 5X2 | G | E=4X,C=210,B=32 |
| WRKPC | HD 50896 | 11 | 6.90 | 0652081 | -235152 | H | 3 | 34923 | L | 5846 | FO | 88120805 | 052900 | 000400 | 5X2 | G | E=4X,C=195,B=34 |
| WRKPC | HD 50896 | 11 | 6.90 | 0652081 | -235152 | H | 3 | 34924 | L | 5970 | FO | 88120805 | 055900 | 000400 | 5X2 | G | E=4X,C=205,B=35 |
| WRKPC | HD 50896 | 11 | 6.90 | 0652081 | -235152 | H | 3 | 34925 | L | 5939 | FO | 88120806 | 063000 | 000400 | 5X2 | G | E=4X,C=200,B=32 |
| WRKPC | HD 50896 | 11 | 6.90 | 0652081 | -235152 | H | 3 | 34926 | L | 5831 | FO | 88120807 | 070100 | 000400 | 5X2 | G | E=4X,C=197,B=32 |

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| PRO | Object | CL | MAG | R.A. | DEC | D C | Image # | FES | MD | Obs.date | Exptim | mmmmsstt | ESC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WRKPC | HD | 50896 | 11 | 6.90 | 0652081 | -235152 | H 3 | 34927 | L | 5839 | FO | 88120807 | 073200 | 000400 | 5X2 | G E=4X,C=190,B=32 |
| WRKPC | HD | 50896 | 11 | 6.90 | 0652081 | -235152 | H 3 | 34928 | L | 6004 | FO | 88120808 | 080300 | 000400 | 5X2 | G E=4X,C=197,B=32 |
| WRKPC | HD | 50896 | 11 | 6.90 | 0652081 | -235152 | H 3 | 34943 | L | 5275 | FO | 88120819 | 193800 | 000400 | 5X2 | G E=4X,C=200X,B=31 |
| WRKPC | HD | 50896 | 11 | 6.90 | 0652081 | -235152 | H 3 | 34944 | L | 5240 | FO | 88120820 | 202000 | 000400 | 5X2 | G E=4X,C=208,B=33 |
| WRKPC | HD | 50896 | 11 | 6.90 | 0652081 | -235152 | H 3 | 34945 | L | 5369 | FO | 88120820 | 205100 | 000400 | 5X2 | G E=4X,C=203,B=32 |
| WRKPC | HD | 50896 | 11 | 6.90 | 0652081 | -235152 | H 3 | 34946 | L | 5582 | FO | 88120821 | 212300 | 000400 | 5X2 | G E=4X,C=203,B=33 |
| WRKPC | HD | 50896 | 11 | 6.90 | 0652081 | -235152 | H 3 | 34947 | L | 5426 | FO | 88120822 | 221000 | 000400 | 5X2 | G E=4X,C=188,B=34 |
| WRKPC | HD | 50896 | 11 | 6.90 | 0652081 | -235152 | H 3 | 34948 | L | 5741 | FO | 88120822 | 224200 | 000400 | 5X1 | G E=4X,C=200,B=30 |
| WRKPC | HD | 50896 | 11 | 6.90 | 0652081 | -235152 | H 3 | 34949 | L | 5450 | FO | 88120823 | 231500 | 000400 | 5X2 | G E=4X,C=205,B=32 |
| WRKPC | HD | 50896 | 11 | 6.90 | 0652081 | -235152 | H 3 | 34950 | L | 5564 | FO | 88120823 | 234600 | 000400 | 5X2 | G E=4X,C=208,B=32 |
| WRKPC | HD | 50896 | 11 | 6.90 | 0652081 | -235152 | H 3 | 34951 | L | 5684 | FO | 88120900 | 001700 | 000400 | 5X2 | G E=4X,C=195,B=35 |
| WRKPC | HD | 50896 | 11 | 6.90 | 0652081 | -235152 | H 3 | 34952 | L | 5431 | FO | 88120900 | 005100 | 000400 | 5X2 | G E=4X,C=195,B=32 |
| WRKPC | HD | 50896 | 11 | 6.90 | 0652081 | -235152 | H 3 | 34953 | L | 5691 | FO | 88120901 | 012800 | 000400 | 5X2 | G E=4X,C=195,B=34 |
| WRKPC | HD | 50896 | 11 | 6.90 | 0652081 | -235152 | H 3 | 34954 | L | 5471 | FO | 88120902 | 020100 | 000400 | | G E=4X |
| WRKPC | HD | 50896 | 11 | 6.90 | 0652081 | -235152 | H 3 | 34955 | L | 5661 | FO | 88120902 | 023500 | 000400 | 5X2 | G E=4X,C=195,B=35 |
| WRKPC | HD | 50896 | 11 | 6.90 | 0652081 | -235152 | H 3 | 34956 | L | 5764 | FO | 88120903 | 030600 | 000400 | 5X2 | G E=4X,C=195,B=35 |
| WRKPC | HD | 50896 | 11 | 6.90 | 0652081 | -235152 | H 3 | 34957 | L | 5988 | FO | 88120903 | 033800 | 000400 | 4X2 | G E=4X,C=185,B=35 |
| WRKPC | HD | 50896 | 11 | 6.90 | 0652081 | -235152 | H 3 | 34958 | L | 5558 | FO | 88120904 | 040800 | 000400 | 4X2 | G E=4X,C=180,B=35 |
| WRKPC | HD | 50896 | 11 | 6.90 | 0652081 | -235152 | H 3 | 34959 | L | 5649 | FO | 88120904 | 044000 | 000400 | 4X2 | G E=4X,C=185,B=35 |
| WRKPC | HD | 50896 | 11 | 6.90 | 0652081 | -235152 | H 3 | 34960 | L | 5671 | FO | 88120905 | 051100 | 000400 | 5X2 | G E=4X,C=195,B=35 |
| WRKPC | HD | 50896 | 11 | 6.90 | 0652081 | -235152 | H 3 | 34961 | L | 5703 | FO | 88120905 | 054200 | 000400 | 5X2 | G E=4X,C=190,B=35 |
| WRKPC | HD | 50896 | 11 | 6.90 | 0652081 | -235152 | H 3 | 34962 | L | 5664 | FO | 88120906 | 061300 | 000400 | 5X2 | G E=4X,C=190,B=35 |
| WRKPC | HD | 50896 | 11 | 6.90 | 0652081 | -235152 | H 3 | 34963 | L | 5811 | FO | 88120906 | 064400 | 000400 | 4X2 | G E=4X,C=180,B=35 |
| WRKPC | HD | 50896 | 11 | 6.90 | 0652081 | -235152 | H 3 | 34964 | L | 5605 | FO | 88120907 | 071900 | 000400 | 4X2 | G E=4X,C=180,B=35 |
| WRKPC | HD | 50896 | 11 | 6.90 | 0652081 | -235152 | H 3 | 34965 | L | 5556 | FO | 88120907 | 075000 | 000400 | 4X2 | G E=4X,C=180,B=35 |
| WRKPC | HD | 50896 | 11 | 6.90 | 0652081 | -235152 | H 3 | 34966 | L | 5633 | FO | 88120908 | 082000 | 000400 | 5X2 | G E=4X,C=190,B=32 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H 3 | 34979 | L | 6277 | FO | 88120920 | 204100 | 000400 | 5X1 | G E=4X,C=190,B=25 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H 3 | 34980 | L | 5306 | FO | 88120921 | 212500 | 000400 | 5X1 | G E=4X,C=198,B=24 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H 3 | 34981 | L | 5319 | FO | 88120922 | 220000 | 000400 | 5X1 | G E=4X,C=195,B=26 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H 3 | 34982 | L | 5242 | FO | 88120922 | 223400 | 000400 | 5X1 | G E=4X,C=198,B=26 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H 3 | 34983 | L | 5158 | FO | 88120923 | 230700 | 000400 | 5X1 | G E=4X,C=190,B=26 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H 3 | 34984 | L | 5310 | FO | 88120923 | 234300 | 000400 | 5X1 | G E=4X,C=184,B=27 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H 3 | 34985 | L | 5517 | FO | 88121000 | 001400 | 000400 | 5X1 | G E=4X,C=203,B=29 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H 3 | 34986 | L | 5591 | FO | 88121000 | 004700 | 000400 | 5X2 | G E=4X,C=190,B=32 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H 3 | 34987 | L | 5979 | FO | 88121001 | 012100 | 000400 | 5X2 | G E=4X,C=190,B=32 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H 3 | 34988 | L | 5242 | FO | 88121001 | 015700 | 000400 | 5X1 | G E=4X,C=185,B=30 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H 3 | 34989 | L | 5409 | FO | 88121002 | 022800 | 000400 | 5X2 | G E=4X,C=190,B=32 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H 3 | 34990 | L | 5466 | FO | 88121002 | 025900 | 000400 | 5X2 | G E=4X,C=190,B=32 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H 3 | 34991 | L | 5654 | FO | 88121003 | 033000 | 000400 | 5X2 | G E=4X,C=195,B=32 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H 3 | 34992 | L | 5785 | FO | 88121004 | 040200 | 000400 | 5X2 | G E=4X,C=190,B=32 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H 3 | 34993 | L | 6139 | FO | 88121004 | 043400 | 000400 | 5X2 | G E=4X,C=185,B=32 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H 3 | 34994 | L | 5481 | FO | 88121005 | 050500 | 000400 | 5X2 | G E=4X,C=200,B=32 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H 3 | 35001 | L | 5345 | FO | 88121101 | 014800 | 000400 | 5X1 | G E=4X,C=193,B=28 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H 3 | 35002 | L | 5369 | FO | 88121102 | 022100 | 000400 | 5X2 | G E=4X,C=198,B=32 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H 3 | 35003 | L | 5455 | FO | 88121102 | 025200 | 000400 | 5X2 | G E=4X,C=190,B=31 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FRS | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H | 3 | 35004 | L | 5578 | FO | 88121103 | 032300 | 000400 | 5X2 G E=4X,C=190,B=32 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H | 3 | 35005 | L | 5682 | FO | 88121103 | 035400 | 000400 | 5X1 G E=4X,C=192,B=30 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H | 3 | 35006 | L | 5751 | FO | 88121104 | 042600 | 000400 | 5X2 G E=4X,C=188,B=32 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H | 3 | 35007 | L | 5913 | FO | 88121104 | 045700 | 000400 | 5X2 G E=4X,C=190,B=31 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H | 3 | 35008 | L | 5876 | FO | 88121105 | 052800 | 000400 | 5X2 G E=4X,C=188,B=32 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H | 3 | 35009 | L | 5772 | FO | 88121105 | 055800 | 000400 | 5X2 G E=4X,C=204,B=32 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H | 3 | 35010 | L | 6078 | FO | 88121106 | 062900 | 000400 | 5X2 G E=4X,C=195,B=32 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H | 3 | 35011 | L | 5953 | FO | 88121107 | 070000 | 000400 | 5X2 G E=4X,C=185,B=32 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H | 3 | 35012 | L | 6015 | FO | 88121107 | 073100 | 000400 | 5X2 G E=4X,C=187,B=32 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H | 3 | 35013 | L | 6101 | FO | 88121108 | 080400 | 000400 | 4X2 G E=4X,C=180,B=32 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H | 3 | 35014 | L | 6092 | FO | 88121108 | 083500 | 000400 | 5X2 G E=4X,C=192,B=32 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H | 3 | 35016 | L | 5455 | FO | 88121202 | 020600 | 000400 | 5X1 G E=4X,C=200,B=28 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H | 3 | 35017 | L | 5467 | FO | 88121202 | 024100 | 000400 | 5X2 G E=4X,C=200,B=32 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H | 3 | 35018 | L | 5986 | FO | 88121203 | 031300 | 000400 | 5X2 G E=4X,C=200,B=32 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H | 3 | 35019 | L | 5981 | FO | 88121203 | 034700 | 000400 | 5X2 G E=4X,C=208,B=32 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H | 3 | 35020 | L | 5929 | FO | 88121204 | 041800 | 000400 | 5X2 G E=4X,C=195,B=32 |
| WRKPC | HD | 50896 | 11 | 6.9 | 0652081 | -235152 | H | 3 | 35021 | L | 5655 | FO | 88121204 | 045000 | 000400 | 5X2 G E=4X,C=195,B=32 |
| CBKGP | HD | 50846 | 66 | 8.5 | 0652225 | -011841 | H | 3 | 35398 | L | 1193 | FO | 89012323 | 233600 | 007500 | 406 G C=213,B=71 |
| CBKGP | HD | 50846 | 66 | 8.5 | 0652225 | -011841 | L | 3 | 35399 | L | 1210 | FO | 89012401 | 012000 | 000110 | 500 G C=205,B=15 |
| CBKGP | HD | 50846 | 66 | 8.5 | 0652225 | -011841 | L | 1 | 14905 | L | 1222 | FO | 89012401 | 012700 | 000040 | 502 G C=216,B=37 |
| CBKGP | HD | 50846 | 66 | 8.5 | 0652225 | -011841 | L | 3 | 35455 | L | 1282 | FO | 89013001 | 014600 | 000110 | 500 G C=212,B=16 |
| CBKGP | HD | 50846 | 66 | 8.5 | 0652225 | -011841 | L | 1 | 14938 | L | 1276 | FO | 89013001 | 015200 | 000040 | 502 G C=200,B=33 |
| CBKGP | HD | 50846 | 66 | 8.5 | 0652225 | -011841 | H | 3 | 35454 | L | 1287 | FO | 89031214 | 140900 | 007000 | 406 G C=218,B=72 |
| IEKEB | LSVI-09 | | 20 | 11.2 | 0652442 | -002946 | L | 3 | 35501 | L | 357 | SO | 89020601 | 014400 | 002700 | 506 G C=252,B=76 |
| CSKBB | GL 256 | | 46 | 9.1 | 0656070 | -125515 | L | 1 | 14569 | L | 550 | FO | 88113008 | 083400 | 004000 | 353 G E=225,C=100,B=43 |
| IDKWL | HD | 52089 | 23 | 1.50 | 065639 | -285410 | H | 3 | 35164 | L | 6208 | FU | 88122805 | 054600 | 000015 | X08 G C=6X,B=100 |
| IDKWL | HD | 52089 | 23 | 1.5 | 0656396 | -285410 | H | 3 | 35160 | L | 5991 | FU | 88122803 | 034500 | 000018 | X09 G C=6X,B=109 |
| IDKWL | HD | 52089 | 23 | 1.5 | 0656396 | -285410 | H | 3 | 35162 | L | 6651 | FU | 88122804 | 044700 | 000015 | X08 G C=6X,B=100 |
| IDKWL | HD | 52089 | 23 | 1.5 | 0656396 | -285410 | H | 3 | 35163 | S | 6124 | FU | 88122805 | 051600 | 000036 | X09 G C=6X,B=110 |
| IDKWL | HD | 52089 | 23 | 1.5 | 0656396 | -285410 | H | 3 | 35165 | L | 6680 | FU | 88122806 | 062300 | 000003 | 501 G C=180,B=26 |
| IDKWL | HD | 52089 | 23 | 1.5 | 0656396 | -285410 | H | 1 | 14729 | L | 6186 | FU | 88122806 | 065500 | 000003 | 503 G C=216,B=45 |
| IDKWL | HD | 52089 | 23 | 1.5 | 0656396 | -285410 | H | 3 | 35166 | L | 6860 | FU | 88122807 | 070300 | 000015 | X09 G C=6X,B=114 |
| IDKWL | HD | 52089 | 23 | 1.5 | 0656396 | -285410 | H | 3 | 35167 | L | 6036 | FU | 88122807 | 074600 | 000015 | X09 G C=6X,B=109 |
| IDKWL | HD | 52089 | 23 | 1.5 | 0656396 | -285410 | H | 3 | 35168 | S | 6082 | FU | 88122808 | 081400 | 000036 | X08 G C=6X,B=98 |
| IDKWL | HD | 52089 | 23 | 1.5 | 0656396 | -285410 | H | 3 | 35169 | L | 6123 | FU | 88122808 | 084400 | 000015 | X09 G C=6X,B=111 |
| IDKWL | HD | 52089 | 23 | 1.5 | 0656396 | -285410 | H | 3 | 36047 | L | 5830 | FU | 89042021 | 211300 | 000012 | X05 G C=5.0X,B=70 |
| IDKWL | HD | 52089 | 23 | 1.5 | 0656396 | -285410 | H | 3 | 36048 | L | 4409 | FU | 89042021 | 214600 | 000012 | X05 G C=5.X,B=70 |
| IDKWL | HD | 52089 | 23 | 1.5 | 0656396 | -285410 | H | 3 | 36049 | L | 6424 | FU | 89042022 | 221700 | 000012 | X05 G C=5.X,B=70 |
| IDKWL | HD | 52089 | 23 | 1.5 | 0656396 | -285410 | H | 3 | 36050 | S | 5909 | FU | 89042022 | 225100 | 000036 | X09 G C=6.X,B=110 |
| IDKWL | HD | 52089 | 23 | 1.5 | 0656396 | -285410 | H | 3 | 36051 | L | 5870 | FU | 89042023 | 232700 | 000014 | X06 G C=6.X,B=78 |
| IDKWL | HD | 52089 | 23 | 1.5 | 0656396 | -285410 | H | 3 | 36052 | L | 6727 | FU | 89042023 | 235600 | 000015 | X06 G C=6.0X,B=80 |
| IDKWL | HD | 52089 | 23 | 1.5 | 0656396 | -285410 | H | 3 | 36053 | L | 6566 | FU | 89042100 | 002600 | 000015 | X06 G C=6.0X,B=80 |
| IDKWL | HD | 52089 | 23 | 1.5 | 0656396 | -285410 | H | 3 | 36064 | L | 5778 | FU | 89042121 | 210500 | 000011 | X05 G C=5X,B=66 |
| IDKWL | HD | 52089 | 23 | 1.5 | 0656396 | -285410 | H | 3 | 36065 | L | 6349 | FU | 89042121 | 213700 | 000011 | X05 G C=5X,B=68 |
| IDKWL | HD | 52089 | 23 | 1.5 | 0656396 | -285410 | H | 3 | 36066 | L | 6661 | FU | 89042122 | 220600 | 000011 | X05 G C=5X,B=66 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IDKWL | HD 52089 | 23 | 1.5 | 0656396 | -285410 | H | 3 | 36067 | S | 5829 | FU | 89042122 | 223400 | 000030 | X05 | G C=5X,B=70 |
| IDKWL | HD 52089 | 23 | 1.5 | 0656396 | -285410 | H | 1 | 15386 | L | 5845 | FU | 89042122 | 224000 | 000004 | X03 | G C=1.5X,B=42 |
| IDKWL | HD 199178 | 45 | 7.3 | 0656396 | -285410 | H | 1 | 15387 | L | 3089 | FU | 89042123 | 235600 | 005500 | 343 | G E=142,C=95,B=41 |
| NPKHB | ABELL 19 | 70 | 12 | 0657064 | +144047 | L | 3 | 34710 | L | 94 | SO | 88110908 | 081000 | 004000 | 01 | G B=30 |
| PRKCG | HD 52918 | 26 | 4.9 | 0700257 | -040955 | H | 3 | 35104 | L | 21748 | FO | 88122304 | 042700 | 000110 | 402 | G C=150,B=36 |
| DCKNE | HD 53929 | 27 | 6.11 | 0704269 | +045920 | L | 3 | 34815 | L | 9026 | FO | 88112507 | 070700 | 000007 | 400 | G C=147,B=16 |
| DCKNE | HD 53929 | 27 | 6.11 | 0704269 | +045920 | L | 1 | 14525 | L | 9155 | FO | 88112507 | 071200 | 000005 | 502 | G C=199,B=32 |
| IGKJS | MRK 376 | 85 | 14.6 | 0710361 | +454706 | L | 1 | 14565 | L | | BO | 88113000 | 000400 | 016500 | 305 | G C=134,B=64 |
| IGKJS | MKN 376 | 85 | 14.6 | 0710361 | +454706 | L | 1 | 14575 | L | | BO | 88113019 | 192200 | 020000 | 305 | G C=140,B=67 |
| IGKJS | MKN 376 | 85 | 14.6 | 0710361 | +454706 | L | 3 | 34856 | L | | BO | 88113022 | 224900 | 020000 | 303 | G C=67,B=42 |
| CSKBB | HD 57853 | 44 | 6.60 | 0719089 | -521306 | L | 3 | 34865 | L | 11771 | FO | 88120200 | 001400 | 003500 | 342 | G E=176,C=106,B=31 |
| CSKBB | SAO 235117 | B 65 | 10 | 0719258 | -520611 | L | 1 | 14583 | L | 549 | FO | 88120123 | 234000 | 000200 | 302 | G C=90,B=32 |
| KI145 | BX MON | 57 | 11.16 | 0722530 | -032951 | L | 3 | 35767 | L | 00139 | FO | 89031406 | 061002 | 009000 | 331 | U |
| KI145 | BX MON | 57 | 11.16 | 0722530 | -032951 | L | 1 | 15196 | L | 00141 | FO | 89031407 | 075528 | 003000 | 441 | U |
| KA186 | HD 58978 | 26 | 05.82 | 0724522 | -225903 | H | 3 | 35320 | L | 15067 | FO | 89011109 | 095859 | 000250 | 601 | U |
| PRKCG | HD 58978 | 26 | 5.5 | 0724522 | -225903 | H | 3 | 34736 | L | 13890 | FO | 88111309 | 095200 | 000250 | 502 | G C=215,B=36 |
| KA186 | HD58978 | 26 | 05.88 | 0724522 | -225903 | L | 1 | 14800 | L | 14431 | FO | 89011109 | 092741 | 000001 | 402 | U |
| PRKCG | HD 58978 | 26 | 5.5 | 0724522 | -225903 | H | 3 | 35074 | L | 14088 | FO | 88121903 | 032500 | 000250 | 502 | G C=204,B=39 |
| KA186 | HD 58978 | 26 | 05.86 | 0724522 | -225903 | L | 3 | 35321 | L | 14636 | FO | 89011110 | 102811 | 000002 | 500 | U |
| PRKCG | HD 58978 | 26 | 5.5 | 0724522 | -225903 | L | 3 | 35075 | L | 13848 | FO | 88121903 | 035800 | 000002 | 500 | G C=215,B=17 |
| KA186 | HD 58978 | 20 | 05.93 | 0724522 | -225903 | H | 3 | 35614 | L | 13802 | FO | 89022405 | 052913 | 000250 | 500 | U |
| PRKCG | HD 58978 | 26 | 5.5 | 0724522 | -225903 | L | 1 | 14666 | L | 13879 | FO | 88121904 | 040300 | 000001 | 502 | G C=208,B=35 |
| KA186 | HD 58978 | 20 | 05.96 | 0724522 | -225903 | L | 3 | 35615 | L | 13535 | FO | 89022406 | 060814 | 000002 | 500 | U |
| PRKCG | HD 58978 | 26 | 5.5 | 0724522 | -225903 | L | 3 | 35081 | L | 14141 | FO | 88122003 | 034500 | 000002 | 500 | G C=217,B=18 |
| KA186 | HD 58978 | 20 | 05.98 | 0724522 | -225903 | L | 1 | 15086 | L | 14398 | FO | 89022406 | 060358 | 000001 | 500 | U DURATION 3 TICKS |
| PRKCG | HD 58978 | 26 | 5.5 | 0724522 | -225903 | H | 3 | 35082 | L | 14377 | FO | 88122004 | 041600 | 000250 | 503 | G C=212,B=41 |
| PRKCG | HD58978 | 26 | 05.92 | 0724522 | -225903 | H | 3 | 35913 | L | 13932 | FO | 89040304 | 040346 | 000250 | 500 | U |
| PRKCG | HD 58978 | 26 | 5.5 | 0724522 | -225903 | L | 1 | 14675 | L | 14660 | FO | 88122004 | 042300 | 000001 | 502 | G C=186,B=35 |
| PRKCG | HD 58978 | 26 | 5.5 | 0724522 | -225903 | L | 3 | 35093 | L | 14708 | FO | 88122203 | 030900 | 000002 | 502 | G C=195,B=37 |
| PRKCG | HD 58978 | 26 | 5.5 | 0724522 | -225903 | L | 1 | 14691 | L | 14700 | FO | 88122203 | 031400 | 000001 | 401 | G C=175,B=23 |
| PRKCG | HD 58978 | 26 | 5.5 | 0724522 | -225903 | H | 3 | 35094 | L | 15723 | FO | 88122204 | 040400 | 000250 | 502 | G C=200,B=34 |
| PRKCG | HD 58978 | 26 | 5.5 | 0724522 | -225903 | H | 3 | 35101 | L | 14058 | FO | 88122301 | 014200 | 000250 | 502 | G C=212,B=39 |
| PRKCG | HD 58978 | 26 | 5.5 | 0724522 | -225903 | L | 1 | 14696 | L | 14138 | FO | 88122301 | 015000 | 000001 | 502 | G C=198,B=37 |
| PRKCG | HD 58978 | 26 | 5.5 | 0724522 | -225903 | L | 3 | 35102 | L | 14093 | FO | 88122303 | 030100 | 000002 | 500 | G C=204,B=13 |
| PRKCG | HD 58978 | 26 | 5.5 | 0724522 | -225903 | H | 3 | 35112 | L | 13899 | FO | 88122403 | 034600 | 000250 | 503 | G C=222,B=41 |
| PRKCG | HD 58978 | 26 | 5.5 | 0724522 | -225903 | L | 3 | 35113 | L | 16004 | FO | 88122404 | 041700 | 000002 | 500 | G C=213,B=15 |
| PRKCG | HD 58978 | 26 | 5.5 | 0724522 | -225903 | H | 3 | 35114 | L | 507 | FU | 88122404 | 045900 | 000055 | 502 | G C=225,B=40 |
| KI145 | HD 59643 | 57 | 08.33 | 0728526 | +243637 | L | 3 | 35766 | L | 01767 | FO | 89031404 | 041013 | 006000 | 331 | U |
| KI145 | HD 59643 | 57 | 08.40 | 0728527 | +243638 | L | 1 | 15195 | L | 01655 | FO | 89031405 | 051809 | 002500 | 352 | U |
| PHCAL | HD60753 | 21 | 07.08 | 0732079 | -502828 | L | 3 | 35575 | L | 05308 | FO | 89021710 | 103632 | 000010 | 500 | U |
| PHCAL | HD60753 | 21 | 07.08 | 0732079 | -502828 | L | 3 | 35575 | S | 05308 | FO | 89021710 | 104041 | 000030 | 500 | U |
| PHCAL | HD60753 | 21 | 07.09 | 0732079 | -502828 | L | 1 | 15053 | L | 05285 | FO | 89021710 | 104356 | 000006 | 502 | U |
| PHCAL | HD60753 | 21 | 07.09 | 0732079 | -502828 | L | 1 | 15053 | S | 05285 | FO | 89021710 | 104757 | 000012 | 502 | U |
| PHCAL | HD 60753 | 21 | 07.06 | 0732080 | -502829 | H | 3 | 35509 | L | 05410 | FO | 89020804 | 045535 | 001300 | 500 | U |
| PHCAL | HD 60753 | 21 | 6.69 | 0732080 | -502828 | L | 1 | 15105 | L | 5255 | FO | 89022714 | 140700 | 000026 | 502 | G C=146,B=37 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FRS | MD | Obs.date | Exptm | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHCAL | HD60753 | 21 | 07.02 | 0732080 | -502829 | L | 1 | 14986 | S | 05623 | FO | 89020805 | 052538 | 000012 | 501 | V |
| PHCAL | HD 60753 | 21 | 6.69 | 0732080 | -502828 | L | 1 | 15106 | L | 5206 | FO | 89022715 | 150200 | 000026 | 502 | G C=194,B=35 |
| PHCAL | HD60753 | 21 | 07.02 | 0732080 | -502829 | L | 1 | 14986 | L | 05623 | FO | 89020805 | 053033 | 000006 | 501 | V |
| PHCAL | SFTY RD | 99 | | 0732080 | -502828 | L | 2 | 18274 | | | | 89022715 | 154800 | 000000 | 00 | G B=18 |
| PHCAL | HD 60753 | 21 | 07.06 | 0732080 | -502829 | L | 1 | 14987 | L | 05406 | FO | 89020806 | 064234 | 000015 | 701 | V |
| PHCAL | HD60753 | 21 | 07.10 | 0732080 | -502829 | H | 3 | 35579 | L | 05226 | FO | 89021909 | 094616 | 001300 | 500 | V |
| PHCAL | HD60753 | 21 | 07.10 | 0732080 | -502829 | L | 1 | 15062 | L | 05241 | FO | 89021910 | 102443 | 000006 | 501 | V |
| PHCAL | HD60753 | 21 | 07.10 | 0732080 | -502829 | L | 1 | 15062 | S | 05241 | FO | 89021910 | 102907 | 000012 | 501 | V |
| PHCAL | HD60753 | 21 | 06.92 | 0732081 | -502829 | L | 3 | 35510 | S | 06107 | FO | 89020806 | 062833 | 000030 | 500 | V |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 2 | 18232 | L | 5435 | FO | 88111321 | 212800 | 000043 | 501 | G C=178,B=22 |
| PHCAL | HD60753 | 21 | 06.92 | 0732081 | -502829 | L | 3 | 35510 | L | 06107 | FO | 89020806 | 063403 | 000010 | 500 | V |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 2 | 18233 | L | 5496 | FO | 88111322 | 220800 | 000017 | 301 | G C=112,B=22 |
| PHCAL | HD 60753 | 21 | 06.84 | 0732081 | -502829 | H | 1 | 14988 | L | 06561 | FO | 89020807 | 071856 | 000900 | 501 | V |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 2 | 18234 | L | 5616 | FO | 88111322 | 224200 | 000051 | 501 | G C=210,B=22 |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 2 | 18235 | L | 5642 | FO | 88111323 | 231600 | 000109 | X01 | G C=1.5X,B=23 |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 2 | 18236 | L | 5728 | FO | 88111323 | 235200 | 000043 | 501 | G C=192,B=23 |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 2 | 18238 | L | 5622 | FO | 88111400 | 005100 | 000026 | 401 | G C=144,B=23 |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 2 | 18239 | L | 5707 | FO | 88111401 | 012600 | 000009 | 301 | G C=92,B=24 |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 2 | 18240 | L | 5894 | FO | 88111402 | 020000 | 000043 | 501 | G C=184,B=23 |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 1 | 14469 | L | 5508 | FO | 88111508 | 082700 | 000006 | 401 | G C=155,B=30 |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 3 | 34741 | L | 5504 | FO | 88111508 | 083200 | 000010 | 500 | G C=170,B=16 |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 1 | 14478 | L | 6718 | FO | 88111707 | 074500 | 000006 | 502 | G C=200,B=35 |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 1 | 14478 | S | 6718 | FO | 88111707 | 074900 | 000018 | X02 | G C=1.5X,B=31 |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 3 | 34757 | L | 6717 | FO | 88111707 | 075600 | 000010 | 500 | G C=190,B=17 |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 3 | 34757 | L | 6708 | FO | 88111708 | 080100 | 000030 | X00 | G C=1.5X,B=17 |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 1 | 14479 | L | 5412 | FO | 88111708 | 085900 | 000006 | 502 | G C=204,B=34 |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 1 | 14479 | S | 5545 | FO | 88111709 | 090400 | 000018 | X02 | G C=1.5X,B=32 |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 3 | 34758 | L | 5397 | FO | 88111709 | 090900 | 000010 | 500 | G C=188,B=17 |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 3 | 34758 | S | 5412 | FO | 88111709 | 091400 | 000030 | X00 | G C=1.5X,B=17 |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 2 | 18257 | L | 5693 | FO | 88121304 | 045900 | 000009 | 401 | G C=148,B=24 |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 2 | 18258 | S | 5707 | FO | 88121305 | 052900 | 000029 | 501 | G C=205,B=23 |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 3 | 35515 | L | 5349 | FO | 89020900 | 001500 | 000010 | 500 | G C=200,B=16 |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 1 | 14994 | L | 5337 | FO | 89020900 | 002000 | 000006 | 502 | G C=194,B=36 |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 1 | 15038 | L | 5217 | FO | 89021414 | 140700 | 000026 | 502 | G C=195,B=34 |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 1 | 15039 | L | 5227 | FO | 89021414 | 145200 | 000010 | 302 | G C=120,B=32 |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 1 | 15040 | L | 5261 | FO | 89021415 | 152900 | 000031 | 502 | G C=220,B=32 |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 1 | 15041 | L | 5960 | FO | 89021416 | 161000 | 000026 | 502 | G C=198,B=32 |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 3 | 35621 | L | 5483 | FO | 89022522 | 222700 | 000010 | 500 | G C=180,B=17 |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 1 | 15107 | L | 5310 | FO | 89022719 | 195800 | 000006 | 502 | G C=205,B=32 |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 3 | 35630 | L | | FO | 89022723 | 234000 | 000041 | 500 | G C=186,B=17 |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 1 | 15110 | L | 5544 | FO | 89022723 | 235000 | 000026 | 502 | G C=198,B=35 |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 1 | 15135 | L | 5744 | FO | 89030601 | 011700 | 000006 | 402 | G C=185,B=35 |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 3 | 35687 | L | 5684 | FO | 89030601 | 012200 | 000010 | 500 | G C=177,B=18 |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 1 | 15407 | L | 5457 | FO | 89042514 | 144200 | 000041 | 402 | G C=176,B=32 |
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 3 | 36090 | L | 5460 | FO | 89042514 | 144700 | 000010 | 500 | G C=184,B=18 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHCAL | HD 60753 | 21 | 6.7 | 0732081 | -502829 | L | 3 | 36091 | L | 5484 | FO | 89042515 | 152000 | 000041 | 500 | G C=200,B=18 |
| CCKTA | HD 62044 | 47 | 4.3 | 0740114 | +290022 | L | 1 | 15076 | L | | | 89022219 | 195100 | 000020 | | G |
| CCKTA | HD 62044 | 47 | 4.3 | 0740114 | +290022 | L | 1 | 15077 | L | 464 | FU | 89022220 | 203900 | 000140 | XX2 | G E=4X,C=1.5X,B=33 |
| CCKTA | HD 62044 | 47 | 4.3 | 0740114 | +290022 | L | 1 | 15078 | L | | | 89022221 | 212700 | 000640 | | G |
| USSBS | HD 62345 | 45 | 3.6 | 0741257 | +243109 | H | 1 | 14443 | L | 714 | FU | 88111108 | 084600 | 001700 | 503 | G C=215,B=43 |
| CCKTA | HD 62509 | 47 | 1.1 | 0742156 | +280855 | L | 1 | 15070 | L | 6582 | FU | 89022119 | 195600 | 000010 | XX2 | G E=2X,C=1.5X,B=35 |
| CCKTA | HD 62509 | 47 | 1.1 | 0742156 | +280855 | L | 1 | 15071 | L | | | 89022120 | 204600 | 000050 | | G |
| CCKTA | HD 62509 | 47 | 1.1 | 0742156 | +280855 | L | 1 | 15072 | L | 6590 | FU | 89022121 | 213100 | 000320 | ??5 | G E=40X,C=30X,B=62 |
| USSBS | HD 63700 | 45 | 3.3 | 0747113 | -244358 | H | 1 | 14445 | L | 852 | FU | 88111110 | 104600 | 000500 | 302 | G C=75,B=31 |
| USSBS | HD 65228 | 41 | 4.2 | 0754425 | -224443 | H | 1 | 15190 | L | 386 | FU | 89031318 | 184100 | 001000 | 402 | G C=147,B=32 |
| IEKEB | SLS 897 | 20 | 11.2 | 0756406 | -281807 | L | 3 | 35474 | L | 342 | SO | 89020322 | 223500 | 003300 | 400 | G C=155,B=17 |
| IEKEB | SLS 897 | 20 | 11.2 | 0756406 | -281807 | L | 1 | 14961 | L | 348 | SO | 89020323 | 231500 | 004000 | X03 | G C=2X,B=42 |
| IEKEB | SLS 897 | 20 | 11.2 | 0756406 | -281807 | L | 1 | 14961 | S | 341 | SO | 89020400 | 000800 | 001700 | 403 | G C=181,B=41 |
| SBKMP | HD 65607 | 66 | 8.2 | 0756479 | -072158 | L | 1 | 15316 | L | 878 | FO | 89040620 | 205500 | 000200 | 403 | G C=175,B=42 |
| SBKMP | HD 65607 | 66 | 8.2 | 0756479 | -072158 | L | 3 | 35951 | L | 890 | FO | 89040621 | 210500 | 001500 | 405 | G C=212,B=68 |
| SBKMP | HD 65607 | 66 | 8.2 | 0756479 | -072158 | L | 1 | 15317 | L | 877 | FO | 89040621 | 214200 | 000500 | X05 | G C=1.5X,B=62 |
| SBKMP | HD 65607 | 66 | 8.2 | 0756479 | -072158 | L | 3 | 35954 | L | 549 | FO | 89040700 | 004900 | 000500 | 231 | G E=50,C=47,B=28 |
| SBKMP | HD 65607 | 66 | 8.2 | 0756479 | -072158 | L | 1 | 15332 | L | 987 | FO | 89040922 | 225300 | 000300 | 502 | G C=216,B=33 |
| SBKMP | HD 65607 | 66 | 8.2 | 0756479 | -072158 | L | 3 | 35971 | L | 980 | FO | 89040923 | 230400 | 001400 | 501 | G C=215,B=22 |
| IEKEB | SLS 908 | 12 | 11.6 | 0757099 | -282549 | L | 1 | 14959 | L | 230 | SO | 89020319 | 195500 | 001800 | 502 | G C=202,B=37 |
| IEKEB | SLS 908 | 12 | 11.6 | 0757099 | -282549 | L | 3 | 35473 | L | 283 | SO | 89020320 | 202600 | 004500 | 400 | G C=137,B=18 |
| IEKEB | SLS 908 | 12 | 11.6 | 0757099 | -282549 | L | 1 | 14960 | L | 226 | SO | 89020321 | 211900 | 005500 | X02 | G C=2X,B=40 |
| IEKEB | SLS 920 | 20 | 11.4 | 0758014 | -284206 | L | 3 | 35475 | L | 294 | SO | 89020400 | 004400 | 003000 | 500 | G C=172,B=20 |
| IEKEB | SLS 920 | 20 | 11.4 | 0758014 | -284206 | L | 1 | 14962 | L | 318 | SO | 89020401 | 012200 | 004000 | X07 | G C=3X,B=85 |
| IEKEB | SLS 920 | 20 | 11.4 | 0758014 | -284206 | L | 1 | 14962 | S | 310 | SO | 89020402 | 021100 | 001500 | 307 | G C=175,B=85 |
| CBKJE | BD +15 1733 | 47 | 8.9 | 0759415 | +151907 | L | 1 | 14585 | L | 684 | FO | 88120203 | 031100 | 006000 | 353 | G E=198,C=114,B=47 |
| CBKJE | BD +15 1733 | 47 | 8.9 | 0759415 | +151907 | L | 1 | 14624 | L | 700 | FO | 88121005 | 055100 | 006000 | 3X7 | G E=1.5X,C=160,B=85 |
| CBKJE | BD +15 1733 | 47 | 8.9 | 0759415 | +151907 | L | 3 | 34995 | L | 711 | FO | 88121006 | 065800 | 006000 | 02 | G B=35 |
| CBKJE | BD +15 1733 | 47 | 8.9 | 0759415 | +151907 | L | 1 | 14625 | L | 712 | FO | 88121008 | 080600 | 002000 | 342 | G E=146,C=87,B=35 |
| KA018 | HD 66811 | 15 | 02.30 | 0801496 | -395141 | H | 3 | 36100 | L | 03288 | FU | 89042601 | 010618 | 000005 | 600 | U |
| HSKCB | HD 66811 | 15 | 2.3 | 0801496 | -395141 | H | 3 | 36078 | L | 3266 | FU | 89042417 | 174100 | 000005 | 553 | G E=244,C=252,B=41 |
| KA018 | HD 66811 | 15 | 02.33 | 0801496 | -395141 | H | 3 | 36102 | L | 03191 | FU | 89042603 | 031152 | 000005 | 600 | U |
| HSKCB | HD 66811 | 15 | 2.3 | 0801496 | -395141 | H | 3 | 36081 | L | | FU | 89042420 | 201600 | 000005 | X53 | G E=230,C=1.5X,B=45 |
| KA018 | HD66811 | 15 | 02.31 | 0801496 | -395141 | H | 3 | 36105 | L | 03258 | FU | 89042606 | 060655 | 000005 | 600 | U |
| HSKCB | HD 66811 | 15 | 2.3 | 0801496 | -395141 | H | 3 | 36083 | L | 3208 | FU | 89042422 | 221800 | 000005 | X53 | G E=236,C=1.5X,B=44 |
| KA018 | HD 66811 | 15 | 02.31 | 0801496 | -395141 | H | 3 | 36107 | L | 03261 | FU | 89042608 | 080023 | 000005 | 600 | U |
| HSKCB | HD 66811 | 15 | 2.3 | 0801496 | -395141 | H | 3 | 36092 | L | 3137 | FU | 89042517 | 173100 | 000005 | X53 | G E=232,C=1.5X,B=44 |
| KA018 | HD 66811 | 15 | 02.26 | 0801496 | -395141 | H | 3 | 36124 | L | 03397 | FU | 89042701 | 013337 | 000005 | 600 | U |
| HSKCB | HD 66811 | 15 | 2.3 | 0801496 | -395141 | H | 3 | 36095 | L | 3194 | FU | 89042520 | 201900 | 000005 | X53 | G E=238,C=1.5X,B=44 |
| KA018 | HD 66811 | 15 | 02.30 | 0801496 | -395141 | H | 3 | 36126 | L | 03283 | FU | 89042703 | 033044 | 000005 | 600 | U |
| HSKCB | HD 66811 | 15 | 2.3 | 0801496 | -395141 | H | 3 | 36097 | L | 3209 | FU | 89042522 | 222200 | 000005 | X53 | G E=235,C=1.5X,B=44 |
| KA018 | HD 66811 | 15 | 02.27 | 0801496 | -395141 | H | 3 | 36129 | L | 03372 | FU | 89042706 | 061146 | 000005 | 600 | U |
| HSKCB | HD 66811 | 15 | 2.3 | 0801496 | -395141 | H | 3 | 36109 | L | 3354 | FU | 89042610 | 101300 | 000005 | X53 | G E=231,C=1.5X,B=45 |
| KA018 | HD 66811 | 15 | 02.27 | 0801496 | -395141 | H | 3 | 36131 | L | 03355 | FU | 89042708 | 080802 | 000005 | 600 | U |
| HSKCB | HD 66811 | 15 | 2.3 | 0801496 | -395141 | H | 3 | 36111 | L | 3313 | FU | 89042612 | 122200 | 000005 | X53 | G E=240,C=1.5X,B=43 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HSKCB | HD | 66811 | 15 | 2.3 | 0801496 | -395141 | H | 3 | 36114 | L | 3391 | FU | 89042615 | 151300 | 000005 | X53 G E=233,C=1.5X,B=43 |
| HSKCB | HD | 66811 | 15 | 2.3 | 0801496 | -395141 | H | 3 | 36116 | L | 3256 | FU | 89042617 | 173300 | 000005 | X53 G E=243,C=1.5X,B=44 |
| HSKCB | HD | 66811 | 15 | 2.3 | 0801496 | -395141 | H | 3 | 36119 | L | 3296 | FU | 89042620 | 203100 | 000005 | X53 G E=235,C=1.5X,B=43 |
| HSKCB | HD | 66811 | 15 | 2.3 | 0801496 | -395141 | H | 3 | 36121 | L | 3320 | FU | 89042622 | 224000 | 000005 | X53 G E=240,C=1.5X,B=42 |
| HSKCB | HD | 66811 | 15 | 2.3 | 0801496 | -395141 | H | 3 | 36134 | L | 3438 | FU | 89042711 | 112000 | 000005 | X53 G E=233,C=1.5X,B=43 |
| HSKCB | HD | 66811 | 15 | 2.3 | 0801496 | -395141 | H | 3 | 36138 | L | 3375 | FU | 89042715 | 150700 | 000005 | X53 G E=240,C=1.5X,B=42 |
| HSKCB | HD | 66811 | 15 | 2.3 | 0801496 | -395141 | H | 3 | 36140 | L | 3558 | FU | 89042717 | 173100 | 000005 | X53 G E=234,C=1.5X,B=45 |
| HSKCB | HD | 66811 | 15 | 2.3 | 0801496 | -395141 | H | 3 | 36143 | L | 3361 | FU | 89042720 | 202200 | 000005 | X53 G E=241,C=1.5X,B=44 |
| HSKCB | HD | 66811 | 15 | 2.3 | 0801496 | -395141 | H | 3 | 36145 | L | 3330 | FU | 89042722 | 222800 | 000005 | X53 G E=238,C=1.5X,B=44 |
| HSKCB | HD | 66811 | 15 | 2.3 | 0801496 | -395141 | H | 3 | 36151 | L | 3264 | FU | 89042819 | 192700 | 000005 | X53 G E=243,C=1.5X,B=42 |
| HSKCB | HD | 66811 | 15 | 2.3 | 0801496 | -395141 | H | 3 | 36153 | L | 3246 | FU | 89042821 | 213300 | 000005 | X53 G E=244,C=1.5X,B=42 |
| HSKCB | HD | 66811 | 15 | 2.3 | 0801496 | -395141 | H | 3 | 36156 | L | 3216 | FU | 89042900 | 002600 | 000005 | X53 G E=237,C=1.5X,B=44 |
| HSKCB | HD | 66811 | 15 | 2.3 | 0801496 | -395141 | H | 3 | 36163 | L | 3244 | FU | 89042919 | 193400 | 000005 | X53 G E=243,C=1.5X,B=44 |
| HSKCB | HD | 66811 | 15 | 2.3 | 0801496 | -395141 | H | 3 | 36165 | L | 3272 | FU | 89042921 | 213700 | 000005 | X53 G E=249,C=1.5X,B=44 |
| HSKCB | HD | 66811 | 15 | 2.3 | 0801496 | -395141 | H | 3 | 36168 | L | 3499 | FU | 89043000 | 001500 | 000005 | X53 G E=236,C=1.5X,B=44 |
| PHCAL | BD+75 | 325 | 16 | 09.75 | 0804429 | +750647 | L | 1 | 14722 | L | 00497 | FO | 88122709 | 094659 | 000020 | 401 U |
| PHCAL | BD | +75 325 | 16 | 9.5 | 0804429 | +750647 | L | 3 | 34743 | L | 496 | FO | 88111510 | 104900 | 000014 | 400 G C=165,B=16 |
| PHCAL | BD+75325 | | 16 | 09.74 | 0804429 | +750647 | L | 3 | 35151 | S | 00499 | FO | 88122710 | 103232 | 000042 | 500 U |
| PHCAL | BD+75325 | | 16 | 09.74 | 0804429 | +750647 | L | 3 | 35151 | L | 00499 | FO | 88122710 | 103742 | 000014 | 500 U |
| PHCAL | BD+75 | 325 | 16 | 09.74 | 0804429 | +750647 | L | 1 | 14723 | L | 00499 | FO | 88122710 | 104211 | 000045 | 701 U |
| PHCAL | BD+75 | 325 | 16 | 09.75 | 0804429 | +750647 | H | 1 | 14724 | L | 00498 | FO | 88122711 | 114545 | 003000 | 501 U |
| PHCAL | BD+75 | 325 | 16 | 09.73 | 0804429 | +750647 | H | 3 | 35152 | L | 00507 | FO | 88122711 | 111040 | 002500 | 400 U |
| PHCAL | BD+75 | 325 | 16 | 09.88 | 0804429 | +750647 | H | 3 | 35674 | L | 00442 | FO | 89030408 | 081340 | 002500 | 500 U |
| PHCAL | BD+75 | 325 | 16 | 09.87 | 0804429 | +750647 | H | 1 | 15129 | L | 00444 | FO | 89030408 | 085954 | 003000 | 501 U |
| PHCAL | BD+75 | 325 | 16 | 09.86 | 0804429 | +750647 | L | 3 | 35675 | S | 00449 | FO | 89030409 | 094205 | 000042 | 600 U |
| PHCAL | BD+75 | 325 | 16 | 09.86 | 0804429 | +750647 | L | 3 | 35675 | L | 00449 | FO | 89030409 | 093705 | 000014 | 500 U |
| PHCAL | BD+75 | 325 | 16 | 09.86 | 0804429 | +750647 | H | 1 | 15130 | L | 00451 | FO | 89030410 | 101423 | 003300 | 501 U |
| PHCAL | BD+75 | 325 | 16 | 09.75 | 0804430 | +750648 | H | 3 | 35153 | L | 00498 | FO | 88122712 | 122559 | 002500 | 400 U |
| PHCAL | BD+75 | 325 | 16 | 09.80 | 0804430 | +750648 | H | 1 | 14772 | L | 00475 | FO | 89010511 | 111701 | 003000 | 403 U |
| PHCAL | BD+75 | 325 | 16 | 09.83 | 0804430 | +750648 | H | 3 | 35263 | L | 00462 | FO | 89010511 | 115550 | 002500 | 401 U |
| PHCAL | BD+75 | 325 | 16 | 09.84 | 0804430 | +750648 | H | 1 | 14836 | L | 00458 | FO | 89011511 | 112208 | 003000 | 401 U |
| PHCAL | BD | +75 325 | 16 | 09.83 | 0804430 | +750648 | H | 3 | 35351 | L | 00463 | FO | 89011512 | 120014 | 002500 | 500 U |
| PHCAL | BD+75 | 325 | 16 | 09.81 | 0804430 | +750648 | L | 1 | 14837 | L | 00470 | FO | 89011512 | 125628 | 000020 | 500 U |
| PHCAL | BD+75 | 325 | 16 | 09.84 | 0804430 | +750648 | L | 3 | 35352 | S | 00460 | FO | 89011513 | 133344 | 000042 | 500 U |
| PHCAL | BD+75 | 325 | 16 | 09.84 | 0804430 | +750648 | L | 3 | 35352 | L | 00460 | FO | 89011513 | 132922 | 000014 | 500 U |
| PHCAL | BD+75 | 325 | 16 | 09.82 | 0804430 | +750648 | L | 1 | 14838 | L | 00465 | FO | 89011513 | 133809 | 000045 | 700 U |
| PHCAL | BD+75325 | | 16 | 09.84 | 0804430 | +750648 | H | 1 | 14918 | L | 00460 | FO | 89012511 | 113108 | 003000 | 501 U |
| PHCAL | BD+75325 | | 16 | 09.87 | 0804430 | +750648 | H | 3 | 35405 | L | 00467 | FO | 89012512 | 121438 | 002500 | 500 U |
| PHCAL | BD+75325 | | 16 | 09.86 | 0804430 | +750648 | L | 1 | 14919 | L | 00451 | FO | 89012512 | 124720 | 000045 | 701 U |
| PHCAL | BD+75325 | | 16 | 09.86 | 0804430 | +750648 | L | 3 | 35406 | S | 00450 | FO | 89012513 | 134801 | 000042 | 500 U |
| PHCAL | BD+75325 | | 16 | 09.86 | 0804430 | +750648 | L | 3 | 35406 | L | 00450 | FO | 89012513 | 135240 | 000014 | 400 U |
| PHCAL | BD+75325 | | 16 | 09.84 | 0804430 | +750648 | L | 1 | 14920 | S | 00458 | FO | 89012513 | 135707 | 000100 | 501 U |
| PHCAL | BD+75325 | | 16 | 09.84 | 0804430 | +750648 | L | 1 | 14920 | L | 00458 | FO | 89012513 | 140154 | 000020 | 501 U |
| PHCAL | BD+75325 | | 16 | 09.83 | 0804430 | +750648 | L | 1 | 14921 | L | 00463 | FO | 89012514 | 144755 | 000045 | 701 U |
| PHCAL | BD+75 | 325 | 16 | 09.82 | 0804430 | +750648 | H | 1 | 14942 | L | 00466 | FO | 89013011 | 114144 | 003000 | 401 U |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHCAL | BD+75/325 | 16 | 09.81 | 0804430 | +750648 | H | 3 | 35459 | L | 00469 | FO | 89013012 | 122224 | 002500 | 400 | U |
| PHCAL | BD+75/325 | 16 | 09.84 | 0804430 | +750648 | L | 1 | 14943 | L | 00460 | FO | 89013013 | 134525 | 000020 | 500 | U |
| PHCAL | BD+75/325 | 16 | 09.84 | 0804430 | +750648 | L | 1 | 14943 | S | 00460 | FO | 89013013 | 134012 | 000100 | 500 | U |
| PHCAL | BD+75/325 | 16 | 09.84 | 0804430 | +750648 | L | 3 | 35460 | L | 00460 | FO | 89013013 | 133416 | 000014 | 400 | U |
| PHCAL | BD+75/325 | 16 | 09.84 | 0804430 | +750648 | L | 3 | 35460 | S | 00460 | FO | 89013013 | 132901 | 000042 | 500 | U |
| PHCAL | BD+75/325 | 16 | 09.84 | 0804430 | +750648 | L | 1 | 14944 | L | 00460 | FO | 89013014 | 142150 | 000045 | 701 | U PREAD |
| PHCAL | BD+75325 | 16 | 09.87 | 0804430 | +750648 | L | 1 | 15020 | L | 00445 | FO | 89021205 | 052356 | 000020 | 503 | U |
| PHCAL | BD+75325 | 16 | 09.83 | 0804430 | +750648 | L | 1 | 15021 | L | 00463 | FO | 89021205 | 055525 | 000020 | 503 | U |
| PHCAL | BD+75325 | 16 | 09.86 | 0804430 | +750648 | L | 1 | 15022 | L | 00449 | FO | 89021206 | 062943 | 000045 | 703 | U |
| PHCAL | BD+75325 | 16 | 09.87 | 0804430 | +750648 | L | 3 | 35537 | L | 00445 | FO | 89021207 | 070807 | 000014 | 500 | U |
| PHCAL | BD+75325 | 16 | 09.89 | 0804430 | +750648 | L | 1 | 15023 | L | 00439 | FO | 89021207 | 070233 | 000045 | 703 | U |
| PHCAL | BD+75324 | 16 | 09.87 | 0804430 | +750648 | L | 3 | 35537 | S | 00440 | FO | 89021207 | 071217 | 000042 | 500 | U |
| PHCAL | BD+75 325 | 16 | 09.82 | 0804430 | +750648 | L | 1 | 15139 | L | 00467 | FO | 89030608 | 082136 | 000020 | 501 | U |
| PHCAL | BD+75 325 | 16 | 09.78 | 0804430 | +750648 | L | 1 | 15140 | L | 00483 | FO | 89030608 | 085843 | 000020 | 501 | U |
| PHCAL | BD+75 325 | 16 | 09.77 | 0804430 | +750648 | L | 1 | 15141 | L | 00486 | FO | 89030609 | 093221 | 000045 | 601 | U |
| PHCAL | BD+75 325 | 16 | 09.81 | 0804430 | +750648 | L | 1 | 15142 | L | 00472 | FO | 89030610 | 100651 | 000045 | 601 | U |
| PHCAL | BD+75 325 | 16 | 09.80 | 0804430 | +750648 | L | 1 | 15143 | L | 00476 | FO | 89030610 | 104018 | 000020 | 501 | U |
| PHCAL | BD+75325 | 16 | 09.86 | 0804430 | +750648 | H | 1 | 15150 | L | 00448 | FO | 89030808 | 081028 | 003000 | 403 | U |
| PHCAL | BD +75325 | 16 | 09.88 | 0804430 | +750648 | H | 3 | 35710 | L | 00441 | FO | 89030808 | 084725 | 002500 | 401 | U |
| PHCAL | BD+75325 | 16 | 09.88 | 0804430 | +750648 | H | 1 | 15151 | L | 00441 | FO | 89030809 | 092424 | 006000 | 504 | U |
| PHCAL | BD+75325 | 16 | 09.88 | 0804430 | +750648 | L | 3 | 35711 | S | 00442 | FO | 89030810 | 103638 | 000042 | 501 | U PREAD |
| PHCAL | BD+75325 | 16 | 09.88 | 0804430 | +750648 | L | 3 | 35711 | L | 00442 | FO | 89030810 | 103227 | 000014 | 501 | U PREAD |
| PHCAL | BD+75325 | 16 | 09.87 | 0804430 | +750648 | L | 1 | 15255 | L | 00446 | FO | 89032808 | 081510 | 000020 | 503 | U |
| PHCAL | BD+75325 | 16 | 09.87 | 0804430 | +750648 | L | 1 | 15256 | L | 00444 | FO | 89032808 | 085452 | 000020 | 503 | U |
| PHCAL | BD+75325 | 16 | 09.87 | 0804430 | +750648 | H | 3 | 35881 | L | 00447 | FO | 89032809 | 090009 | 002500 | 400 | U |
| PHCAL | BD+75325 | 16 | 09.85 | 0804430 | +750648 | L | 1 | 15257 | L | 00455 | FO | 89032810 | 100233 | 000020 | 503 | U |
| PHCAL | BD+75325 | 16 | 09.85 | 0804430 | +750648 | L | 1 | 15258 | L | 00453 | FO | 89032810 | 103256 | 000050 | 603 | U |
| PHCAL | BD +75 325 | 16 | 9.5 | 0804431 | +750647 | L | 1 | 14611 | L | 469 | FO | 88120521 | 215500 | 000020 | 402 | G C=175,B=36 |
| PHCAL | BD +75 325 | 16 | 9.54 | 0804431 | +750647 | L | 1 | 14612 | L | 472 | FO | 88120522 | 222800 | 000004 | 302 | G C=80,B=35 |
| PHCAL | BD +75 325 | 16 | 9.54 | 0804431 | +750647 | L | 3 | 35555 | L | 457 | FO | 89021423 | 232300 | 000005 | 300 | G C=88,B=10 |
| PHCAL | BD +75 325 | 16 | 9.54 | 0804431 | +750647 | L | 3 | 35556 | L | 452 | FO | 89021423 | 235300 | 000005 | 300 | G C=84,B=12 |
| PHCAL | BD +75 325 | 16 | 9.54 | 0804431 | +750647 | L | 3 | 35557 | L | 458 | FO | 89021500 | 002100 | 000005 | 300 | G C=80,B=12 |
| PHCAL | BD +75 325 | 16 | 9.54 | 0804431 | +750647 | L | 3 | 35558 | L | 472 | FO | 89021500 | 004900 | 000005 | 300 | G C=80,B=11 |
| PHCAL | BD +75 325 | 16 | 9.54 | 0804431 | +750647 | L | 3 | 35559 | L | 482 | FO | 89021501 | 011600 | 000005 | 300 | G C=80,B=11 |
| PHCAL | BD +75 325 | 16 | 9.54 | 0804431 | +750647 | L | 3 | 35560 | L | 490 | FO | 89021501 | 014400 | 000005 | 300 | G C=82,B=10 |
| PHCAL | BD +75 325 | 16 | 9.54 | 0804431 | +750647 | L | 3 | 35564 | L | 454 | FO | 89021523 | 234100 | 000005 | 300 | G C=82,B=12 |
| PHCAL | BD +75 325 | 16 | 9.54 | 0804431 | +750647 | L | 3 | 35565 | L | 468 | FO | 89021600 | 000800 | 000005 | 300 | G C=82,B=13 |
| PHCAL | BD +75 325 | 16 | 9.54 | 0804431 | +750647 | L | 3 | 35566 | L | 456 | FO | 89021600 | 003700 | 000000 | 300 | G C=82,B=12 |
| PHCAL | BD +75 325 | 16 | 9.54 | 0804431 | +750647 | L | 3 | 35567 | L | 494 | FO | 89021601 | 010900 | 000005 | 300 | G C=85,B=12 |
| PHCAL | BD +75 325 | 16 | 9.54 | 0804431 | +750647 | L | 3 | 35568 | L | 456 | FO | 89021601 | 013900 | 000005 | 300 | G C=85,B=12 |
| PHCAL | BD +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 1 | 14473 | L | 439 | FO | 88111608 | 085500 | 000020 | 502 | G C=210,B=32 |
| PHCAL | BD +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 1 | 14586 | L | 471 | FO | 88120204 | 045600 | 000020 | 402 | G C=178,B=34 |
| PHCAL | BD +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 1 | 14587 | L | 468 | FO | 88120205 | 053100 | 000004 | 302 | G C=82,B=36 |
| PHCAL | BD +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 1 | 14588 | L | 467 | FO | 88120206 | 060300 | 000004 | 302 | G C=80,B=36 |
| PHCAL | BD +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 1 | 14589 | L | 470 | FO | 88120206 | 063400 | 000004 | 302 | G C=80,B=36 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 1 | 14590 | L | 465 | FO | 88120207 | 070500 | 000004 | 302 G C=80,B=36 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 1 | 14591 | L | 467 | FO | 88120207 | 074100 | 000004 | 302 G C=80,B=36 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 1 | 14592 | L | 461 | FO | 88120208 | 081400 | 000004 | 302 G C=81,B=36 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 1 | 14593 | L | 465 | FO | 88120208 | 084500 | 000004 | 302 G C=80,B=36 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 1 | 14631 | L | 486 | FO | 88121205 | 054900 | 000020 | 402 G C=160,B=32 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 1 | 14632 | L | 477 | FO | 88121206 | 062300 | 000004 | 302 G C=80,B=32 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 1 | 14633 | L | 474 | FO | 88121206 | 065500 | 000004 | 302 G C=80,B=32 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 1 | 14634 | L | 525 | FO | 88121207 | 072800 | 000004 | 302 G C=80,B=32 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 1 | 14635 | L | 465 | FO | 88121208 | 080100 | 000004 | 302 G C=84,B=32 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 1 | 14636 | L | 468 | FO | 88121208 | 083300 | 000004 | 302 G C=82,B=32 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 2 | 18255 | L | 471 | FO | 88121303 | 032700 | 000033 | 402 G C=165,B=34 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 2 | 18256 | S | 474 | FO | 88121304 | 040200 | 000138 | 501 G C=208,B=24 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 3 | 35060 | L | 439 | FO | 88121722 | 224100 | 000014 | 500 G C=190,B=14 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | H | 1 | 14662 | L | 441 | FO | 88121722 | 225800 | 002700 | 403 G C=192,B=47 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | H | 3 | 35061 | L | 443 | FO | 88121723 | 233300 | 002500 | 502 G C=204,B=36 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 1 | 14663 | L | 442 | FO | 88121800 | 000600 | 000020 | 502 G C=210,B=35 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 1 | 14667 | L | 466 | FO | 88121906 | 061000 | 000020 | 502 G C=203,B=35 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 1 | 14668 | L | 442 | FO | 88121906 | 064500 | 000020 | 502 G C=202,B=36 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 1 | 14669 | L | 470 | FO | 88121907 | 072200 | 000020 | 502 G C=208,B=35 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 1 | 14670 | L | 477 | FO | 88121907 | 075300 | 002000 | 502 G C=200,B=38 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 1 | 14671 | L | 439 | FO | 88121908 | 082800 | 000020 | 502 G C=210,B=34 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 1 | 14697 | L | 484 | FO | 88122305 | 054200 | 000020 | 402 G C=180,B=34 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 1 | 14698 | L | 478 | FO | 88122306 | 061800 | 000008 | 302 G C=108,B=35 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 1 | 14699 | L | 487 | FO | 88122306 | 065000 | 000008 | 302 G C=110,B=37 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 1 | 14700 | L | 480 | FO | 88122307 | 072200 | 000008 | 302 G C=112,B=36 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 1 | 14701 | L | 476 | FO | 88122307 | 075400 | 000008 | 302 G C=112,B=35 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 1 | 14702 | L | 465 | FO | 88122308 | 082700 | 000008 | 302 G C=112,B=36 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 3 | 35115 | L | 469 | FO | 88122406 | 061000 | 000014 | 500 G C=184,B=12 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 3 | 35116 | L | 476 | FO | 88122406 | 063900 | 000014 | 500 G C=178,B=16 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 3 | 35117 | L | 467 | FO | 88122407 | 071000 | 000014 | 500 G C=179,B=14 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 3 | 35118 | L | 487 | FO | 88122407 | 073700 | 000014 | 500 G C=170,B=14 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 3 | 35119 | L | 467 | FO | 88122408 | 080800 | 000014 | 500 G C=178,B=14 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 3 | 35120 | L | 446 | FO | 88122408 | 083600 | 000014 | 500 G C=180,B=15 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 1 | 15109 | L | 472 | FO | 89022721 | 215800 | 000020 | 502 G C=195,B=32 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 3 | 35632 | L | 450 | FO | 89022803 | 033300 | 000014 | 500 G C=175,B=16 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 1 | 15203 | L | 459 | FO | 89031615 | 155300 | 000020 | 402 G C=180,B=32 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 3 | 35791 | L | 456 | FO | 89031615 | 155800 | 000014 | 400 G C=160,B=16 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 2 | 18301 | L | 435 | FO | 89032314 | 143100 | 000033 | 501 G C=190,B=24 |
| PHCAL | BD | +75 0325 | 16 | 9.5 | 0804432 | +750648 | L | 1 | 15408 | L | 460 | FO | 89042516 | 163600 | 000020 | 502 G C=184,B=33 |
| SBKMP | HD | 67862 | 66 | 9.2 | 0807130 | -115006 | L | 1 | 14738 | L | 356 | FO | 88123002 | 020400 | 001000 | 402 G C=175,B=40 |
| SBKMP | HD | 67862 | 66 | 9.2 | 0807130 | -115006 | L | 3 | 35184 | L | 331 | FO | 88123002 | 022300 | 004000 | 405 G C=194,B=64 |
| SBKMP | HD | 67862 | 66 | 9.2 | 0807130 | -115006 | L | 1 | 14739 | L | 285 | FO | 88123003 | 031800 | 003000 | X09 G C=2X,B=140 |
| SBKMP | HD | 67862 | 66 | 9.2 | 0807130 | -115006 | L | 3 | 35185 | L | 223 | FO | 88123003 | 035600 | 004000 | 309 G C=188,B=125 |
| SBKMP | HD | 67862 | 66 | 9.2 | 0807130 | -115006 | L | 1 | 14740 | L | 177 | FO | 88123004 | 044500 | 002000 | 347 G E=223,C=172,B=87 |
| SBKMP | HD | 67862 | 66 | 9.2 | 0807130 | -115006 | L | 3 | 35186 | L | 152 | FO | 88123005 | 051900 | 006000 | 334 G E=93,C=84,B=55 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SBKMP | HD | 67862 | 66 | 9.2 | 0807130 | -115006 | L | 1 | 14741 | L | 113 | FO | 88123006 | 062700 | 004000 | 423 G E=1.5,C=160,B=42 |
| SBKMP | HD | 67862 | 66 | 9.2 | 0807130 | -115006 | L | 3 | 35187 | L | 116 | FO | 88123007 | 071500 | 009000 | 332 G E=83,C=67,B=38 |
| SBKMP | HD | 67862 | 66 | 9.2 | 0807130 | -115006 | L | 3 | 35952 | L | 472 | FO | 89040622 | 222700 | 004000 | X05 G C=2X,B=69 |
| SBKMP | HD | 67862 | 66 | 9.2 | 0807130 | -115006 | L | 1 | 15318 | L | 480 | FO | 89040623 | 231500 | 001500 | X03 G C=2X,B=41 |
| SBKMP | HD | 67862 | 66 | 9.2 | 0807130 | -115006 | L | 3 | 35953 | L | 493 | FO | 89040623 | 235200 | 001500 | 401 G C=144,B=28 |
| SBKMP | HD | 67862 | 66 | 9.2 | 0807130 | -115006 | L | 3 | 35972 | L | 503 | FO | 89041000 | 001700 | 001500 | 401 G C=142,B=24 |
| KI130 | Y2 CNC | | 54 | 12.80 | 0807526 | +281733 | L | 3 | 34798 | L | 00130 | SO | 88112212 | 122806 | 002000 | 440 V DOUBLE EXPOSURE(20M+ |
| KI130 | YZ CNC | | 54 | 12.57 | 0807526 | +281733 | L | 3 | 34799 | L | 00160 | SO | 88112213 | 135532 | 002000 | 440 V DOUBLE EXPOSURE (R. |
| KI130 | YZ CNC | | 54 | 12.40 | 0807526 | +281733 | L | 3 | 34800 | L | 00159 | SO | 88112215 | 151900 | 004000 | 440 V DOUBLE EXPOSURE (R. |
| KI130 | YZ CNC | | 54 | 12.58 | 0807526 | +281733 | L | 3 | 34801 | L | 00159 | SO | 88112216 | 164801 | 002000 | 440 V SINGLE EXPOSURE AT R |
| KI130 | YZ CNC | | 54 | 12.80 | 0807526 | +281733 | L | 3 | 34802 | L | 00130 | SO | 88112217 | 173828 | 002000 | 440 V DOUBLE EXPOSURE (RP= |
| KITOO | YZ CNC | | 54 | 12.51 | 0807526 | +281733 | L | 3 | 35026 | L | 00169 | SO | 88121409 | 093846 | 002000 | 550 V |
| KITOO | YZ CNC | | 54 | 12.52 | 0807526 | +281733 | L | 3 | 35027 | L | 00168 | SO | 88121410 | 104916 | 002000 | 550 V |
| KITOO | YZ CNC | | 54 | 12.46 | 0807526 | +281733 | L | 1 | 14643 | L | 00177 | SO | 88121410 | 101023 | 001000 | 502 V |
| KI102 | SU UMA | | 54 | 13.24 | 0808054 | +624523 | L | 3 | 35086 | L | 00088 | SO | 88122010 | 102038 | 003000 | 330 V |
| KI102 | SU UMA | | 54 | 13.19 | 0808054 | +624523 | L | 1 | 14678 | L | 00092 | SO | 88122011 | 110036 | 002500 | 300 V |
| KI102 | SU UMA | | 54 | 13.33 | 0808054 | +624523 | L | 3 | 35087 | L | 00081 | SO | 88122011 | 114659 | 003000 | 330 V |
| KI102 | SU UMA | | 54 | 13.16 | 0808054 | +624523 | L | 1 | 14679 | L | 00095 | SO | 88122012 | 122632 | 002500 | 400 V |
| KI102 | SU UMA | | 54 | 13.24 | 0808054 | +624523 | L | 3 | 35088 | L | 00088 | SO | 88122012 | 125820 | 003000 | 330 V |
| KI102 | SU UMA | | 54 | 13.04 | 0808054 | +624523 | L | 1 | 14680 | L | 00105 | SO | 88122013 | 133621 | 002500 | 400 V |
| KI102 | SU UMA | | 54 | 14.45 | 0808054 | +624523 | L | 3 | 35380 | L | 00030 | SO | 89011908 | 081411 | 003000 | 330 V |
| KI102 | SU UMA | | 54 | 14.00 | 0808054 | +624523 | L | 1 | 14869 | L | 00000 | BO | 89011908 | 085527 | 002500 | 442 V |
| KI102 | SU UMA | | 54 | 14.00 | 0808054 | +624523 | L | 3 | 35381 | L | 00000 | BO | 89011909 | 092446 | 003000 | 330 V |
| KI130 | SU UMA | | 54 | 12.77 | 0808055 | +624523 | L | 3 | 34819 | L | 00134 | SO | 88112612 | 122553 | 003000 | 440 V |
| KI130 | SU UMA | | 54 | 12.92 | 0808055 | +624523 | L | 3 | 34820 | L | 00117 | SO | 88112613 | 132830 | 003000 | 440 V |
| KI130 | SU UMA | | 54 | 13.00 | 0808055 | +624523 | L | 3 | 34821 | L | 00109 | SO | 88112614 | 143119 | 003000 | 550 V |
| KI130 | SU UMA | | 54 | 12.94 | 0808055 | +624523 | L | 3 | 34822 | L | 00115 | SO | 88112615 | 153420 | 003000 | 450 V |
| KI130 | SU UMA | | 54 | 13.01 | 0808055 | +624523 | L | 3 | 34823 | L | 00108 | SO | 88112616 | 163825 | 003000 | 540 V |
| KI130 | SU UMA | | 54 | 13.08 | 0808055 | +624523 | L | 1 | 14532 | L | 00102 | SO | 88112617 | 172402 | 002000 | 500 V |
| KI130 | SU UMA | | 54 | 13.07 | 0808055 | +624523 | L | 3 | 34824 | L | 00103 | SO | 88112617 | 175548 | 003000 | 550 V |
| KI130 | SU U MA | | 54 | 13.85 | 0808055 | +624523 | L | 1 | 14541 | L | 00051 | SO | 88112712 | 124310 | 002200 | 441 V |
| KI130 | SU UMA | | 54 | 13.87 | 0808055 | +624523 | L | 3 | 34827 | L | 00050 | SO | 88112712 | 120610 | 003000 | 330 V 'LIGHT LOSS EDGE OF |
| KI130 | SU U MA | | 54 | 13.87 | 0808055 | +624523 | L | 3 | 34828 | L | 00053 | SO | 88112713 | 132110 | 003000 | 340 V |
| KI130 | SU U MA | | 54 | 13.99 | 0808055 | +624523 | L | 1 | 14542 | L | 00045 | SO | 88112714 | 140042 | 002200 | 441 V |
| KI130 | SU U MA | | 54 | 13.99 | 0808055 | +624523 | L | 3 | 34829 | L | 00055 | SO | 88112714 | 143239 | 003000 | 340 V |
| KI130 | SU U MA | | 54 | 13.90 | 0808055 | +624523 | L | 1 | 14543 | L | 00049 | SO | 88112715 | 151140 | 002300 | 451 V |
| KI130 | SU U MA | | 54 | 13.99 | 0808055 | +624523 | L | 3 | 34830 | L | 00045 | SO | 88112715 | 155005 | 003000 | 330 V |
| KI130 | SU U MA | | 54 | 14.07 | 0808055 | +624523 | L | 1 | 14544 | L | 00042 | SO | 88112716 | 163323 | 002300 | 441 V |
| KI130 | SU U MA | | 54 | 14.18 | 0808055 | +624523 | L | 3 | 34831 | L | 00038 | SO | 88112717 | 170452 | 003000 | 330 V |
| KI130 | SU U MA | | 54 | 14.02 | 0808055 | +624523 | L | 1 | 14545 | L | 00044 | SO | 88112717 | 174433 | 002300 | 441 V |
| KI130 | SU U MA | | 54 | 13.81 | 0808055 | +624523 | L | 3 | 34832 | L | 00053 | SO | 88112718 | 181757 | 003000 | 340 V |
| KI102 | SU UMA | | 54 | 15.02 | 0808055 | +624524 | L | 3 | 35067 | L | 00018 | SO | 88121810 | 100658 | 003644 | 230 V B/O |
| KI102 | SU UMA | | 54 | 15.02 | 0808055 | +624524 | L | 3 | 35068 | L | 00018 | SO | 88121811 | 112957 | 002715 | 230 V B/O (NEW GUIDE STAR) |
| KI102 | SU UMA | | 54 | 15.02 | 0808055 | +624524 | L | 3 | 35069 | L | 00018 | SO | 88121812 | 123354 | 002144 | 230 V |
| KI102 | SU UMA | | 54 | 13.07 | 0808055 | +624524 | L | 3 | 35089 | L | 00103 | SO | 88122014 | 141055 | 003000 | 300 V |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KI102 | SU UMA | 54 | 12.93 | 0808055 | +624524 | L | 1 | 14681 | L | 00116 | SO | 88122014 | 144800 | 002500 | 400 | U |
| KC051 | SU UMA | 54 | 13.13 | 0808055 | +624624 | L | 1 | 14689 | L | 00097 | SO | 88122116 | 160010 | 001500 | 400 | U |
| KI102 | SU UMA | 54 | 14.00 | 0808055 | +624524 | L | 3 | 35121 | L | 00000 | BO | 88122409 | 094736 | 003644 | 330 | U BLIND OFFSET |
| KI102 | SU UMA | 54 | 14.00 | 0808055 | +624524 | L | 1 | 14703 | L | 00000 | BO | 88122411 | 114102 | 002500 | 330 | U |
| KI102 | SU UMA | 54 | 14.00 | 0808055 | +624524 | L | 3 | 35122 | L | 00000 | BO | 88122411 | 110001 | 006800 | 340 | U B/O, EXPOSED FOR 93S |
| KI102 | SU UMA | 54 | 15.68 | 0808055 | +624524 | L | 3 | 35137 | L | 00010 | SO | 88122610 | 104328 | 011012 | 340 | U |
| KI102 | SU UMA | 54 | 14.00 | 0808055 | +624524 | L | 1 | 14720 | L | 00000 | BO | 88122612 | 123713 | 002500 | 340 | U |
| KI102 | SU UMA | 54 | 14.90 | 0808055 | +624524 | L | 3 | 35170 | L | 00020 | SO | 88122811 | 110004 | 011012 | 340 | U |
| KI102 | SU UMA | 54 | 13.92 | 0808055 | +624524 | L | 3 | 35188 | L | 00048 | SO | 88123010 | 102709 | 003644 | 330 | U |
| KI102 | SU UMA | 54 | 13.79 | 0808055 | +624524 | L | 1 | 14742 | L | 00054 | SO | 88123011 | 111649 | 002000 | 331 | U |
| KI102 | SU UMA | 54 | 14.02 | 0808055 | +624524 | L | 3 | 35189 | L | 00044 | SO | 88123011 | 114727 | 002944 | 330 | U |
| KI102 | SU UMA | 54 | 13.73 | 0808055 | +624524 | L | 1 | 14743 | L | 00057 | SO | 88123012 | 122628 | 003000 | 442 | U |
| KI102 | SU UMA | 54 | 14.75 | 0808055 | +624524 | L | 3 | 35219 | L | 00023 | SO | 89010108 | 083009 | 011012 | 350 | U |
| KI102 | SU UMA | 54 | 14.00 | 0808055 | +624524 | L | 1 | 14752 | L | 00000 | BO | 89010110 | 102832 | 003500 | 341 | U |
| KI102 | SU UMA | 54 | 14.00 | 0808055 | +624524 | L | 3 | 35241 | L | 00000 | BO | 89010308 | 081622 | 011012 | 350 | U B/O |
| KI102 | SU UMA | 54 | 14.00 | 0808055 | +624524 | L | 1 | 14762 | L | 00000 | BO | 89010310 | 101559 | 005000 | 341 | U B/O |
| KI102 | SU UMA | 54 | 13.10 | 0808055 | +624524 | L | 3 | 35260 | L | 00100 | SO | 89010507 | 074637 | 003000 | 450 | U |
| KI102 | SU UMA | 54 | 13.17 | 0808055 | +624524 | L | 1 | 14770 | L | 00094 | SO | 89010508 | 082509 | 002500 | 502 | U |
| KI102 | SU UMA | 54 | 13.14 | 0808055 | +624524 | L | 3 | 35261 | L | 00096 | SO | 89010508 | 085838 | 003000 | 440 | U |
| KI102 | SU UMA | 54 | 13.11 | 0808055 | +624524 | L | 1 | 14771 | L | 00099 | SO | 89010509 | 094047 | 002500 | 502 | U |
| KI102 | SU UMA | 54 | 13.18 | 0808055 | +624524 | L | 3 | 35262 | L | 00093 | SO | 89010510 | 101459 | 003000 | 550 | U |
| KI102 | SU UMA | 54 | 13.92 | 0808055 | +624524 | L | 3 | 35272 | L | 00048 | SO | 89010608 | 080614 | 003000 | 330 | U |
| KI102 | SU UMA | 54 | 14.07 | 0808055 | +624524 | L | 1 | 14775 | L | 00042 | SO | 89010608 | 084523 | 002500 | 342 | U |
| KI102 | SU UMA | 54 | 14.21 | 0808055 | +624524 | L | 3 | 35273 | L | 00037 | SO | 89010609 | 092649 | 005500 | 340 | U |
| KI102 | SU UMA | 54 | 14.18 | 0808055 | +624524 | L | 1 | 14776 | L | 00038 | SO | 89010610 | 103516 | 003500 | 342 | U |
| KI102 | SU UMA | 54 | 14.49 | 0808055 | +624524 | L | 3 | 35274 | L | 00029 | SO | 89010611 | 111956 | 007000 | 340 | U |
| KI102 | SU UMA | 54 | 14.31 | 0808055 | +624524 | L | 1 | 14777 | L | 00034 | SO | 89010612 | 123836 | 003000 | 342 | U |
| KI102 | SU UMA | 54 | 14.27 | 0808055 | +624524 | L | 3 | 35275 | L | 00035 | SO | 89010613 | 131923 | 009000 | 451 | U |
| KI102 | SU UMA | 54 | 14.45 | 0808055 | +624524 | L | 3 | 35283 | L | 00030 | SO | 89010708 | 081258 | 011012 | 350 | U |
| KI102 | SU UMA | 54 | 14.25 | 0808055 | +624524 | L | 1 | 14783 | L | 00023 | SO | 89010710 | 101120 | 004500 | 341 | U |
| KI102 | SU UMA | 54 | 14.00 | 0808055 | +624524 | L | 1 | 14793 | L | 00000 | BO | 89010907 | 075156 | 006000 | 343 | U |
| KI102 | SU UMA | 54 | 14.00 | 0808055 | +624524 | L | 3 | 35296 | L | 00000 | BO | 89010908 | 085846 | 011012 | 331 | U |
| KI102 | SU UMA | 54 | 14.00 | 0808055 | +624524 | L | 3 | 35322 | L | 00000 | BO | 89011111 | 115317 | 011012 | 530 | U |
| KI102 | SU UMA | 54 | 14.00 | 0808055 | +624524 | L | 1 | 14801 | L | 00000 | BO | 89011113 | 134940 | 006000 | 343 | U |
| KI102 | SU UMA | 54 | 14.50 | 0808055 | +624524 | L | 3 | 35328 | L | 00000 | BO | 89011308 | 081208 | 003644 | 330 | U |
| KI102 | SU UMA | 54 | 14.50 | 0808055 | +624524 | L | 3 | 35329 | L | 00000 | BO | 89011309 | 092100 | 006220 | 330 | U SPLITTED EX:41:20 (0 |
| KI102 | SU UMA | 54 | 14.50 | 0808055 | +624524 | L | 1 | 14813 | L | 00000 | BO | 89011310 | 100702 | 002500 | 332 | U |
| KI102 | SU UMA | 54 | 14.00 | 0808055 | +624524 | L | 3 | 35348 | L | 00000 | BO | 89011507 | 075701 | 003644 | 330 | U |
| KI102 | SU UMA | 54 | 14.00 | 0808055 | +624524 | L | 1 | 14834 | L | 00000 | BO | 89011508 | 083933 | 002500 | 330 | U |
| KI102 | SU UMA | 54 | 14.00 | 0808055 | +624524 | L | 3 | 35349 | L | 00000 | BO | 89011509 | 091020 | 003644 | 330 | U |
| KI102 | SU UMA | 54 | 14.00 | 0808055 | +624524 | L | 1 | 14835 | L | 00000 | BO | 89011509 | 095408 | 002500 | 330 | U |
| KI102 | SU UMA | 54 | 14.00 | 0808055 | +624524 | L | 3 | 35350 | L | 00000 | BO | 89011510 | 102236 | 003644 | 330 | U |
| KI102 | SU UMA | 54 | 12.83 | 0808055 | +624524 | L | 3 | 35371 | L | 00127 | SO | 89011707 | 075244 | 003000 | 340 | U |
| KI102 | SU UMA | 54 | 12.88 | 0808055 | +624524 | L | 1 | 14853 | L | 00122 | SO | 89011708 | 082930 | 002500 | 500 | U |
| KI102 | SU UMA | 54 | 12.94 | 0808055 | +624524 | L | 3 | 35372 | L | 00115 | SO | 89011709 | 090709 | 003000 | 330 | U |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | FCC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KI102 | SU UMA | 54 | 12.89 | 0808055 | +624524 | L | 1 | 14854 | L | 00120 | SO | 89011709 | 094720 | 002500 | 500 | U |
| KI102 | SU UMA | 54 | 12.91 | 0808055 | +624524 | L | 3 | 35373 | L | 00118 | SO | 89011710 | 102104 | 003000 | 330 | U |
| KI102 | SU UMA | 54 | 14.61 | 0808055 | +624524 | L | 3 | 35382 | L | 00026 | SO | 89011910 | 103230 | 003000 | 330 | U |
| KI102 | SU UMA | 54 | 14.90 | 0808055 | +624524 | L | 3 | 35387 | L | 00020 | SO | 89012108 | 082359 | 011012 | 350 | U |
| KI102 | SU UMA | 54 | 14.00 | 0808055 | +624524 | L | 1 | 14887 | L | 00000 | BO | 89012110 | 101948 | 003500 | 331 | U |
| USSBS | HD 69267 | 47 | 3.5 | 0813481 | +092026 | H | 1 | 14444 | L | 764 | FU | 88111109 | 094700 | 002000 | 342 | G E=156,C=72,B=32 |
| CVKCM | Z CAM | 54 | 11.5 | 0819398 | +731623 | L | 3 | 35817 | L | 189 | SO | 89031922 | 221800 | 002000 | 440 | G E=117,C=150,B=17 |
| CVKCM | Z CAM | 54 | 11.5 | 0819398 | +731623 | L | 1 | 15222 | L | 212 | SO | 89031922 | 224700 | 001000 | 402 | G C=155,B=34 |
| CVKCM | Z CAM | 54 | 11.0 | 0819398 | +731623 | L | 1 | 15337 | L | | | 89041100 | 000000 | 000600 | | G |
| CVKCM | Z CAM | 54 | 11.0 | 0819398 | +731623 | L | 3 | 35978 | L | 131 | FO | 89041100 | 002700 | 000800 | 500 | G C=242,B=17 |
| CVKCM | Z CAM | 54 | 11 | 0819398 | +731623 | H | 3 | 35982 | L | 129 | FO | 89041110 | 100600 | 038000 | X09 | G C=1.5X,B=170 |
| OD54Y | PUP SNR | 75 | | 0820581 | -424835 | L | 3 | 36057 | L | | BO | 89042114 | 140900 | 016000 | 03 | G B=45 |
| WDKJH | PG 0823+317 | 37 | 15.8 | 0823587 | +314002 | L | 3 | 35861 | L | | BO | 89032614 | 142600 | 007000 | 551 | G E=237,C=241,B=25 |
| WDKJH | PG 0823+317 | 37 | 15.8 | 0823587 | +314002 | L | 3 | 35861 | L | | BO | 89032614 | 142700 | 007000 | 551 | G E=237,C=241,B=25 |
| CBKJE | AL VEL | 47 | 8.6 | 0829353 | -472946 | L | 1 | 14584 | L | 906 | FO | 88120201 | 013900 | 000700 | 502 | G C=212,B=35 |
| CBKJE | 47 2347 | 47 | 8.6 | 0829354 | -472947 | L | 3 | 34866 | L | 1071 | FO | 88120202 | 021100 | 002000 | 501 | G C=200,B=27 |
| PHCAL | T-FLOOD | 98 | 0.0 | 0833035 | -731108 | L | 1 | 14360 | S | | | 88110106 | 061200 | 000025 | ?08 | G C=10X,B=99 |
| PHCAL | WAVCAL | 98 | 0.0 | 0833035 | -731108 | L | 1 | 14360 | S | | | 88110106 | 061400 | 000001 | ?8 | G E=10X,B=99 |
| PHCAL | T-FLOOD | 98 | 0.0 | 0833035 | -731108 | H | 1 | 14361 | S | | | 88110106 | 064400 | 000025 | ?9 | G E=60,B=116 |
| PHCAL | WAVCAL | 98 | 0.0 | 0833035 | -731108 | H | 1 | 14361 | S | | | 88110106 | 064600 | 000016 | ?9 | G E=60,B=116 |
| PHCAL | T-FLOOD | 98 | 0.0 | 0833035 | -731108 | L | 3 | 34655 | S | | | 88110107 | 070200 | 000005 | ?8 | G E=10X,B=100 |
| PHCAL | WAVCAL | 98 | 0.0 | 0833035 | -731108 | L | 3 | 34655 | S | | | 88110107 | 070400 | 000002 | ?8 | G E=10X,B=100 |
| PHCAL | T-FLOOD | 98 | 0.0 | 0833035 | -731108 | H | 3 | 34656 | S | | | 88110107 | 073100 | 000005 | ?9 | G E=60,B=125 |
| PHCAL | WAVCAL | 98 | 0.0 | 0833035 | -731108 | H | 3 | 34656 | S | | | 88110107 | 073300 | 000200 | ?9 | G E=60,B=125 |
| PHCAL | T-FLOOD | 98 | 0.0 | 0833035 | -731108 | L | 3 | 34657 | S | | | 88110109 | 090900 | 000005 | 09 | G B=106 |
| PHCAL | TFLOOD | 98 | 0.0 | 0833035 | -731108 | L | 1 | 14362 | | | | 88110109 | 091100 | 000025 | 08 | G B=99 |
| PHCAL | TFLOOD | 98 | 0.0 | 0833035 | -731108 | L | 1 | 14363 | | | | 88110110 | 100600 | 000025 | 08 | G B=100 |
| EGKTT | 0833+652 | 88 | 13.6 | 0833573 | +651745 | L | 1 | 15031 | L | 45 | SO | 89021312 | 123000 | 030000 | X07 | G C=1.5X,B=83 |
| EGKTT | 0833+652 | 88 | 13.6 | 0833573 | +651745 | L | 3 | 35547 | L | 50 | SO | 89021317 | 173800 | 008200 | 302 | G C=64,B=32 |
| EGKTT | PG 0833+652 | 88 | 13.4 | 0833574 | +651746 | L | 1 | 15239 | L | 55 | SO | 89032417 | 171500 | 009500 | 303 | G C=132,B=46 |
| KE116 | T08040+120 | 88 | 16.00 | 0839365 | +120049 | L | 3 | 35814 | L | 00000 | BO | 89031904 | 044230 | 034600 | 332 | U |
| KC051 | HD 74739 | 44 | 04.48 | 0843405 | +285639 | H | 1 | 14688 | L | 00469 | FU | 88122114 | 141419 | 002000 | 440 | U |
| WDKJH | PG 0846+249 | 37 | 16.3 | 0846091 | +245617 | L | 3 | 35863 | L | | | 89032619 | 195100 | 012800 | | G |
| WDKJH | PG 0846+249 | 37 | 16.3 | 0846091 | +245617 | L | 3 | 35863 | L | | | 89032619 | 195200 | 012800 | | G |
| WDKJH | PG 0846+249 | 37 | 16.3 | 0846091 | +245617 | L | 3 | 35864 | L | | | 89032622 | 223500 | 011800 | | G |
| WDKJH | PG 0846+249 | 37 | 16.3 | 0846091 | +245617 | L | 3 | 35864 | L | | BO | 89032622 | 223600 | 011800 | 402 | G C=177,B=38 |
| HCKTA | HD 76221 | 50 | 6.6 | 0852340 | +172522 | L | 3 | 35800 | L | 71 | FO | 89031712 | 124700 | 029000 | 04 | G B=55 |
| AEKCI | HD 76534 | 26 | 8.0 | 0853206 | -431629 | H | 3 | 35628 | L | 1477 | FO | 89022623 | 234200 | 014000 | X07 | G C=1.5X,B=87 |
| IBKJN | HD 77137 | 44 | 6.8 | 0857340 | -273711 | H | 3 | 35991 | L | 3993 | FO | 89041209 | 095900 | 048500 | 329 | G E=112,C=205,B=137 |
| KI209 | T PYX | 55 | 00.15 | 0902372 | -321047 | L | 1 | 14383 | L | 00000 | BO | 88110511 | 114447 | 013000 | 302 | U |
| KI209 | T PYX | 55 | 00.15 | 0902372 | -321047 | L | 3 | 34696 | L | 00000 | BO | 88110514 | 140104 | 028600 | 332 | U |
| QSKDT | PG 0906+484 | 85 | 16.1 | 0906453 | +482556 | L | 1 | 14937 | L | | | 89012915 | 154100 | 043000 | 309 | G C=184,B=123 |
| AMKEB | HD 78362 | 35 | 4.7 | 0906491 | +634307 | H | 1 | 15247 | L | 23119 | FO | 89032519 | 194600 | 001200 | X02 | G C=1.5X,B=38 |
| AMKEB | HD 78362 | 35 | 4.7 | 0906491 | +634307 | L | 1 | 15248 | L | 23522 | FO | 89032520 | 203700 | 000010 | 502 | G C=241,B=33 |
| AMKEB | HD 78362 | 35 | 4.7 | 0906491 | +634307 | L | 1 | 15248 | S | 23522 | FO | 89032520 | 204300 | 000005 | 302 | G C=91,B=33 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WDKDK | G195-19 | 43 | 13.8 | 0912282 | +533814 | L | 3 | 35025 | L | 45 | SO | 88121319 | 191800 | 033000 | 305 | G C=98,B=68 |
| KC051 | HD 80586 | 44 | 05.30 | 0918025 | -092034 | H | 1 | 14687 | L | 21452 | FO | 88122112 | 122017 | 003000 | 432 | U |
| PHCAL | TFLOOD | 99 | | 0925009 | -220724 | L | 2 | 18275 | L | | | 89022716 | 164800 | 000010 | 09 | G B=188 |
| PHCAL | TFLOOD | 99 | | 0925009 | -220724 | L | 2 | 18276 | L | | | 89022717 | 171700 | 000010 | 09 | G B=187 |
| PHCAL | TFLOOD | 99 | | 0925009 | -220724 | L | 2 | 18277 | L | | | 89022717 | 174900 | 000010 | 09 | G B=186 |
| PHCAL | TFLOOD | 99 | | 0925009 | -220724 | L | 2 | 18278 | L | | | 89022718 | 181700 | 000010 | 09 | G B=187 |
| PHCAL | TFLOOD | 99 | | 0925009 | -220724 | L | 2 | 18279 | L | | | 89022718 | 185100 | 000010 | 09 | G B=148 |
| LDKSB | HD 81809 | 44 | 5.8 | 0925180 | -055106 | H | 1 | 14642 | L | 13759 | FO | 88121407 | 075100 | 005700 | X33 | G E=123,C=2X,B=49 |
| LDKCA | HD 82558 | 46 | 7.8 | 0930010 | -105748 | L | 3 | 34661 | L | 1632 | FO | 88110204 | 040200 | 012000 | 332 | G E=87,C=52,B=31 |
| LDKCA | HD 82558 | 46 | 7.8 | 0930010 | -105748 | H | 1 | 14366 | L | 1622 | FO | 88110206 | 061300 | 003800 | 333 | G E=113,C=78,B=42 |
| LDKCA | HD 82558 | 46 | 7.8 | 0930010 | -105748 | L | 3 | 34667 | L | 1708 | FO | 88110304 | 040500 | 011000 | 232 | G E=74,C=44,B=31 |
| LDKCA | HD 82558 | 46 | 7.8 | 0930010 | -105748 | H | 1 | 14372 | L | 1801 | FO | 88110306 | 060100 | 005000 | 334 | G E=117,C=90,B=51 |
| KE170 | 1ZW18 | 88 | 15.00 | 0930311 | +552747 | H | 3 | 35453 | L | 00000 | BO | 89012908 | 084412 | 036500 | 102 | U |
| MGKLW | R CAR | 51 | 06.84 | 0930592 | -623401 | H | 1 | 15287 | L | 06583 | FO | 89040122 | 223248 | 018000 | 039 | U |
| MGKLW | R CAR | 51 | 4.5 | 0930592 | -623401 | L | 1 | 14939 | L | 2554 | FO | 89013003 | 033100 | 001000 | 302 | G C=70,B=36 |
| MGKLW | R CAR | 51 | 4.5 | 0930592 | -623401 | H | 1 | 14940 | L | 25996 | FO | 89013004 | 041700 | 015000 | 303 | G C=95,B=48 |
| MGKLW | R CAR | 51 | 6.0 | 0930592 | -623401 | H | 1 | 15114 | L | 12434 | FO | 89022816 | 161000 | 015100 | 334 | G E=107,C=93,B=59 |
| MGKLW | R CAR | 51 | 6.0 | 0930592 | -623401 | H | 1 | 15205 | L | 8968 | FO | 89031619 | 194000 | 018000 | 336 | G E=129,C=115,B=72 |
| MGKLW | R CAR | 51 | 6.0 | 0930592 | -623401 | L | 9 | 02179 | | | | 89040122 | 222100 | 000000 | | G |
| MGKLW | R CAR | 51 | 6.0 | 0930592 | -623401 | H | 1 | 15362 | L | 4785 | FO | 89041713 | 135400 | 018000 | 334 | G E=153,C=103,B=60 |
| WDKJH | PG 0934+106 | 28 | 13.3 | 0934290 | +183841 | L | 3 | 36009 | L | 82 | SO | 89041520 | 205200 | 000900 | 500 | G C=198,B=19 |
| NPKJK | HE2- 36 | 70 | 11.4 | 0941506 | -570311 | L | 3 | 35596 | L | 405 | SO | 89022013 | 132200 | 012000 | 232 | G E=105,C=59,B=40 |
| NPKJL | PG 0950+139 | 37 | 16.0 | 0950166 | +135843 | L | 3 | 35862 | L | | BO | 89032617 | 170300 | 009000 | 501 | G C=230,B=23 |
| NPKJL | PG 0950+139 | 37 | 16.0 | 0950166 | +135843 | L | 3 | 35862 | L | | BO | 89032617 | 171000 | 009000 | 501 | G C=230,B=23 |
| NPKJL | PG 0950+139 | 37 | 15.7 | 0950166 | +135843 | L | 3 | 35865 | L | | | 89032701 | 013000 | 008000 | | G |
| NPKJL | PG 0950+139 | 37 | 15.7 | 0950166 | +135843 | L | 3 | 35865 | L | | BO | 89032701 | 013100 | 008000 | 501 | G C=196,B=22 |
| KE161 | NGC 3034 | 82 | 11.02 | 0951439 | +695459 | L | 3 | 35427 | L | 00160 | FO | 89012708 | 082449 | 038500 | 342 | U BO |
| KM082 | HD 85905 | 31 | 06.61 | 0952127 | -221505 | H | 3 | 34794 | L | 07951 | FO | 88112117 | 174458 | 006300 | 500 | U |
| KC152 | HD88230 | 48 | 07.00 | 1008191 | +494229 | L | 3 | 35359 | L | 05700 | FO | 89011607 | 075438 | 003000 | 030 | U |
| KC152 | SKY BCKG. | 07 | 99.99 | 1008191 | +494229 | L | 3 | 35360 | L | 00000 | | 89011608 | 085804 | 003000 | 030 | U HD88230 AT REF. POIN |
| KC152 | HD88230 | 48 | 06.99 | 1008191 | +494229 | L | 1 | 14846 | L | 05781 | FO | 89011609 | 093439 | 002000 | 471 | U |
| KC152 | HD88230 | 48 | 07.02 | 1008191 | +494229 | L | 3 | 35361 | L | 05633 | FO | 89011610 | 100533 | 028200 | 362 | U |
| WRKLA | HD 90657 | 11 | 9.8 | 1024408 | -582310 | L | 3 | 34745 | L | 426 | FO | 88111604 | 040900 | 002200 | 453 | G E=207,C=150,B=44 |
| WRKLA | HD 90657 | 11 | 9.8 | 1024408 | -582310 | L | 3 | 34746 | L | 424 | FO | 88111605 | 051200 | 002200 | 452 | G E=204,C=155,B=32 |
| WRKLA | HD 90657 | 11 | 9.8 | 1024408 | -582310 | L | 3 | 34747 | L | 413 | FO | 88111606 | 061500 | 002200 | 452 | G E=210,C=160,B=39 |
| WRKLA | HD 90657 | 11 | 9.8 | 1024408 | -582310 | L | 3 | 34753 | L | 423 | FO | 88111703 | 033300 | 002200 | 451 | G E=204,C=150,B=28 |
| WRKLA | HD 90657 | 11 | 9.8 | 1024408 | -582310 | L | 3 | 34754 | L | 420 | FO | 88111704 | 044400 | 002200 | 451 | G E=213,C=162,B=24 |
| WRKLA | HD 90657 | 11 | 9.8 | 1024408 | -582310 | L | 3 | 34755 | L | 420 | FO | 88111705 | 054400 | 002200 | 452 | G E=220,C=160,B=32 |
| WRKLA | HD 90657 | 11 | 9.8 | 1024408 | -582310 | L | 3 | 34756 | L | 395 | FO | 88111706 | 064400 | 001100 | 452 | G E=223,C=155,B=32 |
| WRKLA | HD 90657 | 11 | 9.8 | 1024408 | -582310 | L | 3 | 34762 | L | 418 | FO | 88111808 | 080900 | 002200 | 452 | G E=236,C=160,B=31 |
| WRKLA | HD 90657 | 11 | 9.8 | 1024408 | -582310 | L | 3 | 34763 | L | 430 | FO | 88111809 | 091800 | 002200 | 451 | G E=250,C=156,B=29 |
| WRKLA | HD 90657 | 11 | 9.8 | 1024408 | -582310 | L | 3 | 34764 | L | 419 | FO | 88111810 | 102500 | 002200 | 451 | G E=238,C=156,B=29 |
| WRKLA | HD 90657 | 11 | 9.8 | 1024408 | -582310 | L | 3 | 34767 | | 333 | FO | 88111904 | 040000 | 002200 | 451 | G E=238,C=158,B=30 |
| WRKLA | HD 90657 | 11 | 9.8 | 1024408 | -582310 | L | 3 | 34768 | L | 406 | FO | 88111905 | 050600 | 002200 | 452 | G E=252,C=170,B=38 |
| WRKLA | HD 90657 | 11 | 9.8 | 1024408 | -582310 | L | 3 | 34769 | L | 414 | FO | 88111906 | 060900 | 002200 | 4X4 | G E=1.5X,C=185,B=59 |

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| PRO | Object | CL | MAG | R.A. | DEC | D C Image A | FES | MD Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KQ120 | HD90569 | 36 | 06.43 | 1025006 | +100105 | H 3 35394 L | 09326 | FO 89012311 | 112211 | 002600 | 500 | V |
| KA162 | HD91465 | 26 | 03.60 | 1030140 | -612540 | H 3 35488 L | 01103 | FU 89020504 | 045616 | 000040 | 500 | V |
| KA162 | HD91465 | 26 | 03.52 | 1030140 | -612540 | H 3 35489 L | 01103 | FU 89020505 | 052528 | 000040 | 500 | V |
| KA162 | HD91465 | 26 | 03.53 | 1030140 | -612540 | H 3 35490 L | 01101 | FU 89020505 | 055332 | 000050 | 600 | V |
| KA162 | HD91465 | 26 | 03.54 | 1030140 | -612540 | H 3 35491 L | 01091 | FU 89020506 | 062143 | 000040 | 500 | V |
| KA162 | HD91465 | 26 | 03.54 | 1030140 | -612540 | H 3 35492 L | 01092 | FU 89020507 | 070134 | 000040 | 500 | V |
| KA162 | HD91465 | 26 | 03.54 | 1030140 | -612540 | H 3 35493 L | 01093 | FU 89020507 | 072930 | 000040 | 500 | V |
| KA162 | HD91465 | 26 | 03.55 | 1030140 | -612540 | H 3 35494 L | 01083 | FU 89020507 | 075849 | 000040 | 500 | V |
| KA162 | HD91465 | 26 | 03.54 | 1030140 | -612540 | H 3 35495 L | 01088 | FU 89020508 | 082855 | 000040 | 500 | V |
| KA162 | HD91465 | 26 | 03.55 | 1030140 | -612540 | H 3 35496 L | 01082 | FU 89020509 | 090945 | 000040 | 500 | V |
| KA162 | HD91465 | 26 | 03.54 | 1030140 | -612540 | H 3 35497 L | 01085 | FU 89020510 | 102034 | 000040 | 500 | V |
| BEKRP | HD 91465 | 26 | 3.3 | 1030145 | -612540 | H 3 35479 L | 1111 | FU 89020421 | 215800 | 000045 | 502 | G C=236,B=40 |
| BEKRP | HD 91465 | 26 | 3.3 | 1030145 | -612540 | H 3 35480 L | 1111 | FU 89020422 | 222900 | 000040 | 502 | G C=213,B=39 |
| BEKRP | HD 91465 | 26 | 3.3 | 1030145 | -612540 | H 3 35481 L | 1111 | FU 89020422 | 225900 | 000040 | 502 | G C=221,B=39 |
| BEKRP | HD 91465 | 26 | 3.3 | 1030145 | -612540 | H 3 35482 L | 1105 | FU 89020423 | 234200 | 000040 | 502 | G C=203,B=38 |
| BEKRP | HD 91465 | 26 | 3.3 | 1030145 | -612540 | H 3 35483 L | 1143 | FU 89020500 | 001200 | 000040 | 503 | G C=207,B=41 |
| BEKRP | HD 91465 | 26 | 3.3 | 1030145 | -612540 | H 3 35484 L | 1100 | FU 89020500 | 004200 | 000040 | 502 | G C=224,B=40 |
| BEKRP | HD 91465 | 26 | 3.3 | 1030145 | -612540 | H 3 35485 L | 1140 | FU 89020501 | 011000 | 000040 | 503 | G C=223,B=41 |
| BEKRP | HD 91465 | 26 | 3.3 | 1030145 | -612540 | H 3 35486 L | 1100 | FU 89020501 | 013900 | 000040 | 502 | G C=220,B=40 |
| BEKRP | HD 91465 | 26 | 3.3 | 1030145 | -612540 | H 3 35487 L | 1095 | FU 89020502 | 020900 | 000040 | 502 | G C=222,B=40 |
| KA059 | OB42-B | 12 | 99.99 | 1032345 | +411509 | F 9 02147 2 | 00000 | BO 88120609 | 093000 | 004000 | | V FOR SWP34877 |
| PHCAL | WAVCAL | 98 | 0.0 | 1040238 | -322711 | L 1 15115 L | | 89022819 | 194300 | 000025 | 29 | G E=10X,B=105 |
| PHCAL | WAVCAL | 98 | 0.0 | 1040238 | -322711 | H 1 15116 L | | 89022820 | 201400 | 001600 | 29 | G E=60X,B=114 |
| PHCAL | WAVCAL | 98 | 0.0 | 1040238 | -322711 | H 1 15116 L | | 89022820 | 201400 | 000025 | | G |
| PHCAL | NULL | 99 | | 1040238 | -322711 | H 2 18280 | | 89022820 | 204000 | 000000 | 00 | G B=17 |
| PHCAL | WAVCAL | 98 | 0.0 | 1040238 | -322711 | L 3 35638 S | | 89022821 | 210600 | 000005 | 28 | G E=10X,B=100 |
| PHCAL | WAVCAL | 98 | 0.0 | 1040238 | -322711 | H 3 35639 S | | 89022821 | 213400 | 000200 | 29 | G E=60X,B=130 |
| PHCAL | WAVCAL | 98 | 0.0 | 1040238 | -322711 | H 3 35639 | | 89022821 | 213400 | 000005 | | G |
| PHCAL | WAVCAL | 98 | 0.0 | 1040238 | -322711 | L 2 18281 S | | 89022821 | 215400 | 000010 | 27 | G E=10X,B=85 |
| PHCAL | WAVCAL | 98 | 0.0 | 1040238 | -322711 | H 2 18282 S | | 89022822 | 222400 | 000022 | 29 | G E=60X,B=110 |
| PHCAL | WAVCAL | 98 | 0.0 | 1040238 | -322711 | H 2 18282 | | 89022822 | 222400 | 000010 | | G |
| PHCAL | TFLOOD | 99 | 0.0 | 1040238 | -322711 | L 1 15117 S | | 89022823 | 234700 | 000025 | 08 | G B=100 |
| PHCAL | TFLOOD | 99 | 0.0 | 1040238 | -322711 | L 3 35640 S | | 89030100 | 001700 | 000005 | 09 | G B=103 |
| PHCAL | SKYBKGND | 07 | 0.0 | 1040238 | -322711 | H 1 15118 L | | 89030101 | 010200 | 010500 | 04 | G B=53 |
| PHCAL | SKYBKGND | 07 | 0.0 | 1040238 | -322711 | H 3 35641 S | | 89030101 | 010500 | 008000 | 02 | G B=35 |
| WRKPC | HD 93162 | 11 | 8.17 | 1042141 | -592724 | H 3 34904 L | 1496 | FO 88120717 | 175300 | 006000 | 403 | G C=190,B=43 |
| WRKPC | HD 93162 | 11 | 8.17 | 1042141 | -592723 | H 3 34942 L | 1464 | FO 88120817 | 174900 | 006000 | 433 | G E=112,C=157,B=46 |
| WRKPC | HD 93162 | 11 | 8.17 | 1042141 | -592724 | H 3 34978 L | 1494 | FO 88120917 | 173100 | 006000 | 452 | G E=188,C=180,B=36 |
| PHCAL | HD 93521 | 12 | 7.04 | 1045335 | +375004 | H 3 34788 L | 4434 | FO 88112020 | 205300 | 000350 | 402 | G C=147,B=33 |
| PHCAL | HD 93521 | 12 | 7.04 | 1045335 | +375004 | H 1 14494 L | 4439 | FO 88112021 | 210400 | 000430 | | G C=196,B |
| PHCAL | HD 93521 | 12 | 7.04 | 1045335 | +375004 | L 3 34789 L | 4419 | FO 88112022 | 220100 | 000003 | 400 | G C=158,B=15 |
| PHCAL | HD 93521 | 12 | 7.04 | 1045335 | +375004 | L 1 14495 L | 4414 | FO 88112022 | 220600 | 000003 | 402 | G C=180,B=35 |
| PHCAL | HD 93521 | 12 | 7.04 | 1045335 | +375003 | L 3 35714 L | 4461 | FO 89030816 | 160100 | 000003 | 300 | G C=110,B=19 |
| PHCAL | HD 93521 | 12 | 7.04 | 1045335 | +375003 | L 1 15153 L | 4528 | FO 89030816 | 160600 | 000003 | 501 | G C=190,B=30 |
| PHCAL | HD 93521 | 12 | 7.04 | 1045335 | +375003 | H 3 35715 L | 533 | FO 89030816 | 163900 | 000350 | 302 | G C=130,B=35 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHCAL | HD 93521 | 12 | 7.0 | 1045336 | +375004 | L | 1 | 14470 | L | 4370 | FO | 88111509 | 095100 | 000003 | 402 | G C=180,B=32 |
| PHCAL | HD 93521 | 12 | 7.0 | 1045336 | +375004 | L | 3 | 34742 | L | 4372 | FO | 88111509 | 095500 | 000003 | 400 | G C=160,B=16 |
| PHCAL | HD 93521 | 12 | 7.0 | 1045336 | +375004 | L | 2 | 18254 | L | 4251 | FO | 88121302 | 024200 | 000004 | 401 | G C=145,B=22 |
| PHCAL | HD 93521 | 12 | 7.0 | 1045336 | +375004 | L | 1 | 15111 | L | 4507 | FO | 89022801 | 013000 | 000003 | 502 | G C=195,B=32 |
| PHCAL | HD 93521 | 12 | 7.0 | 1045336 | +375004 | L | 3 | 35631 | L | 4702 | FO | 89022801 | 013500 | 000003 | 400 | G C=165,B=16 |
| PHCAL | HD 93521 | 12 | 7.0 | 1045336 | +375004 | L | 1 | 15136 | L | 5286 | FO | 89030602 | 024200 | 000003 | 502 | G C=187,B=35 |
| PHCAL | HD 93521 | 12 | 7.0 | 1045336 | +375004 | L | 3 | 35793 | L | 4215 | FO | 89031618 | 183700 | 000003 | 500 | G C=165,B=11 |
| PHCAL | HD 93521 | 12 | 7.0 | 1045336 | +375004 | L | 2 | 18300 | L | 4149 | FO | 89032313 | 134300 | 000004 | 401 | G C=164,B=25 |
| PHCAL | HD 93521 | 12 | 7.0 | 1045336 | +375004 | L | 3 | 35985 | L | 3990 | FO | 89041122 | 220100 | 000003 | 500 | G C=195,B=18 |
| PHCAL | HD 93521 | 12 | 7.0 | 1045336 | +375004 | L | 1 | 15344 | L | 3952 | FO | 89041122 | 220600 | 000003 | 502 | G C=220,B=32 |
| LGKMJ | SAO 179278 | 50 | 10.0 | 1049113 | -205905 | L | 1 | 14524 | L | 10953 | FO | 88112504 | 040500 | 012800 | 39 | G E=200,B=114 |
| EGKTT | NGC 3448 | 88 | 12.6 | 1051387 | +543419 | L | 1 | 15238 | L | 32 | SO | 89032412 | 120100 | 024000 | 335 | G E=114,C=115,B=65 |
| WDKJH | GD 125 | 37 | 14.1 | 1051595 | +272257 | L | 3 | 36006 | L | | | 89041423 | 232400 | 007000 | | G |
| WDKJH | GD 125 | 37 | 14.1 | 1051595 | +272257 | L | 3 | 36006 | L | 30 | SO | 89041423 | 232500 | 007000 | X00 | G C=1.5X,B=18 |
| WDKJH | GD 125 | 37 | 14.1 | 1051595 | +272257 | L | 3 | 36008 | S | | | 89041518 | 180400 | 012000 | | G |
| WDKJH | GD 125 | 37 | 14.1 | 1051595 | +272257 | L | 3 | 36008 | S | 32 | SO | 89041518 | 180500 | 012000 | X02 | G C=1.5X,B=40 |
| WDKJH | GD 125 | 37 | 14.1 | 1051595 | +272257 | L | 3 | 36031 | L | 31 | SO | 89041818 | 180400 | 004000 | 500 | G C=222,B=20 |
| WDKJH | GD 125 | 37 | 14.1 | 1051595 | +272257 | L | 3 | 36031 | L | 31 | SO | 89041818 | 180500 | 004000 | 500 | G C=222,B=20 |
| KA140 | AG CAR | 23 | 06.53 | 1054106 | -601111 | H | 3 | 35578 | L | 08539 | FO | 89021906 | 062903 | 012000 | 110 | V |
| KA140 | AG CAR | 23 | 06.54 | 1054106 | -601111 | H | 1 | 15061 | L | 08489 | FO | 89021908 | 083648 | 003000 | 202 | V |
| KA140 | HD 94910 | 23 | 08.44 | 1054106 | -601111 | L | 3 | 35625 | L | 01597 | FO | 89022608 | 085655 | 000300 | 500 | V 15 MF MISSING AFFECT |
| KA140 | HD 94910 | 23 | 08.47 | 1054106 | -601111 | H | 1 | 15100 | L | 01552 | FO | 89022608 | 080259 | 004500 | 401 | V |
| KA140 | HD 94910 | 23 | 08.43 | 1054106 | -601111 | H | 3 | 35626 | L | 01605 | FO | 89022609 | 093525 | 007200 | 401 | V PREAD |
| KA140 | HD 94910 | 23 | 08.43 | 1054106 | -601111 | L | 1 | 15101 | L | 01605 | FO | 89022610 | 104421 | 000040 | 500 | V PREAD |
| IGKJN | HD 95569 | 36 | 8.5 | 1058400 | -652917 | L | 3 | 35106 | L | 978 | FO | 88122318 | 182100 | 000400 | ?09 | G C=90,B=178 |
| IGKJN | HD 95569 | 36 | 8.5 | 1058400 | -652917 | H | 3 | 35107 | L | 953 | FO | 88122318 | 185700 | 003000 | 301 | G C=50,B=28 |
| KC152 | HD95735 | 48 | 07.71 | 1100366 | +361820 | L | 3 | 35337 | L | 03051 | FO | 89011408 | 081755 | 003000 | 030 | V PREAD |
| KC152 | HD95735 | 48 | 07.69 | 1100366 | +361820 | L | 1 | 14826 | L | 03114 | FO | 89011408 | 085548 | 002000 | 330 | V |
| KC152 | SKY BACKG | 07 | 07.69 | 1100366 | +361820 | L | 3 | 35338 | L | 03114 | FO | 89011409 | 093746 | 003000 | 030 | V |
| KC152 | HD95735 | 48 | 07.70 | 1100366 | +361820 | L | 3 | 35339 | L | 03072 | FO | 89011410 | 105247 | 023500 | 061 | V |
| BLKCU | MKN 421 | 87 | 14. | 110140 | +382643 | L | 3 | 35444 | L | 64 | SO | 89012821 | 212100 | 009000 | 301 | G C=84,B=24 |
| KQ053 | NGC3516 | 84 | 13.22 | 1103227 | +725023 | L | 3 | 35946 | L | 00090 | SO | 89040601 | 014320 | 020000 | 230 | V RP (-2,-212) |
| KQ053 | NGC3516 | 84 | 13.20 | 1103227 | +725023 | L | 3 | 35947 | L | 00091 | SO | 89040605 | 053820 | 019000 | 230 | V RP (-30,-204) |
| KA007 | HD 96548 | 11 | 08.01 | 1104179 | -651420 | H | 3 | 34903 | L | 02334 | FO | 88120715 | 154714 | 003800 | 560 | V |
| KA007 | HD 96548 | 11 | 08.03 | 1104180 | -651421 | H | 3 | 34940 | L | 02305 | FO | 88120815 | 152054 | 003500 | 450 | V |
| KA007 | HD 96548 | 11 | 08.05 | 1104180 | -651421 | H | 3 | 34941 | L | 02261 | FO | 88120816 | 162324 | 003500 | 450 | V |
| KA007 | HD96548 | 11 | 08.06 | 1104180 | -651421 | H | 3 | 34977 | L | 02233 | FO | 88120915 | 153838 | 003800 | 450 | V |
| STKRK | SN 1989B | 56 | 12.5 | 111737 | +131645 | L | 1 | 14952 | L | 159 | SO | 89020100 | 000200 | 009000 | 303 | G C=138,B=45 |
| STKRK | SN 1989B | 56 | 12.5 | 111737 | +131645 | L | 1 | 14953 | L | 157 | SO | 89020102 | 021400 | 015500 | 404 | G C=192,B=57 |
| STKRK | SN 1989B | 56 | 12.5 | 111737 | +131645 | L | 1 | 14954 | L | 161 | SO | 89020122 | 221700 | 018000 | 505 | G C=235,B=61 |
| STKRK | SN 1989B | 56 | 12.5 | 1117374 | +131645 | L | 1 | 14951 | L | 194 | SO | 89013121 | 213700 | 009000 | 303 | G C=70,B=43 |
| STKRK | SN 1989B | 56 | 12.5 | 1117374 | +131645 | D | 9 | 02156 | 2 | | | 89020100 | 001800 | 002000 | | G |
| CMKCG | HD 99022 | 60 | 5.8 | 1120509 | -563016 | L | 1 | 14997 | L | 10614 | FO | 89020912 | 122100 | 000015 | 5X2 | G E=1.5X,C=207,B=38 |
| KQ071 | NGC3660 | 84 | 13.44 | 1121002 | -082302 | L | 1 | 14926 | L | 00074 | SO | 89012608 | 083210 | 037500 | 403 | V |
| KQ071 | NGC 3660 | 84 | 14.45 | 1121002 | -082302 | L | 3 | 35442 | L | 00030 | SO | 89012808 | 081751 | 039300 | 303 | V PREAD |

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| PRO | Object | CL | MAG | R.A. | DEC | D C Image A | FES | MD Obs.date Exptim mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| KC150 | NGC3680#20 | 47 | 10.77 | 1123021 | -425454 | L 1 15093 L | 00200 | FO 89022504 045716 017000 | 502 | V PREAD |
| KC150 | NGC 3680#34 | 45 | 11.23 | 1123146 | -425731 | L 1 15094 L | 00132 | FO 89022508 082216 008500 | 501 | V PREAD |
| KC150 | NGC3680#56 | 31 | 11.41 | 1124027 | -425259 | L 1 15095 S | 00113 | FO 89022510 104818 001300 | 301 | V |
| KC150 | NGC3680#56 | 31 | 11.41 | 1124027 | -425259 | L 1 15095 L | 00113 | FO 89022510 102732 001500 | 401 | V |
| JQ113 | MKN 423 | 84 | 14.50 | 1124077 | +353129 | L 1 14787 L | 00000 | BO 89010809 095715 029000 | 301 | V |
| JQ113 | MKN 423 | 84 | 14.50 | 1124077 | +353129 | L 3 35307 L | 00000 | BO 89011008 082234 038500 | 333 | V |
| EGKTT | NGC 3738 | 88 | 12.0 | 1133036 | +544807 | L 1 15025 L | 31 | SO 89021212 121100 024000 | 306 | G C=154,B=72 |
| EGKTT | NGC 3738 | 88 | 12.0 | 1133036 | +544807 | L 3 35539 L | 37 | SO 89021216 162400 015500 | 303 | G C=85,B=44 |
| KE160 | ARP248B | 88 | 14.00 | 1144117 | -033414 | E 9 02189 2 | 00000 | BO 89042402 020000 016000 | | V FES FOR SWP36077 |
| IGKSL | ARP 248B | 88 | 14.0 | 1144117 | -033413 | L 3 36077 | | BO 89042402 022100 085700 | 309 | G C=175,B=105 |
| PHCAL | NULL | 99 | | 1148425 | +545414 | H 3 35562 L | | 89021512 123700 000000 | 02 | G B=32 |
| PHCAL | 1148+54 | 07 | 15.5 | 1148425 | +545414 | H 3 35563 L | | 89021512 125900 052500 | 09 | G B=107 |
| QSKAK | 1148+549 | 85 | 15.8 | 1148426 | +545413 | L 1 15044 L | | BO 89021512 121200 061500 | XX9 | G E=2X,C=1.5X,B=130 |
| LDKSB | HD 103095 | 44 | 6.4 | 1150060 | +380438 | H 1 14465 L | 6231 | FO 88111409 094700 006300 | 442 | G E=180,C=170,B=40 |
| LDKSB | HD 103095 | 44 | 6.4 | 1150060 | +380438 | H 1 14640 L | 5917 | FO 88121402 025700 012000 | X38 | G E=160,C=1.5X,B=96 |
| QSKCG | IC 2943 | 85 | 15.3 | 115105 | +462924 | L 3 35498 L | | BO 89020512 121300 022319 | 332 | G E=72,C=75,B=37 |
| USSBS | HD 103287 | 30 | 2.44 | 1151125 | +535821 | H 1 15032 L | 2124 | FU 89021319 193800 000040 | 503 | G C=222,B=43 |
| USSBS | HD 103287 | 30 | 2.44 | 1151125 | +535821 | H 3 35548 L | 2122 | FU 89021319 194300 000115 | 402 | G C=183,B=35 |
| WDKJH | PM 36430 | 37 | 12.8 | 1153394 | -482322 | L 3 36016 S | 86 | SO 89041623 231700 002200 | 500 | G C=184,B=18 |
| WDKJH | PM 36430 | 37 | 12.8 | 1153394 | -482322 | L 3 36016 S | 86 | SO 89041623 231800 002200 | 300 | G C=101,B=15 |
| WDKJH | PM 36430 | 37 | 12.8 | 1153394 | -482322 | L 9 02187 | | 89041700 002700 000000 | | G |
| KC111 | BPM 36430 | 37 | 13.24 | 1153395 | -482322 | H 3 36017 L | 00088 | SO 89041700 004617 045000 | 303 | V 440 MIN + 10 MIN / R |
| KC111 | BPM 36430 | 37 | 13.24 | 1153395 | -482322 | L 1 15360 L | 00088 | SO 89041708 083227 001500 | 503 | V |
| KQ073 | NGC 3998 | 88 | 12.37 | 1155214 | +554357 | L 1 14980 L | 00191 | SO 89020705 054707 031300 | 502 | V XSPREP |
| KE020 | NGC4111 | 81 | 12.09 | 1204316 | +432041 | L 1 14601 L | 00246 | SO 88120309 095939 030000 | 304 | V |
| PHCAL | NULL | 99 | 0.0 | 1204317 | +432041 | 3 36012 | | 89041608 084700 000000 | 00 | G B=19 |
| PHCAL | SKY BKGD | 07 | 0.0 | 1204317 | +432041 | L 3 36013 | | 89041609 092800 028000 | 04 | G B=57 |
| KE020 | NGC4111 | 81 | 12.21 | 1204318 | +432042 | E 9 02185 2 | 00220 | SO 89041501 011000 004000 | | V FOR SWP36007 |
| EGKDB | NGC 4111 | 81 | 11.8 | 1204318 | +432042 | L 3 36007 L | 220 | SO 89041501 014900 078000 | 309 | G C=170,B=106 |
| KE020 | NGC4111 | 81 | 12.23 | 1204318 | +432042 | E 9 02186 2 | 00218 | SO 89041601 014500 004000 | | V FOR LWP15356 |
| EGKDB | NGC 4111 | 81 | 11.8 | 1204318 | +432042 | L 1 15356 L | 218 | SO 89041601 015300 073500 | X09 | G C=1.5X,B=127 |
| AGKGR | NGC 4151 | 84 | 11.5 | 120800 | +394102 | L 3 35428 L | 155 | SO 89012716 161500 003000 | 401 | G C=130,C=49,B=22 |
| AGKGR | NGC 4151 | 84 | 12.6 | 120800 | +394102 | L 1 14932 L | 178 | SO 89012716 165300 003000 | 402 | G C=178,B=39 |
| AGKGR | NGC 4151 | 84 | 12.6 | 120800 | +394102 | L 3 35429 L | 160 | SO 89012717 173400 006000 | 35 | G E=142,B=62,B=40 |
| KQ054 | NGC 4151 | 84 | 12.56 | 1208000 | +394102 | L 3 35457 L | 00161 | SO 89013008 081301 003500 | 340 | V |
| AGKFB | NGC 4151 | 84 | 11.2 | 1208000 | +394100 | L 3 35998 L | 179 | SO 89041309 095500 030500 | 335 | G E=141,C=105,B=63 |
| AGKFB | SKY BKGD | 07 | | 1208000 | +394100 | L 1 15351 L | 179 | SO 89041309 095800 027600 | 06 | G B=73 |
| AGKFB | NGC 4151 | 84 | 12.4 | 1208000 | +394100 | L 3 36001 S | 161 | SO 89041320 205300 006000 | 336 | G E=140,C=106,B=72 |
| AGKFB | NGC 4151 | 84 | 12.4 | 1208000 | +394100 | L 9 02184 | | 89041322 222000 000000 | | G |
| AGKFB | SKY BKGD | 07 | | 1208000 | +394100 | L 1 15352 L | | 89041322 225100 093000 | 09 | G B=130 |
| OX61K | NGC 4151 | 84 | 11.5 | 1208002 | +394100 | L 3 35417 L | 184 | SO 89012618 132800 002500 | 331 | G E=114,C=57,B=22 |
| AGKGR | NGC 4151 | 84 | 11.5 | 1208003 | +394101 | L 3 34868 L | 198 | SO 88120402 021100 001500 | 231 | G E=122,C=40,B=26 |
| AGKGR | NGC 4151 | 84 | 11.5 | 1208003 | +394101 | L 1 14603 L | 173 | SO 88120402 023500 002300 | 343 | G E=178,C=137,B=41 |
| AGKGR | NGC 4151 | 84 | 11.5 | 1208003 | +394101 | L 3 34869 L | 177 | SO 88120403 030700 005000 | 352 | G E=202,C=85,B=33 |
| AGKGR | NGC 4151 | 84 | 11.5 | 1208003 | +394101 | L 1 14604 L | 196 | SO 88120404 041300 004000 | 346 | G E=201,C=148,B=74 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AGKGR | NGC 4151 | 84 | 11.5 | 1203003 | +394101 | L | 3 | 35058 | L | 156 | SO | 88121718 | 183300 | 001500 | 230 | G E=109,C=34,B=15 |
| AGKGR | NGC 4151 | 84 | 11.5 | 1208003 | +394101 | L | 1 | 14660 | L | 160 | SO | 88121719 | 192400 | 003000 | 353 | G E=213,C=127,B=45 |
| AGKGR | NGC 4151 | 84 | 11.5 | 1208003 | +394101 | L | 3 | 35059 | L | 165 | SO | 88121720 | 200300 | 005000 | 3X1 | G E=1.5X,C=85,B=25 |
| AGKGR | NGC 4151 | 84 | 11.5 | 1208003 | +394101 | L | 1 | 14661 | L | 163 | SO | 88121721 | 210000 | 005000 | 4X3 | G E=1.5X,C=168,B=50 |
| AGKFB | NGC 4151 | 84 | 11.2 | 1208003 | +394101 | L | 3 | 36002 | L | 164 | SO | 89041322 | 223500 | 097500 | 357 | G E=248,C=168,B=90 |
| KQT00 | NGC4151 | 84 | 12.45 | 1208004 | +394102 | L | 3 | 34845 | L | 00178 | SO | 88112911 | 114800 | 003000 | 350 | V |
| KQ054 | NGC4151 | 84 | 12.54 | 1208004 | +394102 | L | 3 | 34998 | L | 00164 | SO | 88121013 | 134732 | 003000 | 350 | V |
| KQ054 | NGC4151 | 84 | 12.52 | 1208004 | +394102 | L | 1 | 00505 | L | 00167 | SO | 88121014 | 142635 | 003000 | 350 | V |
| KQ054 | NGC4151 | 84 | 12.51 | 1208004 | +394102 | L | 3 | 34999 | L | 00169 | SO | 88121015 | 151024 | 006000 | 360 | V |
| KQ054 | NGC4151 | 84 | 12.54 | 1208004 | +394102 | L | 1 | 00506 | L | 00164 | SO | 88121016 | 161657 | 003000 | 450 | V |
| KQ054 | NGC4151 | 84 | 12.62 | 1208004 | +394102 | L | 3 | 35028 | L | 00153 | SO | 88121412 | 122423 | 003500 | 250 | V |
| KQ054 | N4151 | 84 | 12.61 | 1208004 | +394102 | L | 3 | 35090 | L | 00155 | SO | 88122015 | 155707 | 004000 | 351 | V |
| KQ054 | NGC 4151 | 84 | 12.60 | 1208004 | +394102 | L | 3 | 35098 | L | 00156 | SO | 88122213 | 133458 | 004000 | 242 | V |
| KQ054 | NGC 4151 | 84 | 12.65 | 1208004 | +394102 | L | 1 | 14694 | L | 00149 | SO | 88122214 | 142335 | 004000 | 352 | V |
| KQ054 | NGC 4151 | 84 | 12.67 | 1208004 | +394102 | L | 3 | 35099 | L | 00147 | SO | 88122215 | 151456 | 005500 | 352 | V |
| KQ054 | NGC4151 | 84 | 12.67 | 1208004 | +394102 | L | 1 | 14695 | L | 00146 | SO | 88122216 | 161735 | 003000 | 352 | V |
| KQ054 | NGC4151 | 84 | 12.67 | 1208004 | +394102 | L | 1 | 14704 | L | 00147 | SO | 88122413 | 134623 | 004000 | 500 | V |
| KQ054 | NGC4151 | 84 | 12.67 | 1208004 | +394102 | L | 3 | 35123 | L | 00147 | SO | 88122414 | 144034 | 004000 | 350 | V |
| KQ054 | NGC4151 | 84 | 12.65 | 1208004 | +394102 | L | 1 | 14705 | L | 00149 | SO | 88122415 | 152654 | 002600 | 400 | V |
| KQ054 | NGC4151 | 84 | 12.64 | 1208004 | +394102 | L | 3 | 35124 | L | 00150 | SO | 88122415 | 155812 | 005000 | 350 | V |
| KQ054 | NGC4151 | 84 | 12.59 | 1208004 | +394102 | L | 1 | 14730 | L | 00157 | SO | 88122813 | 134644 | 004000 | 351 | V |
| KQ054 | NGC4151 | 84 | 12.61 | 1208004 | +394102 | L | 3 | 35171 | L | 00155 | SO | 88122814 | 143653 | 004000 | 240 | V |
| KQ054 | NGC4151 | 84 | 12.62 | 1208004 | +394102 | L | 1 | 14731 | L | 00153 | SO | 88122815 | 152709 | 002500 | 341 | V |
| KQ054 | NGC4151 | 84 | 12.62 | 1208004 | +394102 | L | 3 | 35172 | L | 00153 | SO | 88122816 | 160612 | 005000 | 360 | V PREAD |
| KQ054 | NGC 4151 | 84 | 12.61 | 1208004 | +394102 | L | 3 | 35210 | L | 00155 | SO | 88123113 | 134835 | 004000 | 350 | V |
| KQ054 | NGC 4151 | 84 | 12.64 | 1208004 | +394102 | L | 1 | 14748 | L | 00151 | SO | 88123114 | 143802 | 004000 | 451 | V |
| KQ054 | NGC 4151 | 84 | 12.61 | 1208004 | +394102 | L | 3 | 35211 | L | 00154 | SO | 88123115 | 152605 | 004500 | 360 | V PREAD |
| KQ054 | NGC4151 | 84 | 12.61 | 1208004 | +394102 | L | 1 | 14773 | L | 00155 | SO | 89010513 | 130659 | 004400 | 352 | V |
| KQ054 | NGC4151 | 84 | 12.63 | 1208004 | +394102 | L | 3 | 35264 | L | 00152 | SO | 89010513 | 135837 | 004400 | 350 | V |
| KQ054 | NGC4151 | 84 | 12.51 | 1208004 | +394102 | L | 1 | 14794 | L | 00169 | SO | 89010911 | 114802 | 003000 | 342 | V |
| KQ054 | NGC 4151 | 84 | 12.54 | 1208004 | +394102 | L | 3 | 35297 | L | 00165 | SO | 89010912 | 122716 | 003000 | 340 | V |
| KQ054 | NGC 4151 | 84 | 12.54 | 1208004 | +394102 | L | 1 | 14795 | L | 00164 | SO | 89010913 | 130942 | 003000 | 342 | V |
| KQ054 | NGC 4151 | 84 | 12.56 | 1208004 | +394102 | L | 3 | 35298 | L | 00162 | SO | 89010913 | 134825 | 006000 | 350 | V |
| KQ054 | NGC 4151 | 84 | 12.58 | 1208004 | +394102 | L | 1 | 14814 | L | 00159 | SO | 89011311 | 115704 | 004000 | 352 | V |
| KQ054 | NGC4151 | 84 | 12.59 | 1208004 | +394102 | L | 3 | 35330 | L | 00158 | SO | 89011312 | 124600 | 004000 | 350 | V |
| KQ054 | NGC4151 | 84 | 12.59 | 1208004 | +394102 | L | 1 | 14815 | L | 00158 | SO | 89011313 | 133526 | 003000 | 352 | V |
| KQ054 | NGC4151 | 84 | 12.57 | 1208004 | +394102 | L | 3 | 35331 | L | 00160 | SO | 89011314 | 141113 | 003600 | 350 | V |
| KQ054 | NGC4151 | 84 | 12.57 | 1208004 | +394102 | L | 3 | 35374 | L | 00160 | SO | 89011712 | 120606 | 004000 | 340 | V |
| KQ054 | NGC4151 | 84 | 12.57 | 1208004 | +394102 | L | 1 | 14855 | L | 00160 | SO | 89011712 | 125323 | 004000 | 460 | V |
| KQ054 | NGC4151 | 84 | 12.55 | 1208004 | +394102 | L | 3 | 35375 | L | 00163 | SO | 89011713 | 134122 | 006600 | 450 | V |
| KQ054 | NGC4151 | 84 | 12.61 | 1208004 | +394102 | L | 3 | 35388 | L | 00155 | SO | 89012111 | 115650 | 004000 | 340 | V |
| KQ054 | NGC 4151 | 84 | 12.55 | 1208004 | +394102 | L | 1 | 14888 | L | 00163 | SO | 89012112 | 124450 | 003000 | 351 | V |
| KQ054 | NGC4151 | 84 | 12.54 | 1208004 | +394102 | L | 3 | 35389 | L | 00164 | SO | 89012113 | 132423 | 008000 | 350 | V |
| KQ054 | NGC4151 | 84 | 12.56 | 1208004 | +394101 | L | 3 | 35403 | L | 00161 | SO | 89012508 | 081208 | 003500 | 350 | V |
| KQ054 | NGC4151 | 84 | 12.58 | 1208004 | +394101 | L | 1 | 14917 | L | 00159 | SO | 89012508 | 085516 | 003500 | 451 | V |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FRS | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KQ054 | NGC4151 | 84 | 12.57 | 1208004 | +394102 | L | 3 | 35404 | L | 00160 | SO | 89012509 | 093735 | 008000 | 460 | U |
| KQ054 | NGC 4151 | 84 | 12.56 | 1208004 | +394102 | L | 3 | 35458 | L | 00161 | SO | 89013009 | 094659 | 007000 | 350 | U |
| KQ054 | NGC 4151 | 84 | 12.57 | 1208010 | +394112 | L | 1 | 14941 | L | 00160 | SO | 89013008 | 085909 | 004000 | 351 | U |
| QSKRE | NGC 4235 | 84 | 12.9 | 1214367 | +072807 | L | 3 | 36039 | L | 42 | SO | 89042010 | 105400 | 012000 | 02 | G B=32 |
| QSKRE | NGC 4235 | 84 | 12.9 | 1214368 | +072809 | L | 1 | 15376 | L | 44 | SO | 89041910 | 104400 | 015000 | 303 | G C=105,B=50 |
| LDKDB | HD 108177 | 41 | 9.7 | 1223015 | +013402 | L | 1 | 14966 | L | 317 | FO | 89020413 | 132700 | 002700 | X02 | G C=1.5X,B=39 |
| QSKDY | 3C 273 | 85 | 13 | 122633 | +021942 | D | 9 | 02158 | 2 | | | 89020205 | 051400 | 016000 | | G |
| KM084 | 3C273 | 84 | 13.36 | 1226331 | +021941 | E | 9 | 02159 | 2 | 00079 | SO | 89020210 | 100400 | 004000 | | U FES FOR SWP35469 |
| KQ120 | 3C273 | 84 | 13.32 | 1226332 | +021943 | L | 3 | 34996 | L | 00082 | SO | 88121009 | 093914 | 003000 | 350 | U |
| QSKDY | 3C 273 | 85 | 13.0 | 1226332 | +021942 | H | 3 | 35466 | L | 76 | SO | 89013105 | 055100 | 084500 | 309 | G C=200,B=143 |
| KQ120 | 3C273 | 84 | 13.29 | 1226332 | +021943 | L | 3 | 34997 | L | 00084 | SO | 88121010 | 105711 | 006000 | 460 | U |
| QSKDY | 3C 273 | 85 | 13.0 | 1226332 | +021942 | H | 1 | 14950 | L | 76 | SO | 89013106 | 061600 | 080500 | 09 | G B=144 |
| KQ120 | 3C 273 | 84 | 12.80 | 1226332 | +021943 | L | 1 | 00503 | L | 00084 | SO | 88121010 | 101836 | 003000 | 400 | U |
| QSKDY | 3C 273 | 85 | 13.0 | 1226332 | +021942 | D | 9 | 02154 | 2 | | | 89013106 | 064400 | 002000 | | G |
| KQ120 | 3C 273 | 84 | 12.80 | 1226332 | +021943 | L | 1 | 00504 | L | 00081 | SO | 88121012 | 120519 | 005000 | 601 | U |
| QSKDY | 3C 273 | 85 | 13.0 | 1226332 | +021942 | H | 3 | 35469 | L | 79 | SO | 89020204 | 044400 | 099900 | 339 | G E=206,C=250,B=156 |
| KQ120 | 3C273 | 84 | 13.31 | 1226332 | +021943 | L | 3 | 35154 | L | 00083 | SO | 88122714 | 142417 | 003000 | 350 | U |
| QSKDY | SKY | 99 | 13.0 | 1226332 | +021942 | H | 1 | 14955 | L | | | 89020204 | 044800 | 068000 | 09 | G B=143 |
| KQ120 | 3C273 | 84 | 13.27 | 1226332 | +021943 | L | 1 | 14725 | L | 00086 | SO | 88122715 | 150456 | 003000 | 401 | U |
| QSKDY | 3C 273 | 85 | 13.0 | 1226332 | +021942 | L | 1 | 14956 | L | 88 | SO | 89020223 | 230600 | 002000 | 402 | G C=140,B=36 |
| KQ120 | 3C273 | 84 | 13.28 | 1226332 | +021943 | L | 3 | 35155 | L | 00085 | SO | 88122715 | 154610 | 003000 | 350 | U |
| QSKDY | 3C 273 | 85 | 13.0 | 1226332 | +021942 | L | 3 | 35470 | L | 88 | SO | 89020300 | 005400 | 003000 | 351 | G E=198,C=90,B=28 |
| KQ120 | 3C273 | 84 | 13.32 | 1226332 | +021943 | L | 1 | 14726 | L | 00082 | SO | 88122716 | 162641 | 002500 | 401 | U PREAD |
| QSKDY | 3C 273 | 85 | 13.0 | 1226332 | +021942 | L | 1 | 14957 | L | 82 | SO | 89020301 | 013200 | 002000 | 403 | G C=148,B=42 |
| KQ120 | 3C273 | 84 | 13.36 | 1226332 | +021942 | L | 3 | 35395 | L | 00079 | SO | 89012313 | 132235 | 003000 | 360 | U |
| QSKDY | 3C 273 | 85 | 13.0 | 1226332 | +021942 | L | 3 | 35471 | L | 79 | SO | 89020302 | 020000 | 003000 | 351 | G E=212,C=99,B=22 |
| KQ120 | 3C273 | 84 | 13.36 | 1226332 | +021942 | L | 1 | 14902 | L | 00079 | SO | 89012313 | 135531 | 003000 | 551 | U |
| QSKDY | 3C 273 | 85 | 13.0 | 1226332 | +021942 | H | 3 | 35472 | L | 69 | SO | 89020305 | 050900 | 082500 | 339 | G E=174,C=210,B=135 |
| KQ120 | 3C273 | 84 | 13.36 | 1226332 | +021942 | L | 3 | 35396 | L | 00079 | SO | 89012314 | 142732 | 002300 | 350 | U PARTIAL READ |
| QSKDY | SKY | 99 | 13.0 | 1226332 | +021942 | H | 1 | 14958 | L | | | 89020305 | 053400 | 074500 | 09 | G B=131 |
| KM084 | 3C273 | 85 | 13.41 | 1226332 | +021942 | S | 9 | 02155 | 2 | 00076 | SO | 89013110 | 102000 | 002000 | | U FOR SWP 35466 |
| KM084 | 3C273 | 84 | 13.51 | 1226332 | +021942 | D | 9 | 02160 | 2 | 00069 | SO | 89020304 | 041500 | 004000 | | U FES FOR SWP 35472 |
| KQ120 | 3C273 | 84 | 13.42 | 1226332 | +021943 | L | 3 | 35476 | L | 00075 | SO | 89020405 | 051124 | 003000 | 350 | U |
| KQ120 | 3C273 | 84 | 13.41 | 1226332 | +021943 | L | 1 | 14963 | L | 00076 | SO | 89020405 | 055215 | 003000 | 352 | U |
| KQ120 | 3C273 | 84 | 13.41 | 1226332 | +021942 | L | 3 | 35477 | L | 00076 | SO | 89020406 | 063026 | 004500 | 360 | U |
| KQ120 | 3C273 | 85 | 13.33 | 1226332 | +021943 | L | 3 | 36169 | L | 00081 | SO | 89043001 | 015645 | 003000 | 350 | U |
| KQ120 | 3C273 | 85 | 13.31 | 1226332 | +021943 | L | 1 | 15411 | L | 00083 | SO | 89043002 | 023230 | 003000 | 451 | U |
| KQ120 | 3C273 | 85 | 13.44 | 1226332 | +021943 | L | 3 | 36170 | L | 00074 | SO | 89043003 | 031328 | 005000 | 360 | U |
| KQ120 | 3C273 | 85 | 13.35 | 1226332 | +021943 | L | 1 | 15412 | L | 00080 | SO | 89043004 | 041058 | 002500 | 441 | U |
| NPKST | IC 3568 | 70 | 11.6 | 1231465 | +825021 | L | 1 | 14490 | L | 100 | FO | 88112009 | 090700 | 001000 | 402 | G C=156,B=38 |
| NPKST | IC 3568 | 70 | 11.6 | 1231465 | +825021 | L | 3 | 34783 | L | 413 | SO | 88112009 | 093208 | 000500 | 331 | G E=88,C=60,B=22 |
| KE116 | T 1247-23 | 88 | 13.00 | 1247389 | -231738 | L | 3 | 35685 | L | 00000 | BO | 89030505 | 052352 | 032800 | 331 | U PREAD |
| HA102 | HD 111597 | 30 | 05.29 | 1247579 | -334337 | H | 3 | 35622 | L | 21568 | FO | 89022604 | 043831 | 002700 | 700 | U |
| HA102 | HD 111597 | 30 | 05.30 | 1247579 | -334337 | H | 1 | 15099 | L | 21369 | FO | 89022605 | 051320 | 000690 | 501 | U |
| KA204 | A35 | 71 | 10.04 | 1250529 | -223606 | L | 3 | 35642 | L | 00383 | FO | 89030103 | 034542 | 003000 | 600 | U |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KA204 | A 35 | 71 | 10.14 | 1250529 | -223606 | L | 3 | 35689 | L | 00350 | FO | 89030605 | 054711 | 003000 | 600 | U |
| KA204 | A 35 | 71 | 10.11 | 1250529 | -223606 | L | 1 | 15138 | L | 00361 | FO | 89030606 | 063003 | 003000 | 561 | U |
| KA204 | A 35 | 71 | 10.25 | 1250529 | -223606 | L | 1 | 15149 | L | 00319 | FO | 89030806 | 063608 | 003000 | 563 | U |
| KA204 | A 35 | 70 | 10.15 | 1250529 | -223607 | L | 3 | 35751 | L | 00338 | FO | 89031204 | 040417 | 003000 | 601 | U |
| KA204 | HD 112313 | 71 | 09.37 | 1253079 | +260941 | L | 3 | 35688 | L | 00695 | FO | 89030603 | 035331 | 002000 | 500 | U |
| KH205 | HD 112313 | 71 | 09.20 | 1253080 | +260942 | L | 3 | 35635 | L | 00808 | FO | 89022810 | 105416 | 000800 | 400 | U PREAD |
| KA204 | HD112313 | 71 | 09.29 | 1253080 | +260942 | L | 3 | 35643 | L | 00750 | FO | 89030105 | 053247 | 001500 | 500 | U |
| KA204 | HD 112313 | 71 | 09.39 | 1253080 | +260942 | L | 1 | 15137 | L | 00684 | FO | 89030604 | 043114 | 002000 | 561 | U |
| KA204 | HD 112313 | 71 | 09.48 | 1253080 | +260942 | L | 3 | 35709 | L | 00634 | FO | 89030805 | 052236 | 002000 | 500 | U |
| BLKCU | 3C 279 | 85 | 14.2 | 1253359 | -053108 | L | 1 | 14933 | L | 34 | SO | 89012815 | 154700 | 006000 | 303 | G C=87,B=42 |
| BLKCU | 3C 279 | 85 | 14.2 | 1253359 | -053108 | L | 3 | 35443 | L | 39 | SO | 89012817 | 170100 | 017900 | 304 | G C=88,B=52 |
| LDKDB | HD 114762 | 41 | 7.3 | 1309545 | +174655 | L | 1 | 14968 | L | 2743 | FO | 89020416 | 162200 | 000230 | 502 | G C=205,B=34 |
| IGKJS | QSO 1309+355 | 85 | 15.3 | 130958 | +353114 | L | 3 | 34851 | L | | BO | 88112920 | 200300 | 019500 | 54 | G E=232,B=52 |
| IGKJS | PG 1309+355 | 85 | 15.3 | 1309583 | +353113 | | 3 | 35908 | S | | BO | 89040106 | 060000 | 042000 | 337 | G E=176,C=152,B=82 |
| IGKJS | PG 1309+355 | 85 | | 1309584 | +353114 | E | 9 | 02178 | 2 | | | 89040108 | 083200 | 016000 | | V FOR SWP 35908 |
| IGKSL | UGC8315N | 88 | 15.1 | 1311539 | +392444 | L | 3 | 36068 | | | BO | 89042210 | 101900 | 062700 | 309 | G C=131,B=105 |
| KE160 | UGC8315M | 80 | 99.90 | 1311540 | +392445 | F | 9 | 02188 | 2 | 00000 | BO | 89042203 | 030000 | 004000 | | V FOR SWP36068 |
| LDKSB | HD 115383 | 44 | 5.2 | 1314180 | +094106 | H | 1 | 14639 | L | 16388 | FO | 88121401 | 014500 | 002000 | 543 | G E=141,C=204,B=41 |
| LDKSB | HD 115383 | 44 | 5.2 | 1314180 | +094106 | H | 1 | 15057 | L | 16846 | FO | 89021800 | 003900 | 002000 | 543 | G E=149,C=215,B=41 |
| LDKSB | HD 115404 | 46 | 6.6 | 1314220 | +171700 | H | 1 | 14641 | L | 5460 | FO | 88121405 | 055100 | 007500 | 3X5 | G E=1.5X,C=143,B=62 |
| LDKSB | HD 115404 | 46 | 6.6 | 1314220 | +171700 | H | 1 | 15048 | L | 5137 | FO | 89021622 | 221800 | 006000 | 352 | G E=217,C=115,B=40 |
| RSKLR | HD 117555 | 45 | 8.2 | 1328247 | +242925 | L | 1 | 15260 | L | 1253 | FO | 89032823 | 233700 | 000500 | 3X2 | G E=1.5X,C=114,B=32 |
| RSKLR | HD 117555 | 45 | 8.2 | 1328247 | +242925 | L | 3 | 35883 | L | 1287 | FO | 89032823 | 235000 | 012000 | 341 | G E=143,C=50,B=27 |
| RSKLR | HD 117555 | 45 | 8.2 | 1328247 | +242925 | L | 3 | 35884 | L | 1338 | FO | 89032902 | 021800 | 003100 | 30 | G E=46,B=19 |
| RSKLR | HD 117555 | 45 | 8.2 | 1328247 | +242925 | L | 1 | 15270 | L | 1303 | FO | 89033000 | 004000 | 000200 | 342 | G E=173,C=80,B=32 |
| RSKLR | HD 117555 | 45 | 8.2 | 1328247 | +242925 | L | 3 | 35894 | L | 1316 | FO | 89033000 | 004700 | 012000 | 241 | G E=131,C=48,B=28 |
| RSKLR | HD 117555 | 45 | 8.2 | 1328247 | +242925 | L | 1 | 15275 | L | 1145 | FO | 89033100 | 000300 | 000230 | 352 | G E=251,C=85,B=32 |
| RSKLR | HD 117555 | 45 | 8.2 | 1328247 | +242925 | L | 3 | 35899 | L | 1173 | FO | 89033100 | 001400 | 015500 | 342 | G E=184,C=63,B=38 |
| RSKLR | HD 117555 | 45 | 8.2 | 1328247 | +242925 | L | 1 | 15282 | L | 1311 | FO | 89040113 | 135200 | 000500 | 3X1 | G E=1.5XC=96,B=30 |
| RSKLR | HD 117555 | 45 | 8.2 | 1328247 | +242925 | L | 3 | 35909 | L | 1258 | FO | 89040114 | 141200 | 012000 | 343 | G E=157,C=78,B=48 |
| RSKLR | HD 117555 | 45 | 8.2 | 1328247 | +242925 | H | 1 | 15298 | L | 1227 | FO | 89040314 | 142200 | 000500 | 02 | G B=37 |
| RSKLR | HD 117555 | 45 | 8.2 | 1328247 | +242925 | L | 3 | 35924 | L | 1273 | FO | 89040314 | 143200 | 010000 | 344 | G E=180,C=83,B=57 |
| RSKLR | HD 117555 | 45 | 8.2 | 1328247 | +242925 | L | 1 | 15299 | L | 1283 | FO | 89040315 | 152200 | 000500 | 4X2 | G E=1.5X,C=140,B=36 |
| RSKLR | HD 117555 | 45 | 8.2 | 1328247 | +242925 | L | 1 | 15301 | L | 1310 | FO | 89040321 | 213000 | 000200 | 343 | G E=181,C=95,B=49 |
| RSKLR | HD 117555 | 45 | 8.2 | 1328247 | +242925 | L | 1 | 15302 | L | 1271 | FO | 89040322 | 220700 | 000200 | 354 | G E=207,C=100,B=51 |
| RSKLR | HD 117555 | 45 | 8.2 | 1328247 | +242925 | L | 3 | 35928 | L | 1287 | FO | 89040322 | 224100 | 008000 | 335 | G E=134,C=88,B=62 |
| PHCAL | HD118022 | 36 | 05.18 | 1331158 | +035454 | H | 3 | 35761 | L | 22981 | FO | 89031310 | 100439 | 002200 | 600 | U |
| PHCAL | HD118022 | 36 | 05.21 | 1331158 | +035454 | H | 1 | 15189 | L | 22613 | FO | 89031310 | 103343 | 000800 | 601 | U |
| KE034 | NGC5253#2 | 88 | 12.70 | 1337047 | -312317 | L | 3 | 35245 | S | 00000 | BO | 89010407 | 074516 | 042200 | 303 | U |
| KE034 | NGC5253#1 | 88 | 12.84 | 1337051 | -312316 | L | 3 | 35788 | S | 00126 | SO | 89031604 | 044158 | 036700 | 331 | U |
| QSKRE | NGC 5273 | 84 | 12.7 | 1339552 | +355419 | L | 3 | 34825 | L | 46 | SO | 88112622 | 220000 | 011000 | 332 | G E=65,C=57,B=33 |
| QSKRE | NGC 5273 | 84 | 12.7 | 1339553 | +355419 | L | 1 | 14533 | L | 45 | SO | 88112620 | 200800 | 010000 | 304 | G C=87,B=51 |
| HA102 | HD119921 | 30 | 05.59 | 1344010 | -360009 | H | 3 | 35623 | L | 17726 | FO | 89022606 | 060132 | 003500 | 700 | U |
| LDKDB | HD 120136 | 41 | 4.5 | 1344531 | +174219 | L | 1 | 14965 | L | 25710 | FO | 89020412 | 121100 | 000030 | X02 | G C=2.5X,B=35 |
| LDKDB | HD 120136 | 41 | 4.5 | 1344531 | +174219 | L | 1 | 14967 | L | 25861 | FO | 89020415 | 152200 | 000015 | 402 | G C=182,B=32 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHCAL | HD 120315 | 21 | 1.84 | 1345342 | +493343 | H | 3 | 34833 | L | 3927 | FU | 88112803 | 035100 | 000003 | 309 | G C=196,B=115 |
| PHCAL | HD 120315 | 21 | 1.84 | 1345342 | +493343 | H | 1 | 14547 | L | 3894 | FU | 88112803 | 035700 | 000002 | 409 | G C=207,B=103 |
| PHCAL | HD 120315 | 21 | 1.84 | 1345342 | +493343 | H | 3 | 34834 | L | 3842 | FU | 88112804 | 045600 | 000003 | 309 | G C=196,B=114 |
| PHCAL | HD 120315 | 21 | 1.84 | 1345342 | +493343 | H | 1 | 14548 | L | 3839 | FU | 88112805 | 050400 | 000002 | 409 | G C=214,B=104 |
| PHCAL | HD 120315 | 21 | 1.84 | 1345342 | +493343 | H | 3 | 34835 | L | 3864 | FU | 88112806 | 060300 | 000003 | 309 | G C=193,B=115 |
| PHCAL | HD 120315 | 21 | 1.84 | 1345342 | +493343 | H | 1 | 14549 | L | 3900 | FU | 88112806 | 060900 | 000002 | 409 | G C=206,B=106 |
| PHCAL | HD 120315 | 21 | 1.84 | 1345342 | +493343 | H | 3 | 34836 | L | 3943 | FU | 88112807 | 070400 | 000003 | 309 | G C=192,B=115 |
| PHCAL | HD 120315 | 21 | 1.84 | 1345342 | +493343 | H | 1 | 14550 | L | 3910 | FU | 88112807 | 071200 | 000002 | 409 | G C=207,B=105 |
| PHCAL | HD 120315 | 21 | 1.84 | 1345342 | +493343 | H | 3 | 34837 | L | 4014 | FU | 88112808 | 080800 | 000003 | 309 | G C=194,B=114 |
| PHCAL | HD 120315 | 21 | 1.84 | 1345342 | +493343 | H | 1 | 14551 | L | 3858 | FU | 88112808 | 081500 | 000002 | 409 | G C=208,B=104 |
| PHCAL | HD 120315 | 21 | 1.84 | 1345342 | +493343 | H | 3 | 34838 | L | 3682 | FU | 88112809 | 091200 | 000003 | 309 | G C=194,B=116 |
| PHCAL | HD 120315 | 21 | 1.84 | 1345342 | +493343 | H | 1 | 14552 | L | 3901 | FU | 88112809 | 091800 | 000002 | 409 | G C=218,B=105 |
| PHCAL | HD 120315 | 21 | 1.84 | 1345342 | +493343 | H | 3 | 34839 | L | 3984 | FU | 88112810 | 101700 | 000003 | 309 | G C=194,B=114 |
| PHCAL | HD 120315 | 21 | 1.84 | 1345342 | +493343 | H | 1 | 14553 | L | 3850 | FU | 88112810 | 102400 | 000002 | 409 | G C=216,B=105 |
| PHCAL | HD 120315 | 21 | 1.8 | 1345343 | +493344 | H | 2 | 18260 | L | 3946 | FU | 88121307 | 073600 | 000008 | 502 | G C=204,B=32 |
| PHCAL | HD 120315 | 21 | 1.8 | 1345343 | +493344 | H | 1 | 15002 | L | 3983 | FU | 89021001 | 012700 | 000005 | 503 | G C=205,B=43 |
| PHCAL | HD 120315 | 21 | 1.8 | 1345343 | +493344 | H | 3 | 35521 | L | 4008 | FU | 89021001 | 013200 | 000006 | 442 | G E=162,C=167,B=34 |
| PHCAL | HD 120315 | 21 | 1.8 | 1345343 | +493344 | H | 3 | 35986 | L | 3892 | FU | 89041123 | 231200 | 000006 | 402 | G C=168,B=32 |
| PHCAL | HD 120315 | 21 | 1.8 | 1345343 | +493344 | H | 1 | 15345 | L | 3920 | FU | 89041123 | 231600 | 000005 | 503 | G C=212,B=41 |
| PHCAL | HD 120315 | 21 | 1.8 | 1345343 | +493344 | H | 2 | 18306 | L | 4032 | FU | 89042914 | 142000 | 000008 | 402 | G C=184,B=34 |
| BEKGP | HD 120324 | 26 | 3.5 | 1346357 | -421332 | H | 3 | 35553 | L | 986 | FU | 89021421 | 211400 | 000022 | 502 | G C=202,B=36 |
| BEKGP | HD 120324 | 26 | 3.5 | 1346357 | -421332 | H | 1 | 15043 | L | 962 | FU | 89021421 | 211900 | 000015 | 503 | G C=207,B=42 |
| BEKGP | HD 120324 | 26 | 3.5 | 1346357 | -421332 | L | 3 | 35554 | L | 984 | FU | 89021422 | 220100 | 000000 | X00 | G C=1.5X,B=16 |
| NPKJK | HE2- 99 | 70 | 13.6 | 1348462 | -660835 | L | 3 | 35580 | L | 73 | SO | 89021911 | 113600 | 012000 | 5X2 | G E=3X,C=208,B=36 |
| NPKJK | HE2- 99 | 70 | 13.6 | 1348462 | -660835 | L | 1 | 15068 | L | 79 | SO | 89022012 | 120000 | 004500 | 3X2 | G E=1.5X,C=123,B=38 |
| PHCAL | T FLOOD 99 | | | 1348568 | +345442 | L | 2 | 18271 | L | | | 89022601 | 011700 | 000010 | 09 | G B=148 |
| PHCAL | T FLOOD 99 | | | 1348568 | +345442 | L | 2 | 18272 | L | | | 89022601 | 014400 | 000010 | 09 | G B=150 |
| PHCAL | NULL 99 | | | 1348568 | +345442 | H | 2 | 18270 | L | | FO | 89022603 | 031200 | 000000 | 00 | G B=16 |
| NPKRD | NGC 5315 | 70 | 13.0 | 1350540 | -661730 | L | 3 | 35963 | L | 237 | SO | 89040821 | 210100 | 003000 | 09 | G B=122 |
| KQ053 | PG1351+64 | 85 | 15.00 | 1351461 | +640028 | L | 3 | 35955 | L | 00000 | BO | 89040704 | 042903 | 025800 | 462 | U |
| QSKDT | QSO 1411+442 | 85 | 15.0 | 1411501 | +441412 | L | 3 | 34803 | L | 16 | SO | 88112219 | 194900 | 034000 | 3X6 | G E=2.5X,C=151,B=78 |
| QSKDT | QSO 1411+442 | 85 | 15.0 | 1411501 | +441412 | L | 1 | 15220 | L | | BO | 89031911 | 114300 | 037000 | X06 | G C=1.5X,B=78 |
| CCKTA | HD 124897 | 47 | 0.0 | 1413228 | +192631 | L | 1 | 14760 | L | 17333 | FU | 89010304 | 041600 | 000002 | 331 | G E=53,C=52,B=28 |
| CCKTA | HD 124897 | 47 | 0.0 | 1413228 | +192631 | L | 1 | 14760 | L | | | 89010304 | 042300 | 000000 | | G |
| CCKTA | HD 124897 | 47 | 0.0 | 1413228 | +192631 | L | 1 | 14761 | L | 17031 | FU | 89010305 | 050900 | 000010 | 452 | G E=193,C=178,B=32 |
| CCKTA | HD 124897 | 47 | 0.0 | 1413228 | +192631 | L | 1 | 15393 | L | 16810 | FO | 89042222 | 220500 | 000010 | 452 | G E=196,C=178,B=32 |
| CCKTA | HD 124897 | 47 | 0.0 | 1413228 | +192631 | L | 1 | 15394 | L | 17828 | FO | 89042222 | 224800 | 000051 | XX2 | G E=5X,C=5X,B=36 |
| CCKTA | HD 124897 | 47 | 0.0 | 1413228 | +192631 | L | 1 | 15395 | L | 16988 | FU | 89042223 | 232900 | 000330 | ??3 | G E=20X,C=20X,B=42 |
| KQ147 | NGC5548 | 84 | 13.92 | 1415430 | +252200 | L | 3 | 35880 | L | 00048 | SO | 89032804 | 042621 | 009000 | 350 | U |
| KQ054 | NGC5548 | 13 | 13.81 | 1415432 | +252200 | L | 1 | 14644 | L | 00053 | SO | 88121414 | 140206 | 006500 | 453 | U |
| KQ147 | NGC5548 | 84 | 13.94 | 1415432 | +252200 | L | 3 | 35029 | L | 00047 | SO | 88121415 | 152048 | 008700 | 350 | U |
| KQ147 | NGC5548 | 84 | 13.81 | 1415432 | +252200 | L | 3 | 35070 | L | 00053 | SO | 88121813 | 135729 | 009000 | 341 | U |
| KQ147 | NGC5548 | 84 | 13.81 | 1415432 | +252200 | L | 1 | 14664 | L | 00053 | SO | 88121815 | 153548 | 006500 | 452 | U |
| KQ147 | NGC5548 | 84 | 13.83 | 1415432 | +252200 | L | 3 | 35097 | L | 00052 | SO | 88122210 | 101303 | 009000 | 351 | U |
| KQ147 | NGC 5548 | 84 | 14.31 | 1415432 | +252200 | L | 1 | 14693 | L | 00034 | SO | 88122211 | 115146 | 006500 | 452 | U |

Vilspa Data Base 4-AUG-89

| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KQ147 | NGC5548 | 84 | 13.85 | 1415432 | +252200 | L | 3 | 35138 | L | 00051 | SO | 88122614 | 141105 | 009000 | 350 | V |
| KQ147 | NGC5548 | 84 | 13.79 | 1415432 | +252200 | L | 1 | 14721 | L | 00054 | SO | 88122615 | 154808 | 006000 | 450 | V |
| KQ147 | NGC5548 | 84 | 13.79 | 1415432 | +252200 | L | 3 | 35190 | L | 00054 | SO | 88123014 | 142239 | 009000 | 350 | V |
| KQ147 | NGC5548 | 84 | 13.75 | 1415432 | +252200 | L | 1 | 14744 | L | 00056 | SO | 88123016 | 160125 | 005000 | 452 | V PREAD |
| KQ147 | NGC5548 | 84 | 13.90 | 1415432 | +252200 | L | 3 | 35242 | L | 00049 | SO | 89010312 | 121826 | 010000 | 350 | V B/O |
| KQ147 | NGC5548 | 84 | 13.87 | 1415432 | +252200 | L | 1 | 14763 | L | 00050 | SO | 89010314 | 140503 | 004000 | 341 | V |
| KQ147 | NGC5548 | 84 | 13.79 | 1415432 | +252200 | L | 3 | 35284 | L | 00054 | SO | 89010712 | 120305 | 009000 | 350 | V |
| KQ147 | NGC5548 | 84 | 13.75 | 1415432 | +252200 | L | 1 | 14784 | L | 00056 | SO | 89010713 | 134230 | 006500 | 451 | V |
| KQ147 | NGC5548 | 84 | 13.79 | 1415432 | +252200 | L | 3 | 35383 | L | 00054 | SO | 89011912 | 121223 | 009000 | 350 | V |
| KQ147 | NGC 5548 | 84 | 13.77 | 1415432 | +252200 | L | 1 | 14870 | L | 00055 | SO | 89011913 | 135239 | 006000 | 452 | V PREAD |
| KQ147 | NGC5548 | 84 | 13.77 | 1415432 | +252200 | L | 3 | 35393 | L | 00055 | SO | 89012307 | 075558 | 009000 | 450 | V |
| KQ147 | NGC5548 | 84 | 13.73 | 1415432 | +252200 | L | 1 | 14901 | L | 00057 | SO | 89012309 | 093324 | 006500 | 561 | V |
| KQ147 | NGC5548 | 84 | 13.87 | 1415432 | +252200 | L | 3 | 35478 | L | 00050 | SO | 89020408 | 083138 | 009000 | 351 | V |
| KQ147 | NGC5548 | 84 | 13.87 | 1415432 | +252200 | L | 1 | 14964 | L | 00050 | SO | 89020410 | 100934 | 005000 | 351 | V PARTIAL READ |
| KQ147 | NGC5548 | 84 | 13.85 | 1415432 | +252200 | L | 3 | 35511 | L | 00051 | SO | 89020808 | 085423 | 008000 | 340 | V |
| KQ147 | NGC 5548 | 84 | 13.85 | 1415432 | +252200 | L | 1 | 14989 | L | 00051 | SO | 89020810 | 102118 | 004500 | 451 | V |
| KQ147 | NGC5548 | 84 | 13.97 | 1415432 | +252200 | L | 3 | 35538 | L | 00046 | SO | 89021208 | 081634 | 010000 | 350 | V |
| KQ147 | NGC5548 | 84 | 13.92 | 1415432 | +252200 | L | 1 | 15024 | L | 00048 | SO | 89021210 | 100338 | 006000 | 452 | V |
| KQ147 | NGC 5548 | 84 | 14.02 | 1415432 | +252200 | L | 3 | 35569 | L | 00044 | SO | 89021605 | 050658 | 009000 | 350 | V |
| KQ147 | NGC 5548 | 84 | 13.99 | 1415432 | +252200 | L | 1 | 15045 | L | 00045 | SO | 89021606 | 065733 | 003500 | 342 | V |
| KQ147 | NGC5548 | 84 | 14.02 | 1415432 | +252200 | L | 1 | 15067 | L | 00044 | SO | 89022009 | 090609 | 005000 | 452 | V |
| KQ147 | NGC5548 | 84 | 14.02 | 1415432 | +252200 | L | 3 | 35595 | L | 00044 | SO | 89022010 | 100343 | 005400 | 350 | V |
| KQ147 | NGC 5548 | 84 | 14.02 | 1415432 | +252200 | L | 3 | 35617 | L | 00044 | SO | 89022408 | 084633 | 009000 | 350 | V |
| KQ147 | NGC 5548 | 84 | 13.99 | 1415432 | +252200 | L | 1 | 15087 | L | 00045 | SO | 89022410 | 102638 | 003500 | 340 | V PREAD |
| KQ147 | NULL | 84 | 14.07 | 1415432 | +252200 | L | 3 | 35848 | L | 00042 | SO | 89032404 | 041216 | 010000 | 112 | V WRONG IDENTIFICATION |
| KQ147 | NULL | 84 | 14.04 | 1415432 | +252200 | L | 1 | 15237 | L | 00043 | SO | 89032405 | 055925 | 003300 | 112 | V WRONG IDENTIFICATION |
| KQ147 | NGC5548 | 84 | 13.92 | 1415432 | +252200 | L | 3 | 35849 | L | 00048 | SO | 89032409 | 094253 | 007000 | 360 | V PREAD |
| KQ147 | NGC5548 | 84 | 13.87 | 1415432 | +252200 | L | 1 | 15254 | L | 00050 | SO | 89032806 | 060730 | 006000 | 552 | V |
| KQ147 | NGC 5548 | 84 | 13.00 | 1415432 | +252200 | L | 1 | 15281 | L | 00057 | SO | 89040101 | 013355 | 006000 | 452 | V |
| KQ147 | NGC 5548 | 84 | 13.00 | 1415432 | +252200 | L | 3 | 35907 | L | 00049 | SO | 89040102 | 025728 | 010000 | 351 | V |
| KQ147 | NGC5548 | 84 | 13.81 | 1415432 | +252200 | L | 3 | 35936 | L | 00053 | SO | 89040502 | 020717 | 009000 | 450 | V |
| KQ147 | NGC5548 | 84 | 13.79 | 1415432 | +252200 | L | 1 | 15305 | L | 00054 | SO | 89040503 | 034535 | 006500 | 561 | V |
| KQ147 | NGC5548 | 84 | 13.75 | 1415432 | +252200 | L | 3 | 35965 | L | 00053 | SO | 89040902 | 021020 | 009000 | 351 | V |
| KQ147 | NGC5548 | 84 | 13.75 | 1415432 | +252200 | L | 1 | 15327 | L | 00056 | SO | 89040903 | 034946 | 006500 | 562 | V |
| KQ147 | NGC5548 | 84 | 13.75 | 1415432 | +252200 | L | 3 | 35996 | L | 00056 | SO | 89041305 | 054557 | 008000 | 350 | V |
| KQ147 | NGC5548 | 84 | 13.79 | 1415432 | +252200 | L | 1 | 15350 | L | 00054 | SO | 89041307 | 071650 | 005500 | 452 | V |
| KQ147 | NGC5548 | 84 | 13.50 | 1415432 | +252200 | L | 3 | 35997 | L | 00000 | BO | 89041308 | 081712 | 003500 | 340 | V PREAD |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415434 | +252200 | L | 3 | 35323 | L | 54 | SO | 89011116 | 160500 | 008500 | 351 | G E=235,C=96,B=25 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415434 | +252200 | L | 1 | 14802 | L | 55 | SO | 89011117 | 174300 | 006000 | 453 | G E=251,C=165,B=42 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415434 | +252200 | L | 3 | 35324 | L | 56 | SO | 89011118 | 182200 | 008000 | 351 | G E=220,C=100,B=27 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415434 | +252200 | L | 3 | 35325 | L | 62 | SO | 89011120 | 203100 | 008000 | 352 | G E=240,C=92,B=32 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415434 | +252200 | L | 1 | 15113 | L | 44 | SO | 89022811 | 114600 | 002500 | 503 | G C=198,B=41 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415434 | +252200 | L | 3 | 35636 | L | 46 | SO | 89022812 | 121900 | 009000 | 352 | G E=218,C=72,B=32 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415434 | +252200 | L | 3 | 35637 | L | | | 89022814 | 143400 | 002700 | | G |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415434 | +252200 | L | 3 | 35823 | L | 49 | SO | 89032012 | 121300 | 006500 | 351 | G E=206,C=69,B=27 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AGKMM | NGC 5548 | 84 | 13.5 | 1415434 | +252200 | L | 1 | 15227 | L | 51 | SO | 89032013 | 133000 | 005000 | 353 | G E=213,C=141,B=42 |
| PHCAL | NULL | 99 | 0.0 | 1415434 | +252200 | L | 2 | 18305 | | | | 89042913 | 132800 | 000000 | 00 | G B=12 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415435 | +252159 | L | 3 | 35363 | L | 56 | SO | 89011617 | 170800 | 006500 | 351 | G E=193,C=88,B=28 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415435 | +252159 | L | 1 | 14848 | L | 57 | SO | 89011618 | 182100 | 005000 | 452 | G E=205,C=140,B=39 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415435 | +252159 | L | 3 | 35364 | L | 60 | SO | 89011619 | 192000 | 005500 | 341 | G E=169,C=80,B=25 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415435 | +252159 | L | 3 | 35416 | L | 55 | SO | 89012615 | 155000 | 006000 | 350 | G E=174,C=96,B=16 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415435 | +252159 | L | 1 | 14927 | L | 56 | SO | 89012616 | 165800 | 004500 | 353 | G E=209,C=142,B=43 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415435 | +252201 | L | 3 | 35461 | L | 53 | SO | 89013015 | 154900 | 006000 | 351 | G E=187,C=69,B=28 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415435 | +252201 | L | 1 | 14945 | L | 53 | SO | 89013016 | 165800 | 004500 | 343 | G E=189,C=140,B=43 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415435 | +252201 | L | 3 | 35462 | L | 56 | SO | 89013017 | 175000 | 006000 | 341 | G E=171,C=70,B=30 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415435 | +252159 | L | 3 | 35676 | L | 47 | SO | 89030411 | 114600 | 008000 | 352 | G E=228,C=97,B=38 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415435 | +252159 | L | 1 | 15131 | L | 48 | SO | 89030413 | 131500 | 004500 | 343 | G E=185,C=127,B=42 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415435 | +252159 | L | 3 | 35677 | L | 49 | SO | 89030414 | 140800 | 004500 | 341 | G COM E=127,C=65,B=25 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415435 | +252159 | L | 3 | 35712 | | | | 89030812 | 120000 | 000000 | | G |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415435 | +252159 | L | 1 | 15152 | L | 49 | SO | 89030813 | 133000 | 004500 | 343 | G E=195,C=130,B=45 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415435 | +252159 | L | 3 | 35713 | L | 49 | SO | 89030814 | 142500 | 003000 | 231 | G E=99,C=45,B=26 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415435 | +252159 | L | 3 | 35753 | L | 46 | SO | 89031211 | 115700 | 007000 | 351 | G E=203,C=72,B=26 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415435 | +252159 | L | 1 | 15174 | L | 51 | SO | 89031213 | 131700 | 004500 | 353 | G E=197,C=126,B=41 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415435 | +252159 | L | 3 | 35789 | L | 47 | SO | 89031611 | 115500 | 007000 | 350 | G E=214,C=75,B=14 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415435 | +252159 | L | 1 | 15202 | L | 50 | SO | 89031613 | 131700 | 005000 | 352 | G E=196,C=123,B=36 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415435 | +252159 | L | 3 | 35790 | L | 50 | SO | 89031614 | 141600 | 005500 | 341 | G E=143,C=65,B=22 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415435 | +252159 | L | 3 | 36018 | L | | | 89041710 | 101300 | 006500 | 351 | G E=202,C=92,B=24 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415435 | +252159 | L | 1 | 15361 | L | 55 | SO | 89041711 | 112900 | 005000 | 452 | G E=201,C=150,B=39 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415435 | +252159 | L | 3 | 36019 | L | 57 | SO | 89041712 | 122500 | 002600 | 330 | G E=97,C=45,B=17 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415435 | +252159 | L | 3 | 36055 | L | 55 | SO | 89042109 | 095900 | 006500 | 351 | G E=197,C=78,B=28 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415435 | +252159 | L | 1 | 15385 | L | 55 | SO | 89042111 | 111500 | 005000 | 452 | G E=208,C=156,B=40 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415435 | +252159 | L | 3 | 36056 | L | 55 | SO | 89042112 | 121700 | 003400 | 331 | G E=112,C=54,B=23 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415435 | +252159 | L | 3 | 36089 | L | 54 | SO | 89042511 | 113200 | 006500 | 351 | G E=224,C=86,B=27 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415435 | +252159 | L | 1 | 15406 | L | 54 | SO | 89042512 | 124500 | 005000 | 453 | G E=219,C=155,B=44 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415435 | +252159 | L | 3 | 36159 | L | 56 | SO | 89042909 | 094500 | 006000 | 342 | G E=169,C=80,B=34 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415435 | +252159 | L | 1 | 15410 | L | 56 | SO | 89042910 | 105600 | 004500 | 343 | G E=189,C=140,B=45 |
| AGKMM | NGC 5548 | 84 | 13.5 | 1415435 | +252159 | L | 3 | 36160 | L | 56 | SO | 89042911 | 115000 | 006000 | 352 | G E=194,C=84,B=34 |
| QSKDT | QSO 1416-129 | 85 | 15.4 | 1416213 | -125658 | L | 1 | 15215 | L | | BO | 89031812 | 121900 | 039000 | 308 | G C=178,B=93 |
| HA102 | HD 125473 | 30 | 04.40 | 1417304 | -373923 | H | 3 | 35624 | L | 00506 | FU | 89022607 | 072315 | 001200 | 790 | U |
| PHCAL | TFLOOD | 99 | 0.0 | 1420036 | -080115 | L | 2 | 18283 | L | | | 89030620 | 200900 | 000000 | 00 | G B=19 |
| PHCAL | TFLOOD | 99 | 0.0 | 1420036 | -080115 | L | 2 | 18284 | L | | | 89030620 | 203800 | 000010 | 09 | G B=122 |
| PHCAL | TFLOOD | 99 | 0.0 | 1420036 | -080115 | L | 2 | 18285 | L | | | 89030621 | 211500 | 000010 | 09 | G B=124 |
| PHCAL | TFLOOD | 99 | 0.0 | 1420036 | -080115 | L | 2 | 18286 | L | | | 89030621 | 214500 | 000010 | 09 | G B=115 |
| PHCAL | TFLOOD | 99 | 0.0 | 1420036 | -080115 | L | 2 | 18287 | L | | | 89030622 | 221300 | 000010 | 09 | G B=114 |
| NPKRD | HE2- 111 | 70 | | 1429300 | -603700 | L | 1 | 15326 | L | | BO | 89040822 | 224900 | 005000 | 03 | G B=49 |
| NPKRD | HE2- 111 | 70 | | 1429300 | -603700 | L | 3 | 35964 | L | | BO | 89040823 | 234600 | 006200 | 01 | G B=23 |
| KC089 | HD128621 | 46 | 02.21 | 1435508 | -603729 | H | 1 | 15073 | L | 00000 | BO | 89022206 | 061735 | 000200 | 553 | U |
| KC089 | HD128621 | 46 | 02.21 | 1435508 | -603729 | H | 1 | 15074 | L | 00000 | BO | 89022207 | 070431 | 015600 | 883 | U |
| KC089 | HD128621 | 46 | 02.21 | 1435508 | -603729 | L | 3 | 35607 | L | 00000 | BO | 89022209 | 094745 | 000300 | 232 | U |
| KC089 | HD128621 | 46 | 02.21 | 1435508 | -603729 | L | 3 | 35608 | L | 00000 | BO | 89022210 | 102537 | 003200 | 542 | U |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CCKTA | HD 128621 | 46 | 1.3 | 1435513 | -603731 | L | 3 | 36036 | L | | | 89041919 | 192300 | 004000 | G | |
| CCKTA | HD 128621 | 46 | 1.3 | 1435513 | -603731 | L | 3 | 36036 | S | | | 89041920 | 201000 | 001000 | G | |
| CCKTA | HD 128621 | 46 | 1.3 | 1435513 | -603731 | L | 1 | 15379 | L | | BO | 89041920 | 202500 | 000020 | ?04 G | C=10.X,B=55 |
| CCKTA | HD 128621 | 46 | 1.3 | 1435513 | -603731 | L | 1 | 15380 | L | | BO | 89041922 | 220800 | 000020 | ?05 G | C=10.X,B=63 |
| CCKTA | HD 128621 | 46 | 1.3 | 1435513 | -603731 | L | 3 | 36037 | L | | | 89041922 | 222000 | 004000 | G | |
| CCKTA | HD 128621 | 46 | 1.33 | 1435513 | -603731 | L | 1 | 15381 | L | | BO | 89042000 | 003000 | 000100 | 502 G | C=220,B=37 |
| CCKTA | HD 128620 | 46 | 1.33 | 1435528 | -603714 | L | 3 | 36038 | L | | BO | 89041923 | 234600 | 002000 | G | |
| CCKTA | HD 128620 | 46 | 1.33 | 1435528 | -603714 | L | 3 | 36038 | S | | | 89042000 | 001400 | 001000 | G | |
| PHCAL | FEIGE 98 | 22 | 11.5 | 1436040 | +274227 | L | 1 | 14706 | L | 214 | SO | 88122417 | 172700 | 002000 | 402 G | C=143,B=35 |
| PHCAL | FEIGE 98 | 22 | 11.5 | 1436040 | +274227 | L | 3 | 35125 | L | 211 | SO | 88122418 | 180100 | 002500 | 300 G | C=72,B=17 |
| PHCAL | FEIGE 98 | 22 | 11.5 | 1436040 | +274227 | L | 1 | 14707 | L | 209 | SO | 88122418 | 184100 | 003000 | 402 G | C=185,B=38 |
| CCKTA | HD 128621 | 46 | 1.3 | 1436112 | -603749 | L | 1 | 15378 | L | | BO | 89041918 | 181600 | 000004 | X02 G | C=2.0X,B=40 |
| CSKTA | HD 131156 | 44 | 4.6 | 1449047 | +191826 | L | 3 | 36069 | L | | | 89042300 | 000300 | 004800 | G | |
| CSKTA | HD 131156 | 44 | 4.6 | 1449048 | +191827 | L | 3 | 35240 | L | 324 | FU | 89010305 | 054700 | 006000 | 4X2 G | E=1.5X,C=138,B=37 |
| CSKTA | HD 131156 | 44 | 4.6 | 1449048 | +191827 | H | 1 | 15320 | L | 23933 | FO | 89040722 | 220100 | 001500 | 456 G | E=253,C=210,B=73 |
| CSKTA | HD 131156 | 44 | 4.6 | 1449048 | +191827 | L | 3 | 35957 | L | 24019 | FO | 89040722 | 222400 | 007500 | 4X3 G | E=3X,C=158,B=46 |
| KC055 | HD131156 | 44 | 05.13 | 1449052 | +191823 | H | 1 | 15209 | L | 23633 | FO | 89031705 | 050513 | 004500 | 662 U | |
| KC055 | HD 131156 | 44 | 05.09 | 1449052 | +191823 | L | 3 | 35798 | L | 24271 | FO | 89031705 | 055723 | 002500 | 330 U | |
| KC055 | HD 131156 | 44 | 05.14 | 1449052 | +191823 | H | 1 | 15210 | L | 23542 | FO | 89031706 | 062935 | 003000 | 661 U | |
| AGKMM | NGC 5548 | 84 | 13.5 | 1459149 | -324720 | L | 3 | 35824 | L | 53 | SO | 89032014 | 142800 | 002400 | 330 G | E=81,C=42,B=20 |
| GCKBA | NGC 5824 | 83 | 10.8 | 1500538 | -325226 | L | 3 | 35825 | L | 175 | FO | 89032016 | 162800 | 014300 | 302 G | C=76,B=40 |
| XBKJH | 44I BOO | 44 | 4.8 | 1502066 | +475054 | L | 3 | 36020 | L | 24536 | FO | 89041719 | 193300 | 001000 | 321 G | E=37,C=71,B=30 |
| XBKJH | 44I BOO | 44 | 4.8 | 1502066 | +475054 | H | 1 | 15363 | L | 22528 | FO | 89041720 | 202300 | 000400 | 302 G | C=90,B=38 |
| XBKJH | 44I BOO | 44 | 4.8 | 1502066 | +475054 | L | 3 | 36021 | L | 23655 | FO | 89041721 | 211100 | 002000 | 332 G | E=66,C=111,B=40 |
| XBKJH | 44I BOO | 44 | 4.8 | 1502066 | +475054 | H | 1 | 15364 | L | 22247 | FO | 89041722 | 221700 | 001200 | 402 G | C=158,B=37 |
| XBKJH | 44I BOO | 44 | 4.8 | 1502066 | +475054 | L | 3 | 36022 | L | 22546 | FO | 89041723 | 230700 | 002000 | 331 G | E=52,C=102,B=26 |
| XBKJH | 44I BOO | 44 | 4.8 | 1502066 | +475054 | H | 1 | 15365 | L | | | 89041800 | 001300 | 001200 | G | |
| XBKJH | 44I BOO | 44 | 4.8 | 1502066 | +475054 | H | 1 | 15369 | L | 21874 | FO | 89041808 | 084400 | 002300 | 533 G | E=117,C=250,B=42 |
| XBKJH | 44I BOO | 44 | 4.8 | 1502066 | +475054 | L | 3 | 36027 | L | 26080 | FO | 89041809 | 092700 | 004000 | 3X2 G | E=1.5X,C=128,B=32 |
| XBKJH | 44I BOO | 44 | 4.8 | 1502066 | +475054 | L | 3 | 36027 | L | 26080 | FO | 89041809 | 092700 | 004000 | 3X2 G | E=1.5X,C=128,B=32 |
| XBKJH | 44I BOO | 44 | 4.8 | 1502066 | +475054 | H | 1 | 15370 | L | 21576 | FO | 89041811 | 111400 | 002000 | 533 G | E=112,C=220,B=42 |
| XBKJH | 44I BOO | 44 | 4.8 | 1502066 | +475054 | L | 3 | 36028 | L | 21323 | FO | 89041811 | 115100 | 007600 | 4X2 G | E=1.5X,C=145,B=35 |
| XBKJH | 44I BOO | 44 | 4.8 | 1502066 | +475054 | L | 3 | 36028 | L | 21323 | FO | 89041811 | 115200 | 007600 | 4X2 G | E=1.5X,C=145,B=35 |
| XBKJH | 44I BOO | 44 | 4.8 | 1502066 | +475054 | H | 1 | 15371 | L | 22879 | FO | 89041813 | 132500 | 002000 | 533 G | E=95,C=227,B=42 |
| XBKJH | 44I BOO | 44 | 4.8 | 1502066 | +475054 | L | 3 | 36029 | L | 22042 | FO | 89041813 | 135700 | 004000 | 4X2 G | E=1.5X,C=142,B=37 |
| XBKJH | 44I BOO | 44 | 4.8 | 1502066 | +475054 | L | 3 | 36029 | L | 22042 | FO | 89041814 | 144600 | 008000 | 4X2 G | E=1.5X,C=142,B=37 |
| XBKJH | 44I BOO | 44 | 4.8 | 1502066 | +475054 | H | 1 | 15372 | L | | | 89041815 | 153400 | 002000 | G | |
| XBKJH | 44I BOO | 44 | 4.8 | 1502066 | +475054 | L | 3 | 36030 | L | 21771 | FO | 89041816 | 161000 | 002000 | 331 G | E=61,C=105,B=24 |
| XBKJH | 44I BOO | 44 | 4.8 | 1502066 | +475054 | L | 3 | 36030 | L | 21771 | FO | 89041816 | 163500 | 000500 | 331 G | E=61,C=105,B=24 |
| XBKJH | 44I BOO | 44 | 4.8 | 1502066 | +475054 | L | 3 | 36032 | L | 26020 | FO | 89041819 | 193800 | 004000 | 433 G | E=109,C=182,B=50 |
| XBKJH | 44I BOO | 44 | 4.8 | 1502066 | +475054 | H | 1 | 15373 | L | 21395 | FO | 89041820 | 202800 | 002000 | 504 G | C=236,B=52 |
| XBKJH | 44I BOO | 44 | 4.8 | 1502066 | +475054 | L | 3 | 36032 | L | 26020 | FO | 89041821 | 210300 | 008000 | 433 G | E=109,C=182,B=50 |
| XBKJH | 44I BOO | 44 | 4.8 | 1502066 | +475054 | H | 1 | 15374 | L | | | 89041821 | 215200 | 002000 | G | |
| XBKJH | 44I BOO | 44 | 4.8 | 1502066 | +475054 | L | 3 | 36033 | L | 22463 | FO | 89041822 | 222600 | 004000 | 432 G | E=101,C=170,B=35 |
| XBKJH | 44I BOO | 44 | 4.8 | 1502066 | +475054 | L | 3 | 36034 | L | | | 89041900 | 002400 | 002500 | G | |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| XBKJH | 44I BOO | 44 | 4.76 | 1502082 | +475053 | L | 3 | 35999 | L | 20733 | FO | 89041316 | 160700 | 001000 | 301 | G C=64,B=28 |
| XBKJH | 44I BOO | 44 | 4.76 | 1502082 | +475053 | L | 3 | 35999 | S | 20733 | FO | 89041316 | 162700 | 002500 | 301 | G C=69,B=25 |
| KC111 | 44I BOO | 44 | 05.25 | 1502083 | +475053 | L | 3 | 36023 | L | 22111 | FO | 89041801 | 011332 | 004000 | 350 | V R. P. (+2,-212) & (- |
| KC111 | 44I BOO | 44 | 05.32 | 1502083 | +475053 | H | 1 | 15366 | L | 21188 | FO | 89041802 | 020904 | 002300 | 501 | V |
| KC111 | 44I BOO | 44 | 05.21 | 1502083 | +475053 | L | 3 | 36024 | L | 22572 | FO | 89041802 | 024915 | 008000 | 460 | V R. P. (+2,-212) & (- |
| KC111 | 44I BOO | 44 | 05.25 | 1502083 | +475053 | H | 1 | 15367 | L | 22117 | FO | 89041804 | 042338 | 002300 | 501 | V |
| KC111 | 44I BOO | 44 | 05.34 | 1502083 | +475053 | L | 3 | 36025 | L | 20856 | FO | 89041804 | 045959 | 008000 | 460 | V R.P. (+2,-212) & (-3 |
| KC111 | 44I BOO | 44 | 05.17 | 1502083 | +475053 | H | 1 | 15368 | L | 23133 | FO | 89041806 | 063344 | 002300 | 500 | V |
| KC111 | 44I BOO | 44 | 05.20 | 1502083 | +475053 | L | 3 | 36026 | L | 22670 | FO | 89041807 | 071359 | 008000 | 460 | V R. P. (+2,-212) & (- |
| XBKJH | 44I BOO | 44 | 4.8 | 1502088 | +475053 | L | 3 | 36015 | S | 21122 | FO | 89041620 | 202500 | 002500 | 333 | G E=104,C=93,B=42 |
| XBKJH | 44I BOO | 44 | 4.8 | 1502088 | +475053 | L | 3 | 36015 | S | 21122 | FO | 89041620 | 202600 | 002500 | 333 | G E=104,C=93,B=42 |
| XBKJH | 44I BOO | 44 | 4.8 | 1502088 | +475053 | L | 1 | 15359 | | 20967 | FO | 89041621 | 210600 | 001500 | 04 | G SX,B=52 |
| KS148 | COMET YANA | 06 | 99.99 | 1510598 | +323312 | E | 9 | 02164 | 2 | 00000 | | 89022705 | 052000 | 001000 | | V |
| KS148 | COMET YANA | 06 | 12.00 | 1510598 | +323312 | L | 1 | 15104 | L | 00000 | BO | 89022706 | 062437 | 021500 | 112 | V |
| SCKMA | TEMPEL 2 | 06 | 14.2 | 1527200 | -054329 | L | 9 | 02135 | 2 | | | 88111404 | 042800 | 000005 | | G |
| ISKJS | HD 138485 | 20 | 5.5 | 1530054 | -164105 | L | 1 | 15008 | L | 13693 | FO | 89021019 | 195100 | 000001 | 402 | G C=157,B=35 |
| ISKJS | HD 138485 | 20 | 5.5 | 1530054 | -164105 | L | 3 | 35528 | L | 13829 | FO | 89021019 | 195500 | 000002 | 500 | G C=195,B=16 |
| ISKJS | HD 138485 | 20 | 5.5 | 1530054 | -164105 | L | 1 | 15009 | L | 14148 | FO | 89021020 | 205500 | 000003 | X02 | G C=2X,B=33 |
| ISKJS | HD 138485 | 20 | 5.5 | 1530054 | -164105 | L | 3 | 35529 | L | 14294 | FO | 89021021 | 210000 | 000003 | X00 | G C=1.5X,B=15 |
| KA204 | PK 322-5 1 | 71 | 12.94 | 1543266 | -610348 | L | 1 | 15119 | L | 00115 | SO | 89030107 | 071832 | 006000 | 331 | V |
| KA204 | PK322-5.1 | 71 | 12.94 | 1543266 | -610348 | L | 3 | 35644 | S | 00115 | SO | 89030108 | 103505 | 001300 | 111 | V |
| KA204 | PK322-5.1 | 71 | 12.94 | 1543266 | -610348 | L | 3 | 35644 | L | 00115 | SO | 89030108 | 083411 | 010000 | 351 | V |
| USSBS | HD 141003 | 30 | 3.67 | 1543526 | +153436 | H | 1 | 15154 | L | 691 | FU | 89030818 | 181800 | 000200 | 403 | G C=187,B=43 |
| USSBS | HD 141003 | 30 | 3.67 | 1543526 | +153436 | H | 3 | 35716 | L | 695 | FU | 89030818 | 184500 | 000500 | 402 | G C=180,B=40 |
| RCKAH | R CRB | 52 | 8.5 | 1546306 | +281831 | L | 1 | 14806 | L | 937 | FO | 89011204 | 041600 | 002500 | 342 | G E=151,C=122,B=34 |
| RCKAH | R CRB | 52 | 8.5 | 1546306 | +281831 | L | 3 | 35326 | L | 951 | FO | 89011204 | 044800 | 006000 | 242 | G E=146,C=46,B=32 |
| RCKAH | R CRB | 52 | 8.5 | 1546306 | +281831 | L | 1 | 14807 | L | 972 | FO | 89011205 | 055500 | 005000 | 552 | G E=246,C=193,B=40 |
| RCKAH | R CRB | 52 | 9.3 | 1546307 | +281832 | L | 1 | 14768 | L | 711 | FO | 89010404 | 042400 | 000518 | 336 | G E=114,C=102,B=75 |
| RCKAH | R CRB | 52 | 9.3 | 1546307 | +281832 | L | 1 | 14768 | S | 689 | FO | 89010404 | 042400 | 000518 | 206 | G C=92,B=73 |
| RCKAH | R CRB | 52 | 9.3 | 1546307 | +281832 | L | 3 | 35244 | L | 712 | FO | 89010404 | 045000 | 006000 | 06 | G B=76 |
| RCKAH | R CRB | 52 | 9.3 | 1546307 | +281832 | L | 1 | 14769 | L | 694 | FO | 89010405 | 055700 | 003000 | 342 | G E=181,C=107,B=38 |
| PHCAL | BD +33 2642 | 20 | 10.8 | 1550018 | +330527 | L | 1 | 15097 | L | 131 | FO | 89022518 | 184500 | 000310 | 504 | G C=226,B=52 |
| PHCAL | BD +33 2642 | 20 | 10.8 | 1550018 | +330527 | L | 2 | 18298 | L | 136 | FO | 89032311 | 114300 | 000420 | 401 | G C=160,B=26 |
| PHCAL | BD +33 2642 | 20 | 10.8 | 1550018 | +330527 | L | 2 | 18299 | L | 132 | FO | 89032312 | 121900 | 000004 | 01 | G B=23 |
| PHCAL | BD +33 2642 | 20 | 10.8 | 1550019 | +330528 | L | 1 | 14995 | L | 130 | FO | 89020901 | 015500 | 000310 | 504 | G C=246,B=57 |
| PHCAL | BD +33 2642 | 20 | 10.8 | 1550019 | +330528 | L | 1 | 15204 | L | 132 | FO | 89031617 | 170800 | 000310 | 502 | G C=220,B=32 |
| PHCAL | BD +33 2642 | 20 | 10.8 | 1550019 | +330528 | L | 3 | 35792 | L | 137 | FO | 89031617 | 171500 | 000400 | 500 | G C=168,B=16 |
| PHCAL | BD +33 2642 | 20 | 10.8 | 1550019 | +330528 | L | 3 | 35987 | L | 133 | FO | 89041200 | 002500 | 000400 | 500 | G C=176,B=17 |
| PHCAL | BD +33 2642 | 20 | 10.8 | 1550019 | +330528 | L | 1 | 15346 | L | 132 | FO | 89041200 | 003300 | 000310 | 502 | G C=223,B=32 |
| PHCAL | BD +33 2642 | 20 | 10.8 | 1550019 | +330528 | L | 2 | 18307 | L | 134 | FO | 89042915 | 150400 | 000420 | 401 | G C=157,B=22 |
| NPKJK | HE 2-138 | 70 | 11.0 | 1551188 | -660026 | L | 3 | 35601 | L | 714 | SO | 89022100 | 002600 | 000410 | 501 | G C=200,B=25 |
| NPKJK | HE 2-138 | 70 | 11.0 | 1551188 | -660026 | L | 3 | 35602 | L | 175 | FO | 89022101 | 011100 | 001000 | 501 | G C=225,B=24 |
| NPKJK | HE 2-138 | 70 | 11.0 | 1551188 | -660026 | L | 1 | 15069 | L | 171 | FO | 89022101 | 012600 | 000240 | 502 | G C=232,B=32 |
| ISKJS | HD 143018 | 20 | 2.9 | 1555493 | -255818 | L | 1 | 15010 | L | 1587 | FU | 89021022 | 221100 | 000001 | 502 | G C=223,B=36 |
| ISKJS | HD 143018 | 20 | 2.9 | 1555493 | -255818 | L | 3 | 35530 | L | 1614 | FU | 89021022 | 222600 | 000000 | 500 | G C=237,B=16 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ISKJS | HD 143018 | 20 | 2.9 | 1555493 | -255818 | L | 3 | 35530 | L | 1614 | FU | 89021022 | 222700 | 000000 | 500 | G C=237,B=16 |
| ISKJS | HD 143018 | 20 | 2.9 | 1555493 | -255818 | L | 1 | 15011 | L | 1823 | FU | 89021023 | 232800 | 000001 | X01 | G C=4X,B=22 |
| ISKJS | HD 143018 | 20 | 2.9 | 1555493 | -255818 | L | 3 | 35531 | L | 1640 | FU | 89021023 | 233800 | 000001 | X01 | G C=4X,B=21 |
| ISKJS | HD 143018 | 20 | 2.9 | 1555493 | -255818 | L | 3 | 35531 | L | 1640 | FU | 89021023 | 233900 | 000001 | X01 | G C=4X,B=21 |
| ISKJS | HD 143275 | 20 | 2.3 | 1557223 | -222851 | L | 1 | 15012 | L | 2674 | FU | 89021100 | 005900 | 000000 | 503 | G C=220,B=46 |
| ISKJS | HD 143275 | 20 | 2.3 | 1557223 | -222851 | L | 3 | 35532 | L | 2801 | FU | 89021101 | 011500 | 000000 | 501 | G C=201,B=21 |
| KI145 | T CRB | 55 | 10.50 | 1557239 | +260338 | L | 1 | 15321 | L | 00255 | FO | 89040802 | 021551 | 002500 | 452 | V |
| KI145 | T CRB | 55 | 10.25 | 1557240 | +260339 | L | 1 | 15124 | L | 00319 | FO | 89030208 | 082720 | 002000 | 340 | V PREAD |
| KI145 | T CRB | 55 | 10.25 | 1557240 | +260339 | L | 3 | 35648 | L | 00318 | FO | 89030209 | 091449 | 004500 | 330 | V DONE IN 3 SEGMENTS F |
| KI145 | TCRB | 55 | 10.25 | 1557240 | +260339 | L | 1 | 15125 | L | 00319 | FO | 89030210 | 101538 | 002800 | 350 | V PREAD.DONE IN TWO SE |
| KI145 | T CRB | 55 | 09.72 | 1557240 | +260339 | L | 3 | 35959 | L | 00268 | FO | 89040803 | 031314 | 006000 | 432 | V 2 EXPOSURES OF 30 MI |
| TTKFW | OPH 023 | 46 | 11.3 | 1559131 | -223256 | L | 3 | 35882 | L | 346 | SO | 89032813 | 135100 | 054000 | 307 | G C=116,B=85 |
| TTKFW | OPH 023 | 46 | 11.3 | 1559131 | -223256 | L | 3 | 35882 | L | | | 89032813 | 135100 | 044000 | | G |
| USSBS | HD 144470 | 20 | 3.95 | 1603526 | -203206 | H | 1 | 15034 | L | 635 | FU | 89021323 | 233300 | 000036 | 503 | G C=220,B=43 |
| LDKDB | HD 144872 | 46 | 8.6 | 1604419 | +304622 | L | 1 | 15015 | L | 829 | FO | 89021120 | 200000 | 006000 | 443 | G E=146,C=178,B=41 |
| KA002 | HR 6000 | 22 | 06.99 | 1605130 | -385739 | H | 3 | 35937 | L | 05744 | FO | 89040505 | 054812 | 002700 | 500 | V |
| KA002 | HD6000 | 22 | 07.03 | 1605130 | -385739 | H | 3 | 35938 | L | 05584 | FO | 89040506 | 065249 | 003000 | 500 | V |
| KA002 | HR6000 | 22 | 07.03 | 1605130 | -385739 | H | 1 | 15306 | L | 05567 | FO | 89040507 | 072926 | 002000 | 601 | V |
| KA002 | HR6000 | 22 | 07.00 | 1605130 | -385739 | H | 3 | 35939 | L | 05710 | FO | 89040508 | 080018 | 003500 | 600 | V |
| KA002 | HD144667 | 22 | 07.00 | 1605130 | -385738 | H | 3 | 35994 | L | 05693 | FO | 89041301 | 014115 | 003500 | 600 | V |
| KA002 | HD144667 | 22 | 06.97 | 1605130 | -385738 | H | 3 | 35995 | L | 05850 | FO | 89041302 | 025952 | 003800 | 600 | V |
| NPKJK | HE 2-151 | 70 | 13.0 | 1611261 | -594633 | L | 3 | 35599 | L | 94 | SO | 89022020 | 204300 | 007000 | 302 | G C=86,B=35 |
| QSKRE | QSO 1614+354 | 84 | 14.1 | 1614401 | +354949 | L | 1 | 15377 | L | | BO | 89041915 | 150400 | 009000 | 303 | G C=80,B=47 |
| QSKRE | QSO 1614+354 | 84 | 14.1 | 1614401 | +354949 | L | 3 | 36040 | L | | BO | 89042014 | 141600 | 014500 | 301 | G C=50,B=25 |
| LI143 | SCO X-1 | 59 | 12.76 | 1617042 | -153113 | L | 3 | 35728 | L | 00135 | SO | 89031008 | 084639 | 004000 | 450 | V |
| XBLSU | SCO X-1 | 59 | 12.6 | 1617042 | -153113 | | 3 | 35729 | L | 132 | SO | 89031010 | 101300 | 004000 | 451 | G E=200,C=140,B=27 |
| LI143 | SCO X-1 | 59 | 12.79 | 1617042 | -153113 | D | 9 | 02169 | 2 | 00132 | SO | 89031008 | 083000 | 016000 | | V FES FOR SWP 35729 |
| XBLSU | SCO X-1 | 59 | 12.6 | 1617042 | -153113 | L | 1 | 15161 | L | 139 | SO | 89031011 | 110000 | 003000 | 502 | G C=238,B=36 |
| LI143 | SCO X-1 | 59 | 12.73 | 1617042 | -153113 | D | 9 | 02170 | 2 | 00139 | SO | 89031008 | 083000 | 016000 | | V FES FOR LWP15261 STA |
| XBLSU | SCO X-1 | 59 | 12.6 | 1617042 | -153113 | L | 3 | 35730 | L | 145 | SO | 89031011 | 114100 | 004000 | 451 | G E=214,C=142,B=30 |
| LI143 | SCO X-1 | 59 | 12.76 | 1617042 | -153113 | L | 1 | 15160 | L | 00135 | SO | 89031009 | 093829 | 002500 | 500 | V |
| XBLSU | SCO X-1 | 59 | 12.6 | 1617042 | -153113 | L | 1 | 15162 | L | 126 | SO | 89031012 | 122800 | 002500 | 501 | G C=214,B=26 |
| LI143 | SCO X-1 | 59 | 13.05 | 1617042 | -153113 | L | 3 | 35729 | L | 00104 | SO | 89031106 | 063812 | 005000 | 350 | V |
| XBLSU | SCO X-1 | 59 | 12.6 | 1617042 | -153113 | L | 3 | 35731 | L | 132 | SO | 89031013 | 130100 | 004000 | 451 | G E=213,C=150,B=30 |
| LI143 | SCO X-1 | 59 | 13.12 | 1617042 | -153113 | L | 1 | 15169 | L | 00098 | SO | 89031107 | 073655 | 002500 | 400 | V |
| LI143 | SCOX1 | 59 | 12.61 | 1617043 | -153114 | L | 1 | 15159 | L | 00155 | SO | 89031002 | 025300 | 003000 | 500 | V STARTED AT GSFC |
| LI143 | SCOX1 | 59 | 12.60 | 1617043 | -153114 | L | 3 | 35726 | L | 00156 | SO | 89031003 | 034409 | 004000 | 450 | V |
| LI143 | SCOX1 | 59 | 12.54 | 1617043 | -153114 | L | 3 | 35727 | L | 00165 | SO | 89031004 | 045455 | 004000 | 550 | V |
| LI143 | SCO X-1 | 59 | 12.84 | 1617043 | -153114 | L | 1 | 15168 | L | 00126 | SO | 89031103 | 030856 | 002500 | 400 | V |
| LI143 | SCO X-1 | 59 | 13.04 | 1617043 | -153114 | L | 3 | 35738 | L | 00105 | SO | 89031103 | 034022 | 005000 | 350 | V |
| LI143 | SCO X-1 | 59 | 13.13 | 1617043 | -153114 | L | 3 | 35740 | L | 00097 | SO | 89031108 | 081724 | 005000 | 350 | V |
| LI143 | SCO X-1 | 59 | 12.95 | 1617043 | -153114 | L | 1 | 15170 | L | 00114 | SO | 89031109 | 091509 | 002500 | 500 | V |
| LI143 | SCO X-1 | 59 | 12.94 | 1617043 | -153114 | L | 3 | 35741 | L | 00115 | SO | 89031109 | 094650 | 004000 | 450 | V |
| XBLSU | SCO X-1 | 59 | 12.6 | 1617044 | -153114 | L | 3 | 35724 | L | 134 | SO | 89031000 | 002400 | 004500 | 451 | G E=247,C=160,B=21 |
| XBLSU | SCO X-1 | 59 | 12.6 | 1617044 | -153114 | L | 1 | 15158 | L | 153 | SO | 89031001 | 011600 | 004000 | XX2 | G E=2X,C=2X,B=40 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| XBLSU | SCO X-1 | 59 | 12.6 | 1617044 | -153114 | L | 9 | 02168 | 2 | | | 89031001 | 011900 | 000000 | G | |
| XBLSU | SCO X-1 | 59 | 12.6 | 1617044 | -153114 | L | 3 | 35725 | L | 172 | SO | 89031002 | 020400 | 004000 | 451 | G E=233,C=150,B=21 |
| XBLSU | SCO X-1 | 59 | 12.6 | 1617044 | -153114 | L | 3 | 35732 | L | 135 | SO | 89031015 | 155700 | 004500 | 452 | G E=229,C=154,B=32 |
| XBLSU | SCO X-1 | 59 | 12.6 | 1617044 | -153114 | L | 1 | 15163 | L | 136 | SO | 89031017 | 170700 | 002500 | 502 | G C=230,B=35 |
| XBLSU | SCO X-1 | 59 | 12.6 | 1617044 | -153114 | L | 3 | 35733 | L | 131 | SO | 89031017 | 174000 | 004500 | 451 | G E=239,C=157,B=25 |
| XBLSU | SCO X-1 | 59 | 12.6 | 1617044 | -153114 | L | 1 | 15164 | L | 145 | SO | 89031018 | 183300 | 002500 | X02 | G C=1.5X,B=40 |
| XBLSU | SCO X-1 | 59 | 12.6 | 1617044 | -153114 | L | 3 | 35734 | L | 154 | SO | 89031019 | 190800 | 004000 | 451 | G E=236,C=166,B=25 |
| XBLSU | SCO X-1 | 59 | 12.6 | 1617044 | -153114 | L | 1 | 15165 | L | 148 | SO | 89031019 | 195600 | 002500 | 502 | G C=236,B=40 |
| XBLSU | SCO X-1 | 59 | 12.6 | 1617044 | -153114 | L | 9 | 02171 | 2 | | | 89031023 | 231500 | 002008 | G | |
| XBLSU | SCO X-1 | 59 | 12.6 | 1617044 | -153114 | L | 3 | 35735 | L | 162 | SO | 89031023 | 232300 | 004000 | 4X3 | G E=1.5X,C=165,B=46 |
| XBLSU | SCO X-1 | 59 | 12.6 | 1617044 | -153114 | L | 1 | 15166 | L | | | 89031100 | 001200 | 002500 | 504 | G C=238,B=51 |
| XBLSU | SCO X-1 | 59 | 12.6 | 1617044 | -153114 | L | 3 | 35736 | L | 145 | SO | 89031100 | 004700 | 003800 | 451 | G E=218,C=139,B=24 |
| XBLSU | SCO X-1 | 59 | 12.6 | 1617044 | -153114 | L | 1 | 15167 | L | 133 | SO | 89031101 | 013300 | 002500 | 502 | G C=228,B=37 |
| XBLSU | SCO X-1 | 59 | 12.6 | 1617044 | -153114 | L | 3 | 35737 | L | 140 | SO | 89031102 | 020600 | 004000 | 451 | G E=216,C=140,B=22 |
| USSBS | HD 147084 | 33 | 4.53 | 1617373 | -240301 | H | 1 | 15033 | L | 25845 | FO | 89021321 | 211800 | 007300 | 503 | G C=228,B=50 |
| USSBS | HD 147547 | 31 | 3.7 | 1619427 | +191609 | H | 3 | 35858 | L | 600 | FU | 89032602 | 022500 | 002400 | 502 | G C=210,B=37 |
| NPKJK | HE2- 162 | 70 | 13.0 | 1623532 | -535446 | L | 3 | 35581 | L | 98 | SO | 89021914 | 144500 | 024000 | 302 | G C=127,B=39 |
| CMKRS | HD 148478 | 49 | 1.1 | 1626202 | -261922 | L | 3 | 35519 | L | 9428 | FU | 89020921 | 213300 | 000001 | 300 | G C=100,B=16 |
| CMKRS | HD 148478 | 49 | 1.1 | 1626202 | -261922 | L | 1 | 14999 | L | | | 89020921 | 214300 | 001500 | X02 | G C=4-5X,B=38 |
| USSBS | HD 148605 | 20 | 4.78 | 1627098 | -250023 | H | 3 | 35549 | L | 23649 | FO | 89021322 | 224600 | 000120 | 402 | G C=172,B=32 |
| USSBS | HD 148605 | 20 | 4.78 | 1627098 | -250023 | H | 3 | 35571 | L | 280 | FU | 89021701 | 013100 | 000400 | X04 | G C=3X,B=54 |
| LSKHB | HR 6144 | 33 | 6.5 | 1627481 | -072426 | H | 1 | 15277 | L | | | 89033111 | 112900 | 021000 | G | |
| TTKFW | OPH 120 | 44 | 10.6 | 1628190 | -242332 | L | 1 | 15259 | L | 167 | FO | 89032811 | 115500 | 001500 | 332 | G E=133,C=100,B=40 |
| HSKCB | HD 149038 | 13 | 4.9 | 1630312 | -435628 | H | 3 | 36113 | L | 22628 | FO | 89042614 | 141900 | 000400 | 543 | G E=150,C=242,B=41 |
| HSKCB | HD 149038 | 13 | 4.9 | 1630312 | -435628 | H | 3 | 36118 | L | 22249 | FO | 89042619 | 193600 | 000400 | 543 | G E=178,C=245,B=41 |
| HSKCB | HD 149038 | 13 | 4.9 | 1630312 | -435628 | H | 3 | 36123 | L | 23277 | FO | 89042700 | 003900 | 000400 | 543 | G E=166,C=245,B=41 |
| HSKCB | HD 149038 | 13 | 04.9 | 1630312 | -435628 | H | 3 | 36132 | L | 23008 | FO | 89042709 | 091400 | 000400 | 543 | G E=167,C=235,B=41 |
| HSKCB | HD 149038 | 13 | 04.9 | 1630312 | -435628 | H | 3 | 36136 | L | 23216 | FO | 89042713 | 131000 | 000400 | 543 | G E=157,C=241,B=41 |
| HSKCB | HD 149038 | 13 | 4.9 | 1630312 | -435628 | H | 3 | 36141 | L | 22466 | FO | 89042718 | 182300 | 000400 | 543 | G E=170,C=250,B=44 |
| HSKCB | HD 149038 | 13 | 4.9 | 1630312 | -435628 | H | 3 | 36146 | L | 22710 | FO | 89042723 | 233700 | 000400 | 543 | G E=169,C=245,B=41 |
| HSKCB | HD 149038 | 13 | 4.9 | 1630312 | -435628 | H | 3 | 36149 | L | 21330 | FO | 89042817 | 172500 | 000400 | 543 | G E=162,C=245,B=41 |
| HSKCB | HD 149038 | 13 | 4.9 | 1630312 | -435628 | H | 3 | 36154 | L | 21737 | FO | 89042822 | 221900 | 000400 | 543 | G E=170,C=250,B=42 |
| HSKCB | HD 149038 | 13 | 4.9 | 1630312 | -435628 | H | 3 | 36161 | L | 21386 | FO | 89042917 | 173400 | 000400 | 543 | G E=162,C=250,B=42 |
| HSKCB | HD 149038 | 13 | 4.9 | 1630312 | -435628 | H | 3 | 36166 | L | 22453 | FO | 89042922 | 222800 | 000400 | 543 | G E=176,C=250,B=41 |
| KA018 | HD 149038 | 13 | 05.30 | 1630313 | -435629 | H | 3 | 36103 | L | 21366 | FO | 89042603 | 035644 | 000400 | 500 | U |
| KA018 | HD 149038 | 13 | 05.23 | 1630313 | -435629 | H | 3 | 36127 | L | 22339 | FO | 89042704 | 041951 | 000400 | 500 | U |
| HSKCB | HD 149038 | 13 | 4.9 | 1630319 | -435559 | H | 3 | 36079 | L | 22233 | FO | 89042418 | 183400 | 000400 | 553 | G E=243,C=240,B=41 |
| HSKCB | HD 149038 | 13 | 4.9 | 1630319 | -435559 | H | 3 | 36085 | L | 22232 | FO | 89042500 | 001200 | 000400 | 543 | G E=160,C=248,B=42 |
| HSKCB | HD 149038 | 13 | 4.9 | 1630319 | -435559 | H | 3 | 36093 | L | 21107 | FO | 89042518 | 182300 | 000400 | 543 | G E=158,C=230,B=42 |
| HSKCB | HD 149038 | 13 | 4.9 | 1630319 | -435559 | H | 3 | 36098 | L | 22038 | FO | 89042523 | 231500 | 000400 | 543 | G E=165,C=240,B=42 |
| HSKCB | HD 149038 | 13 | 4.9 | 1630319 | -435559 | H | 3 | 36108 | L | 22454 | FO | 89042609 | 031800 | 000400 | 543 | G E=153,C=244,B=41 |
| PHCAL | HD 149438 | 20 | 2.8 | 1632459 | -280651 | H | 3 | 35620 | L | 1839 | FU | 89022521 | 212200 | 000006 | 402 | G C=182,B=33 |
| PHCAL | HD 149438 | 20 | 2.8 | 1632459 | -280651 | H | 2 | 18308 | L | 1824 | FU | 89042916 | 160200 | 000008 | 402 | G C=180,B=34 |
| KA157 | HD 149427 | 26 | 12.39 | 1633378 | -553624 | L | 3 | 35859 | L | 00189 | SO | 89032604 | 041124 | 012000 | 340 | U B/O |
| KA157 | HD 149427 | 26 | 12.42 | 1633379 | -553625 | L | 1 | 15252 | L | 00183 | SO | 89032606 | 061852 | 005000 | 491 | U B/O |

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| 220 | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LSKHB | UU HER | 41 | 9.0 | 1634122 | +380405 | H | 1 | 15409 | L | 749 | FO | 89042809 | 094800 | 040000 | 309 | G C=225,B=138 |
| HSKCB | HD 149757 | 14 | 2.6 | 1634240 | -102802 | H | 3 | 36086 | L | 2137 | FU | 89042500 | 005300 | 000040 | X43 | G E=162,C=1.5X,B=50 |
| KA018 | HD149757 | 14 | 02.81 | 1634241 | -102803 | H | 3 | 36101 | L | 02094 | FU | 89042602 | 020546 | 000040 | 700 | V |
| HSKCB | HD 149757 | 14 | 2.6 | 1634241 | -102803 | H | 3 | 36080 | L | 2064 | FU | 89042419 | 191500 | 000025 | 533 | G E=125,C=225,B=42 |
| KA018 | HD149757 | 14 | 02.80 | 1634241 | -102803 | H | 3 | 36104 | L | 02103 | FU | 89042604 | 045629 | 000040 | 700 | V |
| HSKCB | HD 149757 | 14 | 2.6 | 1634241 | -102803 | H | 3 | 36082 | L | 2052 | FU | 89042421 | 211700 | 000040 | X44 | G E=168,C=1.5X,B=51 |
| KA018 | HD 149757 | 14 | 02.80 | 1634241 | -102803 | H | 3 | 36106 | L | 02095 | FU | 89042606 | 065951 | 000040 | 700 | V |
| HSKCB | HD 149757 | 14 | 2.6 | 1634241 | -102803 | H | 3 | 36084 | L | 2095 | FU | 89042423 | 232300 | 000040 | X44 | G E=177,C=1.5X,B=51 |
| KA018 | HD 149757 | 14 | 02.77 | 1634241 | -102803 | H | 3 | 36125 | L | 02164 | FU | 89042702 | 023444 | 000040 | 700 | V |
| HSKCB | HD 149757 | 14 | 2.6 | 1634241 | -102803 | H | 3 | 36094 | L | 2077 | FU | 89042519 | 191400 | 000040 | X44 | G E=156,C=1.5X,B=51 |
| KA018 | HD 149757 | 14 | 02.77 | 1634241 | -102803 | H | 3 | 36128 | L | 02158 | FU | 89042705 | 051515 | 000040 | 700 | V |
| HSKCB | HD 149757 | 14 | 2.6 | 1634241 | -102803 | H | 3 | 36096 | L | 2063 | FU | 89042521 | 212200 | 000040 | X44 | G E=198,C=1.5X,B=51 |
| KA018 | HD 149757 | 14 | 02.77 | 1634241 | -102803 | H | 3 | 36130 | L | 02152 | FU | 89042707 | 071250 | 000040 | 700 | V |
| HSKCB | HD 149757 | 14 | 2.6 | 1634241 | -102803 | H | 3 | 36099 | L | 2100 | FU | 89042523 | 235900 | 000040 | X44 | G E=165,C=1.5X,B=51 |
| HSKCB | HD 149757 | 14 | 2.6 | 1634241 | -102803 | H | 3 | 36110 | L | 2120 | FU | 89042611 | 111700 | 000040 | X44 | G E=165,C=2X,B=51 |
| HSKCB | HD 149757 | 14 | 2.6 | 1634241 | -102803 | H | 3 | 36112 | L | 2240 | FU | 89042613 | 133600 | 000040 | X44 | G E=173,C=2X,B=51 |
| HSKCB | HD 149757 | 14 | 2.6 | 1634241 | -102803 | H | 3 | 36115 | L | 2117 | FU | 89042616 | 162400 | 000040 | X44 | G E=180,C=2X,B=54 |
| HSKCB | HD 149757 | 14 | 2.6 | 1634241 | -102803 | H | 3 | 36117 | L | 2117 | FU | 89042618 | 184500 | 000040 | X44 | G E=177,C=1.5X,B=51 |
| HSKCB | HD 149757 | 14 | 2.6 | 1634241 | -102803 | H | 3 | 36120 | L | 2144 | FU | 89042621 | 213600 | 000040 | X44 | G E=173,C=1.5X,B=57 |
| HSKCB | HD 149757 | 14 | 2.6 | 1634241 | -102803 | H | 3 | 36122 | L | 2130 | FU | 89042623 | 235200 | 000040 | X54 | G E=245,C=1.5X,B=52 |
| HSKCB | HD 149757 | 14 | 2.6 | 1634241 | -102803 | H | 3 | 36133 | L | 2180 | FU | 89042710 | 100300 | 000040 | X43 | G E=186,C=1.5X,B=50 |
| HSKCB | HD 149757 | 14 | 2.6 | 1634241 | -102803 | H | 3 | 36135 | L | 2136 | FU | 89042712 | 122300 | 000040 | X43 | G E=184,C=1.5X,B=50 |
| HSKCB | HD 149757 | 14 | 2.6 | 1634241 | -102803 | H | 3 | 36137 | L | 2157 | FU | 89042713 | 135700 | 000040 | X44 | G E=173,C=1.5X,B=55 |
| HSKCB | HD 149757 | 14 | 2.6 | 1634241 | -102803 | H | 3 | 36139 | L | 2155 | FU | 89042716 | 161200 | 000040 | X43 | G E=192,C=1.5X,B=50 |
| HSKCB | HD 149757 | 14 | 2.6 | 1634241 | -102803 | H | 3 | 36142 | L | 2127 | FU | 89042719 | 191600 | 000040 | X44 | G E=184,C=2X,B=52 |
| HSKCB | HD 149757 | 14 | 2.6 | 1634241 | -102803 | H | 3 | 36144 | L | 2128 | FU | 89042721 | 212100 | 000040 | X44 | G E=185,C=1.5X,B=52 |
| HSKCB | HD 149757 | 14 | 2.6 | 1634241 | -102803 | H | 3 | 36147 | L | 2189 | FU | 89042800 | 002300 | 000040 | X34 | G E=153,C=1.5X,B=54 |
| HSKCB | HD 149757 | 14 | 2.6 | 1634241 | -102803 | H | 3 | 36150 | L | 2119 | FU | 89042818 | 182000 | 000040 | X44 | G E=192,C=1.5X,B=52 |
| HSKCB | HD 149757 | 14 | 2.6 | 1634241 | -102803 | H | 3 | 36152 | L | 2089 | FU | 89042820 | 203000 | 000040 | X44 | G E=186,C=1.5X,B=52 |
| HSKCB | HD 149757 | 14 | 2.6 | 1634241 | -102803 | H | 3 | 36155 | L | 2083 | FU | 89042823 | 230900 | 000040 | X44 | G E=196,C=1.5X,B=54 |
| HSKCB | HD 149757 | 14 | 2.6 | 1634241 | -102803 | H | 3 | 36162 | L | 2081 | FU | 89042918 | 181600 | 000040 | X44 | G E=174,C=1.5X,B=51 |
| HSKCB | HD 149757 | 14 | 2.6 | 1634241 | -102803 | H | 3 | 36164 | L | 2115 | FU | 89042920 | 203700 | 000040 | X44 | G E=192,C=1.5X,B=55 |
| HSKCB | HD 149757 | 14 | 2.6 | 1634241 | -102803 | H | 3 | 36167 | L | 2125 | FU | 89042923 | 231500 | 000040 | X44 | G E=189,C=1.5X,B=51 |
| NPKJK | HR 2-182 | 70 | 12.5 | 1649492 | -640934 | L | 3 | 35598 | L | 197 | SO | 89022018 | 184100 | 007000 | XX0 | G E=1.5X,C=1.5X,B=15 |
| LDKSB | HD 152391 | 44 | 6.8 | 1650270 | +000432 | H | 1 | 15047 | L | 4760 | FO | 89021620 | 202100 | 006000 | 343 | G E=187,C=138,B=43 |
| KC183 | HD152751 | 48 | 09.32 | 1652460 | -081516 | L | 1 | 15338 | L | 00729 | FO | 89041101 | 014906 | 004000 | 061 | V DOUBLE EXPOSURE |
| KC183 | HD152751 | 48 | 99.99 | 1652460 | -081516 | L | 3 | 35979 | L | 00000 | | 89041102 | 023752 | 010000 | 050 | V DOUBLE EXPOSURE,PREA |
| KC183 | HD152751 | 48 | 09.31 | 1652460 | -081516 | L | 1 | 15339 | L | 00732 | FO | 89041104 | 042959 | 003900 | 051 | V TRIPLE EXPOSURE |
| KC183 | HD152751 | 48 | 99.99 | 1652460 | -081516 | L | 3 | 35980 | L | 00000 | | 89041105 | 052510 | 010000 | 050 | V DOUBLE EXPOSURE |
| KC183 | HD152751 | 48 | 99.99 | 1652460 | -081516 | L | 3 | 35981 | L | 00000 | | 89041107 | 075731 | 005500 | 050 | V PREAD |
| KC183 | HD 152751 | 48 | 09.31 | 1652460 | -081516 | L | 1 | 15340 | L | 00738 | FO | 89041107 | 071624 | 002800 | 051 | V DOUBLE EXPOSURE |
| KC183 | HD152751 | 48 | 99.99 | 1652460 | -081516 | L | 3 | 35988 | L | 00000 | FO | 89041201 | 013953 | 012000 | 050 | V DOUBLE EXP.2X60 MIN |
| KC183 | HD152751 | 48 | 09.10 | 1652460 | -081516 | L | 1 | 15347 | L | 00000 | FO | 89041203 | 034858 | 003000 | 052 | V 3X10 MIN;RP (6,-213) |
| KC183 | HD 152751 | 48 | 09.14 | 1652460 | -081516 | L | 3 | 35989 | L | 00000 | FO | 89041204 | 043900 | 012000 | 051 | V DOUBLE EXPOSURE 2X60 |
| KC183 | HD152751 | 48 | 09.06 | 1652460 | -081516 | L | 1 | 15348 | L | 00000 | FO | 89041206 | 064914 | 003900 | 252 | V 3X13 MIN;RP(6,-213) |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | EXS | MD | Obs.date | Exptim | mmmmssss | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KC133 | HD152751 | 48 | 09.23 | 1652460 | -081516 | L | 3 | 35990 | L | 00787 | FO | 89041207 | 074916 | 006000 | 250 | V PREAD |
| KQ085 | Q1700+6416 | 85 | 15.00 | 1700404 | +641624 | E | 9 | 02139 | 2 | 00000 | BO | 88111714 | 143000 | 016000 | | V FOR SWP 34760 |
| OD49Y | 1700+641 | 99 | | 1700404 | +641624 | L | 1 | 14471 | S | | | 88111520 | 201400 | 027000 | 04 | G B=53 |
| OD49Y | 1700+641 | 99 | | 1700404 | +641624 | L | 1 | 14471 | L | | | 88111520 | 201400 | 027000 | 04 | G B=53 |
| OD49Y | 1700+641 | 85 | 16.1 | 1700404 | +641624 | L | 3 | 34744 | | | BO | 88111523 | 232400 | 061500 | 338 | G E=118,C=140,B=96 |
| OD49Y | SKY BKGD | 99 | | 1700404 | +641624 | L | 1 | 14481 | L | | | 88111719 | 191600 | 034000 | 07 | G B=84 |
| OD49Y | SKY BKGD | 99 | | 1700404 | +641624 | L | 1 | 14481 | S | | | 88111719 | 191700 | 034000 | 07 | G B=84 |
| OD49Y | 1700+641 | 85 | 16.1 | 1700404 | +641624 | L | 3 | 34760 | L | | BO | 88111723 | 232900 | 062000 | 309 | G C=134,B=108 |
| KQ085 | HS1700+641 | 85 | 16.10 | 1700405 | +641625 | E | 9 | 02138 | 2 | 00000 | BO | 88111515 | 150000 | 004000 | | V |
| NPKJK | H2- 1 | 70 | 13.3 | 1701190 | -335512 | L | 3 | 35597 | L | 169 | SO | 89022016 | 162100 | 009000 | 301 | G C=81,B=25 |
| NPKJK | IC 4637 | 70 | 12.5 | 1701405 | -404902 | L | 3 | 35600 | L | 213 | SO | 89022022 | 224600 | 005000 | 302 | G C=84,B=36 |
| LDKSB | HD 154417 | 41 | 6.0 | 1702440 | +004630 | H | 1 | 15049 | L | 8334 | FO | 89021700 | 000300 | 006000 | X45 | G E=163,C=1.5X,B=61 |
| PHCAL | HD155763 | 25 | 03.43 | 1708381 | +654634 | L | 1 | 14434 | L | 01200 | FU | 88111015 | 155602 | 000000 | 501 | V |
| PHCAL | HD155763 | 25 | 03.44 | 1708381 | +654634 | L | 1 | 14435 | L | 01194 | FU | 88111016 | 162815 | 000000 | 501 | V |
| PHCAL | HD 155763 | 25 | 03.43 | 1708381 | +654634 | L | 1 | 14436 | L | 01197 | FU | 88111017 | 170300 | 000000 | 501 | V |
| PHCAL | HD 155763 | 25 | 03.44 | 1708381 | +654634 | L | 3 | 34720 | L | 01187 | FU | 88111017 | 173444 | 000001 | 600 | V |
| PHCAL | HD155763 | 25 | 03.45 | 1708381 | +654634 | L | 3 | 34721 | L | 01183 | FU | 88111018 | 180924 | 000001 | 600 | V |
| PHCAL | HD 155763 | 25 | 03.44 | 1708381 | +654634 | L | 3 | 34722 | L | 01193 | FU | 88111018 | 184530 | 000001 | 600 | V |
| PHCAL | HD 155763 | 25 | 03.40 | 1708381 | +654634 | L | 1 | 14745 | L | 01229 | FU | 88123109 | 095420 | 00000050 | 501 | V |
| PHCAL | HD 155763 | 25 | 03.42 | 1708381 | +654634 | L | 1 | 14746 | L | 01210 | FU | 88123110 | 102942 | 00000050 | 501 | V |
| PHCAL | HD155763 | 25 | 03.40 | 1708381 | +654634 | L | 1 | 14747 | L | 01231 | FU | 88123110 | 105956 | 00000050 | 501 | V |
| PHCAL | HD 155763 | 25 | 03.41 | 1708381 | +654634 | L | 3 | 35206 | L | 01220 | FU | 88123111 | 111733 | 00000150 | 500 | V |
| PHCAL | HD 155763 | 25 | 03.42 | 1708381 | +654634 | L | 3 | 35207 | L | 01210 | FU | 88123111 | 114357 | 00000150 | 500 | V |
| PHCAL | HD 155763 | 25 | 03.41 | 1708381 | +654634 | L | 3 | 35208 | L | 01226 | FU | 88123112 | 121425 | 00000150 | 500 | V |
| PHCAL | HD155763 | 25 | 03.42 | 1708381 | +654634 | L | 3 | 35209 | L | 01212 | FU | 88123112 | 124500 | 00000150 | 500 | V |
| GHKBS | HD 156359 | 13 | 9.7 | 1716364 | -625205 | H | 3 | 35646 | L | 379 | FO | 89030117 | 170500 | 010500 | 404 | G C=201,B=52 |
| GHKBS | HD 156359 | 13 | 9.7 | 1716364 | -625205 | H | 3 | 35649 | L | 373 | FO | 89030211 | 115500 | 020000 | X05 | G C=2X,B=68 |
| GHKBS | HD 156359 | 13 | 9.7 | 1716364 | -625205 | H | 3 | 35650 | L | 470 | FO | 89030215 | 154900 | 018100 | X05 | G C=2X,B=67 |
| QSKAK | PG 1718+481 | 85 | 15.4 | 1718178 | +480710 | L | 3 | 34766 | L | | BO | 88111820 | 203400 | 035500 | 307 | G C=190,B=89 |
| KA064 | 51 OPH | 23 | 05.19 | 1728217 | -235533 | H | 1 | 15172 | L | 22796 | FO | 89031209 | 091723 | 000400 | 401 | V |
| CSKTA | HD 159181 | 45 | 3.0 | 1729181 | +522015 | L | 3 | 35958 | L | 1412 | FU | 89040800 | 001300 | 004600 | X51 | G E=243,C=2X,B=22 |
| LDKDB | HD 160693 | 44 | 8.4 | 1737556 | +371314 | L | 1 | 14969 | L | 1026 | FO | 89020418 | 182400 | 001500 | 503 | G C=250,B=41 |
| HFKJD | LSS 4357 | 27 | 12.6 | 1741280 | -193649 | L | 3 | 36074 | L | 109 | SO | 89042313 | 135300 | 022500 | 334 | G E=154,C=150,B=57 |
| HFKJD | LSS 4357 | 27 | 12.6 | 1741280 | -193649 | L | 1 | 15399 | L | 110 | SO | 89042318 | 183800 | 007700 | 503 | G C=225,B=45 |
| KA157 | HEN 1475 | 26 | 13.19 | 1742139 | -175536 | L | 3 | 35860 | L | 00092 | SO | 89032608 | 083228 | 003500 | 110 | V B/O |
| GHKBS | HD 163522 | 23 | 8.43 | 1754598 | -422854 | H | 3 | 35645 | L | 1207 | FO | 89030111 | 114500 | 024000 | X07 | G C=2X,B=81 |
| GHKBS | HD 163522 | 23 | 8.43 | 1754598 | -422854 | H | 1 | 15120 | L | 1197 | FO | 89030115 | 155500 | 004000 | 503 | G C=230,B=49 |
| BEKGP | HD 164284 | 26 | 4.6 | 1757471 | +042211 | H | 3 | 35839 | L | 24034 | FO | 89032202 | 021400 | 000210 | 501 | G C=214,B=24 |
| BEKGP | HD 164284 | 26 | 4.6 | 1757471 | +042211 | L | 3 | 35840 | L | 24276 | FO | 89032202 | 024700 | 000001 | 400 | G C=128,B=16 |
| PEKCG | HD164284 | 26 | 05.04 | 1757480 | +042130 | H | 3 | 35920 | L | 00285 | FU | 89040304 | 045826 | 000210 | 500 | V |
| KA063 | PK1-3 2 | 70 | 11.17 | 1758185 | -291930 | L | 3 | 36070 | L | 00140 | FO | 89042302 | 020046 | 001500 | 300 | |
| KA063 | PK 1-3 2 | 70 | 11.15 | 1758185 | -291930 | L | 1 | 15396 | L | 00142 | FO | 89042302 | 022226 | 001500 | 401 | V |
| KA063 | PK 1-3 2 | 70 | 11.19 | 1758186 | -291931 | L | 3 | 36071 | L | 00137 | FO | 89042303 | 030046 | 004500 | 300 | V |
| NPKLA | IC 4673 | 70 | 14.0 | 1800104 | -270612 | L | 3 | 35691 | L | | BO | 89030617 | 175200 | 006000 | 02 | G B=33 |
| LA243 | NGC6528 | 83 | 12.00 | 1801370 | -300336 | L | 3 | 36054 | L | 00066 | SO | 89042101 | 015002 | 041700 | 112 | V |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FRS | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NPKRD | NGC 6537 | 70 | 12.5 | 1802153 | -195050 | L | 1 | 15324 | L | 121 | SO | 89040809 | 095700 | 024000 | 337 | G E=162,C=122,B=86 |
| NPKRD | NGC 6537 | 70 | 12.5 | 1802153 | -195050 | L | 3 | 35961 | | | | 89040810 | 100000 | 023500 | 03 | G B=43 |
| NPKRD | NGC 6537 | 70 | 12.5 | 1802153 | -195050 | L | 3 | 35967 | L | 120 | SO | 89040909 | 094700 | 022000 | 05 | G B=61 |
| KC055 | HD 165341 | 46 | 04.48 | 1802563 | +022952 | H | 1 | 15208 | L | 00469 | FU | 89031703 | 033605 | 003500 | 662 | U |
| HEKJD | LS4 +6D2 | 27 | 12.2 | 1804291 | +062121 | L | 1 | 15400 | L | 154 | SO | 89042320 | 205700 | 000600 | 402 | G C=150,B=32 |
| HEKJD | LS4 +6D2 | 27 | 12.2 | 1804291 | +062121 | L | 3 | 36075 | L | 158 | SO | 89042321 | 210700 | 000500 | 300 | G C=98,B=17 |
| HEKJD | LS4 +6D2 | 27 | 12.2 | 1804291 | +062121 | L | 1 | 15401 | L | 156 | SO | 89042321 | 215900 | 002000 | X02 | G C=1.5X,B=36 |
| HEKJD | LS4 +6D2 | 27 | 12.2 | 1804291 | +062121 | L | 3 | 36076 | L | 160 | SO | 89042322 | 222700 | 001000 | 400 | G C=160,B=17 |
| NPKLA | NGC 6565 | 70 | 12.8 | 1808430 | -281127 | L | 3 | 35690 | L | 227 | SO | 89030612 | 121600 | 015000 | 3X3 | G E=2X,C=98,B=44 |
| NPKLA | NGC 6565 | 70 | 12.8 | 1808430 | -281127 | L | 1 | 15144 | L | 217 | SO | 89030614 | 145400 | 015000 | 449 | G E=218,C=210,B=110 |
| KI145 | AS296 | 57 | 11.08 | 1812328 | -001953 | L | 1 | 15123 | L | 00151 | FO | 89030205 | 054105 | 004000 | 351 | U |
| KI145 | AS296 | 57 | 11.07 | 1812329 | -001953 | L | 3 | 35647 | L | 00153 | FO | 89030206 | 062847 | 006000 | 130 | U |
| KI145 | AS296 | 57 | 10.67 | 1812330 | -001953 | L | 3 | 34725 | L | 00231 | FO | 88111113 | 134456 | 004000 | 221 | U |
| KI145 | AS296 | 57 | 10.61 | 1812330 | -001953 | L | 1 | 14446 | L | 00219 | FO | 88111113 | 130633 | 003000 | 352 | U |
| KA063 | PK 4-4 2 | 70 | 12.50 | 1813095 | -270535 | L | 1 | 15397 | L | 00000 | BO | 89042304 | 041501 | 003000 | 301 | U |
| KA063 | PK 4-4 2 | 70 | 12.50 | 1813095 | -270535 | L | 3 | 36072 | L | 00000 | BO | 89042304 | 045212 | 003000 | 100 | U |
| AMKJH | AM HER | 59 | 12.5 | 1814585 | +495054 | L | 3 | 34674 | L | 106 | SO | 88110407 | 075400 | 001230 | 3X3 | G E=1.5X,C=80,B=50 |
| AMKJH | AM HER | 59 | 12.5 | 1814585 | +495054 | L | 1 | 14379 | L | 90 | SO | 88110408 | 081500 | 002200 | 3X9 | G E=1.5X,C=208,B=114 |
| AMKJH | AM HER | 59 | 12.5 | 1814585 | +495054 | L | 3 | 34675 | L | 91 | SO | 88110408 | 084900 | 003500 | 3X5 | G E=3.5X,C=132,B=64 |
| AMKJH | AM HER | 59 | 12.5 | 1814585 | +495054 | L | 1 | 14380 | L | 83 | SO | 88110409 | 093300 | 003500 | 5X4 | G E=3X,C=224,B=51 |
| AMKJH | AM HER | 59 | 12.5 | 1814585 | +495054 | L | 3 | 34676 | L | 69 | SO | 88110410 | 101400 | 003500 | 3X2 | G E=3.5X,C=96,B=31 |
| AMKJH | AM HER | 59 | 13.0 | 1814585 | +495054 | L | 3 | 36010 | L | 86 | SO | 89041522 | 222300 | 001500 | 351 | G E=226,C=56,B=24 |
| AMKJH | AM HER | 59 | 13.0 | 1814585 | +495054 | L | 1 | 15354 | L | 85 | SO | 89041522 | 225500 | 001500 | 352 | G E=191,C=115,B=37 |
| AMKJH | AM HER | 59 | 13.0 | 1814585 | +495054 | L | 3 | 36011 | L | 50 | SO | 89041523 | 233400 | 001500 | 351 | G E=195,C=55,B=22 |
| AMKJH | AM HER | 59 | 13.0 | 1814585 | +495054 | L | 1 | 15355 | L | 38 | SO | 89041600 | 001000 | 001500 | 352 | G E=187,C=123,B=33 |
| PSKJH | K1-16 | 70 | 15.0 | 1821368 | +642018 | L | 3 | 36000 | S | | | 89041318 | 183200 | 003500 | | G |
| PSKJH | K1-16 | 70 | 15.0 | 1821368 | +642018 | L | 3 | 36000 | S | | | 89041318 | 183300 | 003500 | 400 | G C=126,B=18 |
| PSKJH | K1-16 | 70 | 15.0 | 1821368 | +642018 | L | 3 | 36014 | S | | BO | 89041618 | 181600 | 005000 | 500 | G C=175,B=18 |
| PSKJH | K1-16 | 70 | 15.0 | 1821368 | +642018 | L | 3 | 36014 | S | | BO | 89041618 | 181700 | 005000 | 500 | G C=175,B=18 |
| CD53Y | X 1821+643 | 85 | 14.3 | 1821416 | +641900 | L | 3 | 35516 | L | 26 | SO | 89020904 | 044300 | 027500 | 4X4 | G E=2X,C=197,B=51 |
| CD53Y | X 1821+643 | 85 | 14.3 | 1821416 | +641900 | L | 1 | 14996 | L | 29 | SO | 89020909 | 092600 | 009500 | 403 | G C=180,B=44 |
| LDKDB | HD 170153 | 41 | 3.6 | 1821575 | +724242 | L | 1 | 14540 | L | 729 | FU | 88112710 | 101000 | 000013 | 502 | G C=217,B=34 |
| LDKDB | HD 170153 | 41 | 3.6 | 1821575 | +724242 | L | 1 | 15016 | L | 700 | FU | 89021122 | 220400 | 000013 | 502 | G C=223,B=33 |
| NPKLA | NGC 6629 | 71 | 13.0 | 1822400 | -231357 | L | 3 | 35771 | L | | BO | 89031416 | 160800 | 011500 | 442 | G E=158,C=160,B=32 |
| NPKLA | NGC 6629 | 71 | 13.0 | 1822400 | -231357 | L | 1 | 15199 | L | | BO | 89031418 | 180900 | 004000 | 402 | G C=182,B=38 |
| NPKRD | NGC 6629 | 70 | 11.8 | 1822411 | -231344 | L | 1 | 15329 | L | 288 | SO | 89040913 | 135100 | 004000 | 404 | G C=185,B=53 |
| NPKRD | NGC 6629 | 70 | 11.8 | 1822411 | -231344 | L | 3 | 35968 | L | 289 | SO | 89040914 | 143900 | 013300 | 444 | G E=203,C=200,B=59 |
| NPKLA | IC 4732 | 71 | 14.6 | 1830532 | -224103 | L | 3 | 35769 | L | | BO | 89031411 | 114800 | 002000 | 220 | G E=35,C=30,B=16 |
| NPKLA | IC 4732 | 71 | 14.6 | 1830532 | -224103 | L | 1 | 15198 | L | | BO | 89031412 | 122000 | 008000 | 333 | G E=131,C=94,B=46 |
| NPKLA | IC 4732 | 71 | 14.6 | 1830532 | -224103 | L | 3 | 35770 | L | | BO | 89031413 | 134700 | 009000 | 331 | G E=74,C=50,B=26 |
| KQ085 | 3C382 | 84 | 15.00 | 1833120 | +323917 | L | 3 | 34750 | L | 00000 | BO | 88111611 | 115729 | 041000 | 343 | U |
| KQ085 | 3C382 | 86 | 14.00 | 1833120 | +323918 | L | 3 | 35799 | L | 00000 | BO | 89031707 | 075033 | 018000 | 341 | U |
| C3KRP | HD 172522 | 32 | 6.92 | 1837590 | +084916 | L | 3 | 35807 | L | 4076 | FO | 89031802 | 023300 | 000600 | 400 | G C=102,B=18 |
| C3KRP | HD 172522 | 32 | 6.92 | 1837590 | +084916 | L | 3 | 35815 | L | 3965 | FO | 89031919 | 193300 | 000800 | 500 | G C=210,B=18 |
| C3KRP | HD 172522 | 32 | 6.92 | 1837590 | +084916 | L | 1 | 15221 | L | 3974 | FO | 89031919 | 194500 | 000240 | X02 | G C=3X,B=40 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptm | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CBKRP | HD 172522 | 32 | 6.92 | 1837590 | +084916 | L | 1 | 15221 | S | | | 89031920 | 200800 | 002000 | G | |
| CBKRP | HD 172522 | 32 | 6.92 | 1837590 | +084916 | L | 3 | 35816 | L | 3937 | FO | 89031920 | 204400 | 001600 | X00 G | C=2X,B=19 |
| EBKRP | HD 172522 | 32 | 6.9 | 1837590 | +084916 | L | 1 | 15236 | L | 3982 | FO | 89032201 | 011900 | 000110 | 502 G | C=192,B=34 |
| HEKJD | LSS 5121 | 27 | 13.3 | 1840207 | -183450 | L | 3 | 36073 | L | 58 | SO | 89042310 | 103200 | 013100 | 302 G | C=106,B=35 |
| HEKJD | LSS 5121 | 27 | 13.3 | 1840207 | -183450 | L | 1 | 15402 | L | 61 | SO | 89042323 | 232300 | 008500 | 503 G | C=215,B=45 |
| EBKRP | V356 SGR | 66 | 7.2 | 1844544 | -201949 | H | 3 | 35772 | L | 3492 | FO | 89031419 | 191800 | 007000 | 503 G | C=210,B=43 |
| EBKRP | V356 SGR | 66 | 7.2 | 1844544 | -201949 | H | 3 | 35773 | L | 3161 | FO | 89031421 | 210800 | 009000 | 503 G | C=212,B=45 |
| EBKRP | V356 SGR | 66 | 7.2 | 1844544 | -201949 | H | 3 | 35774 | L | 2745 | FO | 89031423 | 231300 | 012500 | 433 G | E=131,C=160,B=48 |
| EBKRP | V356 SGR | 66 | 7.2 | 1844544 | -201949 | L | 3 | 35775 | L | 2259 | FO | 89031501 | 015500 | 000400 | 341 G | E=134,C=120,B=22 |
| EBKRP | V356 SGR | 66 | 7.2 | 1844544 | -201949 | L | 9 | 02172 | 2 | | | 89031502 | 022900 | 000000 | G | |
| EBKRP | V356 SGR | 66 | 7.0 | 1844544 | -201949 | | 3 | 35776 | L | 2288 | FO | 89031502 | 024600 | 054000 | X48 G | E=220,C=1.5X,B=98 |
| EBKRP | V356 SGR | 66 | 7.0 | 1844544 | -201949 | L | 3 | 35777 | L | 2196 | FO | 89031512 | 122000 | 000800 | 550 G | E=220,C=195,B=16 |
| EBKRP | V356 SGR | 66 | 7.0 | 1844544 | -201949 | L | 3 | 35778 | L | 2229 | FO | 89031512 | 125700 | 000600 | 550 G | E=204,C=180,B=16 |
| EBKRP | V356 SGR | 66 | 7.0 | 1844544 | -201949 | H | 3 | 35779 | L | 2336 | FO | 89031513 | 133800 | 015000 | 444 G | E=174,C=210,B=60 |
| EBKRP | V356 SGR | 66 | 7.0 | 1844544 | -201949 | H | 3 | 35780 | L | 3119 | FO | 89031516 | 164400 | 009000 | 503 G | C=224,B=50 |
| EBKRP | V356 SGR | 66 | 7.0 | 1844544 | -201949 | L | 3 | 35781 | L | 3421 | FO | 89031518 | 184500 | 000036 | 500 G | C=170,B=16 |
| WDKJH | LANN 18 | 37 | 12.9 | 1845050 | +015406 | H | 3 | 34660 | L | 86 | SO | 88110120 | 203400 | 037500 | 307 G | C=176,B=85 |
| KI155 | HD174237 | 26 | 06.31 | 1845360 | +525557 | H | 3 | 35031 | L | 10283 | FO | 88121510 | 101037 | 000500 | 400 U | |
| KI155 | HD174237 | 26 | 06.22 | 1845360 | +525557 | H | 3 | 35032 | L | 11031 | FO | 88121510 | 104505 | 000500 | 400 U | |
| KI155 | HD 174237 | 26 | 06.21 | 1845360 | +525557 | H | 3 | 35033 | L | 11105 | FO | 88121511 | 111859 | 000500 | 401 U | |
| KI155 | HD174237 | 26 | 06.25 | 1845360 | +525557 | H | 3 | 35034 | L | 10799 | FO | 88121512 | 120847 | 000500 | 400 U | |
| KI155 | HD174237 | 26 | 06.22 | 1845360 | +525557 | H | 3 | 35035 | L | 10994 | FO | 88121512 | 124321 | 000500 | 401 U | |
| KI155 | HD174237 | 26 | 06.27 | 1845360 | +525557 | H | 3 | 35036 | L | 10615 | FO | 88121513 | 131810 | 000500 | 401 U | |
| KI155 | HD174237 | 26 | 06.27 | 1845360 | +525557 | H | 3 | 35037 | L | 10581 | FO | 88121513 | 135139 | 000500 | 401 U | |
| KI155 | HD174237 | 26 | 06.27 | 1845360 | +525557 | H | 3 | 35038 | L | 10551 | FO | 88121514 | 143147 | 000500 | 401 U | |
| KI155 | HD174237 | 26 | 06.29 | 1845360 | +525557 | H | 3 | 35039 | L | 10464 | FO | 88121515 | 151126 | 000500 | 401 U | |
| KI155 | HD174237 | 26 | 06.29 | 1845360 | +525557 | H | 3 | 35040 | L | 10396 | FO | 88121515 | 154511 | 000500 | 401 U | |
| KI155 | HD174237 | 26 | 06.28 | 1845360 | +525557 | H | 3 | 35041 | L | 10533 | FO | 88121516 | 161913 | 000500 | 401 U | |
| KQ085 | 3C 390.3 | 86 | 99.99 | 1845378 | +794305 | E | 9 | 02174 | L | 00000 | | 89032205 | 055100 | 004000 | U | FOR SWP 35841 |
| KQ085 | 3C 390.3 | 86 | 15.00 | 1845378 | +794305 | L | 3 | 35841 | L | 00000 | BO | 89032206 | 061117 | 027500 | 341 U | |
| SJKDS | JUPITER | 03 | -2.3 | 1848138 | +331812 | L | 3 | 35704 | L | | | 89030721 | 214100 | 001500 | ??? G | E=50X,C=100X,B=155 |
| SJKDS | JUPITER | 03 | -2.3 | 1848138 | +331812 | L | 3 | 35704 | S | | | 89030721 | 214200 | 001500 | ??? G | E=50X,C=100X,B=155 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35692 | L | 628 | FU | 89030700 | 002100 | 000050 | 541 G | E=162,C=215,B=30 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | H | 1 | 15145 | L | 621 | FU | 89030700 | 002600 | 000050 | 453 G | E=224,C=170,B=45 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35693 | L | 597 | FU | 89030701 | 012500 | 000110 | X52 G | E=200,C=1.5X,B=32 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | L | 3 | 35694 | L | 59 | FU | 89030701 | 015700 | 000001 | 431 G | E=109,C=128,B=24 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | L | 3 | 35694 | S | 584 | FU | 89030702 | 020200 | 000001 | 331 G | E=82,C=100,B=24 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | L | 1 | 15146 | L | 586 | | 89030702 | 020700 | 000000 | 332 G | E=133,C=97,B=37 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | L | 1 | 15146 | S | 583 | | 89030702 | 021200 | 000005 | X02 G | =3X,C=3X,B=37 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35705 | L | | | 89030800 | 003300 | 000104 | G | |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | H | 1 | 15147 | L | 421 | FU | 89030800 | 003800 | 000100 | 4X3 G | E=1.5X,C=183,B=48 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35706 | L | 440 | | 89030801 | 011100 | 000120 | XX2 G | E=1.5X,C=1.5X,B=34 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | L | 3 | 35707 | L | | | 89030802 | 020700 | 000001 | G | |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | L | 3 | 35707 | S | 412 | FU | 89030802 | 020800 | 000001 | 450 G | E=183,C=125,B=16 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | L | 1 | 15148 | L | 411 | FU | 89030802 | 021600 | 000001 | X02 G | C=3X,B=36 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | B | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | L | 1 | 15148 | S | 411 | FU | 89030802 | 022000 | 000001 | X02 G C=3X,B=33 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35720 | L | 679 | FU | 89030900 | 004500 | 000030 | 431 G E=107,C=150,B=25 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | H | 1 | 15155 | L | 669 | FU | 89030900 | 004900 | 000030 | 433 G E=64,C=160,B=41 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35721 | L | 680 | FU | 89030901 | 011700 | 000120 | XX2 G E=3X,C=1.5X,B=34 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | L | 3 | 35722 | L | | | 89030902 | 021100 | 000002 | G |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | L | 3 | 35722 | S | | | 89030902 | 021600 | 000002 | G |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | L | 1 | 15156 | L | 689 | FU | 89030902 | 022100 | 000001 | X02 G C=3X,B=31 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | L | 1 | 15156 | S | 689 | FU | 89030902 | 022500 | 000000 | X02 G C=3X,B=31 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35757 | L | 804 | FU | 89031300 | 000400 | 000050 | 552 G E=220,C=207,B=32 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | H | 1 | 15177 | L | 819 | FU | 89031300 | 000900 | 000050 | 533 G E=67,C=225,B=41 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35758 | L | 802 | FU | 89031300 | 004000 | 000125 | XX2 G E=2X,C=2X,B=39 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | L | 1 | 15178 | L | 801 | FU | 89031301 | 014200 | 000001 | X02 G C=3X,B=32 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | L | 1 | 15178 | S | 801 | FU | 89031301 | 014600 | 000000 | X02 G C=3X,B=32 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | L | 3 | 35759 | L | 811 | FU | 89031301 | 015700 | 000002 | X51 G E=212,C=1.5X,B=27 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | L | 3 | 35759 | S | 811 | FU | 89031302 | 020300 | 000002 | X51 G E=212,C=1.5X,B=27 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35760 | L | 839 | FU | 89031302 | 023300 | 000300 | XX4 G E=1.5X,C=3X,B=52 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35762 | L | 674 | FU | 89031323 | 235300 | 000055 | 542 G E=160,C=222,B=32 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | H | 1 | 15193 | L | 670 | FU | 89031323 | 235700 | 000050 | 433 G E=65,C=191,B=41 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35763 | L | 675 | FU | 89031400 | 002700 | 000130 | XX2 G E=2X,C=2X,B=40 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | L | 1 | 15194 | L | | | 89031401 | 013900 | 000001 | G |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | L | 1 | 15194 | S | 665 | FU | 89031401 | 014300 | 000003 | X02 G C=3X,B=32 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | L | 3 | 35764 | L | 668 | FU | 89031401 | 014800 | 000002 | X51 G E=228,C=1.5X,B=28 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | L | 3 | 35764 | S | 668 | FU | 89031401 | 015300 | 000002 | X51 G E=228,C=1.5X,B=28 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35765 | L | 687 | FU | 89031402 | 022200 | 000300 | XX3 G E=2X,C=3X,B=41 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35784 | L | 832 | FU | 89031523 | 235200 | 000055 | 552 G E=242,C=205,B=36 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35785 | L | 835 | FU | 89031600 | 002500 | 000130 | XX2 G E=1.5X,C=1.5X,B=38 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | H | 1 | 15200 | L | 835 | FU | 89031600 | 003400 | 000050 | 5X3 G E=1.5X,C=221,B=43 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | L | 3 | 35786 | L | 852 | FU | 89031601 | 012900 | 000002 | X00 G C=1.5X,B=17 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | L | 3 | 35786 | S | 852 | FU | 89031601 | 013300 | 000002 | X00 G C=1.5X,B=17 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | L | 1 | 15201 | L | 848 | FU | 89031601 | 013900 | 000001 | X02 G C=2X,B=32 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | L | 1 | 15201 | S | 848 | FU | 89031601 | 014300 | 000001 | X02 G C=2X,B=32 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35787 | L | 860 | FU | 89031602 | 022700 | 000300 | XX4 G E=3X,C=3X,B=60( |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | H | 1 | 15206 | L | 954 | FU | 89031623 | 235600 | 000045 | 503 G C=223,B=42 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35794 | L | 942 | FU | 89031700 | 000100 | 000055 | 5X2 G E=1.5X,C=214,B=31 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35795 | L | 946 | FU | 89031700 | 003300 | 000120 | XX2 G E=1.5X,C=1.5X,B=40 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | L | 3 | 35796 | L | 953 | FU | 89031701 | 012800 | 000002 | X00 G C=1.5X,B=18 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | L | 3 | 35796 | S | 953 | FU | 89031701 | 013300 | 000002 | X00 G C=1.5X,B=18 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | L | 1 | 15207 | L | 973 | FU | 89031701 | 013800 | 000001 | ?02 G C=2,B=35 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | L | 1 | 15207 | S | 973 | FU | 89031701 | 014300 | 000001 | ?02 G C=2,B=35 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35797 | L | 953 | FU | 89031702 | 023000 | 000300 | X03 G C=3X,B=45 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35803 | L | 951 | FU | 89031723 | 231700 | 000050 | 552 G E=246,C=210,B=33 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | H | 1 | 15213 | L | 951 | FU | 89031723 | 232200 | 000045 | 5X3 G E=1.5X,C=232,B=44 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35804 | L | 950 | FU | 89031723 | 235100 | 000120 | XX2 G E=1.5X,C=1.5X,B=40 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | L | 3 | 35805 | L | 960 | FU | 89031800 | 004700 | 000002 | X50 G E=221,C=1.5X,B=16 |
| CBKRP | BET | LYR | 66 | 3.9 | 1848139 | +331813 | L | 3 | 35805 | S | 960 | FU | 89031800 | 005100 | 000002 | X50 G E=221,C=1.5X,B=16 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | L | 1 | 15214 | L | 959 | FU | 89031800 | 005800 | 000001 | X02 | G C=2X,B=34 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | L | 1 | 15214 | S | 959 | FU | 89031801 | 010300 | 000001 | X02 | G C=2X,B=34 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35806 | L | | | 89031801 | 014700 | 000230 | | G |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35810 | L | 879 | FU | 89031823 | 234900 | 000050 | 452 | G E=220,C=172,B=31 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | H | 1 | 15218 | L | 863 | FU | 89031823 | 235700 | 000050 | 553 | G E=224,C=220,B=42 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35811 | L | 854 | FU | 89031900 | 002800 | 000130 | XX2 | G E=1.5X,C=1.5X,B=38 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | L | 3 | 35812 | L | 846 | FU | 89031901 | 013500 | 000001 | 540 | G E=168,C=230,B=20 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | L | 3 | 35812 | S | 846 | FU | 89031901 | 014000 | 000001 | 540 | G E=168,C=230,B=20 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | L | 1 | 15219 | L | 851 | FU | 89031901 | 014500 | 000001 | X02 | G C=3X,B=38 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | L | 1 | 15219 | S | 851 | FU | 89031901 | 015000 | 000001 | X02 | G C=3X,B=38 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35813 | L | | | 89031902 | 024000 | 000300 | XX4 | G E=3X,C=3X,B=55 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35818 | L | | | 89031923 | 235900 | 000055 | | G |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | H | 1 | 15223 | L | 574 | FU | 89032000 | 000400 | 000055 | 452 | G E=237,C=175,B=40 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35819 | L | 557 | FU | 89032001 | 010100 | 000130 | XX2 | G E=2X,C=2X,B=36 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | L | 1 | 15224 | L | 553 | FU | 89032001 | 010700 | 000001 | 402 | G C=170,B=35 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | L | 1 | 15224 | L | 553 | FU | 89032001 | 011200 | 000001 | 402 | G C=170,B=35 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | L | 3 | 35820 | L | 537 | FU | 89032001 | 015600 | 000002 | 550 | G E=213,C=210,B=18 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | L | 3 | 35820 | L | 537 | FU | 89032002 | 020300 | 000002 | 550 | G E=213,C=210,B=18 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35821 | L | | | 89032002 | 023900 | 000300 | | G |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35828 | L | 421 | FU | 89032023 | 234800 | 000055 | 551 | G E=241,C=205,B=25 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | H | 1 | 15230 | L | 424 | FU | 89032023 | 235400 | 000050 | 453 | G E=240,C=150,B=41 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35829 | L | 420 | FU | 89032100 | 005000 | 000130 | XX2 | G E=2X,C=2X,B=35 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | L | 3 | 35830 | L | 426 | FU | 89032101 | 012100 | 000002 | 550 | G E=207,C=220,B=19 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | L | 3 | 35830 | L | 426 | FU | 89032101 | 012200 | 000002 | 550 | G E=207,C=220,B=19 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | L | 1 | 15231 | L | 428 | FU | 89032101 | 013100 | 000000 | 332 | G E=109,C=90,B=32 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | L | 1 | 15231 | L | 428 | FU | 89032101 | 013200 | 000000 | 332 | G E=109,C=90,B=32 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35831 | L | 428 | FU | 89032102 | 023000 | 000300 | XX3 | G E=3X,C=3X,B=41 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35836 | L | 695 | FU | 89032122 | 222500 | 000055 | 450 | G E=244,C=141,B=16 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | H | 3 | 35837 | L | 654 | FU | 89032122 | 225700 | 000130 | 4X2 | G E=1.5X,C=173,B=33 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | H | 1 | 15234 | L | 657 | FU | 89032123 | 230300 | 000050 | 453 | G E=242,C=193,B=43 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | L | 3 | 35838 | L | 665 | FU | 89032123 | 235900 | 000002 | 450 | G E=238,C=146,B=17 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | L | 3 | 35838 | S | 665 | FU | 89032124 | 240000 | 000003 | 450 | G E=251,C=125,B=17 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | L | 1 | 15235 | L | 677 | FU | 89032200 | 000900 | 000001 | 450 | G E=233,C=162,B=19 |
| CBKRP | BET LYR | 66 | 3.9 | 1848139 | +331813 | L | 1 | 15235 | S | | | 89032200 | 001400 | 000003 | | G |
| SSKDS | SATURN | 03 | 0.6 | 1851378 | -221409 | L | 3 | 35742 | L | | FU | 89031111 | 114000 | 003000 | X30 | G E=85,C=1.5XB=16 |
| SSKDS | SATURN | 03 | 0.6 | 1851378 | -221409 | L | 3 | 35742 | L | | FU | 89031111 | 114100 | 003000 | X30 | G E=85,C=1.5XB=16 |
| SSKDS | SATURN | 03 | 0.6 | 1851378 | -221409 | L | 3 | 35743 | L | | FU | 89031112 | 124400 | 007500 | X41 | G E=163,C=5X,B=24 |
| SSKDS | SATURN | 03 | 0.6 | 1851378 | -221409 | L | 3 | 35743 | L | | FU | 89031112 | 124500 | 007500 | X41 | G E=163,C=5X,B=24 |
| SSKDS | SATURN | 03 | 0.6 | 1851378 | -221409 | L | 3 | 35744 | L | | FU | 89031114 | 144900 | 013000 | X?2 | G E=24,C=9X,B=37 |
| SSKDS | SATURN | 03 | 0.6 | 1851378 | -221409 | L | 3 | 35744 | L | | FU | 89031114 | 145000 | 013000 | X?2 | G E=24,C=9X,B=37 |
| SSKDS | SATURN | 03 | 0.6 | 1851378 | -221409 | L | 3 | 35745 | L | | FU | 89031117 | 173800 | 012000 | ?43 | G E=150,C=10X,B=41 |
| SSKDS | SATURN | 03 | 0.6 | 1851378 | -221409 | L | 3 | 35745 | L | | FU | 89031117 | 173900 | 012000 | ?43 | G E=150,C=10X,B=41 |
| SSKDS | SKY | 07 | | 1851378 | -221409 | L | 3 | 35746 | L | | | 89031120 | 201600 | 006000 | 41 | G E=174,B=27 |
| SSKDS | SKY | 07 | | 1851378 | -221409 | L | 3 | 35746 | L | | | 89031120 | 201700 | 006000 | 41 | G E=174,B=27 |
| SSKDS | SATURN | 03 | 0.2 | 1851378 | -221409 | L | 3 | 35747 | L | | | 89031121 | 215900 | 005000 | X54 | G E=232,C=4X,B=56 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | HD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SSKDS | SATURN | 03 | 0.2 | 1851378 | -221409 | L | 3 | 35747 | L | | | 89031121 | 216000 | 005000 | X54 | G E=232,C=4X,B=56 |
| SSKDS | SATURN | 03 | 0.2 | 1851378 | -221409 | L | 3 | 35748 | L | | | 89031123 | 232000 | 003500 | X52 | G E=217,C=4X,B=38 |
| SSKDS | SATURN | 03 | 0.2 | 1851378 | -221409 | L | 3 | 35748 | L | | | 89031123 | 232100 | 003500 | X52 | G E=217,C=4X,B=38 |
| SSKDS | SATURN | 03 | 0.2 | 1851378 | -221409 | L | 3 | 35749 | L | | | 89031200 | 002500 | 003000 | X41 | G E=174,C=3X,B=24 |
| SSKDS | SATURN | 03 | 0.2 | 1851378 | -221409 | L | 3 | 35749 | L | | | 89031200 | 002600 | 003000 | X41 | G E=174,C=3X,B=24 |
| SSKDS | SKY | 07 | | 1851378 | -221409 | L | 3 | 35750 | L | | | 89031201 | 012700 | 004500 | 40 | G E=151,B=13 |
| SSKDS | SKY | 07 | | 1851378 | -221409 | L | 3 | 35750 | L | | | 89031201 | 012800 | 004500 | 40 | G E=151,B=13 |
| SPKHM | SATURN | 03 | 0.2 | 1854394 | -220959 | L | 3 | 35844 | L | | | 89032319 | 195900 | 015000 | X01 | G C=5X,B=28 |
| SPKHM | SATURN | 03 | 0.2 | 1854394 | -220959 | L | 3 | 35845 | L | | | 89032323 | 230500 | 003000 | X50 | G E=207,C=1.5X,B=18 |
| SPKHM | SATURN | 03 | 0.2 | 1854394 | -220959 | L | 3 | 35846 | L | | | 89032400 | 000800 | 006000 | X50 | G E=220,C=2X,B=19 |
| SPKHM | SATURN | 03 | 0.2 | 1854394 | -220959 | L | 3 | 35847 | L | | | 89032401 | 014000 | 006000 | X50 | G E=208,C=2X,B=20 |
| SAKTS | SATURN | 03 | 0.5 | 1856397 | -220724 | L | 3 | 35932 | L | | | 89040418 | 185600 | 009000 | X07 | G C=4X,B=83 |
| SAKTS | SATURN | 03 | 0.5 | 1856397 | -220724 | L | 3 | 35932 | L | | | 89040418 | 185700 | 009000 | X07 | G C=4X,B=83 |
| SAKTS | SATURN | 03 | 0.5 | 1856397 | -220724 | L | 3 | 35933 | L | | | 89040421 | 211200 | 004500 | | G |
| SAKTS | SATURN | 03 | 0.5 | 1856397 | -220724 | L | 3 | 35933 | L | | | 89040421 | 211300 | 004500 | X09 | G C=2X,B=119 |
| SAKTS | SATURN | 03 | 0.5 | 1856397 | -220724 | L | 3 | 35934 | L | | | 89040422 | 222800 | 004500 | | G |
| SAKTS | SATURN | 03 | 0.5 | 1856397 | -220724 | L | 3 | 35934 | L | | | 89040422 | 222900 | 004500 | X06 | G C=4X,B=72 |
| SAKTS | SATURN | 03 | 0.5 | 1856397 | -220724 | L | 3 | 35935 | L | | | 89040423 | 234200 | 004500 | | G |
| SAKTS | SATURN | 03 | 0.5 | 1856397 | -220724 | L | 3 | 35935 | L | | | 89040423 | 234300 | 004500 | X01 | G C=3X,B=24 |
| SAKTS | SATURN | 03 | 0.5 | 1857284 | -220622 | L | 3 | 35992 | L | | | 89041221 | 213200 | 012000 | | G |
| SAKTS | SATURN | 03 | 0.5 | 1857284 | -220622 | L | 3 | 35992 | L | | | 89041221 | 213300 | 012000 | X09 | G C=4X,B=136 |
| SAKTS | SATURN | 03 | 0.5 | 1857291 | -220621 | L | 3 | 35993 | L | | | 89041300 | 000100 | 003600 | X01 | G C=1.5X,B=23 |
| GCKBA | NGC 6752 | 83 | 14.1 | 1906281 | -600400 | L | 3 | 35755 | L | 404 | FO | 89031215 | 155100 | 018000 | 304 | G C=135,B=51 |
| KA204 | PK 61+81 | 71 | 13.80 | 1912309 | +283533 | L | 3 | 35708 | L | 00000 | BO | 89030803 | 033712 | 004500 | 110 | V PREAD |
| KA063 | PK 61+81 1 | 70 | 14.50 | 1912309 | +283550 | L | 1 | 15398 | L | 00000 | BO | 89042306 | 064206 | 012500 | 332 | V |
| PRKCG | HD 180968 | 26 | 5.3 | 1915366 | +225603 | H | 3 | 34732 | L | 14682 | FO | 88111303 | 034200 | 000630 | 502 | G C=205,B=35 |
| NPKRD | NGC 6778 | 70 | 13.0 | 1915480 | -014000 | L | 1 | 15325 | L | 105 | SO | 89040818 | 182200 | 006700 | 305 | G C=107,B=68 |
| NPKRD | NGC 6778 | 70 | 12.0 | 1915492 | -014123 | L | 3 | 35962 | L | 10 | SO | 89040815 | 150700 | 018000 | 335 | G E=110,C=91,B=63 |
| KI145 | BF CYG | 57 | 11.57 | 1921550 | +293434 | H | 1 | 15173 | L | 00098 | FO | 89031210 | 102215 | 002500 | 111 | V |
| KI145 | BF CYG | 57 | 10.50 | 1921552 | +293434 | L | 3 | 35768 | L | 00255 | FO | 89031409 | 095039 | 003000 | 261 | V |
| KI145 | BF CYG | 57 | 12.05 | 1921552 | +293434 | L | 1 | 15197 | L | 00255 | SO | 89031410 | 103108 | 002000 | 352 | V PREAD |
| PHCAL | BF CYG | 57 | 12.10 | 1921552 | +293434 | H | 3 | 35843 | L | 00243 | SO | 89032305 | 051654 | 026000 | 261 | V |
| PHCAL | BF CYG | 57 | 12.09 | 1921552 | +293434 | H | 1 | 15253 | L | 00245 | SO | 89032704 | 043447 | 037500 | 352 | V |
| KI146 | CH CYG | 57 | 07.20 | 1923141 | +500831 | L | 3 | 36158 | L | 04805 | FO | 89042902 | 024727 | 036000 | 573 | V |
| JI029 | HD182917 | 57 | 07.42 | 1923142 | +500831 | L | 1 | 14381 | L | 03936 | FO | 88110411 | 112135 | 002500 | 261 | V |
| ZAKSK | CH CYG | 57 | 7.5 | 1923142 | +500831 | L | 3 | 34842 | L | 6614 | FO | 88112904 | 042300 | 004700 | 331 | G E=109,C=45,B=24 |
| JI029 | HD182917 | 57 | 07.41 | 1923142 | +500831 | L | 3 | 34677 | L | 03969 | FO | 88110411 | 115301 | 018000 | 361 | V |
| ZAKSK | CH CYG | 57 | 7.5 | 1923142 | +500831 | L | 1 | 14556 | L | 6657 | FO | 88112905 | 051800 | 002500 | 3X7 | G E=1.5X,C=112,B=81 |
| ZAKSK | CH CYG | 57 | 7.5 | 1923142 | +500831 | L | 3 | 34843 | L | 6688 | FO | 88112905 | 055000 | 006000 | 238 | G E=176,C=109,B=96 |
| ZAKSK | CH CYG | 57 | 7.5 | 1923142 | +500831 | L | 1 | 14557 | L | 6759 | FO | 88112906 | 062700 | 002500 | 3X9 | G E=1.5X,C=142,B=105 |
| ZAKSK | CH CYG | 57 | 7.5 | 1923142 | +500831 | L | 1 | 14558 | L | 6585 | FO | 88112907 | 073700 | 002500 | 3X3 | G E=1.5X,C=80,B=48 |
| ZAKSK | CH CYG | 57 | 7.5 | 1923142 | +500831 | L | 3 | 34844 | L | 6564 | FO | 88112908 | 080900 | 012000 | 351 | G E=187,C=63,B=25 |
| ZAKSK | CH CYG | 57 | 7.5 | 1923142 | +500831 | L | 1 | 14559 | L | 6927 | FO | 88112910 | 101600 | 003200 | 3X2 | G E=1.5X,C=69,B=38 |
| KA002 | WW VUL | 52 | 10.77 | 1923490 | +210628 | L | 1 | 15349 | L | 00199 | FO | 89041304 | 042858 | 002500 | 502 | V |
| DCKNE | HD 182835 | 40 | 4.7 | 1923579 | +001414 | L | 3 | 34700 | L | 258 | FU | 88110706 | 060300 | 000202 | 301 | G C=51,B=26 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DCKNE | HD 182835 | 40 | 4.7 | 1923579 | +001414 | L | 1 | 14394 | L | 262 | FU | 88110706 | 060900 | 000016 | 302 | G C=111,B=34 |
| USSBS | HD 186155 | 41 | 4.9 | 1939176 | +452420 | H | 1 | 15250 | L | 17615 | FO | 89032600 | 001100 | 002700 | X03 | G C=1.5X,B=43 |
| KI045 | HM SGE | 57 | 11.63 | 1939414 | +163733 | L | 3 | 35921 | L | 00370 | SO | 89040305 | 053907 | 001000 | 150 | U |
| KI045 | HM SGE | 57 | 12.5 | 1939414 | +163733 | L | 1 | 15296 | L | 400 | SO | 89040307 | 070500 | 005500 | 3X3 | G E=5X,C=130,B=42 |
| KI045 | HM SGE | 57 | 11.63 | 1939414 | +163733 | E | 9 | 02182 | 2 | 00370 | SO | 89040305 | 053000 | 016000 | | U |
| KI045 | HM SGE | 57 | 12.5 | 1939414 | +163733 | H | 3 | 35923 | L | 400 | SO | 89040308 | 084900 | 013000 | 43 | G E=184,B=41 |
| KI045 | HM SGE | 57 | 11.60 | 1939414 | +163733 | L | 1 | 15295 | L | 00381 | SO | 89040306 | 060902 | 000900 | 261 | U |
| KI045 | HM SGE | 57 | 12.5 | 1939414 | +163733 | H | 1 | 15297 | L | 403 | SO | 89040311 | 110800 | 012000 | 354 | G E=247,C=91,B=60 |
| KI045 | HM SGE | 57 | 11.56 | 1939414 | +163733 | L | 3 | 35922 | L | 00393 | SO | 89040306 | 064418 | 005500 | 270 | U |
| LDKDB | HD 186408 | 44 | 6.0 | 1940291 | +502430 | L | 1 | 15357 | L | 10553 | FO | 89041615 | 151400 | 000100 | 551 | G E=252,C=220,B=23 |
| LDKDB | HD 186427 | 44 | 6.2 | 1940320 | +502403 | L | 1 | 15358 | L | 6950 | FO | 89041616 | 161100 | 000113 | 5X2 | G E=1.5X,C=227,B=32 |
| USSBS | HD 186791 | 47 | 2.6 | 1943528 | +102923 | H | 1 | 14438 | L | 1559 | FU | 88111103 | 033500 | 001500 | 351 | G E=202,C=70,B=30 |
| KI110 | V 1016 CYG | 57 | 11.10 | 1955199 | +394130 | H | 3 | 35046 | L | 00149 | FO | 88121610 | 103112 | 001800 | 150 | U |
| KI110 | V 1016 CYG | 57 | 11.12 | 1955199 | +394130 | L | 1 | 14651 | L | 00146 | FO | 88121610 | 102016 | 000230 | 351 | U |
| KI110 | V 1016 CYG | 57 | 11.16 | 1955199 | +394130 | H | 1 | 14652 | L | 00141 | FO | 88121611 | 111055 | 001500 | 152 | U |
| KI110 | V 1016 CYG | 57 | 11.14 | 1955199 | +394130 | L | 3 | 35047 | L | 00143 | FO | 88121611 | 114652 | 002500 | 370 | U |
| KI110 | V 1016 CYG | 57 | 11.12 | 1955199 | +394130 | H | 1 | 14653 | L | 00146 | FO | 88121612 | 123336 | 005000 | 262 | U |
| KI110 | V 1016 CYG | 57 | 11.13 | 1955199 | +394130 | L | 3 | 35048 | L | 00145 | FO | 88121613 | 133150 | 000600 | 160 | U |
| KI110 | V 1016 CYG | 57 | 11.13 | 1955199 | +394130 | H | 1 | 14654 | L | 00145 | FO | 88121614 | 140611 | 016100 | 373 | U |
| AMKEB | HD 189849 | 35 | 4.7 | 1959023 | +273651 | H | 3 | 35856 | L | 340 | FU | 89032521 | 214000 | 002200 | 402 | G C=187,B=40 |
| AMKEB | HD 189849 | 35 | 4.7 | 1959023 | +273651 | L | 1 | 15249 | S | 766 | FU | 89032522 | 222200 | 000010 | X02 | G C=1.5X,B=36 |
| AMKEB | HD 189849 | 35 | 4.7 | 1959023 | +273651 | L | 1 | 15249 | L | | | 89032522 | 222200 | 000010 | | G |
| AMKEB | HD 189849 | 35 | 4.7 | 1959023 | +273651 | H | 1 | 15251 | L | 24130 | FO | 89032601 | 012200 | 000700 | 503 | G C=204,B=41 |
| AMKEB | HD 189849 | 35 | 4.7 | 1959023 | +273651 | L | 3 | 35857 | L | 24961 | FO | 89032601 | 013300 | 000030 | 500 | G C=176,B=19 |
| AMKEB | HD 189849 | 35 | 4.7 | 1959023 | +273651 | L | 3 | 35857 | S | 24961 | FO | 89032601 | 013800 | 000040 | 400 | G C=154,B=19 |
| PHCAL | RR TEL | 57 | 11.1 | 2000199 | -555159 | L | 3 | 35782 | L | 127 | FO | 89031522 | 221800 | 000200 | 3X0 | G E=1.5X,C=34,B=11 |
| PHCAL | RR TEL | 57 | 11.1 | 2000199 | -555159 | L | 3 | 35783 | L | 157 | FO | 89031522 | 225300 | 000200 | 3X0 | G E=1.5X,C=40,B=14 |
| PHCAL | RR TEL | 57 | 11.1 | 2000199 | -555159 | L | 3 | 35801 | S | 13 | FO | 89031720 | 201500 | 000400 | 3X1 | G E=1.5X,C=44,B=21 |
| PHCAL | RR TEL | 57 | 11.1 | 2000199 | -555159 | L | 3 | 35802 | S | 161 | FO | 89031720 | 205300 | 000400 | 2X1 | G E=1.5X,C=42,B=24 |
| PHCAL | RR TEL | 57 | 11.1 | 2000199 | -555159 | L | 1 | 15211 | L | 163 | FO | 89031721 | 212000 | 000200 | 3X2 | G E=1.5X,C=78,B=37 |
| PHCAL | RR TEL | 57 | 11.1 | 2000199 | -555159 | L | 1 | 15212 | L | 133 | FO | 89031721 | 215500 | 000200 | 3X2 | G E=1.5X,C=76,B=33 |
| PHCAL | RR TEL | 63 | 11.0 | 2000199 | -555159 | L | 1 | 15389 | S | 158 | FO | 89042215 | 152500 | 000400 | 3X2 | G E=2X,C=73,B=32 |
| PHCAL | RR TEL | 63 | 11.0 | 2000199 | -555159 | L | 1 | 15390 | S | 132 | FO | 89042216 | 160600 | 000400 | 3X2 | G E=2X,C=72,B=32 |
| PHCAL | RR TEL | 57 | 11.27 | 2000201 | -555204 | H | 3 | 34702 | L | 00128 | FO | 88110711 | 113046 | 043500 | 373 | U |
| LDKSB | HD 190406 | 44 | 5.8 | 2001510 | +165600 | H | 1 | 14449 | L | 10406 | FO | 88111203 | 033300 | 009000 | X33 | G E=148,C=2X,B=50 |
| LSKHB | HR 7671 | 41 | 6.3 | 2002198 | -114432 | H | 1 | 15278 | L | 6661 | FO | 89033115 | 155100 | 014000 | 504 | G C=236,B=60 |
| BCJEB | CD CYG | 53 | 9.0 | 2002320 | +335811 | L | 3 | 35015 | L | 744 | FO | 88121118 | 180100 | 040500 | 06 | G B=72 |
| IGKJN | HD 192003 | 22 | 8.8 | 2009272 | +380447 | L | 3 | 35108 | L | 779 | FO | 88122320 | 205200 | 000300 | 400 | G C=147,B=17 |
| IGKJN | HD 192003 | 22 | 8.8 | 2009272 | +380447 | H | 3 | 35109 | L | 797 | FO | 88122321 | 212600 | 020500 | 405 | G C=197,B=66 |
| KC210 | FG SGE | 41 | 09.65 | 2009430 | -623549 | L | 1 | 14448 | L | 00545 | FO | 88111118 | 181103 | 004000 | 302 | U PREAD |
| KI146 | FG SGE | 41 | 09.72 | 2009430 | +201054 | L | 1 | 15322 | L | 00509 | FO | 89040805 | 051027 | 011000 | 502 | U |
| NPKLA | NGC 6886 | 70 | 12.3 | 2010295 | +195015 | L | 3 | 34816 | L | 197 | SO | 88112519 | 194900 | 042000 | 306 | G C=111,B=72 |
| NPKLA | NGC 6886 | 70 | 12.3 | 2010295 | +195015 | L | 1 | 14546 | L | 188 | SO | 88112720 | 200000 | 041000 | XX9 | G E=2X,C=1.5X,B=135 |
| LDKDB | HD 192310 | 46 | 5.73 | 2012103 | -271101 | L | 1 | 15353 | L | 10508 | FO | 89041516 | 161000 | 000500 | 402 | G C=157,B=32 |
| KA083 | HD192641 | 10 | 08.41 | 2012393 | +363027 | H | 3 | 35887 | L | 01641 | FO | 89032908 | 080508 | 016200 | 451 | U |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NPKST | NGC 6891 | 70 | 12.0 | 2012480 | +123254 | L | 3 | 34791 | L | 122 | FO | 88112105 | 051800 | 001000 | 441 | G E=138,C=130,B=30 |
| KA083 | HD193793 | 10 | 07.21 | 2018466 | +434142 | L | 3 | 35885 | L | 04738 | FO | 89032903 | 035503 | 000125 | 450 | V |
| KA083 | HD193793 | 10 | 07.22 | 2018466 | +434142 | H | 1 | 15261 | L | 04690 | FO | 89032904 | 040516 | 003800 | 502 | V |
| KA083 | HD193793 | 10 | 07.26 | 2018466 | +434142 | H | 3 | 35886 | L | 04547 | FO | 89032904 | 045018 | 012000 | 551 | V |
| KA083 | HD193793 | 10 | 07.25 | 2018466 | +434142 | L | 1 | 15262 | L | 04595 | FO | 89032906 | 065622 | 000025 | 552 | V |
| KI145 | PU VUL | 57 | 10.20 | 2019011 | +212443 | L | 3 | 35960 | L | 00332 | FO | 89040807 | 073358 | 002000 | 501 | V |
| KI145 | PU VUL | 57 | 10.20 | 2019011 | +212443 | H | 1 | 15323 | L | 00331 | FO | 89040808 | 080907 | 003800 | 362 | V |
| KI145 | PU VUL | 57 | 10.22 | 2019011 | +212443 | L | 1 | 15328 | L | 00327 | FO | 89040906 | 063751 | 000500 | 332 | V |
| KI145 | PU VUL | 57 | 10.20 | 2019011 | +212443 | H | 3 | 35966 | L | 00333 | FO | 89040906 | 060513 | 014500 | 562 | V 25 MIN +120 MIN |
| WDKFW | 2020-426 | 37 | 14.8 | 2020359 | -423408 | L | 3 | 34706 | L | 49 | SO | 88110810 | 101700 | 003300 | 400 | G C=150,B=18 |
| CNKSS | NOVAVUL2 | 55 | | 2024407 | +274041 | L | 3 | 35022 | L | | BO | 88121218 | 183400 | 037500 | 35 | G E=126,B=68 |
| USSBS | HD 196524 | 41 | 3.8 | 2035142 | +142523 | H | 1 | 14439 | L | 711 | FU | 88111104 | 043600 | 000600 | 503 | G C=230,B=41 |
| PHCAL | HD 196519 | 22 | 5.2 | 2037234 | -665621 | L | 1 | 14946 | L | 19348 | FO | 89013021 | 211400 | 000004 | 402 | G C=180,B=32 |
| PHCAL | HD 196519 | 22 | 5.2 | 2037234 | -665621 | L | 3 | 35463 | L | 19507 | FO | 89013021 | 211900 | 000005 | 301 | G C=97,B=24 |
| IGKJN | HD 197406 | 11 | 10.5 | 2039540 | +522432 | H | 1 | 15319 | L | 195 | FO | 89040709 | 094600 | 014300 | 307 | G C=160,B=87 |
| QSKMM | MKN 509 | 84 | 13.1 | 2041261 | -105418 | L | 1 | 14534 | L | | BO | 88112700 | 004200 | 006000 | 5X3 | G E=1.5X,C=210,B=43 |
| QSKMM | MKN 509 | 84 | 13.1 | 2041261 | -105418 | L | 3 | 34826 | L | | BO | 88112701 | 014700 | 006200 | 351 | G E=217,C=94,B=26 |
| KI025 | HBV 475 | 57 | 13.56 | 2049025 | +352336 | L | 3 | 35973 | L | 00066 | SO | 89041002 | 022529 | 006000 | 241 | V |
| KI025 | HBV 475 | 57 | 13.53 | 2049025 | +352336 | L | 1 | 15333 | L | 00068 | SO | 89041003 | 033322 | 006000 | 342 | V PREAD |
| KI025 | HBV 475 | 57 | 13.56 | 2049025 | +352336 | H | 3 | 35974 | L | 00066 | SO | 89041005 | 051651 | 021000 | 032 | V |
| KI025 | HBV 475 | 57 | 13.14 | 2049026 | +352337 | L | 3 | 35023 | L | 00095 | SO | 88121310 | 100954 | 006000 | 350 | V |
| KI025 | HBV 475 | 57 | 13.12 | 2049026 | +352337 | L | 1 | 14638 | L | 00098 | SO | 88121311 | 111743 | 006000 | 352 | V |
| KI025 | HBV 475 | 57 | 13.14 | 2049026 | +352337 | H | 3 | 35024 | L | 00096 | SO | 88121312 | 122648 | 026000 | 032 | V |
| PRKCG | HD 200120 | 26 | 4.5 | 2058074 | +471930 | H | 3 | 34737 | L | 25478 | FO | 88111310 | 104900 | 000130 | 502 | G C=200,B=36 |
| PRKCG | HD 200120 | 26 | 4.5 | 2058074 | +471930 | H | 3 | 35072 | L | 392 | FU | 88121901 | 012200 | 000130 | 502 | G C=208,B=38 |
| PRKCG | HD 200120 | 26 | 4.5 | 2058074 | +471930 | H | 3 | 35092 | L | 27118 | FO | 88122201 | 015200 | 000130 | 502 | G C=204,B=39 |
| PRKCG | HD 200120 | 26 | 4.5 | 2058074 | +471930 | H | 3 | 35111 | L | 25114 | FO | 88122402 | 021500 | 000130 | 502 | G C=240,B=39 |
| NPKST | PN 06-41 | 70 | | 2102444 | -372018 | L | 3 | 34795 | L | | BO | 88112203 | 033800 | 014000 | 07 | G B=82 |
| USSBS | HD 200905 | 47 | 3.7 | 2103064 | +434338 | H | 1 | 14441 | L | 681 | FU | 88111106 | 063000 | 002000 | 346 | G E=205,C=120,B=72 |
| LDKSB | HD 201091 | 46 | 5.2 | 2104500 | +383147 | L | 1 | 14450 | L | 16813 | FO | 88111205 | 054900 | 000300 | 452 | G E=225,C=135,B=32 |
| LDKSB | HD 201092 | 46 | 6.0 | 2104514 | +383123 | L | 1 | 14451 | L | 9415 | FO | 88111206 | 063000 | 000500 | 352 | G E=240,C=88,B=36 |
| SCKMA | TEMPEL 2 | 06 | 14.2 | 2107562 | -280235 | L | 9 | 02136 | 2 | | | 88111404 | 042800 | 000005 | | G |
| SCKMA | TEMPEL 2 | 06 | 14.2 | 2107562 | -280235 | L | 9 | 02137 | 2 | | | 88111405 | 055800 | 000005 | | G |
| SCKMA | TEMPEL 2 | 06 | 14.2 | 2107562 | -280235 | L | 1 | 14468 | L | 32 | SO | 88111504 | 042200 | 012000 | 46 | G E=201,B=78 |
| USSBS | HD 202109 | 45 | 3.2 | 2110482 | +300114 | H | 1 | 14440 | L | 959 | FU | 88111105 | 053400 | 001200 | 502 | G C=190,B=38 |
| PRKCG | HD 203467 | 26 | 5.4 | 2118201 | +643934 | H | 3 | 35073 | L | 18532 | FO | 88121902 | 020700 | 001000 | X04 | G C=1.5X,B=52 |
| PRKCG | HD 203467 | 26 | 5.4 | 2118201 | +643934 | H | 3 | 35925 | L | 17889 | FO | 89040318 | 180100 | 000600 | 503 | G C=210,B=41 |
| JA077 | LDS749B | 29 | 14.70 | 2129422 | +000156 | L | 3 | 36148 | L | 00024 | SO | 89042802 | 023453 | 037300 | 503 | V B/O |
| LDKDB | HD 205153 | 44 | 8.2 | 2131139 | -280724 | L | 1 | 14536 | L | 1236 | FO | 88112704 | 044900 | 001230 | 503 | G C=238,B=41 |
| LDKDB | HD 205650 | 41 | 9.0 | 2134303 | -275127 | L | 1 | 14535 | L | 552 | FO | 88112703 | 032600 | 002100 | 502 | G C=234,B=38 |
| KI209 | Q CYG | 55 | 15.00 | 2139454 | +423646 | L | 1 | 14754 | L | 00000 | BO | 89010208 | 084258 | 012000 | 302 | V |
| KI209 | Q CYG | 55 | 15.00 | 2139454 | +423646 | L | 3 | 35239 | L | 00000 | BO | 89010210 | 105136 | 023600 | 333 | V |
| AEKCI | BD +65 1637 | 26 | 10.1 | 2141410 | +655248 | H | 1 | 15102 | L | 259 | FO | 89022612 | 121900 | 042000 | 408 | G C=215,B=98 |
| AEKCI | BD +65 1637 | 26 | 10.1 | 2141410 | +655248 | L | 3 | 35627 | L | 231 | FO | 89022619 | 192600 | 004000 | 500 | G C=195,B=16 |
| KI146 | NULL | 00 | 99.99 | 2141584 | -331517 | L | 3 | 36157 | | 00000 | | 89042901 | 000000 | 000000 | | V NULL IMAGE |

Vilspa Data Base 4-AUG-89

| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LDKSB | HD 206860 | 44 | 5.9 | 2142070 | +143236 | H | 1 | 14646 | L | 9429 | FO | 88121501 | 014900 | 004000 | 533 | G E=139,C=220,B=41 |
| WDKFW | 2146-433 | 37 | 15.9 | 2146306 | -432019 | L | 1 | 14523 | L | | BO | 88112422 | 221600 | 015000 | 305 | G C=93,B=63 |
| WDKFW | 2146-433 | 37 | 15.9 | 2146306 | -432019 | L | 3 | 34814 | L | | BO | 88112500 | 005100 | 012000 | 501 | G C=183,B=29 |
| PHCAL | BD+284211 | 16 | 10.83 | 2148560 | +283735 | L | 1 | 14407 | L | 00190 | FO | 88110812 | 121312 | 000050 | 501 | U |
| PHCAL | BD +28 4211 | 16 | 10.81 | 2148560 | +283735 | L | 1 | 14408 | L | 00192 | FO | 88110812 | 125440 | 000050 | 501 | U |
| PHCAL | BD+284211 | 16 | 10.85 | 2148560 | +283735 | L | 1 | 14409 | L | 00186 | FO | 88110813 | 132812 | 000200 | 801 | U |
| PHCAL | BD+284211 | 16 | 10.80 | 2148560 | +283735 | L | 1 | 14410 | L | 00195 | FO | 88110814 | 140357 | 000200 | 801 | U |
| PHCAL | BD+284211 | 16 | 10.85 | 2148560 | +283735 | L | 3 | 34707 | L | 00186 | FO | 88110814 | 142621 | 000026 | 500 | U |
| PHCAL | BD+284211 | 16 | 10.86 | 2148560 | +283735 | L | 3 | 34708 | L | 00184 | FO | 88110814 | 145346 | 000026 | 500 | U |
| PHCAL | BD +28 4211 | 16 | 10.5 | 2148574 | +283734 | L | 1 | 14480 | L | 189 | FO | 88111710 | 103800 | 000050 | 502 | G C=205,B=32 |
| PHCAL | BD +28 4211 | 16 | 10.5 | 2148574 | +283734 | L | 3 | 34759 | L | 189 | FO | 88111710 | 104200 | 000026 | 500 | G C=200,B=17 |
| PHCAL | BD +28 4211 | 16 | 10.5 | 2148574 | +283734 | L | 2 | 18253 | L | 186 | FO | 88121301 | 014900 | 000122 | 501 | G C=180,B=25 |
| WDKFW | 2153-419 | 37 | 15.9 | 2153305 | -415631 | L | 1 | 14518 | L | | BO | 88112400 | 002600 | 014500 | | G |
| WDKFW | 2153-419 | 37 | 15.9 | 2153305 | -415631 | L | 3 | 34813 | L | | BO | 88112419 | 195600 | 011000 | | G |
| WDKFW | 2159-415 | 37 | 15.6 | 2159250 | -412901 | L | 1 | 14517 | L | | BO | 88112320 | 200100 | 017000 | X05 | G C=1.5X,B=68 |
| WDKFW | 2159-415 | 37 | 15.6 | 2159250 | -412901 | L | 3 | 34805 | L | | BO | 88112322 | 225900 | 006000 | 500 | G C=185,B=18 |
| CCKTA | HD 209100 | 46 | 4.7 | 2159310 | -565934 | L | 1 | 15283 | L | 27892 | FO | 89040117 | 173200 | 000100 | 442 | G E=146,C=143,B=33 |
| CCKTA | HD 209100 | 46 | 4.7 | 2159310 | -565934 | L | 1 | 15284 | L | 27279 | FO | 89040118 | 182300 | 000500 | XX3 | G E=5X,C=5X,B=42 |
| USSBS | HD 210745 | 47 | 3.4 | 2209068 | +575714 | H | 1 | 14442 | L | 374 | FU | 88111107 | 074100 | 001500 | 337 | G E=171,C=125,B=83 |
| KA165 | HD210839 | 15 | 05.35 | 2209486 | +591003 | L | 3 | 34854 | L | 20778 | FO | 88113015 | 154139 | 000018 | 550 | U RP=(2,-212)&(-34,-20 |
| KA165 | HD210839 | 15 | 05.18 | 2209486 | +591003 | L | 1 | 14573 | L | 23017 | FO | 88113016 | 164130 | 000012 | 553 | U RP=(2,-212)&(-34,-20 |
| NPKWF | IW 2 | 70 | 17.7 | 2211557 | +653901 | L | 3 | 35842 | L | | BO | 89032212 | 120300 | 040200 | 308 | G C=143,B=95 |
| BEKGP | HD 212571 | 26 | 4.7 | 2222434 | +010723 | H | 3 | 35085 | L | 348 | FU | 88122008 | 082200 | 000120 | 502 | G C=210,B=37 |
| BEKGP | HD 212571 | 26 | 4.7 | 2222434 | +010723 | L | 1 | 14677 | L | 348 | FU | 88122008 | 082800 | 000000 | 302 | G C=121,B=35 |
| OD46Y | 3C 446 | 85 | 16.0 | 2223110 | -051216 | L | 1 | 14371 | L | | BO | 88110300 | 001500 | 015600 | 334 | G E=93,C=85,B=57 |
| OD46Y | SAO 146083 | 40 | 8.0 | 2223305 | -052557 | L | 9 | 02133 | 2 | | | 88110300 | 004400 | 000240 | | G |
| KC210 | HD213985 | 25 | 09.02 | 2232460 | -173059 | L | 3 | 34726 | L | 00956 | FO | 88111115 | 154917 | 006000 | 501 | U |
| KC210 | HD213985 | 25 | 09.02 | 2232460 | -173059 | L | 1 | 14447 | L | 00758 | FO | 88111116 | 165754 | 002000 | 602 | U |
| GHKLD | PHL 346 | 20 | 11.5 | 2235460 | -185252 | H | 3 | 35042 | L | 421 | SO | 88121518 | 180300 | 040500 | 309 | G C=149,B=116 |
| PHCAL | HD 214680 | 12 | 05.11 | 2237010 | +384722 | L | 1 | 14428 | L | 23942 | FO | 88111011 | 115716 | 000000 | 401 | U |
| PHCAL | HD 214680 | 12 | 05.09 | 2237010 | +384722 | L | 1 | 14429 | L | 24154 | FO | 88111012 | 123348 | 000000 | 401 | U |
| PHCAL | HD214680 | 12 | 05.08 | 2237010 | +384722 | L | 1 | 14430 | L | 24363 | FU | 88111013 | 130748 | 000000 | 401 | U |
| PHCAL | HD214680 | 12 | 05.08 | 2237010 | +384722 | L | 1 | 14431 | L | 24392 | FO | 88111013 | 134052 | 000001 | 501 | U |
| PHCAL | HD214680 | 12 | 05.07 | 2237010 | +384722 | L | 1 | 14432 | L | 24442 | FO | 88111014 | 141129 | 000001 | 501 | U |
| PHCAL | HD214680 | 12 | 05.08 | 2237010 | +384722 | L | 1 | 14433 | L | 24372 | FO | 88111014 | 144601 | 000001 | 501 | U |
| PHCAL | HD214680 | 12 | 05.14 | 2237010 | +384722 | L | 1 | 14839 | L | 23516 | FO | 89011514 | 144451 | 000000 | 400 | U |
| QSKRE | QSO 2237+074 | 84 | 14.3 | 2237465 | +074733 | L | 1 | 14378 | L | | BO | 88110320 | 200500 | 018000 | 06 | G B=73 |
| QSKRE | QSO 2237+074 | 84 | 14.3 | 2237465 | +074733 | L | 3 | 34673 | L | | BO | 88110323 | 231000 | 022000 | 04 | G B=56 |
| SAKCW | HD 215733 | 23 | 7.20 | 2244351 | +165808 | L | 3 | 34697 | L | 3219 | FO | 88110604 | 043700 | 000055 | 500 | G C=210,B=17 |
| SAKCW | HD 215733 | 23 | 7.20 | 2244351 | +165808 | L | 1 | 14386 | L | 3289 | FO | 88110605 | 051600 | 000028 | 502 | G C=200,B=38 |
| SAKCW | HD 216131 | 45 | 3.48 | 2247351 | +242012 | L | 1 | 14385 | L | 718 | FU | 88110603 | 034200 | 000125 | 502 | G C=227,B=36 |
| CSKBB | GL 875 | 48 | 9.8 | 2247420 | -072200 | L | 1 | 14582 | L | 321 | FO | 88120117 | 174300 | 004000 | 233 | G E=78,C=57,B=42 |
| KA204 | A 35 | 70 | 10.16 | 2250529 | -223606 | L | 1 | 15171 | L | 00345 | FO | 89031204 | 044315 | 003000 | 562 | U |
| SCKMA | TEMPEL 2 | 06 | 14.2 | 2251150 | -194215 | H | 9 | 02148 | 2 | | | 88121718 | 183600 | 000500 | | G |
| SCKMA | TEMPEL 2 | 06 | 14.2 | 2251150 | -194215 | L | 1 | 14665 | L | 69 | SO | 88121818 | 182900 | 024000 | | G E=161,C=107,B=83 |

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| PRO | Object | CL | MAG | R.A. | DEC | D | C | Image | A | FES | MD | Obs.date | Exptim | mmmmsstt | ECC | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SCKMA | TEMPEL 2 | 06 | 14.2 | 2251150 | -194215 | L | 3 | 35071 | L | 67 | SO | 88121823 | 235600 | 003000 | 30 | G E=74,B=20 |
| AEKCI | HD 216629 | 26 | 9.3 | 2251183 | +615246 | H | 1 | 15103 | L | 462 | FO | 89022620 | 204000 | 012000 | 304 | G C=125,B=59 |
| IGKDM | HD 217297 | 20 | 7.4 | 2256360 | +632618 | H | 3 | 35535 | L | 3234 | FO | 89021115 | 154400 | 009000 | 404 | G C=167,B=57 |
| IGKDM | HD 217297 | 20 | 7.4 | 2256360 | +632618 | H | 3 | 35536 | L | 3088 | FO | 89021117 | 174100 | 008000 | 404 | G C=195,B=58 |
| BEKGP | HD 217675 | 26 | 3.6 | 2259369 | +420325 | H | 3 | 35084 | L | 788 | FU | 88122007 | 071200 | 000145 | 502 | G C=247,B=39 |
| PRKCG | HD 217675 | 26 | 3.6 | 2259369 | +420325 | H | 3 | 35110 | L | 798 | FU | 88122401 | 013300 | 000130 | 502 | G C=221,B=39 |
| ICKAD | SAO 108392 | 30 | 6.8 | 2303030 | +144120 | H | 3 | 34731 | L | 4589 | FO | 88111300 | 002500 | 012000 | X06 | G C=3X,B=73 |
| ICKAD | HD 218155 | 30 | 6.8 | 2303030 | +144120 | H | 1 | 14455 | L | 5657 | FO | 88111302 | 023400 | 001600 | 402 | G C=140,B=40 |
| IGKDM | HD 218342 | 20 | 7.4 | 2304070 | +625636 | H | 3 | 35534 | L | 2587 | FO | 89021113 | 130900 | 012000 | 404 | G C=184,B=52 |
| KI132 | HD218393 | 32 | 07.49 | 2304511 | +495518 | H | 1 | 14364 | L | 03729 | FO | 88110112 | 123505 | 005000 | 571 | V |
| KI132 | HD218393 | 32 | 07.49 | 2304511 | +495518 | H | 3 | 34658 | L | 03729 | FO | 88110113 | 133146 | 010000 | 530 | V |
| KI132 | HD218393 | 32 | 07.61 | 2304511 | +495518 | H | 3 | 34671 | L | 03326 | FO | 88110316 | 160237 | 010000 | 551 | V |
| KI132 | HD218393 | 32 | 07.60 | 2304511 | +495518 | H | 1 | 14377 | L | 03364 | FO | 88110317 | 174923 | 004500 | 561 | V |
| KI132 | HD218393 | 32 | 07.60 | 2304511 | +495518 | L | 3 | 34672 | L | 03364 | FO | 88110318 | 183839 | 000050 | 330 | V PREAD |
| KI132 | HD218393 | 32 | 07.59 | 2304511 | +495518 | L | 3 | 34712 | L | 03396 | FO | 88110913 | 130038 | 000050 | 400 | V |
| KI132 | HD218393 | 32 | 07.54 | 2304511 | +495518 | H | 1 | 14417 | L | 03538 | FO | 88110913 | 131008 | 005000 | 561 | V |
| KI132 | HD218393 | 32 | 07.54 | 2304511 | +495518 | L | 1 | 14418 | L | 03557 | FO | 88110914 | 143440 | 000030 | 501 | V |
| ICKAD | SAO 108432 | 22 | 6.6 | 2306538 | +182754 | H | 3 | 34729 | L | 5059 | FO | 88111219 | 195600 | 009000 | X06 | G C=3X,B=71 |
| ICKAD | SAO 108432 | 22 | 6.6 | 2306538 | +182754 | H | 3 | 34730 | L | 5008 | FO | 88111222 | 220000 | 010000 | X06 | G C=4X,B=78 |
| LDKDB | HD 219134 | 46 | 5.56 | 2310518 | +565330 | L | 1 | 14539 | L | 11977 | FO | 88112708 | 085100 | 001000 | X02 | G C=1.5X,B=37 |
| LDKDB | HD 219134 | 46 | 5.6 | 2310519 | +565331 | L | 1 | 14537 | L | 12447 | FO | 88112706 | 060600 | 000415 | 402 | G C=143,B=40 |
| SAKCW | HD 219734 | 49 | 4.86 | 2315250 | +484429 | L | 1 | 14391 | L | 25085 | FO | 88110610 | 102600 | 001500 | 352 | G E=199,C=81,B=35 |
| SAKCW | HD 220657 | 41 | 4.38 | 2322527 | +230742 | L | 1 | 14389 | L | 332 | FU | 88110608 | 081000 | 000100 | 503 | G C=245,B=50 |
| KC075 | GL900 | 48 | 10.10 | 2332256 | +011943 | L | 3 | 34664 | L | 00364 | FO | 88110212 | 125434 | 003000 | 140 | V |
| CSKBB | GL 900 | 48 | 9.6 | 2332256 | +011942 | L | 1 | 14567 | L | 398 | FO | 88113005 | 051400 | 004000 | 349 | G E=207,C=139,B=107 |
| KC075 | GL900 | 48 | 10.04 | 2332256 | +011943 | L | 1 | 14369 | L | 00382 | FO | 88110213 | 133437 | 002000 | 330 | V |
| KC075 | GL900 | 48 | 10.04 | 2332256 | +011943 | L | 3 | 34665 | L | 00382 | FO | 88110214 | 141008 | 028000 | 131 | V PREAD |
| USSBS | HD 222404 | 46 | 3.22 | 2337164 | +772111 | H | 1 | 14527 | L | 962 | FU | 88112510 | 103200 | 001400 | 342 | G E=148,C=90,B=39 |
| CSKBB | GL 907.1 | 46 | 9.6 | 2345500 | -131554 | L | 1 | 14568 | L | 374 | FO | 88113006 | 065300 | 004000 | 346 | G E=199,C=112,B=75 |
| SAKCW | HD 224427 | 49 | 4.67 | 2355123 | +245147 | L | 1 | 14388 | L | 348 | FU | 88110606 | 065800 | 000924 | 455 | G E=238,C=205,B=69 |
| SAKCW | HD 224617 | 41 | 4.01 | 2356444 | +063510 | L | 1 | 14387 | L | 481 | FU | 88110606 | 060800 | 000025 | 502 | G C=245,B=38 |
| SAKCW | HD 224617 | 41 | 4.01 | 2356444 | +063510 | L | 1 | 14390 | L | 481 | FU | 88110609 | 090600 | 000025 | 502 | G C=240,B=39 |
| LDKSB | HD 224930 | 44 | 5.8 | 2359330 | +264900 | H | 1 | 14464 | L | 11022 | FO | 88111407 | 073500 | 006000 | X36 | G E=150,C=1.5X,B=72 |
| LDKSB | HD 224930 | 44 | 5.8 | 2359330 | +264900 | H | 1 | 14650 | L | 10387 | FO | 88121508 | 080500 | 004500 | X34 | G E=130,C=1.5X,B=53 |

# 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 M. Barylak
Data Bank Resident Astronomer
ESA - IUE Observatory
Apartado 54065
28080 - Madrid
SPAIN

## Errors in Foregoing VILSPA Log

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

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

UK RESIDENT ASTRONOMER

ESA SATELLITE TRACKING STATION
APARTADO 54065
28080 MADRID
SPAIN